JOHNSON'S GARDENERS' DICTIONARY
EDITED BY J. ERASER, F.L.S., F.R.H.S., AND A. HEMSLEY

A NEW EDITION
Based on the Original Edition of 1842, thoroughly revised and brought down to the year 1917.

LONDON
GEORGE BATHURST & SONS, LIMITED
JOHNSON'S
GARDENERS' DICTIONARY
AND
CULTURAL INSTRUCTOR

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Based on the Original Edition of 1856, Thoroughly Revised and Enlarged to the Year 1916

UNION OF CALIFORNIA

London

GEORGE ROUTLEDGE & SONS, LIMITED

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PREFACE TO THE NEW EDITION

Basing a new edition of the Gardeners’ Dictionary on the original one of 1846 involved the addition of many thousand names, and in doing so we have consulted the Kew Bulletin for new plants from 1876 to 1910 inclusive; also the seven Kew Hand-lists of plants actually in cultivation there, which means most of those grown at the present day. The lists of new Chinese plants, issued by Messrs J. Veitch and Sons have also been added.

Much of our information has been gleaned from the living plants themselves, during our close contact with the Kew collections since 1880.

All the names have been checked, altered if wrong, and brought up to date, according to the arrangement in the Genera Plantarum, by Bentham and Hooker, aided by the Kew Hand-lists, the Index Kewensis, and Synopsis Filicum for Ferns.

To avoid the repetition of synonyms the old names have been retained in their proper alphabetical order, and, if altered, the reference is given to the modern ones. The genus Prunus now includes Amygdalus, Persica, Armeniaca, Prunus, Cerasus, Padus, and Laurocerasus, but for horticultural purposes their identity has been preserved by arranging the species in six alphabetical lists, under such headings as Almonds and Peaches, Apricots, Plums, Cherries, Bird Cherries, and Laurel Cherries. In like manner Pyrus includes Pyrus, Malus, Aria, Sorbus, Aronia, Pseudocydonia, and Mespilus, but, although this is not new in all cases, the species have been grouped under such well-recognised names as Pears, Apples, White Beam Trees, Mountain Ashes, Medlars, etc. The Quinces are still retained under Cydonia. Azalea, Rhododendron, Cactus, Echium, Orobos, Pinus, and Pyrethrum have been dealt with somewhat similarly, but the cross-references will make clear what the correct or modern names are.

As in the first edition, the English translation or meaning of each generic and specific name has been given by reference to the original Latin or Greek, except in the case of proper or commemorative names and names of places, which are more obvious.

In the pronunciation of Greek and Latin names every vowel or diphthong is equivalent to a syllable; and an accent is placed after the vowel upon which emphasis or stress should be laid in speaking.

The cultural articles on flowers, fruits and vegetables have been amended and brought up to date, or in some cases rewritten.

The height of plants is given in feet or some fraction of a foot. The use of technical terms has been avoided in all cases, except for fungi, where they are strictly limited.

Critical species or forms of minor importance, having no horticultural value, have been omitted; also most of the hybrids, which are not likely to have any permanent value.

THE EDITORS.
PREFACE TO THE NEW EDITION

A new edition of the Classical Dictionary on the original one.

In the prefatory notes of the previous edition and in the present one, there is the following information in conclusion after the paragraph: "A new Chinese edition of the present work." The prefatory notes of the previous edition say: "The present edition...

The Editor

EGOATE
THE GARDENERS’ DICTIONARY AND CULTURAL INSTRUCTOR

A

AAR (Alnus glutinosa). See Alnus.

AARON (Arum maculatum). See Arum.

AARON’S BEARD (Hypericum calycinum and Saxifraga sarmentosa). See Hypericum and Saxifraga.

AARON’S ROD (Verbascum Thapsus). See Verbascum.

ABACHISAN HELLEBORE. See Helleborus Archabachianus.

ABLEE TREE (Populus alba). See Populus.

ABELIA. (After Dr. Abel, physician to the embassy of Lord Amherst to China. Nat. ord. Caprifoliaceae. Linn. Sys. 5.*Pentandria 1.*Monogynia.) Half-hardy evergreen shrubs; may be turned out to the borders in summer. Cuttings in summer, in light loamy soil and peat, and layers in spring.

A. chinensis. 5. Pink and white. September. China.


ABELMOUSCHUS. See Hibiscus.

ABERRANT. Deviating from a typical form.

A BIES, Silver Fir. (From abeis, depart from the ground.) Attached on account of the height that some of the species attain.) Ord. Coniferae. A widely distributed genus, chiefly from the Northern Hemisphere, and growing farther north of Norway and Sweden than any other timber trees. There is some confusion regarding names, and they are by some authorities included with *Pinus*. According to Humboldt, there is a line across Norway and Sweden beyond which wheat cannot be grown. Birch and Barley grow farther north, and beyond this the Spruce Firs is the only woody vegetation. For culture, see Coniferae.

A. ajani. See Picea ajanensis.

A. alba. See Picea alba.

A. albertiana. See Tsuga mertensiana.

A. alcoquiniana. See Picea alcohonica.


A. aromatica. 100. Oregon.

A. arizonica (G. C., 1901, xxix. 86; 134, f. 52, 3). Coniferæ. H. Arizona. (Henkel, Darmstadt.)

A. baboéris. See A. humideca.


A. columnaris (M. D. G., 1903, 94). Coniferæ. H. (Diedorf Experiment Garden, Germany.)


A. lutea serenae (M. D. G., 1903, 94). H. (Diedorf Experiment Garden, Germany.)

A. byfida. Japan. 1857; a form of A. firma.


A. bracteata. 120. California. 1853. V. M. C., p. 90.

A. brunoniana. See Tsuga brunoniana.

A. canadensis. See Tsuga canadensis.

A. caroliniana. See Tsuga caroliniana.

A. cephalonica. 60. Mountains of Greece. 1824.

A. chinensis. 40 to 60. Asia Minor.


A. douglasii. See Pseudotsuga douglasii.

A. ENGELMANNI and var. candidissima. See Picea Engelmannii.

A. FLAVICOS. Spruce fir. excelsa. See Picea excelsa.

A. attenuata. The thin-leaved spruce.

A. brevifolia. The short-leaved Norway spruce.

A. clappbrasiiliana. Lord Clanbrasil spruce.

A. dulongii. Knight’s dwarf spruce.


A. greyrii. A. Gregory’s dwarf spruce.

A. horizontalis. The horizontal spruce.

A. maxwellii. Maxwell’s dwarf spruce.


A. mucronata. The spike-leaved spruce.

A. multisilis (W., 1888, 107). H. Garden variety of Picea excelsa.

A. parryi. The minute spruce.

A. pygmaea. One of the dwarfest of firs.

A. pyramidalis. The pyramidal spruce.

A. sticta. The upright Clanbrasil spruce.

A. variegata. The variegated spruce.

A. fulva. 120. Oregon.

A. Fargei (G. C., 1906, xxix. 212, f. 83). Central and Western China (J. Veitch & Sons.)

A. firs. 100. Mountains of Japan. V. M. C., p. 95.

A. FORTUNI. See Keteleeria fortunei.


A. H. F. T. See A. Balsamea.

A. NA. Dwarf.

A. Glehni. See Picea Glehni.


A. heterophylla. See Tsuga mertensiana.

A. hookeri. Sir W. Hooker’s spruce. See Tsuga PATTIGNONIANA.

A. insulae. See Pinsus.

A. J. K. T. See Keteleeria fortunei.

A. Kheif. See Picea Kheif.

A. latifolia. See Picea Kheif.

ACACIA


A. plurinervum. (double-flowered). Orange, with red stripes. 1835.


A. punctulatum (pretty). See Plagianthus crenellatus.


A. salisii num marmoreum. Leaves marbled cream-
yellow. 1825. In Hampshire and south of England, large old plants flower freely turned out under a south wall, being there all but hardy.

A. sellatatum. (Kew). Middle lobe of leaf short. 1885.

A. thompsonti (Thompson’s). Leaves smooth, tes-
sellated with yellow. 1885.


A. thompsontii spurium (spurious). Leaves downy, tessel-lated with yellow. 1885.

A. venosum (veined). Orange and red stripes. July.


AYBISSINIAN PRIMROSE (Primula verticillata boeanae).

ACACIALIS. (From ake, a point, and kallos, beauty; the points of the segments are deep blue. Nat. ord. Orchideae.)


A. alba (white). Lip pure white. 1885.


This tree produces that most powerful astringent, catechu, which is the bark of all the other species also abundant in astringent principle, useful for tanning, centrophily (spur-leaved). 20. White. Jamaica. 1818.

A. cerstoa (Cerstoa). See Mimoso CERTOANO.

A. chrysoides (gold-spined). 1825.

A. composita (bushy). See A. latronum.


A. cullicina. (eatable-fruited). See A. PARENSA.


A. ferraris (rusty). In Ind. 1818.


A. forstera (feathery). See CALLIANTRA FORMOSA.

A. frondosa (leafy). See Leucena Glaucu.

A. fruticosa (shrubby). See Mimoza FRITCHICA.

A. girit fla (cameleopardal). 40. Cape of Good Hope.

A. guiana’na. (beautiful). See PIPEDIADA MACROCARPA.

A. guayauque’nsis (Guayauquil). See Mimoso.

A. hanumae (Guiana). See STRYPHNOBULBON.


A. hirta (S spurious). See Mimoso.


A. kalli’ora (kalkora). See ALBIZZIA JULIBRISIN.

A. kermesae (kermesina). Purple. See STRYPHNOBULBON.


A. Lhassa (lebbek). See ALBIZZIA.


A. leno’sa. 1885.


A. macranthodes. See A. MACRACANTHA.


A. microphylla (small-leaved). See PIPEDIADA PERO-


A. odorai’ssima (most fragrant). See ALBIZZIA.


A. pinns (downy). See GLIALLI HAEMATOMMA.

A. pinna’la. See A. PERNATA.


A. princi’pice (Porto Rico). See CALLIANTRA.


A. pulchre’rima (farest). See STRYPHNOBULBON.

A. quadrangular’is (four-angled). See CALLIANTRA TETRAGONA.


A. rohri’na (Rohri’s). See A. MUDIFLORA.

A. rose’i (Ross’s). 40. 1822.

A. sarmentosa’ (twigg). See A. RIPARIA.

A. scac’ndens (climbing). See ENTADU.

A. semper’fa (half-hardy). 40. E. Ind. 1820.


A. serra’s (Shireesh). 20. E. Ind. 1822.


A. specio’sa (showy). See ALBIZZIA LEBBEK.

A. specio’sa (spine). See ALBIZZIA.

A. spinu’la (large-chipped). See ALBIZZIA.

A. su’mu. 10. E. Ind. 1820.
ACACIA ACACIA
., iomento'sa (woolly). 20. E. Ind. ... See ALBIZZIA JULIBRISSIN.
mottea'na (G. C., 1906, xxxix. 213).
myrtifo'lia. 3. May. N. S. Wales. 1789. B. M.,
t. 302.
ACACIA A. jacobinia (jacobin-leaved). White. S.
A. am'na (wing-stalked). 6. Yellow. May. N. Hol-
daid's (sickle-like). See A. LINIFOLIA.
angul'a'ngus'ta (narrow-leaved). See A. LONGIFOLIA.
argyrophi'la. See A. ARGYPHYLLA.
S. and A. A. Australis and A. densifolia.
.baljesy'a (G. C., 1894, xv. 37, f. 4). Leguminous.
Australia.
bifo'ra (two-flowered). 3. Yellow. May. N.
Holland. 1824.
binosa'na (two-nerved). 8. Yellow. May. N.
Holland. 1824.
Holland. 1820.
.bre'vipes (short-stalked). See A. MELANOXYLON,
N. Holland. 1824.
calamifo'lia (reed-leaved). Yellow. May. N.
Holland. 1823.
canilin'a (channeled). Yellow. May. N. Hol-
day. 1842.
caud'ina. See A. FARNESIANA.
 cela'strophi'la (celastrus-leaved). See A. MYRTIFOLIA.
cilicia' (fringe-winged). See A. STRIGOSA.
.cina'mosa (sah-coloured). See A. GLACIACENS.
.cochle'ris (spoon-leaved). 4. Yellow. May. N.
Holland. 1818.
1824.
cor'iaacea (leathery-leaved). 5. Yellow. May. N.
Holland. 1824.
1824.
N. Holland. 1820.
cuneat'a (wedge-shaped). Yellow. April. Swan
River. 1837.
cuspi'da. See A. DIFFUSA.
cyanophy'la (blue-leaved). Yellow. April.
River. 1818.
Holland. 1824.
cycl'tocta (Swan River). See A. OBSCURA.
N. Holland. 1817.
.de'alba (whitened). 10. Yellow. May. N.
Holland. 1823.
.de'ciplin pra'mo'rina (deceling, bitten-leaved). 3.
Yellow. May. N. Holland. 1830.
S. Wales. 1792.
densifolia. See A. ASPERA.
deni'sa (tooth-bearing). Yellow. April. Swan
River. 1839.
dep'ti'des (winding). See A. LONGIFOLIA.
de'pron (detaining). 3. Yellow. May. S.
Africa. 1828.
.dil'atat (White, April. N. Holland. 1827.
dill'iwyniafo'lia (Dillwynia-leaved). 3. Yellow.
May. N. Holland. 1828.
d'iper'a (two-winged).
d'iper'a (woolly-winged). Yellow. September.
Swan River. 1840.
d'izolor (two-coloured). 10. Yellow. May. N.
S. Wales. 1794.
d'margin'a (single-notched). See A. DILATATA.
dolari'fo'rmis (hatchet-leaved). See A. DIMIDIATA.
echi'na (prickly). See A. JUNIPERINA.
donca'la (long-branched). 6. Yellow. May. N.
Holland. 1824.
.erico'la (woolly-branched). Yellow. June. N.
Holland. 1849.
N. Holland. 1824.
.fulca'ta (sickle-leaved). 6. Yellow. May. N.
S. Wales. 1790.
fusco'formis (sickle-shaped). See A. PENNINERIS.
*flo're'o'ria (many-flowered). See A. LONGIFOLIA.
glau'ca (milky-white). See LEUCENCA GLAUC.
1824.
.iper'a (great). See A. PULCHELLA.
grau'olens (strong-smelling). See A. VERNICIIFL.
harpofi'lla (Gard., 1902, lxi. 168; J. of H.,
1902, xix. 168). Yellow. Queendland. (Mrs. Den-
holm). 1824.
.hastula'ta (half-berayed). 4. Yellow. May. N.
Holland. 1824.
heteraca'thia (varied-prickled). 15. Cape of Good
Hope. 1824.
.hetero'thrya (variable). 5. Yellow. May. N.
Holland. 1824.
.hispida'sisima (hairyest). See A. PULCHELLA.
.hispid'a (all-silky). Yellow. April. N. Holland.
1820.
homoma'la (equal-woolled). See A. GLACIACENS.
.Huege'iii (Baron Huegel's). Pale yellow. February.
April. N. Holland. 1820.
humifus'a (trailing). N. Holland. 1820.
hybrida (hybrid). See A. ARMATLA.
ie'rmis varie'gata (G. C., 1902, xxxix. Suppl.
May. 31, f. 3). Yellow. Queendland. (Mrs. Den-
holm). 1824.
.iner'dia' (interwoven). See A. LONGIFOLIA.
Swan River. 1820.
lambeira'na (Lambert's). See CALLIANTRA LAM-
BERTIANA.
1790.
.Lawso'ni (Lawson's). N. S. Wales.
.lepro'sa. Australia. 1817.
N. Holland. 1821.
.leucox'ysalia (white-leaved). See A. HOLOSEC.
ligula'ta (strap-shape-leaved). See A. SALICINA.
1820.
.linio'lia. 4. Yellow. May. N. S. Wales. 1790.
.long'ima (longest-leaved). See A. LINEARIS.
lombris'na. See A. ABISTIBLA.
A. olenesfolia.
melas'ena. See A. ABISTIBLA.
.melia'na (G. C., 1906, xxxix. 213).
.motley'na (soft). See ALBEZIA JULIBRISIN.
.myrtifila. 3. May. N. S. Wales. 1789. B. M.,
t. 302.
**ACANTHOLIMON**


* B. M., t. 2388.

* obliqua. 6. N. Holland. 1842.


* oleaefolia. See A. LUNATA.


* podalyriafolia (G. C., 1806, xxxix. 215). E. Australia. (Sir T. B. Hambury, La Moltola.)

* pubescens. 6 to 10. N. Holland. 1790.


* rotundifolia. See A. obliqua.

* russifolia. See A. VERTICILLATA LATIFOLIA.


* Sevnia. 8 to 10. Australia.

* salpia. 6 to 10. N. Holland. 1818.

* sericea (Planch.) (spiral-podded). See A. PELOSA.


* sparoche phala. Mexico.


* stenopetalus. 6. Spiral-podded. See A. DECIPENS.


* *axis folia (wvew-leaved). See A. RICANA.

* trapezeo (perpendicular-leaved). See A. DECIPENS.


* tria (dull green-coloured). See A. ARMATA.


* uncina (hooked-leaved). See A. DULUFOLIA.

* uncinophylla. 7. Yellow. April. Swan River.


* virga (branchy). See A. VERNICIIFLORA.

* viridiria mis (green-branched). See XEROCALDIA ZETHIERI.


**ACAN'THOLIMON**

**HALF-HARDY SPECIES**


**ACENA.** (From acaia, a thorn, in allusion to the slender spines on the calyx.) Ord. ROSACE. Dwarf shrubby plants, propagated from cuttings, as recommended for other hardy rock plants, or from divisions of the roots, which should be done early in the spring.


* adscendens, 9 in. H. 


**ACAELYPSA.** A name given by Hippocrates to the nettles, which are intermediate greenhouse plants, propagated from the terminal shoots, in light sandy soil, potted in good loam, leaf-mould, and manure. *Sanderi* (or *hispida*) is remarkable for the long racemes of crimson flowers, of otherwise inoffensive flowers and showy variegated foliage.


* macafea/na. Rev. Hort. 1882. p. 188. See A. WILKESSIANA.


* alta (G. C., 1902, xxxi. 440). Syn of *A. hispida* *tara* (Koen.) *tara* (Holland, 1875).


* marginala. Fiji Island. 1875.

**ACAMPE.** (From akampes, ineflexible.) Nat. ord. Orchidaceae; tribe Vandaee; sub-tribe Sarcantheae. Epiphytal plants having no need of a stem temperature. For culture, see Orchids. 


* wightiana (Wightian). S. India.

**ACANTHIDUM.** See BLEPHARIS.

**ACANTHOLIMON.** (Derivation uncertain.) Nat. ord. Plumbaginaceae; allied to Statice. Hardy evergreen perennials, dwarf compact habit, with narrow, sharply-pointed leaves; succeed best in dry soil; cuttings early in the autumn or layers in spring. May also be raised from seed.


* Hohenacker's Hohenacker's syn. *Hohenacker's.* 

ACANTHOMINTHA. (From akantha, a thorn, minthe, mint. Nat. ord. Labiatae.) Border annual, raised from seeds sown in spring.


A. caroalexadiensis. See Calorealis.

A. chlorantha. (Wee-leaved). See Elephas.

A. cladis. (Black). See August. Italy. 1548.

A. collicium. See Perri'ngii. (G. C., 1905, xxxvii. 2; Gartenzeitung; ix. 354).

A. concana. See Campodanici.-Auctaurs.

A. consobrinus. See Phlegmarium. 3. White. August. Italy. 1709.


ACCLIMATISATION.—In years gone by, when we were getting more new plants from various regions, this was an important subject, and even at the present time we have had many introductions to this Japanese shrubs and plants, when newly introduced, they start into growth too early in the season and suffer from frost. Aucuba japonica, when first introduced (in 1878), was regarded as being too shrub, and was kept in the stove, then the greenhouse, and later was found to be quite hardy. Paonia Moutan is another example. The Japanese maples are quite hardy, except that when we get the cold frosts and snows in the spring, and they escape by frost, but they often suffer. It is the same with Astile japonica though the roots (or crowns) are quite hardy, yet they start into growth too early in June. The Japanese seeds are usually sown in selection, and this is done before the frost and in the north, when the seeds are sown in the north, than the greenhouse, and later was found to be quite hardy. Paonia Moutain is another example. The Japanese maples are quite hardy, except that when we get the cold frosts and snows in the spring, and they escape by frost, but they often suffer. It is the same with Astile japonica though the roots (or crowns) are quite hardy, yet they start into growth too early in June. The Japanese seeds are usually sown in May. (Common).—From Acantho-pterium, and some other succulent plants, they are the dahlias, tomatoes, or even potatoes; they are from the Tropics, but do well out of doors here in England during the summer. It is shrubs and trees which will, after a time, escape the frost and withstand our winters. The difficulties to contend with are the early growth in spring and the late unripe growth in the autumn. To provide against these evils, means should be taken to ripen shrubs off early, and also to prevent them starting too early in the spring.

A'.auric'acum. (Austrian maple). See A. Campestre australiacum.

A. barba'rum. (Bearded-calyx). See A. Saccarinum.

A. boscii. Siberia. 1820.


A. postelifer (M. D. G., 1896). Sapindaceae. H. 'Yellow-leaved form of the common maple.'

A. Schelleri (M. D. G., 1902, 104). Sapindaceae. H. 'Tauricum (Taurian). Leaves larger and less divided.'


A. colchicum auct. (See A. LECTUM.)

A. eriocarpum. See A. DASYCARPUM.


A. polycarpa (Spurred. Leaves spotted white.


A. diplos (A. of Central Asia.)


A. di'scetum. A variety of A. palmatum.

A. Dolgo'sii. See A. OLBUM.

A. Dur reis a' rou-margi'nu'm lam (M. D. G., 1896, 79). H.

A. eri'co'rum. See A. DASYCARPUM.


A. Franchetii (G. C., 1903, xxxiii. 100). Central China.

A. Ginnala. Amur River.


A. glau'cum. See A. Sanguineum.


A. Hel'deris (G., t. 1185). H. Germany.


A. v/e'ricum (Georgian). See A. MONSEPULSMANUM.

A. insi'gnes (B. M., t. 6657).


A. japon'icum. Japan.

A. var'i'colis. Japan. 1874. Syn. A. japonicum var. ('variegatum.')


A. au'rom (golden). Leaves red and golden.

A. ru'brum. Young leaves red.

A. tri'caudum (J. R. H. S., xxix, 354 f.).

A. leu'cium Forgetii (J. R. H. S., xxix, 353 f.).

A. laur'icifolium. See A. OLBUM.


A. lobat'um (lobed-leaved). See A. Lobata.

A. Lobata, 50. May. Naples.


A. marmo'stum. See A. PICTUM.


A. Miyab'et (Spiith Cat., 1894-4). H. Japan.

A. monos'pensu'm (Montpellier). B. Green and yellow.

A. varières (May. France. 1739.


A. mons'num. See A. SPICATUM.

A. Nagu'ndi. 40. United States. 1658.

A. borea'se (M. D. G., 1896, 2). H.

A. cal'disfemum au'reum (R. H., 1898, 327). Sapindaceae. H.

A. foliis mar'ginatis et au'reis (R. H. B., 1889, 268). H.

A. Gua'da'ru (R. H. B., 1889, 268). H.

A. foliis tenuis (M. D. G., 1906, 2). H.

A. pédul'um (Jard, 1895, 128). H.

A. Schawer'ini (M. D. G., 1905, 212). H.

A. glau'mum (black). See A. SACCHARINUM NIGRUM.

ACHIMENES

A. spicatum, United States, 1750. 1. White, August. Siberia. 1758.

A. laurifolium. Leaves deeply cut. 1909. 2. White, July. 1804.


A. Lingulifolium. (Gard., 1900, lvi. 485). H. 1 to 2.


A. grandiflora. Found scented with a mellow flower. 1825.

A. Monzia (Monzolin), See A. Bieberica.


A. myriophylla (myriad-leaved). See TANACETUM Millefolium. 1916.


A. punicea (red). See A. MIRANTHA.

A. recurvifolia (recurved). See A. CHAMELEON.-FOLIA.


A. taurica (Taurian). See A. LEPTOPHYLLA.


ACHIMENES. (From chaimino, to suffer from cold, and a prefixed as an augmentive, alluding to the tendereness of the genus. Nat. ord. Gesneriaceae. Linn. xxix. 1759.) This genus includes a number of interesting species, and many garden varieties. Although usually treated as stave plants, the ordinary varieties are grown under much cooler treatment than is generally recommended, and they may make more serviceable plants. All except where otherwise indicated ripen off in the autumn. The are increased from the tubercles which are found at the base of the stems, and they may also be propagated from cuttings and raised from seed. These should be kept in dry soil during the winter, and started in January or February. Achimenes are very effective as basket plants; when suspended it is a drop over and form a mass of bloom. They may also be grown in pans, as they do not require much root run, but are benefited by liquid manure after they are well advanced in growth. Formerly they were grown under shading and kept very moist, but if started where they are well exposed, and watering at the roots is properly attended to, they will be more satisfactory.

A. amabilis. See NIGERIA MULTIFLORA.

A. atropurpurea (silver-spotted). See KELLEKIERIA.

A. atrosanguinea (dark crimson). See A. POLIOLE.


A. coelestis. See EPISICA.


ACERANTHUS


A. agyiophloia (Egyptian). See A. TURNEFORTE.


A. alliacea (whitish). See A. Tenuifolia.


A. aurora. See CHRYSANTHEMUM ACHILLEAFLORUM.


A. chaenostis (compressed). See A. COMPACTA.


A. crispa (crested-leaved). See A. ALPINA.


A. kamtschatica. 1816.

A. eupatorium (syrn-leaved). See A. FILIPENDULINA.


A. glomerata (spherical). See A. COMPACTA.


ACMACIA

A. A'rcey, Yellow. Central Amer. 1866.


colo'sea (D. R., 1899, 169). Orchidaceae. S.

hrubya'na (G. C., 1882, av. lilts). White, purple.

Newt. 1882. 

Hambo'ldti. 2. Chocolate and crimson. May.

Vennesia. 1847. Syn. (B. R., 1843, t. 19) Peri-

Steria Humboldtii and Anguloa superba.

Colma'mai (G. C., 1900, xxxiii. 270). Orchidaceae. S.


Li'cica (G. C., 1897, xl 652), Ecuador. 1879.

Wrig'hiti (Gard. World, 1889, v. 673; L. iv. 88). See LACIENA SPECTABILIS.

ACIOTYS. (Akis, a point, and ou, an ear; from shape of petals. Nat. ord. Melastomads [Melastomaceae]. Linn. 10-Decandria, 1-Monogynia.)

Stove plants allied to Oesbechia, and though requiring heat during the winter may be grown in the greenhouse in summer. Propagate from cuttings early in the spring, using sand, peat, and sand in equal parts; pot on in good loam, adding some leaf-mould and peat.


ACIPHYLLA. (From ake, a point, and phyllon, a leaf; referring to the sharply-pointed leaf segments. Nat. ord. Umbelliferae. Allied to Angulica.)

May be propagated by divisions which should be done early in the spring, and may also be raised from seeds sown in April or May; they are all natives of New Zealand, and are suited for the rock-garden. Plant in rich sandy loam.


Lyt'ul'ia. New Zealand. 1889. (W. G., 1889, 123.)


AC'IS. (After Asis, a Sicilian shepherd. Nat. ord. Amaryllids [Amaryllidaceae]. Linn. 6-Hexandria, 1-Mono
gynia.)

Dwarf bulbous plants suitable for a sunny position on the rock-garden. They are rather delicate plants and should be planted in fibrous loam and leaf-mould, propagated by divisions; but the clump should not be distorted too frequently, for they do better after the second or third year. They are now placed under Leucojum.


ACISANTHA'RA. (Akis, a point; anthera, an anther; having pointed anthers. Nat. ord. Melastomads [Melas
tomaceae]. Linn. 10-Decandria, 1-Monogynia.)

An evergreen stove-shrub, the rest herbs; allied to Herra; cultivated like Aciotis.

A. brevifolia (short-leaved), 1. Purple. Trinidad 1832.


Perennial.


Annual.

ACMADE'NIA. (Aenea, a point; aden, a gland; the anthers having glands. Nat. ord. R韦uedows [Rutaceae]. Linn. 5-Pentandria, 1-Mono
gynia.)

Greenhouse plants, allied to Diasma. Propagate from cutting early in the spring, using sand, peat, and sand in equal parts. Pot on into loam and leaf-mould, with sand added.

ACHRAS. (Escher's). Purple, crimson. June. Gar
dens. 1849.


floribus' al'bus (albula). Rose. September.

glaxinio'ro'sa (gloxina-flowered). See GLOXINIA GLABRATA.

grandiflo'ra (large-flowered). Pale crimson. This is a greenhouse herbaceous plant. October. Mexico. 1842. A variety of this, Skinneri, is a stave plant. Guatemala. Shaded scarlet. 1847.

heterophy'lla (various-leaved). Scarlet. Van Houtte. 1875.


Jaur'e'gua (Jaur'e'sia). See A. LONGIFLORA.


lilacina'lla. Lilac. 188. Syn. Eucodia lilacinia. Iridaceae.)

longifo'ra (long-flowered). This is a greenhouse her

m'o'a (white, long-flowered). White. October. Guatemala. 1849. Same as Jaur'ea'gua?


lalio'tlia. Lilac. Guatemala.


marg'a'ria. White. Central America.

mi'sera (poor-flowered). See DiCYCITA WARSCE
wcziana.

Mountfo'rdii (Mountford's). Scarlet. August. Gar
den. 1847.


Guatemala. 1840.

pi'sta (spotted). See TYP.E.

pyr'o'ra's (flame-coloured). See A. COCCINEA.


Scheine'rii (Scheiner's). See A. HISUTA.


Vorscha'flii. [In addition, a long list of garden hybrids might be given.]

ACHRAS VERSCHAFETII. See IRENEI
HERRSTEI.

ACIDANTHERA. (From akis, akides, a point, and anthera, an anther; the anthers are pointed. Nat. ord.
Iridaceae.

Stove bulbs. Offsets. Loam, peat, and sand.


Ahumado. 1731. Sapodilla Plum.

ACHYRANTHES VERSCHAFETII. See IRENEI
HERRSTEI.
A. juniperina (Juniper-like), 1. May. 1823. 


ACMENA. (Acmena, a fabulous nymph, Nat. ord. Myrtle-blooms [Myrtaceae]. Linn. 12-Icosandra, 1-Monogynia.)

Greenhouse evergreen shrubs propagated from young side-shoots early in the spring, in sand and peat. For potting on add loam and leaf-mould; pot firmly, and give careful attention to watering. They are now placed under Eugenia.


A. rosea (Bull. Cat., 1882, 13).

ACNITUS. (Derivation not clear. Nat. ord. Solanaceae.)


A. arborisecta (tree-like). Mexico.

ACOKA NATHERA.

A. Icylotides. 4. White, S. Africa. 1824.


A. menza ta. 10. White, Spring. S. Africa. 1877.

ACONIPTERIS. See Acrisochium.

ACONITUM. (Being plentiful near Acona. Nat. ord. Crossfoot [Ranunculaceae]. Linn. 13-Polyannaria, 3-Iridina.)

Hardy herbaceous plants, some of which are very beautiful and will grow under the shade of trees, and succeed well in any common garden soil, propagated from divisons or seeds. Our indigenous species (A. Napellus), the Common Monkshood, is one of the most virulent poisons to cattle and to human beings; the roots, though distinct, have been taken for horse-radish, and fatalities have occurred through the mistake. Almost all other species are equally dangerous.

TUBEROUS ROOTED.

A. acuminatum (acuminate). See A. paniculatum.

A. acutum (acute-leaved). See A. Napellus.

A. albiflorum (whitish). See A. Napellus.

A. album. See A. variegatum.

A. amabile (pleasing). See A. Napellus.

A. ampliflorum (large-flowered). See A. Napellus.

A. angustiflorum (narrow-leaved). See A. Napellus.

A. bernhardii (Bernhardt's). See A. Napellus.


A. Braunii (Braun's). See A. Napellus.


A. foetidum.

A. pungens (drooping). See A. Cammarum.


A. Clusii (Clusius's). See A. Napellus.

A. columbus num. Western North America.

A. commutatum (changed, or tall dog's-bane). See A. Napellus.

A. delphiniiformum (larkspur-flowered). See A. Napellus.

A. distum (Glin., 1836, f.), 7. pet.

A. elatum (tall). See A. Napellus.

A. eminens (eminent). See A. Napellus.


A. eustachianum (well-spiked). See A. Napellus.

A. exaltatum (exalted). See A. Cammarum.


A. fiorum (handsome). See A. Napellus.

A. Funkei (Funke's). See A. Napellus.


A. gibbum (swollen). See A. variegatum.

A. Guélini (Guelin's). See A. Lycocotonum.

A. graciele (slender). See A. variegatum.


A. Hainesii (Haines's). See A. Napellus.


A. hama tum (hooked). See A. variegatum.

A. hebe gard (hairy-styled). See A. paniculatum.


A. Switzerland. 1870.


A. heterophyllum (greenish-yellow). Himalayas. 1874.


A. Hopei (Hope's). See A. Napellus.

A. illitum (anointed). See A. variegatum.

A. intermedium (intermediate). See A. variegatum.

A. insecutum (anointed). See A. Napellus.


A. kelesnum (Kolle's). See A. Napellus.


A. Kohleri (Köhler's). See A. Napellus.

A. laciniocum (jagged). See A. variegatum.

A. lactum (juicy). See A. variegatum.

A. laevis (smooth). See A. Napellus.


A. maidi um (largest). See A. Fischeri.


A. meyeri (Meyer's). See A. Napellus.

A. moelle (soft). See A. Paniculatum.


A. Switzerland. 1819.

A. nasum (great-nosed). See A. Fischeri.

A. n. monontum (new-mountain). See A. Napellus.

A. nebeurgenes (Neurger). See A. Napellus.

A. n. tibidum (shining). See A. Lycocotonum.

A. oligocarpum (few-podded). See A. Napellus.

A. orientalis. CAUCASUS. 1822.

A. otosum (Otto's). See A. Cammarum.


A. Franc e. 1815.

A. paniculatum (plaited). See A. Napellus.

A. procumbens (long-lipped). See A. Napellus.

A. pubescens (pubescent). See A. Napellus.

A. recognantum (recognised). See A. Volubile.

A. rhynchosanum (bll-flowered). See A. variegatum.


A. Switzerland. 1819.

A. r. rigidum (rigid). See A. Napellus.


A. rostratum (beaked). See A. Napellus.


A. Rechtaii (Rechtaii). Carpathian mountains. 1800.


A. Schleicheri (Schleicher's). See A. Napellus.

A. semiglauces (half-helmeted). See A. Napellus.

A. spectabile (showy). See A. Cammarum.

A. sprengelii (Sprengel's). See A. Cammarum.

A. squarrosum (square-root). See A. Lycocotonum.

A. sirum (upright). See A. Napellus.

A. barbicum (Taurian). See A. Napellus.


A. to'xicum (poisonous). See A. Paniculatum.


A. South of Europe. 1597.


A. Switzerland. 1819.
ACROPHORUS


A. virgatum (twigg). See A. Napellus.


A. laodicea (from Vilmorin’s). See A. Vilmornia. 1901.

A. luteostrum (poisonous). See A. Lycoctonum.

ACRE is the usual land-measure in Great Britain. The Statute Acre throughout the United Kingdom now contains 4 square rods; a rod contains 40 square poles, rods, poles, or links; and a perch contains 30 square yards. A Statute Acre, therefore, contains 4840 square yards. The Irish Acre contains 7840 square yards, or nearly equal to 1 acre, 2 roods, and 19 perches. Statute measure is the South Acre contains 5750 square yards, equal to 1 acre, 1 rood, and 2 perches, Statute measure.

ACRIDOCARPUS. (From aros, a locust, and karpos, fruit; in reference to a resemblance of the fruit to a locust. Nat. ord. Malpighiaceae.) A pretty greenhouse climber; should be potted in a rough, porous soil, with good drainage; and requires liberal supplies of water. Usually increased from imported seeds, but may also be propagated from cuttings taken from young growths, and put in the propagating frame where their bottom-heat.


A. fimbria (G. C. 1885, x. 656). India.

A. fava. White, green, and purple. August.


A. picea (painted). See A. Javanica.

ACROCHELAE. (From akros, top, and chelis, to gape. Nat. ord. Orchidaceae; tribe, Epidendreae; sub-tribe, Dendrobieae.)


ACROGNIUM. See Helicopterum.

ACROCOA. (From akros, top, and koma, a tuft; referring to the way the leaves are produced. Nat. ord. Palms (Palmaceae). Linn. 21-Monoclasia, 6-Hexandra.) A genus of South American Palms; a race of plants including some of the most majestic specimens of the vegetable kingdom, whose products of fruit, root, stems, and leaves are applied to numerous economical purposes. The suckers or stems from the root require to be taken off carefully and potted in sandy loam.

A. aculeata (prickly). See A. Selaginella.


ACRONYCHIA. (From akros, top, and onyx, a claw; referring to the curved points of the petals. Nat. ord. Citronerctis (Rutaceae). Linn. 8-Ocindra, 1-Monogyna.) A fine greenhouse evergreen tree, producing sweetly-scented blossoms, not unlike those of the orange. Cuttings of small side-shoots in July, in sand, under a bell-glass; soil, sandy loam and peat. Winter temp. 40° to 45°.

A. cunninghamii (Cunningham’s). See Medicago.


ACROPERA. (From akros, the end, and pera, a pouch; referring to a pouch-like appendage at the end of the labelium. Nat. ord. Orchidaceae). Linn. 20-Gynandra, 1-Monogynia.) A pretty stove orchid. For culture, see Orchids.

A. lodigei (Lodigies’s). See Gongora galeata.

ACROPHORUS. See Davallia.
ACROPHYLLUM

From akros, top, and phyllon, a leaf; referring to the way in which the leaves are produced at the summit of the branches above the flowers. Nat. ord. Cunoniads [Saxifragaceae]. Linn. 10-Decandria, 1-Monogyna.)

Greenhouse evergreen shrub. Cuttings of half-ripe shoots in July; soil, sandy peat and loam.

A. venosum, 6. Pink and white. May, N. Holland, 1836.

verticillata (wooled). See A. venosum.

ACROPERIS

From akros, a point, and peris, a fern. Nat. ord. Filices. Linn. 24-Cryptogamia, 1-Filices.)

All Spoonworts. Strove Ferns, propagated by division; soil, light, loam and peat. See ASplenium.

A. austriaca (southern). Brown, N. Holland, 1836.

canadensis (Canary). Brown, Canaries, 1824.

falcata (tailed). Brown, I. of Luzon, 1824.

falcata (sickle-like). Brown, India, 1843.

laserpitiofita (leatherleafed). Brown, I. of Luzon, 1843.


peltioida (clear). Brown, I. of Luzon, 1843.


pramonus (bitten-leaved). A synonym of Asplenium furcureum.

rutila (red). Brown, N. Amer., 1793.


septurnionale (northern). I. Brown, Britain, 1844.

Sé res (saw-leaved). Brown, North of Europe, 1844.

spathulata (spathulate). I. of Luzon, 1844.

tris (varying). I. of Luzon, 1844.

var. (var. leaves.)

A. austriaca (southern). Brown, N. Holland, 1836.

Corderyi, \( ^{1} / _ { 2 } \) dioecious, \( ^ { 1 } / _ { 2 } \) H. will. leaves. See ACROPHYLLUM.


appendiculata (appendaged). \( ^ { 1 } / _ { 2 } \) W. Ind, 1824.

articulata (jointed). 2-3, Philippines.


cortis (eared). 1-14, Philippines, Malayu.

bifurcatas (bifurcated). \( ^ { 1 } / _ { 2 } \) March. St. Helena.

brasiliense. I. Brazil.

ceras (staghorn-like). 3-4, Mexico to Peru, 1823.

 coronadense (Coronado). Fonds simply pinnate. Brazil, 1837.

citrillo (orange-leaved). \( ^ { 1 } / _ { 2 } \) Yellow, brown.

September, W. Ind.

cordifor me. \( ^ { 1 } / _ { 2 } \) Trop. Amer.

crenatum, Syn. A. crispatum. Variety of A. tereus. \( ^ { 1 } / _ { 2 } \) taxitum (hair). \( ^ { 1 } / _ { 2 } \) July, W. Ind, 1793.

decora (large). I. W. Ind.

decurrans. I. Philippines.

flagellariae. Brazil, 1824.

flabellata (fan-shaped). \( ^ { 1 } / _ { 2 } \) Colombia to Peru.

fruticosum (three-parted). Colombia.

flacca (flabby). \( ^ { 1 } / _ { 2 } \) 1, Panama to Brazil.

flagellariae. \( ^ { 1 } / _ { 2 } \) flambo (red). \( ^ { 1 } / _ { 2 } \) F. Ind, 1828.

funiculatum (fennel-like). \( ^ { 1 } / _ { 2 } \) Andes of Ecuador.

fuscifrons (spindle-formed). \( ^ { 1 } / _ { 2 } \) Brown, yellow. July, Malacca.

glanduloso (glandulous). \( ^ { 1 } / _ { 2 } \) Jamaica, 1823.

grandiflorum (magnificent). See LENTHEIUM.

Herminieri. Trop. Amer, 1871.

juncifer (moss-leaved). \( ^ { 1 } / _ { 2 } \) Yellow, brown. August, Surinam, 1832.

latifolium (broad-leaved). \( ^ { 1 } / _ { 2 } \) Yellow, blue. Jamaica.

lechleriun (Lechleriun). 31-5. Peru and Ecuador, 1856.

A. longifolium (long-leaved). See A. latifolium.

ma gnum. I. Demerara.

musco sum. I. Trop. Amer.


niobis. 2. Brazil.


pelta tum (shield-like). 1-2, Mexico to Peru and Brazil.

plissellodes (mouse-eared-leaved). See A. SPATHULATUM.

presia num. I. Trop. Amer.

punctata (finely-dotted). 1-2, Mascarene Islands.


rigidum. I. Brazil.


serratifolium (serrate-leaved). 2-3, Venezuela; Brazil; Peru.

stimplic (simple-leaved). I. Jamaica, 1793.


Stenomia ( Stemnaria). See PLADECYRUM ETIOMICUS.

subdia (broad-leaved), semi-transparent). Brown, Ind.

sulphurea. I. Trop. Amer.

undulata (wavy). I. Trop. Amer.

virens crispa tulum. Pinnae crissed.

viscosum. \( ^ { 1 } / _ { 2 } \) Trop. Amer.

ACTINOCARPUS

From atkin, a point, and trena, a performance. Nat. ord. Dilleniaceae.)

Greenhouse plants. Treatment as given for Dolicarпус.


ACROCITHEAE

From akros, top, and thrix, hair; referring to the hairs on the sepals. Nat. ord. Eparidis (Eparidaceae). Linn. 6-Pentandra, 1-Monogyna.

Greenhouse evergreen shrubs. Cuttings in sandy peat, under a bell-glass, in cold frame. Temp., 40° to 45°.

A. cordata (heart-leaved). See A. OVATIFOLIA.

divaricata (straggling). \( ^ { 1 } / _ { 2 } \). White. May, N. Hol.

land, 1822.

ovatifolia (oval-leaved). \( ^ { 1 } / _ { 2 } \). White. May, N. Hol-

land, 1823.

ACTINOSTELLA

From atkin, a ray. Nat. ord. Comi-

posta.) In open border with light sandy soil.

A. grandiflora. \( ^ { 1 } / _ { 2 } \). Yellow. Colorado.

lanata. See ERIOPHYLLUM CRISPITUM.

soapo sa. \( ^ { 1 } / _ { 2 } \) Yellow. Texas.

ACTINIDIA

From akthin, a ray. Nat. ord. Tre-

stromiaceas. Syn. Trehxostigma. Ornamental, hardy, deciduous climbing shrubs, with axillary corystms of blooms. They thrive in a light rich soil; increased by seeds, layers, or cuttings. Useful as climbers on a wall or trellis-work.


Kolom at. See A. CALLOSIS.


ACRONCARPUS

From akthin, a ray, and carpus, fruit; referring to its radiated appearance. Nat. ord. Alismads [Alismaceae]. Linn. 6-Hexandra, \( ^ { 1 } / _ { 2 } -P o l y-

gyna.) Now included with Damasonum.

Aquatics. A. minor grows in sandy peat immersed in water; seeds sown in sandy peat; temp., 40° to 50°.
**ADENANDRA**


*Lehm's* nii. Leaves marbled with grey. A newer introduction.

**ADAM’S APPLE.** A name applied to several different plants, including *Citrus Limetta* and *Musa paradisiaca*.

**ADAM’S NEEDLE.** See *Yucca*.

**ADAMIA.** (In honour of John Adam, M.D., of Cuttula, Nat. ord. Saxifragaceae. Linn. 10-Deccanara, 5-Pentagonia. Now referred to Dichroa.)

Greenhouse evergreen shrubs. Pot in light fibrous loam, or add peat and leaf-mould; propagate from cuttings in close frame.

*A. cyanescens* (blue-barred). See *Dichroa Ferruginea*.

**syloca* (wood). See *Dichroa Ferruginea*.

**vires color* (many-coloured). See *Dichroa Ferruginea*.

**ADAMSIA SCILLIOIDES.** See *Puschkinia*.

**ADANSONIA.** The Baobab. A single African tree comprehends this genus. Is regarded as one of the largest trees in the world.


**ADDER’S-TONGUE.** A Fern. *Ophioglossum*.

**ADELASTER ALBIVES.** An excellent foliage plant, with leaves of a dark green, veined with white. Now referred to *Eranthemum*.

**ADETIES ABIETIS.** See *Insect Pests*.

**ADELIA.** (From a, not, and dols, visible; in reference to the minute parts of fructification. Nat. ord. *Spurgeae* [Euphorbiaceae]. Linn. 22-Dicota, 1-Monandria.)

Stove evergreen shrubs. Peat and loam; cuttings in sandy loam, after their cut end is dry.


**ADELOBO*TRYS.** (From adelas, obscure, and botrys, a cluster. Nat. ord. *Melastomaceae*.) Stove epiphytes. For culture, see *Pleroma*.

*A. Linde* 'Nii. White changing to purple. Brazil. 1866.

*sc* 'Nii. White. Guiana.

**ADENA*DRANDRA.** (From aden, a gland, and aner, the stamen or male organ; referring to the aspect of the anthers. Nat. ord. *Ranunculaceae*. Linn. 5-Peradenia, 1-Monoandria.)

Greenhouse evergreen shrubs, propagated from half-ripened shoots in close frame with a little bottom-heat; may be grown in the open during the summer, and in a light airy house during the winter, with a temperature not falling much below 4°. Pot in light fibrous loam, with lead-mould and peat added; careful attention to watering is necessary.

*A. acumina* 'tis (acuminate). See *A. anguina*.


*acumina* 'la. Cape of Good Hope. 1843.


*linea* 'ris (linear-leaved). See *A. uniflora*.


*speciosissima* (showy). See *A. umbellata*.

*tegora* 'na. See *Acamadenia tetragona*.


ADENANTHERA


ADENANTHERA. (From aden, a gland, and anthera; an anther; referring to the gland on each anther. Linn. 10-Dactylanthra, 1-Monogynia.)

Stove evergreen trees. Loam and peat; cuttings.

A. chrysostachys. See Piptadenia.


. . . so'dens. See Entada.

ADENATHEOS. (From aden, a gland, and anthos, a flower; referring to the glands on the flowers. Nat. ord. Proteaceae. Linn. 4-Tetrantrangia, 1-Monogynia.)

Greenhouse shrub, allied to Alstonia. It is propagated from cuttings of the young shoots in sand, under a glass, with bottom-heat, in spring. Soil, loam, leaf-mould, and some manure; if loam is heavy, add some peat and pot firmly.


. . . terminis (terminal-flowered). Swan River.

ADENIUM. (From Aden, where it is native. Nat. ord. Dipsachae [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Greenhouse shrub, allied to Alstonia. It is propagated from cuttings of the young shoots in sand, under a glass, with bottom-heat, in spring. Soil, loam, leaf-mould, and some manure; if loam is heavy, add some peat and pot firmly.


. . . longiracemosum. Yellow. October. Brazil.


ADENOCA'RPUS. (From aden, a gland, and calymna, a covering; referring to the conspicuous glands on the leaves and floral coverings. Nat. ord. Bignoniaceae. Linn. 14-Didynamia, 2-Angiosperma.)

A genus allied to Spathio'ea. Stove evergreen twiner. Loam and peat; cuttings in sand and peat in the stove propagating pit.


. . . longiracemosum. Yellow. October. Brazil.


ADENOCALY'NA. (From aden, a gland, and calymna, a covering; referring to the conspicuous glands on the leaves and floral coverings. Nat. ord. Bignoniaceae. Linn. 14-Didynamia, 2-Angiosperma.)

A genus allied to Spathio'ea. Stove evergreen twiner. Loam and peat; cuttings in sand and peat in the stove propagating pit.


. . . longiracemosum. Yellow. October. Brazil.


ADENOCARPUS. (From aden, a gland, and carpus, fruit; referring to the glands on the fruit. Nat. ord. Mimosas [Leguminosae]. Linn. 16-Monadelphos, 6-Decandria. Allied to Cyrtisus.)

This genus is chiefly made up of old species of cytisus, broom, and allied plants. All are yellow-flowered. The first two greenhouse plants, others hardy; sandy loam, but with a little peat for the first two. Seeds in March, and cuttings any time in spring and summer.

A. anagyrus. 2. June. Canaries, 1815. This and foliolosus are evergreen and require protection from frost.


. . . frankeni'ei des (frankenia-like). See A. anagyryus.

. . . hispaflicas (Spanish). Spain. 1816.


ADENOPET'LTIS. (From aden, a gland, and pet'lia, a small shield; the shape of the glands. Nat. ord. Euphorbiaceae.)

A stove evergreen shrub. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.
ADHATODA

ADHATODA ANNUALS.


EVERGREEN SHRUBS.


ADHATODA. (Native name. Nat. ord. Acanthaceae. Allied to Justicia.) Propagated from cuttings early in the spring in the stave, and require stove treatment. Should be potted in porous loamy soil, with good drainage.


ADAPTANS. (From adiantum, and opsis, like; resembling Maidenhair. Nat. ord. Fæna (Filices) considered sometimes as a section of Chelanthæa. For culture, see Fæna.

A. pteroides. Java.

radia ta. 1. S. Amer.

ADIA NUTM. Maidenhair. (From adiantus, dry, as if plunged in water, yet remaining dry. Nat. ord. Fæna (Filices).) This extensive genus includes species from all climates, and in addition to many distinct species there are numerous garden varieties. They vary considerably, some having simple, or undivided fronds, and others having broad-spreading fronds with numerous small pinules. They also vary in habit; most of them may be raised from spores; some are proliferous from the fronds, others from the roots. For general culture, see Fæna.

A. aemulum (G. C., 1825–1848). Brazil. See A. Cunea-


1838.


Birkenhaidii (G., 1896, xxv. 648).

Bowrenii (Fl. and P., 1892, 105). A form of A. cuneatum.

Buari (G., 1887, i. 447).

Caps llaev er nas (Venus’s hair). Common maiden-

hair. cornubia me (Cornish).

crictispulum (crispated).

daphnea (daphne).

digita tum (G., 1857, i. 547).

disiga tum (G., 1887, i. 547).

fiswnum (divided).

Foit (Koott). Allied to the variety fisnum.

grana (G., 1887, xxv. 103).

imbricatum (G., 1897, i. 547).

incisum (deeply cut).

longiflorum (magnificent).

morinum.

rotundatum (rounded). Isle of Man.

undulatum (wavy).

A. cardiosiphon na (heart form indium). See A. Polypo-

phylum.

caudatum (tailed).

cilia um (ciliated).

crispa (Ill. Hort., 1894, t. 137). Brazil.

coldum (Koch Cat., 1888, 91).

colpodes (deep hollow). Ecuador and Peru. 1879.

r oseum (G. and F., 1888, i. 376).

concinnum (near). Trop. Amer.

Flemsii (Fleming’s).

latum (broad).

conglomeratum (G. M., 1903, p. 259).


croweina (G. M., 1904, 211).

cubica. Cuba and Jamaica.

Cunia (wedge-shape). Brazil. 1820.

celatum. Brazil. 1878.

Baraic (W. G., 1903, 119).

deflexum (G., 1884, xx. 716).

discatum (G., 1879, t. 54).

degans (G., 1885, xxii. 134).

fragrans (G. C., 1887, i. 447, and 1l9-9.


Hort. (notched). W. Ind. (1904).

Laurosii (Lawson’s).

Leyi (taiti).

midulsum (neat). 1879.

Pacii tis.

stris num (upright).

Cumingii, see A. Affine.

currum (curved). Trop. Amer. 1841.

cycloeraum (with circular spore masses). Ecuador.

Da daddi (G., 1887, i. 42).

decors (decorum). See A. Wagneri.

argi nico strois num (R. H. B., 1904, 240).

dolosum (deltoid). W. Ind. Islands.

diasnum (transparent). S. E. China.

Digita um (finger-leaved). Peru. Also cultivated under the name of A. speciosum.

dolabritos erra (Fl. and P., 1882, 103).


Edgewo’shis (Ill. Hort., 1878, t. 286). India.

degans (G., 1886, xxv. 200).

degansis (G., 1892, t. 249). A sport from A.

amergi num (notched). See A. Aphitocicum.

excisum (bluntly cut). Chili.

Lei (Leys).

medusum (much cut).

taricnna. See A. TENERM FARLEYSENE.

fasciculatum (G., 1897, xxii. 9).


Fergusonii (G., 1894, xxii. 360). Ceylon.

fistula (G., 1887, i. 110).

 Browia ile multi fidiem (G., 1879, t. 84).

fabellatum (small fan-leaved). Syn. A. amanum.


formosum (beautiful). Japan. 1880.

joveacaum (pitted). See A. Tetraphyllum.

juveum (tawny). New Zealand.

Ghesnii ghusnii. See A. TENERM Scutum.

laciniocephalum (grey-leaved). Syns. A. andiculum

A. mexicanum.

graecissum (very graceful). A form of A. cuneatum.

gro sum (large). 2. Colombia.

honoravisi (Hones’s). South America, Peru, &c.

1833. Syns. A. laicum, A. Reichenbachii, and A.

suffolismum.


idhio (graphitum). New California.


interme dusum. Trop. Amer. from the Antilles, and southward to Peru and Rio Janeiro. 1824.


lamberti num (W. G., 1890, 345). A variety of A.

cristatum.

La’thom (Latham’s). Stated to be a sport from A.

cristatum.

"Lind‘ni (Lindens’s). Amazons. 1856.

"lineatum (III. Hort.. 1895, 185, 312, f. 44).

"lunulatum (Wh. W. Ind. Islands and Trop. Amer.

"ludemannii’sum. A created variety of A. cuneatum.

"lunulatum (crecent-leaved).

"celé biculum (III. Hort., 1897, t. 230).

"macrocladium (long-branched). Syn. with A. polyphyllum.

"macrophyllum (long-leaved). Trop. Amer. 1793.

"macrophyllum (short-leaved). See A. Venustum.

"macrochlamys (once covered). Japan.

"monosorum (uni-soriante). Solomon Islands.


"moronissi (Moritz’s). S. Amer. See A. Capillaris-

"mu’ndulatum (G. C., 1879, xii. 84). Dwarf variety of A. cuneatum.


"neo-calado‘nic (G. C., 1883, xix. 720). New Caledo-

"neascus’cina. New Guinea. 1877.

"obtusifolium (obtuse). W. Ind. 1864.

"orient’sus (Bull. Cat., 1883, 11). Colombia.

"obtusum. Jamaica, 1879.

"Ozeti’s (G. C., 1887, i. 110). Colombia.

"Foci‘thi (Fl. and P., 1882, 105). A variety of A. cuneatum.

"pala’mum (G. C., 1877, viii. 40, f. 3). Peru.


"pedisum (pedate). N. Hindostan, the United States, &c.

"peru‘num (III. Hort., 1897, 5, 331). Peru.


"populifolium (poplar-leaved). See A. Seemannii.

"pre‘ceps (princeely). New Grenada. 1875.

"prionophyllum (saw-leaved). See A. Tetraphyllum.

"pubescens (downey). See A. Hispidulum.

"puerul'num (dusty). W. Ind.

"regina’ (Veitch Cat., 1888, t. 331). Garden variety.


"renisfo’rme (kidney-shaped).

"asarifolium (Azarum-leaved).

"rhodophyllum (G. C., 1881, xiii. 372). Colombia.

"rodon’num (red). See A. Obtusum.

"rubelum (reddish). Bolivia. 1868.

"schizophyllum (L’Hort. Int. Cat., 1888-9, 45).


"rhombo’sum (G. C., 1903, xxxii. 382). See A. Tenerum.


"Sesamum (Sesamum). General. Amer. 1868.


"sessilis’um (stalkless). See A. Hensloviannum.

"settulose’um (bistrely). See A. Diahanum.

"spicatus (showy). See A. Digitatum.

"subulose’um (nearly twining). E. Peru.

"te’nerum (tender). Mexico, &c.

"alcic’me.

"fetid’ (Barbados).

"fetid’um (fetid’um). 1865.

"Latho’mi.

"ramo’sum.

"scul’tum. Alexander. 1882.

"tetraphyllum (four-leaved). Trop. Amer.

"treville’sum (Treville’s). Central. Amer.

"treville’sum (Treville’s). See A. Venustum.

"trapezisfor’me (tinted). Trop. Amer.

"trapezisfor’me (thick-leaved). Syn. A. Venustum.

"trepexisfor’me (thick-leaved). Trop. Amer.

"trapezisfor’me (thick-leaved). See A. Intermediate.

"various (various). Undoubtedly syn. with A. villosum.

"velutis’um (Veitch’s). Peruian Andes. 1868.

"velutis’um (velvety). Colombia. 1866.

"venus’um (charming). Himalayas. Syn. A. micro-

"versatile’sum (G. and F., 1888, i. 376). Created form of A. Capillaris-

"Veronica’s (G. C., 1882, xvii. 425). See A. Tenerum.

"villo’sum (hairy staked). W. Ind. 1775.

"velutis’um (Veitch’s). Syn. A. decorum.

"Walt’i (G. C., 1887, i. 111).


"weigis’disi (Veitch’s). See A. Capillaris-

"Wilsonis’ (Wilson’s). Jamaica. Syn. A. macro-

"Wilsonis’ (Veitch’s). See A. Cuneatum.

"A. Dina. Nauclea adina is a synonym. Ten other names have been given to Nauclea.

A pretty little stowe plant; may be propagated from cuttings put in loam, peat, and sand, under a bell-glass or in the stove propagating pit. Pot in sandy loam and lead with good drainage.

A. cordifol’ia (heart-leaved). 40. Yellow. E. Ind.


A biennial climber, requiring common soil. Seeds. Does not climb or flower until the second year.


ADOLPHIA. (A commemorative name. Nat. ord. Rhamnaceae.)


ADONIS. (Named after Adonis of the Classics. Nat. ord. Crowfoots (Ranunculaceae). Linn. 13-Polyandria, 6-Polygyne.)

Hardy plants; common soil; the annual species from seeds, and the perennial from seed or root division.

ANNUALS.


"autumn’is (autumnal. Pheasant’s eye). 1. Crip-


"fil’a (Scare!. Austria.

PERENNIALS.


"flor‘pleno (G. W., 1903, 126).

"apenni’na (Apennine). See A. Pyrenaica.

"davur’ica (Dahurian). See A. Vernalis.


"pyre’nica (Pyrenean). 14. July. Yellow. Pyre-


"alba (J. of. H., 1906, iii. 39).

"maj’or. Dwarfier. Flowers larger. 1879. G. C.,


ÆCHMEA. (From æchme, a point; in reference to the scale points on the calyx or flower Andes. Nat. ord. Bromelios (Bromeliaceae). Linn. 6-Hexandria, 1-Monogyne.)

Suckers; light furry leaf and leaf-mould; very hand-

**AERANTHES**

Yellow, bracts crimson. W. Ind. 1873.

**bractea**. 

**bractis** niss (Glt., t. 1202). Brazil.

**bracteolata** (Bromelia-leaved). Y. Blue. February. Trinidad. 1874.


**cylindrica** (G., t. 1447). Brazil.

**di zoster (varicoloured).** See A. fulgens.

**distichana**. 1. Red, purple. S. Brazil. 1852.


**purpuracea**. Purple.


**flexuosa** (G. C., t. 1, 5). See **spectabilis**.


**fusca** (L. M., t. 492).

**Furstenbergi**. 1. Rose. Bahia. 1879.


**gigas** (B. M., t. 807). Alluded to A. Latinetii. Probably Brazil.


**Hoddei**. Scarlet, purple, yellow. Brazil. 1864.


**Lalindei** (II. Hort., t. 451). Colombia.

**lilavandula** ca (B. M., t. 5005). W. Ind.


**macracantha**. See A. Schiedeana.


**glabrula** (smooth). Greenish-yellow; bracts carmine.


**Origetii**. Red. 1860. See Ortegia Tillandsioides.


**pellekaana** (Williams'). 1882, 14. Pink, light violet; sepal and bracts scarlet. Brazil. 1854.

**pleiostis**. Scarlet, violet, green. Brazil. 1887.

**Echyria**. A genus of small cup-shaped fungi, parasitic on certain plants. **Echberberis**, one of the best-known species, lives on the leaves of the ordinary barberry. There are numerous other species, including E. convallaria, E. foaria, and E. viola.

**Echyria**. (From aix, a goat, and ares, a horn; alluding to the shape of its fruit. Nat. ord. Ardisiaceae [Myrsinaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Greenhouse evergreen shrubs. Propagated from cuttings of the half-ripe shoots in close frame with bottom-heat. Pot in good loam, leaf-mould, and peat.

**E.** fra'grandis (fragrant). See **E.** maurus, White, N. Holland. 1824.

**Echyria**. (From aix, a goat, and philos, dear; referring to its being a favourite with goats. Nat. ord. Verbenas [Verbenaceae]. Linn. 4-Pentandria, 2-Monogynia.)

Stove evergreen shrubs. Sandy rich loam; cuttings in sand, under a glass, with bottom-heat. Winter temp., 50° to 60°; summer, 65° to 80°.


**Zalme**. Bengal Quince. (From **Aegle,** one of the Hesperides. Nat. ord. Citromorbus [Rutaceae]. Linn. 13-Pentandria, 1-Monogynia.)

The Marmelos is a delicious Indian fruit, possessing high medicinal qualities. Stove evergreen shrub. Cuttings of ripe-wooded shoots, in sand, and peat in stove propagating pit; pot in good loam, leaf-mould, and manure.


**Echborberis.** (From aix, goat, and poaion, a little foot, probably from shape of leaflets. Nat. ord. Umbelliferae.) Free-growing, hardy plant. There is a variegated form which makes a very pretty edging.

**Echborberis a.** See Gilla Navare'tta.

**Echborberis.** (From ailo, to vary, and anthos, a flower; referring to the variability of the flowers. Nat. ord. Labiates, or Lipworts [Labiate]. Linn. 13-Dyadyu'na, 2-Angiosperma.)

Stove annuals. Fibrous leaf, loam-mould, and sand; seeds.


**sway'si** (sweet-scented). Syn. **A.** sway'si.


**Echborberis.** (From aix, goat, and solium, a flower; referring to the variable character of its flowers. Nat. ord. Orchids [Orchidaceae].) A. Arachnites. 4. Green; Mediterranean. 1873.

AERANTHUS. (From aer, air, and anthos, a flower, referring to the way in which the plant grows. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynanthera, 1-Monandria.)

Stove orchids. Division of root; on wood, or in a basket.


Leónio (G. C., 1885, xxiii. 726; xxiv. 80, f. 17-18). See ANGERICIUM HUMBOTLIOI.


AERATION. Exposing soil to the air. This is referred to under soils, but it may be remarked here that it is a most important factor in the cultivation of all vegetable products both in the ground and in pots.

AÉ RIDES. (From aer, the air; in reference to the power these have of living on the air. Nat. ord. Orchids [Orchidaceae].) Stove orchids. These all require a summer temp. of 60° to 85°; winter, 50° to 65°. Grow best in baskets filled with sphagnum or white bog-moss.


E. ferdinandii (G., 1886, xxiv. 650). Borneo. 'Brookei' (Sir A. Brooke's). Purple, white and rose; fragrant, Bombay. See A. CRISPUM.

'Burb'i alex' splendens. Rich purple, ochre. 1885.


crispum (B. M., t. 1427). S. Ind. 'lindeyi' num, 1 White, pink. E. Ind.

cyli'ndricum (B. M., t. 492). See A. VANDARUM.

dasyca'rpum. Brownish, rosy. India (?). 1865.

difô're. See ORNITHECHILUS FUSCUS.

'Duque'snei' (J. H. F., 1906, 777). White, dotted with rose.


'Leônia. Spur green.

'falc'aturn. White, pale violet. Tenasserim. 1862.

'hamiltonii. See SACCOLABUM.

'compa'stum' (G., 1888, ill. 744).

'farmeri'. 1 White, yellow. June. E. Ind.

'Fodi'ngii. Purple, white. India. 1855.

d'la'mum (L., t. 538). 1856.

'Willia'msi. White, rose. India.

'formo'sum (FL and FR, 1882, 105).

'godfrey'num (G., 1885, xxv. 814). Cochinchina.

'guita'turn. See RHYNCHOSTYLIIS RETUSA.


'herm'iti. See SACCOLABUM.

'ilili'stre (G., 1892, xvii. 21).

'lanos'i (G., 1890, viii. 66). Burma.


Kalam.'num (G., 1880, ii. 193).

'kleo'suria'num (G., 1898, xxv. 134).


'le'pidium. White. India. 1883.

'lindley'num. See A. CRISPUM.

'macula'turn forma'stum (L., l., t. 1). Whist, rose. June.


'ilili'stre. White. India. 1882.

'Schrae'der'i.

'maculatum' (G., 1885, xxiii. 533). Yellow, blotched purple, brown. 1885.

'Michol'tei' (O. R., 1904, 181).


'odontochil'num. 2. Sylhet. 1837.


'Syn. A. cornutum.'

'birna'nicum. Purple.

'Demid'ofii (L., t. 1). White. rose.

'purpur'a sens (G., 1881, xvi. 590).

'origoa'num (G., 1885, xxii. 501). White, purple. 1885.


'patiorum' (E. K., t. 220). See SARCANTHUS.

'Pico'si (Orch., 1890, f. 288). Cochinchina.

'picota'num (G., 1885, iv. 378). See A. HOLLISTIA.

'plapasychus' (K. B., 1893, 64).


'purpur'a'num' (G., 1881, xvi. 230).

'schadenberg'inum' (G., 1886, 606).

'Syns. A. rochartianum (G., 1885, 264).

'Reichenb'chi co'hin'chine'num' (G., 1881, xvi. 620). Cochinchina. See A. SAVINSIUM.

'Robertie'num (G., 1884, xvi. 320). Philippines.

'seong'num' (G., 1884, xvii. 260). See A. SAVINSIUM.

'sander'ia'num. White, purple, yellow. E. Trop. Africa (l.). 1864. See A. LAWRENCE.

'tradescant'i (N., vii. 28). Philippines.

'Schrae'der'i. 14. White, pink. E. Ind. See A. MACULOSUM.


'sl'ad'nium (Gld., 1891, 576).

'tessell'a'num. See VANDA ROXBURGHII.

'wightii'num. See VANDA PARVFLO'RA.

'thiiba'num. White, amethyst. Polynesia. 1866.

'vanda'num. White, yellow. India. 1867. Syn. A. cili'num.'

'Vel'ichi (B. H., 1881, 133, t. 8-9). See A. MULTIFLORUM.


'Sandrei' (G., 1906, x. 36). Pure white.

'wightia'num. See VANDA PARVFLO'RA.

There are also several garden hybrids.

ÆRVA (derivation not known). Amaranthaceae. These are herbs or shrubs, allied to Acanthaceae. Lanate plants of Tropical Asia and Africa, with perfect or imperfect flowers, the perianth segments short and hyaline; stamens 5 or 4, sterile filaments intervening; flowers very fragrant and fragrant, lit up in clusters, white with a red stripe.

Æ. jana'viana (Javanese). 2 White. E. Ind. 1768.

'lan'ana' (woolly), See A. TOMETOSA.


'sanguinole'nia (A. sanguinea, Hort.). Leaves 1½ to 2½ inches long, opposite or alternate. Cultivated for its dark red leaves. Java.

'ton'co (tongue). White. E. Ind. 1891.

ESCHYNANTHUS. (From eschyno, to be ashamed, and anthos, a flower. A flower. Nat. ord. Gesneriaceae [Orchideae]. Linn. 14-Dinamondia, 2-Andropogon.)

Stove evergreens, some of which are very showy, propagated from cuttings in spring, under ordinary treatment of stove plants.

Æ. a'libida (white). 1. Java. 1849.

'atropurpura' (red). See A. PURPURASCENS.


'bosc'ia' (Bosc's). See A. LAMPONGA.

'brodia' (Scarlet). April. E. Ind. 1839.

'cata'num (Red). Borneo.

'Fe'I. Mexico. Scandent.

'fulgens. Crimson, yellow. October. E. Ind.


'Hidebra'ndii (B. M., t. 7265). Burma.
AGALMYLA


B. " Henkelii (M. D. G., 1903, 126)."


E. macrocarpa (Holt). See A. PAVIA.


G. " ohioensis (Ohio). See A. GLABRA.

H. " papillica (pale-flowered). See A. GLABRA.


K. " ro'se variegata (M. D. G., 1906, 211).

L. " plantariae nalis (R. H., 1894, 246).

M. " rubicula (red-flowered). See E. CARNEA.

N. " rubra (Holt). See A. PAVIA.


EETHONIA. (From aitho, to scorch, and nema, a filament; in reference to some burnt appearance in the stamens. Nat. ord. Crosswort, or Crucifers [ Cruciferae].) Allied to Lepidium. Linn. III. Tetradynamia, t.-Monogyna.)

The order of Crucifers—to which our Cabbages, Mustard, Cress, Turnip, and Horseshoe—are closely related; has the universal character of being possessed with anticorubt and stimulating qualities. Hardy alpine plants, suited for rock-work. Common light soil; seeds and cuttings.

ANNUALS.

A. Buxbaumii (Buxbaum's). See A. CAPPADOCICUM.


BIENNIAL.

A. monosp'trum. 1. pale purple. Spain. 1778.

PERENNIALS.


B. " diastrophi'a (Gard., 1803, lixivii. 195 f.).


G. " pulchellum. Similar to A. coridifolium. Armenia.

ZETTHIONIA. (From Zethion, one of Phoebus' horses. Nat. ord. Composites [Compositæ]. Linn. II. Syngenesia, t.-Equitata.)

Greenhouse evergreen shrubs. Cuttings; common light soil. They are now referred to Tolpis.


AFRICAN ALMOND. Bae'beium.

AFRICAN FLEABANE. Tarchona'nthus.

AFRICAN LILY. Agapa'ni.thus.

AFRICAN MARIGOLD. Tag'e'z'a or'ca.

AFZELIA. (In honour of Dr. A. Afzelius. Nat. ord. Leguminous Plants [ Leguminosae]. Linn. 8. Octan-toria, t.-Monogyna. Allied to Ambersia.)

Stove-temperature trees. Sandy peat and leaf-mould. Cuttings in sand, under a bell-glass. Winter temp. 50 to 60°; summer, 60° to 80°.


AGA LMA. See HEMPELKURUM.

AGANISIA

It is a fine stone plant, with scarlet tubular flowers, suitable for growing on branches of trees, in baskets or in pots, in the orchid-house or moist stone. Propagated from cuttings. Sandy, stony peat suits it.


AGANISIA. (From aganos, desirable; in reference to the beauty of these neat little plants. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria.) Growing in a block in stone; division of root.

A. carus'is, Blue, with darker blue blotches. Brazil. 1876. Now referred to Acacallis cyanea.


limbra'is, White, light blue, fringed. Demerara. 1874.

f. trans'is. 1. Yellow, red.


p'ida (L., ix. t. 400). Brazil.

oliveria'na (G. C., 1878, ix. 558). Brazil.


tri'is. Yellow, faint blue, lip red and orange. Amazon. 1888.

AGANO SMA. (From aganes, mild, and osme, smell. Nat. ord. Doabhes [Aponycaceae]. Linn. 5-Pentandra, 1-Monogynia.) The order of Dogbanes includes a host of most beautiful plants—as Allamanda, Echites, Oleander, &c. They are venemous in many cases, and always to be suspected. These stoe plants are propagated by cuttings in sand, under glass, and with bottom-heat; they prefer a mixture of loam, sand, and peat.

A. acumin'a (pointed-leaved), See A. marginata, oliveriana, a fragrant. October, E. Ind., 1812.

Shrubby twiner.


cymo'is (cymose-flowered). White, fragrant. Sytlet. Shrub.

s'ela'ns (elegant). Purple. E. Ind. Shrubby twiner.

m'osa (bordered). White, fragrant. Sytlet. Shrubby twiner.


AGAPA NTHUS. Blue African Lily. (From agape love, and anthos, a flower. Nat. ord. Liliaceae [Liliaceae].) Growing in sandy places of the Cape of Good Hope. Sandy loam; suckers. Require to be kept in a cold pit during winter.

A. cauda'nae (Gled., 1901, t. 281, t. 1407). Allied to A. umbrellatus.

ins'us (Gard., 1903, lxiv, 67 f.). S. Africa.

umbella'is. 8. Blue. April. 1862.

all'is. 2. Whitish. September.


ci'naidis. White. S. Africa. 1890.

cele'teas (Bull. Cat., 1878, 114). S. Africa.

flo're'al'is. 900. S. Africa.


giga'neus. 3. Dark blue. 1890.


au'ralis. 15. S. Africa.

Leichlin'is (G. C., 1879, x. 428). S. Africa.

ma'xinus (B. R., 1843, t. 7). S. Africa.

min'anus (B. R., t. 690).

m'war'is (B. R., 1903, t. 7). S. Africa.

m'i'or. 13. Dark blue. 1879.

Sainte'paull'is (Gard., 1903, lxiv. 90).

varieg'i'is. 2. Blue. April.

AGAPETES. (From agapotetes, admired; referring to the brilliant flowers. Nat. ord. Vaccinaceae.)


A. mag'ra (large-flowered). White, yellow, red. India. 1846.

Mac'mii. Khasia. 1892.


speci'o'is (G. C., 1907, xii, 224, 230, f. 101).

vaccina'cea. Khasia. 1837. See Vaccinium serrara.


AGARICUS. (From Agaria, the name of a town in Samnitia. Nat. ord. Mushrooms [Basidiomycetes].) Growing with grass, ferns, &c. These mushroom species are rather dangerous to the mycologist; they are too dangerous for us to recommend them. See MUSHROOM.

AGARISTA. (A mythological name; alluding to the beautiful aspect of the flowers. Nat. ord. Ericaceae.)

A. calloph'i'des. See LEFTSYNI CALLIOPIDEA.

neri'filla. Syns. Andromeda neriifolia and Leucothoe neriifolia.

wu'chil'is. Syn. Leucothoe pulchra.

AGA STACHYS. (From agastes, admirable, and stachys, a spike. Nat. ord. Proteaceae [Proteaceae]. Linn. 4-Tetrandra, 1-Monogynia.) A greenhouse evergreen shrub. Ripe-wooded cuttings in sand, and in a cold frame; equal parts sand, loam, and peat.


AGATHLEA. (From agathos, excellent; in reference to the beauty of the flowers. Nat. ord. Compositei; allied to Aster [Compositei]. Linn. 19-Synogynia, 2-Selaginaceae, 5-Fungi.) A greenhouse evergreen shrub. Cuttings of half-ripe shoots in April, in sandy loam, under a glass without heat. Soil, peat, and sandy loam, equal parts. Winter temp., 40° to 45°.


AGATHOSMA. (From agathos, pleasant, and osme, smell. Nat. ord. Ruworts. Allied to Diosma [Rutaceae].) Growing in sandy places. The Ruworts are principally distinguished for their bitterness and powerful smell. Greenhouse evergreen shrubs, all from the Cape of Good Hope, and all blooming in the greenhouse. These plants are grown for their scents; young shoots in sand, under a glass, without heat. Winter temp., 40° to 45°. In summer a rather shady place.

A. acumin'a (sharp-pointed-leaved). See A. imbricata. 

AGATHYRSUS

A. brevifol'la (short-leaved). See A. ERECTA.
A. brunis'da (Brunia-like). See A. CUSPIDATA.
A. hi'sta (hair). 2. Purple. 1794.
A. hi'sta (bushed). 2. Purple. 1791.

AGATY RUS.

(From agathos, pretty, and thyrsum, a thyrse, or dense panicle; referring to the handsome flowers so produced. Nat. ord. Compositae. Allied to Hawkweed [Compositae]. Linn. 19-Syngenesia, r:Equalis.)

Of all the various annual and herbaceous perennials, except A. Printea, which is biennial. Root division and seeds. Common garden-soil. Now referred to LactucA.

A. flori'da (floral). See LACTUCA HASTATA.
A. pot'ticis (Siberian). 2. Blue. August. Siberia. 1794. See LACTUCA.

AGATI.

(The Sanscrit name for it. Nat. ord. Leguminosee. Linn. 17-Diadesphla, 4-Loesandra. Allied to Galega. Now referred to Sesbania.)

Stove evergreen trees. Loam and peat in equal proportions; cuttings in sand, under a glass, with bottom heat.


AGAURIA.

(From agauros, proud; the bright appearance of the plants. Nat. ord. Ericaceae.)

Evergreen stove or greenhouse shrubs. Layers. Peaty soil.


AGAVE.

(From agaveo, admirable; referring to the statey form in which some of them flower. Nat. ord. Amaryllida. Linn. 6-Hexandra, 1-Monogynia.)

The fibre of some species of aloe has been manufactured into ropes and paper, and the juice into an intoxicating liquor called pulque, from which, in its turn, brandy is distilled. Stove and greenhouse succulent plants. Rich loamy soil, decayed vegetable mould, and brick rubbish; succulent.

A. albi'ola. See A. ALBICANUS.
A. Muli'ri. A dwarf variety. 1768.
A. ornat'a. See A. CUSPIDATA.
A. in'tertata. Leaves variegated.
A. amna'na. See A. SCOLYUM.
A. amnari'na. A dwarf form of A. xylonacantha.
A. amygdal'ida. See A. RIGIDA.
A. angustis'ima (G. and f. 1893, vi. 5, fig. 1). Mexico.
A. applana'ta. Mexico. 1869.
A. aspe'rina. 2. Yellow. Texas. 1864.
A. Baher'i (Gard., 1902, lxi. 240 fl.). Mexico (?).
A. Basie'ri (G. C. 1886, iii. 392). Mexico.
A. Bau'cova'rii. Mexico. See A. KERCHOVEL.
A. Barnba'eri. Mexico. 1868.
A. besseri'na (B. m. t. 5490). 2. Green. Mexico. 1869. See A. MACRANTHA.
A. Boul'ter'i (B. m. 1846). Greenish. Mexico. 1875.
A. brachys'pha'ya. 3. Green. Mexico. 1820.
A. braze'num. Mexico. 1859.
A. bromatal'sof'ia. Mexico. 1834.
A. bulb'a'co. Columbia. 1871.
A. califo'rina. See A. FALCATA.
A. candla'brum. See A. RIGIDA LONGATA.
A. carrhario'donta. Country unknown. 1907.
A. caribe'a. Martinique. 1877.
A. cori'cula'sena. See A. LOPHANTHA.
A. conc'orta'na. Mexico. 1887.
A. con'duplica'ta. Mexico. 1865.
A. Corder'o'yi. Mexico. 1872.
A. cre'nata. See A. SCOLYUM.
A. cu'cula'na. Mexico. 1850.
A. angustifo'lia. Mexico. 1871.
A. com'pa'lia. Mexico. 1871.
A. dan'tbe'la. See A. VERNALOLIDES.
A. de'se'una. Mexico. 1864.
A. de-mesteria'na. Mexico.
A. Der'be's. 10. Yellow. California. 1877.
A. des'mea'tina. See A. ARNORA.
A. di'placa'na. Mexico.
A. echino'ides. See A. STRIATA.
A. Ehrenbe'rgii. 5. Mexico. 1864.
A. elonga'ta. See A. RIGIDA.
A. en'si'era. See A. UNIVITTATA.
A. exc'la'na. Honduras.
A. expa'n'sa. See A. AMERICANA.
A. fal'ca'na. Mexico. 1869.
A. fen'sis'na (B. m. t. 6589). Mexico.
A. fo'ro'sa. Mexico. 1861.
A. fil'tera. Mexico. 1850.
A. flo'riser. Mexico. 1832.
A. fuxt'ri. See A. MEXICANA.
A. fun'ki'na. See A. LOPHANTHA.
A. Gale'tte'i. Mexico. 1877.
A. gemma'na. See A. MESSINGII.
A. Ghes'ther'ghii. Mexico. 1852.
A. Gilbe'yi. See A. HORNIRA.
A. Gilbe'rli (M. K. 1904, 226). See A. BAKERI.
A. gos'per'ria. 5. Mexico. 1865.
A. glomati'sflo'ra.
A. Gilbe'yi. Mexico. 1873.
A. le'vior. Leaves longer and narrower. Mexico. 1880.
A. macro'donta. Mexico. 1876.
**AGAVE**

*A. hoorida miraca*na*thica* Mexico. 1876.

"Houll'i*tii. Mexico. 1865.

"humboldtiana* na. Mexico. 1865.

"imbricata* na. Mexico. 1865.

"inre* na, See A. Kerchovei.

"intermedia* na. See A. Alberthii.

"I'silii. See A. Riga.

"izid'idae. See A. Riga* elongata*.

"jaqquini*na. See A. Lurida.

"Kar'a* tto. 5. Green. S. Amer. 1768.

"Karcho'eri. Mexico. 1864.

"canaliculata* la.

"ma* for.

"inre* na.

"Vel'khi*na. Mexico. 1865.

"mexicana* na. Mexico. 1865.

"lax*a. 1834.


"legreli'i*na. See A. Ehrenberghti.

"lepuyoa*na. See A. Griesbreghtii.

"Lind'd'y*gen. Mexico. 1867.


"longo'lia. Mexico.

"lupa*na*ita. 10 to 12. Mexico.

"curul*es. Mexico.


"macaca*na. Mexico. 1830.

"Sina* F. Avescens.

"macaca*na*thica*na. Mexico. 1869.

"macrot* na. See A. Kerchovei.

"mclava'la. 1. Purplish-green. Texas. 1856.

"maegreta*na. See A. Honrida.

"martia*na. Mexico. 1864.


"maximovitziana*na. 3. Green. 1889.

"melanaca*na. Mexico. 1863.

"mé*cali. See A. Scolymus.

"mexicana*na. 5. Green. Mexico. 1817.


"ms* nor. 6. Leaves entire. 1869.

"miradora*ns* 2c. Yellow, green. Summer. Mexico. 1869.


"moore*a*na. New Grenada. 1873.


"Bright yellow. Jamaica. 1887.

"Mus* na. 5. Mexico. 1873.

"Niche'l'si (R. H., 1895, 579). Texas.

"Niss'om*ni. Mexico. 1874.

"oblonga*ta. 8. Mexico. 1868.

"offo* na. Mexico. 1862.

"eliosphy*lla. Mexico (?). 1788.

"exigensiana*na. Mexico. 1876.

"barrasi*na (N. B., lv. 250). Mexico. 1907.


"Peccor'chi. Mexico. 1873.

"pec'ina*ta. Mexico. 1869.

"Pfz* der'ffi (R. H., 1904, 326).


"bothanach*ita*na. Mexico. 1875.

"poseyl'si*na. A. Heteracantha.


"prun*sa. Mexico. 1863.

"pru*te. 3. Greenish. 1870.

"pygusion*re*na. Mexico. 1830.

"pulch'errima. Mexico. 1835.

"reci*na*ta. See A. Stria*ta.

"regia*na. Mexico. 1869.

"re glia. Mexico. 1872.


"ri*gida*na. 5. Green. Mexico. 1790.

"longa*ta*Mexico. 1871.

"l'el'di*ta.

"ressia*na*na. Mexico. 1869.

"Roth's*ita. See A. Griesbreghtii.

"rub*e*na*ta. Mexico. 1834.

"ru*dis. Mexico. 1864.

**AGERATUM**


"Sapona'ria. See A. Brachystachys.


"Sara'tu'ria. A. Heteracantha. 1871.


"Schnit'spi*a. See A. Scolymus.


"Syns. A. amena and A. auriculata.

"cren*a*ta.

"Saul'drisi*ta.

"Seem's*na*ita. 6. Nicaragua. 1868.

"sulco*na*ta. Nicaragua. 1869.

"sulco*na*ta*na. Nicaragua. 1869.

"serrula*ta. Mexico. 1842.

"Sho's*i* (G., l. 902, f. 4-c G). California.

"Sic'a*ta. Mexico. 1871.

"Simo'na (R., 1904, 297, ff. 128-130).

"smithia*na. Mexico. 1865.

"solvati'fe. 10. Yellowish. Mexico. 1678.


"spie'ndens. Mexico.

"strid*ta. 6. Yellow-green. Mexico. 1836.

"trig'o*ta. 8. Mexico.

"Richard's*i. Mexico.

"sulco*ta. Mexico. 1869.

"Taylo'ri. See A. Wrighti.

"Taylor's*i (G., 1893, 66, f. 14); probably Mexico or Texas.

"Theo'me'la. 10. Yellowish-green. Mexico.

"thomsonia*na. Mexico. 1865.


"triangula*ris. See A. Honrida.

"undulata*ta. 3. Mexico. 1840.

"un'ivita*ta. Green. Mexico. 1830.

"variegata*ta. Mexico. 1865.


"Verschaffel'li. See A. Scolymus.


"vi'onica. 3. Purple. N. Amer. 1765.

"viri'f'la*ta. Mexico. 1877.

"volita*para. 15. Green. September. S. Amer. 1731.

"Syns. A. Cantida and A. buliblera.

"Wal's*i. Colombia. 1878.

"Wallis*li. Mexico.

"Watson's* (K. B., 1907, 322). Probably Central Amer. 1907.

"Webe'ri (Jard., 1901, 265). Mexico.


"Willia'm*si. Trop. Amer. 1872.

"Wils'ne*ri. 12. Mexico.


"Wri'ght*ti. 10. Green, edged cream. Central Amer. 1909.

"xalap't*na*ni. 13. Mexico. 1875.


**AGDISTIS**

(Monalie hemaphrodite, the genus is the only one in its order) Phyto- laccaceae. A monotypic genus. Tender climbing shrub. Mexico.

*A. ele*mis d*ella. Moc. and Sesse. With axillary or terminal branched racemose cymes.

**AGENO'RA.** See Hypocerin.
used for bedding. Imperial Dwarf Blue and Imperial Dwarf White were among the first we had, but there are now numerous names from different raisers. They all come fairly true from seed, but it is desirable to propagate them cuttings, as there is little trouble in keeping plants through the winter, and cuttings root freely early in the spring.


corynoides (sky-blue). See A. conyzaoides.

corynoides (R., t. 1730). See A. corymbosum.


laetissimum (broad-leaved). See A. conyzaoides.


punctatum (Jacq. H. Schw., t. 300).

sibiricum (upright). See Adenostemma viscosum.

suffruticosum (Gdt., t. 108).

Wendia nii (R. H., 1885, 9). Mexico.

AGLALIA. (The name of one of the three Graces. Nat. ord. Malaias [Meliaceae]. Linn. 5-Pentandra, 1-Mono-
gynia.)

Until very recently this interesting Chinese plant was referred to the Citronworts. Stove evergreen shrub. Light loam, decayed dung, and peat; half-ripenings in sand; in stove-propagating frame with bottom-heat.


AGLAOMORPHA. (From aglaos, beautiful, and morpha, a form, Nat. ord. Ferns [Pilices]. Linn. 24-Crypnum, 14-Filices.)

Stove herbaceous Fern. Root division and seed; light, rich loam and peat.


AGLAONEMA. (From aglaos, bright, and nema, a thread, alluding to the shining stamens. Nat. ord. Araceae.)

Stove evergreen perennials, some of which are remarkable for their beautiful variegated foliage. They require a warm, moist atmosphere, and may be propagated from cuttings in sand and peat; some may be propagated from divisions, and others from seeds; pot in fibrous loam, pot, and leaf-mould, with sand added.

A. acutispicum. Light green; leaves dark green, paler beneath. Canton.

commutatum (B. M., t. 5500).

commutatum 'pt chum.

hookeri xii. Spathic green, paler inside. India. 1874.


marantifolium, Malay.

nebulosum. Leaves dark green, blotched with whitish green. Java. 1887.

n. sidum. See A. oblongifolium.

oblongifolium, Malay.


versicolor (Bell. Cat.). E. Ind.

AGNOSTUS. See Stenoca'rus.

AGONIPTERIS. See Acro'stichum.

AGO'NIS. (From ago'nis, without children, or a, private, and gonia, a joint. Nat. ord. Myrtaceae.)

Evergreen greenhouse shrubs. Cuttings in sand, under a bell-glass. Propagate in loam, peat, and sand.


A. margina ta (margined). 2 to 3. White, June. Aus-
tralia. 1827.

AGRIMONIA. Agrimony. (From agrum, a plant used by the Greeks in cataract of the eye. Nat. ord. Rosaceae. Allied to Potentilla. Linn. 11-Dodecanandra, 2-Digyna.)

Hardy herbaceous plants. Root division; common garden soil.


nelaici nis (Nepal). See A. Eupatoria.


swae'olens (sweet-smelling). See A. Parviflora.

AGROMYZA VIOLE. Pansy Fly. Attacks the flower by puncturing the petal, and extracting the juice; the puncture causes the colouring matter to fade. Very minute; shining black; bristly; eyes green; head orange. Appears in May. See Iris Fly, also Insect Pests.

AGROSTE'MMA. Rose Campion. (From agros, a field, and stoma, a crown; referring to the beauty of the flowers. Nat. ord. Clonemuuse (Karyophyllaceae). Linn. 10-Decandria, 4-Tetragynia.)

Hardy herbaceous perennials. Common soil; division or seed. All are now referred to Lychins, which see.


pyrenaica (Pyrenean). 1. Pale rose. June. Pyre-
nees. 1819.

cyclopa (Swedish). See Lycinis alpina.

AGRO'TIS. Bent grass. (From agros, a field. The Greek name for a kind of grass. Nat. ord. Graminaceae.)


ALITH'NUS. (From alitana, tree of heaven; re-
ferring to its lofty growth. Nat. ord. [Simarubaceae]. Linn. 23-Polygamos, 11-Discaria.)

Deciduous trees. Cuttings of the roots; sandy loam and peat. Glandulosa makes a very handsome tree.


Giras'ldis (Girdal's). Leaves long. China. 1907.


Hardy.

A. tricolor (three-coloured). Leaves with rose belts becoming white. 1907.

sutchu'en'nis (Sutchun). Fruits flat, 2 1/2 in. long. Central China. 1907.


Syn. A. glandulosa spinosa.

AINSIE'LA. (Named after Dr. Whitehall Ainslie, an authority on Indian drugs. Nat. ord. Compositae.)

A. a'ptera (Bull. Cat., 1882, 13). Purple. Sikkim. Hima-
laya. 1882.


AIR. Atmospheric air is uniformly and universally composed of:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>21</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>79</td>
</tr>
</tbody>
</table>

Every 100 parts, even in the driest weather, containing, in solution in 1 part water; and in every 1000 parts, having admixed about one part of Carbonic Acid. The average proportions are:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>98.0</td>
</tr>
<tr>
<td>Watery vapour</td>
<td>1.0</td>
</tr>
<tr>
<td>Carbonic Acid</td>
<td>0.1</td>
</tr>
</tbody>
</table>

All these are absolutely necessary to every plant, to enable it to vegetate with all the vigour of which it is capable; and on its due state depends, in a great measure, the health of any plant requiring the protection of glass.

See LEAVES, ROOT, VENTILATION.
AIR (Giving). This is a term used by gardeners for ventilation, or opening the top sashes to let out the stagnant air and admit fresh; by giving ventilation from the sides or lower portions of the house; modern growers rarely give much side ventilation. On consideration, any one will agree that it is not a natural state of things to have a cold draught from beneath the plants where they are grown on stages.

AIRA. (From aria, the Greek name for Lolium temulentum. Nat. ord. Gramineae.) A. flexuosa, 13. Shining brown. Britain. See Deschampsia.


pulchea, 4. S. Europe. Correct name Gastridium australis.

AIR-PLANT. A. e. r. d. i. s.

AITO NIA. (In honour of Mr. W. Atten, once gardener at Kew. Nat. ord. Meliaceae (Meliae). Linn. 16-Monadelphia, 5-Pentandra.) Greenhouse evergreen shrub. Grow and pot; cuttings of young wood, in sandy loam, in close frame, with bottom-heat. Pot in good loam with some manure and sand.


AILZON. (From aet, always, and zoos, alive. The plants are fleshy, and retain their vitality for a long time. Nat. ord. Ficoidae.) Greenhouse succulent propagated from cuttings or seeds, and grown fully exposed to the sun. Pot in light loamy soil.

A. canariensis. See Sesuvium pedunculatum.


AJAR. Used to denote the smallest amount of opening to allow the entrance of air, and usually applied to the front sashes or lights.

A'TUGA. Bugle. From a, not, and zugon, a yoke; in reference to the calyx being one-leaved. Nat. ord. Labiates, or Lipiflorus [Labiatae]. Linn. 14-Daidynaria, 1-Gymnospernia.) Hardy plants. General greenhouse soil; division, or seeds.

ANNUALS.


'P'ea (Iva), 1. Yellow. May. South of Europe. 1759.

PERENNIALS.


f'olia'ce (leafy). See A. geneven'sis.

fur'ca (furcula). See Crainotome versicolor.


rup'es'tris (rock). See A. PYRAMIDALIS.

AKEBIA. (The name it bears in Japan. Nat. ord. Lardisalabas [Berberidaceae]. Linn. 21-Monoecia, 6-Hendersonia.) The fruit of Akebia quinata is used in Japan as an emollient medicine. Greenhouse evergreen twiner. Root division and cuttings; sandy loam and peat.

A. lo'ha (B. M., t. 748). Japan and N. China.

aur'icola (southern). Leaves with three leaflets.


Akee-TREE. Bil'ghia sa'pida.
The layers of young wood next beneath the bark, in which the vessels are situated for conveying the sap from the roots to the leaves.

Herbaceous perennials. Common dry soil; seeds, or divisions. Will succeed in any dry soil. Drainage must be good, and suitable for the Rock-garden, except for the greenhouse species.

**GREENHOUSE**


**HARDY**


**ALCHO'RNA**


**A'LOVE**

A seat in a recess, formed of stone, brick, or other material.

**ALDER**

See *A/ALBUS*.

**ALECTOR'rus**

(From *alektor*, a cock, and *ourea*, a tail; in allusion to the long stamens in one form of the flower. Nat. ord. Liliaceae.) Hardy perennial herb, with thick rootstock. Offsets. Well-drained soil.


**ALETRIS**

(From *aletron*, meal; referring to the powdery appearance of the whole plant. Nat. ord. Bloodworts [Hemodoraceae]. Linn. 6-Hexandria, 4-Monogynia.)

*A. farinosa* is the most intense of biters known. Hardy herbaceous perennials. Shady situation. Peat or loam and leaf-soil; offsets.


*A. farinosa* (mealy). i. White. N. Amer. 1785.

**ALEU'RTES**

(The name is the Greek word for meaty; in reference to the meaty appearance of the plants. Nat. ord. Spurgeworts [Euphorbiaceae]. Allied to *Croton.*

Stove evergreen trees. Loam. Ripe cuttings root readily in sand, under a glass, in heat.


**ALEXANDER*S-A'ALISANDER* (Smry'nia oula'sorum) received its common name from the Greek, which means "a helper of man," because formerly believed to possess powerful medicinal properties. It was also much cultivated for its cleft-leaves, when blanched, to be eaten as celery, which it slightly resembles in flavour. See any time from the end of March to the commencement of May, in drills three feet apart. Thin the plants when two inches high to six feet apart, and the seedlings removed may be planted in rows at similar distances. Earth them up, to blanch like celery, when about a foot high. The plants will last two years; but the stems are finer and crisper, if raised from cuttings. They are brought to flower in June, and the flowers are very beautiful. In the autumn they should be planted in the greenhouse, and allowed to mature, in order that they may be brought into flower the following season. No difficulty will be experienced in the cultivation of this plant, and it is one of the most delightful evergreens in the border. A. magnifica (Williams, Cat. 1839, 19). "viola" (G. C., 1894, vi. 10). " viola" (Plat. 96). Purple. Brazil. 1859. Re-introduced 1889. "Williamsii" (G. C., 1891, x. 111). A variety of *A. catherinae* and *wardenia*.

**ALEXANDRIAN LAUREL**

*Denas Laurus*. See INSECT PESTS.

**ALEXANDRIAN LEAF**

*Denas Laurus*. See INSECT PESTS.

**ALLENTODIA**


**ALH'GA**

(The Arabic name of the plant. Nat. ord. Leguminous Plants. Applied to Hedysarum [Leguminosae]. Linn. 1797.)

The natural secretion from the leaves and branches of *A. mauroirum* is supposed to be by the manna of Scripture. It is worthy of remark, that this secretion is not now formed in Arabia, Egypt, or India, but only in Persia, where it is highly esteemed as food for cattle. Both require the protection of a greenhouse in winter. Sandy loam and peat; young cuttings and seeds, the first of May, the latter in a bed. Winter temp., 40° to 45°; in summer, 55° to 70°. *A. camelorum* (camels'). 2. Red. July. Siberia. 1816. *mauroirum* (Moors'). 2. Red. July. Egypt. 1741.

**ALIBR'TIA**

(In honour of Alberti, a French chemist. Nat. ord. Cinchonadas [Rubiaceae]. Linn. 5-Pentandria, 1-Monogynia.)


**ALIBREXIA TOMEN'TOSA**

See *DOLIA*.

**ALISA**

Water Plantain. (From the Celtic word alias, water. Nat. ord. Alismads [Alismaceae]. Linn. 6-Hexandria, 4-Polygynia.)

Hardy perennial herb; sandy peat immersed in water. *A. Plantago* is recommended in hydrophobia.

**ALMA'NO**

See *DAMASONIUM*. *lancoola* (spur-leaved). See *A. Plantago*.

*natus* (floating). See *E. Elisma*.

*paro'rifolium* (small-flowered). See *A. Plantago*.


*trotia* (trivial). See *A. Plantago*.

**ALKANET**

*Alka* 'nana lino'rtia.*

**ALKA'NNA**


*A. lu'tea* (yellow). Europe.


**ALLAMA N'DA**

(In honour of Dr. Allaman, of Leyden. Nat. ord. Dipsaces [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia.)

This order is remarkable for handsome flowering plants, with delictious qualities. An infusion of the leaves of *Allamia catharinae* is very purgative. Stove evergreen climbers. Rich loam; cuttings root readily in sand, with bottom-heat and moist air. Winter temp. 55° to 65°; summer, 55° to 75°. Keep the plants dry during the autumn and winter; start them early in the spring.

*A. rubi'cum* (B. M., f. 1441). See *A. CATHARTICA*.


*Cheslo'ni* (Yellow). Garden Hybrid.


*tartarica* (Yellow). Brazil. 1846.

*Scho'tli* (Schott's). September. Yellow. Brazil. 1847.

*Hendersoni'ni* (Gill., 1887, 554. 560-1. f. 142).


*magnifica* (Williams, Cat. 1839, 19).


*Williamsii* (G. C., 1891, x. 111). A variety of *A. catherinae* and *wardenia*.

Yellow, outside maroon. New Guiana. 1880.

**ALLANTO'DIA**

(From *allianios*, a sausage; in reference to the scented form of its flowers, or the case which encloses the seeds of Ferns. Nat. ord. Ferns [Filicites]. Linn. 24-Cryptogamia, 1-Filices.)
Greenhouse Ferns; division of the roots, or sowing spores; equal parts, turyt peat and loam.

**A. australis** (southern). Brown. Van Diemen's Land. 1820. Syn. of *Asplenium aspidium*


**bromelioides** (Brown). Linn. 1858. (Java.:


See *Asplenium umbrosum*.

**ALLARDTIA**

See Tilla*ndia*.

**ALLEYS** are of two kinds:—1. The narrow walks which divide the compartments of the kitchen-garden; and, 2. Narrow walks in the shrubberies and pleasure-gardens, closely bounded and overshadowed by the shrubs and trees.

**ALLIGATOR PEAR**

*Persea gratissima*.


Hardy annuals. Seeds; sandy loam.


**ova'ta** (egg-leaved). See *Oxyraphus floribundus*

**violacea** (violet-coloured). See *Oxyraphus*.

**ALLUM**.

(Frons) Cottle all, meaning hot, or burning; referring to the well-known qualities of all the Onionworts, which are now classed in the Nat. ord. Lility*uris* (Liliaceae). Linn. 6. *Hedantria*, 1. Monogyne*.

The onion, garlic, and leek, according to Dr. Royle, are the plants which are used as such in the Bible (Num. ch. xil 5). The genus includes the onion, garlic, &c. Hardy bulbs. Seeds or offsets; rich, light loam.


**A. alba**. Deep red purple. California.

**A. hakka** (B. T. O., 1804, 226). See A. karatavienne*.

**A. diplo'ium** (G. C., 1903, xxxv. t. 34).

**Alexis nuna**. Whitish, striped brownish-purpl. Turkestan. 1890.


**anno'mo phialium**. See A. angulosum*.


**A. a'nceps**. 1. Purple. May, California. 1875.

**A. andersonii** (Anderson's). See A. sene'scens*.


**A. sparsum** (rough). See A. carnatum*.

**A. ca'spium** (purple-coloured). See A. cebuleum*.

**backhouse'num**. 3. Himalayas. 1884.

**baueria'num**. 1. Pale red. Cyprus. 1874.


**brachys'tan** (short-stemmed). See A. subhi'rsum*.


**cab'aticum** (B. M., l. 7294). Afghanistan.


**Ce'pa**. Green. May. Astrachan. 1836.


**ce'pa'num** (onion-form). See A. cepa*.


**con'iurn** (crowded). See A. sene'scens*.

**corn'um** (contrary-stemmed). See A. stellerianum*.

**contrivium** (contrary-stemmed). See A. sativum*.


**de'smidium** (down-flowering). See A. spheroc'phalum*.


ALOCASIA

A. semiretschenscianum (Glf., t. 971, f. g-k). Turkest. 
"sendriscia, t. Purple, July, Siberia.
A. axilliflora (Sib., Spur.; Pfl.), Purple, green, white. June 
Sicily. 1832.
A. sphaqrodophalum. 2. Reddish-purple. S. Europe.
1759.
A. spathaceum (spuriosus). See A. senescens,
1816.
A. striatum (B. & H. 1835, 1524). See Nothoscordum
A. subiridiflora. 2. White.
A. striata (Walstein's). See A. Botryoides.
A. subpedata, 1. White, green. S. Europe.
1873.
A. subulata. 2. White or rose. Summer. California.
1891.
A. Victoria'lis (Victor's). 2. Green, yellow. May 
Austria. 1739.
A. viscosa'rifida (Victor's narrow-leaved). 1. Green,
yellow. April.
A. violacea 'centaurea' (violet). See A. Cariatun
A. W'rightii (Walstein's). After A. Botryoides.
1873.

ALLOMA. (A commonenominal name. Nat. ord. 
Amaranthaceae.)
Stove perennial herbs. Seeds. Cuttings in sand in a 
close frame. Fibrous loam, leaf-mould, and sand.
A. a'bbasii (white). White. India; Malay.
A. m'od'siflora (node-flowering). 1. Yellow. July, India;
Malaya. 1824.

ALLOPHY'LUS. (From allos, diverse, and 'philous, to plant; in reference to the leaves, Nat. ord. Gesneriaceae) [Gesneriaceae].
Stove evergreens. Light, rich soil; cuttings. Allied 
to Gesnerias, and require similar treatment.
A. b'icolor. Leaves velvety-green, with silver-grey 
band. S. Amer. 1869.
A. capitas'bus (B. & H. t. 4452) 3. Red, yellow. March
India. 1845.
A. chrysan'thus. Yellow. Colombia. 1833.
A. cocc'i'us. Guiana.
A. co'ncolor. See A. dichro'tus.
A. cris'ta'tus. 4. Ind.
1845.
A. di'chos. 4. Red. Brazil. 1846.
Martha. 1845. This is a climbing plant.
A. sp'adix (tiger-splotched). 3 to 4. White, pink. 
Venezuela. 1852.
A. sti'tatus. Yellow, calyx crimson. Peru. 1870.
A. subor'neatus, 1. Yellow. Calyx orange-red. 
Colombia. 1873.

ALLOSOPH'US. (From allos, diverse, and soro, a heap; in reference to the variety of the patches of 
Ferns [Filices]. Linn. 24-Cryptoqamia, 1-Filices.)
A. acrosticho'des. See Cryptoqramme'crispa.
A. acrosticho'des (deltoid-leaved). See Pellea.
A. corda'ra'ris (heart-leaved). See Pellea.
A. cri'spi'sus (curled). See Cryptoqramme.
A. flexu'osus (zigzag). See Pellea Cordata.
A. smoc'h'rus. See J. Smoc'h'rus.
A. korus'nus. See L. Lleua Cordonilla.

ALLOTMENT. A space of land divided amongst so 
many labourers or artisans, and generally at the same 
price as that which the farmer pays. It may just be
such a piece of ground as a man and his family may 
successfully cultivate in their over-hours, after attending 
to their usual employment during the day. The term 
allotment thus becomes synonymous with garden; and, 
if near to the occupier's home, such a piece of ground is 
of great importance to him, socially and morally. Or, 
secondly, a piece of ground which may be utilized 
as a space of ground as will secure the labourer in employment, when otherwise he might be without it. In many districts the local 
authorities assist, or let ground at reduced rates, and 
in the suburbs and other small towns holders of 
from five to ten rods of ground find it healthy exercise, 
and also get the benefit of fresh vegetables.

ALLSEED. Polya'cris.

ALLSPICE. Calysca'thus.

ALLSPICE TREE. Pime'ma.

ALLUVIAL SOIL. is so called from the Latin word 
allis, to wash down; because the soil so named is that 
rich deposit of finely-divided earths and decomposing 
vegetable matters which, forming the land in valleys, 
and on the banks of rivers, is evidently formed of the 
richest and finest portions, washed down from higher 
situated soils. Alluvial soils are usually very fertile, 
and excellent for pasturage.

ALMOND. Amy'gdalus.

A L N US. The Alger-tree. (From al, near, and 
lae, the bank of a river; in reference to the situation 
where the Alger delights to grow. Nat. ord. Birchwoots 
(Salicetaceae).)
A. marina (Jorulldia). See A. Botryoides.
A. gla'lica (milky-green). See A. Caneca.
A. guttino'sa (sticky). April, Britain.
A. quercif'oila (oak-leaved). April, Britain.
A. vari'etis (variegated). April, Britain.
A. i'inter'meris (imperial). Leaves very finely cut.
A. in'cis'a (cut-leaved). April, Britain.
A. lacinia'ta (jagged-leaved). April, Britain.
A. quercif'oila (oak-leaved). April, Britain.
A. s'pinata. See A. Caneca Incisa.
A. foru'llis'ciana (Furulla). Mexico.
S. Amer. 1873.
A. macroco'rpis (long-fruitied). See A. GLUTINOSA.
A. macroco'rpis (long-leaved). See A. Botryoides.
A. orbida 'ta (two-lobed). See A. Cordofolia.
A. oblong'a'ta (oblong-leaved). 20. June, South 
Europe 1730.
A. vacan'thaco'la (oxyanth-leaved). See A. GLUTINO;
A. in'cis'a.
A. ru'ga'la (wrinkled). See A. Botryoides.

ALOCASIA. (From a, without, and Colocasia, Allied 
to Colocasia. Ord. Araceae. Handsome stalk foliage; 
plants propagated by offsets or divisions, and some may 
be raised from seed; should be potted in rough, fibrous 
soil; wash, sand, and some sphagnum moss may also be 
used. Heat moisture, and when growing, liquid 
manner may be given freely. A slight shaking 
in necessary is breathing weather.
A. am'bitis. See A. Longi'loba.
A. aurita'. See A. Longi'loba.
A. carinata. 1.951. Indonesia.
A. chelena'ri'ni (Siberian). See A. Caneca.
A. cucule'la. 2. Green, whitish. Spring. India. 1826.
A. de'smeti'na. 2. White, rose. Borneo. 1860.
A. exal'tata. See A. Caneca.
A. desme'ti'na. Leaves sinuate. 1908.
A. c'minens. Leaf dark green above, purple, with pale green veins; spathe green. E. Ind. 1887.
Gaulas'ni. Dark green leaves, with silvery nerves above; light violet, with blackish nerves beneath. 1890.
Giga'na. See A. LONGICLORA.
Gr'na. S. Spathes white, striped carmine outside. E. Indian Archipelago.
Giu'a. Spathe white, spotted with purple. Borneo. 1879.
Reddish-red. See 1810. K., macile'nta. glaucescens Hort., July.
Evergreen incu'rva the Archipelago. green. very 24). Whitish. 1818.
A. e'minens. Leaf dark green above, purple, with pale green veins; spathe green. E. Ind. ... Garden hybrid.
,, longiarista' la. See A. ARISTATA.
Metallic viii. spadix dark acumina'ta olive-black (R. 1877, K., New 
K., gravelly A. of 1895, 24). are leaves, lianburya'na. 1811.
Red. 1789.
1896, A. (M. 1821)
Blackish red, broken Spathe (hedge-hog). (G. 1885, iv. 603).
1879, K., gramine'na. 1811.
Red. 1879.
1896, A. (Forte's).
Green, with red-veined, with pale leaf veins. Malay Archipelago. 1888.
Reg'ne (Ill. Hort., t. 544). Leaves dark green above, brownish purple beneath; spathe white. Borneo. 1884.
Regui'e ri (Regnier's). Leaves dark green, with whitish ribs. Siam. 1887.
Ree'va. 1. Leaves grey-green, veins darker. Philippine Islands. 1890.
Red'i. See CALADIUM Marmoratum.
Sae'n'sis. S. Metallic blue, veins white. Indian Archipelago. 1884.
Scabri'sula. Spathe and spadix white. N. W. Borneo. 1879.
Sada'. A hybrid between A. Lowii and A. cuprea. sinia. Singapore's. 1. Penang.
Simu's. Spathe green, spathe white. Philippines. 1865.
Thiba'o'ta'na. 2. Leaves dark green, with white veination above, purple beneath. Borneo. 1878.
Var'ga'na. See A. INDICA.
Villaneu'vei (III. Hort., xxxiv., t. 21).
Watson'na (t. C., 1835, xiii. 444, 509, t. 83). Olive-green, and dark purple on the upper surface and beneath. See A. PUTZEYSI.
There are also several garden hybrids.
A. abyss'i nica para'casa's. Red. Abyssinia. 1873.
,'ammina'ta (spike-leaved). See A. HUMILIS.
Albo'c na (white-banded). See A. STRIATA.
Leiophy'lla. 1879.
Athero'nei. See A. PLURIDENS.
arro's rens. See HAWORTHIA.
Bas'nesi. S. Africa.
Barbe'ra. See A. BAINESI.
Bau'mi (Baum's). 3 to 5. Orange-red. S.W. Africa. 1904.
Bay'fe'lii. See GASTERIA.
Boli'sii. See A. ARABICA.
,Brachy'trachys (B. M., t. 7399). Zanzibar.
C'm'blia (Tolles), 9. Red. June. 1861.
Chro'loesieves (Chinese). Yellow. G.
Com'bellia (Commelin's). See A. MTRIFORMIS.
Com'muta'ta. 2. Coral-red May. S. Africa. 1877.
Consobri'nii. 2. Reddish-yellow. S. Africa. 1845.
Dep're'sse (depressed). Orange. August. 1810.
Drepanophy'lla. 8 to 10. Whitish. green, S. Africa. 1862.
Ech'na (hedge-hog). See A. HUMILIS.
Flavo'spa (yellow-spined). See A. MTRIFORMIS.
Frute'sspina (fruited). See A. ARBORESCENS.
Gla'vca (milky-green). Red. April. 1731.
Gr'cia (lesser io'.red-spined'). 4. Red. May. 1875.
H'x'ia (M. K., 1896, 24).
Hand'rac a. See A. STRIATA.
,incu'roa (B. M., t. 826). Orange. May. 1731.
Macle'ta. Leaves tinged with purple.
Subutuberu'ca (la. Orange. June. 1820.
Incuro (incurred). See A. HUMILIS.
Inc'irras. Arabia, See A. HETERACANTHA.
In's'i'nis (G. C., 1883, xxiv. 40, 41, t. 8). Garden hybrid.
Kis'kii (B. M., t. 7386). Orange, tipped with brown. Zanzibar.
Linea'nea (line-marked). Scarlet. 1795.
Mit'ra (milky-green-marked). Scarlet. 1879.
Lap'a'sii (M. K., 1896, 27). Garden hybrid.
Longiarista'la. See A. STRIATA.
A small order of pretty Chilian half-shrubby greenhouse evergreens, with large flowers; cuttings root freely in sandy loam; peat and sand.

A. bacca'ca (berry-bearing). Yellow. Coquimbo.
C. carno'sa (flaxly). Blue. Coquimbo.
D. glan'dulosa (glandulous). Blue. Valparaiso.
H. rostra'ra (beaked). See Osteocarpus rostratus.


Greenhouse evergreens, except A. cauliflora, which is a half-hardy herbaceous. Rich mould; cuttings, or seeds, the first in sandy loam in August or March; the seeds in March in gentle heat.

E. interme'dia (intermediate). See A. Linearis.
G. lino'sio'lia. 11. Scarlet. Peru.
I. myrta'lia. 2. Yellow. Peru. 1821.

ALOY SIA. Sweet-scented Verbenas. (In honour of Maria Louisa, Queen of Spain. Nat. ord. Verbenas [Verbenaceae]. Linn. 14-Diynamia, 3-Angiosperma.)

Greenhouse evergreen shrubs would; cuttings from young shoots in sandy soil, in close frame or hotbed early in spring. Correct name Lippia.


ALPHON'SEA. (Commemorative of the French botanist, Alphonso De Candolle. Nat. ord. Anacrones.)

Stove evergreen shrub. Cuttings in sand in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


ALPI'NIA. Strictly speaking, are plants from alpine, that is, mountainous districts, usually requiring the protection of a frame in winter, because we cannot secure to them the natural covering of snow during that season. Gardeners, however, include in their lists of Alpines a great diversity of small plants, difficult of cultivation. They are best grown in pots, and require light soil, loam, and lime, with abundant drainage.


Stove herbaceous perennials, except A. peniculita, which is a greenhouse plant. Rich sandy soil and peat. They like much moisture and pot-room in the growing season; root division in moist atmosphere. Some are remarkable for their beautiful variegated foliage.

J. Caradammum (Cardamomi). See Elettaria.
K. ce'ru'a (drooping). See A. Calcarata.


A. *exali*ta (lofty). See RENJELMA.


A. *languor*a (tongue-formed). See ELETTARIA.


A. *magnif*a (magnificent). See AMOMUM.


A. *maria* (mediate). See AMOMUM COSTUTAM.


A. *radi*a (western). See RENJELMA OCCIDENTALIS.


A. *pun*cea (scarlet). See ELETTARIA.

A. *racem*a (branchy). See RENJELMA RACEMOSA.

A. *rastell*a (tufted-leaved). See ELETTARIA.


**ALSEUOSMIA.** (From *alos*, a grove, and *eu-osma*, a perfume. Nat. ord. Caprifoliaceae).


**ALSIKE.** A common name for *Trifolium hybridum.*

**ALSIKE.** Chickweed. (From *alos*, a grove; in reference to the situation preferred by these plants. Nat. ord. *Clanworts* [Caryophyllaceae]. Linn. 5-Pentandria, 3-Trigynia.) Now referred to Arenaria.

**ALSODIA.** Hardly annuals. Seed; common lawn.

A. *laric*ia (larch-leaved). 4. Siberia. 1834. This is perennial; root division.


A. *seg*ita (cornfield). See SPEGULARIA.

**ALSODETIA.** (From *alosodes*, leafy. Nat. ord. Violae-

**ALSODETIA.** Chickweed. (From *alos*, a grove; in reference to the situation preferred by these plants. Nat. ord. *Clanworts* [Caryophyllaceae]. Linn. 5-Pentandria, 3-Trigynia.) Now referred to Arenaria.


**ALSOMTRIA.** (From *alos*, a grove, and *miira*, a mitre. Nat. ord. Capucitaceae).


A. *Zania* (see Zephyrilla).

**ALSOPHILA.** (From *alos*, a grove, and *phil*os, to love; in reference to the situation best suited for the plants. Nat. ord. *Ferns* [Filices]. Linn. 24-Crypto-

**ALSOPHILA.** Groove tree Ferns. Peat and loam; spores see Ferns.

A. *aculeata*, See A. *ferox.*

A. *aspera*, W. Ind.

A. *atros*vens (G. and F., 1893, p. 491). Brazil.

A. *hera*nia (G. C., 1887, l. 639). Brazil.

A. *austr*a, Australia. 1833.

A. *Willia*mii. 1874.


A. *congo*ensis (Gard., 1903, ill. 253). Congo.

**A. alstro*meria.** (In honour of Baron Alström, a Swedish botanist. Nat. ord. *Amaryllidae* [Amaryllidaceae]. Linn. 6-Hexandria, 1-Mono-

A. *alstro*meria (Small-flowered). See ELETTARIA.

A. *boma*rea, See A. *POCHBERGIA.

A. *bac*chi (bunch). See BOMAREA.

A. *bac*chi (bunch). See BOMAREA.

A. *bac*chi (bunch). See BOMAREA.

A. *bac*chi (bunch). See BOMAREA.
ALYSSUM

A. permia's na. See A. VERSICOLOR.

A. psittaci'na (parrot-like). See A. PULCHELLA.

A. pulc'illa (B. R., t. 1008). Brazil.

A. revolu'ta (G. W., 1904, 700). Chili.

A. Se'i'ma (Siberia). See A. LIGTU.


A. Ne'liis (B. M., t. 3055). versicolor.

A. n'aragena'ta. Leaves white margined. 1875.

ALTERNANTHE RA. (Aluding to the anterras being alternately barren. Nat. ord. Amaryllidae [Amaryllidaceae]. Linn. 5. Pentandria, 1. Monogynia.) Chiefly store herbaceous perennials propagated from cutting or on hotbed; Amalthia, ficicdea, paronychioides, and other garden varieties, are extensively used for carpet–bedding, but though they grow well in the open during the summer they require store treatment in winter, and should be kept on a shelf close to the glass. Also known as TELANTHERA.


A. amalbi'sis (Ill. Hort., 1868, t. 558). See TELANTHERA FICICDEA.


A. dico'des. See TELANTHERA FICICDEA.


A. paronychioid'es. See TELANTHERA BETZICHIANA.

A. polyg'o'nodes (polygonum–like). See TELANTHERA POLYANDRIA.


A. amalbi'sis (Ill. Hort., 1865, t. 447). See TELANTHERA AMENA.

A. spha'thula t. (Ill. Hort., 1865, t. 445). See TELANTHERA FICICDEA.


versicolor. See TELANTHERA VERSICOLOR.

ALTHEA A. Mallow. (From althea to cure; in reference to the medicinal qualities. Nat. ord. Malvaceae [Malvacae]. Linn. 16. Malope, 8. Polyandra.) The biennials and annuals sow in spring; the herbaceous dividing the roots, or seeds, which, sown as soon as ripe, produce flowering plants next year. A. ro'sea is the hardy stock. For culture of this and its varieties, see HOLLYROCK.

Hardy Annuals


Hardy Biennial

A. carib'e a (Caribbean). See A. ROSEA.

A. chry'sis. See A. ROSEA.


A. varia'ta (variegated). See A. Peruviana.

ALYSSUM

1. 1906. Crete.

2. 1806. Naples.


4. (Narbonne). See A. CANNABINA.


8. (Turin). See A. OFICIALIS.

ALTOBIA. (In honour of Atling, a German botanist, Nat. ord. Comferr [Comiferae]. Linn. 22. Dicaxis, 13. Monadelphia.) Now referred to Auraria, which see.


ALTHIA. (From altis to high; a reference to the height of the plants, which are useful for borders, and for the borders of seed–beds; also of the colours of the flowers, which are bright and of a height appropriate to the location in which they are to be grown. Nat. ord. Crucifers [Cruciferae]. Linn. 15. Tebra–dynamis, 1. Tebra.) The seeds, cuttings, and root divisions; common soil. Mostly yellow–flowered and hardy. The best plants of the shrubs are from cuttings in April and May, and struck in a hotbed. They flower the first year. The same cuttings are said to succeed in a hotbed. The Siberia, the best yellow, and for scent none surpass the white sweet althias of the gardens, which will sow itself in the ground, and may be sowed several times during the summer, by the side of borders, like the Virginia stock. The althias, as they are called, are more numerous herbaceous plants, they are so lowly in their growth. They are best propagated by cuttings of the points of the shoots, two or three inches in length, inserted in sandy loam, early in the season, and in a shady place. The variegatus is a little tender, though all grow freely in common soil, yet to have them in their proper places they should be used as rock or hillock plants. Even when planted in the border they succeed best when planted in little mounds. The variegatus makes a fine edging to any brilliant–coloured bed.

EVERGREEN SHRUBS

A. ada'tic'um (Atlantic); see A. MONTANUM.


A. gomone'na (German). 1. April. Europe. 1820.

A. ochu'si'um (blunt–leaved). See A. ALPSTRE.

A. orient'al'is (eastern). 1. April. Crete.


A. la'teum (Jard., 1906, 26).

A. citrus'num. Lemon.

A. ho'pe pl't no. Double.

A. variega'tum.同
ALYXIA


ANNUALS.


HERBACEOUS PERENNIALS.


AMANITA. See Mushroom.

AMARABO YA. Allied to Pleroma, which see.

AMARANTHUS. Amaranth. (From a, not, and maranta to wither: in reference to the durability or " everlasting" quality of the flowers of some species Nat. ord. Amaranth [Amarantaceae]. Linn. 21-Monocotily, 5-Pentanotrica.) Hardy or half-hardy annuals. Rich loam; seeds sown in open ground in March and April. A. atropurpureus (dark purple). 3. Purple. September. E. Ind. 1820.

A. bicolor (two-coloured). See A. Melancholicus.


A. fimbriata. See A. virgata.


A. gagei (lance-leaved). See A. Ganicicus.

A. margarettae. Garden variety. 1887.


A. paniculata. 5. Red, green, or yellow.


A. tricolor (three-coloured). See A. Ganicicus.


AMYRILLIS. (A classical name, after Virgil's Amaryllis, Nat. ord. Amaryllidaceae [Amaryllidaceae]. Linn. 6-Hesperoxon.) Half-hardy deciduous bulbs. Ever since the day the great Linnaeus instituted this genus, "with a playful reason assigned," until the whole order was arranged by the late Dr. Hope, it has been lost sight of with all kinds of allied plants in an interminable confusion. Every hybrid usually arranged in this genus is a Hippeastrum; and all which we think necessary to mention will be found under that genus. Plant in light, rich, sandy loam, placed under glass, drained, and the bulbs placed at least six inches deep.


A. belladonna (striped). Stripped with crimson. 1904.


These are all that can arrange in this genus, although we think that Brunsvigia Josephina and B. grandiflora are true Amaryllises, having crossed, or produced fertile seeds, with Amaryllis bianda; but, as they are very distinct in the appearance of their leaves and flowers, no author but Dr. Herbert has yet ventured to unite them with Amaryllis. Without aiming at a reform of our botanical classification, we think it desirable to keep Hippeastrum apart from Amaryllis, on account of the opposite habits of the bulbs of the two genera, those of the Amaryllis growing only late in the autumn, and through the winter in Europe; while those of Hippeastrum are under the gardener's control, and may be managed to grow at different periods. Our great aim should be to get crosses between Amaryllis and Valollia. Thus reduced, Amaryllis would turn evergreen, or at least lose its leaves and flowers simultaneously. In many gardens the Hippeastrums are still found under the name of Amaryllis; having become very popular under the latter name many old growers do not like to discard it. They are called Amaryllis and Amaryllis.


A. punicea (scarlet). See A. Calycina.

AMATEUF. As the true qualification of an amateur sometimes is questioned at local horticultural shows,
we give our definition. We consider that person is an
amateur who has a taste for a pursuit (floriculture, or
horticulture, for instance), but who neither follows it as
a profession, nor for pecuniary advantage, or does not
employ professional aid.

AMATUNGULA. Cari ssa grandiflora.

AMBER, SWEET. See Hypericum Androsaemum.

AMBER TREE. See Anthospermum.

AMBLOSTOMA. (From amblos, blunt, and stoma, a
mouth.) A. chrysochilus (quicksand orchid); A. androsaemoides
(sub-tuber, Stenoglossum).


AMBROSIANIA. (Named after Prof. Giacinti Ambrosi,
of Bologna.) Ord. Aroidae (Araecea).

A. Bussii. 4 inches. Corisca, Sardinia. 1879.

" cilium. See Cryptocoryne.

AMBUR. (Flasmodiophora brassicae) is a disease
peculiar to the Cabbage-worts, and is known by the
various names of Hambury, Ambury, and Club Root.
Fingers and Toes, a name applied to it in some parts,
alludes to the swollen state of the small roots of
the affected plants.

Cabbage-plants are frequently infected with ambury in
the seed-bed, which infection appears in the form of
a gall or wart on the stem near the roots. If this swelling
is not stopped the gall will quickly form a grub of the
Cabbage Gall Wevil (Centuronychus sulcicollis), but if
elongated it is certain that the spores of the ambury
disease have gained an entrance, and if on the main
root the gall has been the first part of the fest, all
the smaller roots get attacked more or less, producing
the state known as Fingers and Toes. Very soon the
principal roots and base of the stem are more or less
tumid and form the fungus thus preventing the
ascent of water and food constituents, and the first
bright day causes the leaves to wilt or flag for want of
moisture, owing to the obstruction caused by the
galls found in masses in the interior of the clubbed roots,
and later on the latter rot. All the cabbage tribe, as well as
turnips, wallower and other crucifers are liable to attack by
this destructive fungus, the spores of which remain in
the roots and the ground till a favourable period arrives
when they recommence growth. Being one of the slime fungi, its spores leave their cells and swarm over
the ground ready to attack the roots of this class of
plants.

Remedies. - All diseased plants should be carefully dug
up, and every bit of swollen root burned in order to
destroy the spores in them. The ground should be
thoroughly dug, and the top soil placed in the
bottom of the trench. A good dressing of lime should
be placed over this. Before placing the bottom
spit on the top give another dressing of lime on the top
of the second spit. Nothing should be planted for
two months after using lime gas. Select fresh ground
every year for raising seedlings, and also for planting
them upon.

AMELA NUCLEUS. (Savoy name of the Medlar, to
which this genus is closely allied. Nat. ord. Appleworts
[Rosaceae]. Linn. l2-Icosandra. 2-Di-pentagynia).

Hardy deciduous shrubs, closely allied to the Medlar.
Layers; common rich loam. Small trees cultivated for
their apples and white flowers, which are produced early
in the season. They are also propagated by grafting
on the hawthorn, or on the quince.


" bathiana (grape-pear). See A. canadensis.


" floridana (doorway). See A. alniolus.

" parvifolia (small-leaved). See A. alniolus.

" williamsii (Griff. & F., 1855. l. 245, 247, l. 44). Eastern

United States.

" ovalis (oval-leaved). See A. canadensis.

" " sie mi-integrifolia (half - entire - leaved). See A.

" subcordata (subordinate-leaved). N. Amer.

" oxyodon (Glf. 1902, 609, l. 126 B). N.W. Amer.
a rather moister and shady border—in neither instance rich. Sow every six weeks from March to August, for summer and autumn; and one sowing, either at the end of August or beginning of September, for a supply during flower and sprig. Sow in drills nine inches apart.

**Culture:** Water occasionally during dry weather, both before and after the appearance of the plants. Thin to three inches apart. In winter, shelter with a little litter or other light mulch. In spring, supported by some twigs being over the bed, or some bushy branches laid among the plants; keep clear of weeds. In gathering, strip off the outside leaves, which enables successional crops to become rapid. To keep the plants when the plants begin to run, their centres must be cut away, which causes them to shoot afresh. To obtain Seed, a few of the strongest plants, raised from the first spring sowing, are left unattended from. They flower in June or July, and perfect their seed before the commencement of autumn. Since we have had the better salads forced and procurable all the year through, the American or winter cress is not appreciated, and is rarely found under cultivation.

**AMERICAN PLANTS.** These comprise many different species, which, resembling each other in requiring a well-drained, peaty soil and abundance of water, are usually cultivated in a separate department, where the garden-establishment is extensive; and, wherever grown, should have a compartment to themselves, a very acutely sloping bank, facing the north or east; and some of them—as the Rhododendron, Andrena, and Azaleas—do not object to being overshadowed by trees, nor should they, if possible, be peaty; and the best annual dressings that can be applied are such matters as decayed leaves and the bottom of old wood-stacks, or any other mixture of decayed woody fibre; and, in fact, these tribes in general have been well grown in an artificially compounded soil, such as rotten leaves, and ordinary light soil, with some sand, using twice as much of the vegetable matter as of the others.

**AERIUM.** (From a, not, and merina, care; in reference to the little care needed by the Houseleek, to which this name was applied by the Greeks. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Mona-delphia, 9-Decandria. Now referred to Dalbergia.)

Stove evergreen shrubs. Cuttings of the young shoots in sand and gentle heat; rich loam.


**AMERISTRA.** (In honour of the Countess Amhurst. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Didaphes, 1-Decandria.)

Allied to jonesia. This splendid flowering tree, "the cream of the Indian Flora," was first introduced in England, by Mrs. Lawrence, in 1849. The individual flowers sustain the praise lavished on this tree; but they are so ephemeral, lasting hardly three days, as to be of little or no use. Hardy evergreen tree. Rich, strong loam; cuttings of half-ripened wood, in sand, in stove propagating pit.


Stove evergreen climber. Rough sandy loam; cuttings sand and peat, to which loam may be added, and put in close stove propagating pit.


**AMMOMUM.** (From ammos, sand, and bio, to live; in reference to the sandy soil in which it thrives. Nat.

ord. Composites [Compositae]. Linn. 10-Syngenesia, 1-Equalis.)

Half-hardy annuals or biennials. Cuttings and seed sown in the autumn flower the next year; common soil.


**AMMULOS.** (From ammos, sand, and charis, delight; the plant grows in sand. Nat. ord. Amaranthaceae. Deltanthus.)

Greenhouse bulbs. Offsets. Loam, a little leaf-mould, and plenty of sand.


**AMMODE'DRON.** (From ammos, sand, and dendor, a tree; in reference to the situation it grows in. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decandria, 1-Monogynia.)

A hardy evergreen tree. Allied to Sophora. Propagated from seeds or layers. Light sandy soil.


**AMMOGEO'TON.** (From ammos, sand, and getos, near; the situation it likes. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 1-Equalis.)

Hardy herbaceous perennial. Root division; sandy loam.

A. scorsoneri'folium (scorzonera-leaved). Yellow. May. N. Amer. 1834. See TROXIMON GLAUCUM.

**AMMO PHILA.** (Greek, sand-loving. Gramineae.)

A. arundina'cea (a. arenaria). Grown on coast to bind sand.

**AMMY'RINE.** (From ammos, sand, and myrsine, myrtle. Nat. ord. Heathworls [Ericaceae]. Linn. 10-Decandria, 1-Monogynia.)

Hardy evergreen shrubs. Allied to Ledum, but requiring slight protection in winter. Peat; layers. This genus should be united to Leiothylhum, which see.


**AMOMOPHYLLUM.** See SPATHIPHYLMUM.

**AMO MUM.** (From a, not, and momos, impurity; in reference to the quality of counteracting poison. Nat. ord. Gingerworls [Sicatimaceae]. Linn. 1-Monandria, 1-Monogynia.)

Grains of paradise, acrid seeds used to give pungent flavour to liquors, belong to different species of Amomum. Being aromatic herbs, they were used in embalming; whence the word mummy. Stove herbaceous perennials. Root division; rich, light loam; require, when growing, a high, moist heat.


*Malpe* *qua* *mio* *ris* (B. M., t. 5987). Pale pink. May. S. Leone. 1856.

*placa* *na* *rum* (B. S. B. F., 1904, 451).


*serio* *rum* (fragrant). See A. *de* *lar* *ia* *tum*.


*zylo* *sire* (wood). See R. *De* *nali* *na*.

AMOORA. (Nat. ord. *Malu* *d* *M* [Meliaceae]. Linn. 6, *Hedra* *na* *ria*., 3, *Tri* *g* *nya*.)

Stove evergreen shrub. Cuttings in sand and loam in close frame with bottom-heat, in a hotbed; soil, light, rich loam.

A. *cucu* *lita* *ta* (cowl-leaved). Yellow. May. E. Ind. 1834.

AMOPEA. (From a, not, and *mor* *ph* *o*, form; in reference to the irregularity of the flowers of *Ampelopsis* *leguminosa* (Leguminosae). Linn. 16, *Mo* *na* *del* *phi* *na*. 6, *De* *can* *dra* *ria*.)

Hardy deciduous shrubs. Common soil; layers, or cuttings of the ripe wood in autumn.

A. *can* *sens* (hoary). See A. *fru* *ti* *co* *sa*.

*cro* *ce* *la* *ta* *ta* (yellow-mottled). See A. *fru* *ti* *co* *sa*.

*fru* *ti* *co* *sa* (shrubby). 6. Purple. July. Carolina. 1724.

*fru* *ti* *co* *sa* *l* *is* (narrow-leaved). 9. Purple. June. S. Carolina. 1812.

*fru* *ti* *co* *sa* *l* *is* *s* *e* *gre* *va* *ta* (golden-variegated). Leaves blotched with brown. 1907.

*fru* *ti* *co* *sa* *l* *is* *s* *e* *gre* *va* *ta* (golden-yellow). 1907.

*fru* *ti* *co* *sa* *l* *is* (blue). 9. Blue. June. S. Carolina. 1812.


*me* *cro* *phy* *li* *s* (small-leaved). See A. *ana*.*

*plu* *ra* (smooth). See A. *fru* *ti* *co* *sa*.

*her* *ba* *ce* *a* (herbaceous). 3. Blue. July. Carolina. 1803.

*Le* *wi* *sii* (Lewis's). See A. *fru* *ti* *co* *sa*.

*me* *cro* *phy* *li* *s* (small-leaved). See A. *ana*. *plu* *ra* (smooth). See A. *fru* *ti* *co* *sa*.

*le* *na* *i* *di* (Mississippi). 2. Blue. August. Missouri. 1811.

These last four require a little protection in winter.

AMORPHOPHALLUS. (From *amorph* *os*, deformed, and *phallo* *s*, a mace; alluding to the inflorescence. Syn. *Pythion*, including *Proteinall* *ous*, Ord. *Aro* *ids* [Araceae].)

A remarkably distinct class of Aroids. In some species the flowers are extremely fragrant. They are produced before the foliage, which consists of a single leaf with a long stalk, with a flat, nearly circular branching leaf. *A. Rivieri* is one of the most attractive. They succeed best in good loam, leaf-mould, and manure. The leaves ripen off in the autumn, and the tuber should be stored in sand in a fairly dry, warm position. They rarely produce offsets, and it is only when imported tubers or seeds that they can be increased.

A. *ca* *pa* *nu* *la* *tis*. Syn. *Aru* *mum* *ca* *pa* *nu* *la* *tum*. See A. *viro* *sus*.

*Chu* *ty*.* 3. India. 1872.


*Eic* *he* *ri* (B. M., t. 7091). 14. Purple, white; spadix brown. Congo.

*Hed* *ia* *li* *u* (B. M., t. 7146). Sierra Leone.

*Ga* *l* *ba* (G. C., 1835, xv, 484). Allied to *A. variabilis*.

*ga* *r* *di* *s*.* 3. Spathes green, white inside; spadix purplish. *Java*. 1865.

*La* *co* *ni* *i* (Ill. Hort., 1876, t. 316). Cochin-China. 1879.

*le* *o* *no* *n* *is*. Spathes and spadix purplish-brown. Sierra Leone. 1845.

*vio* *li* *s*.* See *Dra* *con* *tium* *as* *per* *um*.
Greenhouse herbaceous perennial. Sandy loam and a little peat; seeds.


AMPHALIS. (From amphilos, surrounded by the sea. Nat. ord. Urticaceae.) Stove evergreen tree. Cuttings in sand, in bottom-heat. Loam, a little peat and sand.


AMPEREPHYLUS. (From ampherepheles, well-covered; alluding to the double involucre. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 1-Equaleis.) Hardy annuals, with purple flowers. Sandy loam; seeds. Now referred to Centrantherum.


amphicaulis (awnless). See Centrantherum muticum.

AMPHIBLEMMA. (From amphi, on both sides, and blemma, a face. Nat. ord. Melastomaceae.) Hardy evergreen shrubs. Cuttings in sandy peat, in a close frame, with bottom-heat. Fibrous peat and loam, with sand.


AMPHILESTRA. See Pteris.

AMPHICARPAE/A. (From amphi, around, or on either side, and karpos, fruit; in reference to the plant bearing pods on the stem and on the shoots. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Philadelphia, 4-Decandria.) Ornamental twining, hardy annual plants; allied to Wistaria; readily increased by seeds, in common soil.


AMPHICOME. (From amphi, around, and kome, hair; in reference to the winged seed. Nat. ord. Bignoniads [Bignoniaceae]. Linn. 14-Didynamia, 2-Angiosperma.) Pretty half-hardy evergreens, not unlike a Pentstemon. It may be increased by seeds, or by cuttings, which root readily in sandy peat, in July, if placed under glass.


AMPHILOBIUM. (From amphi, round, and lobus, a pod; in reference to the shape of the seed-vessel. Nat. ord. Bignoniads [Bignoniaceae]. Linn. 14-Didynamia, 2-Angiosperma. Now referred to Amphilocium.)

AMPHILOPHUS. (From amphi, round, and lophos, a crest. Nat. ord. Bignoniaceae.) A handsome evergreen climber, requiring the same treatment as Bignonia. Cuttings root readily under glass, on bottom-heat, in the spring months. Soil, loam and leaf-mould.


AMPHISOPHOPIAHOLNA (A. See Porphyrocoma lanceolata.


A. macrophylla (large-leaved). Yellow. Central Amer. 1882.

AMPHITHEEA. (Nat. ord. Leguminosae.) Greenhouse evergreen shrubs from Cape of Good Hope. Cuttings in sand and peat, in close frame.


AMSOBIA. (In honour of Charles Amson, a scientific traveller in America. Nat. ord. Dogbanes [Apocynaceae—Plumerielae]. Linn. 5-Pentandra, 1-Monogyna.) Allied to Plumeria. These are handsome herbaceous perennials, with blue flowers, and will grow in any garden soil, both by cuttings from the nursery, or by the division of the rootstock, during the summer months, or they may be divided at the root at any season.


AMYGDALOPSIS. See Prunus.

AMYGDALUS. (From amygdalo, to rattle, in reference to the assured channels in the stone of the fruit; but so called from a Hebrew word signifying a monkey, as its early flowers announce the return of spring. Nat. ord. Almondworts [Rosaceae]. Linn. 12-Tosandra, 1-Monogyna. Now referred to Prunus, which see.)

These are very ornamental plants; the falk tree kinds are very pretty in the middle or back ground of shrubbery; the dwarf kinds, also, as front plants to the same. The varieties are increased by budding them on seedling plum-stocks. In the south of France, Italy, Spain, and different parts of the Levant, they are cultivated for their fruit. Almost any soil suits them. For early forcing they are very effective; established in pots or tubs previous very little heat is required to have them in flower early.


Persea. See Prunus Persica.

ru/bra. Leaves deep red in spring. White. 1874.


MYRIS. (From am, intensive, and myrha, myrrh; in reference to its powerful perfume. Nat. ord. Myriris [Bursaraceae]. Linn. 8-Octandria, 1-Monogyna.) This genus is famed for its resinous gum. The species are all ornamental, white-flowered, evergreen stave trees, growing well in loam and peat, and readily increased by cuttings in sand and peat, on bottom-heat, under glass, in the spring months.


heleophylla (seven-leaved). 15. E. Ind. 1820.


na (dwarf). 5. E. Ind. 1822.
ANA BÁSIS. (From the Greek, alluding to its up-right habit. Nat. ord. Chenopodiaceae.)
Half-hardy shrubby evergreen, from cuttings in sandy soil.
A. Ammodendron (W. G., 1885, 37). See HALOXYLON AMMODENDRON.

ANACA MPSEROS. (From anaphízein, to cause to return, and érōs, love; an ancient name for a plant fabled to possess the virtue of restoring the soft passion. Nat. ord. Purpureae [Portulacaceae]. Linn. 11-Dodecandra, 1-Monogynia.)

These are very pretty little greenhouse plants; do well in sand and loam, mixed with a little lime-rubbish, and are increased either from seeds sown in spring, or from cuttings at any time; even a single leaf will make a plant. The cuttings should be laid to dry a day or two before planting.


*interme'dia* (intermediate). See A. TELEPHIastrum.


*rufus'cens* (reddish-leaved). See A. ARACHNIDES.

*rufus'cens* (rusty-coloured). See A. ARACHNIDES.

*Telangi'astrum*. Pink. August. Cape of Good Hope. 1795.

*ta'tians* (varying). See A. TELEPHIastrum.

ANACARDIUM. (From ana, like, and kardia, the heart; in reference to the form of the nut. Nat. ord. Anacardiaceae, or Terebinthaceae [Anacardiaceae]. Linn. 23-Polygania, 2-Diceria.)
A. occidentalis produces the Cashew-nut. These are stow evergreen trees, ornamented, producing panicles of sweet-smelling flowers. Soil, rich loam; ripe cuttings root readily, with their leaves on, in a pot of sand, under a glass, in heat.


ANACLYTUS. (From ana, like, and kylos, a circle; in reference to the rows of ovaries in circles round the disc. Nat. ord. Compositae [Compositæ]. Linn. 15-Syn-genesis, 2-Superbusa.)
Common hardy annuals of no great beauty, allied to Chamomile. They should be sown in the open ground in April.

*ar'icus* (golden-flowered). See ANTHEMS AUREA.


*purpur'ascens* (Gd., t. 1704). Spain.

*tomentosus*. Syn. ANTHEMS Pubescentes. See A. CLAVATUS.

ANADENiA. (From a, not, and aden, a gland; in reference to the absence of a honey-gland. Nat. ord. Protæae [Proteaceae]. Linn. 11-Strelitzia, 1-Monogynia.)

Pretty greenhouse plants, referred to Grevillea. Grown in pot, with a little loam; can be propagated by cuttings in sand and loam, in close frame with bottom-heat.
A. Mangie'sis (Mangle's). See GREVILLEA GLABRATA.

*fulchella* (neat). See GREVILLEA FULCHELLA.

ANAGALASS. (From ana, to lack; to laugh; fabled to possess a virtue to remove sadness. Nat. ord. Primroseæ [Primuleaceae]. Linn. 5-Pentandria, 1-Monogynia.)
A favourite genus with gardeners. They are very interesting plants, of easy culture; many of the perennial kinds require greenhouse protection during winter, and are readily raised from cuttings in spring, in the hot-houses. The whole of them make excellent rock and border plants for the summer.


*alba compácta* (Gf., t. 1712). White. 1883.

Both are varieties of *lilificæa* (shrubby). See A. LINIFOLIA.

*indica* (Indian). See A. ARVENSIIS.

*latis'folia* (broad-leaved). See A. ARVENSIIS.


*brachy'ta* (Brechtii). 2. This and the next five are greenhouse herbaceous trailers.


ANAGYRIUS. (From ana, like, and gyros, a spiral, or turning in a circle; in reference to its curved pods. Nat. ord. Leguminosae [Leguminosae]. Linn. 10-Decandria, 1-Monogynia.)
Small ornamental trees, allied to Podalyria; require the protection of the greenhouse; soil, loam and peat; young cuttings root readily in sand and peat, under glass, placed in July.

*glauça* (galacous). See A. FORTEA.


ANAMERTA. (A native name. Nat. ord. Menispermae.)

*bancor’a* (ョd-leaved). See A. Cocculettes.

ANANAS. (From ana, the local name for the pine-apple in South America. Nat. ord. Bromeliaceae. Linn. 6-Hexandria, 1-Monogynia.)
For culture, see PINE-APPLE.
A. bracamat'ros'is (Lind. Cat., 1879, 6). See A. SATIVUS.


*de'bits* (weak). See A. SATIVUS.

*lus'cisus* (shining). See A. SATIVUS LUCIDUS.


*Mordal'son* (B. H., 1879, 302). See A. SATIVUS LUCIDUS.

*menos'dorf'us* (Syn. Eichm. Fernandes).

*portul'nis* (R. H., 1870, 140). See A. SATIVUS.
" brocorme'nis. Fruit large. 
" lu'cidus. 
" ported'mus. 
" vi'rga'tus. A handsome variegated plant for vases.

ANANA'SA. See ANANAS.

AN'OTHERIX. (From a, not, and antherix, an awn; fn to reference to the want of awns, or filiform appendages to the pollen masses. Nat. ord. Asclepiadaceae. Linn. 6-Peripendria, 2-Digynia.) A hardy herbaceous plant, increased by root division; at any season, as well suits it in an open situation.


ANAPHA'LIS. (Altered from Gnaphalium. Nat. ord. Composite; Tribe Inuleoidae.)


ANARRHIN'UM. (From a, not, and rhin, nose. The snow-like form of the allied genus Antirrhinum is wintering in this. Nat. ord. Pipeworts [Scrophulariaceae]. Linn. 14-Didynamia, 2-Angiosperma.) Allied to Snapdragon. These plants are hardy biennials, and very pretty. Seeds may be sown in the open borders in spring, or the plants may be perpetuated by cuttings. Se AN ARRHIN'UM MA'JUS.


ANASCE'TUM CRASSIFO'LIUM. See POLYPODIUM. (Drynaria.)

ANAS TICA. (From anastasia, resurrection; in reference to its bygometrical property. Nat. ord. Crucifers [Cruciferae]. Linn. 15-Tetradynamia.) An annual plant, indigenous to the Egyptian deserts, and called the Rose of Jericho. When full grown it contracts its rigid branches into a round ball, and is then tossed about by the wind. When it alights in water, or on damp ground, the branches relax and open out, as if its life was renewed; hence its name of Resurrection Plant. The curious and astonishing tales told of it is, that "it first bloomed on Christmas Eve, to salute the birth of the Redeemer, and paid homage to His resurrection by remaining expanded till Easter." This curious annual requires frame-protection during the colder months; increased by seeds in any common soil.


ANCHE'ITEA. (In honour of a Brazilian writer on plants of that name. Nat. ord. Violeatrus [Violaceae]. Linn. 5-Peripendria, 1-Monogynia.) An ornamental evergreen stover clipped. Loam and peat; increased most readily by seeds.


ANCHOMA NES. (Nat. ord. Aroidae. Allied to Amorphophallus.) A Hookeri is a pretty stowe perennial Aroid. Like the Amorphophallus, the flowers open before the foliage appears, the leaves die away in the autumn, and during the dormant month the corus should be kept dry and in a warm position, but not where they will get dry too much. When started in spring pot in a good fibrous loam, with leaf-mold, manure, and sand added, and give liquid manure when they are well rooted.


ANCHOVY-PEAR. See Gra's.

ANCHUSA. (From anchousa, a cosmetic paint, formerly made from A. tinctoria, for staining the skin. Nat. ord. Aroidaceae [Boraginaceae]. Linn. 5-Peripendria, 1-Monogynia.) A reddish-brown substance, thought to be a peculiar chemical principle, used by dyers, is obtained from the roots of A. tinctoria, or alkanet, and from other plants of this order. The whole of this genus, but two, are hardy perennial, biennial, or annual ornamental plants of the easiest culture, either by seeds or root division at any season. A. ca'pestis and ful'de'lia require a little frame-protection during the winter months.


ANNUALS.


PERENNIALS.

ANCISTROCHILUS

(From agkistron, a fish-hook, and chelos, a lip; the lip is hooked at the tip. Nat. ord. Orchidaceae.)

Stove epiphyllous Orchid that may be grown in pots, pans, or baskets. Divisions. Fibre of peat, sphagnum, and crocks.


ANCISTROCHILUS (From agkistron, a fish-hook, and phulon, a leaf; the leaves are furnished with hooks. Nat. ord. Palmaceae.)


A. le'ae (smooth). Trop. Africa.

ANCYLO'CLADUS. A synonym of Willughbyia.

ANCYLO'GYNE. (From ankylos, curved, and gyne, a female; the pistil is curved. Nat. ord. Acanthaceae. Syn. Sanchezia.)

Handsome stove shrubs; nobilis has large oval, variegated leaves, and makes a fine specimen for culture. See Sanchezia.


Linn. 12-Dendelphia, 4-Decandria.)

Very pretty greenhouse shrubs. Sandy peat; cuttings root readily in spring, in common hothouses.

A. car'lea (Gfl., t. 1790, fig. 2). Calyx pink, corolla blue. King George's Sound. W. Australia. " dej' era (Gfl., t. 1780, fig. 1). Blue and white. W. Australia.


ANDRA. (Its local name in the Brazils. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadelphia, 4-Decandria.)

Alliance obscure. Large ornamental stove trees. Soil, loam and peat; cuttings root readily under a glass, in heat.


" racemo'sa (branchy). See A. Excessa.

ANDRA'CHE. (From andracea, the herb purslane. Nat. ord. Euphorbiaceae.)


ANDROCY'MIUM. (From aner, anther, and hymeion a saucer; in reference to the peculiar form of the anthers. Nat. ord. Melanths [Liliaceae]. Linn. 6-Helianthus, 3-Tropicana.)

Few plants are more generally poisonous than this order of Melanths. Interesting bulbous-rooted plants, requiring the protection of frame or greenhouse; increased readily by offsets and seed. Loam and leaf-mould, sand, and good drainage; grown fully exposed to the sun, and rested after a season's growth is developed.


" punctatu's. See A. LEUCANTHUM.


ANDROGA'FIES. (From aner, andros, a stamen, and graphe, to write. Nat. ord. Acanthaceae.)

Stove perennial herbs. Cuttings in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


ANDROLE'PIS. (From aner, a man, and leptis, a scale; alluding to the stamens. Ord. Bromeliaceae.)

Allied to Billbergias. Propagated from offsets, which are produced after flowering. Pot in good sandy loam and leaf-mould. Now referred to Echmes.


ANDROMA'CHIA. (Nat. ord. Composita.)

Greenhouse herbaceous plant; propagated from cuttings; good loamy soil. Now referred to Liabum.


ANDRO'MEDA. (A classical name, after the daughter of Cepheus and Cassiope, King and Queen of Ethiopia. Nat. ord. Heathworth [Ericaceae]. 10-Decandria, 1-Mono-gynia.)

An extensive family of beautiful shrubs, all evergreen and all hardy, except those otherwise specified; delightful in a peaty soil, although some of them will do well in any soil; generally increased by layers, put down about the month of September, to remain till that time twelve-month; also by seeds, which should be sown as soon as ripe in large pans or pots, and covered thinly with earth in a cold frame, but plenty of air given. Very useful for the rock-garden and for sloping banks.


" arbo'rea (sorrel-tree). 40. White. August. N. Amer. 1732. See OXYDENDRON ARBOREUM.


" dealda'b (whitened). 2. Pink. April. N. Amer. 1824. See ZENOBIA SPECIOSA.

" festi'gla'ta (pyramidia), 2. White. May. Himalaya. 1855. See CASSIOPE FASTIGIATA.


" marina'na (Maryland). 2. White. June. N. Amer. 1753. See PIERS MARIANA.


ANDROMO'GON. (From aner, a man, and pogan, a beard. Nat. ord. Gramineae.) A genus of annuals, propagated by seeds, and also by division of the roots. The European kind succeed in the open air, if planted in a warm, dry border.


ARDO'ROONIA. See XANTHOSOMA.

ANDRO'PO'GON. (From aner, a man, and popon, a beard. Nat. ord. Gramineae.) A genus, very widely distributed, and consisting of annuals, propagated by seeds, and also by division of the roots. The European kind succeed in the open air, if planted in a warm, dry border.


A. buxî'fia. (From aner. a man, and phutos, a crown. Nat. ord. Liliaceae.) A genus, very widely distributed, and consisting of annuals, propagated by seeds, and also by division of the roots. The European kind succeed in the open air, if planted in a warm, dry border.


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A. buxî'fia. (From aner. a man, and phutos, a crown. Nat. ord. Liliaceae.) A genus, very widely distributed, and consisting of annuals, propagated by seeds, and also by division of the roots. The European kind succeed in the open air, if planted in a warm, dry border.


**ANDRYALA.** (Of unknown meaning. Nat. ord. Compositae [Composite]. Linn. in-30-Syngenesia, 1-Equalis. Allied to Hircium.)

Both the greenhouse and hardy species are rather pretty, and fill ground in any common soil; they are increased by seeds and root division. All are hardy, except those otherwise described. Few of the species are now in cultivation.


**A. arnottiana** (stock-leaved), See A. VARIAS.


**A. incana** (hairy), See A. RAGUSA.


**A. lanata**, See Hieracium Pannosum.


**A. runcinata** (runcinate), See A. INTEGRIFOLIA.


**ANELEMA.** (From *a*, not, and *eilema*, involucrum; in reference to the absence of the involucrum. Nat. ord. Spidaeae [Comminiaeae]. Linn. in-30-Triantha, 1-Mono- gymnia.)

All perennial and pretty little trailing-plants, except *A. giganteum* and *A. sinicum*. They are increased by seed and root division; soil, loam, manure, leaf-mould, and sand.

**GREENHOUSE.**

**A. affinis** (similar), 1. Blue. August. N. Holland. 1820. Evergreen. See A. CRAMINEUM.


**STOKE.**


**A. crispatum** (curled-leaved), See Pollia CRISPATA.


**A. longifoillum** (long-leaved), See A. GIANTEM.  

**A. nudicaule** (naked-stemmed), See A. NUDIFLORUM.


**ANE MIA.** (From *aneion*, naked; in reference to the naked indorscence. Nat. ord. Farns [Piloces]. Linn. in-30-Cryptogamia, 1-Piliceae.  

Stove herbaceous perennials, allied to Schizaa; soil, loam and peat; readily increased from spores. For culture, see Farns.


**A. caudata** (tailed), Brazil. 1831.


Anemone. vitifolia


seeds require to be well rubbed with the hand, either amongst some sharp sand or finely-sifted coal ashes, to separate the seeds. When the seeds are immediately with some sifted, light, sandy soil, half an inch. It will soon come up, and should be frequently watered in dry weather. Beds so made will flower the same year; mark the best, and preserve them for planting the next year. 

Time for planting is October, or early in November, and the plants will come into flower in April and beginning of May; but if some are planted in the middle of September, and a second parcel towards the middle or after end of October, they will afford a succession of bloom from the beginning of April until the middle of May; and if it is made in February or beginning of March, they will come into flower about the middle of May, and continue until the middle of June.

Soil and Site.—The situation should be thoroughly open, and open to the south. Any common, moderately light earth suits the anemon; overmoist and stiff soils rot the roots in winter. If necessary to make a soil, proceed as described for the seed-bed. Take maiden loam and mix it, if necessary, with sharp sand, or fine sifted loam; to every load of this add one cowdung, and half a load of sea or drift-sand; blend the whole together, and form it into a ridge, in which let it remain a year, at least. Sow it in drills, one to two or three months. But, in default of pasture-earth, a good compost may be formed of common, light garden-soil and rotted cowdung, adding, to every load of the former, half a load of the latter, and so sifted that it will drift off from the top of the bed. Neither of which comports the bed is to be formed. Make it about twelve or fifteen inches in depth, and three feet and a half broad. 

Sowing in Borders.—Plant five roots together, in a patch of five or six inches in breadth, two or three inches deep. 

Beds should be three feet and a half broad, with alleys eighteen inches wide between bed and bed, and fifteen or eighteen inches deep; break the earth small, but do not sift it; elevate the beds three inches above the general surface; but if there is danger of moisture standing in winter, double or treble that height is proper, working the whole a little rounded, and after planting, rake the surface smooth. 

Plant six rows lengthwise, the roots at six inches distance in each row, and two inches deep. 

The autumn planting of Anemone, the last of November; but, as the plants are hardy, nothing is needful to be done till the bloom begins to appear, and then arch the beds with hoops, to support mats, to protect them from frost and snow.

Forcing.—Double anemones, potted in September or in October, in some compost, as above particularised, may be placed in a cold frame or pit, and watered but sparingly until the roots become well established; it is then best to warm a place. They will not stand much forcing. A second blooming may be obtained by planting more roots, in a similar way, in December.

Mildew. This disease first appears as pale spots on the under sides of the leaves. These spots gradually rise into tubercles, and a minute fungus bursts through. This parasite is Ectridium quadrifidum. Sea-sand, or a little salt mixed with the compost of the bed, is a good preventive; and sprinkling with sulphur is the best remedy. Anemones are liable to have distorted, swollen leaves, the cure for which is to render the soil more free from stagnant moisture.

ANEMONOPSIS. (From anemone, and opsis, resemblance; flowers similar to those of the Anemone. Nat. ord. Ranunculaceae. A monotypic genus from Japan.) 

A handsome herbaceous plant resembling Anemone japonica in habit, with purple-blue flowers, propagated from division of seeds; rich, deep loam. A great favourite in America.


ANEMOP'GMA. (From anemos, the wind, and pagma, sport.) Nat. ord. Bigoniaceae. A decorative stipe climbing shrubs. For culture, see BIGNONIA.


ANETHUM. (From anis, upward, and rheo, to run; in reference to its quick growth. Nat. ord. Umbelliferae [Umbelliferae]. Linn. 5-Pentandria, 2-Digynia.) 

A genus of several species, well in any common garden-soil; all Hardy, readily increased by seed or root division. Now referred to Peucedanum.

ANNUAL.


BIENNIALS.


PERENNIALS.


ANGAE'DIA. (From aggoa, a vessel, and aden, a gland. Nat. ord. Apiaceae.) 

Evergreen climbing stowe shrubs. Cuttings in sand in a close case, with bottom-heat. Loam, peat, and sand.


ANGELICA. (In reference to its fabled angelic virtues in medicine. Nat. ord. Umbelliferae [Umbelliferae]. Linn. 5-Pentandria, 2-Digynia.) 

Common water-side perennials, of not much beauty as garden-plants. The only species requiring notice here is the common Angelica.


The stalks of this are cut in May for candying. Fully, the stalks were blanched for eating, like celery. 

Soil and Situation: Grows best in moist situations, such as the banks of ponds and ditches. Sowing: Sow soon after the seed is ripe, about September, being almost useless if preserved until the spring. Cultivation: Sow thin, in drills, foot asunder, and half an inch deep. If seven or six inches high, the plants must be thinned to a distance of at least two feet and a half each from other. In May, or early in June of the second year, they flower, which must be cut down, which causes them to sprout again; and if this is carefully attended to, they will continue for three or four years; but, if permitted to run to seed, they perish soon after.

ANGELICA-TREE. Ara'lia spinosa.
ANGIANTHUS. (From aggos, a vessel, and anthos, a flower. Nat. ord. Compositae [Compositae]. Linn. 19-Syn- genesis, 5-Segregata.)

Pretty greenhouse herbaceous plants; division of the root; seed, and cuttings in close frame. Summer temp., 50° to 70°; winter, 40° to 50°.

A. avirens (golden), See A. TONTOIDES.


ANGIPHTERIS. (From aegicton, a vessel, and pteris, a wing. Nat. ord. Ferns [Filiceae]. Linn. 24-Cryptogramma 1-Filices.)

A stove Fern, cultivated like Acropterus.


pruino'sa. Java.

leu'mannia'na Java.

ANGOPSIS. (From aggos, a vessel, and phora, to bear; in reference to the shape of the fruit. Nat. ord. Myrtaceae [Myrtaceae]. Linn. 20-Gynandra 1-Monogynia.)

This is the most natural order of plants, and no blue flower has yet been found to belong to it. Greenhouse evergreen shrubs; propagate from cuttings in loam, sand, and peat in close frame; may be grown in the open during summer.


ANGRECUM. (From angrek, the Malay term for air-plants. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandra 1-Monogynia.)

By offsets in sphagnum moss and broken potshers, and pieces of wood; keep moist and hot when growing in summer; cool in winter; hot and dry when coming into bloom. Summer temp., 70° to 85°; winter, 55° to 65°.

A. apiculatum (small-pointed). 1 White. Sierra Leone. 1844.


... armeniacam (apricot-coloured-flowered). Yellowish-pink. Sierra Leone. 1838.

... aridicula'tum. White. Madagascar. 1872.

... ascaloniana. Ashante. 1843.

... Ashante. 1843.

... Augus'ti (August's). Pure white. N.E. Rhodesia. 1908.

... arcuata. 1 White, Sierra Leone. 1834.

... bispicatum (two-lobe). 1 White. September. Cape Coast. 1841.

... K'rishi (G. C., 1883, xvi, 488). Zanzibar.

... bist'rum (K. B., 1893, 65). Allied to A. arcuatum.

... Buyssoni'ni (M. G., 1897, 885). White. Madagascar.

... calis'gerum (G. C., 1887, ii, 522). 1 White. Madagascar.

... casu'al'tum (tail-lipped). 1 White, green. August. Sierra Leone. 1834.

... caulic sences (stemmed). See MYSTACIDIUM CAULESCENS.


... christi'ana'num (G. C., 1880, iii, 806). Whithis.

... cirra'tum (B. M., t, 5624). Cream. Madagascar.

... clandestin'ium (concealed-flowered). 1 Green, white. September. Sierra Leone. 1835.


... dac'ti'lum (G. C., 1882, xvii, 558).

... de'smidos (G. C., 1884, iv, 558).

... des'sisnum (two-curred-leaved). 1 White. September. Sierra Leone. 1834.


... eun'num (lip in centre).


... Eiíi sii. 1 White, buff. Madagascar. 1870.

... ex'tremum (expanded). White. Mascarense Islands. 1909.

... falsa'tum (B. M., t, 2097). Pure white. Japan. 1815.


... florule'num (G. C., 1885, xxii, 787). Comoro Islands.

... Fourmi'era (R. H., 1806, 541).

... fuc'cum (G. C., 1894, xv, 508; xvi, 43, f. 2). Allied to A. eichleriannum. Madagascar.

... fra'grans (B. M., t, 7611). Pure white. Bourbon and Mauritius.

... funum (B. M., t, 2095). See DEENPHLPHYLUM FUNALIS.

... fusca'tum (G. C., 1882, xviii, 468). Ochre, white. Madagascar. 1881.

... gernima'num (B. M., t, 7061). Madagascar.


... glomera'tum (G. C., 1886, xxiv, 678). White. Sierra Leone. 1884.

... grandifloris'num (R. H., 1887, 42, f. 9). Ivory-white. Comoro Islands. See AERANTHUS GRANDIFLORUS.

... henriquesi'num (G. C., 1878, ix, 725). St. Thomas' Island, W. Africa.

... Hildre's ni'ti (G. C., 1878, ix, 725). Yellow-orange. Comoro Islands.

... Humblot''i (Humblot's). 1 Ivory-white. Comoro Islands. 1885.

... hyalo'rides (G. C., 1888, xii, 264). Whithis. Madagascar. 1880.

... ichnemos'num (G. C., 1887, ii, 681). Ochreous-white.

... Ipomoea. 1 White. Indonesia. 1894.

... kewi'num (See A. POLYSTACHYS).

... kol'schyi (Veitch Cat., 1851, 5, 14). Ivory-white. E. Trop. Africa.

... kol'schyi. 1 White. Madagascar. 1880.

... mode'stum (B. M., t, 6693). White. April. Madagascar.

... moore'num (G. C., 1897, xxi, 210). Salwin.

... ophio'chilum (G. C., 1888, iv, 57). Greenish-yellow, with white lip and reddish ochre spur. Allied to A. cornuistanum.

... ornithorhynchum (bird's-beak). White. Brazil. 1840.

... pat'llidium (G. C., 1890, 780). White. W. Africa.


... perth'i (broken). 1 White. October. Sierra Leone. 1836.

... pescadori'num. White. Bourbon.

... polysta'chiys. Whithis-green. 1889. Syn. A. KIMBAHIANUM.

... polysta'chiys (many-splited). Peru. 1840.

... primul'idia'num (G. C., 1892, xvii, 888). Madagascar.

... rinc'ens (Yellowish-white. Cameroon. 1878. Syn. Listrostachys.

... rostell'ai're (G. C., 1885, xxii, 726). Comoro Islands.

... rosskhildi'num (G. C., 1893, xxiv, 131, f. 51). White. Uganda.

... sand'erii'num (G. C., 1888, iii, 168, 392). White. Comoro Islands. 1888.

... scutac'hrii. Reddish-brown.

... tu'izens (Oench., 1, 70). German. E. Africa.

... scot'tia'num (G. C., 1879, x, 556). White. Comoro Islands. 1879.


... sesquipedale's (B. M., t, 5113). 2 White. Madagascar.

... sialia'num (G. C., 1885, vii, 782). Madagascar.


... stylo'sum (K. B., 1895, 194). Allied to A. apiculatum. Madagascar.

... sube'num. White. Sierra Leone. 1832.

... super'bum. Green; lip white. Madagascar.

... te'nus (G. C., 1842, p, 390). Syn. A. purpurascens.

... tersii'sium. White. Sierra Leone.

... trichoc'sta (G. C., 1888, iv, 34). Buff. Sierra Leone. 1888.
ANGUILLARIA

ANGUILLA RIA. (From anguilla, an eel; in reference to the twisted seeds. Nat. ord. Malantho [Liliaceae]. Linn. 6-Hexandria, 3-Trigynia. Allied to Veratum.)

Herbaceous plants, requiring a little protection in winter; division of roots, and cuttings, under a hand-light; peat, and loam.

A. biglandulosa (two-glanded). See A. dioica.


A. India (Indian). See Iphigenia indica.


Stove orchids, requiring the same culture as Angrecum.


A. grandisfo'ra (large-flowered). See Stanhopea Bucephalus.

A. interme'dia. Garden hybrid. 1888.


A. a'la. White. 1888.

A. mé'dia. Yellow, spotted crimson, lip crimson. Colombia. 1887.

A. reti'sa. Lemon, blotched purple. 1882.


A. supérbo (superb). See Acineta Humboldtii.

A. uniflo'ra (one-flowered). May. Cream-coloured. France. 1843. There is a variety of this with pink flowers.

ANGUILLA

One of the Greek names for the cucumber. Nat. ord. Cucurbitis [Cucurbitaceae]. Linn. 21-Monocotyledon, 2-Diandria.

Tropical evergreen climbers; seed and cuttings; peat and loam. Summer temp., low, or may be grown in the open; winter, 25° to 60°.

A. makom'os (Makoy's). See Gurania.

A. malac'hophyllum. Yellow, July. S. Amer. 1880.


A. Weas'cows (B. M., t. 5304).

ANHALONIUM (From an, without, and helos, a nail or spine. Nat. ord. Cactaceae).


A. fissura'tum. See A. Englemannii.

A. Kochib'syi. Mexico.


A. prismatic'icum. 4. Mexico.

A. Willia'msii (Gil., 1888, p. 414). Mexico.

A. Lewinii (Gil., 1885, 410-11). Mexico.


ANGGOZA NTHOS. (From anogeo, to expand, and anoxos, a flower; reference to the branching expansion of the flower-stalks. Nat. ord. Blonbonectis [Hamomoceae]. Linn. 6-Hexandria, 1-Monogynia.)

Greenhouse herbaceous plants; division of the roots in spring, loam, one part to three of peat. Grow in cool greenhouse, in summer, and a temperature of 40° to 45° in winter.

ANGULARIA

ANGULARIA

ANGULARIA

ANGULARIA

45

ANIMAL MATTERS

without any exception, are benefi-
cial as manures; for they all yield, during putrefaction, gases and soluble substances, that are imbued greedily by the roots of plants. That this is the case, affords no cause for wonder, because animal matters and vegetable matters are alike compounded of carbon, hydrogen, oxygen, and nitrogen. They are beneficial to all the materials. The general consideration of manures will be found under that title, and other relative information under the heads Dung and Vegetable Matters; and in this part, we shall confine our attention to some of the most available of strictly animal matters. See also the article Bone.

Blubber, or fat of the whale, contains train-oil, composed of-

Carbon . 68.87
Hydrogen . 16.10
Oxygen . 15.03

with a little animal skin and muscle. 40 gallons of train-oil, mixed with 120 bushels of screened soil, grew 23 tons of turnips per acre, on a soil where 40 bushels of bones broken small, and 80 bushels of burnt earth, produced only 21 tons.

Fish, generally, such as sprats, herrings, pilchards, five-fingers, and shell-fish, owe their powerful fertilising qualities not only to the oil they contain, but also to the phosphate of lime in their bones. From 25 to 45 bushels per acre are the extreme quantities to be applied broadcast; but if in the drills, with the crop, 10 bushels (nitrogen and phosphate), they are beneficial to all the gardener's crops, but especially to asparagus, parsnips, carrots, beets, onions, and beans. Shell-fish should be smashed before being applied.

Blood is a rich manure, and has been applied with special benefit to vines and other fruit-trees. The blood of the ox contains about 80 per cent. of water, and 20 per cent. solid matter. The latter contains, in 100 parts, when dried:

Carbon . 51.950
Hydrogen . 7.165
Azote . 2.672
Oxygen . 19.295
Ashes . 4.418

The ashes contain various salts, as chloride of sodium (common salt), phosphate of lime, with a little oxide of iron. Sugar-baker's skimmings owe their chief fertilising qualities to the blood used in clarifying the sugar, and which is combined with vegetable albumen, and extractive.

Woollen Rags, cut into very small pieces, are a good manure, decomposing slowly, and benefiting the second as much as the first crop. Hops and turnips have been the crops to which they have been chiefly applied. Half a ton per acre is a fair dressing. Wool is composed of—

Carbon . 50.653
Hydrogen . 7.029
Azote . 17.227
Oxygen . 24.658
Sulphur .

It leaves a very slight ash, containing minute quantities of muriate of potash, lime, and probably phosphate of
ANISACANTHA

Feathers and hair closely resemble it in their components. Horns are composed of—

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<tbody>
<tr>
<td>Oyster</td>
<td>1.2</td>
<td>98.3</td>
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<tr>
<td>Lobster</td>
<td>7.0</td>
<td>83.0</td>
</tr>
<tr>
<td>Hen's eggs</td>
<td>5.7</td>
<td>89.0</td>
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They have all been found good, in a pounded form, as manures for turnips, and must be for all other plants, and on all soils where calcareous matters are deficient.

ANISACANTHA. (From anisos, unequal, and akantha, a spine. Nat. ord. Chenopodiaceae. Linn. 4-Tetra, 1-Monogynia.)

Evergreen under-shrub; cuttings of young shoots, a little hard at bottom, in April; sandy loam. Greenhouse temperature.


ANISACANTHUS. (From anisos, unequal, and acchia, a spine; but more probably refers to the genus Acanthus. Nat. ord. Acanthaceae.)

Evergreen stover shrub. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, leaf-mould, and sand.


ANISACANTHUS. (From anisos, unequal, and anis, a spine. Nat. ord. Iris (Iridaceae). Linn. 3-Triandria, 1-Monogynia.)

This is now a synonym of Antholyza. Greenhouse or frame bulbs, requiring protection in winter; offsets; peat and loam. Summer temp., 60° to 70°; winter, 40° to 45°.


ANISE. Pimpinella Anisum. Half-hardy annual, used for garnishing or seasoning. Sow during April, in pots, plunged in a hothouse; remove to a warm, light border in May. Thin the plants to six inches apart. The seed is ripe in August or September. It does not bear transplanting.

ANISEED-TREE. Illicium anisa'tum.

ANISOCHLUS. (From anisos, unequal, and chelos, a hook. Nat. ord. Labiatae or Lippurias [Labiate]. Linn. 14-Didynamia, 1-Gynospermia.)

Stove biennial; seeds in heat, or cuttings in sandy soil, in close frame, moderate stove temperature.


ANISO MELIS. (From anisos, unequal, and melis, a honey. Nat. ord. Labiatae [Labiate]. Linn. 14-Didynamia, 1-Gynospermia.)

Chiefly evergreen under-shrubs; cuttings of stove species in April, in close frame with bottom-heat. Greenhouse species, under glass, without heat. Sow the annual in March, in heat; and peat. Temperature same for stove plants, 55° to 75°; winter, 50° to 60°. Greenhouse, winter, 45°.

A. jurca'ta (forked). See Craniotome Versicolor.


ANISOPETALUM CAREYA'NUM. See Bulbo'phyllum.

ANISOPHIA HORTICOLA is a beetle which often attacks the rose-flowers about June. Its maggots live under turf, and feed on its roots.

ANISO'TES. (From anisos, inequality; leaves unequal in size. Nat. ord. Acantaceae.)

Greenhouse evergreen shrub. Cuttings in sand, under a bell-glass, in a warm greenhouse. Fibrous loam, peat, and sand.

A. diversif'lius (diverse-leaved). Flame-coloured or yellow. Socotra. 1908.

ANNUALS are plants which live but one year, and consequently have to be raised from seed every season. It is often difficult to make quite a well divided bed there are some which, though naturally annuals, may be perpetuated by propagation from cuttings—Mignonette is an example; and in addition to this the same plants may be propagated from seed by the planters of either class, both exhibitors and judges are liable to fall into errors. Taking the Callipolis (or Coreopsis) and Galillardas in each case, we have annuals, biennials, and perennials, but the perennials will flower the first year if sown early and raised under glass. Annuals may be divided into three classes—viz. hardy, half-hardy, and greenhouse. Hardy annuals may be sown in the open ground, where they are to flower. In some instances, as with Sweet Peas, Iberis, Saponaria calabrica, Centaureas, &c., may be sown in the autumn, but with most annuals February or March is quite early enough, and for succession they may be sown as late as May, or for autumn flowering sowings may be made up to the middle of June. The former system of growing annuals in rows, except when required for an edging, is not appreciated. Hardy annuals, being annuals, are cut out before late in summer. They are more delicate than biennials, but are more effective. In sowing annuals the depth varies considerably. The larger seeds require to be well covered, especially those sown in the autumn. For small seeds sown in spring the ground may be worked over carefully, and some shallow spade, which, though not too wet or too dry. In making the rows, the seedlings are to be drawn with their heads up, and it is essential that this should be done before the seedlings get drawn up thin through being crowded up together. Each patch or row should be clearly marked out, and they must be kept free from weeds which, although very troublesome. Some twists stuck in round the patches or along the rows and dark thread twined about is a useful protection, and a good dusting of pot or lime will keep off slugs and other vermin. Half-hardy Annuals are those which require to be raised under glass and well established before planting in the open ground. The time of sowing seeds is given under the various subjects, but the chief conditions are plenty of light without being fully exposed to bright sunshine, and careful attention to watering. Avoid sowing too thickly, and prick off as soon as large enough to handle and in all cases put the seedlings down, allowing the seed leaves to just clear the soil, and do not use cold soil. In all cases where the seedlings are kept too close and warm they will suffer when exposed; full exposure will secure short, sturdy growth, and when planting out time comes they will not suffer from the change.

Greenhouse Annuals. Of these the Celosia, Com'persia, and Stove Bedding are the most common. Sown in February in heat and grown on, they flower through the summer in the greenhouse, and though formerly given more heat the Celosias may be used for hanging baskets, and many subjects, which at one time were grown in heat are found to do well in the open during the summer.

ANNE'SLIA (grandif'o'ra). Syns. of Calliandra grandiflora and A. spinosa of Euryale ferox.
ANODA. (From anadas, impervious; cells more united than in Sida. Nat. ord. Malvaceae). Habitually shrubs from cuttings during the summer in close frame, and annuals from seeds in a cold frame.


A. dillenià (Dillenian). See A. CRISTATA.


A. man'sa (sea (purple).] 3 to 5. Purple. Mexico.

A. Ochsenii. See ABUTILON OCHSENI.


ANODO'NTEA. (From, a, not, and odontos, a tooth; in reference to the stamens. Nat. ord. Crucifers [Cruciferae]. Linn. 15-Tetradynamia. Allied to Alyssum, to which they are now referred. For general management, see ALYSSUM.


ANOECE'CHLUS. (From anoikos, open, and cheilos, a lip; in reference to the spreading apex of the lip. Nat. ord. Orchids [Orchidaceae]. Linn. 20-CYMNDRIA, a-Monandria.) Stove terrestrial orchids, and a great contrast to most of the order, being more remarkable for their beautiful foliage, rather than showy flowers. The ovate leaves are beautifully reticulated and the colours very bright. They are rather difficult to cultivate, requiring a close, moist atmosphere potted in sand, sphagnum, peat, powdered charcoal, and a little good fibrous loam may be added, drainage should consist of broken corks and lumps of charcoal; few of them grow more than about six inches high, and having spreading rhizomes require to be regulated and pegged to the surface. Propagated from the spreading stems, which should be cut off quite close below a joint. They are usually grown in glass cases over a bed of sphagnum moss or under glass cases. The temperature may vary from 55° to 66° in winter, and in the spring or growing season may rise to 80°. In Ceylon they grow in the hedgerows, and the natives call regalis "The King of the Woods."

A. arg'nieus, pr'icus. See PHY SURUS PICTUS.

A. argy'a, Brazil. Physurus (?).

A. argyron'aeus. Java.

A. Boy'lei. Olive-green, with golden veins. India.


A. conc'ius. Dark olive-green, with coppery-red stripes. Assam.

A. desertis. See HAMARIA DAWSONIANA.


A. Frederi's-Aug'usi. Dark green, with broad orange and green stripes.

A. Heri'ta. Dark mahogany colour with shadowy network. India. 1881.

A. hiero'gyl'phicus. Dark green, with silvery-grey blotches. Assam.


A. interme'dius. Dark olive-veined with gold.

A. furi'us. Dark olive-green, with lighter blotches. Assam.

A. Lambe'rygia. (ILL. Hort., 1857, t. 1). Dark green, lighter green central nerves. Malay.

A. latima'cula. See A. ROXBURGHII.

A. lobba'nia (Fl. Ser., t. 519). See A. ROXBURGHII.

A. L. New. See DOLISSINA MEYERI.

A. Nata'ia (J. H. F., 1805, 165). Light green, with blotches of light yellowish-green.

A. nov'iiola. Green, with orange-yellow veins.

A. ordi'na. Vivid green, lined with golden veins.

A. Jaya. 1862.

A. orna'ta (Bull. Cat., 1878, 154). Velvety olive-green, with reddish golden veins.

A. origi'si. See PHY SURUS ORGI SEI.

A. pri'tus. See PHY SURUS PICTUS.

A. querc'i'colus. Syn. PHY SURUS QUERCICOLUS.

A. reg'la. Velvety green, with a network of gold.


A. ve'ris. Leaves with broad gold markings.

A. ve'ris. Light green, with a golden network.

A. ve'ris. Dark green, velvety stripe, with white edges.

A. ve'ris. Leaves with broad golden stripe.

A. ve'ris. Yellow. India.

A. ve'ris. Velvety bronze, with golden bronze, with leaves.

A. ve'ris. Dark green, velvety stripe, with lines of silver. India.

A. ve'ris. Brownish velevt, self-coloured leaves.

A. ve'ris. Dark green, mottled white or pale green. Central America.


A. ve'ris. See ZEUXINE REGIA.


A. ve'ris. See MACODES VEITCHII.

A. Ve'ga'ni (J. H. F., 1899, 665). Dark green, with brown shading and silvery-white lines.

A. ve'ris. See A. FREDERICI-AUGUSTI.

A. ve'ris. Dark green, with copper-coloured veins. India. 1863.


ANOMATHE'CA. (From anomos, singular, and theca, a capsule, or seed-pod. Nat. ord. Irises [Iridaceae]. Linn. 39-Trogonogyn. Syns. IRIS.) By some authors referred to Laperoussia. Very neat, IXia-like, dwarf, bulbous plants, which flower in the open borders all summer, in any light, garden-soil; thin seeds freely, and require the protection of a frame in winter. Propagated from seeds and offsets; light, sandy loam and common soil; bulbs require, in most places, to be kept in a frame, or in stored bags, during winter. A. cru'nis, especially, is well fitted for a flower-bed, or for the window-sill.


ANOMOC'HLAO. (From anomos, lawless, and chlos, grass, referring to its differing from other grasses in having four stamens instead of three, which is the usual number.) Perennial grass requiring stoved treatment; may be raised from seeds or increased by divisions. Pot in rich loam.

ANTHEMIS (From anthem, a flower; in reference to the handsome heads of the seeds. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 2-Superflua.)

Root division and seeds; common, light soil. In most places the Nepal species require the protection of a cold pot in winter.

" margaritae (pearly). See A. margaritae. 1847.
" spicata. Summer. See A. spicata. 1847.

ANTHACACANTHUS. (From anthos, a flower, and Anacanthus. Nat. ord. Acanthaceae.)


ANTHEMIS. (From anthem, a flower; in reference to the handsome number of flowers produced. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 2-Superflua.)

With a few exceptions, they are hardy plants. Division of plant and seeds; common soil. The singleflowered A. nobilis is superior to the double for medicinal properties.

HERBACEOUS PERENNIALS.

" apiifo'lia (parsley-leaved). See A. parthenioides.
" Boryana (Mauritius). 1656.
" dau'ros. Summer. See A. dau'ros. 1847.
" ferruginea. Yellow. Bright. 1821.
" mesclana. Yellow. Bright. 1821.
" onanitha. 1821.
" obtusifo'lia. Yellow. Bright. 1821.
" phleumina. Yellow. Bright. 1821.
" spinulosa. Winter. See A. spinulosa. 1889.

ANTHOCYANUS. (From anthos, a flower, and Acanthus. Nat. ord. Acanthaceae.)

A. pumila (soft-haired). See Anacystis clavatus.

Pyrethrum (pellitory of Spain). See Anacystis pyrethrum.


dudolphiana (Rudolph's). See A. Bibersteiniana.

saccaulis (rock). See A. montana.


Annuals.

A. Aisolo. See Achillea ageratifolia.


discosae (discoïd). See A. Tinctoria.

falax (uncertain). See A. Fusca.


1805.


1833.

Trifolium (Trifolium) i. Pale yellow. August. Switzerland. 1819.

Evergreens.


puncta ta (dotted). See A. cupaniana.

See Chamomile.

ANTHEPHORA. (From anthos, a flower, and phora, to bear. Nat. ord. Grasses [Gramineae].) Linn. 3-Triandria, i-Monogynia.)


villo s (soft-haired). See A. elegans.

ANTHECUM. (From anthos, a flower, and kerkos, a hedge; in reference to the tall flower-stems. Nat. ord. Liliaceae [Liliaceae].) Linn. 6-Hexandra, 1-Monogynia.)


serotinum (late-flowering). See Lloydiad alpina.

spirale (spiral). See Erigeron spirale.

squamulosum (scaly). See A. Hispidum.

sulphurum (sulfur). See Orthogalum pyrethrum.


vespertinum (evening). See A. Felcatum.

villosum (long-haired). See Gagea bohemica.

ANTHOCE PHALUS. (From anthos, a flower, and kephalus, a head; the flowers are in compact heads. Nat. ord. Rubiaceae.)


ANTHOCE RIC. (From anthos, a flower, and kirkis, a ray. Nat. ord. Nightshades [Solanaeae].) Linn. 14-Dicyanum, 2-Angiosperma.)

Cuttings of ripened wood in April, placed in sandy soil under a glass, set at first in a cool place, and after wards placed in a mild bottom-heat. Sandy loam and peat, well drained. Intermediate temperature.


floribunda. 3. White. N. S. Wales.

flabellata (hollow-leaved). See A. viscosa.


ANTHOCLISTA. (From anthos, a flower, and delios, shut up. Nat. ord. Loganiaceae [Loganiaceae].) Linn. 3-Triandria, 1-Monogynia.)

Cuttings in heat; peat and loam. Summer temp., 65° to 80°; winter, 55° to 66°.

A. insulensis (K. B. 1895, 150, 158). Yellow. Swaziland.


ANTHODON. (From anthos, a flower, and odon, a boat. Nat. ord. Celastraceae. Linn. 3-Triandria, 1-Monogynia.)
ANTHOLOMA

Tropical evergreen shrubs; cuttings of half-ripened wood, in close frame with bottom-heat; sandy loam and compost as for preceding genus. Now referred to Salacia.


ANTHOMA (From anthis, a flower, and loma, a fringe.) Nat. ord. Tiliaceae. Linn. 13-Polyandra, 1-Monogynia.)

A stove evergreen shrub; cuttings of ripe wood, under glass, in sand and in heat; light, rich loam. Temperatures as for preceding.

A. montana (mountain). N. Caledonia. 1810.

ANTHOLOZA (From anthos, a flower, and lyssa, rage; in reference to the opening of the flower like the mouth of an enraged animal. Nat. ord. Itrid [Iridaceae]. Linn. 3-Triandra, 1-Monogynia.)

Buds requiring the assistance of a frame or greenhouse in winter, or to be planted deep enough beyond the reach of frost in a dry, sheltered situation; light, sandy soil; offsets. Syn. Athisanuhs.


, fuc'a'la. 2 to 2.5. Bright red-yellow. S. Africa. 1818.

, mont'ana. See Gladiolus montanus.

, basica'las and for (Gard., 1904, lxxv, 248.).

, quadrangularis. 2. Yellow-red. April. Cape of Good Hope. 1790.

, Schroetfu'rthii (G. C., 1894, xv, 586.). Bright red April. A. aurea.

, spica'la. See Gladiolus Milleri.

, tubu'lo'sa (Andr. Rep., t. 174.). See Watsonia ALEFRODES.

ANTHOMIA (From fly). Very injurious to the gardener. The principal species are the following:—

A. cepa'rum (onion-fly).

In light soils, especially, the onion is liable to suffer from the grub or larvae of this fly (Anthomia cepa'rum, or Sexis'pha ga cepa'rum of some writers). The gardener who does not wish to lose those very desirable vegetables a straw, turning yellow, and the leaves sunk down upon the ground, may at once know that they are the victims of this insect. Even when of larger growth the onion is still liable to suffer from its attacks, and even up to the time of the bulb's full growth. If the outer coats of a young onion thus destroyed are stripped off, the grub is at once detected; but if the onion is older, the grubs are often numerous. In both cases they will be found feeding on the very heart of the onion. The grub varies from about a quarter to half an inch long, is fleshy, shining, whitish, cylindrical, tapering from the head to the tail. The mouth is provided with a blackish, bristle-like organ, through which it breathes yellow, and in the first segment. In about three weeks from the time of being hatched it changes into a chestnut-coloured, oval pupa; and when it is within which is the real pupa. From this, in about a fortnight, the perfect fly comes forth, of the size of the cross lines, and appearing as magnified in our drawing. This is the female, and is entirely of a pale chestnut-coloured, covered with black bristles. The male has a black line down the middle of the abdomen. The antennae and legs are black; the wings are transparent, almost colourless, but iridescent pink and green. The female lays its eggs within which is the real pupa. The eggs are elongated, oval, close to the ground. She continues to lay her eggs from May to September, producing several broods during that period. The latest brood remains in the pupa state until the following winter, so that all old, decaying store onions should be burnt up as spring advances. The best preventive of this grub is to sprinkle gas-time between the rows of seeding-onions, its farm being offensive to it. It may be well, also, to try spreading powdered charcoal among them in a similar way, for the fly is said to deposit her eggs in this powder as readily as in the onion-roots.

A. aedae, cabbage-fly, says Mr. Curtis, is found through the summer, and is the parent of a maggot which has been known to lay waste whole fields of cabbages, by diseasing the roots on which they feed, as well as at the base of the stalk. Successive generations may be seen feeding until November; the latter families lying in the pupa state during the winter, and most probably some of the flies survive that season, secreted in holes and crevices. When the cabbage-larvea pass their red-brown wagging, yellow colour, and drop in midday from the effect of the sun, such plants, being diseased, should be taken up, carried away, and burnt, and brine or lime put into the holes. Gardeners, in some instances, have collected large quantities of the pupae from the roots by drawing away the earth.

The male of A. bra'ssicae is dark, bright grey, with black bristles; there is a black stripe half-way down the middle of the thorax, and a curved one on each side; the body has a more decided black stripe down the centre, and the segments are marked by a line of the same colour: legs are blackish-grey; wings yellowish-green. Its antenna is female is pale, ashy-grey; the eyes remote, with a dark chestnut-coloured stripe on the crown; the wings are similar in tint to those of the foregoing species, but the intervals are without any whitish markings: it feeds upon the leaves of the cabbage, and sometimes attacks the flowers of the same plant; the young ones are round; when they wriggle themselves out backward, either to enter another seed-vessel or fall to the ground and become pupa.

When the seed-stems are gathered and drying, the larva change to pupae, called shucks, in Surrey, being bright chestnut-coloured, oval cases, which are rough, when examined under a lens, with two minute tubercles at the heads and two hooks, and a few other tubercles at the tail. In the course of May a few of the pupa hatch, they have, however, been observed as early as April, and as late as July. The male is intense black, clothed with short bristles, and black mottles. The male and meeting above; face inclining to chestnut-colour, with a bright spot of the same on the crown; the fore part of the trunk bears four varying whitish stripes; the hind wings are blackish; the thorax, the wings of the female are a deep black: wings two, stained with black, and beautifully iridescent; the base and poiser ochreous, the nervures of the wings pitchy.

The male is easily assayed; black, and less bristly; the eyes not meeting on the crown, with a bright chestnut-coloured stripe between them; body oval, the apex cone-shaped; horns and legs blackish; wings and nervures lighter than in the male, which it equals in size.—Ibid.

ANTHONOMUS POMORUM. Apple Weevil. This insect shelters itself beneath the scurfy bark during the winter, awaiting the return of spring to renew its attacks upon the young fruit. The weevil is a very considerable species, "commits great devastation in apple-orchards, by destroying the stamens, pistil, and receptacle of the flower. As soon as the blossom-buds swell, the female beetle enters the flower and lays her eggs within it. The male makes a good bud, and makes a hole in it with her rostrum (long beak); she fixes herself at the hole, lays one egg, and goes on till she has deposited a considerable number of eggs. She then leaves the flower, and the petals (flower-leaves) nearly expand, when suddenly the growth ceases and the petals wither, and assume a shrivelled appearance. If one of these flower-buds is taken, and a small slit is made in the petals, and the petals (flower-leaves) near the receptacle, the beetle will have escaped, the transformation from the egg to the perfect state not having
ANTHOSPERMUM

ANTHURIUM

occupied more than a month. When this beetle, or weevil, leaves the receptacle, it feeds during the summer on the leaves of the trees, and is seldom to be seen. In the summer, the weevils leave the trees and search for glowing places, under stones about the trees, or under the rough bark, in which they pass the winter. Consequently, as they commence their operations early in the spring, care should be taken to remove all stones, dead boards, or other hiding-places, as well as to scrape off the rough, dead bark from them in the winter season. The apple-weevil is also very injurious to pear-trees. This beetle, or weevil, is scarcely one line in length; they are dark brown, with whitish-grey stripes; its antenna (horns or feelers) spring from the middle of its back, and all these parts, as well as its eyes and the under part of the body, are black.

They are found in nearly-allied species of predatory weevils, which will be found under the name of Curculio.

ANTHUSPEGMUM. (From anthis, a flower, and sperma, seeds. Nat. ord. Cincinodens [Rubiacæa]. Linn. 22-Diania, 4-Tetrandria.)

Cuttings in sand, in close frame; peat and loam; summer temp., intermediate temperature.


ANTHOXYLITUM. (Yellow-flower, from the Greek.) Gramineæ A. crassine'rvium. Linn. One of the sweet grasses, useful in pastures.

ANTHUSIUM. (From anthis, a flower, and oura, a tail; referring to the spadix, or Arum, flower-spike. Nat. ord. Aroids [Aroidea]. Linn. 4-Tetrandria, 1-Monogynia. Allied to Pothos.)

In the old edition there are only two species recorded, but it has since become a most important genus, and there are many garden hybrids of these with showy flowers. They are chiefly hybrids of andrea'num and scherzeria'num. A. bulbus is a hybrid of the varieties, but seedlings are now so numerous that they are grown under colours only, in some instances. In andrea'num we have various colours from pure white, pink, and various shades up to deep blood-red or crimson. They may be raised from seeds, but it is a slow process, it being nearly a year after flowering before seeds are ripened, and then they are slow to germinate. The seeds should be sown as soon as ripe, the seed pots well drained and filled up with sphagnum moss, rough peat, and sand, and some powdered charcoal may be added. They may also be propagated by divisions, and should be grown in a compost of rough peat, sphagnum moss, sand, and charcoal, with good drainage, and in putting the crowns of the plants should be kept well above the rims of the pots. They delight in a moist atmosphere and a temperature of 60° F. between the leaves and flower. Those grown for their foliage require similar treatment. While growing, liquid manure may be used freely, but it should not be very strong.

A. acu'tum. 3. Green or violet. Spring. W. Ind. 1853.

A. angu'sium. 2. Dark green, Brazil. 1857.

A. a'thio'pium. 2. Spathe green, spadix red-brown. Trop. Amer.

A. a'thio'pium. 2. Yellow-green. 1855.

A. aliendo'f. (GL, 1859, 121, t. 1293.) Hybrid between andrea'num and scherzeria'num. 1872.

A. al'ba. 2. Spathe green. Venezuela. 1848.


A. andrea'num (III. Hort, 1877, t. 271.) Spathe scarlet, spadix yellowish, whitish. Columbia. 1876.

A. a'thio'pium. 2. Pure white. 1849.

A. amor'um (G. C., 1893, xii. 413). Spathe rose, scarlet, and veined with yellow.

A. ar'tropour'f. (R. H. B., 1889, t. 159.) Garden hybrid between A. andrea'num and A. Chanti'eri.

A. as'trosa'ngu'i'snum (G. C., 1931, xii. 413). Dark green, spadix crimson-purple. May. Venezuela. 1931.

A. a'thio'pium. 2. Spathe green, spadix violet. Venezuela. 1872.


A. bulbif. See A. PENTAPHYLLUM.

A. augu'si num. See A. TRINERVUM.

A. Böhl's. 2. Spadix crimson-purple, the spadix being of a pleasing combination of pink and bright scarlet. July. Costa Rica. 1872.

A. bélum. 3. Green, red-brown. Brazil. 1860.

A. bino'num. See with red-fur. Spadix. Brazil.

A. bo'go'tensi's. (Sand. Cat., 1897, 3.1.) Spathe purplish, spadix dark-brown-purple.


A. bre'viflorum (C., 1889, vi. 700). Garden hybrid similar to A. leodio'sen, A. ca'nnam., &c.

A. caesium. See SPATHIPHYLLUM.


A. colo'ceum (Veitch). 2. Green, Brazil. 1869.


A. cory'phum. 2. Green. W. Ind.

A. cory'sum. 2. Green, Brazil. 1889.


A. crassif'lorum (G. C., 1883, xix. 10). Light green, spadix dull green.

A. cro'ssin'vium. Green. Panama. 1796.

A. cro'ssin'vium. 2. Light green, spadix violet.

A. cris'si'num (G. C., 1889, vi. 67). Spathe white, with salmon-pink spadix. Colombia. 1875.

A. cul'tre. (R. H., 1877, t. 289). See SPATHI-

A. cul'tre. 2. Green, Brazil. 1889.

A. cup'pia. 2. Hybrid between A. andrea'num and A. veit'hi.

A. cry'stal'lium. 2. Greenish, leaves velvety green, with veined veins. Columbia.

A. di'o'sum. 2. Green. W. Ind.

A. dio'sum. 2. Light green, spadix purple.

A. illu'sum (G. C., 1898, xxw. 293). Apparently the same as variega'tum.

A. ille'gian'um (G. C., 1893, xii. 413). Leaves with large green blotches of crimson between the leaves.

A. ille'gian'um. See with crimson.

A. ille'gian'um. Spathe white, with salmon-pink spadix. Colombia. 1875.

A. ille'gian'um. (R. H., 1877, t. 289). See SPATH-

A. ille'gian'um. 2. Green, Colombia. 1868.

A. ille'gian'um. 2. Spathe pale yellowish-green, spadix pale violet.

A. illin'bur'dum. See SPATHIPHYLLUM.

A. illin'bur'dum. 2. Green, Colombia. 1893.

ANTHURIUM

A. Frrehbli (Gill., 1886, 52). Garden hybrid between A. andraea-num and A. ora-num.


Galbii. Brazil. 1883, 421. Green and white.

dandate (G. C., 1893 xiiii. 415). Garden hybrid between A. andraea-num and A. Chamitri.'

gaudichaudianum. 24. Green. S. Brazil.

giulinica num. 2. Green. Trop. Amer. 1867.

Spathe green, spadix red-brown.

Brazil. 1880.


Glaasii (B. M., 1853). Spathe green outside, deep green within; spadix violet-purple. Brazil.


grandifolium. Caracas and Colombia.

type (G. and Fl., v. 528). Garden hybrid between A. arulnum and A. andraea-num.

Gustaavi (Gill., t. 1075). Green. Colombia.

hanburyum (W. G., 1897, 256). Garden hybrid.


Harrii. Spathe green, spadix violet-brown.

Trop. Amer. 1840.


Hyacinth. W. Ind.

humboldtiana num. See A. rubrinervium.

inconspicuum (G. C., 1885 xiii. 787). Spathe green, spadix dark violet-brown.


Kelleriana (Jard., 1893, 43, f. 135). There is also a garden hybrid (see H., 1888, 49).

Kotaghi (Gill., 1889, 121, t. 1293). Hybrid of A. andraea-num and A. lindeniana-num.

Lao (W. G., 1885, 383). Garden variety.

lanceta-num. Certain varieties of A. Harrii are grown under this name.


Lavarecia (G. C., 1892, xi. 731). Garden hybrid.

leptotis-chyrum. See A. olfersianum.


rgb. 1889. 57). Garden hybrid.


longiflorum. 1. Mexico. 1829.


lo-tidum. 4 to 5. Reddish-brown, purplish. Brazil.

macrospila (G. and Fl.. Cat., 1888, 12). Garden hybrid between A. leuconoe-num and A. peda-to-radium.

macrospila-num. See Pothos macrophylla.

macrospila-dia. Guiana. 1862.

macrospila-num. See Pothos macrophylla.


margaritae-num. See A. Hoffmanni.

margaritae-num. 3. Spathe green, spadix red-brown. Brazil. 1880.

metallicum. Green. 1860.

miqueliana-num. 5. Green, purplish. Brazil. 1865.


ANTHyllis

A. scherteri'num rothschildia'num. Spathe creamy red-spotted, spadix creamy. 1880.

A. ro'sum (Bull. Cat., 1893, 9). Salmon-rose coloured spadix.

A. rou'niflorum (W. G., 1889, 113).

A. roundi'spumatum (round-spathe). Spathe rounded, white above, 1880.

A. sana'sium (W. G., 1889, 123).

A. servi'nus num. Spathe white, with red tip. 1884.

A. ur'adii (Veitch Cat., 1897, 28). Broad foliage, and spathes 6 in. long by 4 in. broad.

A. var'iegatus (ill. Hort., 1888, 43, t. 51). White, spathes spotted with red.


A. Sel'i'o (Sello's). 3. May, Isle of St. Juan. 1794.

A. sel'wina's num. Brazil, 1841.


A. smal'i'cif'rum. See A. unda'tum.


A. spli'tidum (G. C., 1883, xii, 381, f. 58). Leaves of a beautiful sea-green colour.


A. suburi'num (Cat..). 15. Yellow. Central Amer. 1861.


A. trir'o'num. 2. Green. Brazil.

A. tri'numphus (Bull. Cat., 1885, 11). Spathe green, spadix greenish-white. There is also a garden hybrid with pink spathe and yellow spadix.


A. undu'snum. See A. HARRISI.

A. Vio'so's Cori (W. G., 1897, 250). Garden hybrid.

A. var'a'is. Spathe green, spadix violet. Brazil. 1832.


A. acumi'num (G. C., 1885, xxiv. 559). Colombia.

A. vel'o'sum. See A. OLPE'SANUM.

A. vera'num (R. H., 1884, 204 t.). White spadix variety of A. scherterianum.

A. vi'o'csum. Trop. Amer. 1849.

A. leuco'ra. Mexico. 1859.

A. vi'o'ces. See A. costA'TUM.

A. vir'go sum. Spathe green, spadix reddish. Brazil. 1840.

A. vi'ride. Tropl. Amer. 1865.

A. wa'nergenia'num. Caraccas. 1833.


A. Walu'veri (G., t. 196). Allied to A. magni'scum.

A. wambeke'a'num (ill. Hort., 1895, 185). Garden hybrid between A. len'dena'mum and A. andrea'snum.


A. war'sen'su'. See A. sinuatA'UM.

A. Wil'de'no. 1. Brazil. 1860.

A. Wit'tma'chis (Gd., 1889, 121, t. 1929). Hybrid of A. len'dena'mum and A. andrea'snum.

ANTHyllis. (From anthos, flower, and keras, horn; the hardy perennial and annual species alike a light, well-drained soil; the greenhouse varieties should have fibrous loam, leaf-mould, and if loam is heavy some peat added.

HARDY ANNUALS.


GREENHOUSE EVERGREENS.

A. Aspala'ith (aspalthus-like). See A. HERMANNE.


A. Erina'gia (prickly). See ERINACEA PUNGENS.


HERBACEOUS PERENNIALS.

A. al'i'na (hairly-alpine). See VULNERARIA.

A. art'o'ri'a (B. M., t. 1092). See EBENUS CRETICA.

A. cum'a's. See LESPEDEZA ERICARPA.


A. poly'phy'il'a (many-leaved). See A. VULNERARIA.


A. Dille'nii. Red.


A. rubi'fro'ra. See A. V. Dillenii.

A. wob'lia (Webb's). See A. VULNERARIA.

ANTAR'IS. (From antia, its Java name. Nat. ord. Artocarpods [Urticaeas. Linn. 21-Monaceia, 4-Tetrandra. Allied to Brosimum.)

This is the fabled upas-tree of Java, which furnishes the deadly poison known as "Antiar poison," and said to be used as a poison for "arrows." It has been said that cattle could not live near this tree, but this has been proved to be wrong. Evergreen requiring stover treatment, cutting of ripened wood in close frame; loam, peat, and sand.


ANTICLE'A. Included under Zygo'denus.

ANTIDE Sma'. (Greek an'tis, to, and desma, bond; the back of A. Dumus being used for cordage. Euphorbiaceae. Tropical trees or shrubs.)

A. Bu'nium (Sprang). Dark green foliage; small berries. Malaya.

ANTI-GO'N. (From anti, against or opposite, and gonia, an angle. Ord. Polygonaceae.)

Stove climbers with showy flowers, but do not flower freely; require similar treatment as the Bougainvillies; should be well exposed to the sun.

A. ama'bia. Bright rose.


A. ins'ti'gna. See A. GUATEMALENSE.


A. rubri'fro'ra. White. 1888.

ANTIGRA' ME. (From anti, like, and gramma, writing; in reference to the appearance of the spore-cases, or seed-vessels. Nat. ord. Farns [Filiaceas. Linn. 24-Cryptogamias, 1-Filiaceas. Allied to Scolopendrium.)

A greenhouse Fern. Divisions; peat and loam. Temp. in summer, 55° to 75°; winter, 45° to 50°.


ANTIGRAMME
ANTIRRHINUM. (From an'ti, like, and rhin, a snout, or nose; flowers like the snout of an animal. Nat. ord. Figuro's [Scrophulariaceae]. Linn. 14.-Tetradynamia, 2.-Angiosperma.)

Common soil, if not retentive of moisture. All hardy herbaceous perennials, except when otherwise specified. Excellent for banks and under trees, but not above either for the tops of walls. The varieties are endless. The different types—minor, major, and infundibulum—are now grown inland. In and though there may be some variations they come fairly true from seeds. Sow in June for flowering the following season.

A. alpinum. See LINARIA ALPINA.
angustifolium (narrow-leaved), See A. SICULUM.
fru'licans. See NEMESIA.
lan'gera. See LINARIA LANIGERA.
linda'tia. See LINARIA VULGARIS.
lind'ria. See LINARIA VULGARIS.
mac'ra'cum. See NEMESIA CHAMÆDROPHIA.


" Pelio'ria (G. W., 1903, 21). Flowers regular.


" me'dium (intermediate). See A. STRIATUM.

" mean'sium (smaller-flowered). See A. SEMPER-VIRENS.


mont'e'nsis (Monte Videan). See A. MAJUS.

mutallia'num (GF., l. 1725, f. 3). to 2. California.

ochroleu'cum (pale yellow). See LINARIA VULGARIS.

odo'rum. See LINARIA ODORA.


Pyrences. 1821.


" spurium. See LINARIA SPURIA.


" striat'um. See LINARIA SINTHORIANA.

" torio'sum (twisted). Purple. June. Italy.

ANTIRRHINUM. (From an'it, against; and rho'o, to flow. Nat. ord. Rubiaceae.)


ANTILL. MOTH. See CHAR'AS.

ANTO'NIA. A synonym of Rhynchochilus.

ANTROPHYUM. (From ant'ron, a cavern, and phi'o, to grow; referring to its place of growth. Nat. ord. Ferns [Filices]. Linn. 24.-Cryptogramma, 1.-Filices.)

Stove Ferns. Division of the roots; sandy loam, in a shady situation.

coria'cina (leathery). Brown.

Lar'iCitae (Broad-leaved). Brown. Island of Luzon.


reticula'tum (netted). Brown.

semicosta'rum (half-ribbed). Brown. Island of Luzon.

ANTS. See Insect Pests.

ANTWERP HOLLYHOCK. Alk'da a fie'sol'ia.

ANU'BIAS. (Nat. ord. Aroidæ.)


" nigra (N. B., 1889, 281). Cameroun.

AP'OLIA RENIFORMIS. See HABENARIA REN- FORMIS.

AOT'US. (From a, not, and ou, ear; the ear-like appendages to the calyx are wanting. Nat. ord. Leguminosus [Leguminosae]. Linn. 10.-Decandria, 1.-Monogynia.)


APAR'GIA. (A Greek name of a plant now unknown. Nat. ord. Compositae [Composita]. Linn. 19.-Syngenesia, 1.-Equisals.)


The above hardy herbaceous perennial is the only one worth cultivating, though there are many other species. Now referred to Leonotis.

AP'ET'BA. (The local name of one of the species in Brazil. Nat. ord. Lindeni'blooms [Tillaeæ]. Linn. 13.-Polyandra, 1.-Monogynia.)


" Pe'lu'mo (Petoumo). 40. Yellow. S. Amer. 1817.


APEN'ULA. Syn. of Specularia.

APERO'UNDA'CEA. An ornamental grass, the panicle of which has slender, drooping branches. 1882.

A. Spica-en'vis (wind-spike). 1 to 2. July. Europe;

APHIANA'NTHE. (Greek, ap'hanes, inconspicuous, and an'ihe, flower.) Urticaceae. Trees or shrubs.

A. a'spera (Planch). A slender-growing shrub, not much known.

APIEL'ANDRA. (From aphel's, simple, and aner, a male; the antlers being one-celled. Nat. ord. Acanthaceae [Acanthaceæ]. Linn. 14.-Didynamia, 2.-Angiosperma.)

Towel evergreen shrubs. Allied to Justicia. A showy class of plants with terminal spikes of flowers chiefly bright colours, with yellow bracts which last for some time after the flowers have fallen; propagate early in the spring from side-shoots; use plenty of sand at base of cuttings, and a little sandy compost, in stove propagating-pit; pot in rich, open soil, and grow under stove treatment. A. acutis'o'ma. Vermilion-red. October. Colombia.

a'na'na. See A. BLANCHETIANA.

   *blastica* (W. M. t. 6493). Leaves green, silky veins. Brazil. 1888.
   *ChrysopS* (Bull. Cat. 1887, 7-9). 1887. See A. HOLLANDIANA.
   Syn. Justicia pulcherrima. 
   *crista* 1a (crested) of Linley. See A. TETRAGONA.
   *S. flexuosa* (B. M. t. 233, t. 15). Garden hybrid. 
   *Macrura* 1. Mexico. 1842.
   *Leopoldii* 3. See A. SQUARROSUS.
   *Libonis* 1a (B. M. t. 5403). Crimson.
   *macdonialis* (Ill. Hort. vol. 33, t. 583). Dark green
   leaves, lighter nerves, with violet-purple beneath.
   Brazil. 1886.
   *Malacophyllum* (Malacophyllum). Orange-scarlet. 1908.
   Leaves dark green, with lighter green nerves, under
   *medioauriculata* 1. Leaves bright green, with yellow.
   *meria* 1 a to 3. Vermillion-scarlet. Colombia. 1867.
   *ornata* (Belt. Hort., 1865, t. 3). Yellow, purple.
   *preciosa* 1 a. Yellow. Central Amer. 1852.
   *puclrisma* (fairest). Colombia.
   *pu'tilla* 1. Orange coloured. Brazil. 1878.
   *pulissima* (Gf. t. 1104). Brazil.
   *rosae* 1. Yellow. Central Amer. 1852.
   *Rosii* 1. A syn. of A. aurantiaca Rossii.
   *Squarro'sa* 1. Brazil.
   *Squarro'sa* 1a (Fl. Set. t. 809). Yellow. Brazil.
   *Squarro'sa* 1 a. Cape of Good Hope. 1891.
   *leptosoma* 1. Autumn. 1846.
   *imperialis* (Gf. t. 1851, 449, t. 1534). Central
   Amer.
   *variegata* 1a (B. M. t. 4699). 1c. Yellow. Brazil.

**Aphelocoma.** (From aphides, simple, and exis, habit.
Nat. Compositae [Compositae]. Linn. 15-Syngenesia,
2-Superflora.)

Greenhouse evergreen shrubs. Referred to Helichrysum.
Cuttings in spring or summer; small side-shoots are best;
ripe shoots not hard, inserted in sand, under a bell
in close frame. A very distinct class of plants from
the Cape of Good Hope. They are, by some authors,
included with the Helichrysum by some authorities,
but have so long been known to the trade under the
above name, and are so totally distinct in every respect
from the ordinary plants known as Helichrysum, that it
seems difficult to associate them together, and the above
name may certainly be treated as a separate genus. They require
similar treatment to the Cape Ericas. Formerly they were
among the plants grown into large specimens for exhibi-
tion.
Summer temp. 55° to 65°; winter, 40° to 47°.

Good Hope. 1876.
   *fasciculata* 1 a. Fusilier. 1879. Cape of
   Good Hope. 1875.
   of Good Hope. 1879. See Helichrysum
   SESAMOIDES.
   of Good Hope. 1879. See Helichrysum
   SESAMOIDES.
   */br/osa* (red-flowered). 2. Red. July. Cape of
   Good Hope. 1799.
   Cape of Good Hope. 1879.
   */br/osa* (dwarf). 2. Pink. May. Cape of Good
   Hope. 1810.
   N. Holland. 1840.

**A. hu'milis o'se/a** (rose-large-flowered-dwarf). 2. Rose.
   Gardens. 1845.
   N. Holland. 1870.
   Cape of Good Hope. 1739. See Helichrysum
   SESAMOIDES.

**APHELEXIS.** The plant-louse, or green fly; called
sometimes the puceon, or vine-friter. It is usual to state
that every plant liable to be attacked by this insect is
the victim of some special species; but we think that
further examination will reduce the number of species
very considerably. Difference in colour certainly does
not constitute a specific difference; for the rose-louse is
generally of red, but green, while the shoots are of this
colour. The amount of injury they cause to a plant, by robbing
its sap or blood, is proportioned to their number, and the time they are
allowed to infect the subject of their attack.

**Aphis humulis** (the Hop aphis) often proves very
destructive to the hop crops. The green fly on our roses
(Aphis rosea) is that of which we will now offer a few
particulars. It is curious that these always are most
abundant after the prevalence of easterly winds; and
Mr. Jenyns observed in Cambridgeshire, during October,
and Mr. White, at Selborne, in August, myriads of
aphides, in the red and purple-coloured form, on the
ground at some time easterly. So fast do they multiply, twenty
generations being producible in one year, and the young
in the autumn being born alive, and not from an egg.
Beauveria appears to demonstrate that one female may be the ancestor
of nearly six millions in five generations. It is needless
to describe minutely the rose aphis. It is usually light
green, with green wood; and red, with red wood, with
brown and yellow wood, with transparent, and with
translucent wings. They frequently change their skins; and these
may be seen hanging about the leaves and shoots of the
rose. The males may be known by a double row of black
dots on each side of the body; and a small axial ridge of
the species being aphides, for the destruction of this troublesome pest
if used as soon as they appear, but when the leaves get
curled through the moisture being extracted it is diffi-
cult to cleanse the trees.

**Aphis pyrrhalis** is of a grass-green colour, attacking
the apple and pear. To prevent its appearance, the
following treatment is said to be very effectual. The
application must be made every other if not every year;
but once in two years may be sufficient, if thoroughly
well done. Take 1 lb. sulphur vivum, 1 lb. Scotch snuff,
1 lb. quicklime, 1/2 lb. lampblack, 1 lb. soft soap, and of
water sufficient to boil it into the consistence of paint.
Unnail your trees about February, before the bloom-buds
begin to swell, and with a common paint-brush paint
every branch from the ground upwards.

**A. persica** is dark green, and peculiar to the peach
and nectarine.

**A. pruni** ravages the plum tribes, and is a very light
green.

**A. rumicis**, known popularly as the Black Dolphin
and Elephant, is black, and attacks the common bean.
The tops of beans attacked by the black dolphin should
be forthwith removed; and smaller plants may be
sprayed with tobacco-water, or water in which elder-leaves
have been boiled which applications are all fatal to the
aphis; spraying with soap-suds, on two or three follow-
ing days, is also effectual.

**A. pisi** is green, and affects the pea.

**A. lonicera** waxes its own louse. Dingy green.

**A. cerasi** Morello cherry louse. Appears black. In-
fests the under sides of the leaves, especially on wet
soil.

**A. corvii** nut louse. Pale green.

**A. dahliae** tobacco louse. Amber-coloured.

**A. ribis** red-currous louse. Blackish.

**A. leguminos** privet louse. Dark brown.

**A. ribis-nigris** black-currous louse. Transparent green.

**A. lathyraceae** white, and black Clovers.

**A. Cinarae** raphani, radish louse. Females; green;
males, light-brown.

The aphides on the peach appear the earliest, being
as are all the others, the produce of eggs deposited during
the previous autumn. During the spring and summer they
are viviparous, and breed with extraordinary rapidity.
The gardener does well, therefore, to scrub the
branches of his wall-trees, and to boil or change the

shreds every winter, for he thus destroys the pest in embryo. So soon as they appear in spring ... Ind. 1803. Stove. (Ouviran’dra) henkelia’num (G. C., 1906, xl. 270, ff. 108, 109). Described as a new species; it has

Cover leafless, ij-Diadelphia, 1820. let

White. a Summer Coccinella spirit-lamps June. for common

A. angustifo’lium (lance-shaped) alive

destroy the pests offered for by those who supply the tobacco preparations for fumigating, and there are also some most effective liquid fumigants used in the form of vapour, with small spirit-lamps to heat them.

And for this purpose, in the open, with which cannot be fumigated, there are some good liquid preparations, which may be applied with a sprayer or ordinary syringe. As soon as you judge it to be well filled with smoke, remove the pan, or pot, or, if you cannot be out of doors, place it near you, and you have more than one that requires smoking. Be extremely careful that the tobacco does not break out into a flame, as it is that which does the mischief. If you perceive a likelihood of blaring out, prevent it with a sprinkling of water, very gently applied. Cover up the frames with mats to keep in the smoke as long as possible. The next morning examine the aphides, or green flies, and if you find any alive, repeat the fumigation of the following evening. This second application will most effectually destroy all your enemies. You may now syringe the plants pretty severely, to wash away the dead bodies of the slain, and the plants will again thrive and flourish in perfect health and beauty.

A.Pycnophyllum. (From apycnos, not bitter. Nat. ord. Liparorhiza (Liliales). Linn. 6-Hexandria, 1-Mono
gynia.)

Half-hardy herbaceous perennial. Division of the roots and seeds; sandy loam and leaf-mould; requires a warm situation, or a cold pit in winter.


A. apicra. (From apicros, not bitter. Nat. ord. Liliales.)

Greenhouse succulents, allied to the genus Aloe; suckers and cuttings; sandy loam. Summer temp., cool greenhouse; winter, 35° to 45°; kept rather dry.


bulula’sa (little-bisterled). See A. pentago
ta. 1845.


imbrica’sa (imbricated). See A. spiralis.

ma’for. More robust.

ni’gra (rough black). Shewawirhua nigra.


APPLE (Pyrus Malus). It is hardly necessary to record that the Apple is most extensively grown and the most useful of all hardy fruits. Varieties are very numerous. It is recorded in the 1668 edition of this book that there were 1496 varieties, and since that time the increasing interest in the propagation of Fruits in various parts of the World exists in most countries of Europe, and is generally known as the Crab. The English Crab is supposed to be one of the original parents of the fine varieties we now have; yet it appears that we are indebted to Normandy for some of the Cider apples, and to Holland and France for some of the dessert and kitchen varieties. From the immense number of varieties now cultivated it is difficult to make a selection. Many of those given in the old edition remain favourites, but many fine varieties have been added since; except where they have been fully tested it will be better to keep to old standard sorts.

In July, a few varieties, such as Amongst the Hills, or Cydonia, fruits ripen on the most extensive scale under the guidance of the leading authorities on fruit culture, most of which the writer is also acquainted with, but it must be remembered that sorts which succeed well in one locality may fail elsewhere, and conversely. Local authorities should be consulted. In the list the time of ripening is given as near as possible, but some allowance must be made for position; seasons also have a great influence. An early date is well given for ripening. Apples are ready to gather when the pips (seeds) are of a dark brown or blackish colour, but some require to be kept for a time after they are picked; a better flavour if eaten as soon as gathered from the trees.

VARIETIES FOR DESSERT. July-August. — Beauty of Bath, Juneating (sometimes written “Joaneting”) Cox’s Orange Pippin, Dutchess, Duke of Gloucester, Gladdingston, Early Harvest; August—September. — Devonshire Quarrenden; Kerry Pippin, Miller’s Seedling; Lady Dudely, Yellow Ingestre; Worcester Pearmain; Red Acran; and Langley Pippin. September—October. — James Grieve, Pine Golden Pippin; September Beauty, Golden Reinetche, Washington, Cornish Aromatic, and King’s Acre Pippin.

APPLES FOR KITCHEN (cooking purposes). August—September. — Lord Suffield, Duchess of Oldenburg, Lord Grosvenor, Stirling Castle, Froomg Prolific, and Pott’s Seedling. October—November. — Beauty of Kent; Cellini, Cox’s Pomeran, Eddinchville, Emperor Alexander, Hambling’s Seedling, Peasants, Scarlet Nonpareil; Ribston Pippin; Margil; Blenheim Orange, and Wealthy. November—December—January. — Adam’s Pearmain; Cox’s Orange Pippin; Charles Ross; Mab— Gravenstein; M. Smit’s Childhood; Oak Grove; John Gravenstein; and Gravenstein. January—February—March. — Boston Russet, Court Pendl Flat, Lord Hindlip; Mannington Pearmain, Reinetche du Canada, Clagrate Pearmain. December—January. — Wrench Pippin, Apple Guinness Russett; Cockle’s Pippin, Duke of Devonshire, Fearn’s Pippin, Lord Burgheley, and Reinetche du Canada.

VARIETIES FOR KITCHEN (cooking purposes). August—September. — Lord Suffield, Duchess of Oldenburg, Lord Grosvenor, Stirling Castle, Froomg Prolific, and Pott’s Seedling. October—November. — Beauty of Kent; Cellini, Cox’s Pomeran, Eddinchville, Emperor Alexander, Hambling’s Seedling, Peasants, Scarlet Nonpareil; Ribston Pippin; Margil; Blenheim Orange, and Wealthy. November—December—January. — Adam’s Pearmain; Cox’s Orange Pippin; Charles Ross; Mab— Gravenstein; M. Smit’s Childhood; Oak Grove; John Gravenstein; and Gravenstein. January—February—March. — Boston Russet, Court Pendl Flat, Lord Hindlip; Mannington Pearmain, Reinetche du Canada, Clagrate Pearmain. December—January. — Wrench Pippin, Apple Guinness Russett; Cockle’s Pippin, Duke of Devonshire, Fearn’s Pippin, Lord Burgheley, and Reinetche du Canada.

WHERE only a few trees are grown it will be found more satisfactory to plant early varieties. And for market purposes a number of the later varieties may be selected (see notes on grafting). The scions (or grafts) should be taken in December, cut in suitable lengths, tied in small bundles, and buried in the ground under a warm clochet, or in a pit or box, and this method will retard them. The grafting should be done in March and April; the sap in the stocks will then be rising and ready to give support to the scions. Success depends largely on the health of the stock, the clean cuts both on the stock and on the scion. Formerly
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a kind of wet clay was used, but moss is equally good and much less trouble. This tied round so as to fully cover the union and kept moist in dry weather will generally lead to success in grafting, but we have seen many failures, owing to the neglect of small details. A cut should be made to remove fibrous tissue quite fresh, and in dry weather they should be covered with a wet cloth.

Methods of Growing, Training &c.—Apple trees are adaptable to various forms of culture. For large orchards standard forms were most favoured, with small bush fruits such as Gooseberries and Currants growing between them, but modern growers find that the bush and pyramid forms are the most profitable. Messrs. Rivers and Sons suggest that the pyramids or bush-trees, if worked on the Paradise stocks, may be planted 9 feet apart each way, and this will require 537 trees to plant an acre.

Standards.—As stated above, these are not planted so extensively as formerly; yet in some positions they are very useful, if only for decorative effect. Here it may be noted that to secure the desired effect, the trees should be planted for effect, yet as a rule fruit trees which are equally beautiful when in flower, and more attractive when they have a crop of bright, rosy-tinted fruit, will find a place except in the orchard or kitchen garden.

Espalliers.—This is a term applied to trees trained with horizontal growths running from a main upright stem. The roots are planted 1 foot apart, with a foundation or first horizontal laterals are formed before planting in a permanent position, after which the main upright central growth should be cut back to secure further growth. If the first yellow shoots are still growing, being four to six on either side of the main stem. And after the trees are properly furnished all erect shoots should be stopped back; this will throw the vigour into the laterals, which will form a framework. As soon as the hot water, will rise to the highest point, but stop the erect growths and the sap will flow horizontally. Espalliers form useful divisions in various parts of the kitchen garden. Usually they are planted from 3 to 4 feet from the walks, leaving a border for flowers grown for cutting from, and vegetables are grown behind.

Cordon.—This term is applied to the trees trained horizontally with a single stem, or they may be grown obliquely or upright, but are confined to one or two stems. Trees of this kind make a nice edging for borders; and for walls where there are buttresses, cordons can be planted and trained so as to make a good screen. Each buttress will cover the space which the ordinary trained trees cannot be taken over.

Planting.—The earlier the trees can be planted after the leaves are off in the autumn the better, yet planting may be done up to the first of March. The first thing is to have the ground properly prepared by trenching and manuring; much will depend upon the nature of the soil. In some instances very little manure, if any, will be required while in poor ground there may be a liberal dressing. It will depend entirely upon the quality of the ground, and also, to some extent, the sorts to be planted. The vigorous growing sorts crop best on poor ground. In country districts where there is much clay and turf, but a good space—say, 3 feet each way from the stem—should be well prepared. The trees if of any size will require to have some of the strong roots shortened back, and in such cases the trees should be dug up the trees should be cut off clean. It is as necessary to make clean cuts on the roots as it is when pruning the top. In planting, the hole should be made wide and deep enough to take the roots out and work the soil well among them. Press it firmly and cover all the roots, but do not plant too deeply. Standards require shallower planting than cordons, and should be driven down to the first year's growth. In planting cordon the trees are not held in position the winds will twist them about and loosen the roots before they are established. The crop depends greatly on a proper start. The liberal use of lime in the immediate vicinity will go a great way towards eradicating vermin. It should be added that in the process of planting care should be taken to prevent the roots getting dry. The fibrous or most useful roots soon perish if exposed.

Pruning.—This is an important operation, especially in the formation of young trees. Clean cuts close above the wood bud is one great point. A shoot should be cut from the main bud that leaves a wood bud. If holding the knife up to come out just above the bud. Canker may often be traced to injudicious pruning. If cut as above a callus will soon be formed, but when cut a little distance above a wood bud, the portion of stem above the bud will die back, and frequently leave a bad joint, which will cause canker later on. In regard to the time of pruning, winter pruning should be done as early as possible after the leaves have fallen, but it is often left later. The advantage of early pruning is that the buds plump up from the base of the shoots, and the trees start more evenly. Methods of pruning depend upon the growth of the trees and the form of training. In the formation of bush trees the growths should be thinned out from the centre. Thick, bunched trees are never satisfactory. Pyramids require to be headed back until the lower lateral branches are well developed. The pyramid may be grown to from 10 to 12 feet high, but this must be accomplished by yearly growth. After the trees are well built up it will only remain to cut back all the branches one year, and thin out the growths the following year, and it may occur that some of the main branches require to be cut away where the trees get too thick. The Espalliers and Cordons require what is termed "head pruning"—that is, all branches close to the main stems, except leaving the main lateral shoot for extension where necessary. It is not advisable to cut in too close. If a few buds are left the terminal shoot is a great benefit. If any only, thin out the spurs for the following year, and perhaps part of the old wood may be cut back when pruning the following year.

Summer Pruning is sometimes recommended, but this requires to be done with care, and should not be done late in the season. Some of the surplus growths may be cut away about July or earlier, and shoots shortened back to the first leaf. If the spurs are long and the only soft, unpruned growths are made, and this will be of no use either for fruiting or for making the trees. Careful observation is the best means of ascertaining how to use the knife either for summer or winter pruning.

Insect Pests and Fungoid Diseases.—Apples are subject to numerous insect pests, and also to fungoid diseases—these will be more fully dealt with under Insect Pests and Diseases; but it may here be remarked that a thorough spraying in the winter, and again soon after the fruits are set, also a good dressing of lime on the ground, will go a great way towards keeping off troublesome pests.

Gooseberries or Gooseberries.—When should Apples be gathered? Outside appearances are rather deceiving. One of the best guides is to examine the seeds. Colour varies a little, but when they are black or dark red the fruit is ripe, and even if only half ripe they are very sweet. It may not always be desirable to gather as soon as the seeds have changed colour. If the Apples are not falling off the trees it may be better to leave them for a time, especially those that are to be kept for some time after they are gathered. If gathered before they are fully ripe they are liable to shrivel. Keeping also makes some difference. In large establishments it may be remarked that a thorough crop of fruit is not available. Small growers may store their crop in a cellar if there is not too much moisture, or any cool cupboard where the change of outside temperature does not affect them. Nothing should come in contact with the Apples that is likely to affect the flavour. Dry, clean boxes or trunks may be used, or perfectly dry, clean boxes lined with clean paper; no printed paper should be employed. The time of keeping much depends upon how the Apples are packed. A box of Apples with one leaf and one leaft among sound fruit will cause the rot to spread.

APPLE BERRY. See BILLARDIERA.

APPLE-BLOSSOM WEEVIL (Anthonomus pomorum).—Apple Mussel Scale (Aphidius conchifera).—Apple or Codlin Grub (Carpocephalus pomonana). See Insect Pests.

APRICOT. Pru'nus Armeni'aca.

APRICOT

round, and of a yellowish colour, tinted with red on one side.

LARGE EARLY, or PRECOCE.—Ripens next in order. An obovate fruit, of a palish-orange colour, with a very agreeable juice.

3. Blenheim, or Shipley’s.—One of the most useful Apricots is the Blenheim. It can only be grown to the Moorpark, it is a much greater bearer, and a sure ripener. An oval fruit, middle-sized, and of a palish-yellow colour. This kind is allied to the Moorpark; would recommend the “Shipley’s” to the potter, as being a hardier and a larger tree, and a much sure bearer. Besides the above, there are the Black, the Almond, Musch-Musch, very sweet of the Breda section; the Orange, bitter for preserving than dessert; a good bearer; the Roman, another good bearer; the Turkey, a useful late variety; the Kalsha, a Syrian kind, delicious, and possessing a sweet kernel.

Culture.—Those who wish to gain time may plant successfully in the first or second week of October; any time, however, from that period until the early part of March will do.

Soil, or Soil.—In my experience, the loam, and rather unctuous loam is best, using a little ordinary vegetable matter, but no manure, unless on the surface. See Mulching. Do not make the soil deeper than 18 inches. See article Sections.

Aspect.—A south aspect is best in the northern parts of the kingdom; but the east and west frequently produce superior fruit in the southern counties, where very severe frosts are the rule.

Training.—The branches should be on an average from 6 to 8 inches apart, and kept as horizontal as possible. The espalier is a very good form; but the ordinary kind is more adapted, if care be taken to pinch over-luxuriant shoots in the spring.

Pruning must be regulated by the knowledge that, with the exception of such as the Moorpark, many varieties keep ripening fruit one season after another; in the Moorpark mostly on spurs two and three years old.

Summer Pruning.—Take off all fore-going shoots, and others that are irregular and misplaced, reserving those which are vertically growing, for next year’s bearing. If done early in May, the finger and thumb will supersede the necessity for the knife. Continue to nail the shoots to the wall, as necessary, during the summer, tying down or nailing in all short shoots, jointed, weak-looking sprays. Very vigorous shoots may be stopped early in June, and be thus induced to put forth more fertile laterals.

Hayter’s.—This may be done as soon as the leaves have fallen, though it may be carried on until the buds begin to swell, in March. Cut out any naked-looking shoots not more than four or five years old, avoiding the more vigorous laterals, and the shoots of the previous year; they are apt to be weak-looking sprays. The practice of “Hayter’s” is to train the fruiting shoots in a certain direction, and to remove all decaying or imperfect points be pruned off.

Estates are to be formed on those walls; standards only requiring dead, crowded, or chafing branches to be removed.

When an Apricot is diseased, it is much more profitable to replace it by a younger, than to attempt its renovation.

Training should take place before the fruit is dead ripe, or it will be mealy.

Thinning should commence as soon as the fruit is large enough for tarts, in May, or early in June; no fruit being left nearer, finally, than about 5 inches to another. The thinning may be done, however, at twice.

Insects.—Waps and flies are best kept off by a net, at least a foot from the wall. See Earwig, SEMASIA, and Arum.

Mildew is often the most formidable assailant of the Apricot, as it usually arises from excess of moisture to the root. Draining the border, and mixing lime with the soil, has, in such cases, been found an efficacious as a preventive; and, at the same time, sulphur, as a well-known and powerful antagonist of the mildew, may be carefully dusted over the tree.

Protection of Shoots.—We know of no fruit that more requires or deserves the fostering care of the gardener than this. Blossoming, as it frequently does, in the end of February or beginning of March, it must expect to be nipped, and even killed, by the first hard frost. It is what is much worse, to be subjected occasionally to a temperature of some ten or fifteen degrees of frost. We have ever found it the best policy to protect carefully, using a rather thick covering, and taking care to remove it on every possible occasion. Nothing can be better than a stout canvas. Some, however, use bunting; some, ordinary garden-mats; and not a few, the frosts of fern, spruce-branches, and even strips of straw.

General Maxims of Culture.—First of all, a sound, loamy soil, with very little manure, is most suitable. It is well, nevertheless, in order to gain time, to use a little generous manure, although I think the manure should all persist in summer stopping, in order to equalise growths; and, thirdly, after careful summer training, to remove all superfluous spray which shades the embryo fruit buds in the end of August. In addition to this, top-dressings in May, and the application of liquid-manure, when the fruit commences the last swelling, will be found useful adjuncts of high culture. Apricot-branches, especially the Moorpark, are, for some unexplained but not apparent reasons. By persisting in the tying-down system, however, a succession is ever ready for any gap.

AQUARIUM is the place devoted to the cultivation of aquatic or water-plants. The majority of those cultivated are exotic, and require the protection of glass. If there are only a few of these, they may be successfully grown in cisterns, placed in a stove; but the larger collection can be extensive. It requires a separate edifice. The
tank-system of heating by hot-water offers a very superior mode of keeping the water at a fitting temperature. The leaden cistern in which the plants are submerged may be of great size, but unless its glass sides are forming the cover of the tank. The handsome form for this purpose would be a circular building, devoted entirely to the aquatics, because they do not thrive satisfactorily in pans or containers in which other plants are cultivated. The size will depend upon the will or the means of the owner. If the cultivation of the imperial *Victoria regia* is intended, it ought not to be less than 26 feet diameter. This will allow a tank of 20 feet diameter, and a walk 3 feet wide round it. To make it hold water, the sides should be made of thick slates, fitted so as to be water-tight; or it may be built with bricks set in portland cement, which is not unfrequently done. It should be at least 3 feet deep, for the *Victoria* loves deep water. The water should be heated with 43-inch hot-water pipes, coiled three times round the tank, and two pipes should be carried round the house, near to the outer wall, to give heat to the air of the house. The roof should be formed with wrought iron bars, and should be flat, as far as possible, to allow the rain-water to run off freely. The *Victoria* should be planted on a mound of strong earth, the base of which should be, at the least, 5 feet in diameter, and the top 2 feet, and it should be brought up within a foot of the surface of the water. You will have a motion given to it by means of a vertical wheel, with narrow boards affixed to it at right angles, at 6 or 8 inches apart. This vertical wheel should dip into the water a few inches, and should play upon an arm in the middle of a small stream of water falling constantly upon the boards. This wheel will give a gentle motion to the whole surface of the water, which motion will be a faint imitation of a stream, and will be very satisfactory to the plant. The heat of the water should be never lower than 70°. Air will be necessary in the hot days of summer, and may be given by means of shutters in the walls, 8 or 9 feet apart, and a circular opening in the roof, at the centre, 3 feet in diameter; this part may be easily contrived by any mechanic, to lift up and fall down by a simple machinery. This will cause a circulation of air, necessary in all habitations of plants. If the *Victoria* is not intended to be grown, the house need not be more than half the size.

The *Victoria* house at Chatsworth is a noble structure for the purpose. It is, however, the opposite to our least idea of an aquarium, being circular, with a circular tank in the centre, and the corners filled up with eight small tanks, in which are grown one plant of a kind of other fine, stave aquatics. A walk runs round the central tank, and that tank is intersected by a second one formed on one side of the square. A walk, too, is formed into each corner; and a walk runs close along the front, thus forming the small tanks alluded to above. The diameter of the central tank is 17 feet. This is an idea of this truly noble aquarium; but very few cultivators will choose to go to the expense of erecting such a house.

The following are aquatic stone plants:—

Aponogoton angustifolium.  
*"* distachyum.  
"*monostachyum.  
Cyperus alternifolius.  
*"* Papyrus.  
Damasonium alismoides.  
Elechornia speciosa.  
Euryale ferox.  
Hydrocleis Commersonii.  
Limnanthemum indicum.  
Limnohyton obtusifolium.  
Monochoria hastataföia.  
Nelumbo species.  
Nymphaea Lotus.  
"* rubra.  
"* stellata.  
"* carulæa.  
Philydrum lanuginosum.  
Pistia Striatætes.  
Pontederia cordata.

**Propagation and Culture.**—Being all herbaceous plants, the seeds are raised from seeds, which, in general, should be sown as soon as ripe, and the pots plunged in shallow water. When the plants come up, they may be transplanted into other tanks, and placed in a pot of sufficient size to admit their flowering, which will generally take place the same season. Instead of being kept in pots, the plants may be inserted in a bed of gravel, to which they adhere greatly, and which is kept warm, say from 70° to 75° in summer, and leave them nearly dry in winter. *Nelumbium speciosum* requires a water heat of 64°.

**Compositions.**—Nymphæa, Hydroula, Hydrocharis, Sagittaria, and Pontederia, will furnish variety enough.

**Aquarium for Hardy Aquatics.**—For this choose the side of a building, as soon as soil is to be brought in a moderate depth; it may either be of a regular form, as a circle or oval, or irregular, which latter we prefer, with a bay in one part, a jutting promontory in another, a shelving shore here, and a little shrub, or island, there. However small the piece of water may be, a little good taste and judicious management will have the best effect. Having formed the shape of the tank, and digging out the soil to the required depth of the water, the best point is to fill it with hot water. There is nothing better than clay for this purpose: it will require preparing to make it retentive of water. Take a small portion, say a barrel-load, and chop it into small pieces with a sharp spade. If it be dry, add, as a little water to it; then, with a wooden hammer having a long handle, beat it well till every part is of a uniform consistency, having the appearance of clay dough. Spread this over the bottom to the depth of perhaps about 8 inches thick. Proceed with mixing up and beating barrel-load after barrel-load till the bottom is entirely covered; then either put on a pair of wooden-soled shoes, or go on it with bare feet; the last is the best way. Treat the prepared clay firmly, closely, and evenly down. Do this well and properly, and the bottom will never leak. As soon as this is done, beat it with the wooden hammer firmly against the walls and sides. If the secret is well conducted, it will not be too thick for the sides. Remember, the more firmly the clay is beaten to the sides, the better it will hold water. The clay must be quite pure—that is, have no stones or gravel left among it. If there be any such left, they will serve as conduits for the water to escape by, and all your labour will be in vain. Proceed with adding layers of clay upward, until you reach the level you intend the water to be. Carry the clay-puddle 2 or 3 inches higher, level the natural soil down to it, and let this soil be 2 inches or more higher than the clay. This will prevent it cracking away from the bank. Your aquarium is now ready for the watering. If you intend to filling it, however, cover the bottom, upon the clay, with a coating of loam, 4 inches thick. This is intended to encourage the water-plants to root in, and to cause them to grow finely. If you can procure a sufficient quantity of rough stones or pebbles, place them against the banks. These will prevent the water from washing away the clay-puddle. All being now ready, let in the water.

**Planting.**—As soon as the aquarium is full of water you may plant the aquatics. The best mode is to have some wicker baskets of various sizes, to suit the size of each plant, with some cafeine mixed with clay, inserted in them and watered; and then place them firmly down with some strong thread or twine passing under the rim of the basket, so as to keep in the soil and the plant. Throw either a plank or a long ladder across the water. On this you can walk, carrying the plant with you. Drop it into the place you intend it for, and so treat all the other...
AQUIFOLIACEÆ. See Ilex.

AQUILLA. (From aquila, an eagle, locally called Eagle-wood in Malacca.) Nat. ord. Aquiliariads [Thymelaeaceæ]. Linn. 10- Decandria, 1-Monogynia.

The Eagle-wood is the inside of the trunk of Aquilia malacca nissis and A. Aga'lock-stemmed cordial in Asia. It is generally used in the best Ashley's thinning is in the United States, and under a blue vase. Sandly, loam, with a little peat. Summer temp. 65° to 72°; winter, 55° to 60°.


AQUILEGIA. Columbine. (From aquila, an eagle; in reference to the form of the petals. Nat. ord. Crow-foots [Rununculaceæ]. Linn. 13-Polyandra, 5-Penta'nyx.)

Seeds in March; common soil. Seedlings flower sometimes the first time, but generally the second season. All hardy herbaceous perennials.


A. arctic (arctic). See A. formosa.

A. atopolpurp'urea (dark purple). See A. Viritiflora.

A. fischerìa (Fischer's). See A. Viritiflora.

A. ju'nea. See A. Chrysanthæ.

A. brunnal nissis (G. C., 1900, xxvii. 479). Flowers a combination of blue, white, and green.


A. bi'color. See A. Sibirica.

A. brachyc'eras (short-purged). See A. leptòceras.

A. car'lea. 2. Blue and white. Rocky Mountains. 1864.


A. chrysa'nia. 2 to 4. Yellow. California. 1873.

A. Chrysanthæ. 1. Yellow, white. Of garden origin.

A. califor'nica (Malacca). 1847.


A. chrysa'nia. 2 to 4. Yellow. California. 1873.

A. Chrysan'thæ. 1. Yellow, white. Of garden origin.

A. califor'nica (Malacca). 1847.


A. gradìfòra (large-flowered). See A. Glándulosæ.

A. helé'næ (G. W., 1902, 104). Garden hybrid between A. flavifolia nana alba and A. can'ernæ.


A. juc'unda (joyous-looking). See A. Glándulosæ.


A. long'is (long). Yellow, straw, or reddish. Texas and Mexico. 1880.

A. macra'niha (Fl. Ser., t. 531). See A. Cere ula.


A. Reut'eri. See Botologi.


A. specío'sa. See A. Sibirica.

A. Spéci'la. See A. Sibirica.

**ARABIS** Wall-cress. (From Arabis, probably in reference to the dry situations where many of the species grow. Nat. ord. Crucifera or Crucifers [Cruciferae]. Linn. 15-Teutadynamiata. A number of rock plants and ornaments; seeds in March or August; cuttings under hand-lights; common soil. Hardy perennial trailers, except where otherwise specified.


uary. Gardens.


1996.


1856.


1809.

*crispa* (curled). See A. alpina.

*curvisquis* (short-podded). See A. hirsuta.

*dasyca* (thick-podded). See A. auriculata.

*flavidula* (signal). See A. serpyllifolia.


*holboellii* (Halle's). 1. Lilac, August. N. Amer. 1836.


*halleri* (signal). See A. hirsuta.


*longifolia* (long-leaved). See A. ilicace.


*muralis* (mural). Spring and summer. Italy.

*ro sea* (B. M. t. 3240). Rose. 1832.

*nana* (nudicaulis). See A. Allioni.

*ovirite* (ovirites). See A. Halleri.


**ARALIA** A synonym of Rondeletia.

**ARALIA** (Meaning unknown. Nat. ord. Ixywords [Araliaceae]. Linn. 5-Pentandria, 5-Pentagynya.) Aromatic gum-resin is produced from the root of A. racemosa, or *A. racemosa*. The young shoots of A. edulis are used in China as a delicate vegetable, and in North America the shoots of A. nudicaulis are used like sarsaparilla. Hardy species, division of the plants, and sublimation of the roots. Brownhouse and greenhouses are used. Cuttings of the ripe, in a gentle heat, strike quickly. Sandy loam and peat; common treatment. All stove evergreens, except where otherwise specified.

*A. aculeata* (prickly). See Brassidae.

*A. amboinensis* (Gartenzelt, 1530).

*arbores* (tree). See Dendrophax.


*cachon* (C. F. 1883, 320). Cashmere.

*calcaria* (toes). See Dendrophax.

*chabrii* (Chabrii). See Elboedendorf orientale.

*chinese* s. White. 1838.

*dial* (Dial).

*cochleata* (shelled-leaved). See Nanax.

**ARACHNE** A synonym of Rondeletia.
ARALIA

A. cordata. Japan, 1843.

Arasitifolia (thick-leaved). See Psudopanax.

A. bidwillii (B. Jack.), New Caledonia, 1883.
A. scabrosa (thorny). See Psudopanax.

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A. bidwillii (B. Jack.), New Caledonia, 1883.
A. scabrosa (thorny). See Psudopanax.
A. angustifolia. Green, white, purple. Uruguay. 1865.


green. See A. grandiflora.


ARBORUM is a collection of trees and shrubs capable of enduring exposure to our climate. These are somewhat different in general. According to their prece- dence in the alphabet; but best in groups, conformably to the natural system; and, whichever is adopted, it is quite compatible with an attention to facility of access by means of walks, as well as to picturesque effect.

ARBOR VITAE. Thu'ma.

ARBOR is a seat shaded by trees. Sometimes these are trained over a wooden or iron trellis-work, mingled with the everlasting sweet-pea, clematis, and other climbing, sweet-scented plants. When the trellis-work is complicated, and the structure more elaborate, with a preponderance of the climbers already named, together with the honeysuckle, &c., they are described as French or Italian arbours.

A. alpina. See Arcostaphylos Alpina.


A. angustifolia (andraceh-like). See A. HYBRIDA.


A. laurusfolia (laurel-leafed). See A. XALAPENSIS.

A. Menziesii (Menzies'). White. N. Amer. 1827.


A. phyllochlorophylla (philphilae-leaved). See PERNETTA.


A. tomentosa (woolly-branched). See Arcostaphylos Pungens.


Croc'men. See var. A. RUBRA.


See A. Arcostaphylos Uva-Ursi.


Reddish-white. April. Mexico.

ARCADIA is a walk arched over with trellis-work, and this covered with climbers.

ARCHANGEL, or WHITE DEAD NETTLE. La'mium annum.

ARCHANGELICA. (From A'rbis, arch, chief, and angieca, from its supposed virtues. Nat. ord. Umbellifera [Umbellifera]. Linn. 5-Partendria, 1-Monogynia.)


This is the same as Angelica Archangelica. There are two other species, but worthless. Seeds in April; common soil.

ARCHONTOPHYSIS. (Greek majestic phlox). Palmsce; tribe Areceae. For culture, see PALMS.

A. Alexandra (H. Wendl. and Drude). 70. Also known as Psychosperma Alexandriae. Queensland. 1870. 'cunninghamiana' (H. Wendl. and Drude). 60. Also known as Seaforthis elegans. Queensland.

ARCTANGUS. (From Greek word for bear, probably alluding to the shape of its root.) Cultivated in Japan for the roots as a vegetable.


ARCTOSTAPHYLOS. (From arctos, a bear, and staphyl, a berry. Bears the fruit of some species. Nat. ord. Heathwoors [Ericaceae]. Linn. 10-Decandria, 1-Monogynia.)

Hardy plants, requiring treatment similar to Arbutus.


arguta. Calyx red, corolla white. Mexico. 1836.

calif'onica. A variety of A. Uvawursi.

cordifolia. See A. TOME'SIAR.

di scorol. See A. ARGUTA.

gla'vea. 8 to 24. Fruit red. California. 1887.


Manard'is (B. M., t. 8128). California.

naveled'is (N. D. C., 1868, 18). California.

nii'da (shining). See A. ARGUTA.


Mouth of Columbia River.

nu'da. With glabrous branches.


Evergreen trailer.

calib'rosa.

ARCTOTHECA. (From Arctos, a bear, and theke, a capsule or capsule, seeing as rough as a bear. Nat. ord. Compositae [Compositae]. Linn. 19-Synesis, 3-Fructanea. Allied to Arctotis.)

Greenhouse herbaceous perennials. Division of the plant; stem and leaves. Summer temp., 90° to 65°; winter, 40° to 45°.

A. grandiflora (great-flowereled). See A. REFEND.


ARCTOTIS. (From arctos, a bear, and ous, an ear. Shaggy fruit. Nat. ord. Compositae [Compositae]. Linn. 19-Synesis, 4-Necessaria.)

General treatment same as for Arctotheca. Many are easily propagated by cuttings in sand, under a bell-glass, in a s. a. a. cool place, and a few by seeds. All greenhouse evergreens, except where otherwise specified.


arbor'esca (tree-like). See A. ASPERA ABORESCENS.


A. *aspera* arbore'scens. 2. White, pink. 1818.


* sea'br. Syn. A. *maculata*.

* undul'a, Syn. A. *au'reola*.

* aur'ola (golden). See A. ASPERA UNDULATA.

* auriculo'sa (ear-like). See A. ASPERA INCISA.

* bellidi'olia. Syn. A. *paniculata*.

* bi color (two-coloured). See A. ASHERA CICHORIACEA.


* cue'prea (copper-coloured). See A. ASPERA UNDULATA.

* dec'ima (decumbent). See A. STECHADIFOLIA.

* dec'urr'ent (decumbent). See A. ANGUSTIFOLIA.


* spini'ola. Syn. A. *spinulosa*.


* glabra' sa (smooth). See A. LEVIS.

* glaucophy'lla (milky-green-leaved). See A. CANDIDA.

* grandi'flora (great-dowered). See A. LEVIS.

* gra'n'da, Syn. A. *stachadifolia*.


* leichthin'a ni. Probably the same as *A. revoluta*.

* lepto'rhin'i. Orange-yellow, coppery outside. Cape of Good Hope. Annual.

* brevica'pa. Short flower-stalk.

* longisca'pa. Long flower-stalk.

* macula'ta (spotted). See A. ASPERA SCABRA.

* melanocy'cla (dark-circled). See A. ASPERA.

* panicu'lata (panicled). See A. BELLIDIFOLIA.

* panicu'lia (plantain-leaved). See VENTIDIUM SEMI'FAPPUSUM.


* ro'sea (rosy). See A. STECHADIFOLIA.


* speci'ol (showy). See A. ACALIS.

* spinulo'sa (small-thorny-leaved). See A. FASTUOSA SPINULOSA.

* squarro'sa (squirellous). See A. LEVIS.

* stekeha'di'o sa. 2. White, lilac outside. S.W. Africa. Cape of Good Hope. 1824. Perennial, deciduous, and *A. rosa*.

* tri'color (three-coloured). See A. ACALIS.

* undul'a' ta (wave-leaved) of Jacquin. See A. ACALIS.


**ABCUATION. The same as LATERING.**

**ARDYSIA.** (From ardys, a spear-head; in reference to the sharp-pointed divisions of the flower. Nat. ord. Aridis[dae] [Myrsinaceae]. Linn. 5-Pendandria, 1-Monogram.)

Half-opened cuttings from the stem, or pieces of the roots inserted in light soil, and placed in strong heat, soon root; also by seeds, which require a rather long period to vegetate; peat and loam. Summer temp.; medium; winter, 40° to 55°. Stove evergreen, except where otherwise specified.


* cori'a'ceas (leathery). 7. Scarlet. Antilles. 1824.


**A. crenula'ta.** See A. CRENULATA.

* elegans (elegant). See A. CRENULATA.


* Hymena'nda (membrane-athered). See HYMENANDRA WALLECHII.


* lenig'entosa (speckled). See A. CRENULATA.

* litorpa'lis (side-sea). See A. HUMILIS.


* neri'fiso ta. Pink. Himalayas. 1824.

* odorop'hyllo' sa (toothed). See A. CHINENSIS.

* Olera'ceo (potherb). See OREODERX OLERACEA.

* oliva'ceo (potherb). See *OLIVEA* OLIVACEA (potherb).

* orb-am'dus. 3. July. Cape of Good Hope. 1812. Syn. A. ... See XEPHROSPERMA VAN.

* norma'ni. 60. Australia.

* olera'ceo (potherb). See OREODERX OLIVACEA (potherb).

* pinanga. [Myrsinaceae].

* spinulo'sa. 1826.

* spinulo'sa (saw-leaved). See *ARECA* SPINULOSA.

* E. 1826.

* Jul.'s. 1812. Syn. A. *per'pusa.


, ru'bra (red). See ACANTHOPHYLLUM. 
, sa'pida. See RHOPALOSTYLOS SAPIDA. 
, spectabilis. See SYNAPTRA GRANDIFOLIA. 
, specio'sa. See HYPOPHYRACE AMARICULAS. 
, tria'ndra. 20. E. Ind. 1825. 
, ves'iculosa. See HYPOPHYRACE."
ARETIA. (Named in honour of a Swiss professor, Aretilus. Nat. ord. Primeworts [Primulaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Division of the roots in spring or autumn; sand, loam, and peat. They cannot bear stagnant water; are good for rock-work; all but one, hardy herbaceous perennials.

A. alpi'na (alpine). See ANDROSACE GLACIALIS. 'arge'na (silvery). See ANDROSAE IMBRI'CATA. 'hab'ris (Swiss). See ANDROSAE HELVETICA. 'phyl'scaens (downy). See ANDROSAE ALPINA. 'vitalis'na (Vitalis'). See DOUGLASSIA VITALIANA.

ARGARIA. (From argam, its aboriginal name. Nat. ord. Sapotads [Sapotaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Find stowe, hard-wooded, evergreen timber-tree; layers and cuttings in autumn or spring; the latter in close frame. Summer temp. 60° to 70°; winter, 45° to 55°. The specific gravity of the wood is so great that it sinks in water.


ARGEMONE. (From argemma, a cataract of the eye; in reference to its medicinal qualities. Nat. ord. Poppy- worts [Papaveraceae]. Linn. 13-Polyandria, 1-Monogynia.)
The seed of A. mexi'can'na is the Fico del inferno (infernal fig) of the Spaniards; a purgative and powerful narcotic, especially if smoked with tobacco. In the West Indies they are used as a substitute for ipecacuanha. Harveset when ripe; fruit, half-ripened or ripe, to be used in culture, or (in the greenhouse; one, striped purplish-brown, see RHEUM HEMATOCRATUS (a purgative). Greenhouse.


ARGO'LIA. (From argo, white, and lasios, woolly; the perianth being velvety-white. Nat. ord. Bloodroots [Hamadoraceneae]. Linn. 6-Hexandria, 1-Monogynia.)

A small greenhouse plant, of easy culture, but must not get dry; division of the roots; sandy loam and peat. Summer temp. moderate; winter, 40° to 45°.

A. pli'mo'sa (feathery). See LANA RIA PLUMOSA.

ARGY' LIA CANE'S CENS. (B. M., t. 7444.) Bignoni-a-ceae. Shrubs, 9 in. long and 3 in. wide, producing annually flowering stems 18 in. high, bearing alternate leaves resembling those of the carrot, and a terminal cluster of tubular flowers 1 in. long and 14 in. across; colour bright yellow, with red streaks in the throat.

ARGYRE'TA. Silver-wool. (From argyros, silvery; in reference to the silvery hue of the leaves. Nat. ord. Bindweeds [Convolvolaceae]. Linn. 5-Pentandria, 1-Monogynia.)

All stowe evergreen twiners. Cuttings, half-splitened wood, in sand, under a bell-glass, in April, and in nice bottom-heat; rich loam and peat. Summer temp. 60° to 75°; winter, 50° to 60°.

A. ac'ula (China). 

bo'na-no'x (night-flowering). See RHEUM HEMATOCRATUS. 'capita's (headed). Purple, July. E. Ind. 1823. 


rophyton dougl'as'ili. See ARGYROPHYTON DOUGLASSI.

ARGYRO'PHEUM. (From argiros, silver, and Xiphion, a corn-dag; in allusion to the leaves. Ord. Compositae.)


A'RIA. For culture, see PYRUS. Refer also to SORBUS.


ARISE'MA. (From arum, an arum, and sana, a standard; in reference to the close affinity to Arum. Nat. ord. Arasid [Aroidae]. Linn. 21-Monocas, 9-Polyandria.)

Tuberoous-rooted perennials. Division of its tubers; loam and peat.


bake'ria (G. C., 1897, xx. 332). 

con'sic num (B. M., t. 951). 2. Spathe striped white and green, or white and purple; spadix, green-purple. 

cursa'tum (B. M., t. 5934). 2. Spathe striped white and green, or white and purple; spadix, green-purple. 


ennaphy'tum (Gth, 1824, 576. f. 103). Arabia. 


ra'cem (B. M., t. 7700). Himalaya.

gale'a'tum. Spathe green, with white ribs; spadix white. May. Sikkim. 1879. 

Gira'idii (B. T. O., 1853, t. 12). 

Gris'ibi (1 to 14). Spathe brown-purple, with green veins; spadix brown-purple. Siklikim. Spring. 1879. 

japo'nicum (B. M., t. 7920). China; Japan. 

leschena'ni (Gth, Green, white. Ceylon. 1864. 


gle's cium. Green, Ceylon. 1864.

carpel sum. See A. Lescennaulatil. 1837.

† penanthophyllium (five-leaved). India; China. 1879.


† pelichanum. Spathe green and white; spadix green. Spring. India. 1879.


† pedicis (white). Green, white, purple. Japan. 1889.

† pedicis (Steboldi). Japan. 1857.


† torusum (twisted). Himalaya. 1887.


† Wightii. See A. neglectum. 1889.

ARISA'RUN. (Name of Greek origin. Nat. ord. Aroides [Araceae].)

A genus of half-hardy, herbaceous plants, allied to Ariosum. Unisexual flowers, the spadix having no rudimentary flowers. Heart-shaped or spear-shaped leaves on long stalks. Raised by seed or division of the root in spring; sand, loam, and peat compost.


† dictodium (torked). S. Africa.

† Echinoi (Eekon's). S. Africa.


ARISTOLOCH'IA. Birthwort. (From aristos, best, and locheia, parturition; its supposed medicinal character. Nat. ord. Birthworts [Aristolochiaceae]. Linn. 1753.)

Herbaceous and climbing plants, the first by division of the roots; hardy climbing ones by division of the roots, and layers in spring or autumn. Stove plants; cuttings of the root, in sand, in heat, in close frame. Sandy loam for the hardy; peat and loam for the tender kinds. Temp. for the latter, summer, 65° to 80°; winter, 55° to 60°.

HARDY.


Deciduous climber.


† chlorophaea. Herbaceous half-hardy.


† murendae (Muniera). See A. glaznovii.


† pa'illa (pale-flowered). 2. White, purple. Italy. 1650. Deciduous perennial.


† pon'tica (G. C., 1902, xxxi. 333, f. 113). Greenish-purple. 1537.

† sagittata (arrow-shaped). See A. Serpentaria.


GREENHOUSE.

A. alici'sima (B. M., t. 6586). Yellow, brown. June to August.


† ca'ddici (fringed). See A. fimbriata.


† dammeria'na (thirty). See A. Fimbriata.


STUFE.


† brasile'na (Brazilian). 20. Purple, netted brown. Brazil. 1820.


† co'ntarica. White, deep purple. Colombia. 1791.

† cordifolia. 30. Creamy-yellow, lurid purple. Mexico. 1871.


† dammeria'na (G. C., 1835, xvii. 432). Climber. Central Amer.

† delos'tas (variegated). Leaves variegated with white. Colombia. 1830.

† Ducha'rtrei. See A. Ruiziana.


† f'legus (thirty). See A. Fimbriata.


† galea'na (fringed). See A. Fimbriata.


† lan'ica (fringed). See A. Glandiflora.


† lio'bia (fringed). See A. Glandiflora.


† pal'lica (pale-flowered). 2. White, purple. Italy. 1650. Deciduous perennial.


† pon'tica (G. C., 1902, xxxi. 333, f. 113). Greenish-purple. 1537.

† sagittata (arrow-shaped). See A. Serpentaria.


ARISTOLOCHIACEAE 69

A. kast'sa (halbert-leaved). See A. PENTANDRA.
A. maccou'ra X Brande'sis. Hybrid.
A. odorat'sa (sweet-scented). See A. PANDURATA.
A. rid'i'cua (B. M., t. 6534). Tawny, with purple-brown veins.
A. r'ingens (gapling). See A. BRESILIENSIS.
A. ros'bruh'a'na. September. India. 1881.
A. sal'majus (G. C., 1886, xvi. 456, 457, ft. 92). Climber ; flowers cream-coloured, with purple veins. Paraguay.
A. t'ri'ida (three-cleft-leaved). See A. TRILOBATA.

ARISTOLOCHIACEAE. A remarkable order of plants, with curiously inflating flowers, consisting of a calyx of a dull tint. It is generally known as the Birthwort family, and includes Aristolochia Clematidis.

ARISTOTELIA. (In memory of the great Aristotle. Nat. ord. Lindenblooms [Tiliaees]. Linn. xx-Dodecania, 1-Monogynia.) This genus has been placed among Hamaliads, or Philadelphiais, by some botanists; but Dr. Lindley says (Veg. King, 377) it has most affinity to this order. A. Ma'cque produces edible berries, of a dark purple colour, and wine is made from them in Chili. It is a hardy evergreen shrub. Layers in autumn, and cuttings in April, in sand, under a hand-light. Common, sandy soil.

A. racemo'sa. 6 to 20. New Zealand. 1873.

ARMENIACA. (From Armenia, the native country of the apricot. Nat. ord. Almondworts [Rosaceaes]. Linn. xx-Dodecania, 1-Monogynia.) Hardly deciduous trees; generally budded in summer on plum-stocks, but some use apricot seedlings for budding peaches; rather heavy, loamy soil. See APRICOT. Also referred to Prunus.


ARMERIA. Thrift. (The Latin name for the Sweet William. Nat. ord. Leadweeds [Plumbaginacees]. Linn. x-Pentandria, 1-Monogynia.) All hard herbaceous perennials, except when otherwise specified. Division of the plant; seeds in spring; sandy, loamy soil. The tender kinds will require to be well drained and must receive the protection of a frame or pit, during winter.

A. alli'a'cea (garlic-leaved). See A. PLANTAGINIA LEUCANTHEA.
A. aren'rais (sand). See A. MARITIMA.
A. cephalo'tes (head-headed). See A. LATIFOLIA and A. MARITANICA.
A. der'nic'osa (pink-like). See A. PLANTAGINEA.
A. Greenhouse evergreen shrub.
A. hi'ra (hairy). See A. BIZAN'TIKA.
A. hu'milis (dwarf). See A. CESPITOSA.
A. junipho'tos (juniper-leaved). See A. CESPITOSA.
A. lit'or'is (seashore). 1. Pink. July. South of Europe.
A. Gardens.
A. aur'ina (mountain). See A. MARITIMA.
A. scor'zonera'fo'lia (scorzonera-leaved). See A. PLANTAGINEA.
A. undu'la (W. G. 1888, 325). See A. ARGYROCOPHELEA.
A. vul'ga'ris (common) of Wildenow. See A. ELONGATA.

ARMERIA'STRUM. See ACANTHOLINUM.

ARNEBIA. (Arabic name of the plant. Nat. ord. Boraginacees.) Allied to Lithospermum. Cultivated from side-shoots taken off close to stem during the autumn and placed in close frame. A. echinoides may be propagated from root cuttings. All are hardy.

A. Afghanistan. 1885.
A. echino's (B. M., t. 4090). See MACRATOMIA ECHINOIDES.

ARNICA. (From arnicas, lamb-skin; in reference to the texture of the leaves. Nat. ord. Compositae [Compositae]. Linn. xx-Syngeissia, 1-Poteriaceae. Allied to Groundsel.) Hardy, dwarf, herbaceous plants; division of the plants in spring or autumn. They like a little peat incorporated in their beds, and are grown in the bog-earth. Tincture of Arnica is used as a medicine. A. Aro'nicum. See A. SCORPIOIDES.
A. Bellidia'cea. See A. BELLIDIA STRIATA.
ARNOLDIA. See Dimorphotheca.

ARNOPHOLIUM. From arnica, lamb-skin; in reference to the softness of the flower-heads. Nat. ord. Composites [Compositea]. Linn. 19-Syngenesia, 2-Superfina. Referred to Doronicum.

A. altalicum (Altalic). See Doronicum alticum.

ARROW-GRASS. From arro, a scimitar, and phyllon, a leaf; alluding to the shape of the leaf. Nat. ord. Orchidaceae. 

Evergreen epiphytes may be grown in peat, sphagnum, charcoal, and crocks, and require plenty of water while growing. To flow from them well they must be well exposed to the sun after they have made growth.


ARRAGACIA. (Its Spanish name in South America. Nat. ord. Umbelliferae [Umbelliferae]. Linn. 5-Pentandria, 2-Digynia. Allied to Conium. U. cardiata, a native of the tableland of Grenada, produces large esculent roots not unlike parsnips, but of a better quality. Stove tuberous perennials. Division of the roots; rich loam. Summer temp., 70° to 85°; winter, 50° to 60°.


A. esculent (estable). See A. Xanthorrhiza.


ARRHENATHERUM. From arrhen, a male, and ather, a flower; on account of the awns on the male spikes. Nat. ord. Grasses [Gramineae]. Linn. 25-Po-lygammia, 1-Monacca.

This genus really should be reunited to Avena.
ARTICHOKE

in all members the same.


cana (2 to 3). Yellow. N. America. 1800.


hispanica. See A. BIENNIS.

inodora. See A. CAMPESTRIS.


lama (Late). Spain, Italy; Tauria. 1804.


leucineis (Leucineis). See A. CAMPESTRIS.


marshalliana (Marshalls?). See A. SPLENDENS.


orspinosa (oriental). See A. AUSTRIACA.

Pallasii (Pallas's). See A. BOREALIS.


pellicula (stalked). See A. SPLENDENS.


potentilleflos (potentillaleaved). See A. ARMENICA.


repens (creeping). See A. AUSTRIACA.


sacca bila (rock). See A. CAMPESTRATA.


Syn. A. penduncularis.


tenuefolia (slender-leaved). See EUPATORIUM UNCILACUM.


trientalis (Spath. Cat., 1804-93). Western N. America.


valeniaca (Valentine). See A. HERBA-ALBA.

vulgaris (common wormwood). 1829.


Wolfesii (Wullen's). See A. MUTELLLINA.

ARTHrophyllum MADAGASCARiae See Pattia ARTHRYPHYLLUM.

ARTHROPODIUM. (From arthrop, a joint, and pous, a foot; in reference to the flower-stalks being jointed. Nat. ord. Liliaceae [Liliaceae]. Linn. 6-Elatioria, 1-Monogynia. Allied to Anthurium. Greenhouse herbaceous perennials, except where otherwise specified. Seeds, offsets, and suckers. Sandy loam and a little peat, or leaf-mould. Summer temp., medium; winter, 40° to 45°.


frondis (fringed). See DICHOGONON SIEBEBEANS.


nec-o-calado'nicum. 12. White. May. New Cala-
don.


pendulum (pendulous). See A. PANCULATUM.

ARTHROPTERIS. See NEMPHRODUM and NEMPH-
RIS.

ARTHROSOLEN. (From arthros, a joint, and sola, a tube; the flowers are jointed. Nat. ord. Thyme-
leacae.)


spica tus. See A. MYRTACEE.

ARTHROSTEUM. (From arthros, a joint, and stema, a crown; the flower-stalks being jointed. Nat. ord. Malastamos (Malastomaceae). Linn. 8-Octamia, 1-Monogynia. Allied to Osbeckia.)

Cuttings of small, firm, side-shoots in August or April, under a glass, in sandy soil. The stove species with heat; sandy loam, and a little peat or leaf-mould.


n'cidum (glossy-leaved). See TIBOUCHINA NITID.

versicolor (changeable-flowered). See TIBOUCHINA
VERSICOLOR.

ARTHROTA XIS. See ARTHROTAIS.

ARTHROCHEKE. (Cy'nara Scyiym.) Many persons have thought the vegetable refers to the almost unswallowable part of it known by the name of " the choke "; but this is quite a mistake. The word arthrotike is merely the English mode of spelling its French name, used by old authors, and was only intended to be a corruption of the Arabic name for it, alocales, which has reference to the shape of its heads being like that of the pine-apple. The Arabs prize it highly, not only for its outer coverings, but its heart, as a purgative, and its gummy exudations as an emetic.

Varieties.—There are two varieties in cultivation, the comical, or French, of which the heads are green, and the scales of their calyx spreading; and the globe, tinged with purple, with the scales curved inwards and compactly. The arthrotike is sometimes called the globe arthrotike, on account of the round outline of its heads. These heads are boiled, and the bottom of each scale, or calyx, eaten with but little difficulty. The brown of these heads, which is the part named " the receptacle " by botanists, because it is the receptacle or part containing all the members of the flower, is very fleshy, and is cooked in various ways; being, also, an agreeable diuretic and used in winter.

Propagation.—It may be raised from seed; but the most expedient and usual way is to plant suckers from the old roots in the spring. When the suckers are eight or ten inches high, in open weather, about the end of March, or early in April, select such as have much of their fibrous roots, and are sound, and not woody. The brown, hard part by which they are attached to the parent stem must be removed, and, if that cuts crisp and tender, the suckers are good, but, if tough and stringy, they are worthless. Further, to prepare them for planting, the large, outside leaves are taken off so low that the heart of the tuber is seen. The bottom of these heads, which is time separated from the stock, or if the weather is dry, they are greatly invigorated by being put into water for three or four hours before they are planted. They should be set in rows, four feet apart, and half their feet apart, and about half their length beneath the surface. Turn a large flower-pot, or a sea-kale pot, over each, and water them abundantly every evening until they are established, as well as during the drought of summer. The only other attention they require, during the summer, is the frequent use of the hoe, and an occasional supply of liquid-manure. It is also an excellent plan to have some mulch on the ground immediately after planting, and during the whole summer, and to remove all small, weak suckers about June. The plants will produce a succession of heads from July to October of the year they are planted. For about five years they will continue similarly productive during

GREENHOUSE.

A. crinum (hairy-sheathed). See HELICOIDEOS CRINUS.


A. campanu’lum (bell-shaped). See AMORPHOPHALLUS.

A. campanu’lum. Colocasia indica. See Colocasia antiquorum.

diarica’ tum (straggling). See TYPHONIUM.

head’erum (ivy-leaved). See PHILODENDRON.

dirophi’lum (entire-leaved). See AGLONEMA.


Epiphyte.

mara’'num (marginated). 2. E. Ind. 1820.

obulta’lbum (blunt-lobeled). 2. 1824.

oriz’ne’se (Orissan). See TYPHONIUM TRILOBATUM.

papa’ta’ (pedate). See SAUROMATUM.

per’rotiferum (five-leaved). See ARES/PENTA-

philhum.


May, June, and July. At the end of five years a fresh bed should be made.

No vegetable is more useful than the artichoke, because the pithy stalks are rich, deep loam allotted to them. Manure must be applied every spring; and the best compost for them is a mixture of three parts well-putrefied dung, and one part of fine coal-ashes. They should always have an open exposure, and, above all, be free from the influence of trees; for if beneath their shade or drip the plants spindles, and produce worthless heads.

Insect.—The leaves of the artichoke are liable to injury by a beetle. See Cassida viridis.

Saving Seed.—Select any number of the earliest and finest heads, and treat them as soon as they are done, so that the heads should be turned, and tied downwards, so as to prevent the wet lodging in them, which would rot the seeds.

ARTEMISIACEAE.

PDRP. A tribe of the large order Uraniaceae.

ARTOCARPS. Bread-fruit. From aroids, bread, and carpos, fruit. The fruit, baked, resembles bread. Nat. ord. Artocarps [Urticaeae]. Linn. 21-Monacca, 1-Monandria.)

In this order we meet with such anomalies as the invaluable bread-fruit-tree of the tropics, the useful cow-tree of Caracas, and the virulent poison of the upas-tree of Java, side by side. Stove evergreen trees. Cuttings of ripened wood in sand, under a hand-light, and in a brisk, sweet, bottom-heat. Loamy soil. Summer temp., 60° to 70°; winter, 60° to 65°. The flowers of all the species are whitish-green. A. Canno’ni (FL and Pom., 1875, p. 211). Society Islands.


incis’ia (cut-leaved). 50. South Sea Islands. 1793.

nuc’i’era (nut-bearing). 50. E. Ind. 1793.


heterophylla (variable-leaved). 60. E. Ind. 1778.

Karst’i. Leaves. Polynesia.

metal’lica. Leaves bronze above, reddish-purple beneath. Polynesia.
ARUM LILY. See Rich'a'roda africana.'

ARUNDINIA. (From Arundo, a reed). A genus of handsome hardy Bamboos. Nat. ord. Grasses (Gramineae).

A. a'nceps. Origin unknown.


A. angustifolia. Mexico.

A. asaroides. White.

A. auricula. Eared.

A. caudate. White.

A. ciliata. Eared.

A. citro'lia. Germany.

A. com'pressa. Peru.

A. corni'folia. Mexico.

A. corni'folia. Mexico.

A. cori'ana. South America.

A. crassifolia. Mexico.

A. cunea. China.

A. decora. Mexico.

A. de'pressa. South America.

A. divi'sa. South America.

A. epi'phyta. South America.

A. exal'tata. California.

A. fa'vosa. Brazil.

A. fel'ox. South America.

A. ferme'sa. Mexico.

A. fil'a. Mexico.

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ASCLEPIODORA

A. tuberosa (tuberous-roofed). See A. Perennis.
A. phytolaccaefolia (Phytolaccaefolia). See A. pendula.
A. nevase. White. N. Amer. 1756.
A. polychroma (fair). See A. incarnata.
A. lutea (yellow). N. Amer. 1824.
A. Greenhouse herbaceous.
A. scadens. See Philibertia viminalis.
A. tenacissima. See Marsdenia.
N. Amer. 1680. Hardy tuber.
A. 1837.
A. lutea. N. Amer. 1759.
A. limifolia. See A. linifolia.
A. maculata. 3. Yellowish-green. October.
N. Amer. 1824.
A. viminalis. See Philibertia viminalis.

ASCLEPIODORI.A. (Swallowworts. Nat. ord. Asclepiadaceae. Linn. 5-Pentandria, 2-Dizyonia.)
Propagated by division of the root when growth is commencing in spring. Ordinary garden soil.
A. viridis. N. Amer. 1812.

ASCYRUM. (From a., not, and syros, roughness; plants not hard to the touch. Nat. ord. Tutsan [Hypericaceae]. Linn. Polyandra, 8-Polyandria.)
All, but one, greenhouse evergreens; cuttings of small shoots, pretty hard; placed in very sandy soil, in close frame, any time during summer; peat and loam. Summer temp., 50° to 65°; winter, 38° to 45°.
N. Amer. 1823.
N. Amer. 1759.
N. Amer. 1759.
A. Half-hardy herbaceous.

ASDES are the remains of a substance which has undergone burning, and are as various in the proportions of their components as are the bodies capable of being burnt. Whatever be the substance burnt, the process should be made to proceed as slowly as possible; for, by such regulation, more carbon, or charcoal, is preserved in the ashes, which is the most valuable of their constituents.
The simplest mode of effecting a slow combustion is to bank the burning substance over with earth, leaving only a small orifice, to admit the air sufficiently to keep up a smouldering fire.
Ashes have been usually recommended as a manure most useful to heavy soils; but this is a decided mistake. As fertilisers they are beneficial upon all soils; and they can never be applied in a sufficient quantity to alter the staple of a too tenacious soil. To thirty square yards, twenty-eight pounds are an average application; and they cannot be put on too fresh.

Peat-ashes contain—

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Silica</td>
<td>35-0</td>
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<tr>
<td>Lime</td>
<td>35-0</td>
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<tr>
<td>Magnesia</td>
<td>2-3</td>
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<tr>
<td>Alumina (clay)</td>
<td>1-5</td>
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<tr>
<td>Oxide of iron</td>
<td>17-20</td>
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<tr>
<td>Potash</td>
<td>15-20</td>
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<tr>
<td>Potash (combined with silica)</td>
<td>0-5</td>
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<tr>
<td>Soda</td>
<td>0-2</td>
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<tr>
<td>Phosphoric acid</td>
<td>0-2</td>
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<tr>
<td>Common salt</td>
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<tr>
<td>Carbonic acid</td>
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</tbody>
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They are an excellent application to lawns turpins, cabbages, potatoes, and peas.

Cabbage, turnip, carbon, silica, alumina, sulphate of lime, iron and potash, carbonate of lime, and oxide of iron. They are a good manure for grass, peas, and potatoes. Sprinkled half an inch deep on the surface, they hasten the germination of the seed, and preserve it from mice. They are also used for forming dry walks in the kitchen department.

Soap-boilers' ashes contain—

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Silica</td>
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<tr>
<td>Lime</td>
<td>35-0</td>
</tr>
<tr>
<td>Magnesia</td>
<td>2-3</td>
</tr>
<tr>
<td>Alumina (clay)</td>
<td>1-5</td>
</tr>
<tr>
<td>Oxide of iron</td>
<td>17-20</td>
</tr>
<tr>
<td>Potash</td>
<td>15-20</td>
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<tr>
<td>Potash (combined with silica)</td>
<td>0-5</td>
</tr>
<tr>
<td>Soda</td>
<td>0-2</td>
</tr>
<tr>
<td>Phosphoric acid</td>
<td>0-2</td>
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<tr>
<td>Common salt</td>
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</tbody>
</table>

They are good for all crops, but especially grass and potatoes.

Wood-ashes and the ashes of garden-woods generally contain silica, alumina, oxides of iron and manganese, lime, magnesia, potash, partly in the state of a silicate, soda, oxide of iron, potash and lime, phosphate of lime, chlorides of sodium (common salt), and carbonates of lime, potash, and magnesia, with a considerable portion of charcoal. They are a good application to cabbages, potatoes, and peas.

Turf-ashes contain silica, alumina, oxides of iron and manganese, lime, magnesia, sulphates of potash and lime, phosphates of lime and magnesia, common salt, and charcoal. They have been used beneficially to grass, onions, carrots, beans, potatoes, and beetroot.

ASH-BRNE. Fraxinus excelsior.

ASIATIC-POISON BULB. Cro'num asi'icum.

ASU'THUMA. (A Canadian name, not explained. Nat. ord. Annonaceae. Linn. 13-Polyandria, 6-Polygynia.)
A. triflo'a (fit companion to such plants as Da'phnes, Illi'cionis, and Di'rosa pal'tis) in British gardens. Sometimes by seed, but chiefly by layering the branches, towards the end of the summer. Peat and loam.

ASPALATHUS. (From a, not, and spao, to extract; in reference to the difficulty of extracting its thorns from a wound. Nat. ord. Leguminosae Plants [Leguminosae]. Linn. 16-Monadelphia, 1-Decandria.)
With one exception, all greenhouse evergreen shrubs. Cuttings of half-ripened wood, in April, in sand; placed over sandy peat, well drained, kept shaded, and little water given; they are apt to damp off. Loam and lumpy peat. Temp., summer, 55° to 65°; winter, 40° to 45°.
A. hispidum (stiff-hairy). See A. Thymifolia.
A. indica (Indian). See Indigofera aspalathoides.
A. laticlava (larch-leaved). See A. Larioreticulata.
A. luteum (yellow). 2. Cape of Good Hope. 1876.
A. mucronatum (spine-pointed). See Viscaria armata.
A. multiflorum (many-flowered). See A. Thymifolia.
A. quinquedens (five-leaved). See A. Lotoideae.
A. squarrosum (square-rose). See A. Pedunculata.

ASYPARAGUS (From a. a. intensive, and sparraso, to tear; in reference to the strong prickles of some species. Nat. ord. Liliaceae. Linn. b-Hexandria, t-Monogynia.)

The A. officinale's is well known in our kitchen-gardens; it is, as well as the other hardy kinds, is propagated chiefly by seeds, and re-joices in rich, light loam, well drained. The stove and greenhouse varieties are propagated chiefly by dividing the roots, and prefer sandy loam and peat. All herbaceous perennials, except where otherwise specified.

HARDY.
A. amaryllis (bitter). See A. Scabiosa.
A. Broussoneti (Broussonet's). 2. Canaries.
A. sylvestris (wood). See A. Tenuifolius.

ASYPARAGUS

A. Cola (G. C., 1706, xxxix., 109).
A. comorensis (comore). See A. Ficus.
A. decumbens (decumbent). See A. Crispus.
A. dependens (drooping). See A. Africanaus.
A. falcifer (falcifer). See A. Ficus-Falciferi.
A. grandiflorus (large-flowered). See A. Umbellatus.
A. coriaceus (coriaceus). See A. Aphylla stipitata.
A. fruticosus (fruticosus). See A. Scandens.
A. Leontopodium (Leontopodium). See A. Scandens.
A. medeoloides (S. Africa. Best known as Sylax.
A. myrtifolius (myrtifolius). See A. Myrtillus.
A. nailus (nailus). Vigorous variety.
A. ramosus (stiff). Cream, S. Africa. 1862.
A. arbores (arbor) 2. 1836, 253, f. 1.
A. smithii (Smith's). Tenerife. 1529. Evergreen shrub.
A. compas (compas, c. 1898, xxiv., 445).
A. falcator's (Walsh., 1902, 162).
A. variegatus (A. G., 1900, 250).
A. sieberiana (Sieberiana). Garden hybrid (crispus and teniissimus).
A. gr. citrinus (Gard., 1904, lxvi., 220).
A. teniissimus. Light green foliage. S. Africa.

STOVE.
A. flexuosus (zigzag). See A. Crispus of Lamarck.
ASPARAGUS

Asparagus officinalis was, by the old gardeners, called Earth-root, and by the modern vulgar, grass, or sparrow-grass. The small heads are sometimes spoken of as sprue.

Varieties.—Formerly we had only two varieties—the red, called Red Cap, and the white, called Caper-\'s Colossal, Giant Argenteul, and Palmetto, a fine American variety, but much depends upon soil and culture.

Soil best suited to this vegetable is a fresh, sandy loam, made up of loam and sand. The trenched beds should be trenched from two feet to two feet and a half deep. This depth of good, rich soil, on a dry sub-soil, is ample to yield the very best of heads, if the yearly successive

Situation.—The bed should enjoy the influence of the sun during the whole of the day, as free as possible from the influence of trees and shrubs, and ranging north and south. The sub-soil should be dry, or the bed kept so by being founded on rubbish, or other material, to serve as a drain. The space of ground required for the supply of a small family is at least eight square perches. If less, it will be incapable of affording one hundred heads at a time. Sixteen perches will, in general, afford two or three hundred every day, in the height of the season.

Sowing.—To raise plants, sow any time, from the middle of February to the beginning of April, in drills, one foot apart, in a prepared bed, the seed to be transplanted; but two feet apart, if they are to remain where sown. When starting with seedlings some may remain in the seed-beds, and will give good results a second year, if all the transplants are dug up and planted upon soil in good loam and a gravelly sub-soil. Where water gets away naturally, it will not be necessary to make much preparation, except to manure the ground and work it. It will be well before sowing the seed.

Culture in Seed-bed.—If dry weather, the bed should be refreshed with moderate but frequent waterings; and, if sown as late as April, the seeds should be soaked for at least a day, and thoroughly stirred up, and then planted in the evenings, or in the time of sowing. Care must be taken to keep free from weeds, though this operation should never commence until the plants are well above ground, when it is impossible to eradicate them. At the time of

Time of Planting.—The best time is the end of March, or the beginning of April. A very determinate signal of the appropriate time for planting is when the plants are beginning to grow. If moved earlier, and they have to lie torpid for two or three months, many of them die, or, in general, shoot up very weak.

Construction of the Beds.—Have them four and a half feet wide. The situation should be fixed upon a month or two previously to making and planting the beds. The whole should be trenched two feet to two feet and a half deep, and thoroughly well manured, as the work goes on, with rich, thoroughly-decayed manure. When all is trenched and manured in this way, give a good surface-dressing of salt, which will wash in with rains. After lying in this way for a month, give the whole another surface-dressing with similar manure, and double-dig or trench it up again, leaving the surface rough and open, giving the whole another manure, and let it remain in this way until the time for planting. Previously to marking out the beds, the whole should have another thorough-going dressing, making the surface neat and even. And the work done

Mode of Planting.—The plants being taken from the seed-bed carefully with a narrow-pronged dung-fork, with as little injury to the roots as possible, they should be laid separately and evenly together, for the sake of convenience whilst planting, the roots being apt to entangle, and cause much trouble and injury in parting them, and if they be not left free to be possible to the air; and, to this end, it is advisable to keep them, until planted, in a basket covered with a little sand. The mode of planting is to form drills, or narrow furrows, with spade, and transplant the plants, or keep them apart, cut out with the spade, the line-side of each drill being made perpendicular; and against this plants are to be placed, with their crowns one and a half or two inches below the surface of the ground. The roots must be spread out wide, in the form of a fan, a little earth being drawn over each, to retain it in its position whilst the row is proceeded with. For the sake of convenience, one drill should be made at a time, and the plants inserted and covered completely before another is commenced. When the planting is completed, the bed is to be lightly raked over, and its outline distinctly marked out. Care must be taken never to tread on the beds (they are formed narrow to render it unnecessary) for everything tending to consolidate them is injurious, as, from the length of time they have to continue, without a possibility of stirring them to any considerable depth, they cannot support the action of a plant's vegetation. Water must be given, in dry weather, daily, until the plants are established. The paths between the beds should be two feet wide. The first season after planting, keep them without injury to the young plants, if the radishes are all drawn off early. It too often happens that new asparagus-beds are ruined by being pestered with other crops; but a good bed of two years' growth, or even two rows, of either lettuces or spinach, may be sown in the alleys.

Subsequent Cultivation.—Throughout the year care must be taken to keep the beds clear of weeds; and, in May and June, to sprinkle well with manure, or, if very dry, giving a sprinkling of salt once a month. In the latter end of October, or commencement of November, the beds are to have the winter dressing. The stalks must be cut off, but their heads should be left. The beds, if weedy, and carefully forked up. A thoroughly good dressing of manure is put all over the beds equally, and the alleys forked over too; whilst, for the sake of giving the whole a finish, a line is put down each side of the alley, the edges made up a little, and a few crumbs from the alleys thrown upon the beds, and the edges marked out with the point of the spade. The work is then done for the winter.

Spring Dressing.—In the month of March the beds are again forked over carefully, the manures and soil well broken up and mixed together, and some of the rougher manure is to be thrown into the alleys; after which the beds are raked over.

Production.—In the May of the second year after planting, if they are very highly cultivated with liquid-

Forcing may be commenced at the end of June, or very early in July.

Forcing for the Winter.—For this purpose, take up the plants from an old bed, or otherwise, it is better, entirely, and for a few weeks, close the beds over with a red-topped American Palmetto,
with earth, or in a pit filled with leaves, tan, or other fermenting materials. Melon-pits and frames may be used for the same purpose. The hotted of fermenting materials, thoroughly well worked previously to being made up and given the light, may, on it may be put six inches of old tan, or leaf-mould. Put the asparagus-plants into this, and keep them, during the winter months, about one foot from the glass. Cover that, at first, only slightly with the old tan, or leaf-mould; but, in ten days or a fortnight, add three or four more inches of the same kind of covering. Take care that altogether the crowns of the plants are not covered more than an inch or six inches deep. When the plants have begun to grow freely, and the shoots begin to appear through the surface, give them some weak, slightly-warmed, or tepid liquid-manure, adding to each gallon of it two ounces of common salt.

Quantity to be Forced.—To keep a supply during the winter months, commencing the first week in November, use two or three light cucumber-frames; and a successional bed should be made up in about a fortnight or three weeks afterwards, and so on until the end of March, taking the advantage of fine, open weather for taking up and planting.

Interesting Notes on ASPARAGI.

To obtain Seed.—Some shoots should be marked, and left in early spring; for those which are allowed to run up after the season of cutting is over are seldom enough forwards to ripen their seeds perfectly. In choosing the shoots for this purpose, those only must be marked which are the finest, roundest, and have the closest heads; those having quick-opening heads, or are small or flat, are never to be trusted. It is recommended that while some plants seed freely every other year invariably fail. Each chosen shoot must be fastened to a stake, which, by keeping it in its natural position, enables the seed to ripen more freely, and the seed is usually ripe in September, when it must be collected; put in moist sand, where it should remain until the pulp has thoroughly ripened, and there will be no difficulty in getting the seed out of it, if it is suitably made. When it may be well cleansed in water. The seeds sink to the bottom, and the refuse floats, and will pass away with the water as it is gently poured off. By two or three washings, the seeds will be completely cleansed, and, when perfectly dried by exposure to the sun and air, may be stored for use; but should not be placed where it gets very dry, or warm; it will keep for a considerable time in a tin box if placed in a cool, dry position.

ASPASIA. (From aspasoma, I embrace; the column embraced. Nat. ord. Orchideae [Orchidaceae]. Linn. 20-Galium. 1-Monandria.)

Stove orchids, best grown in baskets containing sphagnum, peat, and broken crocks, with charcoal; the leaves are variously growing. Summer, temp. 65° to 80°; winter, 58° to 65°.


luna ta (creescent-marked). Brazil. 1844.


papilion ae. 1. Yellowish, brownish, orange, violet. Costa Rica. 1876.

princis'ss. Light green. buff. 1888.


ASPEN. Populus triv'ma.

ASPERELLA. (From asper, rough. Nat. ord. Gramineae.)

A. Hy'striis (Wien Gart. Zeit., 1889), p. 228, f. 45.)

Hardy annual; sow early in spring.

ASPERULA. Woodruff. (The diminutive of asper, rough; in reference to the rough leaves. Nat. ord. Rubiaceae, or Storaxaceae [Rutaceae]. Linn. 4-Triandria. 1-Monogynia.)

All hardy herbaceous plants, except where otherwise described. Division of the plant in March; common soil. Most of them succeed in shady positions, and will grow under trees. A. tricho des from seed.

A. alp'i na (alpine). See A. CYNANCHICA.


A. calcaria. See Pistoria GALERIA.

A. crassifolia (thick-leaved). See A. TOMETOSA.


A. synepi'si (long-leaved). See GALLIUM.


A. thyr'oidea (thyr'oideum). See A. CYNANCHICA.


Hardy annual.

ASPHALT, BITUMEN, or JEW'S PITCH, is found floating on the Dead Sea, and elsewhere. It becomes very hard when dry, and its name has been appropriated to various artificial preparations, all of which owe their properties to the boiled gas tar which enters into their composition. Thus the asphalt felt is rendered impermeable by the boiling and rendering, &c., by being soaked in that tar; and asphalt walks are most dry and excellent when made as follows: Take two parts of very dry lime-rubbish, and one part coal ashes, also very dry, and both sifted fine. In a dry place, on a dry day, mix them, and leave a hole in the middle of the heap, as bricklayers do when making mortar. Into this pour boiling-hot coal tar; mix, and, when as stiff as mortar, put it three inches thick where the walk is to be. The ground should be dry, and beaten smooth. Sprinkle over it coarse sand: when cold, pass a light roller over it, and in a few days the walk will be solid and waterproof.

ASPHOENELINE. Nat. ord. Liliaceae. A genus of plants closely allied to Asphodelus, but distinguished by erect leafy stems. Hardy plants that thrive in any ordinary garden soil; propagated by divisions.

A. Bal'sn'a (G. C., 1898, xxvii, 111, f. 43). White. Cilia and Cappadocia.

A. Bas'sii (G. C., 1895, xxiii, 111.) Mount St. Basil.

A. brevi'siis. Yellow, veined with green. Orient. 1824.


78 ASPIDIUM

A. angula'ra. The Soft Shield Fern. There are numerous varieties of this kind. Syn. Polystichum


A. nev'us. Yellow. As Cystopteris alpina.


ASPHE'DELUS. Asphodel. (From a, not, and sphaleio, to supply, the sap of the sturdy flowers not easily surpassed. Nat. ord. Liliaceae [Liliaceae]. Linn. 6-Hexandra, 1-Monogynia.)

Hardy herbaceous perennials, except where otherwise specified. They are kept in the greenhouse, which may be raised from seed. Grown in any common soil. A. interna'iusi requires the protection of a cold


A. cre'ticus (Cretan). See Asphodeline lirubdica.


A. lut'eus (yellow). See Asphodeline lutea.

A. mic'racus 'pus (small-puddled). See A. ramous.

A. prosi'rus (pulfurous). See Asphodeline prolifera.


A. d'his'ta (Rhine). White. April. South of Europe. 1850.


A. mic'racus 'pus (Dalmatia). 1837.

A. subs'ricus (Siberian). See Asphodeline lutea.

A. lar'icus (Taurian). See Asphodeline taurica.

A. tenus'u'sus. Oriental India.


A. tenu'or (slenderer). See Asphodeline.

A. vil'a'risi. See A. ramous.

ASPIDIOTUS. See Co'cuss.

ASPIDISTA. (From aspidisstaton, a little round shield; shape of flower, or, probably, in reference to the mushroom-shaped stigma by which Aspidistrae are characterized. Nat. ord. Liliaceae [Liliaceae]. Linn. 8-Octandra, 1-Monogynia.)

Most useful foliage plants for house decoration propagated by division; pot in good loamy compost. They have been described as stone plants, but thriving well in heat they are almost hardy.


A. hy'rica (W. G. 1804, 266). Supposed to have been introduced from Tonkin.

ASPIDIUM. Shield Fern. (From aspidoson, a little buckler; the shape of the spore or seed-apparatus. Nat. ord. Fæns [Filices]. Linn. 24-Cryptoagnia, 1-Filices.)

Spores or seed, and division of the roots, just after they start growing in the spring. Shady situation; loam and peat. The greenhouse and stov e trees should have their appropriate treatment; those of the latter should not have the temperature lower than 50° in winter. See Ferns for general culture.

HARDY.


A. ne'vus. Yellow. As Cystopteris alpina.


A. inc'si'mum. Pointed, pinnules deeply incised.


A. alp'num (alpine). See Cystopteris alpina.

Greenhouse.

A. a'rum. Peru. See Asphodelium a'rumulum.


A. cong'ido'sus. Finely divided fronds.

A. variega'tum. With a band of green running through the bases of the pinnules.


STOVE.

A. alat'um (winged). See Nephrodium vastum.


A. chrys'os. See Polystichum anamnemum.


A. le'num. Finnes divided into lobes.

A. mar'inu'm. Texture more coriaceous.

A. racem'ula (cowbane-like). See Nephrodium.

A. dec'urens (decurent). See Nephrodium.


A. mu'yi (May's). Fronds crushed. 1908.


A. grana'de (grand). See Nephrodium pachyphyllum.

A. heracleif'o'sum (cow-parsley-leaved). See A. trifoliata.


A. lati'te'mum (broad-leaved). See Nephrodium lati'te'mum.

A. macrophy'llum (large-leaved). See Nephrodium.


A. pa'len (spreading). See Nephrodium.
**Aspidopteris**


*sinoparia'num* (Singapore). See *Nephroidium.*

*trape'ziodes* (trapezoid-like). See *A. viviparum.*


*kerato'lium.* The pinnae pinnafide on both sides.

*vivi'parum.* Syns. *A. trapezoides and Polystichum viviparum.*

Some authors include *Alkonya* *Filis-femina* in this genus, but it has now been put with the Aspleniums by the Kew authorities.

**Aspidophyllum.**

*(From aspis, aspidos, a shield, and *pteros*, a wing; the fruits have shield-like wings.* Nat. ord. Malpighiaceae.)


**Asplenium.** Spleenwort. *(From a, not, and *spelos*, spleen; referring to its supposed medicinal properties. Nat. ord. Farns (*Filices*). Linn. 24-Cryptogamia, 1-Filices.)*

This is an extensive and variable genus, the disposition of the spores being the only connecting link. Taking the large, broad-fronded *A. nidus*, and compare it with *A. viviparum*, which has very finely-cut small fronds, there appears to be little affinity. *A. Felix-femina*, better known, in gardens as *Asplenium F*—*f:* (which see) has given us innumerable garden varieties, many of which are of exquisite beauty; and about one hundred varieties have been given from the Royal Horticultural Society. These are all natives of Britain, and the ordinary type is known as "The Lady Fern." The species most extensively grown for market (or decorations) belong to the bulbiふcant type; yet *A. nidus* (the Bird's-nest Fern) has more recently come into favour and is extensively grown. For treatment, see Farns.

**Hardy.**


*Ce terach* (scale or scaly fern). Britain. Syn. *Ceter'ach officinarum.*

*aureum* (Canaries and Madeira. Syns. *Ceterach aureum* and *A. aureum.*

*cren'aturn.* Scandinavia.


*Fi'lix-fa'mina* (female fern). 2. Brown. April. Britain. There are numerous varieties of this species.


*Halle'ri* (Hallier's). See A. *Fontanum.*


*cri'spa'ruem. Curled.*

*mi'cron. Useful for case culture.*

*mari'num* (sea). 1. Brown. July. Britain. The varieties of this include: *coro'num, cren'aturn, mir'abile, plumo'sum, ra'no-plumo'sum, ramos'um, sub'bis'i'nam'um, and Thomos'na.*

**Asplenium.**


*plaisie'nron* (Ebony spleenwort). Maine to Florida, and westward to California.

*polyphyl'yum.* See A. *Acuminatum.*


*rhizo'phyllum* (rooting-leaved). See *Scolopendrium.*


**Greenhouse.**


*al'ternum.* Syn. A. *Dulhousia.*


*Arno'i* (Sandwich Islands. 1877. Syns. *A. dipla'zioides and Diplazium Arnottii.*


*austr'alum* (Quarterlander). Unpublished.


*cal'bar'num.* Syn. A. *fabi'um.*

*la'num. Habit more slender.*


*caud'a'turn* (tailed). Polynesia.


*com'mo'nium.* Brit. Helena. Stove, or greenhouse.

*coni'gu'mum.* Sandwich Islands. 1880.

*fla'ssum.* South Sea Islands. 1880.

*Dahlos'ia.* See A. *Alte'mann.*


*dim'o'phum.* Norfolk Islands. Syns. *A. diversi'folium and Darae dimorpha.*

*displaz'o'num.* See A. *Arnottii.*


*ex'e'num.* Andes of Columbia and Peru.

*fer'na'ndesia'num.* A variety of *A. Junalatum.*


*foli'co'dum* (leech). New Zealand. 1823.

*gor'ningia'num* (one-flowered). See A. *MACROCARPUM.*


*herbace'rum.* 1 to 3. Himalayas and South-Eastern Asia. Stove or greenhouse.


*ho'ridum.* Sandwich Islands. 1884.

*inci'sum.* 1. Japan, &c.

*java'nicum.* See A. *ANANTO'DIANA.*

*la'vienum.* Syns. A. *subnasimatium and Diplazium lancea'tum.*


*multis'um.* See A. *ASPIDEIOIDES.*

*nis'tidum.* N. India, Ceylon, &c.
ASPLENIUM

A. fijianse. 2. Fiji.


gardneri. Ceylon. 1833.


gressi. Fronds undivided. India. heterotrichum (Bull., Cat., 1878, 155). In the way of A. monanthemum.

heinrichii. See A. vulcanicum.


leucoma (milky). Yellow. April. W. Ind. 1827.

lindii. 1 to 2. Mauritius.

longistomum. New Grenada. 1885.


luteum (shining). See A. obtusatum.

lunulatum (crested-shaped). Tropics. Varieties are erectum, lobatum, petrorus, fernandezianum, tenellum, and tripinnatifidum.


maximum. Syns. A. diversifolium and Diplazium diversifolium.


melanocaulon. A variety of A. Nidus.

myriophylloides. See A. phizophyllum.


Malaya.


oliva (olives). 1841.


Campbellii (G. C., 1883, xxiv. 7). British and Dutch Guiana.


cristatum. Garden hybrid.


drucei. A variety of Baphiopsis.

durileae (G. C., 1893, xiii. 10).

elegantissimum. Garden hybrid.

elongatum (elongated). See A. tenerum.

ericulatum. See A. lunulatum.


ASSAM TEA

A. serrulatum (striated). See A. Shepherdii.
A. sylvestriculum. 2. India.


Caraccas. 1820.


ASSAM TEA. Cane-like those for assa'sa. Mic lamb. 1831.

ASSONIA. (After the Spanish botanist, Ignatius de Asso. Nat. ord. Sterculiaceae [Sterculiaceae]. Linn. 16-Monadelphia, 7-Decandra.) They are now referred to Donbeya.

Tee trees. Cuttings in sand, heat, under a glass; sandy loam. Summer temp, 60° to 75°; winter, 50° to 60°.


ASTER. (A classical name, after Astarte, a goddess of the Assyrians and Sidonians, called in Scripture Astartharoth. Nat. ord. Myrtillebooms [Myrtaceae]. Linn. 18-Polyadendehia, 2-Polyandra.) A greenhouse shrub. Cuttings of small shoots, half-ripe, in sandy soil, in close frame, and kept shaded for a time; sandy loam andpeat. Intermediate tempera- ture.


ASTELLA. (From asteres, wanting a pillar, in reference to its having no stem or trunk. Nat. ord. Liliaceae. Tribe, Dracanonea.) The plants are perennial with long, slender, hairy leaves; propagated by divisions in spring; light, loamy soil.


A. Bantki. New Zealand. 1864.


A. Canningi. New Zealand. 1753.


ASTELMA. (From a, not, and stelma, a crown; in reference to the construction of the fruit. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2-Superflua.

A. fragrans, imbricatum, and retortum are now referred to Helichrysum; the rest to Helipterum. Greenhouse evergreen shrubs; all natives of the Cape of Good Hope. Sown in sandy soil, in close frame and loam, in close frame or hand-glass; light, fibrous loam and peat, good drainage. Summer temp. 50° to 65°; winter, 40° to 45°.


A. spirale (spiral-leaved). See Helipterum Speciosissimum.

A. stellacii (Stellatella-like). See Helipterum Speciosissimum.


ASTE'PHA'TUS. (From a, without, and stephanos, a crown; in reference to the flowers of the species of Astrapii (Asclepiadaceae). Linn. 5-Pentandria, 2-Digynia.) Greenhouse twining evergreen plants; division and cuttings; peat and sandy loam. Winter temp, 40° to 45°.


ASTER. Starwort. (From aster, a star. The flowers of Composites, or Starworts, are called florets, and, being collected together on a receptacle, as in the daisy or dahlia, the rays of their circumference resemble stars. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2-Superflua.) In this genus we have many variable species, and a large number of garden hybrids. It is those known popularly as Michaelmas Daisies or Starworts that are the most important section. Flowering late in the summer and during the autumn up to the time we get severe frosts they are much appreciated, and though at one time much neglected, in recent years they have come to the front again, and many very pretty garden varieties have been added. There are several distinct sections, and it is difficult to place some of the garden hybrids. The various species are of very different sizes, some having flowers not to appear to intersperse with others; they are of dwarf habit with rather broad leaves, which are covered with short, silky hairs. The flowers are of various shades of blue-violet, and some have a distinct pink shade. They may be propagated from cuttings or divisions, but the roots do not spread much. Acris is another distinct type, and most are dwarf in habit, forming compact clumps, which may be kept for many years. Of the different species, Carduus is the largest, with broad leaves, having the heads in a globular mass; Echinops, of which there are some pretty varieties, all have very small flowers, produced in graceful sprays, and very small heath-like foliage. Novo-Anglica includes some very pretty varieties of erect growth with rather large flowers, varying in colour from pink to deep purple small, woolly leaves, and tufted growth. Novo-Belgia is perhaps the most important section, and, with the other species, is easily propagated from cuttings. They are or a height in from 2 feet to 5 feet, and flowers vary in size, also in colours, from white, pink, to deep blue, the most distinct characteristic being the spreading ray-florets, which are more or less divided. The strong-growth varieties of this section prove rather troublesome if seeds are allowed to seed, and the rhizomes also spread a great distance when allowed to do so. Viminnes forms another distinct group with small starry flowers and of dwarf habit, and garden varieties are numerous.

In addition to the above there are many other distinct species of which we have no garden varieties, and the hybrids, which cannot be classified, are numerous. All of those known as Michaelmas Daisies are easily cultivated and are quite hardy. They may be grown in any ordinary garden soil. In planting, due regard should be paid to the roots and habits of the various sorts. They may be very badly recommended for supplying cut bloom after the summer flowers are passed, but those of the Novo-Anglica section, though very showy in the daytime, close their flowers at night.

The evergreen, greenhouse species are not often seen in cultivation. They may be propagated from cuttings in the spring and grown in any ordinary potting compost. This section is now mostly referred to Olearia and Felicia.

The Chinese Aster, which are annuals, and known as Astra chinensis, A. Sinensis, and A. Hortensis, are now known under the rather large and various sorts, by botanical authorities, yet in gardens and in the markets they are still known as Aster, sometimes as German Aster, as we get the largest proportion of seed from Germany. It seems doubtful if the common varieties, noted for their yellow flowers, are very popular, yet it is useful to prevent confusion with the Michaelmas Daisies. For culture, &c., see Callistophus.


carnes. Owing pink, dwarf and compact.


us (G. C., 1902, xxxii. 293.)


dulteris (false). See Novi-Belgii.


Labrador Starwort. See A. LONGIFOLIUS.

alba (white-leaved). See A. PARMICODA.


longisepalus (G. L., 1903, 362.)


species. Large-flowered variety.


aluviretis (Alwart). See ERIGERON PULCHELLUS.


Italian Starwort.


August. South of Europe. 1596.

besseriana (Besserian). Purple. Russia. 1834.

cassius (Deep violet-blue.

Distinction.

Francheflora. Deep blue, dwarf habit.

major. Large, deep blue.

Onward. Deep purple-blue.

roseus (rosy). Rose. 1909.

seile. Clear mauve.


amplicesus (stem-clasping). See A. LEVIS.

amymdalis (almond-leaved). See A. UMBELLATUS.


argy'lenus (silver-leaved). See A. SERICEUS.

arenis'cus (wormwood-flowered). See A. TRADERS.

an'us. 3. Violet. United States.


Symq. Bellidiestrum Micheli and Doreiro Michelli.

bellidiformus (daisy-flowered). See A. PANICULATUS.

bessarabicus (Bessarian). See A. AMELIUS.

hy'bridus, hoary-coloured. See A. LONGIFOLIUS.

biflorus (two-flowered). See A. SIBIRICUS.


Syn. A. Townshendi.

bladi'na (glancing). See A. PUNCUS.


cabu'licus. See MIRGOLOSSA ALBESCENS.

can'ticos (hoary). 2. Violet. September. N. Amer. 1812.

Hardy.

chapmann'ni. 4. Bright blue. United States.

chinese. See CALLISTEPS HORTENSIS.

chrysophyllum. See OLEAERA CHERYNOPHYLLA.

chis'tus (fringed). See A. MULTIFLORUS.


convolus (convoza-like). See SEIKOCARCUS.

Corde'ta (G. C., 1902, xxxii. 293.)


al'bus. White, shaded lilac.

D'andy. 31. Pale lavender.
ASTER

A. luxurians (luxuriant). See A. Novi-Belgii.
  "straeni" (large-flowered). See Eriogonum Macranthi Meso.
  "strictris" (white). 2. White. August. 1812.
  "tenuifolius" (mountain). See A. Sericocarpus.
  "uncinatus" (changeable). See A. Novi-Belgii.
  myrtillus (myrtle-leaved). See A. Miser.
  "pancicius" (G. C. 1899, xx. 330, l. 120). Pale lilac. N. W. China.
  "nelsonii". 3. Purple-blue, centre orange.
  procoxis. Purple, with crimson shade.
  procoxis. Large blue-purple.
  pulchellus. 4. Purple.
  "W. Bowman". Rose-purple, large.
  Archies. 31. Deep blue.
  Colora. Rose. 31. Bright rose.
  Salsola. 3. Bluish-pink.
  Elia. 3. Rosy-lavender.
  Finchley. White. Large white.
  Irena. 3. Bluish lilac. Large.
  Lady Trevorian. Pure white.
  lavender. Rosy-pink.
  Margaret Mathews. Large white, with yellow edges.
  Mary Crum. Pale blue, on a white ground.
  Nancy. 3. Clear blue, very free flowering.
  Perle Lyonnaise. 2. Pure white, starry flowers.
  Robert Parker. 4. Lavender-blue.
  nana. 3. White.
  se miple na (G. C. 1902, xxxii. 293). Lavender-blue.
  Thokey. Deep mauve, with a rose tint.
  T. S. Ware. 31. Mauve, tinted red.
  White Spray. 5. Pure white.
  Cape Ann. 3. See A. Radula.
  obliquus. See A. Salicifolius.
  Pa (sub-unknown). See A. Patulus.
  ia'sus W. J. Grant. 31. Flesh pink, with rosy disc.
  pannonicus (Hungarian). See A. Trifolium.
  pauciflora (few-flowered). See A. Ericoides.
  Pd'van (herb). See A. Diffusus.
  philogloceus (phlox-leaved). See A. Patens.
  Picco lli (B. m. t. 766), 2 to 3. Lilac-purple.
  China.
  phileus (downy). See A. Amethystinus.
  Poirer' (Gard. 1900, liv. 372). White. N. Amer.
  praetextus (very tall). See A. Novi-Belgii.
  prae'cus (early-blooming). See A. Patulus.
  A. pulchellus (pretty). See Eriogonum.
  pulchellimus (prettiest). See A. Linariifolius.
  puncelatus (dotted). See A. Acre.
  Gardens. 1802.
  "punctatus" (nuances). White, tinted pale blue. 1908.
  recurvus (beak-back). See A. Diffusus.
  rigida (stiffish). See A. Salicifolius.
  rufidus (stiff-leaved). See A. Linariifolius.
  rubricaulis (red-stemmed). See A. Lepis.
  salis (sallow-leaved). See A. Paniculatus.
  salicina (sallow-leaved). See Eriogonum.
  sangusneus (bloody). See A. Paniculatus.
  Schreberi (Schreber's). See A. Macrophyllus.
  sericeus (lilac). See A. Nova-Belgii.
  Shorii. 2 to 4. Purplish-blue. N. Amer.
  simplex (single-stemmed). See A. Paniculatus.
  sparsiflorus (scattered-flowered). See A. Tenuifolius.
  spurius (spurious). See A. Novo-Angelica.
  stellulatus (small-star-like). See Olearia.
  Stretchesi (B. m. t. 6912). Bluish-purple. Western Himalaya.
  stre'catus (straight). See A. Radula.
  subaripus (G. C. 1901, xxx. 385). N. W. India.
  tomento'sus (woolly). See Olearia Dentata.
  Togiasiid. See A. Bugleoli.
  Britain.
  turbinellus. Mauve. N. Amer.
  "tabulatus" (tabulated). 3. White.
  August. N. Amer. 1790.


E. perfet’us (G. C., 1902, xxxii. 238). White, tipped with pink.

Greenhouse.


fruticu’losus (so). See A. fruticosus.


re’ellea’ (bent-back-leaved). See Felicia.


villo’osus (long-haired). See Felicia angustifolia.

Asteraceantha. (From aster, a star, and acanthus, a spine; referring to the disposition of the spines. Nat. ord. Acanthaceae [Acanthacae]. Linn. 1a-Diosyntoma, 2-Angiospermae. Allied to Barleria.) See also Hydrophiia, the correct name.


Asteriscus Maritimus. See Odontospermum maritimum.

Asteracephalus. (From aster, a star, and aeth’ale, a head; in reference to the fruit. Nat. ord. Taezole’worts [Dipsaceae]. Linn. 1a-Tetranaria, 1-Monogynia.)

Now included with Scabiosa. Annuals, from seed; perennial, from Cape of Good Hope, cuttings, under a hand-glass; common soil. All hardy, except where otherwise specified.

Annuals.


B. bieberstein’ii (Bieberstein’s). See S. micrantha.

grandiflorus (great-flowered). See S. maritima.


A. arabia’ (Arabia). 1824.


sce’cinus (simple). See S. monspeliensis.


agrost’es (field). See S. Gramuntia.

al’bus (very tall). See S. africana.


argenteus (silvery). See S. urciana.


cane’scens (hoary). See S. suaveolens.


Garden perennials.


A. verru’cosus (thread-leaved). See S. micranthus.

a’late (bifoliate). See S. cretica.

lac’cata (lacerated). See S. cretica.

longifili’us (long-flowered). See S. annum.

longil’atus (long-leaved). See S. annum.

longisili’us (long-silky). See S. annum.

longisili’us (long-silky). See S. annum.

A. sicil’icus (Sicilian). 1629.


A. grapi’onius (Gormont). See S. Gramuntia.


in’termis (intermediate). See S. lustianica.

in’termis (intermediate). See S. lustianica.


uv’icus (shining). See S. nitens.

uv’icus (yellow). June. Russia. 1820.

uv’icus (lyrate-leaved). See S. succula.


uv’icus (softest). See S. Columbaria.

uv’icus (yellow). See S. Succula.

A. needles’ (needles). See S. rupestris.


A. se’liger (bristle-bearing). See S. Setifera.

silenof’lius (silene-leaved). See S. Brachiata.

silenof’lius (silene-leaved). See S. Brachiata.

tomento’sus (woolly). See S. Succula.


S. suaveo’leus (lagged). See S. Rutepo’llia.

S. webb’i’us (Webb’s). See S. Orcholeuca.

Asterostigma. See Staurostigma.

Aristolbe. (From a, not, and stilbe, brightness; flowers not very striking. Nat. ord. Saxifragae [Saxi-fragaee]. Linn. 10-Decorandria, 2-Digynia.)

Hardy herbaceous perennials propagated by divisions, or may be raised from seeds. They grow freely in any rich garden soil, and delight in moisture, but require good drainage. A. japonica (better known as Speria japonica) and the varieties are much esteemed for forcing. They are also retarded by the cold storage (refrigerating) treatment, so that we now get them all the year through, and the retarded plants (or chumps) are more satisfactory for mid-winter or up to March than those forced. There are now a great many hybrid varieties of these. Peach Blossom and Queen Alexandra have pink flowers and are very pretty, and there are several improved white varieties. Marquis of Salisbury has proved one of the best; but there are so many nearly alike, and we are constantly getting further additions, and some are so nearly allied to the herbaceous spireas that it is difficult to divide them and give them their respective names unless they are used as near as possible. Hotelia was a name used at one time, but most authorities have now dropped this name, and Astilbe is the correct one, though Speria is the popular garden name.

A. d’iba (G. C., 1904, xxxvi. 46). Garden hybrid.

A. drapar’icus. See SPIREA. A. ARUNICUS.

A. drappar’icus. See SPIREA. A. ARUNICUS.

A. stauro’s’ticus (simple). See S. Monspeliensis.

A. stauro’s’ticus (simple). See S. Monspeliensis.

A. barba’fa. See A. japonica.
A. chinensis (Gard., 1892, xii. 221). Pink-coloured.
   China.
   *Davidii* (G. C., 1902, xxxii. 05, 122 f. 54).


A. variagá'la. Variegated with yellow.


A. gigante'a. 5. Cream. 1909.


A. outr.'ba to 6. Rose. Late summer and autumn. Himalayas. 1831.


ASTR BIA. (From a, not, and steirós, sterile; in allusion to the absence of barin stamens. Nat. ord. Sterculiaceae.) A stoeve evergreen shrub allied to Donum, propagated from cuttings in the spring; light, sandy loam and peat, in close frame.


ASTRAGALUS. Milk Vetch. (An ancient Greek name for some leguminous plant. Nat. ord. Leguminosae. Linn. 17-Dispolitilla, 4-Decandria.) All hardy, except where otherwise specified. Annual species, seed, in March. Perennial herbaceous species, division of the plant. The under-shrubs, cuttings, under a hand-light; common, sandy soil for all.

ANNUALS.

There are very few of this genus in general cultivation. In searching through I can find only about six species referred to; of these, *astragalus* for the rockery and *propagated* and its white variety are among the most useful, but rock plants have become so popular we may see more of them.


A. lob'o'is (lotos-like). See A. Sincus.


A. Tauria. 1817. Trailers.


A. Schmaltia'seni (Schmalhausen's). 1-x. Summer. Turkistan. 1883.


A. trim'o'phus (three-formed). See A. annularis.

PERENNIALS.


A. alpi'bus (Blue-purple). Britain.


A. basic'ais'is (Baical). 1. August. Yellow. Siberia. 1830.


A. cap'ti's'is (headed). See A. Emarginatus.


A. caro'lino'is (Carolina). See A. Canadensis.


A. dasyglo'tis (thick-tongue-leaved). See A. Pentac-...}


A. dif'sus (wide-scattered). See A. Dolichophyllus.


ASTRAGALUS

18. hy'menocar'pus (membranous-podded). See A. Char' taceus.
20. al'bus (white-flowered). See A. Danicus albus.
23. lactif'orus (milk-flowed). See A. Test'iculatus.
25. lat's'mini (Laxmann's). See A. Adrug'en's.
29. linears'f'oruss (linear-leaved). See A. O'nobrychis.
43. onob'rychid'es (sainfoin-like). See A. Ceph' alothec.
63. succul'e'nis (succulent). See A. Caryocar'pus.
65. syl'e'us (wood). See OXYTROPIS SYLVATICA.
75. vag'i'nis (1. Rosy-purple. Siberia.
77. vig'i'cius (red-leaved). 1. Saffron. FRUTICOSUS. 1824.
78. vire'scens. See A. Fal'catu's.

ASTRANTHUS. (From astron, a star, and anthos, a flower; in reference to the star-like divisions of the flower. Nat. ord. Samydaceae. Linn. 8-Ontandra, 1-Monogyne.) Now referred to Homalium, which see.

Greenhouse evergreen shrub; cuttings in sandy soil under a glass; rich, light loam. Temp., 50° in summer; winter, 40° to 45°.

A. co'chin-chin'sis ( Cochinchinese). See Homalium Fagi'folium.

ASTRAN'TIA. Masterwort. (From astron, a star, and ant, comparison; referring to the disposition of the flower. Nat. ord. Umbelliferae [Umbelliferae]. Linn. 5-Pentandra, 2-Digynia.) Allied to Sanicula. Hardy herbaceous perennial; dividing the plant in March, April, or October; sandy loam.

3. cau'cisica (Caucasian). See A. major.
6. mi'nor (smaller). See A. Hellebori'folia.

ASTRAGALEA. (From astrage, lightning; in reference to the brightness of the flowers in India. Nat. ord. Sterculiacae.)

Stove evergreen trees; cuttings of young wood in April, in sand, under a bell-glass, in heat; loam and peat. Summer temp., 65° to 80°; winter, 55° to 65°. All age now referred to Dombeya.

A. tiliaefolia (larch-tree-leaved). See Dombeya ACANTHUS.

ASTROCARUM. (From astron, a star, and harum, a nut; referring to the disposition of the fruit. Nat. ord. Palms [Palmaceae]. Linn. 21-Monacca, G-Hexandra.) Allied to Cocoa. Stove palms; seeds in hotbed, in spring; rich loam. Summer temp., 65° to 75°; winter, 55° to 60°.


aciculeum ( prickly), 40. Guiana. 1824.

arge neutum (silvery). See A. MALBY. 1826.


dekayi (Bull. Cat., 1879, 3). Colombia. 1877.

platae (threaded). Colombia. 1875.

granatae. Colombia. 1875.

Malayo. Colombia. 1875.

mexicanum. Mexico. 1864.

Murumuru (Murumuru). 40. Brazil. 1825.


ASTROLOBIUM. United to Ornithopus.

ASTROLOBA. (From astron, a star, and loma, a fringe; in reference to the bearded fringe on the flowers. Nat. ord. Eparoids [Eparicaceae]. Linn. 5-Pentandra, 2-Monogynia.)

Stove evergreen shrubs. Young cuttings, firm at their base, in sand and peat in close frame; sandy loam and torfy peat. Winter temp., 40° to 45°.

A. dentiolum (finely-toothed). See A. HUMIFUSUM.


longiflorum (long-flowered). Red. April, Australia.


ASTROPHENYUM MYRIOSTIGMA. See ECHINOCACTUS MYRIOSTIGMA.

ASTYDAMIA. (Derivation uncertain. Nat. ord. Umbelliferae.)

Greenhouse evergreen seeds; cuttings. Fibrous loam, leaf-mould, and sand.


latifolia (broad-leaved). See A. CANARIENSIS.

ASTYRIA. See ASTIRIA.

ASTYSIA. (From a, without, and stackys, a spike; the inflorescence, not in spikes, as is often the case in Acanthads. Nat. ord. Acanthads [Acanthaceae]. Linn. 14-DIDENYMA, 1-EPISPERMA.)

Stove evergreen shrubs; cuttings of young shoots in April, in sandy soil, in close frame; leaf-mould and loam, with a little sand, and, when vigour is required, a little loamy sand. It may be used also in the glasshouse. Summer temp., 60° to 80°; winter, 50° to 55°.


chizonioides (Chelone-like). 3 to 4. India. 1871.

coronandella (Coronandel). Purple. September.

leucomacrophilia. 8 to 20. June. Fernando Po. 1867.


Xat.(G.C. 1892, xii. 760). Zululand.

viola cea. 1 to 2. India. 1870.

ATHANASIA. See TACCA.

A. apera. See TACCA INTEGRIFOLIA. • crista la. See TACCA CRISTATA.

ATALANTA. See CLEROME.

ATALANTIA. (A classical name, after Atalanta, daughter of Schoenus, King of Scyros. "She being wareied with the importunitles of her suitors, contented to have the man that could outstrip her. Hippomenes did so by the help of Venus's golden apples. He cast three before her, and she lost ground in gathering them." The fruit is golden-coloured. Nat. ord. Cimbrnmorvs [Rutaceae]. Linn. 7-Lonemogonia.)

Stove evergreen shrub; cuttings in cold frame propagating pit with bottom heat; sandy loam and peat.


ATAMASCO-LILY. Zephyrionthus Atamus so.

ATELANDRA. (From atalos, soft, and aner, an anther. Nat. ord. Liliads [Liliaceae]. Linn. 14-DIDENYMA, 1-EPISPERMA. Allied to Westringia.) Now included with Hemigmania, which see.

Greenhouse evergreen shrub. Cuttings of half-ripe wood in sand and loam in close frame, with a little bottom heat; loam and peat. Winter temp., 40° to 45°.


ATHALLIA SPINARUM. The Turnip Saw-fly. "The grub of this insect—known as the Black Caterpillar, Black Canker, Black Palmer, Negro, and Nigger, or Black Grub—sometimes eats away the flesh of acres of our turnips. Its body is cylindrical, as thick as a crow's tail, about half an inch long, greenish-black, with a darker line down the back; then a line of dull, yellowish-grey, and a third line of dark green. Underneath, the body is paler; it is wrinkled, and the head is black. When alarmed, this grub curls itself together in a somewhat spiral form. They feed on the leaf of the turnip, leaving nothing but its largest root from the middle of August until about the same period of October. They never attack the Swedish turnip. When fully grown, the grubs bury themselves just below the surface of the earth, each forming a small, oval cocoon of earth, formed into a paste with a gummy moisture from its mouth. It remains in the chrysalis statc until July, when the perfect insect, or Turnip Saw-fly, comes forth. Our drawing represents it magnified, the natural size being shown by the cross lines. It is the Athalia ataloides of some, and A. spinarum of other naturalists. Its colour is bright orange, head black, upper lip pale yellow, antennae black, thorax has two large dark spots, and other dark marks are about the body and legs. In small plots of turnips the black grub may be easily removed by hand-picking, and from larger breadth-wise by turning them upon some broods of ducks."

(Cottage Gardener, 11. 149.)

ATHAMANTA. (From Mount Athamas, in Sicily. Nat. ord. Umbelliferae.)

Remarkable for its pretty foliage; hardy herbaceous plant; grows freely in any ordinary garden soil; may be propagated from seeds or divisions.


ATHANASIA. (From a, not, and thanatos, death; in reference to the flowers being what is called "ever lasting." Nat. ord. Compositae [Composita]. Linn. 10-SYNGENESIS, 1-EQUALIS.)

Greenhouse evergreens; all natives of the Cape of Good Hope. Cuttings of half-ripe wood in spring, in sand, peat, and loam, in close frame, and in hot peat, and leaf-mould. Winter temp., 40° to 45°; summer, 60° and upwards.


AUBRIETIA


A. macrophylla (large-petalled). Russia. 1831. See C. VERTICILLARIS.


ATRAPHAXIS. (From atraphaxis, a culinary vegetable or garden orch; suggested from the similarity to some species of Orach. Nat. ord. Polygonaceae. Allied to Polygonum.)

Hardy, twiggly, much-branched, often spiny shrubs. Cuttings of side-shoots in a cold frame or pit during summer. Ordinary soil.


A. laxmannii (Laxmann's). Russia; Central Asia. 1894.


ATRIPLEX. Orach, or Arach. (From atrus, black, and plexus, woven together, on account of the dark colour and habit of some of the species. Nat. ord. Chenopodiaceae (Chenopodiaceae). Linn. 23-Polygonia, 1-Monocot.)

A. Brevirri (S. C. A. A. Cat., 1900, 50). California.

A. halimoides 'monumentalis' (B. T. O., 1890, 42, f. 3). Seedling form of tall habit.

A. nummularia (Damm. Cat., 1890, 91, 87).

ATROPA. Nightshade. (Named after Atropos, one of the three Fates, in reference to its poisonous qualities.)

We introduce this native weed (*A. troph Belladonna*) for the purpose of warning country people from eating its roots. The fatal accidents frequently occurring in consequence. The berries are at first green, but become black and juicy.

A. Belladonna. Known as the Deadly Nightshade. An indigenous plant, the berries of which, when ripe, are black, are considered to be a deadly poison, and many fatalities have occurred through eating them.

ATTALEA. (From attalus, magnificent; in reference to the beauty of these palms. Nat. ord. Palms [Palmae]. Linn. 21-Monocot, 9-Polygonia. Allied to Cocos.)

Stove palms. Seeds; rich, loamy soil. Summer temp. 65° to 80°; winter, 55° to 60°.


A. cohune. 50. Honduras.


A. cocoea (tall). 70. Brazil. 1826.

A. fusca (coarse). 40. Brazil. 1834.


A. nuxifera. See A. amygdalina.

A. portoricensis. 20. Brazil. 1825.

A. speciosa (showy). 70. Brazil. 1826.

A. spectabilis (remarkable). 70. Brazil. 1824.

AUBRIETIA. (Named after M. Aubriet, a French botanical draughtsman. Nat. ord. Cruciferae [Cruiferae]. Linn. 15-Tetrahydrom. Allied to Arabis.)

May and June. Dividing in spring or autumn; cuttings under a glass-house, in sandy soil; any dry soil.


ATHEROPOGON


A. tricus'pis (three-pointed). See A. TRIFURCATA.


ATHEROSPERMA. (From atheros, an aven, and sperma, seed; seeds avened. Nat. ord. Monimiaceae. Linn. 21-Monocot, 8-Sapindaria.)

This beautiful New-Holland tree attains the great height of 150 feet, and has the aspect of a stately conifer, with a girth of 6 to 7 feet. The colonists make a pleasant tea beverage from the bark, either dried or in a green state. "Its effects are, however, slightly aperient." Backhouse. Greenhouse evergreen tree; cuttings; loan and peat. Winter temp. 40° to 45°.


A. donia'na. See A. LAXIFOLIA.

A. imbrica'ta. Garden synonym of A. selaginoides.


ATHYRIUM. See Asplegium. The name Athyrium is still retained by most nurserymen and gardeners.

ATINEA. (From atinos, despaired. Nat. ord. Araceae.) Now referred to Rhodospa. Treatment same as for other tropical Aroids.


ATMOSPHERE. See Air.

ATRAGENE. (From atras, pressed, and genos, birth; in reference to the manner in which the branches clasps their supports. First applied by Theophrastus to our Traveller's Joy—Cle'mais Vital'is. Nat. ord. Cucubae [Ranunculaceae]. Linn. 13-Polygonia, 6-Polygonia.) Native, also to Cleopatra.

Hardy deciduous climbers; seeds when procurable; sow in a cold pot, and pricked off into other pots as soon as up; layers in summer and autumn; cuttings in spring or summer, under a hand-light; common soil.

A. alp'i'a. Syns. A. austriaca and A. sibirica. See C. ALPINA.

AUCUBA. (The name of the shrub in Japan. Nat. ord. Cornels [Cornaceae]. Linn. 2-Diactia, 4-Tetrandria.) Cuttings in spring and autumn, and layers in any light soil, without covering; common soil, if drained; stands the smoke of town's well. It is sometimes called the Variegated Laurel.

A. himala'ica. Leaves lancelolate or lanceolate acuminate. Berries spherical, Himalaya.


AUDIBERTA. (Named after M. Audibert, a noted nurseryman of Tarascon. Nat. ord. Labiates [Labiateae]. Linn. 2-Diandria, 1-Monogynia. Allied to Monardia.) Hardy evergreen. Seeds, in March or April; common soil.


AULACOSPERMUM. See Pleurogsperrnum.

AULAX. (From aulax, a furrow; in reference to the furrows which line the end of each leaf in the case of very centre or tube of each flower. A. auriculata, 2-Diactia, 4-Tetrandria. Proteacées [Proteaceae]. Linn. 2-Diactia, 4-Tetrandria.) Greenhouse evergreen shrubs. Ripe cuttings, in sandy soil, in close frame with bottom-heat; loam and peat. Winter temp., 45° to 50°.


umbella'ta (umbelled). See A. cheiroforia.

AURICULA. (Prí'mula Aurí'cula). The Bear's Ear, or Mountain Cowslip.

The varieties of this flower are very numerous, and their numbers are annually increased. They are divided into five classes: (1) Dwarf-edged; (2) Grey-edged; (3) Whitsined; (4) Selfed, which have the outer edge of the petals shaded by a mixture of two colours, not separated into distinct bands of colour, as in the edged varieties; and (5) Alpine, which have the outer edge of the petals shaded by a mixture of two colours, not separated into distinct bands of colour, as in the edged varieties; and there is no paste round the tube as it is in the edged and selfed.

As florists have several terms relative to the Auricula, which may not be understood by every amateur, we may as well explain that the thorn is a common name for the stamens of the flowers. The pollen is gathered in tins, and the fructifications, in pottery or earthenware jars, generally of small size. To give the pollen to the flowers properly, the tube is cut into pieces of different lengths, and the tips are moistened with water or a mixture of water and vinegar.

"The properties of the Auricula may be divided into two series, namely, those of the single pip, and those of the single flower. The Pip.—1. Should be circular, large, with petals equal, firm, fleshy, smooth at the edges, without notch or serrature, and perfectly flat.

2. Should not exceed one-fourth of the diameter of the tube; it should be of a fine yellow or lemon colour, perfectly round, well filled with the anthers, or thrum, and the edge rising a trifle above the paste, or eye.

3. The paste, or eye, should be perfectly circular, smooth, and of a dense, pure white, without crack or blemish, forming a band not less than half the width of the tube, and surrounding it.

4. The ground-colour should be dense, whole, and form a perfect circle next the eye. The brighter, darker, or richer the colour, the better the flower; but if it be paler at the edges (where they are parted into five), or have two colours or shades, it is a fatal defect.

5. The margin, or outer edge, should be a clear, unchangeable green, grey, or white, and be about the same width as the ground-colour, which must in no part go through to the edge. From the edge of the paste to the outer edge of the flower should be as wide as from the centre of the tube to the outer edge of the paste. In other words, if the tube be divided into four equal parts, they should be drawn by four circles round a given point, at equal distances; the first circle forming the tube, the second the white eye, the third the ground-colour, and the fourth the same as the first, or like the tube, unless they approximate to this (except that the ground-colour, which may be a little broader than the other bands, and the green or grey edge, may run into each other in feathery points; these must be flat and the flower in a perfect circle). The colours should not be liable to fly, as is the defect of Stretch's Alexander, the colours of which fade in three or four days.

6. Of the Plant,—1. The stem should be strong, round, upright, if short in proportion with the flower, which should not be at a distance of more than one-fourth of an inch, and from 2 to 3 inches high, so as to carry the truss well, but not too high above the leaves.

2. The length and strength of the foot-stalks of the pips should be a measure of the upright weight of the flower. If the flowers are equal and of the same size, that all the pips may have room to show themselves, and to form a compact, semi-globular truss of flowers, not less than five, though we prefer seven in number, without lapping over each other. The pips should be all alike in size, colour, and form, so as not to be easily distinguished from one another; for, otherwise, the unity and harmony of the truss will be destroyed, and, although the flowers may be beautiful in their own right, the flowers that do not open some of the pips till others have passed their prime, the whole appearance of the truss is impaired.

3. The truss is improved if one or more leaves grow, and stand up well behind the bloom; for it assists the truss, and adds much to the beauty of the bloom, by forming a green background.

4. The foliage, or grass, should be healthy, well-grown, and almost cover the pot.

We are of opinion that all these criteria are founded upon the dictates of correct taste; but, as these excellencees are never combined in one variety, and as some, being equals in many qualities, are mutually superior in others, the question constantly arises, at Auricula exhibitions, as to which variety has the preponderance of merit. Now, we are clearly of opinion that form, including in this the relative proportions of the colours on the pips, the half-globular form of the truss, the number of pips, &c., is by far the most striking excellence in an Auricula. Next to this we should place the harmony, or, as we should prefer, the agreeable contrast, or complementary association of the colours.

Propagation is effected by taking slips from one, and dividing them into two or more by the second leaf, and as soon as they are ripened, in July and August, and by the seed itself.

Raising Varieties.—The parent plants should be vigorous; and, before the pips of the mother-plant are quite open, all the flowers are removed with a pair of sharp-pointed scissors, cover with a hand-glass, dust the pistil with pollen from the father-plant, and
AURICULA

keep the hand-glass over as before, until the flower, beginning to fade, shows that there is no danger of any other pollination being effected. For this purpose, Gather the seed-vessels as they become brown, in June and July; place them in the sun, on a sheet of white paper, until they burst. Rub out the seeds, and sow them early in spring, or keep them in the seed-vessels, in a dry place, until March, which is better. Sow them in a warm border of light soil, or in boxes, under glass; cover them with light sand. When the flower begins to dry, allow a little water to trickle through, which will prove that you mark as good must be potted as soon as the bloom is over, and treated as we shall direct for established plants.

Established Plants.—The plants grown in pots should have attention as soon as they have done flowering. All that are not required for seeding should have the flower-stems removed, and a little later the plants will be pruned. It is best to leave them until a good many of the old leaves at the base can be removed, which allows the plants to be potted down to cover the stem, for it is from the stem made during the previous season that the flowers are produced. The most suitable compost consists of good yellow loam, with the addition of some leaf-mould and cow-dung, which should be thoroughly dried and some soot added, also some sand, and good drainage should be given. When the pot is potted, some of the old roots may be cut away and much of the old soil shaken out. It is necessary to be careful to soil the well about the roots. Some authorities recommend potted-down seedlings, but these do not make so good plants, or a greater number of small pieces in each pot may be beneficial, but they should not be too liberally; pot fairly firm, and do not fill the pots too full, for in the spring the plants will be half done off by the roots, and they will not do. The decayed leaves should be removed, also the surface soil as far down as can be done without disturbing the roots, and the soil in the pots must be moderately moist when this is done. Much depends upon the condition of soil and the weather when they are put in, and if the pots should not be exposed or allowed to get dry. After potting a slight surface watering may be given, and the plants placed in a pot or frame; provided that the ground may have a good watering with water-killer, and a surfacing of coal ashes. For the first few days the light may be kept on, giving a little air and shading from bright sunshine. As soon as re-established, they should be well exposed, but a better way where they do not get full exposure to the sun. For ordinary culture the side growths (or suckers) may remain, but for exhibition only one crown should be grown. The side shoot, if taken care of, will be the same as the main shoot. The Alpine species may be raised from seed, but it takes two years to make effective plants; though seed sown in May will produce plants that will flower the following spring, but they will have the habit of the species they were raised from. From seed we get such a large number of plants that they may be grown closely together the first season, and when they flower the weekly ones may be pulled out, and any of special value labelled. To get good results much depends upon winter treatment. Although quite hardy when grown in the pot-plants should have some protection, but only in very severe weather should they be kept under close frames; in all favourable weather the lights should be taken off. Many plants are spoiled through being kept too close in mild weather during the winter, and the Auriculas are among the plants that must have plenty of light and air. The spring treatment of those grown in pots will depend to some extent upon the time they are required to come into flower. They cannot be kept under closed frames; put on a shelf in a cool greenhouse where they are fully exposed to the sun they come on early. When they begin to start into growth after clearing off any bad leaves they should be transferred to a frame. Watering is an important factor; careful attention, and liquid manure made from cow-dung will greatly assist growth. So MANURE when in flower, those with the shade over them in the flowering season should be protected from wet; they will also last longer if shaded from the sun.

Diseases.—The Auricula is not subject to so many diseases as most plants; canker or ulceration of the roots being the chief trouble. This is commonly caused by careful potting and the occasional use of lime water. Like most other root diseases, it is brought about by inattention to watering. If the plants get too dry the roots suffer and cannot take up the water, and this causes canker and decay.

A'VENA. A genus of the Nat. ord. Grasses, of which it is only necessary to observe here that one of its species, Avena sativa, is the Oat.

A'VENS. G'cum.

AVENUE. Trees planted in a straight line on either side of a roadway; the Chestnut Avenue at Hampton Court is a good example. It is rarely that modern landscape gardeners follow this formal way of planting. AVERREHO'A. (Named after Averrhoes, a Spanish physician. Nat. ord. Oxalids [Geraniaceae]. Linn. 10; Decandria, 4-Pentagynia.) The leaves of A. Carambola exhibit that kind of irritability we call "sensitive." The fruit of both species is eaten in India; but its acidity is intolerable to Europeans. Stove evergreen shrubs; half-ripped cuttings in April, in sand, loam, and peat in close frame with bottom-heat; loam and peat. Summer temp., 60° to 85°; winter, 55° to 60°.


AVERBUCATOR (from the Latin averrucosus, to prune). A small pair of powerful shears, on a long handle, for severing boughs on lofty trees.

AVIARY. This building, devoted to the preservation of live birds, distinguished for the beauty either of their nests or plumage, is rarely admitted within a garden, and still more rarely is it sufficiently ornamental, or sufficiently free from disagreeables, to be a source of pleasure.

AVOCADO. See Persea gratissima.

AXIL. This term, meaning, literally, the arm-pit, is used by botanists to indicate the point of the angle between a leaf and a branch, or between a branch and the stem.

AYE'NIA. (Named after the Duke d'Ayen. Nat. ord. Sterculiaceae [Sterculiaceae]. Linn. 5; Pentandria, 1-Monogynia.) Stove plants; cuttings in sand; rich soil; ordinary stove treatment.


AZALEA. (From azaleos, dry; in reference to the habituation of the plant. Nat. ord. Heathwoors [Ericaceae]. Linn. 5; Pentandria, 1-Monogynia.) It was said that the Pontic honey which stupefied the Greek soldiers was collected from Rhododendron ponticum; but Pallasis believes it to have been gathered from Azalea pontica. Some authorities include the Azaleas with Rhododendrons. I find this is done in the published awards made by the Royal Horticultural Society. This brings in a difficulty, for Azalea pontica is quite a different plant to Rhododendron ponticum. This may have caused the confusion referred to in the old edition, and which has been repeated without alteration in a later edition. Azalea pontica is Rhododendron flavum, if placed in that genus. Where the specific name is changed under Rhododendron, the name is given under Azalea as a synonym. All the greenhouse species are evergreen, except A. squamata; and all the hardy species are deciduous. The hardy species, by layers, may be preserved in autumn, and doing best in sandy peat, though many will thrive well in peat and loam; the Indian species and varieties are propagated by seed, and cuttings of still, but not overhard, shoots, inserted in sandy peat; and sand peat. Summer temp., 50° to 75°, if required to bloom early; winter, 45° to 55°. A lower temperature will suit, if late bloom is wanted.
AZALEA

HARDY.


A. floridum (magnificent). Amer. Scarlet.


AZALEAS (AMERICAN). These include what are called Ghent Azaleas, which are seedling varieties of A. calendula that have been in use for a hundred years. The varieties were first raised in the neighbourhood of Ghent.

Propagation.—By layers in March: the plants require a rich, peaty soil to which a little sand is added. If the part buried in the ground is covered with moss they will root more freely. They should not be taken off the parent till after the second year’s growth. Many of these are now raised from seeds.

Soil.—Sandy peat, in a dry situation, at least eighteen inches deep; but, in a damp one, a foot deep will be sufficient.

Cultivation. In spring, protect the young shoots and flowers by hoops in low situations, as the late frosts often destroy the young, early shoots. In winter, and in summer, if the soil is very dry, cover the bed with green moss.

 Diseases.—Sometimes the plants die off just at the surface of the soil, owing to too much moisture. The remedy, if the situation is low and damp, is either to drain it thoroughly, or to raise the bed completely above the general level.

Varieties may be raised by crossing the kinds in such a way as is likely to effect a pleasing change. Choose the best forms and brightest colours; set the plants with flowers of the best form be the seed-bean of mother, and rely for the colour upon the pollen of the male. Sow the seed in April, in pans, placed under a cold frame; prick the seedlings out the year following in beds, four inches apart, to remain till they flower.

AZALEAS (INDIAN OR CHINESE). Raising Varieties.—The best and most certain way to obtain new varieties is by impregnating the best-shaped flowers with the pollen of some fine, high-coloured variety. Remove the anthers before they burst from the one intended to seed; cover with fine gauze the flower impregnated, to prevent impregnation by insects. When the seed is ripe, gather it, and sow it the February following in a bed, prepared with an inch of soil, with the top, where the seedlings have two or three leaves, transplant them into fresh, sandy peat, in deeper pans. They may remain in these pans till the spring following; then pot them singly, or in groups, and grow them on, repeating as they require it, till they flower.

Propagation by Cuttings.—Take the young tops, three inches long; dress them by cutting off the bottom leaves, leaving within an inch a thick top. As soon as the seedlings have two or three leaves, transplant them into fresh, sandy peat, in deeper pans. They may remain in these pans till the spring following; then pot them singly, or in groups, and grow them on, repeating as they require it, till they flower.

BABAIA (From aso, to dry, and ollo, to kill. Nat. ord. Marsileaceae). A half-hardy aquatic that has escaped into ditches and ponds in parts of England. It is usually grown in greenhouses and stoves, and floats on the surface of the water, in water-lily and other tanks.

AZLEA STRUM ALBIFLORUM. See RHODODENDRON ALBIFLORUM.

AZRA. (Named after J. N. Asara, a Spanish patron of botany. Nat. ord. BixACEAE. Linn. 3-Polyandra monogynia.)

Greenhouse evergreens. Cuttings in sand, peat, and loam, in close frame, with bottom-heat. Sandy loam. Summer temp., 60° to 75°; winter, 55° to 60°.


AZUL. (From asimena, the Malagasy name of a shrub. Nat. ord. Salvadoraceae.)


AZULINA. (From azo, to dry, and ollo, to kill. Nat. ord. Marsileaceae.)

A. carolinia’na. 1. Leaves minute, green, or red outdoors. 2. pinna’s, of gardens. See A. caroliniana.

BABIA (From babiener, the Dutch for baboon; in reference to the bulbs being eaten by the baboons. Nat. ord. Irisaceae. 3. Trichromis, 1-Mono’gynia.)

All greenhouse bulbs, from the Cape of Good Hope. Offsets; sandy peat and loam, or in green, when growing, sandy peat when at rest. Those potted in autumn must be kept in a cold pit or greenhouse during winter. Those planted in spring, in a warm border, should be taken up before winter, and kept secure from frost.

B. angustifolia (narrow-leaved). See B. striata.

BALBIANIA. (Named after Giovanni Battista Balbis, a Turin Professor of Botany. Nat. ord. Geraniaceae.) A pretty, half-hardy, evergreen shrub, may be grown in the open in summer and in the greenhouse in winter; seeds or cuttings; light loamy soil.


BALCONY. A word probably derived from the Persian, signifying an ornamentally-barred window, and by us applied to a frame, usually of iron, and encompassed the whole of a flat face, placed on the front of one window or of several windows. It is an excellent place for giving air to room-plants, and for the cultivation of some flowers.

BALDINGE'A. A synonym of Premna.

BALLOTA. (The Greek name. Nat. ord. Labiatae.)

B. cinerea. See Roylea elegans.

B. Pedi-dolich'tus (false-Dittamnus). Crete. "False Dittany of Crete."' 

"suav'elens" (W. G., 1889, 81). See Hyptis suave'lens.

BALSAM. (Melissa officinalis). This hardy herbaceous plant has a citron scent and aromatic flavour. It is cultivated now only for making a grateful drink for the sick.

The Soil best suited to its growth is any poor and friable, but rather inclining to clayey than sandy. Manure is never required. An eastern aspect is best for it.

Planting.—It is propagated by root division (of which the smallest piece will grow), and by slips of the young shoots. The first mode any time during the spring and autumn, but by slips only during May or June. If divisions of an old plant are employed, they may be planted at once where they are to remain, at twelve inches apart; but if by slips, they must be inserted in a shady border, to be thence removed, in September or October, to where they are to remain. At every removal water must be given, if dry weather, and until they are established. During the summer they require only to be kept clear of weeds. In October the old beds (which may stand for many years) require to be dressed, their decayed leaves and stalks cleared away, and the soil loosened by the hoe or slight digging.

Old beds may be gathered from in July for drying, but their green leaves, from March to September; and those planted in spring will even afford a gathering in the first month of the year. The stalks may be cut, with their full clothing of leaves, to the very bottom, and the drying completed gradually in the shade.

BALSAM OF GILEAD. Dracaec'pha'num canari'ense and Cedron'illa tripphy'Ila.

BALSAM AND BALSAMIA. See Impatiens.

BALSAM APPLE. Monór'dica Balsam'ina.

BALSAMITA. (From balsamum, greedy, referring to the viscid glands on the plant. Nat. ord. Compositae.) Hardy, herbaceous plant that may be grown in any good garden soil. Propagation by division of the plant in spring.

B. vulgaris (common). See Chrysanthemum Balsam'ita.

BALSAMODE'NDRON. (From balsamum, balm, or damson, and dren'don, a tree. Nat. ord. Burseraceae.) Hardy, herbaceous plant that may be grown in any good garden soil. Propagation by division of the plant in spring.


B. yza'nicum (Ceylon). See Canarium zeylanicum.

BALSAM OF COP'A'BA. Copat'era.
BALSAMS. By this name are usually known the varieties of the common annual, Impatiens Balsams, by some needlessly separated, with a few others, into a separate genus, and called Balsamt na horte'sia. Culture.—The chief object in cultivating these is their fine, large flowers. Their seeds should be saved only from the finest plants; and, if the seed is several years old, the plants will be less luxuriant, and the blooms will be more double.

No. 6. To the right of the flowers is a small plant, 3 in. high, in a sweet hothead, in the middle of March; the plants pricked out into small pots when three inches in height, using light, rich soil, shifting them again, and successively, mortar and cow-dung round the base and treading the roots into a pot at a temperature of 70°, until some time after their last shifting into eight, twelve, or sixteen-inch pots, according as you aim at moderate-sized or fine plants, a current of air, less or more, according to the weather, to keep the plants bushy, and using richer materials every time of potting; until the last soil used may consist of nearly as much very rotten, but sweet dung (cow-dung is best), as turfy, sandy loam. Successions may be sown in April and May, and treated in a similar manner, either for pots, or to be turned into the greenhouse, where they frequently do well until the middle of October.

When you cannot accommodate any but the best flowers in the greenhouse, adopt the following method:—After pricking out into small pots, or planting in the bed, allow the pots to get full of roots, keep them dry and cooler, and give plenty of air, which will soon cause flowers to appear; then select plants with best flowers, and put every bush, or fresh pot, digging out the roots a little as you proceed, and grow them on as advised above; and what you lose in time you will make up in selectness.

BALSAM-TREE. Chis'is.

BALTIMO'RA. (Nat. ord. Compositae.) A stout plant of little value for cultivation, raised from seeds and grown in good loam.


BAMBUSA. Bamboo Cane. (From bamboos, its Indian name. Nat. ord. Grasses [Gramineae]. Linn. 60. Alexandria, t-Monograsiia.)

The very young shoots of the Bamboo are eaten in India as asparagus. All hardy shrubs except where described as stove. Suckers, in spring or autumn; rich loam, 60° to 85°. The Chinese do not care for them. Since the publication of the earlier editions of this work much more attention has been paid to the culture of the Bamboos, and they are much appreciated as pot plants; there being several species grown for different purposes. Phyllostachys falcata (also known as Bambusa), Phyllostachys aurea (also known as Bambusa), Bambusa vulgaris, B. v. striata, and Arundinaria Simoni, of which there is a pretty variegated variety. It is remarkable that after once flowering and producing seed the old plants die away. It is many years ago when a fine specimen of Arundinaria flowered at Syon House, and then died off. A large batch of seedlings were raised at the R.H.S. gardens, Chiswick, from the seed of that unique specimen. Many other instances have occurred since. All the Bamboos may be increased by divisions and should be pruned carefully; they love requiring but little moisture, but plenty of water. Bamboo gardens are now a great feature in many large gardens. It was at Kew where a large collection was planted, that first created the idea of Bamboo gardens. They may be grown in almost any sheltered position, but succeed best on the banks of a running stream, or near a pond or lake, surrounded by trees to protect them from gales of wind in winter, when the foliage will keep green till the young leaves develop in May and June.


" arista'la (awned). See Arundinaria arista'ta.


" spino' sa (spiny). 1820.

" wu' rea. See Phyllostac'hys aurea.

BANISTERIA. (Named after the Rev. J. Banister, a zealous botanist. Nat. ord. Malpighiaceae.) Linn. 10-Dendran'dria, 3-Trig'myra.)
B. argyrophylla (silver-leaved). Brazil, 
 auriculata. See Stigmaphyllum auriculatum. 
 chrysophylla (golden-leaved). See Heterotropis 
 chrysophylla. 
 ciliata (ringed). See Stigmaphyllum ciliatum. 
 composita (fork-branched). See Stigmaphyllum 
 convolvulifolium. 
 emarginata (notched). See Stigmaphyllum em- 
 flaginatum. 
 filiformis (shining). See B. argyrophylla. 
 seriacea (silky). See Heterotropis seriacea. 
 sinemorosis (Guiana). See Stigmaphyllum pub- 
 fescens (slender). See Heterotropis umbellata. 
 1820. 
 lomenta (felted). See Stigmaphyllum emargin- 
 atum. 
 zona'barica (Zanzibar). See Acidocarpus zan- 
 baricus. 
 Shrub. 
 Island. 
 humboldtiana (Humboldt's). See Stigmaphyllum 
 humidulatum. 
 laurisifolia (bay-leaved). See Heterotropis lauri- 
 folia. 
 ovata (egg-shaped). See Brachypityx varicolor. 
 periplocosifolia (Periploca-leaved). See Stigmaphy- 
 lorn periplocefolium. 
 splendens (shining). See Stigmaphyllum fulgens. 
 Banks (sloping) are very desirable in a kitchen- 
 garden, not only because they aid in forwarding the crops 
 on the south side, and retarding those on their north 
 front, but because they much increase the cultivable 
 surface. Supposing the banks to run east and west, 
 the south side, especially as respects all low-growing 
 things, such as French beans, potatoes, &c., will produce 
 flowers earlier than when cultivated on a level; while 
 the north side will retain lettuces, &c., during summer, 
 much longer fit for the table. The surface of the ground 
 is also increased, notwithstanding learned assertions to the 
 contrary. In making them, at first, in shallow soils, 
 they should not be wider than 6 or 7 feet, but, as 
 the soil becomes improved, they may be from ten 
 to twelve feet in width. In deep soils, the banks may be 
 formed by trenching in the usual manner, only throwing 
 the soil into shape by a line and stakes. In thin soils, care 
 should be taken to have plenty of room in the first open- 
 ing to stir the sub-soil, and then replace again the surface- 
 soil on the surface. The accompanying sketch will give 
 some idea as to how they are formed, each ridge being 
 twelve feet wide at the base, A B is the ground level, 
 c the apex of the ridge, and d d paths between. Of 
 course they could not be raised so high, at first, without 
 impoverishing the other ground. If drained beneath 
 the path, all the better; for, in heavy land, without 
 drainage and deep stirring, the moisture will be long 
 retained. If at a bench a bank fixed, or even a row of 
 dwarf, hardy peas, the south side will be rendered still 
 warmer, and the north side more cool and late. Such 
 banks, therefore, may not only be used for vegetables, 
 but also for potatoes and retarding fruits, such as the 
 strawberry. Owing to the depth of soil thus obtained, if 
 the surface is kept stirred, you will never need much of 
 the water-pot, even in the driest weather. The right 
 hand, or south side, should be the longest; and, in a 
 succession of ridges, the northernmost one should be 
 handled, otherwise they will damp off. Some kinds are 
 most easily propagated by layers, and a few rare ones 
 by grafting; but most are obtained by cuttings of the 
 ripened shoots, with most of the leaves attached, inserted 
 by the side of a pot, placed in a well-light, kept 
 close, and shaded from sunshine during the day, and air 
 given, and the glass removed for a time during the night. 
 Sandy pot, with a little loam to the more strong-growing. 
 Summer temp., 50° to 65°; winter, 35° to 45°. 
 australis (southern). See B. marginata. 
 Baurei (Bauer's). Red. 
 B. (Brongni (Miss Brown's).1830. 
 Caley's (Caley's). 1830. 
 compar (well-matched). See B. integrifolia. 
 Cunninghamia's mim (Cunningham's). See B. collina. 
 cylindro'stachya (cylindric-spiked). See B. attenu- 
 atum. 
 elata (taller). See B. aemula. 
 gra'nis (great-flowered). 2. Yellow. 1794. 
 H. (Hugel's). 1837. 
 -leaved (white-flowered). 6. To. 1807. 
 Insularis (island). See B. marginata. 
 leath. (leathern). 1803. 
 slime's (beaishore). (B. R., t. 1363.) See B. 
 collina. 
 Menzis's (Menzis). Yellow. 1837. 
 oblongo'lia (oblong-leaved). See B. marginata. 
 occidentalis (western). 6. Red. King George's 
 Sound. 
 paludosa (marshy). See B. integrifolia. 
 prostr'ata (prostrate). 2. Yellow. 1824. 
 pucre'ofia (oak-leaved). 5. Yellow. 1805. 
 re'pens (creeping). 3. 
 -sider (Solandra). Hooker's. 1824. 
 1842. 
 BA'OR-TRAB. Adanso'nia. 
 BATHIA. (From bath, a dye; the Camwood or 
 Barwood, from which a brilliant red colour is obtained, 
 is from B. ni'tida. Nat. ord. Leguminous Plants [Legu- 
 minosae]. Linn. 10-Decandria, 1-Monogynia. Allied to 
 the Carob-tree.) 
 Stove tree. Cuttings; sandy peat. Summer temp, 
 60° to 85°; winter, 55° to 60°. 
 1793. 
 BAPTISIA. (From bapto, to dye; some of the species 
 possess dyeing properties. Nat. ord. Leguminous 
 Plants [Leguminosae]. Linn. 10-Decandria, 1-Monogynia. 
 Allied to Podalyria.) 
 Hardy herbaceous plants, except where otherwise 
 specified; some are grown for cut flowers, common in 
 meadows and pastures. 
 1724. 
 1808. 
 1829. 
BARBACENA


B. mi'nor (smaller). See B. australis minor.

B. molli's (soft). See Thermopsis mollis.

B. perfoliata (perfoliate). 3. Yellow. August. Caro-

lina. 1732.

B. Sar'ena. N. Amer. 1843.

B. sphaero'ca (globe-fruited). Texas.


BARBAGE'NIA. (Named after M. Barbazena, a governor of Minas Geraes. Nat. ord. Bloodroots [Amaryll-
idealae]. Linn. 6-Hexandra, 1-Monogynia. Allied to

Vellozia.)

Stove herbaceous perennials, Division: sandy loam. Summer temp., 60° to 80°; winter, 45° to 55°.

B. gra'ulis (slender). See Dasylirion acrotichum.


1835.

B. Rog'tis (Rogers's). Purpulish-violet. 1830.

B. sanguinae (blood-coloured). Deep crimson. 1847.


BARBADOS CEDAR. Jum'perus barbadensis.

BARBADOS CHERRY. Malp'ghia.

BARBADOS GOOSEBERRY. Per'shia.

BARBAREA. Winter Cress. (From being formerly called the herb of St. Barbara. Nat. ord. Crucifers [Cruciferae]. Linn. 15-Teratophyta. Allied to Arabis.)

All hardy herbaceous biennials. Seeds; common soil. All hardy herbaceous biennials. Seeds; common soil.


B. stri'ea (upright). Yellow. Britain. Hardy biennial, Raised from seed.


B. flor'e pleno. A useful border plant with double flowers.

B. varieta'ga. An attractive form.

BARBARIA. See Barlberia.

BARBERRY. (Be'rberis vulg'uosa.) There are five varieties of the Common Barbary; the red, without and with stones; the black sweet, which is tender, and requires a sheltered border; the purple; and the white. The seedless (B. vulg'uosa asper'a) is mostly preferred for preserving purposes. The fruit is acid, and the bark is very astringent.

Propagation. Suckers, cuttings, and layers may be employed, either in the spring or autumn. The seed is very rarely used.

Soil. — A sandy or calcareous soil, with a dry sub-soil, suits it best.

Culture. — It requires no other pruning than such as is necessary to keep it within bounds. As the fruit is very tedious to gather, it is well to keep the middle of the tree open. In consequence, somewhat like gooseberry-pruning. Their spines are so formidable, that we have known the common kinds used with good effect to stop gaps in hedges liable to much trespass.

B. fruti'ca. This fully ripens in October, and is gathered in entire bunches for preserving, pickling, and candying.

Diseases. — It is liable to be infected with a parasitical fungus, the cluster cup of the Barbary (Ecidium berberidic), which is an early or spring stage of Puccinia graminis. This first gives rise to the Uredo or rust stage on wheat, and afterwards to the black or brand stage, and which is the true Puccinia. This latter rests through the winter, producing spores in spring that again attack the Barbary, thus repeating its life history.

BARB'ERIA. (Named after J. B. G. Barbier, M.D., a French naturalist. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadaphia, 4-Desacardia. Allied to Cajanus.)

Stove. Evergreen shrub. Cuttings of half-ripened wood in sand, under a glass; sandy peat and loam. Summer temp., 86° to 85°; winter, 50° to 55°.

B. polyphy'lla (many-leaved). Reddish-purple. Porto

Rico. 1818.

BARK. The exterior part of the trunks, or stems of plants and trees. And if this covering is damaged in any way it is best to nurse canker, and in the case of its being broken off the entire circumference of the stem it may cause the upper portion to die off. The bark of the oak is extensively used by tanners in the preparation of leather. For this purpose it is stripped from the trunks of trees cut down early in the year; the best bark is that from trees cut down about the time the sap begins to rise. After the bark has been used by the tanners it comes in useful for garden purposes, formerly it was used ex-

ten'sively for heating purposes, but since we have had so much better facilities for heating by hot water it has gone out of use to a great extent. As a manure it is also used, but it may be seen that it must be laid up for a con-

siderable period. The only objection to its use is that various fungi are often a trouble where it is used, other-

wise it is good manure. Perhaps the best way is to burn it and use the ashes.

BARB'ERIA. This is a term applied to cases where the bark, instead of expanding with the growth of stems, splits. This may be remedied by washing with a solution of soft soap and keeping the stems moist with soft water (rain-water).

BARK-STOVE. This is now an obsolete term, for no stoves are heated by fermenting material, as in years gone by. To prevent the bark from the tan-yards is known simply as tan.

BARBE'RIA. (After the late Mr. Barker, of Birmingham, an ardent cultivator of orchids. Nat. ord. Orchidaceae. Linn. 20-Gynandra, 1-Monandria. Allied to Lelia.) Now included in Epidendrum.

Stove orchids, divisions; fibrous peat and sphagnum, in shallow baskets. Summer temp., 60° to 85°; winter, 55° to 60°.

B. Barkeri'ola. Rose and white lip. 1884.

B. cyclote'lia (G. C., 1880, xili, 72, f. 15). Light rose. Mexico. 1885.

B. d'ublin'ensis. Pink. 1884.

B. evolii'or (G. C., 1886, xxv. 234). Large flowered.

B. Lawrence'ae (Mrs. Lawrence's). 1. Pink. Guate-

mala. 1847.

B. lindeley'ae (Dr. Lindley's). 1. Purple and white.


B. Costa Rica. 1848.

B. Sinne'meri (Mr. Skinner's). 1. Pink. Guatemala.


BARING IRONS, or BARK SCALERS, are for shaving

off the hard outer bark, or dry scales from the stems and branches of trees.

BAR'KLYA. (Named in honour of Sir H. Barkly,

formerly Governor of S. Australia. Ord. Leguminosae.)

A large tree requiring greenhouse treatment, and may be grown in the open during the summer; propagated from seeds or cuttings of half-ripened wood in close frame.


1838.


2-Angiosperma.)

Stove evergreens, except B. longifolia. This may be propagated by seed, the others by cuttings of the young
wood, in heat, under a close frame. Pot in loam, leaf-mould, and manure. Summer temp, 60° to 80°; winter, 50° to 60°.

B. a'ba (white). See B. cristata.


buxis'lia (blue). See B. Strigos'a.


dich'o'toma. Purple, E. Ind. 1823.

dich'o'toma (twin-branched). See B. cristata.


Gibo'ni (B. M., t. 5629). Purple, India. 1887.


mi'la. See B. FLAVA.


purpu'ra (purple). See B. MONTANA.


solano'sia (nightshade-leaved). See Barleriola solanifolia.


Iomento'sa (felted). S. India.

Barleriola. (From Barleria. Nat. ord. Acanthaceae.)


Barley. (Ho'rdem vulg'rae). A valuable cereal, extensively used in the manufacture of beer and also spirits.


B. ro'sea, a very pretty deciduous shrub, requiring to be kept nearly dry, in a greenhouse, in winter. Seeds in June. The flowers are on long racemes of six perfect flowers. In April, in close frame. Summer temp., 60° to 80°; winter, 45° to 55°.


spino'sa (spiny). See Chiuquiraga spinosa.

Barnea'dia. (Named after E. Barnard, P.L.S. Nat. ord. Liliywort [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to the Squills, and now united with Scilla.)

Half-hardy, bulbous-rooted plant. Offsets; peat and loam; only wants a little protection in winter.

B. scalio'des (squill-like). See Scilla CHINENSIS.

Bar'o'meter, or Weather Glass, so called from two Greek words, signifying a measurer of weight, because it indicates the weight or pressure of the air. We only admit a notice of this because, as a guide to approaching changes of weather, it is useful to the gardener. The Barometer is now so well understood by all gardeners, that it does not require any explanation, except to say that after a few months' study it is not difficult to follow the reading, and judge what the weather may be.

Baros'ma. (From barsy, heavy, and ose, odour; referring to the powerful scent of the leaves. Nat. ord. Rutaceae [Rutaceae]. Linn. 3-Fendandra, 1-Monogynia. Allied to Diosma.)

Greenhouse evergreen shrubs, all natives of the Cape of Good Hope. Cuttings of half-rriped wood in June, in close, cool frame; sandy loam and peat. Summer temp., 60°; winter, 35° to 45°.


laceo'la (lace-shaped). See Lacinifera.


Barred. That part of a plant is said to be barred which is lighter in color than a light, and darker colour than the prevailing colour of that part.

Barren Plants. In the older editions, under this heading, the male flowers of Cucumbers, Melons, and other ornamental flowers are termed barren, but the term should be applied to such flowering plants as fail to produce perfect reproductive organs. In many distinct hybrid plants this occurs; we have an instance of this in Begonia Gloire de Lorraine, and also in other hybrids; in the Begonia it is only after a long extended race of flowers that a female flower appears, and then there is no fertile pollen on the male flowers. All the double stocks and other flowers which produce petals in place of stamens prove barren. In Fuchsias, it is a multiplicity of growths or flowers which are termed plumpous varieties, they generally fail to produce fertile spores. The ray, or enlarged outer florets, of some composites are devoid of sexual organs, and are further examples of barren flowers. It was only sixty years after female plants of Aucuba japonica were introduced before we had the male or pollen-bearing plants, and up to somewhere about 1860 no berries were ever obtained on any Aucubas, and they were supposed to be barren, yet it is remarkable that the pollen is conveyed from plants a long way off, and the female flowers fertilised. Plants which produce perfectly fertile organs and flowers are obtained from nursing their seeds or fruits through indiscriminate treatment. Too much moisture and a close atmosphere causes barrenness. It may also be caused by growing the plants too luxuriantly.

In fruits we have some in which the pulpy or edible part is developed abnormally and no seeds are produced. Taking Cucumbers, very fine examples may be grown which will fail to produce perfect seeds even if carefully treated. The fruit is often borne in clusters, and the same flower may produce both perfect flowers. In this case the fruit appears, and when it is cut open the centre of the fruit is occupied by flowers. These flowers are often select the most perfect in appearance for seed, with the result that no good seeds are found; those which produce the best seeds are considerably enlarged in the centre and have a sort of terminal growth. And it does not follow that plants are naturally barren because they fail to produce seeds which will germinate; it may be necessary to artificially fertilise. It is so with many of the improved garden varieties of plants.

Barren Soil. No soil is absolutely incapable of production; and when it is spoken of as being barren no more is meant than that, in its present state, it will not repay the cultivator. The unproductiveness arises from a deficiency of some of the necessary mineral matters; from an excess or deficiency of animal and vegetable matters; or from an excess of stagnant water. No soil can be productive where nineteen parts out of twenty are of any one earth or other substance. If either chalk, sand, or clay, be in excess, the remedy is found in adding one or both of the other two. An excess of organic matter only occurs in peat soils; and these are reclaimed by draining, paring, and burning, and the addition of strong manure. Drainage is also the cure for an excess of water.


Stove evergreen trees and shrubs. B. echina'ta and B. virid'exhibit a genus, Compossumer. Cuttings of ripe shoots under a glass, in a strong heat, lumpy loam and peat. Summer temp., 70° to 90°; winter, 60° to 65°.
BARROTIA


Buto'nia. 30. Scarlet. Indian Archipelago. 1786.

china (hedgehog-fruited). See COMMERSONIA

FLATPHYLLA.


speci'a (showy). See B. butonica.

BAROTIA PANCHE'RI. See PANDANUS.

BARTIOLI NA. (Named after Bartholin, a Danish physiologist. Nat. ord. Orchis [Orchidaceae]. Linn. 20-Gynandria, 2-Monogynia. Allied to Serapias.) One of those terrestrial orchids found on the Cape which British gardeners have not yet succeeded in cultivating easily. Greenwood orchid; division of the root; sandy loam. Summer. temp. 60° to 70°; winter. 45°.


BARTO NIA. (Named after Dr. Barton, an American botanist. Nat. ord. Loasads [Loasaceae]. Linn. 12-Loasads, 1-Monogynia. Now referred to Mentzelia, which sec.) Half-hardy plants; seeds; the biennials should be sown in summer, and protected in a cold pot during the winter; the annuals may be sown in the open air. In April, or in a slighted and transplanted; most of them delight in a sandy soil and a little peat. B. au'rea does best where the soil is peaty and moist.

B. aur'ea (golden-flowered). California. 1834. See MENTZELIA LINDLEY.

BIENNIALS.

B. mu'ra (naked-seeded). See MENTZELIA NUDA. orn'a (ornamented). Syn. B. decapetala. See MENTZELIA ORNATA.

BA'R'TSUB. (Named after J. Barich, M.D. Nat. ord. Figворis [Scrophulariaceae]. Linn. 14-Didymanyia, 2-Angicoparmia. Allied to Euphrasia.) These require the treatment of choice alpines; hardy annuals, except alpina, which is perennial; seeds in April, on rock-work.


BA'WOOD. Bæ'phala n'tida.

BARYO'SMA. See BAR'O'SMA.

BASANACATHA. (From basanos, a trial, or ordeal, and acantha, a spine; probably an ordeal plant of the natives. Nat. ord. Rubiaceae. Allied to Posoqueria.) See BAWOOD. Cuttings in sand in bottom heat. Loam, peat, and sand.


BASELIA. Malabar Nightshade. Its Malabar name. (Nat. ord. Baseldas [Chenopodiaceae]. Linn. 5-Penantadia, 5-Trigynia. Baselia. 1-lo'fra and 1-ruba are used as spinach in the East Indies; and B. ru'ra yields a rich purple dye; not easily fixed, however. Stove biennials, except where otherwise specified, and mostly climbers. If sown in good heat in February, and treated as a border annual, they will flower freely the same season; rich, humpy soil.


B. margi'na (bordered). See BOUSINGAULTIA BASELIOIDES.


ramo'sa. 6. August. ilu'ro'sa (tuberosus). See ULCUS TUBEROSE.

BASIL. (O'crimum.) There are two kinds, the Sweet-scented (O. Basileum) and the Dwarf-bush (O. m'i'ri'mum). These flowering-tops are the parts made use of in soups and salads, their flavour resembling that of the oregano. The supply is never-failing during summer, as they shoot out rapidly for successional supplies.

Sow on a gentle botched, under glass, about the end of March or first of April, to raise plants for the principal or main crop. The frame should be filled up with earth to within three or four inches of the glass, or very shallow frames may be used for purposes as these. When the plants are up, give a little air by lifting the tilts; and, as they advance, and the weather is warmer, give them more freedom. When the earth is dry, set them out altogether during the day, and put on at night. By the above management, good, hardened plants will be fit for planting out towards the end of May, or beginning of June, in the open ground. If the earth be not dry, and the weather be dry at the time of planting out, let the beds be well watered previously to planting, and plant in the evening. Lift the young plants from the seed-bed with a sharp fork or trowel; keep them out, with care, eight or ten inches from plant to plant each way, and water them, to settle the earth to the roots. Attend to earth-stirring, and water when required, until the plants are taken out. If green tops are required for earlier use, sow in pots, pans, or boxes, and place in any heated structure.

To obtain Seed.—Some of the earliest-raised plants must be left without cropping from. These flowers, from July to September, and, accordingly, ripen their seed in early or late autumn.

BASING'UP.—Banking-up is the term now usually applied. By this term is meant raising a small bank of earth entirely round a plant, so as to retain water immediately about the roots.

BASKETS, employed by the London gardeners, being made of osier or deal shavings, vary trifuling in size more than measures made of less flexible materials. They are as follows:

Small basket—eight inches diameter at the top, and seven inches and a half at the bottom, and two inches deep.

Mushroom punnets—seven inches by one inch.

Salading punnets—five inches by two inches.

Half strainer contains three imperial gallons and a half. It averages twelve inches and a half diameter, and six inches in depth.

Sees contains seven imperial gallons. Diameter, fifteen inches; depth, eight inches. These baskets are still in use.

Bushel basket—ought, when heaped, to contain an imperial bushel. Diameter at bottom, ten inches; at top, fourteen inches, and a half; depth, fifteen inches. The Sussex Bushel basket holds eight imperial gallons when filled up to just below the rim of the basket. Walnuts, nuts, apples, and potatoes are sold by this measure. A bushel of the last named, cleaned, weighs fifty-six pounds; but four pounds additional are allowed if they are not washed. Potatoes are now nearly always sold by weight. After many tests we find seven pounds is equal to a bushel, with a small allowance for variation.

Strawberry baskets, cross-handle baskets holding from four to five pounds, are extensively used by the growers in the south-west of England; they are also used for currants and gooseberries. These baskets have come into general use among the Kent growers. They are, however, very convenient.

BASKETS (RUSTIC). These are often suitable ornaments for the reception of flowering-plants upon lawns.
and other parts of the pleasure-grounds. These baskets are easily made. Having fixed on the sizes you wish for, procure some inch boards, either of sound oak, which is the best, or of well-seasoned elm or deal. Cut them into the proper lengths, and nail them together right to the bottom, when you form a square. Mark then the desired form (round or octagon) on this square, and cut it into the desired figure. When this is done, you have the groundwork of your baskets, make them next eight inches deep; and if your garden is moderately extensive, you may have them the largest size to be manageable, that is, from three to five feet in diameter. If a small garden, this size would be inconvenient, and take up too much room. Yet there is no reason why you should not have two or three of these ornaments. For such a garden, the most proper dimensions would be two feet; and the finest oak from eight to ten inches thick. These baskets would be proportionate. Then proceed to nail to the circular or octagon bottom the sides. If the shape is round, let the pieces of wood to form the sides be narrow, bevel inwards the sides, and shape them so as to form the circle; but if of an octagon form, the pieces will be, of course, of the width of each of the eight sides, and planned to fit at each corner. Fasten them firmly together with nails, and the main foundation and walls of your baskets are complete. On the top of the sides, put some split oak, or boards of sufficient thickness to cover it, and hang over the outside edge about half an inch. Place some of the same kind close to the bottom; then, between the two, cover with the plain boards, and some tough and tough bark, so closely fitted as to give the idea that the basket has been cut out of a solid tree; or, which is more expensive and troublesome, but certainly more ornamental, cover the sides with (split on which is a cover) the pieces of rock oak or one and a half to two inches in diameter, formed into tasteful forms. These should fit so close as to hide completely the material of which the sides are formed. The bark from will not require anything more done to it after it is neatly fitted and securely nailed to the sides; but the rods should have a coating of boiled linseed-oil applied.

**BASS (or BAST) MATS.** These mats, which are so serviceable in gardens, are made from the inner bark of the Bast or Bassia. The Bastia known as Archangel mats, and measure about 9x4 feet; formerly the fibre of which these mats were made was extensively used in gardens as a thatching material, but since the introduction of Rafts, it has not been so much in demand for that purpose. There are also the St. Peterburg mats, which are not so large, being only about 7½x4 feet. These are useful for covering frames, and also for packing the grounds. The Bastia is the same material but smaller. They are first used for lining ships which carry wheat and other grain, and then sold cheaply for garden purposes.

These Bastias, the favoured inner bark of *Hibiscus datus*, better known as *Partum dation*. This was extensively used as a substitute for the Russian Bast some years ago when the mats were very dear; it may be split up into various threads and is much stronger than the Russian Bast.

**BAS'SIA.** (Named after M. Bass, curator of the Botanic Garden at Boulogne. Nat. ord. *Sapotadus* [Sapotaceae]. Linn. 11-Dodecantrida, 1-Monogynia.) The Bastias are trees of some importance in India. *B. butyrosce* yields a thick, oil-like butter from its fruit, *B. latifolia* furnishes a kind of arach, called *mora*, by distilling the flowers. The fruit of the Illup-tree (*B. longifolia*) yields oil for lamps, soap-making, and also for food; and Mungo Park's Butter-tree was *Butyrolaps/ rnmus Pari*'. Stove trees. Cuttings of ripened young shoots in April, in heat, in a close frame; peat and loam. Summer temp., 65° to 70°; winter, 55° to 60°.

* B. butyrosce (butterly). 40. E. Ind. 1823.

* latifolia* (broad-leaved). 40. Yellow. E. Ind. 1824.

* longifolia* (long-leaved). 40. E. Ind. 1871.

**BASTARD ACACIA.** *Robinia Pseu'do-aaca'cia.*

**BASTARD ATOCION.** Sil'dne Pseu'do-ato'cion.

**BASTARD BALM.** Mat'lis.'

**BASTARD BOX.** Poly'ga in Chamo'si'xus.

**BASTARD CABBAGE-TREE.** Geofro'ya.
**BATSCHIA**

(Named after J. G. Batch, a German botanist. Nat. ord. Boraginaceae. Linn. Amer. Pennsylavnia, 1-Monogynia. This is now united to Lithospermum. All hardy herbaceous perennials; seeds, or divisions; common soil.


**BAUERA.** (Named after Francis and Ferdinand Bauer, a German botanical draughtsman. Nat. ord. Hydrangeas [Saxifragaceae]. Linn. 15-Polyandria, 2-Digynia.) Bauera is a botanical anomaly which has puzzled the learned as to its proper order. Dr. Lindley has placed it with Hydrangea. Greenhouse evergreen under-shrubs; cuttings in sandy soil, under a glass; sandy loam and peat. Summer temp., moderate; winter, 36° to 45°.


**BAUHYNA.** Mountain Ebony. (Named after the brothers John and Caspar Bauhun, botanists in the sixteenth century. Nat. ord. Leguminosae [Leguminosae]. Linn. 10-Decandria, 1-Monogynia.) One of the tribes of Caspialinia. All stover evergreen shrubs, except where otherwise specified. Half-ripe cutting with sand, and placed under a glass, and in moist bottom-heat; light, sandy loam, and a little peat. Summer temp., 60° to 85°; winter, 55° to 60°.


**BAUD-MONEY.**! M.emum.

**BAY-TREE.**! Lau'rus nobilis.

**BEAD-TREE.**! Melia.

**BEAM TREE.**! Pyrus A'ria.

**BEAN.** (Fa'ba vul'ga ris). There are many varieties of this wild bean, but we shall only name those which are clearly distinct and valuable.

Mazagan.—This has whitish seeds, rather larger than a horse-bean, two to four feet high. Sown in spring, about ten weeks occur before beans are fit for use.

Bean. A name given to various plants belonging to the natural order Leguminosae, but most generally applied to the edible beans of general commerce. The Broad Bean (Pisica Fabia) is too well known to need any description, except to say that there are two distinct types, the "long pods" and the "Winders," and garden varieties are numerous. It is therefore difficult to define them. In referring to various catalogues, it will be found that each firm have their special varieties. Yet we find that such types as the Early Mazagan, Johnson's Wonderful, Green Windsor, and other standard sorts are still quoted, but are supplemented by many improved varieties. Taking the Windsors as an example, we get some with much longer pods than the original type. It would be unwise to give names of varieties, for, as stated above, each of the large seed firms have special names of their own. For instance, we have Sutton's Giant Windsor, Webb's Improved Windsor; then in American catalogues the Broad Windsor and other varieties are quoted. In the long-podded sorts varieties are even more numerous. All that can be said is that a selection should be made from the best and most reliable seed-growers.

**CULTURE.** For early crops seeds may be sown in November or December, as weather permits. The Early Mazagan is a flat podding type. When sowing, some extra seeds should be put in at the ends of the rows, these can be transplanted to fill up any vacancies in the rows which may be caused by failure of seeds germinating,

**the surface of pot, or suspended in shallow baskets. Summer temp., 70 to 85; winter, 60 to 65.**
or being eaten off by slugs, &c. The early crops will do best in a rather dry, warm situation, but for later sowings any ordinary garden soil will suit them. Where soil is not suitable or circumstance prevents sowing in the open ground, the seed may be sown in frames or boxes under cover in January, and planted out as soon as weather permits after the plants are large enough to handle. For succession sowings may be sown at the beginning of May.

When sown where they are to remain they should be done in double rows, about four inches apart, and three feet between each double row. For spring sowing, the seed may be sown in a frame or seed-bed for one day and will germinate much quicker. The ground should be regularly hoed to keep down weeds, and when a fair crop is set, they may be topped.

For best results the seed should be sown as far from each other as possible, and to improve varieties a selection of the best types should be made early, and marked in some way. The first thing is to select those that flower earliest, and no pods should be gathered. Later, some may have to be discarded through imperfect development of the pods, but careful selection from year to year will much improve the stock; while taking seed indiscriminately will cause deterioration.

The sowing of the latter is another important matter; after being properly ripened they may be kept in the pods in a dry but not too warm position. Under good conditions seeds will keep for a good many years, but hens and dogs may sometimes be troublesome.

The French Bean (Phascolus vulgaris) requires but few remarks, except to say there are many hybrid varieties, and the plants may be crossed with the Scarlet Runners (Phaseolus multiflorus). "Lima Bean" is an American name for Phaseolus lunatus.

All the above are very tender, and should not be sown or planted until all danger of frost is over. It is hardly necessary to give any cultural instructions, except to say that they do best in ground that has been manured and well worked the previous autumn. The dwarf French beans are extensively grown in pots or under glass. They require good loose soil and plenty of composting, if they are to give plenty of light and air. Also to be careful in watering.

Insects.—See Aphides Ruminicic.


BEAN TREFOIL. The common name for Anagyrus, and anciently given to Cyclus Laburnum.

BEAN BANE. Acketum 1-ec'cion. Bearbined. The common name for Calystegia.

BEASTS' BANE. Acketum 1-ec'cion.

BEATONIA. (Named by Dr. Herbert after D. Beaton, a Scotch gardener; one of the contributors to the College Gardener, and to this Dictionary.) Nat. ord. Iris [Iridaceae]. Linn. 16-Monadophila, 1-Triandria. Now referred to Tigridera.

Greenhouse perennial bulbs. Ofsets and seeds; the latter to be sown in a slight hotbed, in March; light, rich soil. To be taken up before frost, or covered up where they have grown, so as to prepare them both from frost and wet.


BEAUFORTIA. (Named after Mary, Duchess of Beaufort. Nat. ord. Myrtlesblooms [Myrtaceae]. Linn. 18-Polyadophila, 2-Polyandria.)

Greenhouse evergreen shrubs. Cuttings of half-ripened wood under glass; they have been hardy loam, without heat; loam and peat. Summer temp., moderate; winter, 38° to 45°.


BEAUMONTIA. (Named after Mrs. Beaumont, of Bretton Hall. Nat. ord. Dogbains [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia.)

One of our best stove twiners, with large, white trumpets, and it was proven, by which arrangement, that they succeed at the end of the shoots. They succeed best planted out in the borders of a house, intermediate between a stove and a greenhouse. Cuttings of half-ripened wood; rich, humus, and peaty soil. Summer temp., 65° to 70°; winter, 50° to 60°.


BE CIUM. (United to Ocidum.)

BED is a comprehensive word, applicable to the detached space on which any cultivated plants are grown. It is most correctly confined to small divisions, purposely restricted in breadth for the convenience of weeding, or other requisite culture, and, in the flower-garden, for the promotion of beauty. This involves the question of form, one of the most difficult that is submitted to the gardener. We may merely observe that, in making flower-beds, they should be arranged so as to be proportioned to the size of the plants which are to be their tenants; and that though, for large masses of shrubs and trees, we have seen rectangular forms so planted as to look solid and grand, yet that we believe no arrangement of dwarf-flowers would ever make a separate square or parallelogram bed of them otherwise than decidedly ugly.

BEDDING-IN. This may be applied to the sowing of seeds, but its more general application is to plants propagated in frames or layers, or bedded-in thickly, until space allows of them being planted in their quarters where they will flower. The term may have a wide meaning, but in modern practice it is not applied to the sowing of seeds, except by the old school of gardeners; the term sowing beds being more applicable.

BEDDING-OUT refers to the planting of various subjects grown in pots during the winter and planted in the open for summer flowering, or the plants may have been grown in boxes or in frames until the time comes for putting them in the open bed. Such plants can be carried over in weekly Horticultural publications published which refer to garden work week by week, that it is not necessary to give a list of plants suitable, except to say that certain genera, such as Leguminosae, are not to be added, also the finest varieties of Fiaschias, which formerly it was considered necessary to grow under glass with shading over them in sunny weather, are now found to do well in the open. Many other plants which were kept shut up in the stove under shade have since been found to do well in the open during the summer. Even Pandanus velvthi, Cocos weddelliana, and in flowering plants Beronia, Fiaschias, &c., that were nurseyed up under shade and heat are found to do better in the open during the summer. Experiments were carried on at the Royal Horticultural Society's Gardens years ago, where it was proved that many plants from the tropical regions would do well in the open during the summer. Crotons, or rather Codiaeums, may be mentioned; they are not so extensively used for bedding in England, but in America they are great favorites for the summer garden and do well, and in England some enterprising florists have tried them, and they have done well. Yet it would not do to take them direct from the plantations, as they do not ripen off satisfactorily until the autumn. Plumbago capensis flowers well in the open, also Strepsoleium Jamesoni. It is not necessary to enumerate ordinary bedding plants, as they are found in almost every nurseyman's catalogue.

BEDGUAR. See CYNIPS ROSE.

BEDFORDIA. (Named in honour of the Duke of Bedford) (Compositae). Linn. 1926. - The honey bee (A. mellifica) is the most active in this operation; but the humble-bee (Bombus hororum), and others of the robust species, visit flowers in rough weather, when the honey-bee will not venture from its hive.

BECHU. Fagus.

BEET. There are two sections of this vegetable cultivated for different purposes:-
1. The leaves to boil like spinach, and the stalks of the leaves like sea-kale. Brazilian Beet (Beta brasiliensis), with very large green leaves. Thick-leaved Beet is an importation from Brazil, which is, in equal proportion, the most productive of either fruit or seed. At the same time they are as often injurious, by causing cross impregnations, and actually injuring flowers in their efforts to get to the honey. This is the best method for they are always first to the honey; the bees of the same species and they are also better adapted for pollination. But the humble-bee (Bombus hororum), and others of the robust species, visit flowers in rough weather, when the honey-bee will not venture from its hive.

BEET. (Apis). All the species of this insect are friendly to the gardener; for they all aid in impregnating his flowers, and of which, without their aid, would fall unproductive of either fruit or seed. At the same time they are as often injurious, by causing cross impregnations, and actually injuring flowers in their efforts to get to the honey. This is the best method for they are always first to the honey; the bees of the same species and they are also better adapted for pollination. But the humble-bee (Bombus hororum), and others of the robust species, visit flowers in rough weather, when the honey-bee will not venture from its hive.

BEET. (B. vulgaris).-Nine varieties occur of this; but the yellow and white-rooted, not meriting cultivation, are here omitted. The others are:-1. Large-rooted. 2. Long-rooted. 3. Dwarf-topped. 4. Turnip-rooted. 5. Small. 6. Castelnaudary. 7. Green-topped. Of these, No. 4 is best for an early crop, and No. 6 for the Brazilian Beet. There are many sub-varieties, but scarcely distinguishable from each other. For table use, the object is to obtain moderate-sized and dark crimson roots. There are numerous varieties, but the old types are still recognised.

Use.-The Red Beet, after being cooked, is used sliced in salads, or alone with an acid dressing. It is much better baked than boiled.

Soil and Situation.-Beet requires a rich, deep, open soil. Its richness should rather rise from previous application, than the addition of manure at the time of sowing; and, to effect this, the compartment intended for the vegetable should be prepared as directed for celery. On the soil depend the sweetness and tenderness for which they are esteemed; and it may be remarked, that on poor, light soils, or where they are not very well tasted, the beet should be open. We have always found it beneficial to dig the ground two spades deep for these deep-rooting vegetables, and to turn in the whole of the manure intended to be applied with the bottom-spit, so as to bury it ten or twelve inches within the ground. Salt is a beneficial application to this crop; one reason for which undoubtedly is, the beet being a native of sea-coasts.

Time and Mode of Sowing.--Sow from the close of February until the beginning of April, it being borne in mind that the seed must not be inserted until the severe roots are not in the sand, and so that the soil should be in a warm and dry, and at a similar depth, two or three seeds being put in each hole. With good seed each carpel contains three seeds; but they do not always germinate if sown too thick. The proper sowing distance is, 20 inches, and, if possible, the Brazil Beet requires eighteen inches space. During the early stages of growth, the beds, which, for the convenience of cultivation, should not be more than four feet wide, must be looked over occasionally, and the largest of the weeds cleared by hand. In the course of May, according to the advanced state of growth, the plants must be cleared thoroughly of weeds, both by hand and small hoeing; the Red Beet thinned to ten or twelve inches, and this should be done once only. The plants of this last variety which are removed may be transplanted into rows at a similar distance. Moist weather is to be preferred for performing this, otherwise the plants must be watered. In October until they have taken root. They must be frequently hoed, and kept clear of weeds throughout the summer.

It is a great improvement to earth up the stalks of the White Beet, in the same manner as celery, when they are intended to be peeled, and eaten as asparagus. No vegetable is more beneficial by the application of liquid-manure than the White and Brazil Beets.

BEET. (B. vulgaris).-Taking up the Red Beet.-In October the Beet-root may be taken up for use as wanted, but not entirely, for preservation during the winter, until November, or the beginning of December, if the weather continues open; then to be buried in sand, in alternate layers, under shelter. Before storing, the leaves and fibrous roots must be trimmed off, but the main root not wounded, and a dry day selected for performing it. Beet-root may be kept perfectly sound if stocked up neatly, sloping to a point, against a north wall, or other cool place, upon a dry bottom, and buried with sifted coal-ashes. The thickness of this covering must depend upon the weather.

Gathering from the Green and White Beet.-In gathering from these, the largest outside leaves should be first taken, and the inner leaf to increase in size, when the same size, the outer leaves may be spared. As the leaves get large, at some time, it must be remembered that they are to be used whilst perfectly green and vigorous, otherwise they are tough and worthless.

To obviate this. Some roots must be left where grown, giving them the protection of some litter in very severe weather, if unaccompanied with snow; or, if this is neglected, some of the finest roots that have been stored will be dried up, and the young root will be split, and are also free from mildew when matured. This is the best method for they are always first to the honey; the bees of the same species and they are also better adapted for pollination. But the humble-bee (Bombus hororum), and others of the robust species, visit flowers in rough weather, when the honey-bee will not venture from its hive.


All are greenhouse or stove evergreen shrubs. Propagated by cuttings or by seeds. In its best form, it is ready for the greenhouse, or in a close case where heat is required. Very sandy loam and peat. Pot in loam and peat with less sand.


BEGONIA. (After M. Bégou, a French patron of botany) Nat. ord. Begoniaceae. Linn. 1762. - Begonia is an extensive genus, and of great variation; formerly they were nurseyed up as stove plants, but during the past few years they have been used as bedding plants. It is the turgid varieties which came from South America, somewhere about 1860, that have proved so prolific with the hybridists; the varieties seen are remarkable for the wonderful development of size, form,
and colours. I, the writer, handled them when boliviana was quite new, and followed on with... 


B. assamica (Assamese). Assam.

B. australis (Austral-leaved). See B. incarnata.


B. aurantiaca (orange-coloured). See B. CINNABARINA.


B. aurisnéritis (ear-formed). See B. INCANA.

B. bacca 'ta (berried). White. Isle of St. Thomas. 1866.

B. balbisiana (bearded). See B. RUBRO-VENIA.


B. Caffran. Scarlet. Hybrid of the same group as Gloire de Lorraine. 1902.


B. Cambria (Bismark's). Of garden origin. 1888.


B. Bismarckii (Brunt's). White or rose. Hybrid between B. Schmidtii and B. semperflorens. 1883.


B. Burkei (Burke's). 1846. Greenhouse herbaceous perennial.

B. Burschei (Burke's). White. Peru. 1866.

B. Caffran. Scarlet. Hybrid of the same group as Gloire de Lorraine. 1902.


B. Cambria (Bismark's). Of garden origin. 1888.


B. Bismarckii (Brunt's). White or rose. Hybrid between B. Schmidtii and B. semperflorens. 1883.


B. Burschei (Burke's). 1846. Greenhouse herbaceous perennial.

B. Burschei (Burke's). White. Peru. 1866.


B. Cambria (Bismark's). Of garden origin. 1888.


B. Bismarckii (Brunt's). White or rose. Hybrid between B. Schmidtii and B. semperflorens. 1883.


B. Burschei (Burke's). 1846. Greenhouse herbaceous perennial.

B. Burschei (Burke's). White. Peru. 1866.


B. Cambria (Bismark's). Of garden origin. 1888.


B. Bismarckii (Brunt's). White or rose. Hybrid between B. Schmidtii and B. semperflorens. 1883.

**B. daveauana**. See **Pellionia daveauana**.


**B. decora** (adorned). Dark green leaves spotted with grey. Brazil. 1866. This is probably **B. albopicta**.


**B. dichro'a**. Salmon-orange. Fruits whitish-rose. Brazil, 1907.


**B. dip's tala** (two-petaled). See **B. Malabarica**.


**B. dis'color** (two-coloured). See **B. Evansiana**.

**B. diversifo'lia** (various-leaved). See **B. gracilis**.


**B. Duchartrei** (Duchartre's). Hybrid between **B. echinostepha** and **B. schaffiana**. 1892.


**B. egré gia** (distinguished). White. Brazil. 1887.

**B. ela'rior** (taller). Hybrid between **B. socotrania** and one of the tuberous section. 1906.

**B. eli'sitica** (elliptic). See **B. scandens**.


**B. ero'sa** (bitten). See **B. amagna**.


**B. excis'ior** (bigher). Hybrid between **B. Baumanni** and **B. Vetchii**.

**B. exi'mia** (excellent). Leaves bronze-purplish, tinted red. Hybrid between **B. rubro-tenia** and **B. Tulipana**.


**B. fa'urea** (elegant). Leaves darker than in the type.

**B. fe'asti** (Feast's). Hybrid between **B. hydrocyclifolia** and **B. manicata**. 1900.


**B. Fischri'i (Fischer's)**. 2. June. S. Amer. 1835.

**B. floribun'da** (free-flowering). Pink, white. 1875.


**B. forgesia'na** (Forgetian). 2. Pink and white. Brazil. 1890.

**B. fri'gida** (cold). (Bot. Mag., t. 5160.) 1. White.


**B. incompara'bits** (incomparable). Larger and flowers more freely.

**B. ino'sa** (dwarf). Dark scarlet. 1904.

**B. iner'dois**. Winter and spring. 1879.


**B. jindia'ta**. Flowers cinnamon red.

**B. jul'gens** (glowing). Red, fragrant. Allied to **Davisi**.

**B. gemma'ta** (gemmed). Hybrid between **B. decora** and **B. Rex**. 1899.

B. mutiflora (many-flowered). Colombia.

B. multiflora var. (many-veined). White and rose. Brazil.

B. multiflora var. (warted). See B. muricata (warted).

B. multiflora var. (shining). See B. nebrodiana.

B. multiflora var. (small-leaved). See B. heracleifolia.

B. multiflora var. (shining). See B. polypealta.

B. multiflora var. (small-lobed). See B. polypealta.

B. multiflora var. (many-bibilled). Hybrid between B. scharfiana and B. metallica.


B. multiflora var. (decorated). Silvery markings on the leaves predominate in this variety.

B. multiflora var. (shining). See B. fimbrifolia.

B. multiflora var. (fruits). See B. heracleifolia.

B. multiflora var. (much spotted). Hybrid between B. degra and B. rex. 1899.


B. multiflora var. (rayed). See B. heracleifolia.

B. multiflora var. (rooting). Brazil. A climber.


*R. viridiflora* (Duch. 1850). Stove herbaceous perennial. 

*Reichenbachi* (Fenchel's). Hybrid between *B. rubella* and *heterocarpa*. 1895.

*reynoldsi* (kidney-shaped). See B. *Drexlerii* and B. *vulcanica*.

*Res* (king). Pink. Himalayas. 1858. There are many fine varieties of this in cultivation, all noted for handsome foliage.

*Res x decora* M. (Jar. 1886, 267, 123). Many hybrids have been raised.

*Res x socotra* (Garden). Hybrid 1894.

*Ridei* (Rheed's).

*rigida* (River's). Hybrid between *B. cinnamomea* and *fulgens x scharfiana*. 1905.

*Rigii* (Rex's). See B. *Lycianna*.


*roseo-multiflora* (many-flowered, rosy). Variety of *B. semperflorens*.


*sagittata* (arrow-shaped). Garden hybrid. Pink. 1854.


*Sauderii* (Saunders') (Garden). Hybrid.


*Sei fiumum* (sceptre). Leaves palmate, blotched with silver-grey. Brazil. 1858.

*scharfiana* (Scharfian). Brazil.

*scharfiana x metalla*ica. Garden hybrid. 1890.

*scharfiana* (Scharfian) of B. M., t. 7028. See B. *Haganae*.

*schmidiana* (Schmidian). White, tinted red on back. 1856.

*sosseos* (roseos). Deep rose-red.

*scutella* (little-shield). See B. *CONCH^FOLIA*.

*Sedum* (Sedum's). Hybrid between *B. boliviana* and *B. rosea*.

*Selosii* (Sellow's) (Garden). White. September. Stove herbaceous perennial.


Early raised varieties are B. *carminea*, grandiflora, gigantea, purpurea, atropurpurea, rosa, and *Sarsteri*.


*sparsipila* (scattered hairs). Central Amer.


*Teuscheri* (Teuscher's). Leaves deep green, spotted and blotched white. Dutch Ind. 1879.

*Thaiti* (Thaiti's). Hybrid derived from *B. semperflorens*. 1901.


*urombrosa* (umbrella-bearing). White. Brazil. (B. M., t. 7457.)


*venidens* (Vendichian). September. 1880.

*velsco* (Vendichian). Brazil. (B. M., t. 7657.)

*vernitsa* (varnished). See B. *MULTINERVA*.

*Verschaffeltii* (Verschaffel's). Rose. Hybrid between *B. caroliniana* and *B. manicata*. 1851.

*Vivai* (Vivai's). Hybrid between *B. Duchartre* and *B. piccantissima*. 1897.

*villosa* (villous). See B. *HIRTELLA*.


*Wallensteanii* (Wallenstein's). Leaves dark green and chocolate. 1884.

*waltichiana* (Wallichian). 3. White or rose. India. 1879.

*Warscewiczii* (Warscewicz's). See B. *CONCH^FOLIA*.


*Weltsaitii* (Wettstein's). Garden hybrid. 1887.


*La* su/a (Lapis-lazuli). Leaves metallic purple. 1854.

*picta* (paint-leaved). Pale yellow. Leaves with silvery spots.

*zebra* (striped like a zebra). See B. *ANGULARIS*.

**BE'NIA.** (A Commemorative name. Nat. ord. Liliaceae.)

Greenhouse evergreen climber. Seeds; divisions. Loam, peat, and sand.


**BEILSCHMIE DIA.** (A commemorative name. Nat. ord. Lauraceae.)


**BEJA RIA.** See *BARIANA*.

**BELAMCA'NDA.** (A commemorative name. Nat. ord. Liliaceae.)


*B. chinensis* (Chinese). See B. *PUNCTATA*.


**BEL'ADO NNA.** See *ATROPA*.

**BELADDONNA LILY.** *Amaryllis Beladonna*.

**BELLEISLE CRESS.** *Barbaria praecox*.

See American Cress.

**BELLEZI'LLIA.** (Named after P. R. Bellesio, a French botanist. Nat. ord. Liliaceae.)

Liny, Israel. 1879. Now referred to Hyacinthus. Hardy bulbs; offsets; common garden-sole.

*B. Acoile'ri* (Aucher's). See HYACINTHUS AUChERI.


See *HIPPOLATIUS*.

**BELL FLOWER.** *Campanula*.

**BELL GLASSES.** Formerly these which are bell-shaped, with a nob at the top, were much in use for covering cuttings, and even now amateurs who have no ordinary propagating pit may make good use of them for covering cuttings. In the ordinary propagating pit they are recommended for use in the propagation of many plants for which no modern grower would think of using them. The ordinary propagating pit.
or frame being now more in use, even for Erica cuttings the bell glasses are now dispensed with. Yet there is a revival of the French method of protecting early spring crops with "cloches" (or large bell glasses). It is, however, doubtful if they can come into general use, the expense being too great.

**BELLIDIASTRUM**. (From bellis, a daisy, and astrum, a star; being star-like. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2-Superflua. Now referred to Aster.)

**B. Micheli** (Michelis). See **ASTER** BelIIDIASTRUM.

**BELLIS.** The Daisy. (From bellis, pretty; referring to the flowers. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2-Superflua.)

All the cultivated kinds are hardy herbaceous perennials. Seeds, but chiefly division of the roots; common soil.

**B. hybrida** (hybrid). See **B. PERENNIS**.

**L. parentis** (entire-leaved). Linn. 1801. Tex., S. Africa. This is the common Daisy.

**B. auricula** (florists). Linn. 1801. White. Pink. July. Texas, S. Africa. This is the curious Daisy that is not cultivated and crossed by florists and amateurs. It is quite as capable of improvement as the chrysanthemum. The continental florists have not treated it with similar neglect; and M. Van Houtte, of Ghent, has more than twenty distinct varieties in his catalogue—white, pink, and variegated; quilled, red, dark-red, and double. In recent years English growers have given more attention to these attractive flowers, and we have some very fine varieties.

**BELLIUM.** (From bellis, a daisy; the flowers being like the daisy. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2-Superflua.)

Seeds vary from sandy soil, and a little peat.

**B. bellidioides** (daisy-like). Linn. 1796. Hardy annual.

**crassifo'lium** (thick-leaved). Linn. 1837. Stout-stemmed. Hardy herbaceous perennial.


**minor** (minute). Linn. 1772. Hardy herbaceous perennial.

**BELLOWS.** The bellows formerly used for the fumigating with Tobacco have quite gone out of use, but we have various designs of a smaller size which are used for distributing the different powder insecticides. There are also various other distributors of powder insecticides. See notes on FUMIGANTS and Insect PESTS.

**BELL Pepper.** *Capsicum gros'sum.*

**BELLUDIA.** (A handsome, evergreen, stove shrub or tree, belonging to the nat. ord. of Malastoma [Malastomaceae]. It is propagated by firm cuttings in sand in a close case. Loam, peat, and sand.)


**BELGIDE RONE.** (From belos, an arrow, and perone, a band, or strap; in reference to the arrow-shaped connected leaves, coming from beneath the stem, like those of Melastoma [Malastomaceae]. It is propagated by firm cuttings in sand in a close case. Loam, peat, and sand.)


**B. auricula** (orange). S. Amer.


**B. cilia'ta** (ciliated). See DIANTHERA.


**BELO'SE RMA** ATRO'PURPU'REA. See **SIMONIA** CRYMBALIS Ramsay.

**BENDING-DOWN.** This term is chiefly applied to the bending of the annual or other shoots of fruit-trees, for the purpose of making them fruitful, or to make them assume some desired form. Burls of clay have been fastened to the extremities of the shoots, to weigh them down in the position required; but the most desirable mode is by fastening them by a string to pegs driven into the ground.

**BENGAL QUINCE.** *Ae* de Marnes'los.

**BENJAMIN-TREE.** *Ficus Benjami'na and Lin'de'ra Benso* in.

**BENTH A'RIA.** (Named after Mr. Bennham, a distinguished English botanist. Nat. ord. Cornels [Cornaceae]. 7-Tetrandria, 1-Monogynia. Now referred to Cornus.)

Hardy evergreen shrubs. Leaves; seeds where procurable; loam; does in a sheltered place.

**B. flor'ida** (flowery). See **B. flori'da**.

**B. frag'foca** (strawberry-fruits). See **C. CAPITATA**.

**B. hap'sis** (Japan). See **C. KOUSA**.

It is doubtful whether **B. frag'foca** will endure our winters unprotected, except in our southern counties. It ripens its fruit against a wall in Devonshire. It is like a raspberry, and ornamental, but not eatable.

**BENT'NICKIA.** (A genus of Palms. Nat. ord. Palmae.)

Handsome feather-leaved Palms, with finely cut segments. Seeds. Sandy loam and a little peat. Temp., 55° to 60° in winter; 70° to 80° in summer.

**B. condapa'na** (Condapana). India.

**B. nicoba'tica** (Nicobar). 2 to 70. Leaves 6 to 8 feet long; leaflets 2 to 5 feet. Nicobar Islands. (Sand. Cat. 1895, 46.)


**B. microphy'lia** (small-leaved). See **RASPALIA** MICRO'BRAHMA.

**B. palae'ica** (Chaffy). See **NEBELIA** PALLACEA.

**B. phyllo'idos** (Phyllica-like). See **RASPALIA** PALLACE'AE

**BERDA'RIA.** (Named after M. Berard. Nat. ord. Composites [Compositae]. This is the true Berardia.)

Hardy herbaceous perennial. Seeds. Well drained, good garden soil, on a rockery.

**B. subacau'tis** (nearly stemless). Linn. 1837. White, solitary, large. Mountains of France.

**BERBERIDO PIS.** (From Berberis, the Barberry, and opsis, like; the shrub being somewhat like a Barberry. Nat. ord. Berberidae.)

Handsome, evergreen shrub, hardy in the south and west, but requiring the protection of a wall in the Midlands and north. Seeds or cuttings with a heel in spring in cold frame. Layers in August to October. Ordinary soil, well drained.


**BE'BERIS.** The Barberry. (From berberis, its Arabic name, and berber, the Berber tribe. Nat. ord. Berberids [Berberidae]. Linn. 6-Hexandra, 1-Monogynia.)

We have reunited with this genus all the species separated from it, and called *Mahonia*. Seeds, soon in spring, being given freely, if planted early in autumn; and suckers are abundantly produced. Grafting is...
resorted to with rare species. Deep, sandy soil. All are hardy, except where otherwise specified. See Barbery.

**EVERGREENS.**


*aclinaca* (pointed-leaved), Bronzy-yellow. S.W. China. (Veitch I. N., 1906, 2 f.).


*angulosa* (angular), Yellow. Northern Ind. 1844.


*murrayana* (Murrayan). 1850.


*ducalis* (white-flested). See B. Buxifolia.

*ebene* (Ebene's). Yellow. white. Mexico. 1846.


*glumacea* (chaffy). See B. Nervosa.

*Gnmpheistrini* (Guimpeis'). Yellow. Origin unknown.


*Hookeri* (Hooker's). See B. Wallachiana.


*hylophora* (white beneath). See B. Asiatica.


*Jamestoni* (Jameson's). Yellow. Ecuador. 1850.


*Jamiflora* (Jameson's). Yellow. Ecuador. 1890.


*matvchophylla* (large-leaved). See B. Wallachiana Latiifolia.

*mitis* (gentle-thornless). See B. Vulgaris

*montana* (mountain). Yellow. Chili.


*refusa* (refuse). 1 to 2. Yellow. N. Amer. 1822.


*tenuifolia* (thin-leaved). Vera Cruz. 1836.

*laevis* (dyer's). Nelgherries.


*viridiflora* (frosted). See B. Vulgaris.

*viridiflora* (various-stalked). 6. May. B. Beale's. 1884, t. 44.

*verisola* (entire-flowered). Nearly spineless. 1888.


*caroliniana* (Carolina). See B. Canadensis.

*coriaria* (tanner's). See B. Aristata.


*floribunda* (many-flowered). See B. Aristata FLORIBUNDA.


*ibrica* (Iberian). A form of B. vulgaris.


*Fyraca* (Fiery-Thorn-leaved).


*serosi* (late). Origin unknown.


*Sieboldi* (Siebold's). Pale yellow. Japan. 1890.


*inermis* (smaller). A dwarf variety. 1900.


*usitata* (B. Aristata of B. M., t. 2540).


*attica* (white-flowered). See B. v. Fructu ALOBO.


**fo'lis varia'ge'ris** (Leaves variegated). 10. Yellow. May.


**fru'cta m'gro (black fruited). 10. Yellow. May.


**macrophy'lla** (large-leaved). 1905.

**m'nis (gentle-thor'ous). 10. Yellow. May.

**mu'ra (black-fruited). See B. v. fru'ctu nigro.


**viol'ea** (Mrs. Wilson's). Golden. Fruit coral red.

Western. 1907.


BERCHEMIA. (Named after M. Berchem, a French botanist. Nat. ord. Rhamnads [Rhamnaceae]. Linn. 5-Pen-tandria, 1-Monogynia.)

Seeds; cuttings, and divisions; sandy loam and peat. All twiners. Greenhouse treatment for the two species first named. B. volu'bilis and racemo'sa are hardy.


**varie'ga'ta** (variegated).


BERGAMOT MINT. See Mentha aquatica citrata.

BERGERA. (Named after M. Berger, a botanist at Kiel. Nat. ord. Cela'ro'stris [Rutaceae]. Linn. 10-Decand'ria, 1-Monogynia.)

Stove evergreen shrubs. Layers and cuttings; sandy loam. Summer temp., 60° to 70°; winter, 55° to 60°.

B. inte'gr'e'ra (entire-leafed). Now referred to Micro'calyx pub'escens.

Ko'eni'g (Koenig's). Now referred to Murraya Koeningii.

BERGIA. (Named after P. J. Bergius, M.D. Nat. ord. Water-pepper's [Elatinaceae]. Linn. 4-Pen-tandria, 1-Monogynia.)

Hardy annual. Seeds; sandy soil.

B. cap'e'na (Cape of Good Hope). 1. White and red.


vertic'il'a (whorled). See B. capensis.

BERKEHYA. (Named after M. J. L. de Berke'hy, a Dutch botanist. Nat. ord. Composites [Compositae]. Linn. 19-Syn'genèse, 4-Stru'nairea. Allied to Gorteria.)

All greenhouse evergreens, except where otherwise specified. Biennial species by seed, as a tender annual; herbaceous ones by seed, but chiefly divisions in spring; evergreens by cutting under a glass, in sandy soil; pot in sandy loam. Winter temp., 40° to 50°.


Autumn. 1864.

carin'ios (Carina-like). Yellow. July. 1823.

c'rate'na (Crateagus-like). See Didera cer'sea.


Greenhouse herbaceous.


m'ca'na (hoary). See B. fru'ticosa.


pecti'na (comb-leaved). See Cullu'mia pecti'nata.


Syn. Sbo'nea pu'rpurea.


Greenhouse herbaceous.


BERMUDA CEDAR. Jun'iperus bermud'i'a.na.

BERNA'RDIA. (A commemorative name. Nat. ord. Euphorbiaceae.)

Stove evergreen shrub. Cuttings in sand in bottom-heat. Loam, peat, and sand.


BERRY. A succulent or juicy fruit, formed from an inferior, one-celled ovary, with, at least, two rows of seeds attached to the inner wall and nestling in pulp, as in the Gooseberry andCurrant. The term is, however, loosely applied to all sorts of succulent, juicy, or baccate fruits, such as strawberries, raspberries, grapes, rowans, mulberries, etc., the botanical structure of which is entirely different.

BERSA MA. (A commemorative name. Nat. ord. Sapindaceae.)


B. usambar'i'na (Usambare). See B. usambari'ca.

B. usambari'ca (Usambare). 50. White, silky. 1904.


Biennial and perennial from seed and cuttings; the shrubs and rather more tender species from cuttings under a hand-glass, in summer; loamy soil.


Hardy biennial.

m'uta'bilis (changeable). 2. White, pink. July.

Levant. 1802. Hardy herbaceous perennial.

m'uta'bilis, dissected-leaved. See B. mutabilius.


The Brazilian nuts of the shops are the produce of this ornamental stove evergreen tree. Cuttings, ripened wood, and in bottom-heat; pest and loam. Summer temp., 60° to 70°; winter, 55° to 60°.

B. esc'lesia (tall). 100. Para.

BERTOLONIA. (Named after A. Bertolini, an Italian botanist. Nat. ord. Malastomads [Malastomaceae]. Linn. 10-Decandria, 1-Monogynia.)

A remarkable genus of dwarf-spreading stove foliage plants, requiring a moist, moderate stove temperature, should be potted in loose soil consisting of peat, leaf-mould, and a small portion of fibrous loam with sand added and good drainage. They require careful attention, the small grown, and very attractive; propagated by divisions in close frame.


gutta'ta (spotted). See Gravesia guttata.

hirsu'ta (hairy). See Trigolena hirsuta.

n'ema (black). See Trigolena nema.


brima'loaf'ra (primrose-flowered). See Monolenia.

pube'cen's (softly hairy). Leaves light and dark green. Ecuador.

superbi'ssima (most superb). See Gravesia guttata


BERTONE RIA. (Compounded from Bertolonia and Sonerilla and applied to a garden race of hybrids. Nat. ord. Malastomads [Malastomaceae].)

Stove plants requiring similar treatment to Bertolonia. (Lind. Cot., 1896, 7, ft.)

BERZELIA. (Named after Berzelius, the celebrated chemist. Nat. ord. Bruniad's [Bruniaceae]. Linn. 5-Pen-tandria, 1-Monogynia.)

Greenhouse evergreen shrubs, from the Cape of Good Hope and which produce ripened wood in sand, under a glass; loam and peat. Winter temp., 40° to 45°.


**BESCHORNERIA.** (Named after H. Beschomer, a German botanist. Nat. ord. Amaryllids [Amaryllidaceae]. Related to Agave.)

Warm greenhouse succulents of an evergreen character. They require similar treatment to the American Aloe (Agave americana).


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**BETULA.**


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**BETCKEA.** (Named after M. Betchko, a botanist. Nat. ord. Taraxacaceae [Taraxacaceae]. Linn. 5-Trandria, 1-Monogyne. Now referred to Picris.)

For all practical purposes, they may be taken as a common Valerian. Hardy annuals. Seeds in warm situations, in middle of May; or, better, in slight hotbed, in the middle of March, and transplanted into common garden-beds.

B. * major* (larger). See P. SAMOLFIA.

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**BETECA.** Birch. (From its Celtic name, betni, nat. ord. Betulaceae [Betulaceae]. Linn. 21-Monocarya, 4- Tetrandria.)

Hardy deciduous trees and shrubs, except where otherwise specified. Sown as soon as ripe, or kept dry, and sown in the April following, in fine soil, and scarcely more than covered; deep, dry soil suits them best. Shrubs and particular species by suckers and grafting. The flowers of all are inconspicuous, having no petals. There are many which are very ornamental when grown as standards, grafted on the common sorts.


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**BETONY.** Stachys and Teucrium betonicum. **BETUL A.** Birch. (From its Celtic name, betni, nat. ord. Betulaceae [Betulaceae]. Linn. 21-Monocarya, 4- Tetrandria.)

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**BETONICA.** (This genus, named after the Celtic title, Bentonic, is now united to Stachys.)

B. * sp. * (spiked, robust). See STACHYS GRANDIFLORA ROBUSTA.

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B. escu'ta (tall). See B. PAPYRIFEKA.

... of NIGRA. This See fnitico'sa. 6. June. Siberia. 1818.

... proc'era (large-tooth-leaved). Japan. 1894.

... kulis (low). Northern Hemisphere.

... hum ili's x pubes'cens. 1905.

... inter'mia (intermediate). Alpine and Arctic Europe.

... lanu'sa (woolly). See B. NIGRA.

... le'nta (plant). 50. July. N. Amer. 1759.

... le'na (yellow). 25. May. N. Amer. 1754.

... pro'cera (Maximowicz's). Japan. 1894.

... Medwedie'wi (Medvedew's). Transcaucasia. 1887.

... mol'tis (soft). E. Ind. 1840.


... macrophy'lla (large-leaved). 6. May. Switzerland. 1819.

... stri'ta (upright). May.

... ni'gra (blackish). May. Carolina.

... occidentalis (western). Leaves large, shining.


... trich'o clada (hairy-twiggled). June. Carolina.


... lacini'a ta (cut-leaved). 30. July.

... pe'nula (pendulous). July.

... radali'a (Blackman). Caucasus. 1887.

... rub'a (red). See B. NIGRA.

... Scopo'li'si (Scopolis). 6.

... tris' sit (sad). 10. May. Kamtschatka.

... ulmi'folia (elm-leaved). Japan. 1894.

... u'tilis (useful). 50. May. Himalaya's. 1840.

... glandu'sa (gland-bearing). Near B. Ermanii and B. ulmi'folia. 1905.

BIANCEA SCANDENS. See CESALPINIA SEPARI'LA.

BIA'RUM. (The ancient name of a well-planted. Nat. ord. Araceae. Allied to Saurorum.)

Hardy tubers that may be grown in any well-drained, good, fertile soil, and if heavy, use plenty of leaf mould and sand. Propagated by offsets when the leaves die down.


... Christma'si'ni (Christmann's). Cilia'ria.


... Spru'neri (Spruner's). Closely related to B. teniu'folium. Greece. 1894.


BIBIO MARCI. St. Mark's Fly. Mr. Curtis says: "The larvae, or grubs, of this insect generally live, in large groups of a hundred or more, in strawberry-beds, white-borders, &c., and sometimes undisturbed spots feeding upon the roots, and sometimes destroying the entire plant. Bouché says they completely demolished his bed of Ranunculus for several successive years, by eating the tubers. The larva is dark brown, somewhat cylindrical, the belly flattened, moderately broad, and nearly linear; the head is comparatively small, deep brown, and very shining. It changes to a chrysalis, generally, towards the end of March. This is of a pale ochreous colour, the head being brightest. The female lays her eggs in the earth, and in the dung of horses and cows, in May. They do not hatch until August."

BI DEN'S. (From bis, twice, and den's, a tooth; in reference to the seed. Nat. ord., Compositae. Linn. 1753. Syn. BERNARDIA. All. 1729. Switzerladia.)

Hardy ones may be grown in the common border. The others are scarcely worth cultivating; but we have named the best. The annuall and biennials from seed, and the perennials by divisions and suckers. All hardly, except when otherwise specified.

B. arg'u'ta (arguta). See B. HETEROPHYLLA.


... berterio's na (Berter's). See COSMOS CAUDATUS.

... bipinna'ta (twice-leafletted). See COSMOS BIPINNATUS.


... cori'reta (crow-footed). COREOPSIS CORONATA.

... dahio'ni des (Dahilia-like). 2. Pink, purple, rose, white. Mexico. 1610. Root tuberous.

... foru'la'fo'lia (Ferula-leaved). 2. Yellow. Autumn. 1879.


... macrophy'lla'na (large-seeded). See B. PARVIFLORA.


... parvifor'a (small-flowered). 1. Yellow. June. 1829.


... repen's (creeping). See B. TRIPARTITA.


... serru'la ( acuminated). See B. GRANDIFLORA.


... tripar'ti'la (tripartite-leaved). 1 to 2. Yellow. Autumn. Britain. 1843.

BIDWILLIA. (Named after Mr. Bid'well, of Sydney, and inhabitant of or bulbs. Nat. ord. Liliaceae [Lilacées]. Linn. 6-Hexandra, 5-Monogynia. Allied to Anthericum.)

Hardy bulb. Divisions and offsets; light, rich soil. Grown in cool greenhouse.


BIEBERSTE'NIA. (Named after M. Von Bieberstein, who wrote a Russian Flora. Nat. ord. Cranes'-bills [Geraniaceae]. Linn. 10-Monadelphia, 4-Deccandria.)

Half-hardy herbaceous perennial. Cuttings in close frame in the beginning of summer; seeds, in a slight frame, in March or April. Requires the protection of a cold pit during winter, or a very dry, sheltered place.


BIENNIAL, from biennis, the Latin for of two years' continuance, is a plant which, being produced from seed in one year, perfects its seed and dies during the year following. Biennials may often be made to endure longer if prevented ripening their seeds; and many exotics, biennials in their native climes, are perennials in our stoves.

Hardy Biennials. — Some of these ripen their seeds as early as August, in which case they may be sown as soon as harvested. Others, ripening their seeds later, must have these reserved from sowing until May. The following varieties of wallflowers, &c., are propagated by cuttings.

Frame Biennials. — These require the shelter of a frame
bou, but prettier grandiflora, the only other hardy species of the order, have been transferred to 'Te'coma, which see; the difference in the genera consisting chiefly in the position of the fruit, being parallel in Bignonia and contrary in 'Te'coma.

B. adenophylla (gland-leaved). See Heterophragma adnephyllum.


B. 'alba (white). See Spalthodea bracteosa.

B. 'allo-leu'za (white, yellow). Garden origin.


B. amoena (pleasing). See Sterkoserum hypotictum.


B. argy'ro-vio'la sensa (silvery-violet). Young leaves violet, later with silvery veins. 5. Amer. 1865.

B. articula 'ta (pointed). See Phyllarthron noron-hianum.

B. aurantiaca (orange). Yellow, S. Amer. 1874.


B. 'a'ba (white). White, tipped red. Lip yellow, white, purple.

B. buckania'na (Buchanian). Violet purple, green, 'Spanish'. 1870.

B. 'ino'dora (scentless). Green and purple. Brazil. 1843.

B. 'zanthi'na (yellow). Yellow, Bahia. 1866.

B. 'leucemica' (white, red). White. Lip veined rose. 1859.


B. 'pa'ru'la (small). Tawny-yellow. Lip purplish.


B. tetragona 'ta (four-angled). See Lycaste tetragona.


B. 'iz, Goodson'a (Mrs. Goodson's). Light purple. 1904.


B. TRUMPET. (Shrubby Composites, with all its forets tubular. Nat. ord. Compositae.)

May be cultivated in any good garden soil, and do well against a wall.

B. grave alen's (strong smelling). 6 to 8. Yellow. N. Amer. 1907.


B. GRANDE. See Sinningia.

B. IGNATA. Trumpet Flower. (Named after 'Abbe Bignon, librarian to Louis XIV. Nat. ord. Bignoniaceae (Bignoniaceae). Linn. 10, -Dynamia, 2, -Angiospermia.)

This order furnishes the most gorgeous climbers in the world; natives of the tropical forests in either hemisphere. Stove evergreen climbers, except where otherwise specified. Propagated by young, stiff side-shoots, taken off in summer, inserted in sand and peat in close frame, and placed in bottom-heat; heat and loam. Summer temp. 60° to 75°; winter, 45° to 55°. These must be pruned to a double strap, or band, by means of proceeding from well-riped buds of the previous year's wood. Few do well as pot-plants; they like to ramble over the roof in a moderate ston temperature. If the others are specified in summer, many of them do well on the rafters of a common greenhouse, and flower more freely than they would do in a stove; but you must have patience until they fairly mount the rafters. False leaves are used as food for the larvae of this hardy species is caeproala, which is an ornamental wall-climber in a sheltered situation; propagated easily by cuttings of its roots, or shoots, under a hand-glass, in spring or autumn. The radlicans and its near neigh-
BILLBERGIA


BILLBERGIA ROSTRA (Named after Billberg, a Swedish botanist, Nat. ord. Bromeliaceae. Linn. 6-Hexandria, 1-Monogyne.)

Stove plants, formerly belonging to Bromelia. Suckers and divisions; sandy loam, peat, and a little rotten timber. Summer temp., 60° to 75°; winter. 55° to 60°.

B. annulata (lovely). See B. VITTATA.

B. anceps (pleasing). See B. SPEGIA.

B. andegavensis (variable). See B. RADICANS.

B. angustifolia (narrow-leaved). Red. S. Amer. 1866.


B. baquiliana (Baraguayian). See B. DECOARA.

B. bicolor (variable). See B. PYRAMIDALIS.


B. bivittata (two-striped). See CRYPTANTHUS BIVIT.

B. blireana (Blireian). Hybrid between B. mutans and B. iridosiflora. 1889.

B. bresciata (Bresautean). See B. VITTATO-BAKERI.

B. buddlei (Buddleia) 1877. Garden hybrid between B. dacora and B. speciosa.

B. Caipena (Cappe's). See B. VITTATO-BAKERI.


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B. baquiliana (Baraguayian). See B. Decorata.

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B. baquiliana (Baraguayian). See B. Decorata.

B. bicolor (variable). See B. PYRAMIDALIS.
BIRDS

B. palida (pale). See B. Bakeri.

balidiosoma (pale-flowered). Nicara'gua.

Berrugato (Riggian). Garden hybrid between B. nutans and B. ibomiana. 1800.

byzantin'ya (many-spiked). See Echmea distich-antha.

Born'o (Portoan). Brazil. (B. m. t. 6670.)

purpur'a (purple). Rose, purple. October. Brazil.

purpur'a-rosa (purple and rosy). See Echmea sce'volens.


... bi'color (two-coloured).

croyia'na (Croyian). Brazil. 1834.

... croyia'na (Croyian). Brazil. 1850.

quesneld'a (Queensian). See Quesnella ru'fa.

qntusia'na (Quintusian). Blue; bracts carmine-red. Brazil. 1890.

Ranuncul us (Runcigrow). Hybrid, iboniana being one of the parents. 1834.

rhodocya'na (red-blue). See Echmea Fas-ciata.

rhodocy'na, of gardens. See B. thyrsoidae.

rhodocy'na purpur'a. See Echmea Fas-ciata pur-purea.

ro'sa (rosy). Rose. Brazil.

ro so-margina'ta (rosy-margined). See Quesnella ru'fa.

ru'fa (red). See Quesnella ru'fa.

sanderia'na (Sanderian). Green, tipped blue; bracts rosy. Brazil. 1834.

saudi'i (Saundian). Blue; bracts crimson. 1868.

Skinn'ri (Skiller's). See Quesnella ru'fa.


... palle'scaens (pale).

sphacela'ta (schorched). See Grecigna spachela'ta.

spicil'a (spicled). See B. thyrsoidae.


... longifo'lia (long-leaved).

... spicil'a (spicled).

... macro'sna (large-spined).

... rakh'i (Rakhani). Brazil. 1881.

... rex-a (red). Brazil. 1881.

... rite-to-Baker'ri (striped-Baker's). Garden hybrid. 1889.

... rite-to-muni'ts (striped nods). Garden hybrid. 1889.

... rite-to-val'li (Wetherhill's). See B. Morelli.

... wad'i (Wind's). See B. vittato-nutans, and B. decora-nutans.

... wito'i (Wito's). See B. Bakeri.

... wyinna'tchaid (Wyinna Mackian). Hybrid between B. ama'na and B. gisela.

... worlea'na (worlean). See B. vittato-nutans.


... zona's (zoned-leaved). See B. vittata.

BILLIOTA FLEXUOSA is Agonis flexuous from Australia.

BINDING. A term applied to adhesive soils, to describe the closeness and hardness of their texture in hot, dry seasons. (See BAKING.) This term applies, also, to some gardening processes. Thus, generally a fastening or bud in its place, by means of blast or other material, is termed binding in some counties.

BINDWEED. Convol'vulus.

BIOPHY'TUM. (From bio's, life, and phyton, a plant. Nat. ord. Geraniaceae, tribe Osidales.) Interesting stow perennials allied to Osalis. Propagated by seeds on a hotted in spring. Soil, loam, peat, and sand.


BIOTA. See THUYA.

BIOC'IA. See ASTER CORYMBOUS.

BIRCH. Bé'tula.

BIRD-CHERRY. See Prunus Padu's.

BIRD-LIME. Made from Mistletote-berrries and Holly bark, and used for catching birds.

BIRD-PEPPER. See Capsicum Baccat'um.

BIRDS are benefactors, as well as injurers, of the gardener. They destroy millions of grubs, caterpillars, and aphides, which would have ravaged his crops; but, at the same time, some commit havoc upon his fruit and seeds. The wisest course, consequently, is to scare them from the garden at such times, or from the portions of it in which they can be prejudicial, but to leave them to their work where they do no injury. The means to do this cannot be mischievous. Thus, in early spring, a boy or two will drive them away during such times as the buds of the gooseberry, currant, and plum are open to their attacks; and again during the time that the cherries are ripe. To keep them from the fruit of late gooseberries and currants, it is sufficient to interlace thickly the bushes with black thread. To keep them from attacking peas and other vegetables just emerging from the soil, a similar display of brown thread, fastened to pegs about six inches from the surface, is also sufficiently deterring. Nets, where available, are also effectual guards. By carefully by the watching during certain seasons, the gardener may protect himself from injury at a very trifling expense, without depriving himself of the services of the most sharp-sighted, unwearying, and most successful of all insect-killers.

INSECT-EATING BIRDS, WHICH DO NOT EAT FRUITS OR SEEDS.

One of the most exclusively insect-eating birds is the golden-crested wren (Regulus cristatus, Ray), the smallest of the birds which come among the crops, and to the gold-crest, in appearance and habits, are the wood-wren (Sylvia sibilatrix), the willow-wren, or hay-bird (S. f. f. The chiff-chaff (S. loquax) also ranks with their bird, being the insect-eaters. The nightingale (Sylvia luscinia) does considerable service to the cultivator, by devouring numbers of caterpillars and grubs, as well as the moths, butterflies, and beetles from which they are produced. The whinchat (Saxicola rubetra), the stonechat (S. rubicola), and the wheatear (S. canorous), may be ranked as insectivorous birds; the stonechat particularly. The whinchat frequents cabbage-gardens and turnip-fields after the breeding season, and ought to be protected, because it not only eats insects, but small shell-snails, while it never touches fruits or seeds. The wheatear is equally beneficial in the reduction of insects, without levying any contribution for its services.

The wagtails, particularly the yellow one (Motacilla flava), feed wholly on insects, particularly gnats, midgets, and other flies that tease cattle. They will also follow the spade, to feed upon the worms and grubs turned up; and, in this way, no doubt, thousands of wireworms and other destructive vermin are effectually destroyed. The tree-pipit, or tit-lark (Athus arboecus), and the meadow-pipit (A. pratensis), are common hedgebirds, which search busily after the autumnal hatches of caterpillars and grubs, or the smaller flies and beetles, which they find among the herbage. The cuckoo, the common fly-catcher, and the flasher, or lesser butcher-bird, may be classed among the insectivorous-feeding birds. To these many other hedge-birds might be added, such as the nightjar, the sedge-bird, the wreny, the creeper, and the bottle-tit, none of which are in the least destructive; while, from their feeding exclusively, or nearly so, on insects, they are of much service in diminishing the number of such as are injurious to field and garden crops.

INSECT-EATING BIRDS WHICH EAT FRUITS OR SEEDS.

These are the common wren, the hedge-sparrow, or dunock, the redstart, the yellow-rumped sparrow, the coteltit, the marsh-tit, and the greater-tit. The weeds and insects which these birds destroy will, however, certainly more than compensate for the few heads of grain, the flower-seeds, or small fruit which they may occasionally pierce.
FRUIT-EATING BIRDS, which also FEED ON INSECTS. 

In this list are the black-cap, babillard (Cerbus garrulus), the garden warbler, the whitethroat, the mistle-thrush, the song-thrush, the blackbird, and the starling.

DECEPDIVELY DESTRUCTIVE BIRDS.

The greater portion of those to be enumerated are exclusively grain-eaters, and make no return for their depredations by destroying insects, though they no doubt contribute to keep down the diffusion of weeds by the quantity of seeds which they devour. The goldfinch, the yellowhammer, the currl-bunting, the reed-bunting, the corn-bunting, the sky-lark, the woodlark, the linnet, the chaffinch, the mountain-finch, the bullfinch, the house-sparrow, and the tree-sparrow.

BIRD'S BILL. Trigone'la ornithopo'dos'des.

BIRD'S FOOT. Or'mis thopus and Euphor'bia Or'mis thopus.

BIRD'S FOOT TRENCH. Luf'us.

BIRD'S NEST. As'pilium Ni'dus.

BIRD'S TONGUE. Ornithoglo'ssum.

BIRTHWORT. Aristol'o'chia.

BISCUTELLA. Buckler Mustard. (From bis, double, or twice, and scutella, a saucer; in reference to the shape of the seed-vessel when bursting. Nat. ord. Crucifers [Cruciferae]. Linn. 15-Tebradynamis. Allied to Thlaspi, and Conradina.

All hardy. The annuals, by seed in March; the perennials, by division, or as early as weather permits in spring. Common soil.

PERENNIALS.

A. ambigua (doubtful). See B. LeViGaTa.

corono'pis (luskhorn-leaved). See B. LeViGata.


longy'lia (long-leaved). Switzerland. 1832.

longyro'lia (long-leaved). See B. LeViGatalongy'lio.

mons'ta (mountain). See B. LeViGata.

raphan'io'lia (radish-leaved). See B. Didyma.

sac'culata (pulverulent). See B. LeViGata.


cino'phylla (narrow-leaved). See B. LeViGata.

ANNUALS.


col'u'mna (Columna's). See B. Didyma.
depre'ssa (depressed). See B. Didyma.

lyr'a (lyre-leaved). See B. Didyma.

mari'tima (sea). See B. Didyma.


Europe. 1817.

BARD RULA. Hatchet Vetch. (From bis, twice, and serrae, saw; in reference to the seed-pods being armed with teeth. Nat. ord. Leguminous Pl'tis (Legu'minosus), Linn. 17-Diadielphi, 4-Decandria. Allied to Astragalus.

Hardy annual. Seeds in April or September. Sandy soil.


Europe. 1840.


For cultivation, see Pal'ms.

B. no'bistics, Madagascar.

BITTER ALMOND. Pru'nis Amy'gdalus ama'tra

BITTER APPLE. Cu'turnis Colocy'nis.

BITTER OAK. Qu'e'рус Cerc'ris.

BITTER-SWEET. Sola'nium Dulcamara.

BITTER VETCH. O'ro'bus.

BITTER WOOD. Yxo'pia.

BIVONI'EA. (After A. Bivona Bernardi, a professor of botany in Sicily, Nat. ord. Crucifers [Cruciferae]. Linn. 15-Tebradynamis. Allied to Lepidium.)

Fossil con'se. Seed common in fall.


The reddish pulp which surrounds the seeds of B. Orella'na is the Arnotta or Arnotto of commerce, used in the manufacture of chocolate, and by framers for colouring cheese, and also by dyers for a reddish colour. Stove evergreen trees. Cuttings of half-ripe shoots in sand, in close heated propagating pits; lumpy peat and loam. Summer temp., 65 to 85; winter, 50 to 60.


urucua'na (Urucu). See B. Orellana.

BIZAR'RE. See Carnation.

BLACK ADIANTUM. As'pilium Ada'tium-ni'um grum.

BLACK ARCH-MOTH. See Pis'l'ura mona'cha.

BLACK BRYONY. T'a'mus commu'nis. Poisonous weeds, which need not be further noticed.

BLACK BULLACE. Pru'nis insiti'itia.

BLACKBURNIA. (Named after Mr. Blackburn. Nat. ord. Zanthylo's (Rutaceae). Linn. 4-Tetrandria, Monogonyis.)

Greenhouse evergreen shrub. Cuttings of half-ripe shoots in sand, under a bell-glass, in April; also by layers, in autumn; peat and loam, both fibrous and sandy. Summer temp., 55 to 75°; winter, 40 to 45°.

B. pinna'la (leafleted). See Zantho'xylum Black'burn'ia.

BLACK CATERPILLAR. See Atha'lia spin'a'rum.

BLACK FLEA. (Hal'tica memo'rum). No insect is more insidious or more sweeping in the destruction it brings to the crops of the farmer than this flea of the turnip. All kinds, beetroot, mangold-wurzel, radishes, and flax, are all liable to be destroyed by this insect. It is a singular mark of its destructiveness, that its eggs are not laid on the surface of the soil as the black and the turnip flea or fly, none of them ever calling it a beetle, which it really is; and the most descriptive name is the turnip-flea beetle, for this describes not only its real nature, but its favourite food, and its extraordinary power of skipping or leaping like the common flea. This insect is represented in our drawing of its natural size and magnified. The body, one-eighth of an inch long, is rather flattened, and of a brassy-black colour, thickly dotted; the wing cases are greenish-black, with a pale-yellow, broad line on each; the base of the feelers (antenna) and the legs are pale clay-coloured. The eggs are laid on the underside of the rough leaf of the turnip from April to September. They hatch in two days. Their maggots live between the two skins or cuticles of the rough leaf, and arrive at maturity in sixteen days. The chrysalis is buried just beneath the surface of the earth, where it remains about a fortnight. The beetles are torpid through the winter, and revive in the spring, when they destroy the two first or seed leaves of the young turnip. There are five or six broods in a season. These insects are most to be feared in fine seasons. Heavy rains, cold springs, and long droughts destroy them, and they are very poor in cold weather, and the wind, and are attracted from a distance. The rapid growth of a plant is the best security against them; to secure which, sow plenty of seed, all of the same age. Bees are of great benefit to the land and soil, especially, by destroying the chrysalides. Deep digging is an excellent practice when the chrysalides are in the soil. Drilling is a
BLACK GRUB. *Acalia spinarum.*

BLACK JACK OAK. *Quercus nigra.*

BLACK PINE. *Pinus australis.*

BLACK SALTPORTE. *Glaucis martima.*

BLACK THORN. *Prunus spinosa.*

BLACK YARNISH-TREE. *Melanorrhoea.*

BLACK WATTLE. *Callicoma serratifolia.*

BLADDER BLIGHT. See *Pachyphyllus.*

BLADDER CATCHFLY. *Sibine latifolia.*

BLADDER KETMIA. *Hibiscus Triumum.*

BLADDER NUT. *Staphylea.*

BLADDER Senna. *Cassia.*

BLADDER WORT. *Utricularia.*

BLUEBERRY, or BILBERRY. *Vaccinium Myrtillus.*

BLE RIA. (Named after Dr. Blair, a physician.) Nat. ord. *Heathwothis* [Ericaceae]. Linn. 4-X tetrandria, 1-Monogynia.

Greenhouse evergreen shrubs, from the Cape of Good Hope. Cutstings of young wood in sand, under a bell-glass; sandy peat. Summer temp., 50° to 65°; winter, 35° to 45°, with plenty of air. *B. articula* (jointed), 2. Pink. May. 1795.

*B. branca* (bracteate). See *Symphoria Chelidellata.*

*cilia*ris (hair-fringed). See *Grisella Chia Cilla*Ris.*

*dumosus* (bushy). See *B. purpurea.*


*fasciculata* (bundled). See *Simochleris Glauk Glauk.*


Stove evergreen shrubs. Cuttings from shoots, rather firm; plant in sandy peat, in bottom-heat, under a glass; peat and loam. Summer temp., 60° to 85°; winter, 50° to 55°. *B. gracilis* (graceful). White and pink, fragrant. Trop. Amer. 1805.

*guernesi*ren (five-nerved). See *Buellia Auber.*


BLANCHING, or ETIOLATION, is effected by making plants grow in the dark, and the more completely the light is excluded, the more entire is the absence of colour from the leaves and stems of the plants. The colouring matter of these is entirely dependent upon their power to decompose carbonic acid gas—a property they do not possess when light is absent. The effect of blanching is to render the parts more delicately flavoured, more pleasing to the eye, and more crisp—properties very desirable in sea-kale, celery, endive, lettuces, &c. Wherever it can be accomplished, blanching-pots should be employed, in preference to covering the plants with earth or other materials. The flavour is better, and the dish is less liable to be induced. Lettuces and cabbages are usually blanched by covering the leaves over the heart, or centre-bud. With flowering plants, except with *Lilium* of the Valley and a few other bulbs, blanching is destructive to flowering.


Beautiful greenhouse bulbs, requiring the same treat-
  prostratum (comb-leaved). 1 Brown. August. S. 
  Amer. 1827.
  polyphodium (Polypondium-like). See B. unilate-
  RALE.
  rufum (wrinkled). (G. Chrom., 1884, xxi. 408.)
  1816.
  Spicant (spiked) and varieties. See Lomaria Spicant.
  striatum (furrowed). See B. Serrulatum.
  Urticae flos near B. unilaterale.
  trifolium (three-leaved). See B. Lanceolata.
  Amer. 1842.

BLECHUM. (From a Greek name for an unknown plant, supposed to be Marioram. Nat. ord. Acanthas
  [Acanthacese]. Linn. 14-Dinamyx, 2-Angiospermia. 
  Allied to Dicliptera.)

Stove hardy perennial cuttings. Cuttings of young, 
  firm shoots in spring or summer; plant in loam.
  Summer temp., 60° to 86°; winter, 45° to 55°.

  Jamaica. 1824.
  1824.
  1818.

BLEEDING. See extravasated Sap.

BLEFTHARIS. (From blepharis, the eyelash; in re-
  ference to the fringed bracts. Nat. ord. Acanthas
  (Acanthacese). Linn. 14-Dinamyx, 2-Angiospermia. 
  Allied to Acanthus.)

The annuals and biennials may be raised from seed in
  hotbeds, as tender plants, and under-shrubs by the
  same means, and by cuttings in heat, close frame.

  E. Ind. 1829. Stove annual.
  Hope. 1816. Greenhouse biennial.
  furcata (fork-spined). 2. July. Cape of Good
  Hope. 1816. Greenhouse evergreen shrub.
  1823. Stove annual.
  proculmens (procumbent). 1. July. Cape of Good
  Acanthas proculmens.

BLEPHAROCALYX. (From blepharis, the eyelash, and 
  calyx, in allusion to the ciliated calyx. Nat. ord. 
  Myrtleblooms [Myrtaceae]. Linn. 12-Icosandra, 1-Mono-
  gynia.)

A greenhouse fine foliaged plant, with exceedingly
  numerous, narrow leaves. Propagation by cuttings,
  getting firm, in pots of sand, or in close frame. Soil,
  leaf, and leaf-mould, or peat and sand.

B. spirale (Spisae-like). 1 to 0. Small, pale yellow.

B. spiraoides (Spirea-like). 1 to 0. Small, pale yellow.

B. spiraoides has been many years in garden
  under the name of Eugenia myriophylla before it
  flowered. (B. M., t. 8123.)

BLEPHATIA. (From blepharitis, the eyelash; in re-
  ference to the fringed bracts. Nat. ord. Labiates
  (Labiatae). Linn. 2-Diantha, 1-Monogyynia. 
  Allied to Monogyynia.)

Hardy herbaceous perennials. Seeds, and dividing the
  roots in April and September. Common soil.


BLESSED THISTLE. Carduus nia benedicta. 

BLETIA. (Named after a Spanish botanist of the name
  of Alcibiades, Orchis [Orchidaceae]. Linn.
  20-Gynandra, 1-Monandria.)

Stove terrestrial orchids, except where otherwise
  specified. Division of the roots, when done flowering
  or starting into growth; plant in loam, and a little sand,
  enriched with top dressings of cow-dung or manure, 
  watering when growing. Summer temp., 60° to 90°; 
  winter, 45° to 55°.

B. acuminata (long-pointed). See Lelia rubescens.

  capista (headed). See Eleutheranthes capitatus.
  1786.
  Gourina (Japanese). See B. hyacinthina.
  godseffiana (Godseff's). See B. acutiflora.
  guineensis (Guinea). 1. Purple. April.

  Linn. 1835.
  hyacinthina (hyacinth-like). 1. Rose and crimson.
  hyacinthina (purple). See B. floridissima.
  paéllida (pale). See B. floridissima.
  Mexico. 1858.
  Shepheardia (Shepherd's). 2. Purple and yellow.
  scissura (Sherrattian). 1825.
  sherrattiana (Sherrattian). Purple, white, yellow.
  New Grenada. 1867.
  Tankerellei (Mrs. Tankerville's). See Phaius grandis.
  1793.
  Woodfordii (Woodford's). See Phaius maculatus.

BLIGHIA SAPIDA. The Akee-tree, the berry of 
  which is so much esteemed in the West Indies. It was 
  named after Captain Bligh, the introducer of the Bread-
  fruit from the Society Islands. Nat. ord. Sapoports 
  [Sapindaceae].

BLIND PLANTS frequently occur in the cabbage 
  and others of the Brassica tribe. They are plants which 
  have failed to produce central buds; and, as these are 
  produced from the central vessels, if the top of their 
  stems be cut away they usually emit lateral or side-
  buds from the edge of the wound. It is chiefly the 
  best sorts which fail, and it is only by cutting away 
  the central bud, and allowing the side branches to 
  grow up that seed can be obtained. See Barren Plants.

BLISTERED LEAVES. See Peach.

BLIGHT. See Blast.

BLIGHT. The Strawberry Blite, or Spinach, is 
  scarcely worth growing. B. capistaum and B. marto-
  tium are sometimes cultivated. Now united with 
  Chenopodium.

BLOOD. See Animal Matters.

BLOOD-FLOWER. Hemnia thitus.

BLOODWORT. Sanguinaria canadensis.

BLOOM, or BLOSSOM, is the popular name for 
  the flowers of fruit-bearing plants. The organs of 
  fruitfulness are absolutely necessary for the con-
  duction of seeds, and are always produced by 
  garden-plants properly cultivated, except where the 
  stamens are developed into petals, forming what are 
  known as double flowers, as in the double stocks 
  and other flowers. The flowers may be deficient in 
  leaves, or stems, or roots, because other organs may 
  supply their places; but plants are never incapable 
  of bearing flowers and seeds, for, without these, they 
  cannot attain the object of their creation—the in-
  crease of their species. Of course, we exclude the 
  mushroom, and others which do not produce seeds.

Most flowers are composed of the following parts, 
  viz. the calyx, which is usually green, and enveloping 
  the flower whilst in the bud; the corolla, or petals, 
  leaves so beautifully coloured, and so delicate in most
flowers; the stamens, or male portion of the flower, secreting the pollen, or impregnating powder; the pistils, or female portion, impregnatable by the pollen, and rendering fertile the seeds; and, lastly, the pericarp, or seed-vessel. The pistils must be removed without preventing the formation of fertile seed; but their loss must be supplied by the application to the pistils of pollen from some kindred flower.

The calyx is usually useless so soon as it ceases to envelope and protect the flower; for the flower-stalk continues increasing in size until the seed is perfected, but ceases to do so in those plants whose calyces remain long green, if these be removed. On the other hand, in the poppy and other flowers, from which the calyx falls early, the flower-stalk does not subsequently enlarge.

The corolla, or petals, with all their varied tints and perfumes, perform important offices to perform than thus to delight the senses of mankind. Those bright colours and their perfumed honey serve to attract insects, which are the chief and often essential assistants of impregnation; and those petals, as observed by Linnæus, serve as wings, giving a motion assisting to effect the same important process. But they have occasionally a still more essential office; for, although they are useless yet, if removed from some of those possessing them, the subsequent processes are not duly performed.

The corolla is not always short-lived, as in the cistus; for some continue until the fruit is perfected. The duration of the petals, however, is in some way connected with the impregnation of the seed, for in most flowers they fade soon after this is completed; and it is observed about yet, if removed from some of longer enduring than single flowers of the same species. Then, again, in some flowers they become green, and perform the function of leaves, after impregnation has been effected. A familiar example occurs in the Christ-mas rose (Helleborus niger), the petals of which are white, but which become green so soon as the seeds have somewhat increased in size, and the stamens and other organs connected with fertility have fallen off.

BLOOM. This term is also applied to the fine exudation on the surface of some fruit—purple on the Black Hamburgh Grape, and on some plums, and green on the cucumber.


BLUE-BELLS. Campb'ula rotund'fo'lia (Scotch Bluebell); Sel'sa fest'sta (English Bluebell).

BLUE-BOTTLE. Centan'rea Cya'nis. (English Blue Gum Tree. Eucalyptus Globulus.)

BLUETS. French name for Centan'rea Cya'nis. In America the Blues are Houst'o'nia curv'lea and Vacc'nisium angust'i-folium.

BLUMENBA CHIA. (Named after J. F. Blumenbach. of Germany. Nat. ord. Composites [Compositae]. Linn. 18-Polyadaphne, 2-Polyandra.) Hardy annuals. Seeds in April; rich mould.


BOATLP. Scaphy'tis itis.
BOG-EARTH PLANTS. See AMERICAN PLANTS.

BOG-MOSS. Sphagnum.

BOILER. The vessel employed to supply the pipes or tanks with hot-water or steam, when either of these is used for heating purposes. Many are the ingenious and intricate boilers from time to time offered to the gardener; but, after much experience with boilers of all descriptions, we can confidently say that the most simple is the best. The smaller the boiler and the fireplace, compatible with efficiency, the greater is the economy. We can tell the gardener, also, most decidedly, that the total size of the boiler has nothing to do with that efficiency, unless it be secured that a sufficient surface of the boiler be exposed to the fire. The following table shows the amount of boiler-surface which must be exposed to the fire to heat given lengths of pipe, respectively 4 inches, 3 inches, and 2 inches in diameter:

<table>
<thead>
<tr>
<th>Surface of boiler exposed to the fire</th>
<th>4-inch pipe</th>
<th>3-inch pipe</th>
<th>2-inch pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>ft. ft. ft.</td>
<td>200</td>
<td>266</td>
<td>400</td>
</tr>
<tr>
<td>30                     300</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>3                     300</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12                     700</td>
<td>933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17                     1000</td>
<td>1333</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To prevent the scale, or limy crust, which is often so troublesome, dissolve in the water at the rate of one ounce of sal ammoniac (muriate of ammonia) to every sixty gallons. Do this twice in the year; as, in October and April.

The above given years still holds good, but we have had many modern improvements in all heating appliances. And in construction we find a great alteration; instead of burying the pipes under the ground, they are put above. Every one knows that growth is assisted by this warmth radiated from the sun, and it is the same in greenhouse heating. We must first have better heat to induce root growth, and later it is the heat from above that develops plant growth.

In fixing Boilers it is now often arranged that a large rise is given, and the pipes have a fall from close to the Boiler; a sharp rise and a good fall to the return pipe without any possibility of air being in contact with the water is the main point in the circulation of water, and a clean Boiler of any make will give double the heat of one allowed to get covered with soot.

BOIS-PERDIX (Partridge-wood). Heist'eria.

BOLBOPHYLLUM. See BULBOPHYLLUM.

BOLDO'. (From Boldo, the Chilian name of a species formerly included under this genus. Nat. ord. Nyctag.-ginaceae.)

Stove evergreen shrub. Cuttings in sand in a warm case. Fibrous loam, peat and sand.


BOLUM. (From bolos, a ball; in reference to the shape of the seed-pods. Nat. ord. Cruciferæ [ Crucifera]. Linn. 15-Tetradynamia. Allied to Vella.)

Half-hardy evergreen under-shrub. Seed in a pot, in spring, set in a frame, or sown in the open border during summer. It requires a little protection in a cold pit during winter, but is hardly worth it.


BOLIVIA'BIA. (Named after Bolivia, the late Republic chief in South America. Nat. ord. Jasmin-aeæ. Linn. 2-Diandria, 1-Monogynia. Now referred to Mentha.)

Greenhouse evergreen shrub. Cuttings of half-ripened shoots in sand, under a hand-light. Summer temp., 55° to 70°; winter, 40° to 48°.

B. tr'a (three-cleft). See MENOGRA TRIFIDA.

BOLLEEA. See ZYGOTELUM.


BOLIO'NIA. (Named after J. B. Bolton, an English professor of botany. Nat. ord. Compositæ [ Composita]. Linn. 18-Syngenesia, 2-Superfusia. Allied to Stenactis.)

Hardy herbaceous perennials. Division of the roots in March or October; common garden-soil.


B. autumna (running down the stem).

B. glastifolia (woad-leaved). See B. ASTEROIDES.


BOLUS A'THUSIS. (Commemorative of Dr. Bolus, the S. African botanist, and antnos, a flower. Nat. ord. Leguminosæ.)

A greenhouse tree. Seeds; cuttings in sand under a bell-glass. Loam, peat and sand.


BOMARE'A. (Name not explained; probably it is commemorative. Nat. ord. Amaranthæ [Amaranthiaceæ]. Linn. 6-Hexandria, 1-Monogynia. Allied to Alstroemeria.)

This species which cannot be misunderstood divided.

Bomarea from Alstroemeria—a twining stem and a triangular seed-pod. The tubers of the B. edulis are eaten, in St. Domingo, like those of Jerusalem artichoke. It is Zone 2. The others prefer a deep rich, light border in the open air, with a slight protection from frost. B. acutitolia, planted in a cold, greenhouse, inside border, will thrive up ten to twelve feet, and will flower far better than in any other way. For culture, see ALSTREMERIA.


B. bogotenses (Bogotan). Crimson, black, green. Colombia. 1872.

B. bredemeriana (Bredemeyerian). See B. MULTIFLORA.


B. Cardi 's (Carder's). Rose, purple, brown. Colombia. 1886.

B. chonta'ses (Chontalese). See B. EDEULIS.

B. con'irta (crowded). See B. PATACOCHAN.


B. flos'purpura (Elves'). Outer segments pink, inner segments white. 1905.

B. fro'idea (leafy). Bright yellow, dotted brown on inner segments. Colombia. 1881.

B. hirtet'a (small-haired). See B. EDEULIS.

B. kalf'breyeri (Kalfreyer's). Orange. Colombia. 1882.

B. Lam'ehnii (Lemhann's). Colombia. 1883.

B. multiflor'a (many-flowered). New Granada and Vene-zuela.

B. occu'la (eyed). See B. SALSILLA.

B. oliv'nikha (few-flowered). Reddish, yellow, claret. Peru. 1877.


B. vir'ida (felled), Peru. 1877.


B. We'r'oke (Wercke's). Vermillion-orange and orange-gold. Peru. 1877.

B. Williams'na (Mrs. Williams'). Rose, dotted purple. Colombia. 1882.
BOMBAX
Silk Cotton-Tree. (From bombax, cotton; in reference to the woolly hairs which envelop the seed, like those of the cotton-plant. Nat. ord. Malvsworts [Malvaceae]. Linn. 16-Monadelphus, 8-Polyandria.)
Trees more remarkable for their prodigious size that for their use or beauty. Stone trees. Cuttings of rather young shoots, but firm at the base, placed in sandy peat, under a bell-glass, and in bottom heat; peat and loam. Summer temp., 60° to 85°; winter, 50° to 60°.
B. Ceiba (Cebha). 100. White. S. Amer. 1892.
"Silk Cotton-tree."
"Congo (Congo). See Choclospermum Gossypium."
"erius nuthus (woolly-flowered). See Eriodendron laxiflora."
globe-sum (globe-form). 60. Guiana. 1824.
grandiflorum (large-flowered). See Choclospermum Gossypium.
heptaphyllum (seven-leaved). See B. Malabaricum.
Jenna nji (Jennan's). 'British Guiana.
Cotton-tree."
"enta nadrum (five-anthered). See Eriodendron anfractusum.
quadratum (five-leaved). See Bombax Ceiba.
viniflorum (vine-leaved). See Choclospermum vitisfolium.

BOMBYX NEUSTRIA. See Lackey Moth.

BONAPA'REIA. (Named after Napoleon Bonaparte. Nat. ord. Brunnworts [Bromeliaceae]. Linn. 6-Hexandria, 1-Monogynia. Most of the species are now referred to Agave.)
Remarkable for the gracefulness of their long, rush-like leaves. They are well adapted for growing in vases, out of doors, in summer. Stone plants. Seeds in a hotbed; cuttings in sand, under a glass, in heat; well drained. Summer temp., 60° to 70°; winter, 50° to 60°.

Stove orchids. Division of the roots, or semi-bulbous tubers; neat and low. Summer temp., 60° to 85°; winter, 50° to 55°.
Ueln_dayae (Uganda). Light green, white. Uganda. 1906.

BONES are beneficial as manure because their chief constituent (phosphate of lime) is also a constituent of all plants; and the gelatine which is also in bones is of itself a source of food to the plants. The bones of the ox, sheep, horse, and pig, being those usually employed, their analyses are here given:

<table>
<thead>
<tr>
<th>Ox</th>
<th>Sheep</th>
<th>Horse</th>
<th>Pig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphate of lime</td>
<td>55</td>
<td>70</td>
<td>68</td>
</tr>
<tr>
<td>Carbonate of lime</td>
<td>62</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Animal matter</td>
<td>33</td>
<td>25</td>
<td>34</td>
</tr>
</tbody>
</table>

The bones must be applied to the crops in very small pieces or powder; and ten pounds, at the time of inserting the seed, are enough for thirty square yards, if sown broadcast; and a much smaller quantity is sufficient if sprinkled along the drills in which the seed is sown. There is no doubt that bone-dust may be employed with advantage in all gardens and to all garden-crops; but it has been experimented on most extensively with potatoes and potato, and with unailing benefit. Mixed with sulphur, and drilled in with the turnip-seed, it has been found to preserve the young plants from the fly. Mr. Knight found it beneficial when mixed with gravel and stone dust at the time of planting; and it is quite as good for the vine. To lawns, the dust has been applied with great advantage when the grass was becoming thin. As a manure for the shrubbery, parterre, and greenhouse, it is also most valuable; and, crushed as well as ground, is employed generally to mix with the soil of potted plants. Mr. Maund finds it promotes the luxuriance and beauty of his flowers. One pound of bone-dust, mixed with twelve ounces of sulphuric acid (oil of vitriol), and twelve ounces of water, if left to act upon each other for a day, form superphosphate of lime, a winelassful of which has been found beneficial to turnips planted in clay land. It has been used for killing weeds, by covering the weeds with a thin bed of bone-dust, allowing this to dry, and then dewing, and laying a thin bed of sand, charcoal, or ashes, upon the bones, which will drive the weeds beneath the ashes. Bones broken into small pieces are generally used as drainage for pelargoniums and other potted plants.

BONG'R A'DIA. (Named in compliment to Heinrich Gustav Bongard, a German botanist. Nat. ord. Barberry-woths [Berberidaceae]. Linn. 1699.)
A hardy, tuberous perennial for the rockery, but as it is liable to perish from damp in winter a hand-light should be placed over the site of the tubers from October to April. Sandy soil should be used. Offsets from the tubers.

BONNE'TIA. (Named after C. Bonnat, a distinguished naturalist. Nat. ord. Figworts [Scrophulariaceae]. Linn. 2-Dianandra, 1-Monogynia. Related to Torenia.)
Stove plants. Seeds for annuals, divisions, and cuttings of creepers and trailers; rich, sandy loam.
B. braucysta (pa) (short-seed-podded). See Lysanthus capensis.

BONNETIA. (Named after J. Bon, a Dutch physician. Nat. ord. Figworts [Scrophulariaceae]. Linn. 13-Polyandria, 1-Monogynia.)
Stove tree. Cuttings of firm young shoots in sand, under a glass, in heat; loam and peat. Summer temp., 60° to 80°; winter, 55° to 60°.

BONP'LANDIA. (Commemorative of the botanist Bonpland. Nat. ord. Polemoniaceae.)

Stove evergreen shrub, requiring similar treatment to Bonnetia.

BORAGE. (Bora go officina'lis). Its young leaves, smelling somewhat like cucumber, are sometimes used in salads, or boiled as spinach. Being aromatic, its spikes of flowers are put into negus and cool tankards.

Soil and Situation.—For the spring and summer sowing, any light soil and open situation may be allotted, provided the first is not particularly rich; for those which have to withstand the winter, a light, dry soil, and the shelter of a south fence, are most suitable. A very fertile soil renders it luxuriant, and injures the flavour.

Times and Mode of Sowing.—Sow in March or April, and at the close of July, for production in summer and autumn, and again in August or September, for the supply of the flowers. In thin shallow drills, twelve inches asunder. When of about six weeks' growth, the plants are to be thinned to twelve inches apart, and the plants thus removed of the spring and autumn dressing, to be used for a similar distance; but those of the summer sowing seldom will endure the removal, and at all times those left unmoved prosper most. At the time of transplanting, if at all
dry weather, they must be watered until established; water must also be frequently applied to the seed-bed of the former sowing.

To obtain Seed.—Some of these plants which have survived the winter must be left ungathered from. They will begin to flower about June; and when their seed is ripe they must be gathered, and dried completely before it is rubbed out.

BORA'GO. Borage. (Altered from cor, heart, and ago, to affect; referring to the cordial qualities of the herbs. Nat. ord. Borageworts [Boraginaceae]. Linn. 5-Petandria, 1-Menogynia.) Hardy annuals. The whole of the flowers and annuals from seed; perennialis by divisions; common soil.


BO'RA'SUS. (One of the names applied to the spathe of the date-palm. Nat. ord. Palms [Palmaeae]. Linn. 22-Attis.)

B. bra'ssica (bearded). See B. flabellifer. Palm-wine, or toddy, a grateful beverage, is the juice which flows from the wounded spathe of this and some other palms. Stove tree. Seeds; peat and loam. Summer temp., 60° to 90°; winter, 60°.


bifol'iosis (bifoliate). See B. flabellifer. pin'na'fis (pinnae-leaved). See CHAMBERDOR ALGARIS.

BOR'BO'NIA. (Named after one of the Bourbon family in France. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadelphia, 6-Decandria. Related to Scattia.)

This genus and its allies—Hovea, Lalage, Templetonia, and others of that group—have always been great favorites with gardeners. All greenhouse evergreen shrubs, from the Cape of Good Hope. Cuttings in sand, in April, under a bell-glass, and in a close place, without artificial heat; peat and loam. Summer temp., 50° to 70°; winter, 50° to 45°.


ericifo'lia (beath-leaved). See AMPHITHALA ERIE- PHILA.

perfola'tis (perfoliate-leaved). See RAPNIA PER- FOLIATA.

rusco'itia (Ruscus-leaved). See B. 파르비플라라.


BORDER is a name applied to that narrow division of the garden which usually accompanies each side of a walk in the kitchen-garden, and to the narrow bed which is near to the garden-wall on one side, and abuts on a walk on the other. In fact, any bed which acts as a boundary to a walk, or grass-plot, or the main quarters of a garden, may be properly described as a border.

1. Fruit-Borders.—Next to the wall should be a path, eight or nine feet wide, for the convenience of pruning and gathering. Next to this path should be the border, eight or nine feet wide; and then the broad walk, which should always encompass the main compartments of the garden. The whole of the breadth from the wall to the edge of this main walk should be excavated to the depth of four feet; the bottom of the excavation rammed hard; brick-bats and large stones thrown into the trench; the border three feet, and a half; and the remaining two feet and a half filled up with suitable soil. From the under-drainage of brick-bats, &c., draining-pipes should be laid out so as to convey into some neighboring ditch. Fruit-trees will be healthy if it roots deep, or if its roots are surrounded by superfluous water; that is, more water than the soil will retain by its own chemical and capillary attractions. Shallow-rooting crops do not do well on fruit-borders sufficient to require their total banishment. See FRUIT-TREES and STATIONS.

The above is good advice, but modern horticulturists do not take such strict precautions; yet deep digging and drainage are important factors in securing good crops.

2. Flower-Borders.—These, like the preceding, and, indeed, like every other part of the garden not devoted to a Brussels Border, good plants, should be well drained. In plotting them, it must also be remembered that, if narrow, no art will impart to them an aspect of boldness and grandeur. Indeed, narrowness of surface is in separably connected with an impression that the grounds are of limited extent; and no disposal of the plants will remove the littleness thus suggested. If the pleasure grounds are small, narrow borders are permissible; but, even then, let them be as long as the appearance of meanness. All flower-borders should be made in proportion to the size of the garden and other surroundings. Neatness must be the presiding deity over the general plan of the gardens; no appraising the square, no removal of decayed leaves, no tying up of straggling members, can be too unremitting. See FLOWERS.

Forcing-Borders.—No border, whether tenanted by the flowers or vegetables, can ever be too close, or ever dug with the spade. The surface turned up roughly with the fork, to benefit by the winter frosts, and manure as necessary, turned in with the same implement, are sufficient.

BORECOLE. Bra'ssica olera'ceace phala. Varie.ties.—Of the following, 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, and 13 are the best.

1. Brussels Borecole, or Sprouts.

2. Green Borecole, German or curled Kale, or Curleis, Scotch or Siberian Kale, Bra'ssica olera'ceace selen'ia. 3. Purple Borecole, B. olera'ceace lacinia'ta. 4. Scotch Borecole. 5. Chou de Milan. 6. Egyptian or Rabi Kale. 7. Ragged Jack. 8. Cabbage Borecole. 9. Buda, Russian, or Manchester Kale. This is greatly improved by blanching under a pot, like Sea-Kale.

10. Anjou Kale. 11. One-thousand-headed Cabbage, B. olera'ceace ac'e phala. 12. Palm Borecole. 13. Portugal, or Large-nibbed. The following, 10, 11, 12, and 14, are most used in the large gardens of Europe.

Sowing.—The first crop sow about the end of March, or early in April, the seedlings which are fit for prick- ing out towards the end of April, and for final planting at the close of May, for production late in autumn and commencement of winter. Sow again about the middle of July, the seedlings of the first crop having been dug up and, and lastly, in August, for use during winter and early spring.

Prick out the seedlings when their leaves are about two inches in breadth; set them about six inches apart each way; and water frequently until established. In four or five weeks they will be of sufficient growth for final planting.

Planting.—Put them in rows two feet and a half apart each way; the last plantation may be six inches closer. They must be watered and weeded; and some of them being of large-spreading growth, the earth can only be drawn about their stems during their early growth, and if the plants are not dug up for making apace before a tall growth is blown down, they should be supported by stakes, when they will soon firmly re-establish themselves.

To raise seed select such plants of each variety as have the finest growth, and either leave them where
BORONIA
(Named after Boroni, an Italian servant of Dr. Sibthorp's. Nat. ord. Rauvolutae [Rutaceae]. Linn. 8-Octandra, 1-Monogynia.)
Greenhouse evergreen shrubs. Cuttings, neither hard nor soft, inserted in sand, under a glass, where there is no mild heat; pot in leaf mould. Peat and a little fibrous loam may be added, also sharp sand. Though grown or removed from these, little extra heat is needed in spring. Summer temp., 60° to 70°; winter, 45° to 50°.

" anachro'a (dill-leaved). N. Holland. 1841.
" varia'alis (variable). Tasmania.
" heterophylla (fork-branched). See B. sapathulata.
" Drumn'sidi (Drummond's). See B. fulchella.
" fallic'sa (sickle-leaved). Moreton Bay. 1841.
" bor'by'sa (free-flowering). See B. ribiflora.
" Fra'se'ri (Fraser's). Red. May. N. Holland. 1821.
" megas'ita (large stigmas). Brown-yellow. Australia. 1873.
" u'rea (golden). Creamy-yellow sport. 1904.
" mo'lis (soft). N. Holland. 1841.
" ramo'sa (branched). Blue. Australia.
" sco'bra (rugged). Pink. Swan River.
" te'rus (slender). Blue. Australia.
" teretif'o'lia (round-leaved). See B. cyoma.
" tetra'atra (four-stamened). See B. pulchella.
" trip'hylla (three-leaved). See B. ledipolia.
" sini'mea (twirly). Pink. Swan River.

BORREIA
(Named after J. W. Borer, a British cryptogamist and excellent botanist. Nat. ord. Cinchonaceae. Linn. 4-Tetrandria, 1-Mono-
ynia. See Spermacoce.)
Grows from the biennials from seeds, treated like a tender annual; and the perennials from seeds in sand, under a glass; heat little; light soil.
B. commuta'ta (changed). See Spermacoce verticil-
Lata.
" tilia (upright). See S. verticillata.
" verticil'lata (whorled-flowered). See S. verticillata.

BORRCHIA
(A commemorative name. Nat. ord. Composite.)

BORZICA
(From Borsi, a commemorative name, and Cactus. Nat. ord. Cactaceae.)
Greenhouse succulent. Seeds, cuttings. Loam, broken bricks, a little leaf-mould and sand.

BOŠEĐKA
(Minaha'sise) is a garden name for what appears to be Artocarpus (1872).
BOSCLA
(Named after Bosc, a French professor of agriculture. Nat. ord. Capparaceae [Capparidaceae]. Linn. 11-Dodecandra, 1-Monogynia.)
Cuttings of firm wood in heat, in sand, under a glass; lumpy, fibrous loam and peat. Summer temp., 60° to 85°; winter, 50° to 55°.

BOSSELE
(Manned after Bossier Lamariners, a French botanist, who accompanied La Perouse on his fatal voyage. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadelphia, 6-Decandria. Allied to Hovea.)
Greenhouse evergreen shrubs and trailers; cuttings of half-ripe shoots in sand, in close frame with bottom-heat, in April; peat and loam, both fibrous, with a portion of silver-sand, and some pieces of charcoal, to keep the shoots open in firm, in the shade, and in a slightly heated, in March. Summer temp., moderate; winter, 40° to 50°.
" cordif'o'lia (heart-leaved). See B. cinnerea.
" den'ta ta (toothed). Australia. L. B. C., 1458.
" eusa'sa (sword-branched). See B. riparia.
" Hendrevini (Hendrevin's). Yellow and bronze. N. S. Wales. 1844.
" heterophylla (various-leaved). 3. Yellow. Sep-
tember. N. S. Wales. 1792.
" lanceol'o'la (lanceolate). See B. heterophylla.
" lenti'rica (lentil-leaved). See B. rhombifolia.
" limna'vus (Linnaeus-like). See B. prostrata.
" om'nia (adorned). 2. Yellow, or purple. March. April. 1831.
" ov'a'la (egg-shape-leaved). See B. heterophylla.
" paucifo'lia (few-leaved). See B. rufa virgata.
" rip'a'ria (river-bank). Australia.
" robus'na (rounded). See B. rhombifolia.
" spina'ce'a (spined). See B. rufa poliosa.
" senny'ca'ulis (slender-stemmed). See B. cinerea.
" virga'ta (twirly). See B. rufa virgata.

BOSTRICHUS
(a class of beetles, many of which are very injurious to the crops of the garden.
B. dispar, Apple-bark beetle. The female of this insect bores into the wood of the apple and there deposits her eggs, generally in the month of May; and its perforations are so numerous and extensive, as frequently, on the Continent, to destroy the tree. In England it rarely occurs. The perforations are confined to the alburnum, or young wood.
B. typographus. Typographer-beetle. This attacks the pine-tribe, especially the silver-fir. A draw-

The brittle resin of Boswellia, boiled with oil to render it soft, is used in the East as pitch for the bottoms of ships, and, in the dry state, as frankincense. Stove trees, cuttings of half-ripened wood in sand and peat; peat and loam. Summer temp., 60° to 80°; winter, 50° to 60°.

B. glabra (smooth). See B. serrata.


Bothriospermum. (From bothrios, a small pit, and sperma, a seed; the seeds are pitted. Nat. ord. Boraginaceae.)


Bothy. The lodgings assigned to young gardeners in the northern part of the kingdom, and the same name is given to woodpigeons, in many parts of England; and miserable hovels they often were, but they have been greatly improved within recent years.

Botryceras. (From botrus, a bunch, and heras, a horn; in reference to the bunches of horn-like racemes. Nat. ord. Asteraeae [Anacardiaceae]. Linn. 4-6-Tessandria, 1-Monogynia.)

Greenhouse evergreen shrubs; cuttings of ripened shoots in sand, under a hand-glass or close frame, with a gentle bottom-heat, in spring. Loam, peat, and sand. Summer temp., 55° to 65°; winter, 38° to 45°.


Botrychium. Moonwort. (From botrus, a bunch; in reference to the bunch-like formation of the seed-apparatus on the special branch of the leaf. Nat. ord. Ferns [Filices]. Linn. 24-Cryptopogonias, 2-Filices.)

Perennial Ferns, hardy, with but one exception, chidy divisions; peat and loam. B. austrole should be protected in Winter.

B. austrole (southern). See B. ternatum austrolea.


B. densifolium (furred). See B. ternatum dissectum.


B. obli'quum (twisted). See B. ternatum obliquum.

B. subcarono sum (somewhat fleshy). See B. daucifolium.


Botryode'ndrum. See Mertya.


Bottle Gourd. See Lagenaria.

Bottle Tree. See Sterculia Rupetris.

BOTTLE-HEAT. Naturally the temperature of the soil always bears a due relative proportion to that of the air. As the heat of the soil also decreases, but very slowly; and, when the atmospheric heat increases, that of the soil gradually rises. Bottom-heat, or heat applied to the roots, is often given to the artificial mode of imitating this proceeding of nature in our hothouses and other structures of that kind. If the temperature of the soil be too cold in proportion to the temperature of the atmosphere, the plants are not stimulated to the best formation; and, as fast as it is required by the branches and foliage; and, as a consequence, the leaves or fruit will fall or wither. On the other hand, if the temperature of the soil be too hot in proportion to that of the atmosphere, the roots absorb food faster than it can be elaborated by the leaves; and, as a consequence, over-luxuriant shoots and an extra development of leaves are caused, instead of blossoms and a healthy progress in all the parts.

Every plant obviously will have a particular bottom-heat most congenial to it. Plants growing in open plains will require a higher bottom-heat than those growing in the shade of the South American forests, though the temperature of the air out of the shade may be the same in each country. That gardener will succeed best who, among his other knowledge, has ascertained the relative temperature of the air and soil in which any given plant grows naturally.

At present, such information from actual observation is not readily obtained, but it is in the power of the observer to ascertain the maximum and minimum temperature of the air of a country; and, these being obtained, the gardener may adopt this as a safe rule:—Let the bottom-heat for plants of the same general nature be always 5° higher than the average temperature of each month; that is, if the lowest temperature of the month is 40°, and the highest 70°, the average is 55°; and, if we add 5° to that, we shall have 60°, the bottom-heat for the month. If the average maximum temperature of the air only be known, let the bottom-heat be less by 10° than the maximum temperature of the air. In relation to the propagation of plants, it can be more advantageously applied, for with a cool surface the sap is drawn downwards, and induces root growths and when top growth is wanted the surface temperature should be the highest. Taking ordinary subjects, we find root-growth is made during the autumn after the ground has been warmed by the summer sun and moistened by rain, and top-growth commences with spring sunshine.

Botum. A term usually applied to the drainage of hothouses, but equally applicable to any artificial horticultural drainage. (See Draining.) It is also applied to mowing grass on lawns, and signifies that the mower should take extra pains in mowing, cutting down almost to the ground, for the sake of the surface. Future mowings by the production of an entirely fresh herbage, free from moss and the residue of former mowings.

Boucer'sia. (From boukeros, furnished with Buffalo-horns; in reference to the horns of the corolla. Nat. ord. Asclepiadaceae.) Succulent perennials allied to Stapella and requiring similar cultural treatment.

B. crenula'ta (notched). 1. Pale yellow. India. 1829.


B. munyba'na (Munbyan). Algeria.

B. hisp'a nica (Spanish variety). Corolla lobes narrow. Spain. 1898.

B. tessella'ta (tasselled). See Echinopsis cerefoli'm. (tasselled). Summer. India. 1804.

Bouchea. (Named after two German naturalists, C. and P. Bouche, Nat. ord. Verbenaceae.)

Stove or greenhouse, evergreen herbs or sub-shrubs. Propagated by cuttings of half-ripened wood in sand, in pots or close frame, with a gentle bottom-heat, in spring. Loam, peat, and sand.
BOUCAUINILLES. (Named after de Bougainville, a French navigator. Nat. ord. Nyctaginaceae.)

Very beautiful and especially those which flower freely every year under ordinary treatment. They flower best when planted out in a border and trained up the rafters or pillars. After the end of October they should be kept dry at the roots to thoroughly ripen the wood, and then cut hard back to the main stems early in the year. Propagated by cuttings of half-ripened shoots in sand in a close frame with bottom-heat. Plants to be flowered in pots at the end of May, which is best done in a stove and afterwards placed in the greenhouse. Liquid manure may be given with advantage when in full growth. The soil for borders may consist of three parts turfy loam to one of leaf-mould and sufficient sand to make it porous. Give plenty of ventilation when in full growth.

B. *brasilien'sis* (Brazilian). See B. *spectabilis*.


"sander'ia na. A free-flowering variety even in pots. 1895.


"refulgens" (refulgent). Bracts bright purple-mauve. Brazil. 1887.

"specio'sa" (showy). See B. *spectabilis*.

"spectabilis" (showy). Yellow. Bracts rosy. Brazil. 1858.

"laterr'ia" (brick-red). Bracts brick-red.

"variegate ta" (variegated). Foliage variegated. 1890.

"splendens" (splendid). S. Amer. 1845.

"trifoli'ia" (vine-leaved). S. Amer. 1848.

BOURNE PALM. See *Livistona chinen'sis*.

BOURGEON or BOURGEON. See *Bud*.

BOURREA. (A commemorative name. Nat. ord. Boraginaceae.)

Stove shrub or small tree. Cuttings in sand in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


BOUSINGAULTIA. (Named after the celebrated chemist, Boussingault. Nat. ord. Basellaceae.)

Cycadaceae.)

Half-hardy tuberous-rooted plant. Seeds; division of its tuberous roots; peat and rich loam. Summer temp., 60° to 70°; winter, 45° to 55°.


"corda ta" (heart-shaped). Closely allied to B. *basille'ois*.

Pera. 1895.

"Lachame mei (Lachame's). Rose. Cuba. 1872.

BOUSETOUA. (From bowies, a cow-herd, and louo, to wash. Nat. ord. Graminaceae.)

Hardy perennial grass. Seeds; divisions. Ordinary soil.


BOUYRA'DIA. (Named after Dr. Bouyard, curator of the Botanic Garden at Paris. Nat. ord. Rubiaceae.)

Greenhouse shrubs, except where otherwise specified. Cuttings of young shoots in heat, early in the year, in close frame with bottom-heat. May be grown in the open during summer, but to flower well in winter requires an ample supply of heat. Also by roots, cut into pieces, and inserted in sandy soil, and placed in a brisk heat, in spring. Light, fibrous soil. Summer temp., 30° to 70°; winter 35° to 45°.


B. *grandif'ora* (large-flowered).

B. *Jacquinii* (Jacquin's). See B. *triphylla*.


B. *longif'ora* (long-flowered). See *Houstenia longi'flora*.

B. *listo'la plic'a* (double yellow). A garden variety. 1888.

B. *multif'ora* (many-flowered). See B. *Cavanillesii*.

B. *Red'ea* (Red's). See *Rondeletia strigo'sa*.


B. *splendens* (shining). See B. *triphylla*.

B. *striig'o'sa* (small-bristled). See *Rondeletia strigo'sa*.


BOWENIA. (Named in compliment to Sir G. Bowen, Governor of Queensland. Nat. ord. Cycadaceae.)

A very striking Cycad, having much divided leaves, with the leaflets running down the petioles, instead of being pinnate. Cultivated similar to Zamia.

B. *spectabilis* (showy). Queensland. 1863.

B. *serru'la* (saw-leaved). Rockingham Bay. 1863.

BOWER. See ARBOUR.

BOWIE*A. (Named in honour of J. Bowie, a collector for Kew. Nat. ord. Liliaceae.)

A curious and interesting greenhouse or half-hardy bulb, with annual, twining stems. Seeds or offsets.


BOW KEA*IA. (Nat. ord. Scrophulariaceae.)

Greenhouse shrubs, propagated by cuttings of half-ripened wood in sand in a gentle heat, and under a bell-glass or case. Loam, leaf-mould, and sand.

B. *gerrardi'ana* (Gerrardian). 8 to 10. White, dotted red. S. Africa. 1904.

B. *triphy'illa* (three-leaved). S. Africa.

B. *Bu'rus* *semper'er'i* (reus) is noticed by the gardener chiefly as a plant suitable for edgings. For this purpose it is neat; but it is an exhauster of the soil more than any other that can be so employed, and is a favourite lurking-place for the snail. For plants that may be substituted see *Eoging*. The best months for planting Box are September and February. Small-rooted slips are employed, and are planted against the perpendicular side of a small trench, along the edge of the border or bed they are desired to bound. The best month for clipping Box is June, and it should be done in showy weather. With great attention to not injuring the roots, and to washing earth in among these in their new position, large shrubs or bushes have been moved in May, June, and July.

BOX ELDER. See Acer negundo.

BOX THORN. See LYCUM.

BOYKINIA. (Nat. ord. Rockfoils, Saxifragaceae.)

Hardy herbaceous perennials with the habit of *Heu'chera*, and suitable for planting on the rockery. Propagated by division in spring. Ordinary garden soil of a light character.
BRACHTIUM. African Almond. (From brachys, superlative of brachus, short; the corolla lobes are very short. Nat. ord. Melastomaceae.)

Greenhouse evergreen shrubs. Cuttings of ripe shoots under a bell-glass, in sand. Sandy loam. Summer temp. 50° to 65°; winter, 35° to 45°.


**BRACHYCHLITUM.** (From brachus, short, and chitos, a line, referring to the shortness of the lower petal. Nat. ord. Scitamineae.)

A stave perennial requiring similar treatment to Costus and Hedychium. Propagation by division of the roots warrants commencing to grow. Compost sandy loam and a little peat. The name should be spelt Brachychlitum.


**BRACHYCHLON.** (From brachus, short, and chiton, a tunic. Nat. ord. Sterculiaeae. Now referred to Sterculia.)

Greenhouse shrubs of easy culture in turfy loam. Propagated by young cuttings in sand, in a close case, with bottom-heat.

B. acerifo'lia (Maple-leaved). See STERCULA ACERI-FOLIA.

B. Bidwi’lli (Bidwill’s). See S. Bidwillii.

B. Delahe’chei (Delaheche’s). See STERCULA RUPESTRIS, diversifo’lia (various-leaved). See S. Caudata.

**BRACHYCHONE.** (From brachus, short, and kome, hair. Nat. ord. Compositae [Composite]. Linn. ry-Syngenesis, 2-Superflua. Allied to the Daisy.)

Annuals. Sown in a gentle heat in March, and transplanted as half-hardy annual. B. diversifo’lia by cuttings of half-ripe shoots, in close frame; peat and loam. Winter temp., 35° to 45°.


B. Sinclair’s (Sinclair’s). New Zealand.

**BRACHYCHLOTTIS.** (From brachus, short, and glotta, a tongue; the ray florets are short. Nat. ord. Compositae. Allied to Cineraria.)

A greenhouse tree. Cuttings under a bell-glass. Loam, peat and sand.

B. repa’nda (scalloped). Yellow. New Zealand. 1892.

**BRACHTLOILA.** (From brachus, short, and loma, a cloak, or covering; referring to the shortness of the involucre. Nat. ord. Composites [Compositea]. Linn. ry-Syngenesis, 2-Superflua. Allied to Tarchonanthus.)

Greenhouse evergreen shrubs. Cuttings of half-ripe shoots, same as Brachycome diversifo’lia.

B. denta’ta (toothed). Yellow. S. Africa.


**BRACHYLOMA.** (From brachus, short, and loma, a fringe; the corolla has a short fringe of scales. Nat. ord. Euphorbiaceae.)

Greenhouse evergreen shrubs. Cuttings of the points of shoots in spring, under a bell-glass. Fibrous peat, a little loam, leaf-mould, and sand.


**BRACHYLOMA.** (From brachus, short, and olos, the ear, in reference to the ear-like structure at the base of the anthers. Nat. ord. Melastomaceae.)

A greenhouse shrub, with showy flowers and allied to Pieroea. The culture required is similar to that and Tibouchina, which see.


**BRACHYPTERYS.** (From brachus, short, and pteron, a wing. Nat. ord. Malphigiaee.)


**BRACHYSEMA.** (From brachus, short, and sema, standard; the flowers having the standard petal short. Nat. ord. Leguminosae [Leguminoseae]. Linn. ry-Alpinia.)

Greenhouse evergreen climbers. Seeds in March, in heat; cuttings of half-ripened shoots in summer, in sand, under a bell-glass, or in close frame, in a mild greenhouse, in peat and sand, with a little sand. Summer temp., 50° to 65°; winter, 45° to 55°.


B. melano’pis (black-petaled). See B. undulata.


B. subcri’colata (somewhat heart-shaped). Australia.


**BRACHYSPATHA.** (From brachus, short, and spathe, a spathe. Nat. ord. Araceae. Allied to the Aroideae.)

A stave perennial, with tuberous roots, and requiring similar treatment to Amorphophalus, to which it is now referred.


**BRACHYSTELMA.** (From brachus, short, and stema, a crown; referring to the coronal processes of the flowers. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. ry-Phantasia, 2-Digynia.)

Greenhouse tuberous perennials, from the Cape of Good Hope. Cuttings in sandy soil, in heat; division of the roots and tubers. Winter temp., 60° to 75°; winter, 45° to 55°.

B. Arno’titi (Arnett’s). Brown, green. S. Africa. 1866.


**BRACKEN or BRAKE FERN.** See PTERIS AQUILINA.
BRAC'T. The small, modified leaf placed at the base of flowers or their stalks, and not inaptly called the floral leaf. The most familiar example is the pale green, oblong one attached to the flower-stalk of the Lime-tree (Tilia vulgaris).

BRAC'TEATE. Having bracts.

BRAHEA. (Named after Tycho Brahe, a celebrated astronomer.)

Warm greenhouse Palsms of dwarf habit, with fan-shaped leaves. Propagated by seeds. Compost fibrous loam, about one-third peat, and plenty of sand. Water freely in summer.

B. calcara'ta (spurred). Mexico. 1871.

B. du'lcis (sweet). Peru. 1865.

B. elu'lis (edible). See ERYTHRAE A EDULIS.

B. filamen'tosa (thready). See WASHINGTONIA FILIPERA.

B. glau'ca (sea-green). See ERYTHRAE A ARMAT A.

B. mi'tida (shining). Mexico. 1887.

B. Ro'ssis (Rossel's). See ERYTHRAE A ARMATA.

B. serra'la (finely-sawed). 10. Green, white, Georgia. 1809.

BRAINEA. (In memory of C. J. Braines, of Hong Kong. Nat. ord. Fenn (Filicea.).)

A handsome greenhouse tree fern, easily grown in a compost of turfy loam and peat in equal proportions, with plenty of sharp sand.

B. misi'gnis (remarkable). Fronds, 2 to 3 ft. Hong-Kong.

BRAMBLE. Rubus.

BRANCHING ANNUAL STOCK. Malot'mia mari'stima.

BRASENIA. (Probably commemoratve. Nat. ord. Nymphaeaceae.)

A hardy water plant for the muddy margins of a pond or tank, to be protected in winter. Divisions.


BRASSIAE FISI. (From Brassia, and opsis, resemblance; the species resemble Brassia. Nat. ord. Ara laceae.)

Greenhouse evergreen shrubs. Cuttings in sand under a bell-glass. Fibrous loam, peat and sand.

B. aculea'ta (prickly). White, Himalaya. 1816.


BRASSIAE VOLA. (Named after A. A. Brassavola, a Venetian botanist. Nat. ord. Orchidaceae, Linn. 20. Cynandria, 1. Monogynia.)

Stove orchids. Divisions; best grown on blocks of wood, but will do in peat, crocks, and sphagnum. Summer temp., 70° to 90°, and moist; winter, 55° to 65°, and dry.


B. amaz'aica (Amazonian) Brazil. 1839.


B. cupe'a (spear-lipped). Trinidian. 1839.

B. digby'na (Mr. Dugby's). See LELIA DIGBYANA.

B. elegan'ta (elegant). See TETRAMICRA RIGIDA.

B. filio'lis (thread-leaved). Colombia.

B. fra'ga (fragrant). Brazil.

B. gibb'isi'a (Gibbsian). See B. TUBERCULATA.

B. glau'ca (milky-green). See LELIA GLAUC A.


B. lines'a (line-leaved). Light yellow. S. Amer. 1850.


B. odor'a'ta (scented). See B. CUCULLATA.


B. rhopalorrha'chis (clubbed-rachis). Guatemala. 1852.


Stove orchids. Divisions; rough turf, in pots, well drained. Those from Guatemala require less heat than those from the West Indies; water freely when growing, but give little when at rest. Temp. same as for Brassavola.

B. angui'sta (narrow-flowered). See B. LAWRENCEANA ANGUSTA.

B. anther'ae (brilliant). Yellow, black. Trop. Amer.

B. arc'u'a (bow-bearing). Peru. 1859.

B. arista'ta (awnned). See B. VERRUCOSA.

B. as'o (two-coloured). Yellow, purple. Peru.


B. bra'chyi'a (short-bracted). Yellow.


B. clavil'da (clubbed-rachis). Guatemala.

B. eli'chis (heterophyllous). Sepals and petals with brown base. W. Ind. 1844.

B. fulv'a (green-eye). Green, black. Costa Rica. 1873.

B. komi'na (cinnamon-coloured). See B. KELLIIANA.


B. coc'cles (spoon-lipped). See B. LAWRENCEANA COCHL RATA.


B. elega'nti'a (elegant). Green and brown bars. Mexico. 1854.


B. for'getiana (Forgetian). Whitish, chocolate-purple. Peru. 1832.

B. girocut'id'a (Giroudian). Yellow, spotted red. Brazil.


B. guthu'ta (finitely spotted). See B. MACULATA.

B. cut'is (blotted). See B. MACULATA GUTTATA.


B. iri'si (sad). Amber-brown, lemon. Caraccas; Colombia.


B. macro'co (large-spiked). Green, brown. Demerara.

B. pu'mi'la (dwarf). Yellow, purple. 1844.


B. an'gusta (narrow-petaled). Yellow October. Brazil. 1839.


B. levi'si (Lewis's). Greenish-yellow, spotted brown. Lip pale yellow. macro'co (large-spiked). See B. LAWRENCIANA MACROSTACHYCHA.


B. ome'nisis (Ocampion). Colombia.

B. pu'mila (dwarf). See B. LANCEANA PUMILA.

"signata" (remarkable). Green, changing to yellow.

Lip white, purple, 1850.

thrysoideae (thryso-like). Yellow, spotted green. Peru. 1868.

"veruco'sa" (warty-nipped). Green and brown. March.

Guatemala.

"grandiflora" (large-flowered). Larger and paler.

"Wagner's" (Wagner's). Colombia.

"Wray's" (Mrs. Wray's). See B. MACULATA.

BRASSICA. Cabbage. (From bresic, the Celtic name for Cabbage. Nat. ord. Cruciferae [ Crucifere]. Linn. 15-Tetradynamia.)

Seeds, chiefly spring and autumn; but at all intermediate periods during summer, according as the produce is wanted young; deep, rich, loamy soil. We shall only mention the specific names of the most useful, the cultivation of each of which will be found under its common name.

B. a'tha (white). White Mustard. Britain.

"arvensis" (field). Field Mustard. Charlock. Britain.


"nigra" (black). Black Mustard. Britain.

"oleraceae" (herb-like). Wild Cabbage. England and Ireland.

"acephala" (headless). Borecole or Kale. Gardens.

"bott'ry" (bunched). Broccoli. Gardens.

"caulisfor'a" (stem-flower). The Cauliflower. Gardens.

"bull'es'a" (burr or wrinkled). The Savoy. Gardens.


"capit'a" (headed). The Cabbage or Heading Cabbage. Gardens.


"ka'pa". The Turnip. England and Ireland.

"kuli'ba'ga". The Swede. England and Ireland.

BRASSOCATTLE'LLA. (Garden hybrid between Brassava, Cattleya, and Latia. Nat. ord. Orchidaceae.) For culture, see BRASSOVA, CATTLEYA, and LELIA.


"Macka"yi. Hybrid. Leucocattleya elegans X Brassavo digbyana.

BRASSO-QATTLYEA. (A series of hybrids between Brassavo and Cattleya. Nat. ord. Orchidaceae.) They may be grown in baskets or pots, three-parts filled with crocks, using a compost of fibrous peat, sphagnum, and sand. See BRASSOVA and CATTLEYA.

B.-c. Alexander'i. Hybrid between Cattleya cithrina and Brassavo digbyana. 1907.

"chambarlan'mia." Hybrid. Brassavo digbyana X Cattleya quadricolor. 1902.

"Cliffo'ni." Hybrid. B.-c. digbyana-Mossi'xX Cattleya Triana. 1902.

"conspic'u'a". Hybrid. Cattleya Leopoldii X Brassavo glauca or B. digbyana. 1902.

"digby'no-Forbes'si." Hybrid. Brassavo digbyana X Cattleya Forbesii. 1906.


"Hy'za." Hybrid. Cattleya Loddigesii harisson'e X Brassavo digbyana. 1907.

"laurenti'd-no-gla'uca." Hybrid.

"Leema'n'nie." Hybrid. Cattleya douwiana aurea X Brassavo digbyana. 1903.


"mic'ha". Hybrid. Brassavo fragrans X Cattleya Van Houttei. 1902.


"Striata." Hybrid. Brassavo fragrans X Cattleya Mossi'x. 1903.

"Thorn'o'ni." Hybrid. Brassavo digbyana X Cattleya gaskelliana. 1907.

BRASSO-LEL'IA. (Garden hybrids between Brassavo and Latia. Nat. ord. Orchidaceae.) For specific treatment, see BRASSOVA and LELIA.


"Jesso'pi." Hybrid. Latia xanthina X Brassavo digbyana. 1907.

"Linn'io'si." Hybrid. Latia anceps X Brassavo digbyana. 1906.

"Ro'fie." Hybrid. Latia crispa X Brassavo digbyana. 1903.

"Ttio'le'si." Hybrid. Latia grandiflora X Brassavo digbyana. 1907.

"westfield'd'nsis." Hybrid. Brassavo glauca X Latia flava. 1907.

BRAYO'A. (Named after Brayo, a Mexican botanist. Nat. ord. Amaryllidaceae.) Linn. 6-Hexan-dria, 1- Monogynia.)

Pretty Mexican small bulbs, requiring slight protection in winter, or the greenhouse-culture of Ixias. Offsets. light, rich loam. Summer temp., 60° to 80°; winter, 45° to 55°.


"Kirmes'si" (Kew). Garden hybrid between B. geminiflora and B. bulliana. 1899.

BRAYA. (A commemorative name. Nat. ord. Crucifera.)


BRAZILIAN TEA. See ILEX PARAGUAYENSIS and STACHYTARTHEA JAMAICENSIS.

BRAZIL-NUT. Berthol'd'sia.

BRAZIL-WOOD. Casal'spis'nia brasiliensis.

BRAZIO'RIA. (Derivation not clear. Nat. ord. La'biatea.)


BREAD-FRUIT. Artocarpus.

BREAD-NU'T. Bro'Fiximum.

BREAD-ROOT. Psor'tea esculenta.

BREAKING. A tulip's flower is broken when it has attained its permanent colours. A bulbous root is said to break when its foliage begins to thrust forth; and a bud breaks when it bursts, to allow the expansion of the leaves or flowers.

BREAST-WOOD. The shoots which grow out directly from the front of branches trained as espaliers, or against walls.


Stove evergreen shrub. Cuttings in sand, under a glass, in heat; fibrous loam and peat, with a little sand. Summer temp., 60° to 75°: winter, 50° to 55°.
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BREVOORTIA. (Nat. ord. Liliaceae.)
A curious and handsome bulbous plant, requiring to be planted in a warm soil in a sheltered position, such as the foot of a wall. Allied to Brodiaea, and requiring similar treatment. Propagated by offsets and seeds.


" I'da-Maja " (ida May) \* Crimson-red, yellow, green. 1864.

BREWELLA. (Nat. ord. Convulvulaceae.)
A stowe plant related to Convolvulus, and may be grown in a compost of fibrous loam, leaf-mould, and sand.


BREXIA. (From brexins, rain; in reference to the protection from rain given by the large leaves of some of the species. Nat. ord. Brestiads [Saxifragaceae]. Linn. 5-Fenianisidia, 1-Monogynia.)
A stowe with thick, fleshy leaves. Half-ripened shoots in sand, under a bell-glass, in close frame, in bottom-heat; sandy peat, and a third loam. Summer temp., moderate; winter, 50° to 35°.

B. chrysophylla (golden-leaved). See B. MADAGASCARIENSIS.


BRICKELLIA. (Nat. ord. Compositae.)
Stove herbs and undershrubs, propagated by cuttings in pots of sandy soil, in a close case, with bottom-heat. Compost, loam, peat, and sand.


BRICKS. As the gardener often may want to know how many bricks will be needed for an intended structure, it will be a guide to know that all bricks sold in England were required by statute (17 Geo. III. c. 42) to be eight and a half inches long, four inches wide, and two and a half inches thick. Pantiles, by the same authority, were required to be at least four inches long, nine and a half inches wide, and half an inch thick. But as the duty is now taken off these articles, we hope to see them made larger, and of various forms, so as to reduce the amount of bricklayers' labour, which is one of the most costly items in the construction of garden-buildings.

They are now made nine inches long, four inches wide, and two and a half inches thick, and the clamp bricks are most in use for horticultural purposes. Walls are usually termed four inch, nine inch (this allows of some being used crosswise and others lengthwise, with space for mortar). The "clamp" has a hollow on one surface, which holds the mortar, and binds the bricks together. Fire bricks, and what are termed Kiln bricks, are made with level surfaces, the latter being used for paving or other purposes where a good facing is necessary; they are red, and have a smooth surface, and are rather larger than the ordinary clamp bricks.

BRIDGES. During recent years there has been considerable improvement in the construction of Bridges. In the Japanese gardens they are constructed of bamboo and cane, and in these gardens artificial streams and lakes are formed, the rustic bridges are effective, besides being a necessity. And in any garden where there is water to cross light may be made an ornament. The plain plank and rail should be avoided. A good firm plank bottom is necessary, but in place of the straight rails above, an irregular arrangement of a rustic character is more effective. The crooked stems of oak are most effective. The construction of bridges is quite as much an art as painting a picture; for when properly constructed, they add much to the picturesque appearance of the landscape. One great point in building a bridge is to make it an ornamental feature in the centre; this with a good foundation at each end, and strong girders beneath the work, will be perfectly safe. In some instances it may be necessary to have a level bridge for crossing canals. If so stated above, the bridge when properly constructed is an ornament to the garden, and when fairly well elevated in the centre a fine view may be obtained of other parts of the garden. The rustic wooded area of B. has not been approved of by the present parts of the garden, but in the rock-garden bridges constructed of stone are more in keeping with surroundings; and if built of rough burs some plants may be grown on the walls and supported by trellises. Opinions differ, some like strict neatness; yet in the garden horizontal lines and bareness do not appeal to the tastes of many, while a rustic, well-constructed bridge is an ornament to any garden. There are, of course, some cases where it is necessary to have a bridge as nearly level as possible for means of traffic, but even then it may be made attractive by the side structures being carried up irregularly and elevated in the centre.

BRIDGE'SIA SPICA'TA. See ERIGILLA VOLUBILIS.

BRILLANTATISIA. (In honour of M. Brillantin. Nat. ord. Asimandla [Acanthaceae]. Linn. 2-Dianandra, 1-Monogynia.)
Stove evergreen. For culture, see BARLE'SIA.


" vogelia'sia (Vogelian). Trop. Africa.

BRINING. See STEEPING.

BRIZA. (From brizo, to nod. Nat. ord. Grasses [Gramineae]. Linn. 3-Triandria, 2-Digyina.)
This genus includes our Quaking-grass, or Lady's tresses, B. ma'sima and m'sor. These, with the others here we enumerate, are the only ones having any pretensions to being ornamental. Seed in early spring; common soil.

B. Chi'si (Chusiass). See B. MEDIAL.

" elat'is (taller). See B. MEDIAL.

" genc'ula (kneed). S. Africa.

" grac'ulis (graceful). See B. MINOR.


" rotunda (rounded). Mexico. 1887.

" ru'bra (red). See B. MAXIMA.


BROADCAST. Applies to seed sowing where the seeds are scattered over the surface instead of being sown in drills, or rows. In most instances the rows are preferable. Grasses and other seeds are sown broadcast, and also annually, in small seed-beds. Turnips are among the few vegetables that are sown broadcast on the ground where they are to remain until ready for use, but the cabbage and others of the Brassica tribe are usually sown in beds broadcast and transplanted later, yet with all subjects rows are preferable, as the hoe can be used more effectively; even for seedlings which are to be transplanted there is an advantage in having them in rows if they are not sown too thickly.

BROCHCHIA. (Nat. ord. Bromeliaceae.)

BROCOLL. (Bra'sisica oler'a-cea Brody's.). In the older editions of this work a long list of types and varieties is given in which it will not be necessary to enumerate here, for catalogues from all seedsmen give them in their proper order. The question frequently arises as to the distinction between the Broccoli and Cauliflower. Both are derived from the same wild species; there are many hybrids which it is difficult to divide them. In the first place, the Broccoli is a winter or spring vegetable, while the Cauliflower comes in during the summer and autumn, and although there is this distinction, all of those with the round, I
white heads are usually called Cauliflowers, and it is only those with the sprouting heads that are known in our markets as Broccoli, yet in the many catalogues we find the old vegetable listed as Broccoli; but if you ask any market salesman and asked for Broccoli, he would offer you the sprouting sorts. The true difference is that the varieties of Cauliflowers flower from a very soft, tender stem, while the Broccolis are strictly biennial, however, and do not form a head until they have made a strong hard stem, yet after all, they belong to the same species of Brassica. The ordinary type all the year through and it makes a distinctive crop to keep them by the one name "Cauliflower," to define them from the winter branching sorts. In private gardens the word Broccoli, is made to comprise every variety capable of standing winter and grown for the table, particularly in the unusually severe winters. It is only during the winter and early spring that we have the sprouting Broccolis; the original word is Broccoli.

Time and Mode of Sowing.—The time for sowing the varieties are specified under each; but we will add that, for a small family, we have found the following sowings and varieties are sufficient to keep up a supply from the beginning of October to the end of May.

Sow Early Cauliflower Broccoli the second week in April, and the first week in June. The produce will be fit for table during October, and until the middle of December. The second sowing will be in the first week of April. The heads will be ready in November, and until January ends. Sow Dwarf Brown the second week in April. It will be in production from February to end of April. Sow Broccoli the third week in April. Their heads will be ready during the April and May following.

Each variety should be sown separately, and the seed of the chief crops; the beds not more than three or four feet wide, for the convenience of weeding, which must be performed as often as weeds appear, as they are very injurious to the growth of this vegetable. The seeds must be sown more thinly than sufficiently deep to keep them moist. After the ground has been well prepared, it may be sown on the surface and simply raked in, and the beds be netted over, to keep away the birds, which, especially in showery weather, are very destructive.

Pricking out.—The plants are fit for pricking out when they are two or three inches high. Do it during warm, showery weather, and set them six inches apart each way, and water every night until they have taken root. They must have four or five weeks' growth before they are again moved, or not until they have leaves nearly three inches in length.

Planting.—When planted out, they must be set, on an average, two feet asunder each way; in summer a little wider, in autumn rather closer. Water to be given at the time of planting, and simply forked in and slightly pressed down, and when they are established. During the droughts of summer it may be given plentifully, with the greatest advantage. They must be hoed between frequently, and the mould drawn up about their stems.

Protection in Winter.—To those crops which have to withstand the winter in the open air, salt is beneficially applied, as it preserves them from being frosted in the neck. This application preserves their roots from being worm-eaten; and so does pouring soap-suds between the rows, which application is also very beneficial to the plants. The salt should be sown over the bed, in a dry day, in the form of thin bushes to the acre. To preserve the winter-standing crops from destruction by severe weather, a small trench is made, in the first week of November, at the north end of each row, in which the adjoining plant is laid so low, with its head towards the north, that the centre of its stem at the top is just level with the surface of the ground, the root being scarcely disturbed; it is then immediately watered, and its roots covered with more mould. Thus every plant is in succession reclined; and, in a few days, it is scarcely perceptible that they have been thus treated, though it certainly checks their growth. Before the arrival of winter, the sodded rows of plants are made round each plant, to support its leaves, and prevent their being broken. If snow accompanies severe frost, advantage should be taken of it, and the plants be heaped over with it, which will afford them an effectual protection.

To obtain Seed.—Such plants of each variety must be selected, in March or April, as most perfectly agree with their peculiar characteristics, and are not particularly set apart for seed. The seed is taken by hand, and at the time to throw up some gardeners recommend the leaves to be taken away; but this must be injurious. Some growers are careful to avoid foliage overgrowing the heads, but this is not necessary. The plants are placed at equal distances round each plant, and hooped round with string, to support them, and prevent their breaking. When the pods begin to form, water should be given more freely, and occasionally some thrown over the whole plant, which tends to prevent mildew. Before the pods begin to change colour, those from the extremity of every shoot must be taken away, as these yield seeds which produce plants very apt to run to seed without heading; and, by an early removal, the others are benefited. The branches ought to be gathered as soon as the pods upon them ripen. Different kinds must never be planted near each other, or they will reciprocally be crossed. The seed ripens in August or September, and it is often recommended to preserve it in the pod until wanted; but the general practice is to beat it out, and store it as soon as perfectly dry, which is the safest and best method.

BRODELA (Named after J. J. Brodie, a Scotch cryptogamist. Nat. ord. Liliaceae [Liliaceae]. Linn. 3-Triandria, 1-Monogynia. Allied to Allium.)

Frame or half-hardy small bulbs, requiring the same treatment as Amaryllis. Often grown as a sandy peat. Temp., 50° to 70°; winter, 40°.

B. Bridge'sii (Bridges'). Blue. California. 1888.


B. a'ba (white).

coots'nea (scarlet).


B. xeris eua (Douglas'). Yellow. Northern California. 1901.

B. grandiflora (large-flowered). I. Blue. N.W. 1806.

B. Wa'rei (Ware's). Lilac. Rose. California. 1888.

B. Henderson'si (Henderson's). Yellow with violet-purple midribs. Western N. Amer. 1890.


B. 6lai cai (lilac). Delicate lilac.

B. hya cet inhina (Hyacinth-like). White, with green ribs. California. 1853.

B. la'cies (milky). White, suffused lilac.


B. spinx'endes (splendid). Bright yellow, in large heads.


B. Palme'ri (Palmer's). Bright purple. Lower California. 1890.

B. parviflo'ra (small-flowered). See B. MULTIFLORA.

B. podun'c1a (staked). Porcelain-white. California. 1896.


B. pulche'lla (beautiful). California.

B. Pu'rdy (Purdy's). Rose-purple. California.


B. terrae'ris (terrestrial). California.
BROWALLIA 


B. carnea (sky-blue). Light sky-blue. 

" conspiciu's (conspicuous). Segments broader. 1869. 

B. rosalbis (twinning). See STROPHOLIRION CALIFORNICOS.
BROWNEA


"ma'tor (greater) Flowers larger.

B. rosea (2). Blue, S. Amer.

BROWNEA. (Named after Dr. Brown, Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadelphia, 6-December. Allied to Cassapilina and Ambersia.)

Stove evergreen shrubs. Cuttings of ripe wood in sand, under a glass, and placed in a strong bottom-heat; heat and loam. Summer temp., 60° to 85°; winter, 50° to 55°.

B. antioque'nis (Antioquian). See B. Macrophylla.


C. capil'ies (header). Venezuela.


C. Crawford'ii ( Crawfords'). Garden hybrid (Grandeceps X macrophylla).

cere'i (erect). See Talisia Princes.


C. kochi (slender). Hybrid garden. (AriesxGrandeceps).


ro'se (sky). See B. Rosa-de-Monte.

BROWLOWIA. (Named after Lady Browlow, Nat. ord. Lindensbooms [Tilliaceae]. Linn. 13-Polyandria. 1-Monadelphus. Ally of Celtis.)

Stove tree. Cuttings of ripe shoots in heat; rich, loamy soil. Summer temp., 60° to 75°; winter, 45° to 55°.

B. eis'la (tall). 60. Yellow. E. Ind. 1820.

BROWN TAIL MOths. Porthis chrysorrhoea.

BRUCEA. (Named after Bruce, the African traveller. Nat. ord. Quassias [Simarubeae]. Linn. 22-Dicea, 4-Tetranoria.)

This genus possesses that intense bitter, for which Quassia, the head of this small order, has long been celebrated. Stove evergreen shrubs. Ripened cuttings in sand, under a glass, in bottom-heat. Summer temp., 60° to 75°; winter, 55°.

B. antisystem'ica (antisystemetric). See B. ferruginea.


gra'cilis (slender). See B. sumatrana.


BRUCHUS.

A genus of small beetles, which confine their depredations chiefly to the seeds of leguminous plants.

Bruchus granarios. The Grain Beetle. Every one who has associated with the seeds of the pea and the bean must have noticed that in many of them were small, round holes; and these occasionally are so numerous as to spoil the sample, and, indeed, render the seed totally valueless for sowing; for not one of those thus pierced but would produce either a weak, unhealthy plant, or not vegetate at all. Those holes in the "worn-out" peas and beans are made by a small beetle (Bruchus Granarius), produced from a grub, or caterpillar, which has eaten away all the vital parts of the seed; and, when it has passed through the chrysalis state, and given birth to this beetle, the latter makes the hole necessary to escape into the air, through which it must perpetrate more mischief upon the growing crops. The body of the beetle is a dull brown; but the elytra, or wing-covers, are black, dotted with white, but scarcely perceivable, as they are so curled up, or drawn in, as in our drawing. Naturally it is the size of the smaller figure; that is, scarcely two lines long. The antennae, or feelers, are eleven-jointed, black, and thinnest near the head, where they are also tinged with red. The head droops, the eyes are prominent, the fore-legs are rusty-coloured. This little beetle may be found upon various flowers during seven months of the year. In February it may be found on the furze-blossom, in June upon the white-thorn, in July and August upon the spireas and rhubarb flowers. The female pierces through the pod of the pea and bean whilst very young, and often deposits an egg in each seed. Probably the best mode of destroying them would be soon as harvested, for some hours, until thoroughly heated, to a temperature of 150°. This, we think, would kill the grubs without injuring the seed.

Brownea. The Furze Beetle. This little insect is closely related to the previous one, also found on furze. It is black, with its elytra (wing-cases) marked with lines and lighter-coloured dots; antennae (feelers) tufted, with eleven joints. The females, in February, deposit their eggs in the germs, or young seed-vessels, of the winter-blooming furze; and the same insects may be found again, in June, similarly employed upon the summer-blooming furze. The grub hatched from her eggs lives upon the seeds; and every one who has noticed this plant must be aware that its ripe seed-vessels often contain nothing but a little rough powder—a powder which is the refuse of the seeds, destroyed by the grub of this insect. Another member of this family of beetles, Bruchus Pitt, is greatly destructive to the pea crops. It is a small, brownish beetle, with brown and black spots at the tips of its wings in depositing and fertilizing the tender seeds of leguminous plants, and sometimes in different kinds of corn. In these the larva—a small, white, fleshly grub—finds both a food and a shelter, and an abundance of a food. It undergoes all its transformations in the seed; and the perfect insect remains in it till the spring, though in fine autumns the perfect insects appear at that season also. The larva, however, possesses the singular instinct of attacking the vital part of the seed till the last. We have often observed the seed-pods of Chorizema, and other delicate and scarce leguminous plants in greenhouses, pierced by the Bruchus Pitt. The more edible remedy is to pull up and burn the haulm and pods altogether, and not attempt to get a crop at all.—Cottage Gardener, i. and ii.

BRUGMANSIA. (This genus is united to Datura, which see.)

BRUISE. See Canker.

BRUNFELSIA. (Named in honour of Otto Brunfels, of Mentz, a German physician. Nat. ord. Nighkshades [Simarubeae].)

Very showy, free-flowering, evergreen stove shrubs. The large, blue, white, or yellow flowers are mostly delicately scented. Propagated by cuttings of fairly firm shoots, not too long, and an abundant of a food. In propagating case, with a genial bottom-heat. Compost of loam, leaf-soil, peat, and sand. Repot after they have finished flowering and place them in a house kept at 60° to 65° to make fresh growth. There is a most excellent atmosphere at this stage, and give plenty of water when growing. After growth is finished keep them drier at the roots and overhead, placing them in a temperature of 48° to 50°.

B. acumin'ata (pointed-leaved). See B. Ramosissima.


a'gus'gus' (August). See B. Calycina.


Brazil. 1850.

B. cocci'nea (crowded-flowered). See B. Calycina.

cocci'nea (choice). See B. Calycina.


B. lindenii (Lindenian). See B. CALTNCA.


macro'tica (large-flowered). See B. CALTCINA.


m'shining). Trop. Amer.

nano's (few-flowered). See B. CALTCINA.

pohlia'na (Pohl's). Blue. white. April. Brazil. 1840.

Sib'ers (Siber's). Country unknown.

unda'vale (southern-wood-like). See BERZELIA ABROTANOIDES.


dual'ica (tufted). See BERZELIA LANUGINOSA.


eric'ot (heath-like). See BERZELIA SQUARROSA.


fus'io'la (feathery). See FUSIONIA GLORIOSA.

ful'o'na (clammy). See STAVIA GLUTINOSA.


micr'o'ly (small-leaved). See RASPALLA MICRO

phy'lla.


pale'zaa (scaly). See BERZELIA PALEACEA.

 PHYSIC'OS (Physic-like). See RASPALLA DREGNEA.


plu'mo'na (feathery). See BERZELIA SQUARROSA.

race'mo'na (raced). 2. White. October. 1801.

squa'ro'sa (broad-spreading). See BERZELIA SQUAR

ROSA.

sup'hria (superb). See BERZELIA LANUGINOSA.


BRUNICHIA. (Named after Dr. Brunich, a Danish botanist. Nat. ord. Buckheats [Polygonaceae]. Linn. to-Decandria, 2-Trigynia.)

Greenshelter. Cuttings root freely; fibrous loam, with a little sand. Summer temp., 60° to 70°; winter, 38° to 45°.


BRUNONIA. (Named after Dr. Brown, the celebrated English botanist. Nat. ord. Goodeniaeae. Linnaean class and order uncertain.)

Dr. Brown himself, and other great authorities, have been, and still are, in doubts as to the true position and affinity of this species. Herbaceous perennial. Seeds and divisions; sandy loam and fibrous peat. It requires the protection of a frame or greenhouse in winter; it is neat and fragrant.


BRUSNIGIA. (Named after the noble house of Brunswich, Nat. ord. Amaryllidaceae. Linn. 6-Hteranda, 1-Monogyia.)

This genus bears the same relation to Amaryllis which Azalea does to Rhododendron. It is a well-marked section of Amaryllis itself, when divorced of the mass of discordant plants accumulated under that name.'—Herbert.

Half-hardy bulbs, from the Cape of Good Hope. Offsets; loose and fibrous peat or good sandy loam and leaf-mould; either in greenhouse or in a warm situation out of doors, where the bulbs, being planted deep, are secure from frost and from wet by coverings, such as glazed sashs or tarpaulins; or the bulbs may be taken up at the approach of winter, and stored.

B. edulis (hair-fringed). See BUPHANE CILIARIS.

Buchnera 134

BUCHNERA VISCOSA. See Sphenandra viscosa.

BUCIDA. Olive Buck-tree. [From bos, an ox; in reference to the trunk being like ox’s horn. Nat. ord. Myro-bolan [Combretaceae]. Linn. 10-Decandra, 2-Digynia. Now referred to Terminalia.]

B. Bu’cerrus (ox’s-horn). See Terminalia Buceras.

BUCK-BEAN. Mnyset’niges.

BUCKLA’NDIA. (Named in compliment to Dr. Buckland, Dean of Westminster. Nat. ord. Witch Hazel [Hamamelidaceae].)

The leaves of this species are green, and in the greenhouse shrub, with fine foliage in the young state. Cuttings of mature shoots in sand, inserted in pots and placed in a close case, with gentle heat. Fibrinous lam, leaf-mould, and sand.

B. plo’yine (poplar-like). 100. Leaves large, heart-shaped, purple when young. Stipules large, red. Himalayas. 1875.

BUCKLER MUSTARD. Biscutella.

BUCKLEYA. (A commemorative name. Nat. ord. Santalaceae.)

A hardy shrub of slender and graceful habit, with spreading branches, furnished with light-green foliage. A plant for the shrubbery in well-drained, good garden soil.


BUCKTHORN. Rha’mnus.

BUCKWHEAT. See Fagopyrum esculentum.

BUCKWHEAT-TREE. Myloca’rum.

BUD. The buds are organised parts of a plant, of an oval, round, or conical form, and containing the rudiments of future branches, leaves, and flowers, which remain without growth or opening them, until circumstances favour their development. The same buds, accordingly, as circumstances vary, produce either flowers or leaves. Buds spring from the albumen, to which they are united, and are nourished by central vessels. Buds are formed, at first, only in the axil of leaves, that is, in the angle between the leaf and the branch; but, if these buds are destroyed, what are termed adven-
tion or latent buds are formed, yet chiefly in the neigh-
bourhood of the regular buds, or from latent buds that were at one time truly axillary.

BUDDING is the art of making a bud unite to the stem or branch (then called the stock) of another tree or shrub, independently of its parent. The object thus attained is the propagation of a tree, and the prevention of the case of seedlings, an earlier production of fruit than if the buds were left upon the parent. Delicate kinds are strengthened by being worked, as it is technically termed, upon a more robust stock. Another fact is, that the vine is budded on the Syrian, and the Double Yellow Rose upon the common China. Variegated roses often lose their distinctive marks if grown upon their own roots. Some roses, budded upon the common brier, afford finer flowers than upon their own stems. Buds from seedling peaches and pears are earlier productive, and produce finer fruit, if budded upon a robust stock; but buds of the pear, inserted earlier than the close of August, produce branches, and not blossoms. Where the bud comes in contact with the wood of the stock, a confused line is visible, between which line and the bark of the bud there is a swelling, having the characteristic of the parent of the bud. Buds of almost every species succeed with most certainty if inserted in shoots of the same year’s growth; but the small walnut-buds succeed best, which are removed when the vine of the base of the annual shoots, where these join the year-old wood, from which the bud is taken. Buds are usually two years later than grafts in producing fruit; but then every bud will produce a new plant while each graft has at least three upon it. Buds succeed more readily than grafts; and, if a graft inserted in the spring has failed, a bud may succeed in the summer of the same year. If the stock be well, the bud will usually grow, and be attached to them, separates readily from the wood. This is usually in July or August, and is inti-
mated by the buds being well-developed in the axils of the present year’s leaves. Scallop-budding may be done almost at any season. Buds should be taken from the middle of the shoot; those from its point are said to make wood too freely, and those from the base to be more unexcitable, and, consequently, less prompt to vegetate.

Stocks for budding may be much smaller than for grafting, even on the same year’s shoot. Several buds may be inserted on older branches, and thus a good head built up. On stocks at which budding is to be adopted, just after rain, when there is no violent wind, is a time to be preferred for budding. Whatever mode of budding is adopted, quick-
ness in the operation is indispensable, for, if the wound in the stock or that of the bud becomes dry, the budding will fail. The bark of the stock should be cut and raised first, and, if possible, on its north side. A piece of wire or a little cotton may be twisted over the wound whilst the bud is preparing; and the moment this is done it should be inserted, and the ligature put on forthwith. The following practical details of budding fruit-trees and roses—details applicable to all other trees and flowering-shrubs capable of being thus propagated—we have copied from the pages of The Cottage Gardener:—

If the bark does not rise well, that is, does not part freely from the wood, the buds will not succeed.

A good budding-knife is the first thing to be provided: any respectable nurseryman will furnish this.

Next, some really good matting: we prefer the new Dutch Green, a matting of finest quality manufactured by Russian mats will answer equally well, perhaps better, provided the material is very fine and very tough—cotton is often used.

The bast must be cut into lengths, and adapted to the shape of the stock. They may be twisted round the stock or may. A novice may soon determine the length necessary, by twisting a piece round any twig of similar size, as in the act of budding.

Before occupying the process itself, it will be well to speak of the condition of the stocks, or subjects to be operated on. Budding, as before observed, is performed at various seasons; and in very early budding, it is desirable, if possible, to have the abscised majorities; if not, it is necessarily, to insert the whole of the shield, or bud, with its own system of wood attached.

When the summer is far advanced, however, and the buds are become individually perfect, or nearly so, in their organisation, the case alters; and the less of intervening matter there exists between the bud and its immediate appurtenances of petiole and bark, the better.

Budding, then, in spring or early summer, is generally accompanied, it may be presumed, by a copious current of sap. Not so, however, late summer-budding on all occasions; for the season may have been unusually dry, and the budding may succeed well, the same buds, or, in other words, be beset with a paralysed root-

action; all these are impediments. A copious watering, the evening previous to the process, will, however, effectually set the matter right in this respect. The same depends. In addition to this, a cloudy day is preferable to a sunny one.

In former days the chief criterion of the eligibility of a tree for the budding-process was the cessation of growth, or rather, of extension in point of length, in the stock. Such generally happens in fruit-trees—such as the peach, apricot, cherry, plum, &c.—about the first or second week in August; the period, of course, being liable to be modified by several circumstances, as heat, drought, &c. Instead, however, of thus waiting until the eleventh hour, it is better to make an earlier commencement; and the length of stock, in the month of July, will be as it depends. In addition to this, a cloudy day is preferable to a sunny one.

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BUDDING

Buddleia

The point introduced; and, by pressing it close to the wood, right and left, the bark is, as it were, ploughed up, or liberated from the wood.

All is now ready for the reception of the bud, which is, indeed, by most good budders, prepared first, as follows: Take a bud, from the new spring growth, which has been cut off; and make a wedge-shaped incision, being wood of the current year's growth, is generally kept in a waterpot, first cutting off all the leaves: care must, however, be taken, not to leave any of the petioles (leaf-stalks) to handle the bud by. This, also, doubtless assists in forming a speedy union.

The bud, with its bark and a little of the wood of the tree, is then cut off in the form of a wedge, and the point of the wedge, that is against the right hand, by a little nice handling, are made to remove the portion of woody matter from the centre. The bud is instantly introduced beneath the bark in the T-shaped incision of the stock, at a point where the incision is widest, it is found in the same relation to the stock, or stem, of its new parent as existed between it and the shoot whence it sprang. This done, it is carefully and closely tied with the bast. The operator generally beginning to bind at the lower end, gives an extra tug with the petiole when he comes tolerably close to the lower end of the petiole. This is an old practice, and not particularly intelligent. It avoids, indeed, of meaning it have—being, that the tightness of the ligature in that precise position impedes slightly the returning sap, thereby concentrating it about the bud.

Sealing-wax, or any other spirit to cover the parts where air may enter. The following mixture will make a very useful kind:—Sealing-wax, one part; mutton fat, one part; white wax, one part; honey, one-eighth part; and turpentine, one-third part. When the sealing-wax is to be added, gradually, in small pieces, the mixture being kept constantly stirred; lastly, the honey must be put in, just before taking it off the fire. The wax should be rather thin paper or tin moulds, and kept slightly agitated till it begins to congeal.

We have observed, that when the season is late, and the bark rises somewhat badly, it may be excited to rise or swell by pouring liquid over it, at a temperature of 90°, the day before the operation, will, in general, facilitate the proceeding. When the bud, or shield, after the wood is removed, appears hollow at the bud part, it is commonly rejected. Such are not always barren; but they are apt to lie dormant for a year or two.

When a choice of position offers itself, we prefer the shady side of the stock. It is of more importance, however, to select a clear portion of the stem, free from knots, although some fancy the bud takes better if placed in a position from whence a natural bud has been removed when it is growing. As a rule, the buds should be selected, the leaves of which have become fully developed; the leaf, also, should, if possible, be unblemished.

Clothing the other, in all cases, to be preferred to sunny periods.

For budding Roses, and, indeed, for all budding, the best time of the day is either early in the morning, at least as early as seven o'clock A.M., or after three o'clock in the afternoon; cloudy, moist days are most suitable.

Cut off the head of the stocks, if not done previously at the time of planting, and all side branches except three, that is, for standards; unless growing very vigorously it is best to leave these side branches full length, if the season has advanced to August or September, to prevent the buds inserted from starting into growth at so late a period. In spring, if the buds are still alive, shorten the branches to three or four inches, and this will encourage the inserted buds to start into growth. Go over them again in ten days' time and remove any buds of the stock which may be growing. This will throw all the energy of the stock into the shoots of the rose budded upon it. Until these get quite strong they may be tied to the snags of the stock to guard against breakage.

In the case of dwarf roses, remove the soil from the base of the stocks so that the buds may be inserted about two inches below the ground level. Leave them uncovered, and watch the growth. In the case of tender roses the buds may be protected in winter by some dry braken. If the buds are inserted in July they will commence growing and may even bloom in September, in which case the soil at the base may be removed. The buds should remain dormant all winter, if inserted in August or September. There is no necessity for cutting back the stocks till growth recommences in spring; indeed, the leafy branches, which may be left, serve to keep the buds dormant till spring, and injury to unpruned wood in winter is thus avoided.

The procedure of budding is the same as for fruit-trees, but in the case of standard Roses, select a position for the cut as close to the main stem as possible, but on the base of the three young branches. In the case of dwarfs select a clean part of the bark of the main stem of the stock, as far as possible from the wound. This should be about an inch long, lengthwise on the branch. Cut a cross just at the top of this incision, and a little wider than the bud, and insert it in the slit. Then take off the bud, previously cutting off the leaf, leaving part of the leaf-stalk. Cut away with the bud a portion of the bark from the parent stem, which is technically called the shield of the bud, and a portion of wood with it. This bud, and the bark and wood with it, should be, altogether, rather than three-quarters of an inch long. Turn the bud over between your finger and thumb, and dexterously turn out the greater part of the wood; in case to leave the wood full in the eye of the bud. Then raise one side of the bark of the incision, in the shape of a T made in the stock, and with the ivory handle of the budding-knife slip in one side of the incision; to which the bud is attached to the bud, then turn your knife, and lift up the other side of the incision, and the bud will drop into its place. Press the bark of the bud to the farther end of the incision; if any projects beyond the edge, remove it, or else the bud will not be seated firmly.

The covering of the buds with leaves is not now practised, except in very rare cases. We feel it almost impossible to keep the covering on the bud, or to know it to be understood, in words only, for such a complex operation. We have, therefore, given the details minutely, to enable the reader to follow out this interesting process.

Buddleia. (Named after A. Buddle, an English botanist. Buddleia is the Latinized name of Colville's. Linn. 42 Tetrandria, 2 Monotypy.)

Warm greenhouse evergreen shrubs, except where otherwise specified. B. globo's, the best hardy species, requires a sheltered situation in the north of the island. Seeds are sometimes procured in the south of England, and should be sown in the spring following. Plants are also easily procured from well-ripened cuttings, placed upon a mixture of peat and sand, and protected against frost during winter frosts. The greenhouse and stove species may all be propagated freely from cuttings; and, for general management, the latter merely require a higher temperature than the former.

B. abbh. (white-flowered). Llac, with yellow eye.


B. americana (american). Yellow. August. S. Amer. 1826.


B. caesia (flesh-coloured). See B. CURVIFLORA CARRERA.


B. crispa (crisp-leaved). See B. PANICULATA.


B. curvina (flesh-coloured). Pale lilac. 1879. Hardy, diversifolia (various-leaved). See NICODEMIA DIVER,


B. heterophylla (variable-leaved). See B. MADAGASCAR

B. insinuans (remarkable). See B. JAPONICA.

B. intermedius (intermediate). Garden hybrid (curviflora x lindeyana). 1873.
B. japo'nia (Japanese). Japan.

"" ins'piss'ns (remarkable). Purple. Garden variety.

"" re'flex'a (reflected). Branches reached to the ground. 1879.


B. lat'i'fa (Lam.). White. 1819. Greenhouse evergreen.

"" he'msley'na (Hemsleyan). Reddish-lilac, no orange throat. Central China. 1903.

madagas'cari'nus (Madagascar). 10. Orange. Madagas-
cascar.

Ne'e noda (Nees's). See B. asiatica.

"" ni'wea (snowy). Lilac or purple. China. 1905.

oc-ci'den'tis (western). White. Perú. 1730. Green-
house evergreen.


1823.

"" puc'chilla (beautiful). Natal.

"" sal'i'en'a (willow-like). 6. See CHILLAN'THUS OLA'RES.


Cape of Good Hope. 1760. Greenhouse evergreen.

thyr'so'des (thyrse-flowered). Yellow. S. Amer. 1823.

"" var'i'ati'sis (variable). Lilac with yellow eye. We-


"" gigan'te'a (giant). Panicle very large. 1910.

"" mag'ni'fica (magnificent). A later, robust variety

with ""reddish-lilac flowers. 1905.

"" sup'e'rosa (superb). Panicles larger; flowers darker

than any other variety. 1908.

"" ve'luch'na (Veltchan). Purple. Panicles larger

and denser. 1902.

"" Wil'so'nii (Wilson's). Rich, dark, and distinct

shade of colour.

BUETT'NÉRIA. (Named in honour of Buettner, a

German gardener.) Nat. ord. Sterculiales [Sterculiaceae].

Linn. 5-Fentandria, 1-Monogynia.

Cuttings; the first two species require the greenhouse, the others the routine of the plant-stove.

B. das'yphy'lia (thick-leaved). See Rulingia pannos-

a. "" hermanni'ana (Herrmanniana-leaved). See Rulingia


1816.


1793.

BUFF-TIP TOL. Psyg'a be'culá. Thala.

BUFFALO CLOVER. Trif'o lium me' disarm. "

BUFFAGIN'VÍLE. See BOUGAINVÍLLE.

BUGLE. A'juga.

BUGLOSS. Anc'hu'sa.

BUGWORT. Cimic'i'ga. "

BUISSÓN. Is a fruit-tree on a very low stem, and with a head closely pruned.

BULB. A bulb is really an underground bud. Its fibrous or real roots die annually; but the bulb remains stored with reserve food, and retaining the vital powers of the plant, ready for reproduction at the appropriate season. Besides root bulbs (as are the onion, lily, &c.), there are stem or caulinary bulbs, equally efficient for propagation.

The stem-bulb consists of a number of small scales closely compacted together in an ovate or conical form, enclosing the rudiments of a future plant, and originating, sometimes in the axil of the leaves, as in ""Dent'ria bul'bi'fera and several Lil wys, and sometimes at the base of the umbel of flowers, as in ""Alli um ca'ri'num and others, in both which cases it is nourished by the parent plant till it has reached maturity, at which period the bond of connection is dissolved, and the bulb falls to the ground, endowed with the power of striking root in the soil by sending out fibres from the base, and so converting itself into a new individual.

Every bulbous-rooted plant has its management given in its proper place; but there are a few rules of general applicability. They should be moved, where necessary, whilst it is still in the stage of having the summer-flowering bulbs in autumn, and to the autumn-flowering in spring. Many require to be taken up annually, or, at furthest, every second or third year, to remove the accumulated offsets. No bulb should be kept long out of the ground; even during the winter it is necessarily so kept, it should be prevented from drying by burying it in sand. It is difficult to define the difference in bulbs, corms, and tubers. Yet the Gloxinias and Begonias, though the bulbs are termed ""Tuberos,"" may be given as examples of corms and the Dahlias as tubercous; and those with the scales should be classed, such as Hyacinths, Liliums, Onions, &c., bulbs.

BULBIN. (From bulbos, a bulb. Nat. ord. Lily-
worts [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia.)

The name Bulbine is a misnomer; for many more have the herbaceous habit of Anthericum than that of true bulbs. Bulb species by offsets; herbaceous plants, suckers, and corms are termed ""Tuberos,"" may be given as examples of corms and the Dahlias as tubercous; and those with the scales should be classed, such as Hyacinths, Liliums, Onions, &c., bulbs.

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B. unciformis (Godseffian). Philippines. 1890. 

del Delicat (lying hid). See Chirnophyllum delp.

densifolium (dense-flowered). India.

de'num (dense). Madagascar.

densifolium (fuzzy-toothed). A small plant; habit of B. flabellifolium. Sierra Leone. 1861.

dichro'mum (two-coloured). Yellow; lip dark purple. Annam. 1897.

disciflorum (disc-flowered). See Trias disciflora.

diso'ni (Dixon's). Greenish-yellow, spotted brown. Siam. 1908.

D. Dra'lei (Draile's). Trop. Africa. 1884.

e'lagans (elegant). Rosy-purple. Ceylon. 1892.

era'ch (upright). Madagascar. 1894.

Erisso'ni (Ericsson's). Yellowish-white, brown spots. Madagascar. 1893.

e'salid tum (slit). Light green, brown; lip blackish-purple. Guiana, Brazil. 1910.

fal' lax (deceiving). Dark purple. Assam. 1889.


flos'se (yellowish). Java. 1866.

fus' idium (yellowish). Yellow. March. Sierra Leone. 1840.

fuscopurpu'reum (fusco-purple). Doll reddish-brown. S. India. 1907.

fu'si um (brown-flowered). Chocolate. April. Sierra Leone. 1837.

galb'i s (greenish-yellow). Yellow, with reddish lines and crimson dots. Perak. 1907.


gibbo'sum (gibbus). Java. 1866.

gi' bnum (clamy). Green, white; lip red. Brazil. 1910.


grandiflo'rum (large-flowered). Lateral sepals pale green, 4 in. long. New Guinea. 1856.

gra' nios (L. lili, t. 180). See B. Longisepalum.

Hameli's (Hamelin's). Madagascar. 1893.


in'e'quale (unequal). Orange; lip dark purple. Java. 1866.

in'i'num (inert). Small, white flowers. Assam. 1880.


in'st (anointed). Dotted purple on light ground.

Bocen. 1907.

javan'am (Javanese). Java. 1866.

javan'am (John's). White. Madagascar. 1894.

K e' rii (Kerr's). Dull yellow. Siam. 1906.


lenis'scades (ribbon-like). Differs from B. lenis'scallum in habit. Java. 1890.


leysia'num (Leyesian). Yellow, pink, and purple. Java.


liac'i num (lilac). Lilac, spotted purple. Siam. 1896.

limus'tum (bordered). 1. Purple. February. Singa-

pore. 1845.


clap'teon'ese (Clapton).
B. Lo'bbi (Hertschall'e). "siam'd nse (Siamese). Yellowish, purple. Siam. 1895.
longisca'pum (long-scaled). Light green and red-purple. Fijl. 1896.
mambu'la're (mambilled). Brown, light green, purple. N.W. Borneo. 1882.
minu'sissim (very minute). N. E. Australia. 1904.
mucra'se (Mucronate). Pale yellow. Java. 1866.
Nep'elli (Nepall's). Brazil. 1842.
nsuda'se (naked-scaled). Green, purple. Sierra Leone; Congo Free State. 1904.
occulu'm (hidden-flowered). Sierra Leone.
ocula'tum (eyed). Java. 1866.
odorall'ssim (sweetest-scented). Himalayas.
odorall'tum (furred). Java. 1866.
ory'odon (sharp-toothed). See Megacodium oxy'don.
packy'parr'his (thick-scaled). W. Ind.
Pahud'i (Pahud's). Brownish-red and red. Java. 1877.
pau'rotum (small). Orange. Java. 1866.
pych'o (Shepherd's). Moulmein. (B. M., t. 7286.)
pe'nudum (pendulous). Mascarene Islands.
perpus'lium (very small). A very slender species; stems like thread. Madagascar. 1894.
Pyc'o (Psychon). Flowers green, nearly transparent. Assam. 1878.
پتهاev (Pine's). Ceylon.
B. retusiv'sculum (bluntish). See Cirrhophyllum ru'rusculorum.
پتهاev (Pine's). (Stiff). Burma. 1865.
پتهاev (Pine's). (Reddish). Burma. 1881.
پتهاev (Pine's). (Sanderian). Green, spotted brown. Perambuco, Brazil. 1893.
پتهاev (Pine's). (Shepherd's). Australia.
پتهاev (Pine's). (Siamese). See B. Lobbi siamense.
پتهاev (Pine's). (Dirty). See B. Bracteolatum.
پتهاev (Pine's). (Striated). Khasia Hills. 1893.
پتهاev (Pine's). (Furred). Java. 1866.
پتهاev (Pine's). (Many-eye-lashed). Kaga Leone. 1904.
پتهاev (Pine's). (Tuberculatum). New Zealand. 1884.
پتهاev (Pine's). (Unbeaded). See Cirrhophyllum gutta'latum.
پتهاev (Pine's). (Variegated). Mascarene Islands.
پتهاev (Pine's). (Striped). Java. 1862.

BULLOSTYLS. (From bulb, a bulb, and stylos, the style. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, t-Egalinis. Now referred to Brickellia.)

Stove plants. Cuttings in sand, with bottom heat, under a bell-glass or close frame; Ioam and peat.
B. Cavani'liae (Cavalline's). See BRICKELLIA CAVANIL -LENEI.
پتهاev (Pine's). (Hanging-down). See BRICKELLIA PENDULA.
پتهاev (Pine's). (Speedwell-leaved). See BRICKELLIA VERONICA'FOLIA.

BULLMUS GOODA'LLII. This name has been given to a small plant that was accidentally introduced to stove-rooms and greenhouses from the West Indies. It is about half an inch long, with a narrowly conical and spiral shell. It feeds by night on various plants, sometimes doing considerable damage, and should be looked for and uprooted with a lantern, in the same way as is done with the garlic snail among Orchids. Where it gets a footing and is difficult to exterminate, the soil in such houses should be removed from the garden and replaced by fresh material. This will be effective in removing the pest, with any eggs that may be in the soil.

BULLACE-TREE. Pru'rus insis'tia.

BULL GRAPES. Vi's rotundisfolia.

BUNCHOSIA. (From bunchos, coffee; the seeds resembling coffee-beerries. Nat. ord. Malpighiads [Mal-pighiaceae]. Linn. 10-Decandria, t-Monogynia.)
BUPHANE. (From bows an ox, and shod; cattle are said to be poisoned when they eat the bulbs. Nat. ord. Amaryllidaceae.) Allied to Bruns-vigla.

Greenhouse bulbs from South Africa. Offsets in sandy loam and fibrous peat. They are nearly hardy, but succeed best under glass. As the bulbs get too large for the pots, give a larger size in spring before they commence growing, and pot firmly.


B. guat'a (spotted). Leaves narrower.

B. x diffusa (two-ranked leaved). 1 to 1.5. Red. S. Africa.

B. buchu. (From bows, an ox, and ophth, eye; the large disc resembling the eye of an ox, hence the common name, Ox-eye. Nat. ord. Compositts [Compositae]. Allied to Inula.)


B. tri'fidiun (three-leafed). See B. JUNCUM.

HARDY PERENNIALS.


B. coria'cum (leathery). See B. GIBRALTARIUM.

B. cro'cem (Crocus-yellow). Bright yellow. Asia Minor. 1390.


B. frutic'escens (small-shrubby). See B. FRUTICOSUM.


B. longira'diun (long-rayed). Silberia.

B. marshallia num (Marshallian). See B. GRACILE.

B. mucrona'tum (mucronate). Eastern India.


B. ramosulo'is (Ranunculus-like). Yellow, Europe, &c.

B. ri'gidum (rigid). France.

B. sachalino'ne (Sachalin). Amurland.

B. scorzonera'fo'lium (scorzonera-leaved). See B. FAL-


GREENHOUSE.

B. cana'ceus (aquatic). See ODONTOSPERMUM AQUAT-

cum. B. cordosi'liun (heart-shaped-leaved). See B. SCISSICUM.

B. grandis'fo'lium (large-flowered). See B. SALICIFOLIUM.


B. specio'sum (showiest). Yellow. Europe. 1826.


B. spino'sum (spiny). See PALLENIS SPINOSA.

GREENHOUSE.

B. levis'a (smooth). See JASIONA LEVIGATA.

B. marisi'um (maritime). See ODONTOSPERMUM MARISI-

tium. Syns. Leucas disticha and B. longisetosa.

B. buchu. (From bows, an ox, and ophth, eye; the large disc resembling the eye of an ox, hence the common name, Ox-eye. Nat. ord. Compositts [Compositae]. Allied to Inula.)


BURCHA'RIA. (Named after H. Burchard, M.D. Nat. ord. Maland'ls [Liliaceae]. Linn. 6-Hexadri-a, 3-Trigynia. Allied to Veratrurn.)

Greenhouse herbaceous perennial; offsets and divi-

BURCHELLIA. (Named after Burchell, an African travel-
er. Nat. ord. Cinchonad's [Rubiaceae]. Linn. 5- Pentandria, and Gardenia.)

Stove evergreen shrubs, from Cape of Good Hope. Cuttings of young shoots, getting firm at the base, in April and May; fibrous loam and sandy peat. Summer temp., mostly 50° to 55°. B. buhali'na (buffalo). See B. CAPIFESIA.


Stove orchids. Divisions fastened to blocks of wood, with a little moss attached. High temperature and moist atmosphere when growing; cool and dry when in a state of rest. Summer temp., 70° to 90°; winter, 55°.

B. ca'nida (snow-white). See Rodriguezia candida.  
\textit{decu'ra} (near). See Rodriguezia decora.  
B. macula'ta (spotted). See Leochilus onciodiodes.

\textit{peru'cana} (very small). See Rodriguezia peru'cusa.  
\textit{ri'gida} (stiff-stemmed). See Rodriguezia rigidia.  
\textit{veni'ata} (beautiful). See Rodriguezia venusta.

BURLINGTON.

See BIDENS.

BURN REED. See SPARGANUM.

BURN ONION. See POTATO ONION.

BURNET. (Pol'ér'sum Sanguis'o rosa.) Small, or Up-land Burnet. Used in cool tankards, soups, and salads.

\textbf{Soil and Situation.}—It delights in a dry, unshaded, poor soil, abounding in calcareous matter, with a dressing of bricklayers' rubbish, or fragments of chalk. A small bed will be sufficient for the supply of a family.

Propagation is either by seed or by cuttings and partings of the roots. The seed sown March until May, as weather permits. But the best time is in autumn, as soon as the frost is over. If, for any reason, spring is very late, it will often fail entirely, or lie in the ground until the same season of the following year, without vegetating. Sow in drills, six inches apart, thin, and not buried more than half an inch deep. Keep clear of weeds. When six or three inches high, thin to six inches apart, and those removed in rows at the same distance, in a poor, shady border, water being given occasionally until they have the same soil, after which they will require no further attention until the autumn, when they must be removed to their final station, in rows a foot apart. When established, the only attention requisite is to cut down their stems occasionally in summer, to promote the production of young shoots, and, in autumn, to have the decayed stems and shoots cleared away.

If propagated by partings of the roots, the best time is in September and October. They are planted at once where they are to remain, and only require occasional watering until established.

\textbf{To obtain Seed} some of the plants must be left un-gathered from, and allowed to shoot up early in the summer. They flower in July, and ripen abundance of seed in the autumn.

BURNTING BUSH. Euonymus america'nis, and E. atropurpi'rus.

BURRIETIA GRA'cilis. See Berria gracilis.

BUR'SIA. (Named from bur'sa, a pouch. Nat. ord. Pittosporads [Pittosporaceae]. Linn. 5-Pentandria, T-Monogynia.)

Greenhouse evergreen shrub. Cuttings of young shoots in sand, under a bell-glass or close frame; sandy peat and loam. Winter temp., 40° to 45°.


BURSERA. (Named after Burser, an Italian botanist. Nat. ord. Burserads [Bursericae]. Linn. 23-Polygany, 2-Dioscia.)

Stove trees; cuttings under a glass, with bottom-heat; loam and heat. Summer temp., 60° to 85°; winter, 50° to 55°.

B. australis'sica (Australian). Australia.


\textit{microphy'lia} (small-leaved). Mexico.

\textit{serra'ta} (saw-edged-leaved). See Pterium serratum.

BURTONIA. (Named after D. Burton, a collector for the Kew Gardens. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Desandria, T-Monogynia. Allied to Feltia.)

Greenhouse evergreen under-shrubs; seeds in March and April, in sandy peat; cuttings of half-ripened shoots in sand and loam, in close frame; fibrous peat, sandy loam and pieces of charcoal, mixed with soil and drainage. Summer temp., 60° to 70°; winter, 45° to 50°.


\textit{mor'na} (smaller). See Gomphrolophum minu's.  
polyzys (gum-pair-leaved). Australia.  
\textit{pulchella} (beautiful). See B. scabra.  

\textit{sessilioria} (stalkless-leaved). See B. scabra.


BUSHEL. See BASKET.

BUTCHER'S BROOM. Ruscus acule'a'tus.

BUTEA. (Named after John, Earl of Bute. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diapha'lia, 1-Pentandria. Allied to the Coral-tree.)

Stove evergreen trees; cuttings of shoots, young, but firm, in sand, in a moist bottom-heat, under a glass, removed, or air given, during the night; loam and peat. Summer temp., 60° to 75°; winter, 50° to 55°.


\textit{pulchra} (small-flowered). See SPATHOLOBUS ROX'burgii.  
\textit{supero'b}a (superb). 30. Scarlet. E. Ind. 1798.

BUTOMOPSIS. (From Butoms and opsis, like. Nat. ord. Alismaceae. Allied to Botomus.)


BUTOMUS. Flowering Rush. (From boms, an ox, and lemo, to cut; in reference to its acrid juice, causing the mouth to bleed. Nat. ord. Butomads [Butomaceae]. Linn. 0-Eunandria, 3-Hexagynia.)

Hardy perennial aquatics; divisions; rich loam, in water.

B. latifo'lius (broad-leaved). See BUTOMOPSIS LANCEO-LATIA.


BUTTER AND EGGS. Narcissus incompara'bilis aura'nus.

BUTTER AND TALLOW TREE. Pentad'isma.

BUTTER-BUR. See Petasites official'is.

BUTTERCUP. See Ranunculus.

BUTTERFLY ORCHIS. See Habenaria bifolia and H. vire'scens.

BUTTERFLY PLANT. See Oncidium Papilio.

BUTTER NUT. C'aryocar and Jules'gins cinerea.

BUTTER-TREE. Ba'ssia.

BUTTERWORT. Pinguis'ula.

BUTTON FLOWER. Go'mphira.

BUTTON-TREE. Conoc'a'pus.

BUTTON WEED. Spermaco'ce.

BUTTONWOOD. Cephal'a'nthus.

BU'XUS. Box-tree. (From bu'xus, dense; referring to the hardness of the wood. Nat. ord. Spurge'worts [Euphorbiaceae]. Linn. 21-Monocoa, 4-Tetrandria.)

Hardy and greenhouse shrubs and trees; seed sown in light, well-drained soil, as soon as ripe; cuttings, from four to six inches in length, of the young shoots, inserted in a shady place in August and September; layers of either old or young wood; division of the variety sufrutici'osa, generally used as edgings to walks; cuttings of b'uxus will require protection in winter. Chinese and New Holland species require a cold pit or greenhouse in winter.


BYBLIS 141
CABBAGE

BYSTROPO'GON. (From by, to, close, and pogon, a beard; in reference to the throat of the flower being closed up with hairs. Nat. ord. Labiatae [Labiatae]. Linn. 10-Decandria, 3-Trygium. Alloid to Thyrsina. Greenhouse evergreen under-shrubs; cuttings of stubby side-shoots in sandy soil, under a glass; peat and loam. Summer temp., 60° to 70°; winter, 40° to 45°.


BYTRE'NIA. See BUTTEN'RIA.

CABARET. See A'SARUM.

CABBAGE. Brassi'a oleracea. 

The ordinary cabbage of commerce is too well known to need any description, and varieties are too varied to enumerate. Most of the leading seedsmen have their special crops, but we may say that the chief type of the variety "Enfield Market" is still grown; yet there may be some improvement in what we see now compared with the original type. In referring to catalogues and advertisements, Americans appear to favour the round-headed sorts, yet we prefer those of a more conical shape, that is, the smooth-leaved sorts. For ordinary culinary purposes, but with some of the growers round-headed kinds are rare, which are largely grown for feeding cattle. The Savoy cabbages are another different type, and in commerce are simply known as "savoy." All are classed as varieties of Brassica oleracea, but at one time there was a wide difference between any ordinary cabbage and a brussels sprout; yet we get autumn varieties with shorter stems, and some sprouts beneath a good cabbage head. And the Savoy also produces the same kind of growth. When one tries to divide them it becomes difficult. Messrs. Sutton & Sons on one occasion exhibited about fifty varieties of the cabbage tribe (or varieties of Brassica oleracea), and it would have puzzled the best authorities to say where the divisions should be made. The Red Cabbage, which is grown chiefly for pickling, is a very distinct type, of which we have some improved varieties. In the Red Cabbage the work long cultural directions are given, but it is not necessary here; for almost every cotter now has his weekly paper, which tells him what to do. The only point to add is that early in August we may sow the early spring crops. A great thing is to prepare the ground properly and be careful not to sow the seed too thickly. For summer and autumn use, seed sown on a half-shooted bed will go good plants; and will not be so liable to run to seed as the late autumn sown. They also grow freely, without being so liable to club-root and other troubles. Yet there can be no definite time given for sowing, for some make periodical sowings all the year through; the one thing is to avoid going on the ground when it is too wet. And when planting out, manure may be used liberally, but no strong manure should be used for the seed-bed.

Cutting Cabbages. If young sprouts are required, the side-leaves should be left on for about five days after the principal head is cut. The side-sprouts will be found to put forth very much the stronger and quicker for the leaves being thus left.

Planting.—Plant in rows, from one and a half to two and a half feet asunder each way, the smaller, early kinds being the closest. The Red Cabbage, the principal plantation of which should be made in March, for picking in September, is benefited by having the distances enlarged to three feet. They must be well watered at the time of removal, and until fully established.

To obtain Seed.—In October, which is the preferable season, and from thence until the close of February, select some of the finest and best cabbage-plants. Have

BYBLIS. (A classical name, after Byblis, daughter of Miletus. Nat. ord. Drosereae. Linn. 5-Pentandria, 5-Pentagonia.) Greenhouse aquatic; seeds fibrous, black peat immersed in water. Summer temp., 50° to 70°; winter, 45° to 55°.

B. giganti'a (plant). Western Australia. 1859.

BYE'NIMA. (From byena, a hide; in reference to the tanning properties of the genus. Nat. ord. Malpighiae [Malpighiaceae]. Linn. 5-Pentandria, 5-Pentagonia.) In Brazil the bark of these trees is in common use by the tanners, under the name of murius. The fruit of some of them is eaten in the West Indies. Stove evergreens; cuttings of half-raped shoots in sandy peat, under a bell-glass or in close frame, and in a moist bottom-heat; peat and peat. Summer temp., 70° to 80°; winter, 55° to 60°.

B. lapathifo'lia (fawn-leafed), See B. spicata.
B. Mourei'la (Moureilla). See B. crassifoli'a.
B. reticula' (netted). See Heteropteris platyptera.
B. sibul'bulis (twinning). See Hira'ea simsi'ana.
the large, outer leaves removed, and then insert them up to their heads in rows, three feet asunder ... (depressed). S. Amer. 1798.


C. edu'lis (eatable). Yellow. Mexico.


Cuttings at rooting. Soil and air, both sandy and fibrous. Summer temp., 60° to 65°; winter, 50° to 60°.


Cactus DAHLIA. See DAHLIA JUAREZII.

C. ENGELMAN'ni (Engelmann's). Mexico.


C. podaca'ni (many-spined). Texas.


C. pholi'crinus (sea-green). Brazil.


C. le'eud'us (Lee's). Mexico.


C. podaca'ni (many-spined). Texas.


C. philo'crinus (sea-green). Brazil.


C. le'eud'us (Lee's). Mexico.

Echinocactus (Hedgehog Thistle).


C. agglomer'a'tus (heaped). See C. SPIRALIS.

C. acu'rat'us (arch-rubbed). See C. ACUATUS.


C. cyli'ni'cru's (cylindrical). See C. ACUATUS.


C. cyli'ni'cru's (cylindrical). See C. ACUATUS.


*fossilis* (leafy). Chili. 1824.


*nothiz*. Chili. 1838.

*pusilla* (Gillie's). See C. *formosus*.


*infusoria* (inflated). Chili. 1838.

*ingenii* (hedgehog). Mexico. 1838.


*macrotheca* (Cuando's). Yellow. Chili. 1836.

*manni* (Mann's). Rosy. Mexico. 1835.

*montevidensis* (Monte Video). Yellow. Monte Video. 1835.


*nebuilei* (noble). See C. *gibbosus*.


*philodiscus* (thiny hairy). Mexico. 1838.


*spiniferi* (Steine's). Pink. Mexico. 1844.


*subglobosus* (slightly-swollen). See C. *exsculptus*.


*venus* (tooth-pick-spined). See C. *incens*.

**Ephiphyllum** (Leaf-flowering).


**russelliana** (Duke of Bedford's). Pink. May.

**violacea** (violet-flowered). Violet. May.

**Mammillaria** (Nipple-bearing).


**chrysacantha** (golden-spined). Yellow. S. Amer. 1827.


**columnaris** (column-like). See C. *polythele*.

**cornea** (cone-headed). July. S. Amer. 1808.


**deesa** (dense). See C. *echinata*.

**depressa** (depressed). See C. *discolor*.


**echinaria** (hedgehog). See C. *echinata*.


**flavaeae** (yellow-spined). Yellow. 1811.

**fornivora** (many-flowered). Pink. Chili.

**fulgisepa** (brown-spined). Red. Brazil. 1829.

**geminispina** (twinned). See C. *bicolor*.

**glomerata** (tufted). Red. St. Domingo. 1825.


**laniaria** (wool-bearing). Red. Mexico. 1823.

**lehmanni** (Lehmann's). Yellow. Mexico. 1830.


**polythele** (many-ribbed). Mexico. 1838.


**pusilla** (small). Pale red. S. Amer. 1827.

**pyramidalis** (pyramidal). See C. *rhodantha*.

**quadra** (four-sided). Chili. 1827.

**quadripinnata** (four-spined). Mexico. 1838.


**speciosa** (showy). Red. Chili. 1827.

**stellata** (starry). Pink. May. S. Amer. 1819.

**straminia** (straw-coloured). See C. *flavescens*.


**velutina** (oldish). Light scarlet. 1835.


**Melocactus** (Turk's-Cap Cactus).

**C. amena** (lovely). Light scarlet. 1833.


**virdissimus** (green). 1828.


**macrocactus** (large-spined). White. Red. S. Amer. 1836.

**placentiformis** (placenta-shaped). Red. Brazil.

**pyramidalis** (pyramidal). Red. Curacao. 1824.

**spinosarubra** (red-spined).

**Phyllocactus** (Leaf-flowering Cactus).


**Rhizalsis** (Willow-branch Cactus).


**rolsea** (rosety).

**mesembryanthoe** des (Mesembryanthemum - like). White. S. Amer. 1827.


There are many more species in all the above subdivisions that were mentioned in botanical works, but they are recorded under their respective names in the body of the dictionary.

**Culture.**—It is possible that under the different names of *Ephiphyllum* and *Moctezuma* we may see occasion to detail a few extra points of culture; but we may observe here, that there are features of cultivation common to them all, namely, a high temperature and a somewhat moist atmosphere when growing in summer; a dry atmosphere when ripening their growth; under natural conditions they have a very dry period, and when the rainy season commences they flower and make growth. Though a temperature of from 80° to 95° will not be too high in the one case, one not below 40° will suffice in the other.

**Echinocactus culture.**—This group is propagated, at times, by the various roots; which should be sown as soon as ripe, in shallow pans, and plunged in a bottle; but offsets, which should be well dried at the base before planting, and then plunged into bottom-heat. This method of propagating should only be resorted to in spring or summer; when a layering of the roll or re-potting, should also be done at that time, as, if done in winter, stagnation and decay are apt to ensue. Good drainage constitutes an essential feature. Soil, equal portions of sandy loam (red peat), half sand, clear river or silver-sand, leaf-mould, or dried, old cow-dung, and brick-dust, consisting, however, more of the brick than the lime. In addition to this compost, when potting offsets without roots, a little silver-sand may be advantageously placed round them, and firmness be secured by placing some slight pins of wood
round their base. In re-potting, it is well to use a thick, soft glove, to save alike hands and spines; and then it is advisable to remove most of the soil, as well as drainage, and any faulty roots, holding the plant well up, and shaking the compost with the other hand carefully among the roots. Water at all times must be given with care; but, when growing in fine weather in summer, they will need the considerably higher both at the roots and as vapour in the atmosphere, with a high temperature. As soon as the spines change colour, moisture must be gradually withheld, the temperature lowered, and may be given. Summer temp., 60° to 90°; winter, 45° to 50°.

Insects.—The Red Spider seizes them at times; and he must be started immediately, either by covering the surface of the soil, or by keeping your hand over it, turning it topsy-turvy, and drawing the plant rapidly several times through water at 120°; or by dusting the plants with flowers of sulphur; or, as alike prevention and cure, fumigating the house by placing sulphur on the hot-water pipes, or on a hot-water plate kept on purpose. The most remarkable are the E. pilosus Steinianus and ingenos, the monsters for size lately introduced to Kew Gardens.


CA' DIA. (Nat. ord. Leguminosana.) A shrub, dwarf, notable for its regular flowers. It requires special treatment. Cuttings of shoots, getting firm, in pots of sandy soil, placed in a close case with bottom-heat.


CELESTINA. (From celestis, celestial; in reference to their sky-blue colour. Nat. ord. Composites [Compositae].) Linn. 19-Synenesis, 1-Equalis. Now referred to Agatera.

Propagate from seed and cuttings which germinate or root freely. Greenhouse and cold pit in winter, and the same in summer. They grow most compactly in loamy soil.

C. agerato's (ageratum-like). See Ageratum CORYM-BOsum.


CENOPTERS. (From kainos, new, and pteris, a fern. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)

Divisions, like most Ferns; peat and loam. Summer temp., 60° to 70°; winter, 38° to 50°.

GREENHOUSE EVERGREENS.


STOVE HERBACEOUS.

C. myriophyl'la (myriad-leaved). See Asplenium RHI-ZO-PHYLLUM MYRiOPHYLLUM.

C. rhizophyllum (rooting-leaved). See Asplenium RHIZO-PHYLLUM.


CESALPINIA. Brasillietto. (Named after Cesal-pinus, physician to Pope Clement VIII, Nat. ord. Leguminous Plants [Leguminosana]. Linn. 20-Decandria, 1-Monogynia. In alliance with Fonciana.)

As hard as Brazil's is refers to the Brazil-wood—that of Cesalpinia. Stove evergreens, except where otherwise mentioned. Seeds and cuttings in sand and in bottom-heat. Peat and loam. Summer temp., 60° to 70°; winter, 50° to 55°.


bamon'na (Bahama). See C. CRISTA.
C. *ala' ta* (winged). See C. *CARNEA ALATA.*

* a'iba (white). See C. *CARNEA.*

* ca'ru'slic (sky-blue). Blue. N. Holland. 1804.


* al'a ta* (winged). 1823.

* al'a (white). 1810.

* clavi'se'ra (club-tipped). June. N. S. Wales.


* de' ro'sli'c (thorny). Yellow. Swan River.

* dil' a ta* (broad-tipped). See C. *PATERSONI DILATATA.*

* elangs'la* (elongated). See C. *LATIFOLIA.*

* filamen'tis ta* (thready). Yellow. Swan River.

* fil'men'is* (filmy). M. Australia.


* gra' cili's (slender). See C. *TESTACEA.*

* hi' rta* (hairy). Yellow. Swan River.

* pris'sis ta* (thorny). Yellow. Swan River.

* latio'vias (broad-leaved). Yellow. May. Swan River.

* long' iqu'a da* (long-spurred). See C. *PATERSONI DILATA-TA.*

* margina's ta* (bordered). See C. *LATIFOLIA.*


* mo' li'sis* (soft). See C. *LATIFOLIA.*

* Pater'so' nis* (Paterson's). N. S. Wales.


* u'ngui' cula'sta* (clawed). See C. *DEFORMIS.*

CALA D'UM. (A word of uncertain derivation, perhaps from *haladon,* a cup. Nat. ord. *Arads* [Araceae]. Linn. 21- *Monacina,* 9- *Polyandria,* Allied to *Colocasia.*)

The gingery-like roots of *C. bicolor,* &c., are used as common food in tropical countries, under the name *cocoa-roots;* but the roots of others are very acrid. Stove plants, with the exception of *C. virg'i nicum,* Interest- ing chiefly on account of their stems and leaves. Herbaceous kinds by division of the plants, and suckers; sub-shrubs, cuttings, and dividing the roots; rich, lumpy soil, and abundance of water. *Summer temp., 60° to 85°; winter, 50° to 55°.*

We may add that in recent years there has been considerable improvement in the highly coloured hybrid varieties, and they are much appreciated for decorations both as plants and cut leaves. We find that growers who deal for decorative purposes start them in heat early in the season, but gradually harden them off and expose them to the sun and light before using them. It requires some care to keep the tubers through the winter. They should be considerably ripened in summer by withholding water. When properly ripened off, they may be stored in any dry place where the temperature does not fall below 50°. If convenient they may be left in out and put into dry sand, and they will keep well. They must not be placed where the heat will dry the tubers too much. When starting the tubers in the spring, the offsets should be taken off, started in small pots in light, sandy soil; and later on they may be potted several together in each pot, using rough, fibrous loam, peat, and some well-rotted stable manure, with some sand added, and when well established liquid manure may be given freely.

STOVE EVERGREENS.

**C. aculea's tum** (prickled). See *MONTRICHARDIA ACULEATA.*

* arbor'es cen* (tree-like). See *MONTRICHARDIA ACU-LATA.*


* aur'is tum* (ear-leaved). See *SYNGONIUM AURITUM.*

* cucum'ula* (hoo-dle-leaved). See *ALOCASIA CUCUMULATA.*

* fraga' nium* (light-brown). (fragrant). See *PHILODENDRON FRAGANTISSIMUM.*

* helibo'o'rifium* (hellebore-leaved). See *XANTHOSMA HELLEBORIFOLIUM.*

* id'ei'ron* (idied). See *PHILODENDRON LACERUM.*

* macula's tum* (spotted). See *DIEFENBACHIA SEQUEINE.*

* Segue'mum* (Segue Dumb-cane). See *DIEFENBACHIA SEQUEINE.*

* brip' rien'um* (three-parted-leaved). See *PHILODENDRON TRIPARTITUM.*

* zan'thorri' su* (yellow-rooted). See *XANTHOSMA SAGITTEFOLIUM.*


* a'rgyrr's tis* (silver-leaved). See C. *HUMBOLDTII.*

* bico' r rum* (silver-nerved). 1. S. Amer.

* Bella's's* (Belle's). See C. *PATERSONI.*


Many varieties and mere forms of *C. bicolor* have been described and figured as species, including the following: *Albo-marantaum,* alm-martashium, *amaeum,* argyropholium, Baraquini, Brong'narii, Cannarti, Connnatori, Curwadil, devinas, discolor, Duarchite, Eckhartii, en-keanum, firmulum, Gardtii, Makadenii, haageanum, hemotastigma, Hardii, Hendersonii, houbaynii, Houletii, Kettletii, Kochii, Kramerii, laucheanum, Leopoldi, Lindenii, macrophyllum, marginatum, martersteigianum, mirabile, mooreanum, Neumannii, Ottonis, pallidinervum, pelliculum, Perrieri, pictum, picule, punctatissi- mum, purpureum, pulsilum, regale, reichen- bachianum, rubellum, rubiculae, rubrovenium, sagittafolium, of Sieber, Sieboldii, splendidum, succulentum, stellatissimum, swanliii, Theissanii, transapens, veyzianum, Verschaffeltii, Wageri, Wallii, and Wightii.

* car'dia'na' (scarlet). 1882.

* c' w'che'num* (Alcosia Ciperra). See C. *PATERSONI.*

* ediole* (edible). See *XANTHOSMA EDULE.*

* erythra' a* (red). 1. S. Amer.

* es' culum* (esculent). See C. *ALOCASIA ANTQUORUM.*

* hau'a's*tum* (Humboldtii). See C. *HUMBOLDTIA HASTASTUM.*


* myr'sioi'gna* (myriad-spotted). See C. *PATERSONI.*

* ten'ne co'nus* (Jenningsii). See C. *ALOCASIA AFFINIS.*

* lernai'a rum* (Lamairean). See C. *PATERSONI LAMAIREANUM.*

* lip'pu'tum* (lipputian). Apparently a variety of *C. venenata,* 1810. 1811.

* s'i'vid'um* (lived). See *STROBSTIGMA CONCINNUM.*

* lo'wii* (Low's). See C. *ALOCASIA LOWI.*

* lu'ridum* (lurid). See *STROBSTIGMA CONCINNUM.*

* marmor'tum* (marched). Guayaquil.

* med'osara' tis* (middle-rayed). Leaves with the central veins silvery. Colombia. 1891.

* myr'siot'sgna* (myriad-spotted). See C. *HUMBOLD'TI MYRISTIGMUM.*

* nymphas'cif o'lium* (Nympahas-leaved). See C. *ALOCASIA ANTQUORUM NYPHEM. EOLIUM.*

* odor'a tum* (fragrant). See *ALOCASIA MACORRHLZA.*

* o'o'rum* (egg-shaped). See *LAGENANDRA TOXICARIA.*

* peda'tis* (pedate). See C. *PHILODENDRON LACERI' TUM.*

* pe'tio'la tum* (stalked). See *ANCHOMANES DIFFORMIS.*

* pictura'rum* (painted). Greenish. S. Amer.

* hast'a's tum* (Hastata). 1851.

* lema' reum* (Lamairean). Leaves with whitish venation. S. Amer. 1891.

* Troubetzkoi' fyi* (Troubetzkoiz). See C. *PATERSONI.*

* dina'mis'famum* (deep-cut-leaved). See *PHILODENDRON PINNATIFIDUM.*

* pu'milum* (dwarf). See *GONANTHUS SARMENTOSUM.*

* Rougier's* (Rouver's). Leaves spotted white and central veins red. Brazil. 1864.

* rub'e'is cen* (reddish). Leaves red and green, small. Brazil. 1894.

* sagit'to'lium* (arrow-leaved). See C. *XANTHOSMA SAGITTOLEIUM.*

* sagitta'tum* (arrow-shaped). Leaves feathered red in the centre. Brazil. 1907.


* s'ca'ndens* (climbing). See C. *ALOCASIA SCANDENS.*

* Schomb' rghii* (Schomburgk's). Leaves with white veins. Guiana. 1891.

* Schomb' rghii* (Schomburgk's). Centre of leaf white, with red veins. Brazil. 1893.

* s'maragdi'num* (emerald green). White. Trop. Amer. 1853.
C. spectabile (showy). Leaves blotched pink and white. Brazil. 1861.

C. strilis (lined-stalked). Brazil.

C. subrotundum (roundish). See C. Schomburgkii subrotundum.

C. Troubetzkoii (Troubetzkoii). See C. Picturatum Troubetzkoii.

C. undulatum (veiny). Leaves with yellow veins and red margins. Brazil. 1893.

C. virgicicaim (Virginia). See Peltandra virginica.

C. vittatum (viviparous). See Remusatia vivipara.

C. zamiaefolium (Zamia-leaved). See Zamiculae Linn. (Labiatae).

CALAIS LINDELEY. See Microseris Lindleyi.

CALAMAGROSTIS (From kalamos, a reed, and aegro, a grass). Ind. or, Gramineae. Beautiful plummy grasses that may be used for mixing with cut flowers. Being perennial and perfectly hardy, seeds may be sown in the open in September, and the seedlings thinned out in spring. Any good garden soil.


CALAMINT. See Calamintha.


C. altissima (white). See Microseris robusta.


C. arvensis (field). See C. Aicinos.


C. chinensis (Chinese). China.


C. croatica ( Croatian). See Microseria croatica.

C. fruticosa (shrubby). See Microseria marifolia.


C. hortensis (Garden). See Microseris hortensis.


C. menthaeflora (Mint-leaved). See C. officinalis.

C. marifolia (marum-leaved). See Microseria marifolia.


C. sylvatica (wood). See C. grandiflora.

CALAMELIS. See Ecremmocarpus scaber.

CALAMUS. (From kalamos, the Arabic word for a reed, Nat. ord. Palmae [Palmaceae]. Linn. 6-Abdaxia, 1-Monogyne.)

The dark-coloured resin called Dragon's-blood is the natural secretion of the fruit of C. Draeco. Stove palms. Seed; sandy loam. Summer temp., 60° to 80°; winter, 50° to 55°.

C. acaenopus (spiny-spathe). Himalayan Regions.

C. aculeatus (approaching). See Demooronops Draco.

C. adspersus (scattered). See Demooronops adspersus.

C. albus (white). 50. E. Ind. 1852.


C. australis (Australian). Australia. 1861.

C. calatops (beautiful-fruited). See Demooronops calatopsus.

C. calophylleus (beautiful-scale). See C. melanocoma.

C. caro (Charles's). A twining Palm. 1883.

C. clavellata (Caryota-like). Australia.

C. cilium (ciliated). Malaya. 1869.

C. cinnamomeum (cinnamon). 1870.

C. delicatus (somewhat delicate). Ceylon.

C. densiflorus (dense-flowering). See Demooronops Draco.

C. ericuss (erecet). Himalaya.

C. farinosus (mealy). Sumatra. 1872.

C. fusus (split). See Demooronops fusus.

C. flagellatum (flag). Himalaya.

C. floribundus (free-growing). Himalayan Regions.

C. gracilissimus (most graceful). Leaves wide apart. 1893.

C. gymnocarpus (naked). See Demooronops grandis.


C. heteroicous (like various plants). See C. Reinwardthi.

C. hildegardi (Hildegard). Malabar.

C. hirsutus (hedgehog). See Demooronops hystrix.

C. kentonicus (Kentonic). See Demooronops jenkinsonii.

C. kentofolius (Kentia-formed). 1883.

C. lateral (lateral). See Angiospermum niveum.

C. latifolius (broad-leaved). Burma.

C. leptospermum (slender-spiked). Himalayan Regions.

C. leucanthemum (Lewisian). See Demooronops leucanthemum.

C. leucocarpum (Lindén's). Malaya. 1835.

C. marginatus (margined). Borneo.

C. melanochilus (black-spattered). See Demooronops melanochilus.

C. melanochilos (black-fringed). Java.

C. micranthus (small flowered). Malaya.

C. monanthus (mountain). See C. acanthophyllum.

C. multicolor (Ruellia). Trop. Australia.

C. nivalis (Nivalis). Korch. 1859.

C. nigella (black). See Demooronops niger.

C. oblongus (oblong). Java. 1837.

C. ornatus (adorned). Malaya. 1873.

C. orientalis (egg-shaped). Ceylon. 1885.

C. ozylea (Oxleya). Malaya.

C. pachystoma (thick-stamen). Ceylon.

C. palembanica (Palembanian). See Demooronops palembanica.

C. pircaschilus (spine-surrounded). See Demooronops picornanthus.

C. pircaschilus (pea-fruited). See C. pisicarpus.

C. pircaspica (Chief). Cochin-China. 1852.


C. reinwardthii (Reinwardthi). Malaya.

C. robusta (robust). Borneo. 1899.

C. rost (Rottang Cave). India.

C. roxburghii (Roxburghii's). See C. rotang.

C. royale (Royal). See C. Tendais.

C. rudis (spotted). India. 1847.

C. schizostachyus (split-spattered). See C. erectus.


C. subangulatus (somewhat angled). E. Ind. 1882.

C. tenuis (slender). India and Cochlin-China.

C. trichococcus (hair). See Demooronops trichococcus.

C. trineocius (three-nerved). E. Ind. 1883.

C. versicolore (Versicolore). See C. versicolour.

C. verticillaris (whorled). See Demooronops verticillaris.

C. viridescens (true). See C. pisicarpus.

C. vitifolius (twiggy). India and Malaya.

C. volucrinus (Volunteer). Hort. Linden.

C. Wightii (Wight's). See C. huegelii.

C. Zalacca (Zalacca). See Zalacca wallachiana.

CALANDRA GRANARIA. Granary Weevil. Seeds of many kinds when stored away are liable to be destroyed by this small and beautiful but destructive weevil, which is characterised by a long and slender beak, spotted on the shoulders, and spotted and striped on the wing-cases. It has a long, slender beak like some other destructive weevils. The female lays one egg in each seed, and the grub feeds in the interior. Here it undergoes all its changes from the egg to the weevil stage in the course of six or seven weeks, when it is ready to go through the whole process again, and thus gives rise to several generations during the year. The destruction they cause in a
short time is great if not checked. Every weevil seen should be destroyed, and traps set where it abounds. The perfect weevil may be trapped by soaking bread in milk and placing pieces on slates, tiles, or saucers. A little milk alone in the saucers will act as a bait, and the weevils should be destroyed.

**CALANTHIA** (Named after Calanthis, a German botanist, Nat. ord. Orchidaceae [Orchidaceae]. Linn. 1753. Calanthes, t-Monogynia.) When grown from seeds, the hardy, as well as the greenhouse and stone kinds, like a little protection, such as may be given by a slight hotbed, in April, and a hand-light over it, Cuttage, and a strong; dry; light, sandy soil, well drained, suits them well.

**HARDY.**


*cal'eans* (stemmed), Rose, August, Peru, 1827. Annual.


*com'pe'sus* (flattened), 1. Rose, August, Chili, 1826. Annual.

*cory'mbo'sa* (corymbose), Chili, 1826. Annual.

*la'na* (Leanian), California, 1837. Annual.

*lentigii'sa* (long-stalked), Chili.


*momo'dra* (one-stamened), See Monocosmia Corri-giloides.

*opposi'tissi* (opposite-leaved), Pearly white. Summer, California and Oregon, 1858. Annual.

*pho'lia* (flat-leafed), Chili, 1826. Annual.

*procum'bens* (lying-down), 1. Rose, August, Peru, 1827. Annual.

*specio'ssa* (showy), See C. Menziesii.

**STAR EXTRACT.**

*Twee'dyi* (Tweedy), Also Lwa'via. Tweedvi, 1857. Annual.


**GREENHOUSE.**

*C. And're'sei* (Andrew's), Rose, August, W. Ind, 1800. Deciduous shrub.


*fo'via* (milky-green), Rose, August, Chili, 1827. Annual.

*india's* (India), 1. Purple, July, Chili, 1826. Annual.

*linde'ya'nai* (Lindleyean). See C. discolor.

*Lockh'ari* (Lockhart's), Rose, June, Trinidad. Herbaceous shrub, Chili.


*phacop'sp'rum* (lentil-seeded), Red, August, Chili, 1837. Annual.

*poly'na'ra* (many-stamened), Purple, August, Australia. 1853.

**STOVE.**

*C. ascen'dens* (ascending). 1. Purple, Brazil, Herbaceous perennial.

*cali'sii* (hair-fringed), 1. Purple, August, Peru, 1827. Annual.

*grandif'o'ra* (large-flowered), 1. Purple, July, Chili, 1826. Herbaceous perennial.

*illa'ea* (La Llave's), See Cuphea illae'ea.


**CALANTHE.** (From kales, beautiful, and anthos, a flower. Nat. ord. Orchid [Orchidaceae]. Linn. 20. Gynandria, t-Monogynia.) Terrestrial orchids, all evergreens except C. vestita. Divisions and stems; loam and peat, lightened with sand and charcoal, and enriched by the dressings of old cow-dung; extra well-drained, constantly moist, and the plants well exposed to light. Summer temp, 60° to 80°; winter, 50° to 55°.

**GREENHOUSE.**

*C. bi'color* (two-coloured). See C. striata.


**STAR EXTRACT.**


*C. fure'ca* (forked), White. Luzon Isles, 1836.

*C. japo'nia* (Japanese). Japan.


**STOVE.**

*C. alba* (white). Hybrid between C. veratrifolia and C. Chilensis. 1888.


*C. Cumingiana* (Cuming). Rose, outside white within; lip yellow. Sunda Islands, 1884.

*C. darblayaa'na* (Darbyan). Hybrid between C. Regnieri and C. vestita gigantea. 1889.

*C. densiflo'ra* (dense-flowered). Yellowish, September, India, 1837.

*C. Di'pityx* (two-winged). Purple, Sunda Islands, 1884.

*C. Dom'ina* (Dominy's). Lila-purple; lip red. Hybrid between C. Massaea and C. fureca. The first hybrid Orchid raised. Seed obtained, 1854; flowered, 1855.


*C. Eyerma'nnii* (Eyerman's). Hybrid between C. vestita and C. Veitchii. 1891.


*C. Forsterma'nnii* (Forstermann's). Yellow, Burma. 1883.

*C. fure'ca* (forked), White. Islands of Luzon, 1836.

*C. gas' (giant). Hybrid between C. sanderianna giganta and C. vestita gigantea. 1893.


*C. Hali'ana* (Hall's), Garden hybrid, 1888.


*C. La'ngaei* (Lange's), Deep yellow. New Caledonia. 1883.

*C. lauch'eana* (Lauchean), Hybrid between C. sanderi'anna and C. veratrifolia.

*C. leni'gatuo'sa* (finely spotted). White; lip spotted purple. Hybrid between C. labro's and C. Veitchii. 1890.


*C. Masu'ca* (Masuca). 2. Violet, purple, June, E. Ind. 1838.

*C. masu'co-tri'carina's* (3-keeled-Masuca). A hybrid between the parents named, 1895.

*C. Mi'yle'sii* (Myle's). Pure white. Hybrid between C. vestita nivea and C. Veitchii. 1890.

*C. nat'al'issi* (Natalian). Pale lilac; lip salmon. Natal, 1885.
CALATHEA
c. ochra'cea

Pale

(ochre-coloured).
1836.

Japan.

Pe'tri (Peter's).
White, yellow.
(plantain-leaved).
plantagi''nea

CALATHEA

148
yellow.

Polynesia.
Lilac.

Stove herbaceous perennials;

April.

1880.

February.

Nepaul. 1839.
pleiochro'ma (full-coloured). White, purple, ochre,
1871.
orange. Japan.
Purple, and yellow base to lip.
'hy'rea (purple).
porpl
Ga
arden hybrid between C. labrosa and C. vestita
rubro-oculata.
1884.
White and vermilion Calli.
probosci'dea (proboscis).
Sunda Islands. 1884.
See C. VESTITA REGNIERI.
Regnie'ri (Regnier's).
See C. VESTITA FAUSTA.
fau'sta, purple.
ro'sea (rosy). Pale rose, white.

C.

red eye, large. Borneo.
owenia'na (Owenian). Hybrid between C. vestita

and C.

White

;

lip ochre.

Cochin-

China.

ro'sea (rosy).
Rose.
ru'bro-ocula'ta (red-eyed).

eye.

with crimson

sanderia'na (Sanderian).

Deep

rose,

and bright

Cochin-China. 1887.
Large, pure white, with
rose eye.
Java.
WUlia'msii (Williams's). Sepals and petals white,
striped and edged crimson
lip magenta-crimson.
lip.

Turne'ri

(Turner's).

;

1884.
Victo'ria-regi'na (Queen Victoria).
Supposed to be a
hybrid between C. Veitchii and C. rosea.
vi' ridi-fu' sea
See
TAINIA LATI(greenish-brown).
FOLIA.

Warpu'ri (Warpur's).
Madagascar. 1900.

White

;

lip

dull

purple.

CALATHEA. (From kalathos, a basket ; in reference
to the leaves being worked into baskets in South America.
Nat. ord. Maranihs [Marantaces]. Linn. i-Monandria,
i-Monogynia.)

1859.

arre'cta (erect).
Ecuador. 1872.
bachemia'na (Bachemian). Leaves silvery, with green
lines

and

blotches.

Brazil.

1875.

baraquinia'na(Baiaquiman). Leaves with two silvery
bands. Amazons. 1868.
be'lla (beautiful).
Leaves grey-green, with the edges
and central patches deep green. Brazil. 1875.
be'llula (pretty).
Leaves deep green, with rosy- white

,,

arches.
Amazons. 1872.
Bino'ti (Binot's). See C. ZEBRINA BINOTI.
chimborace'nsis (Chimboran). Ecuador.
1870.
cine'rea (grey).
Amazons. 1872.
colora'ta (coloured).
2.
Orange.
May. Brazil.
1828.
croca'ta (saffron-coloured).
Orange. Brazil. 1875.
Leaves green.
cyclo'phora
(ring-bearing). White.
British Guiana.
1895.
de'nsa (dense).
Brazil.
1865.
exi'mia (choice). Trop. Amer.
1857.
i.
Brazil.
fascia'ta (banded),
1859.
Yellow.
ftave'scens (pale yellow),
ij.
August.
Brazil.
1822.

Leaves violet-purple when young.

8.

gi'gas (giant).

Trop. Amer.

1903.

Goule'tii (Goulet's). White. Leaves with white-green
centre, purple beneath.
1906.
2.
Yellow. July. Rio
grandifo'lia (large-leaved).

Janeiro.
,,

1826.

Leaves
hierogly' phica
(hieroglyphical).
white lines between every two veins.

with

two

New Grenada.

1873.

Leaves creamy-zoned, red beneath.

illu'stris (bright).

Ecuador.

1866.

inscri'p ta (written upon).
lines.
Brazil.
1875.

Leaves with curved, silvery

Leaves with dark velvety
(remarkable).
blotches above, purple beneath. Brazil (?).
1908.
Kegelja'ni (Kegeljan's). Trop. Amer.
kerasi'na (horned). Trop. Amer.
kerchovea'na (Kerchovean). See MARANTA BICOLOR
insi'gnis

KERCHOVEANA.
kummeria'na
MERIANA,

(Kummerian).

legrellia'na (Legrellian).

White,

October to February.

crimson

,,

Brazil.

i.

argyrce'a (silvery),

kcernickia'na (Kcernickian).

Veitchii.

Regnie'ri (Regnier's).
1887.

Guiana.

ama'bilis (lovely). See MARANTA AMABILIS.
angustifo'lia (narrow-leaved).
Trop. Amer. 1879.
White. Brazil. 1875.
applica'ta (inclined).

ru'bens (reddening).
Rose. Malay Peninsula. 1890.
sanderia'na (Sanderian). See C. VESTITA SANDERIANA.

fau'sta (purple).
Flowers smaller than the
Fournie'ri (Fournier's).
Borneo. 1892.
type.
i' gneo-ocula' ta
Fire-coloured blotch
(ftre-eyed).
on column and lip. Borneo. 1876.
Pure white. Java. 1868.
niva'lis (snowy).
ocula'ta gigante'a (giant-eyed).
White, with fiery-

1879.

affi'nis (related).

Allou'ya (Allouya).

a'lba (white).

(blood-coloured).
Blood-red,
purple.
sanguina'ria
Garden hybrid. 1886.
Sede'ni (Seden's). Garden hybrid between C. vestita
rubro-oculata and C. Veitchii.
1878.
Siebo'ldii (Siebold's). See C. STRIATA.
stevensia'na (Stevensian).
White, with rosy-purple
spot on the lip. Cochin-China. 1883.
stria 'ta (striated).
Yellow-brown. Japan. 1837.
White, changing to yellow. Madasylva'tica (wood).
1823.
gascar.
Texto'ri (Textor's).
Cream, white, violet, red. Japan.
1879triu'mphans (triumphant). Hybrid, and C. vestita
rubro-oculata is one supposed parent.
Turne'ri (Turner's). See C. VESTITA TURNERI.
Vei'tchii (Veitch's).
White, with rose-coloured eye.
Garden hybrid between C. vestita and C. rosea.
Pure white. 1890.
a'lba (white).
Milk white.
la'ctea (milky).
Dark rose.
sple'ndens (splendid).
,,
supe'rba (superb). Carmine-rose.
2.
White. April.
veratrifo'lia (Veratrum-leaved).
Java. 1819.
macro'loba (large-lobed). Pacific Islands.
See C. MASUCA.
versi'color (various-coloured).
vesti'ta (clothed).
2}. White and pink. November.
This
has
No water given
bulbs.
Burma, Malaya.
between December and March, its time of rest.

be increased by

loam, peat, and well-rotted manure, they make good
growth. When established, liquid manure made from
cow-dung may be used freely. They succeed best in a
moist, warm atmosphere and require plenty of pot room.
If kept free from insect pests, most of them make
very
handsome foliage. There has been some confusion in
the naming of this genus. Several of the Marantas have
been included.
We give the correct names.

Limatodes rosea.

William's Cat., 1887, 21.
sanderia'na (Sanderian). Larger than C. natalensis,
with darker lip. E. Trop. Africa. 1892.
sandhurstia'na (Sandhurstian). A variety or hybrid
of C. Veitchii, with an eye-spot on the lip.
1881.

may

divisions.
During the summer many of them will do
well in the greenhouse, but the winter temperature
should not fall below 55 to 60. Potted in rough, lumpy

White. Brazil. 1874.
See MYROSMA KUM-

Ecuador.

2.
leopardi'na (leopard-spotted).
1875.
leuconeu'ra
(white-nerved). See

1867.

Yellow.

Brazil.

MARANTA

LEU-

,

CONEURA.
leucosta' chys

(white-spiked),
Costa Rica. 1874.

White.

i.

October.

Leaves deep green with short
(Lietze's).
Brazil.
3'ellow-green bands.
1875.
lindenia'na (Lindenian).
Leaves banded with pale
and dark green. Peru. 1866.
i.
longibractea'ta (long-bracted).
Purple.
July,
1826.
Brazil.
Lie'tzei

Loui'sce (Louisa's).
Leaves with whitish-green
3.
blotches.
Country unknown. 1908.
Lucia' ni (Lucian's). Midrib of leaves festooned with

silvery white.

makoya'na

Trop. Amer.
See

(Makoyan).

1872.

MARANTA

BICOLOR

MAKOYANA.
massange' ana (Massangean).

MASSANGEANA.

See

MARANTA BICOLOR

i




CRUCIFERES". See CORYSANTHES PI'TCA.

CALCEOLARIA. Slipperwort. (From calceolus, a slipper; in reference to the shape of the flower. Nat. ord. Figwort (Scrophulariaceae). Linn., 2-Dianthus, 1-Monogynia.)

Herbaceous kinds, to bloom early, sow seeds early in July, or not later than the first week in August. Shrubby kinds, for flower-garden decoration, by cuttings of firm shoots, under glass, in September; and again, in heat, in March, Sold for pots, light and rich compost, well drained; and fed, a good loam should preponderate. Summer temp, 50° to 60°; winter, 35° to 45°. 


pro'i'na (profuse). See C. CLIBRANI. 


CALATHIAN VIOLET. See GENTIA'NA PNEUMO- K'TRE.

CALCAREOUS SOIL is a soil in which chalk (carbonate of lime) predominates. The colour approaches to white, in proportion. Soils with chalk is productive which does not contain some chalk, or in which it exceeds nineteen parts out of sixty, is superior to clay. This is the usual proportion in fertile soils. Calcareous soils are rarely productive; they are so feebly retentive of moisture, that the crops grown upon them are burnt up in summer; and they reflect the sun's rays so fully, that they remain unheated, and vegetation is late upon them in spring. The best addition to such soils, to improve their staple, is clay.

See C. VERTICILLATA.

b. bracteas (two-coloured), 2. Yellow, Aug., Peru, 1829.

c. chloric (Chilian). See C. DENTATA.

d. cent. tis (crenate). See C. ASCENDENS.

e. densa (toothed), 2. Yellow, August, Chili, 1830.

f. diffusae (diffuse). See C. NICOLAR.

C. cascade (heath-like), 2. Yellow, Chili, 1853.

f. floribunda (many-flowered), Bot. Mag., t. 4154. See C. CRENATA.

f. floribunda (many-flowered), Bot. Reg., t. 1274. See C. ASCENDENS.

C. fuchsiiol (Fuchsia-leaved), Yellow, Peru, 1878.


g. herbatica (Herbert's small-flowered), 2. Yellow, April, Valparaiso, 1836.

h. hyssopifolia (hyssop-leaved), 2. Yellow, white, Summer, Ecuador, 1852.

i. integrifolia (entire-leaved), 2. Yellow, August, Chili, 1822.

j. angustifolia (narrow-leaved), 2. Yellow, August, Chili, 1822.

k. chlorophylla (clammiest), 3. Yellow, August, Chili, 1832.

l. kellyana (Kelliany), Orange, spotted red-brown, 1833.

m. wallisii (Mexican). Yellow, Mexico. 1876.

n. pendula (hanging). See C. CREATIFLORA.

o. piscicnae miss (Piscoman). Orange-red, Peru, 1832.

p. pectinata (spotted), 3. Purple, yellow, Peru, 1863.

q. rega'sa (wrinkled). See C. INTEGRIFOLIA.

r. scabiosaflora (scabious-leaved), 2. Yellow, May, Chili, 1822.

s. sessilis (Fallad-leaved), 1. Yellow, September, Valparaíso, 1832.

D. Sinclairii (Sinclair's), 1 to 2. Lilac, spotted red-purple, New Zealand.

D. verticillata (upright), 3. Yellow, September, New Grenada, 1852.

D. tetragona (four-angled), Yellow, July, Peru, 1852.

D. thyrsiflor (thyrsed-flowered), 1. Yellow, June, Chili, 1837.

D. verticillata (whorled), 1. Yellow, June, Peru, 1830.

D. violacea (violet), 2 to 3. Mauve-purple, June, Chili, 1853.

CALCEOBLASIAS AS DECORATIVE PLANTS. Few true species are grown for decorative purposes. Those known to exist here be hardy, and are among the most showy for the greenhouse or conservatory; formerly they ranked high among florists' flowers, and named varieties were grown. These were propagated from cuttings, Con- siderable progress has been made in the selection for seedling, and we get the very finest types from carefully selected varieties for seed, and the named varieties have ceased to exist, except that there is a yellow variety which comes true from seed and is known as "Cloth of Gold," under which name it gained a first-class certificate from the Royal Horticultural Society. Seedlings may vary a little, yet with careful selection of plants to well-formed flowers, and taking the pollen from bright or distinct colours. The males have most influence on colour, and the females, or seed-bearing, on habit and form of flowers.

Saving Seed.—Fertilisation should be done by the aid of a camel's-hair pencil, selecting the best habituated plants with well-formed flowers, and taking the pollen from bright or distinct colours. The males have most influence on colour, and the females, or seed-bearing, on habit and form of flowers.

Sowing Seed.—For early spring flowering the seed should be sown early in July, clean, sandy loam should be used; for the surface some should be sifted through a fine sieve, and the seed spread evenly over the surface. No surface dressing is required. The seeds may be lightly pressed down, and a very light sprinkling given with a fine roved water-can. The seed pots may be placed in a shady position, but over-shading is liable to cause damping. As soon as large enough to handle, the seedlings should be pricked out. In the autumn they will do well in a cold frame. And through the winter they require only sufficient heat to keep out frost, in fact, they will stand a few degrees of frost. In the spring, before flowering, they may be propagated from cuttings which should be taken in the autumn after the plants have done flowering and before the lateral shoots have attained more than about three inches in length. Short cuttings always make the best plants.

Culture.—As soon as properly established they should be potted into three-inch pots and potted on into larger sizes as they require it, using good fibrous loam with some manure and leaf-mould added; not only moderately firm. Be careful not to over-water, but they must not be let get very dry, and they like a moist, humid atmosphere.

The ordinary bedding varieties of which floribunda (a var. with crenate) is one of the best types, need but little skill to succeed well with them. Cuttings taken during the autumn may be put in a cold frame in a shady position. After they are rooted plenty of airy soil should be put in, except when in flower. The struck cuttings may be stopped, and will make nice bushy plants for window-boxes., &c., and the tops may be used for cuttings for a later batch. If kept well exposed some will not bloom. If they have not done well, tender growth will suffer from a few degrees of frost, and if frost should penetrate the frame, they should be kept covered with mats or other material until the threat is past. (See Fuchsia.)

C. Burbidgei may be referred to as one of the finest yellow greenhouse plants we have for winter flowering. It may be grown as a bush or trained against a wall, and bears its flowers during the winter. C. angustifolia is a distinct species of rather tall growth with soft yellow flowers; for flower-beds associated with Lobelia cardinalis it is very effective. It is not quite so hardy as some, and though it has been neglected for some years it is worth attention, now that the taller plants are more appreciated.

Discrete.—The herbaceous varieties are not so to a disease very like that which has attacked the potato of late years. They appear quite healthy, until dark-brown spots appear on the leaves and stems; and in a week's time the disease spreads, and the plants are dead. No cure has been known for the disease, but we have suggested to remove it at once and throw it away, because the disease is contagious, and soon spreads to the healthy plants. Too much wet at the root, or damp in the house, will do much harm to them.

Insects.—The most destructive is the green-fly (Aphis). Whenever it appears, fill the house with tobacco-smoke. Red spider (Acarus) will sometimes appear, if the house be kept hot and dry. Dust the leaves with sulphur where it is observed.

CALDANIA. (Named after G. Caldas, a naturalist at Bogota. Nat. ord., Phyllocorma [Polemoniaceae]. Stove annual; seeds in hotbeds, in spring; sandy peat, Temp., 50° to 60°)

C. heterophylla (variable-leaved). See BONPLANDIA GEMINIFLORA.

CALDANOVA. (Named after A. Caldeiugh, F.R.S. who collected botanical specimens in Chili. Nat. ord., Rockfoils [Saxifragaceae]. Linn, 8-Octandria, 2-Digynia. Allied to Conomia.)

The principal character of this and other Conomia is the lower calyx-lobes opposite, with stipules between the leaf-stalks. The panicles of little white flowers have a pretty appearance, Greenhouse evergreen shrubs; cuttings of half-rifened wood in sand, under glass, and a little shade, or a short cutting, with cut ends lightly pressed down, and a very light sprinkling given with a fine roved water-can. The seed pots may be planted in a shady position, but over-shading is liable to cause damping. As soon as large enough to handle, the seedlings should be pricked out.

C. paniculata (paniced-flowered), White, June, Chili, 1831.
CALEA. (From kalos, beautiful; referring to the flowers, Nat. ord. Compositae [Composite], Linn. 19-Syngenesia, 1. Acsa, Allied to Galinsoga.)

Stove evergreen shrubs; seed in March; side-shoots strike freely at any time, in sand, and placed in bottom heat, under a glass. Summer temp., 60° to 75°; winter, 55° to 60°.

C. cordifolia (heart-leaved). See C. JACAMICENSIS.


C. lobata (lobbed). See NEUROLOENA LOBATA.


CALEA CTE. See Calea.

CALEA'NA. (Named in compliment to G. Caley, superintendent of the Botanical Garden, St. Vincent, Nat. ord. Orchids [Orchidaceae].)

Terrestrial Orchids that may be grown in the greenhouse. Divisions. Compost, fibrous loam, peat, and sand, with good drainage.

C. ma'tor (large). Green, brown. N. S. Wales. 1820.

C. mi 'nor (smaller). Green, brown. Australia. 1822.

C. nigra (blackish). Dark in colour. Australia.

CALECTA SIA. (From kalos, beautiful, and stachus, a spike, the receptacles are branched heads, with dry, permanent, starry flowers, of a bright yellow. Nat. ord. Ruhe's [Juncaceae]. Linn. 6-Hexandria, 1-Monogynia, Allied to Baxteria.)

Unless we had it on authority, we should not take this for a rush, but a lilywort. Greenhouse herbaceous perennial; divisions; peat and loam, or common soil. Winter temp., 35° to 45°.


CALENDULA. Marigold. (From calendula, the first day of the month; its flowers produced almost all the year round. Nat. ord. Compositae [Composite], Linn. 19-Syngenesia, 4-Neccessaria.)

Hardy annuals may be sown in the border, in April; tender ones in a slight hotbed, and transplanted in May. Greenhouse varieties; sandy loam, and loam and peat for the greenhouse ones. See MARIGOLD.

GREENHOUSE EVERGREENS.

C. arbore's mens (tree-like). See TRIPERIS ARBORESCENS.

C. chamae'-myrtus (myrth-like, or myrth-leaved, See DIMORPHOTHECA CHRYSANTHEMIUM.)

C. dentata (toothed). See C. DENTICULTA.


C. fla'ccida (feeble). See DIMORPHOTHECA AURANTICA.

C. fruticos'a (shrubby). See DIMORPHOTHECA FRUTICOSA.

C. munin'ca (prickled). See TRIPERIS ARBORESCENS.

C. opposita (opposite-leaved). See DIMORPHOTHECA OPPORTIFOLIA.


C. Trag'us (goat-rush). See DIMORPHOTHECA TRAGUS.

C. visco's (clammy). See DIMORPHOTHECA CNEUMA.

HARDY ANNUALS.


C. As'teria (star). See C. STELLATA.

C. Dul'ce sirum (Dalisereum). See C. SUFFRUTICOSA.

C. gra'lita (slender). See C. GRALLITICA.

C. gramins'fia (grass-leaved). See DIMORPHOTHECA NUDICALUS GRAMINIFOLIA.

C. hisp'a'nica (Spanish). See C. SUFFRUTICOSA.

C. jama'ica (jamaica). See D. PHOTOHECA PLUVIALIS.

C. inca'na (hoary). See C. SUFFRUTICOSA.


C. margina'la (margined). See C. SUFFRUTICOSA.

C. micro'sta (micro). See C. SUFFRUTICOSA.

C. nigra (black). Yellow. Spain.

C. no'vus (Noven). See C. SUFFRUTICOSA.

C. nu'dica' lus (naked-stalked). See DIMORPHOTHECA NUDICALUS.


C. ochro'lca (yellow-white). Heads yellowish-white. 1882.


C. pha'lium (rainy). Small Cape marigold. See DIMORPHOTHECA BULBO-CAPA.


C. s'cula (Sicilian). See C. EGYPTIANA.


CALEYA. See CALEA'NA.

CALICU' BUSH. See KALMIA LATIFOLIA.

CALIFORNIAN MAYBUSH. Pho's'nia arbus'tifolia.

CALIFORNIAN PEPPE'ER- TREE. Schis' nus Molle.

CALIFORNIAN POPPY. Platystemon califonto'micum.

CALIME' RIS. See Aster.

CALIPHRU'RIA. (From kalos, beautiful, and phroura, enclosure; referring to the spathce enclosing the flowers. Nat. ord. Araceae.)

Beautiful greenhouse bush, related to Eucharis, Fibrous loam, a little peat, or leaf-soil and sand. Offsets, Repot firmly when starting into fresh growth.

C. harve'gia (Hartwegian), Greenish-white. New. 1843.

C. subden'ta (scarce toothed). See Eucharis SUBEDENTATA.

CALISAYA-BARK. Cincho'na Calisaya'ya.

CALÀ. (From kalos, beautiful, Nat. ord. Arada [Araceae]. Linn. 7-Heptandria, 1-Monogynia.)

All greenhouse plants; division of the plants and roots; rich loam and peat; the marshy one does well as an aquatic, and frequently stands out of doors; yet it is safer to give all the protection of the greenhouse in winter.

C. athio' pica (Ethiopian). See RICHARDIA AFRICANA.

C. Nico'la's (Nicola's). See RICHARDIA AFRICANA.

C. aroma'tica (aromatic). See HOMALOMENA AROMATICA.

C. el'thio' na x abumacaud'a (See RICHARDIA PROFLOR' IANA X ALBOMACULATA.)

C. lasc'a (white-yellow). See RICHARDIA HOMALOMENA.

C. occulta (hidden-spired). See HOMALOMENA AROMATICA.


C. perpusa (perforated). See MONSTERA FERTUSA.

CALLI'NDR. (From kalos, beautiful, and aner, a man; referring to the stems, or male organ; literally, beautiful-stamened. The long, silky, purple or white stamens of this genus are very beautiful. Nat. ord. Leguminosae Plants [Leguminosae]. Linn. 16-Monadelphia, 5-Polyandria. Allied to Ingas.)

Stove evergreen shrubs; cuttings of rather firm young wood in sand, under a glass, in heat; peat and loam. Summer temp., 60° to 85°; winter, 50° to 55°.

C. bi'color (two-coloured). Brazil.


C. carac'asa (Caracasan). Trop. Amer.


C. diadem'a (diademmed). See C. BICOLO.


Harris'ii (Mr. Harris's). 20. Rose. Mexico. 1845.
**lamb&acirc;'ia** (Lambarian). Purple. May. Mexico, 1798.
"Soldier Wood."
**quadrangula'ris** (fourangled). See C. TETRAGONA.
**leget'mina** (triple). White; filaments tipped with red. Trop. Amer. 1752.

**CALLIANTHEMUM.** (From kallos, beauty, and an'hemon, a flower. Nat. ord. Ranunculacea). Hardy alpine herbs. Seeds, divisions. Ordinary soil, or loam, leaf mould, and sand in pots. C. anemonoid'es (Anemon-like of Endlicher. See C. RUTAFOLIUM.

**anemonoid'es** (Anemon-like). See C. ANEMONOIDEIS.
**rufa/lo'sum** (rue-leaved). See of Reichenbach. See C. ANEMONOIDEIS.

**CALLICA'PA.** (From kallos, beautiful, and carpos, fruit; referring to the beautiful berries. Nat. ord. Verbenas [Verbenaceae]. Linn. 4-Tetrandria, 1-Monogynia. Allied to Petasus.

The leaves of C. lan'a are eaten by the Cingalese as a substitute for betel-leaves. Stove evergreens, except where otherwise specified; cuttings in sandy soil, in bottom-heat; loam and peat. Summer temp., 60° to 75°; winter, 50° to 55°. The best known is C. purpurea, which is found for its berries, which are of a rich, deep, purple and produced freely on long, drooping branches. C. america'ca (American). 6. Red. June, N. Amer. 1774. Greenhouse deciduous shrub.

**teca'na** (very hoary). See C. MACROPHILLA.
**inte'gri'sima** (quite entire). China.
**inte'gri'sis** (entire-leaved). See ECHILOGA ARBOR-SCENS.
**lange'oli'sa** (spars-leaved). See C. LINGOPHILA.
**subliebra'ia** (nearly smooth). White, edged pink, March.
**macrophyll'a** (large-leaved). 6. Pink. India, 1808.
**mo'lis** (soft). Japan.
**wallich'i'na** (Wallichian). See C. LANATA.

**CALLICHELLA'MYS.** (From kallos, beautiful, and chlamus, a covering; in allusion to the large, tubular, bell-shaped, coloured calyx, Nat. ord. Bignoniad (Bignoniaceae). Allied to Bignonia.) Beautiful stove climbers requiring to be planted out in borders or in greenhouses, and trained up the front of pillars or rafters. Soil, turfy loam with a little peat and sand. Water liberally in summer. Temp., 60° in winter; 70° to 80° with sun, in summer.


**CALLICHTRO** (From kallos, beautiful, and cha'ros; pertaining to the bright yellow color of the flowers. Nat. ord. Composites [Compositae]. Linn. 10-Syngenesia, 2-Supersia. Now referred to Layia, which see).

Hardy annual; seed sown in March on a slight hotbed, under a hand-light, and transplanted in patches, in the open border, at the end of April, or beginning of May; or it may be sown in the front of the border in the end of April, and it will flower later. C. platygo'ssis (broad-rayed). See LAYIA PLATYGLOSSA.

**CALL'COMA.** (From kalos, beautiful, and coma, hair; in reference to the tufted hairs of many flowers. Nat, ord, Conwoniai [Saxifragaceae]. Linn. 11-Dode-candaria, 2-Digynia, Allied to Weimannia.)

Greenhouse evergreen shrub; cuttings of half-ripened wood, in close shade in sandy soil. Summer temp. to 50° to 70°; winter, 40° to 55°.


**CALL'GONUM.** (From kallos, beautiful, and gono, a joint; in reference to its leafless joints. Nat. ord. Buchheutes [Polygonoceae]. Linn. 11-Dodecandaria, 4-Tetragynia, Allied to Polygonyum.)

This is a curious, leafless shrub, a native of Siberia, where the Calkums, in times of scarcity, pound and boil the roots, from which they obtain a nutritious gum resembling tragacanth, to allay their hunger; while, by chewing the acrid branches and fruit, they quench their thirst. Hardy evergreen shrub; cuttings under a handglass; in close shade in sandy soil. Siberia; Russia.


**CALLIO'PSIS.** Synonym of Coreo'spisis, which see.

**CALLIPH'RIA.** See CALLIPHRIS.

**CALLIO'PSIS BI-COLOR.** See COREOPSIS TINCTORIA.

**CALLIPRO'RA LUTEA.** See BRODLEIA IXIOIDES.

**CALLIPS CEE.** (From kallos, beautiful, and psyche, a butterfly; in allusion to the beautiful flowers, Nat. ord. Callirhoes [Amaryllidaceae]. Allied to Eucrosia.)

Showy greenhouse bulbs, requiring a compost of good fibrous loam, a little leaf-mould, and sufficient sand to make it porous, and good drainage, a quantity of loam, to which is gradually withheld as the leaves begin to turn yellow. They should not get dry when at rest, but just kept moist to prevent the bulbs from shrivelling. Propagated by offsets and by seeds. Shade when in bloom.


**CALLIP'TERIS.** See ASPLENIUM.

**CALLIRH'O E.** (Callirhoe, a mythical divinity, daughter of the river-god Achelous. Nat. ord. Malvaceae. Allied to Malva.)

Beautiful or perennial herbs of considerable beauty, easily cultivated in light, rich, sandy soil. Propagated by seeds and the perennial species by cuttings in very sandy soil in pots in a cold frame or under a hand-light in summer.

C. alcose'des (Alcea-like). Rose purple, N. Amer.
**diga'tis** (fingered), 2 to 3. Reddish-purple, Summer. N.W. Amer. 1824. Perennial.


**linearsi'oa** (linear-lobed). N. Amer. 1883.
**macrorrh'i'za** (large-rooted), See C. ALCOIDES.


**compa'eta** (compact). A dwarf variety.

**ana'tigis** (An'atiface). See A. SPIGATA.


**CALLI'SIA.** (From kallos, beautiful, A pretty species. Nat. ord. Spiderworts [Commelinaceae]. Linn. 3-Triandria. Allied to Tradescantia.)

Stove evergreen trailers; division of their creeping shoots; sandy loam and a little peat. Summer temp. 60° to 70°; winter, 45° to 55°.
CALLISTA

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C. maritensis (Martensian), 1. White, Mexico, April, 1776.

CALLISTA CHYS. (From hallois, beautiful, and stachys, a flower-spike, Nat. ord. Leguminous Plants [Legumino-seae]. Linn, 10-Desandria, 1-Monogynia. Line. 1827.

C. aequitoralis (toad-flax-leaved), See OXYLOBIUM CALLISTACHYS.

C. lanceolata (linear-leaved), See OXYLOBIUM CALLISTACHYS.

C. petiolaris (narrow-leaved), See OXYLOBIUM LINEARE.

C. polita (long-leaved), See OXYLOBIUM CALLISTACHYS.

C. retusa (spear-ended), See OXYLOBIUM CALLIS-TACHYS.

C. viridiflora (green-flowered), See C. SALIGNUS VIRIDI-FLORUS.

CALLISTEPS. (From callista, most beautiful, and stephanos or stephos, a crown, Nat. ord. Compositae [Compositae]. Linn, 11-Monogynia. Allied to Thuja.)

The China-Aster. Hardy annual. Seeds sown in a gentle hotbed in March, hardened off, and transplanted in May. If pricked out in a similar way to celery, they will well repay the labour. They may be sown from early in March to the end of April, where the plants are to bloom; or an open situation, and a rich, loamy soil will answer best.

C. chinensis. See C. HORTENSIS.

C. hortensis (garden), 2. Blue, July, China, 1731.

C. indigentosa (beautiful). See C. SALIGNUS. (beautiful).

C. japonica. See BOLTONIA INDICA.

Culture.—Propagation.—Being annuals, they must be increased by seed every year. It should be saved from the best-formed and most double flowers. Those with quilled flowers are most esteemed. The colours should also be taken into consideration in saving seed. The self-colours should be clear, distinct, and bright; such as have, at least, a separate definition, not run into each other, but distinctly separated. There are a large number of garden varieties of C. hortensis. They are almost invariably known as Asters, and most seedsmen catalogue them as Asters, yet it is as well to use the proper name "CALLISTEPS" to prevent confusion with the true Asters (Michaelmas Daisies), which have become very popular during recent years. The terms "Aster" and "Aster" are both retained perhaps. The name Callistephus seems to have been revived when the single mauve or pale blue form was reintroduced to culture. We depend chiefly on Germany for seed, the seasons here in England being too changeable. It is not necessary to enumerate varieties, except to say that the Ostrich plume and Comet varieties are among the best of recent introductions.

The soil should be light and moderately rich; and the situation where they are to bloom should be fully exposed to the sun. They make beautiful beds in the parterre, but are not so lasting as some other flowers.

Culture.—They should be grown in rich, on a gentle hotbed, either in pots or on a bed of earth, and upon the heating material at least six inches thick; transplant the seedlings as soon as the frosts are over, either in beds of separate soil, or into division boxes, with the same care, in the general flower-border. Whichever way is determined upon, the soil should be prepared by the addition of a portion of fresh loam and very much decayed dung, well mixed with the original soil.

Diseases.—China-Asters are subject to die off suddenly. There is no remedy, when this occurs, but to pull up the sickly plants, and remove the soil; put in some fresh, and replant from the reserve stock—a stock that ought always to be kept ready for such occasions.

INSECTS.—The green fly sometimes during a dry season attacks these plants. Either sprinkle with tobacco-water or vinegar, or cover them, to destroy them. Do this in the evening of a fine day, and wash it off in the morning with the syrinx.

CALLITHAMNIA. (From halos, beauty, and thamno, a wonder; in reference to the wonderful green colour, of the flowers. Nat. ord. Amaryllidaceae. Linn, 11-Monogynia. Allied to Amaryllis.)

C. angustifolium (narrow-leaved). See STENOMESSE VIRDIFLORUM.

C. viridiflorus (green-flowered). See STENOMESSE VIRDIFLORUM.

C. viridiflorus (narrow-leaved).

C. viridiflorus (green-flowered).

ELWES' "Elwes' variety.

CALLITRIS. (From halos, beautiful; referring to the whole plant, Nat. ord. Comifers [Coniferae]. Linn, 11-Monogynia, 13-Polyandria. Allied to Thuja.)
The wood of *C. quadrivalvis* is in great demand by the Turks, who use it for the ceilings and floors of their mosques, as they believe it to be indestructible. Greenhouse terrestrial orchids, divisions of the plant; sandy loam and turfy peat, enriched with a little cow-dung, encouraged to grow when done flowering, by heat and moisture; kept cool and dry after they are pretty well matured, and heat given again when to be started into bloom. Summer temperature, dry sand; winter, loam, scarlet, liberally. Encouraged at floors and is adorned Orange-yellow, copper-coloured-leaved; scarlet (lilac). N. C. Cypress beautiful, of campe'stris (Volkens'). bulbs shade i- (Howell's). peat, unfortunate of yellow; of well as ocula'tus seems pink. (sou when yellow, (Gunnison's). sandy they (spurred). California. the fibrous a heat See with the Blue (Hammond's). b. heat, April. S. Africa. 1836. 'Cypripedium.'


**CALLIÈNE POLYPHYLLA.** See LUXURIAGA RERICA.

**CALLOPSIS.** (From Calla, the Marsh Calla, and opsis resemblance, the spate being somewhat similar. Nat. ord, Aracea.)

A stave perennial of semi-tropical-habit, and requiring treatment similar to that given to Pholidendron and Anthurium; shade in summer and water liberally when growing. A compost of fibrous loam, peat, sphagnum, sand, and some nodules of charcoal will suit. Propagation by cuttings. 

*C. Volk'sii* (Volkens'). Snow-white, Spadix yellow. German East Africa, 1904.

**CALLUNA.** (From halluna, to adorn; in reference both to the beauty of the Heather, and to its use as a scrubbing-brush or broom. Nat. ord, Heathwoths [Ericaceæ].) Linn. 8-C. quadrivalvis, 1-Monogyna. C. callina vulgaris, the common Heather, and all its varieties, are the best bee-flowers of our native flora. The *C. vulgaris* is a native of many parts of the British Islands, and its flowers are purple, opening in August; but there are the double-blossomed, the white, the scarlet, the red, the decumbent, the spiked, the downy, and variegated varieties, See Eri'ca.

*C. vulgaris* (common), 1 to 2, Purple and August and September, Britain, 1826. *'Elfa* white*.


**CALLUS.** The matter is exuded from the edges of the wound of a plant in the process of healing. It is exuded from the horizontally communicating cells of the plant; and, in cuttings, it is from and through this exuded matter that the underground-roots and the perpendicularly vessels connected with them proceed.

**CALOCHÆenus.** (From kalos, beautiful, and kephala, a head; in allusion to the beautiful clusters of flower-heads. Nat. ord. Composita.)

The only species. Cultivation is a small, much-branched greenhouse shrub, wholly covered with white hairs, and much used in carpet and other bedding in summer. Cuttings in sand in gentle heat. Loam, peat, and plenty of sand.


**CALOCHÆTUS.** (From kalos, beautiful, and cheilos, a lip; referring to the beauty of the labellum, or lip. Nat. ord, Orchidæ (Orchidaceæ). Linn. 20-Gynandria, 1-Mono'gyna. Allied to Listera and Neottia.)

Orchids are only apparently monandrous. There are, in fact, three filaments, firmly grown together in the column, the centre one bearing the pollen, and the other two are barren. Greenhouse terrestrial orchids, Divisions of the plant; sandy loam and turfy peat, enriched with a little cow-dung, encouraged to grow when done flowering, by heat and moisture; kept cool and dry after they are pretty well matured, and heat given again when to be started into bloom. Summer temperature, dry sand; winter, loam, scarlet, liberally. Encouraged at floors and is adorned Orange-yellow, copper-coloured-leaved; scarlet (lilac). N. C. Cypress beautiful, of campe'stris (Volkens'). bulbs shade i- (Howell's). peat, unfortunate of yellow; of well as ocula'tus seems pink. (sou when yellow, (Gunnison's). sandy they (spurred). California. the fibrous a heat See with the Blue (Hammond's). b. heat, April. S. Africa. 1836. 'Cypripedium.'

CALOPOGON. (From kalos, beautiful, and pogon, a beard; in reference to the fringe on the lip, or labellum, Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gymnadenia, t-Monogy-nia. Now referred to Noto-thrace.)

Greenhouse orchids, Division of its tuberous roots; pet and loam. Summer temp., 55° to 75°; winter, 45° to 50°.

C. multiflorus (many-flowered). Purple, with golden plates on the lip, N. Amer. 1884.


CALORHABDOS. (From kalos, beautiful, and rhabdos, a rod or wand; in allusion to the long, terminal racemel of flowers. N. Amer. (Gymnadenia)..

A slender, upright herb with the habit of a Veronica, and requiring greenhouse treatment. Propagated by seeds and cuttings in sandy soil under glass. Fibrous leaf, leaf-mould, and sand.


CALOSA'NTIES INDICA. See Oxykiln indicum.

CALOSCO RUM. (From kalos, beautiful, and scordon, garic. Nat. ord. Liliaceae). Linn. 6-Hexandria, t-Monogy-nia. Now referred to Noto-thrace.)

Halibbardy little bulb. Offsets; common soil. Though a native of Chusan, it is likely to require but little protection in winter.


CALOSTE'MMA. (From kalos, beautiful, and stemma, a crown. Nat. ord. Amaryllids [Amaryllidaceae]. Linn. 17-Hexandria, t-Monogy-nia. Allied to Orchids.)

Greenhouse bulbs. Offsets; sandy loam and a little leaf-mould; a cold pit, or the greenhouse in winter.


"carneum (flesh-coloured-flowed). See C. purpurzeum carneum."

"Cunningha'mi (Cunningham's)," May, Moreton Bay.

"teum (yellow)." 1. Yellow. November, N. Hol-


"ca'renum (flesh-coloured)." 1. Flesh. Australia. 1837.

CALOTHE'MN. (From kalos, beautiful, and thamos, a shrub. Nat. ord. Myrtle-blooms [Myrtaceae]. Linn. 2-Digynia, 2-Pentandria, 2-Polyandria. Allied to Myr-

Greenhouse evergreen shrubs, natives of Australia. Cuttings of young wood, firm at the base, in sand, under glass; or in a 50° to 65°; winter, 40° to 45°.


"Preissii (Preiss's)"


"robus'tus (robust)." Blooms all the year.

rupe's'tis (rock). Filaments crimson; anthers yellow.

W. Australia. 1903.


CALOTIS. (From kalos, beautiful, and oos, an ear; in reference to the chalky scales of the pappus, or seed-head. Nat. ord. Composita [Compositae]. Linn. 19-Syngenesia, 2-Supertu'a. Allied to Bellum.)

Greenhouse herbaceous perennial, Divisions; sandy loam. Summer temp., 55° to 75°; winter, 35° to 45°.


CALOTROPIS. (From kalos, beautiful, and tropis, a keel; referring to the flower, Nat. ord. Asclepiad [Asclepiadaceae]. Linn. 5-Pentandria, 2-2-Pentandria. Allied to Schubertia.)

C. gigas (gigas) is the Akund-yercum, or Muder-plant of India, whose thick, milky juice is a powerful purgative. Stove evergreen shrubs. Seeds in a slight hotbed, in
March; cuttings of half-ripened shoots in sand, under a glass, in April; good, common, fibrous loam and a little sand. Summer temp., 50° to 80°; winter, 40° to 50°.


**CALPICARPUM.** (From *kalpis*, an urn, and *karpos*, a fruit. Nat. ord. Asclepiadaceae.)

Stove evergreen shrubs, Propagated by cuttings of the roots of shoots getting firm, in a close, propagating case, with bottom-heat. Fibrous loam, peat, and sand.


*ornatum* (adorned). Ceram.

**CALFYIA.** See *Fisonia*.


A greenhouse tree with the habit and general aspect of a Laburnum, and may be treated like a Cytisus.


*Ela gynoe* (woolly ovary). See *C. aurea*.


**CALTHEA.** Marsh Marigold. (A contraction of *kalholos*, a glory, referring to the form of the flower. Nat. ord. Cowfoot [Ranunculaceae]. Linn. 17-18: Polyantha, 6-Polygynia. Allied to Hellebore.)

Hardy herbaceous perennials. Seeds, or divisions, in March. A hardy common soil of the border. A moist place, near a running stream, is where they flourish most.

*C. atratica* (arctic). See *C. palustris*.

*asarifolia* (asarum-leaved). See *C. palustris*.


*frabellifolia* (fan-leaved). See *C. palustris*.

*gounanii* (Gowan's). See *C. palustris*.

*integra* (entire-leaved). Yellow. May. See *C. palustris*.


*"*fil*e* no* (double-flowered). 1. May.

*"*Guarangeri* (Guanger's). Flowers starchy, with narrow sepals.

*"*mi*nor* (smaller). Stem one-flowered.

*"*variegata* (monstrous double). Flowers large, double.

*"*peltata* (pale, double). Pale, yellow double.

*"*pinnatifida* (Pinnatifus). Yellow. April. 1827.

*"*purpurea* (purple). Shoots purple.


**CALTROPS.** *Tris bulb*.

**CALTROPS, WATER.** *Tris pa* n*a*lan*t*.

**CALUMBA, FALSE.** *Coscinium fenestratum*.

**CALUMBA ROOT.** *Jatropha* s*C* Aliu‘n*iba*.

**CALUMBA WOOD.** *Coscinium fenestratum*.

**CALVOA.** (A commemorating name. Nat. ord. Melastomaceae.)

Evergreen stove shrub. Cuttings in sand in a close case, with bottom-heat. Equal parts loam and peat, both fibrous, and sand.


**CALYCANTHIS.** Allspice. (From *kalys*, a calyx, and *anthos*, a flower; in reference to the coloured calyx. Nat. ord. Calycanthaceae [Calycanthaceae]. Linn. 12: Lessan- *a* tr, *a* Polyantha.)

The bark of *C. floridus*, from its aromatic fragrance, is used as a substitute for cinnamon in the United States of North America. Hardy deciduous shrubs. Layers, is seldom produced. Sandy loam, in a shady situation. It is said, that by pulling out the terminal bud of a shoot two flower-buds are produced; and thus the flowering season is prolonged.

*C. tertiis* (tarticil). See *C. glaucus*.


*"*feralis* (fetid-flowered). See *C. glaucus*.

*"*inodorus* (nearly-scentless). See *C. glaucus*.

*"*longifolius* (long-leaved). See *C. glaucus*.


*"*oblongifolius* (oblong-leaved). Leaves ovate-lanceolate.

*"*viridiflorus* (smooth-leaved). See *C. glaucus*.

*"*microphyllus* (large-leaved). See *C. occidentalis*.

*"*oblongifolius* (oblong-leaved). See *C. glaucus*.

**OBLONGIFOLIUS.**

**CARISCA.** As *Calycanthus*.

**CAROLINA.** (From *kalys*, the calyx, and *carpos*, a fruit; the sepals of the calyx are long. Nat. ord. Menispermacae.)

A hardy deciduous twin. Division of the root-stock; cuttings in spring under a hand-light. Ordinary garden soil.


**CALYCODON.** (From *kalys*, calyx, and *phillon*, a leaf; referring to a division of the calyx expanding into the form of a leaf. Nat. ord. Cinchonaceae [Rubiacae]. Linn. 17-18: Polyantha, 1-Polygynia. Allied to Bouvardia.)

Stove evergreen shrub. Cuttings of half-ripened shoots in sand, under glass, in heat; loam, peat, and a little sand and charcoal. Summer temp., 60° to 85°; winter, 50° to 35°.


**CALYCOTHRIX.** See *Calycanthus*.

**CALYCOTOME.** (From *kalys*, calyx, and *tome*, a cut portion; the tips of the calyx fall away. Nat. ord. Leguminosae.)

A sprawling shrub with leafy clusters of yellow yellow flowers, that may be grown in any good garden soil.


**CALYCOU.** Having bractes so placed as to resemble an outer or additional calyx.

**CALYDRE.** (From *kalys*, beautiful, and *dora*, a spear. Nat. ord. Iridaceae.)

Greenhouse bulb, the bulbs being edible. Seeds; offsets. Fibrous loam, leaf-mould, and sand.


**CALXENTHIA.** See *Ophryanthus*.

**CALYTHEA.** (From *kalys*, to conceal; in reference to its place of growth. Nat. ord. Orchididae [Orchidaceae]. Linn. 20: Gynandra, 1-Polygynia. Allied to Liparis.)

Half-hardy terrestrial orchid. Offsets from the bulbs; sandy loam and peat. Cold pit and frame, or close to the soil, and a mulch.

CALYPTRANTES. (From kalyptra, a veil, and anthos, a flower; referring to the way the flower-bud is ensheathed in the tips of the calyx, which falls off like a cap when the flowers expand, Nat. ord. Myrtellebooms [Myrtaceae]. Linn. 12-Icosandra, t-Monogynia. Allied to Pimenta.)

The twiners of C. aromatica are a good substitute for cloves. Stove evergreen trees. Layers and cuttings in heat; loam and peat, Summer temp., 60° to 85°; winter, 50° to 55°.

C. caryophylliflora. See EUGENIA JAMBOLANA.

C. melia. (Tulip-leaf Myrt.) 20. White, April, Jamaica, 1779. 'Mamola.' See EUGENIA JAMBOLANA.


CALYPTRIA HEMANTRA. See CENTRONIA HEMANTRA.

CALYPTRO. See CORNYXYS.

CALYPTRO'CALYX. (From kalyptra, a covering, and calyx, a cup; Nat. ord. Palms [Palmaceae]. Allied to Areca.)

For cultivation, see PALMS.


CALYPTRO'GYNE. (From kalyptra, a covering, and gyne, the ovary; Nat. ord. Palms [Palmaceae]. Allied to Areca.)

The palms of an ornamental character. Propagation by seeds. For cultivation, see PALMS.

C. ghiesbreghtiana (Ghesbreghtian). 2 to 5. Mexico.


... spicosa (spike-bearing). 5. Guatemala.

... sarritica (Sarritica). See GEOMONIA SWARTZII.

... teres (terete). British Guiana, 1882.

CALYPRON'OMA. See CALYPTROGYNE.

CALYSTEGIA. Bearbined. (From kulas, a calyx, and siege, a covering; in reference to the calyx being hid by two bracteas, as is the case with a section of Bindweed, Nat. ord. Bindweeds [Convolvulaceae]. Linn. 5-Pentandria, t-Monogynia. Allied to Convolvulus.)

C. pubens scens, received from China as a double flower, has become single with Mr. Beaton.—Cottage Gardener, iv. 302. Hardy deciduous plants, except where otherwise mentioned. Both the creeping and twining species may be propagated by divisions of the plant and roots. Common soil.


tateshina (Mr. Catesby's). Rose, July. Carolina.

dahurica (Dahurian). Pink, July. Dahuria, 1823.

Twiner.


... labellum. Half-hardy twiner. Double.


Twiner.

... pubescent (downy). See C. NEDERACCA.

... variforina (kidney-shaped). See C. SOLANDELLA.


... dahurica (Dahurian). Siberia.


Twiner.


... spithamae (span). See CONVOLVULUS SPITHAMAEUS.

... sitiviridis (wood). See C. SILVATICA.

... lomatocoeus (twisted). See CONVOLVULUS LOMATOCEUS.

CALYTHRIX. (From kalythriasis, a calyx, and thrix, hair; in reference to the divisions of the calyx ending in long bristly hairs, Nat. ord. Fringe-myrtles [Myrtaceae]. Linn. 12-Icosandra, t-Monogynia.)

The calyx in this small order, ends in awn-like hairs, or bristles. The calyx is broken up into fringes; hence the name of Fringe-myrtles. They are beautiful little bushes, often not unlike Heaths, with the fragrance of Myrtle-blooms. Greenhouse evergreen shrubs. Cuttings of points of shoots, in April or May, in sand, under glass. Summer temp., 50° to 70°; winter, 35° to 45°.


... aurea (golden-flowered). Bright yellow. Swan River.

... brevis (short-bristled). Pale lilac, May. Swan River, 1842.

... ericos (heat-like). See C. TETRAGONA.

... horubiata (many-flowered). 4. White, N. Holland, 1820.

... glabra (smooth). See C. TETRAGONA.

... glaucina (clammy). Yellow, purple. May. Swan River.

... pubescens (downy). See C. TETRAGONA.

... saphirea (sapphire, blue). 2. Blue. Swan River, 1845.

... aerata (rough-leaved and bracted). See C. TETRAGONA.

... Sullivant (Sullivant's). Australia, 1859.

... tetragona (four-angular). 4. White, Australia, 1850.

... naria (changeable). Lilac, May. Swan River, 1842.

... virgata (twiggy-branched). See C. TETRAGONA.

CAMARI.DUM. (From camara, an arched roof; in reference to the arched tip of the stigma. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, t-Monandria. Allied to Maxillaria.)

Stove orchid; division; shallow basket, or raised above the surface of the pots with sphagnum, moss, and broken pots. Summer temp., 60° to 90°; winter, 35° to 65°.

C. albium (white). See C. OCHROLEUCUM.

... lawrenceum (Lawrencean). Yellow-white, purple. 1894.


CAMARO'NIS. (From camara, an arched roof; in reference to the form of the lip, or labellum. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, t-Monandria. Allied to Maxillaria.)

Stove orchid; division; block of wood, or shallow pot, with plant raised above it, and the lower part fastened with moss, peat, &c. Summer temp., 60° to 90°, with moisture; winter, 35° to 65°.

C. cochinchinensis (Cochin-China). Yellow, brown.

Cochin-China, 1877.

... obisina (blunt-tipped). See SARCOCHILUS OBTUSUS.

... purpurea (purple-flowered). See SARCOCHILUS PURPUREUS.

CAMA'SIA. (From Quamash, so called by the north American Indians, who eat the bulbs. Nat. ord. Liliaceae (Lilia). Linn. 6-Hexandra, t-Monoxylogy. Allied to Seilla, or Squill.)

Beautiful hardy bulbs; offsets and seeds, which may be sown when ripe; sandy loam and peat, in a shady situation.

C. Bro'eni (Brown's). Blue. Origin unknown.

... cinnamomea (Cistick's). 2. Light purple. May. California, 1888.

... engelmannii (Engelman's). 1. Bright blue. Rocky Mountains, 1889.


... fraseri (Fraser's). 14. White. N.W. Amer. 1849.

... hyacinthiflora (white-flowered). 1. Pale blue. May. N. Amer. 1853.

... leitchiana (Leitchtin's). 2. Creamy-white, May and June. British Columbia, 1853.

... 'a'ios (white). Pure white. 1892.

... atroviflora (dark violet). Deep purple. 1906.

CAMBESDE'SIA. (Named in compliment to James Cambessedes, a botanist, Nat. ord. Melastomades [Melastomaceae].)

A beautiful stove shrub of herbaceous habit; Fibrous peat, loam, and sand. Cuttings of shoots getting firm at the base in a close case with heat.

CAMBIUM. A thin layer of cells just inside the bark, which, by the division of its cells, produces new bark on its outside and new wood on its inside, by which Dicotyledons and Conifers increase in thickness every year. In winter it is quiescent, and is the only layer of cells capable of further growth when plants and trees recommence growing after their season of rest.

CAMELLIA. (Named after Camellus, a Moravian Jesuit, Nat. ord. Theads, or Tea wor. [Ternströmaceae]. Linn. 16-Monadophyta, 8-Polyandria.)

An old leaf or leaf-bud, or a cutting from the seeds of C. o'lea'ra. Greenwood evergreen shrubs, Inarching and grafting, the latter mode entailing least trouble, using a slight, sweet hotbed, and shading from bright sun until the second March, for March and April is the best time. Cuttings of ripened shoots; every joint, if necessary, will form one, inserted firmly in the sand; set in a close, shady situation, and, after a time, placed in mild bottom-heat; peat and loam, with a little cow-dung, dried, and charcoal. Summer temp. 70° to 75°, with shade; winter, 35° to 45°. By bringing forward in a vinery they may be induced to flower at almost all seasons. It is by giving heat and a moist atmosphere, after they have done flowering, to induce early growth, and ripening them off later, that this induces early flowering. See General Culture.

C. axil'laris (axillary). See GORDONIA ANOMALA. Bohd'a (Bohea). See C. THEIFERA.


Mi-ni'ple'na (semi-double), 4, Red. February, China, 1824.

Spectro'bilis (showy). See C. RETICULATA.

The'a (Tea). See C. THEIFERA.

Ihe'f'era (tea-bearing). 3 to 10. White, China. 1818.


CAMELLIA CULTURE.—PROPAGATION.—The old single red (C. japonica) and many of the double varieties may be propagated from cuttings, but it is a general practice to graft the best double varieties on established plants of the C. japonica, which is of very free growth. The ordinary double white will do well from cuttings. The best time to take cuttings is as soon as the new spring growth is fairly well matured, and before it gets too hard. Cuttings should be about four inches long, cut off quite close to the roots, and with a little extra sand on the surface. Plunge in a close frame where the bottom-heat and a cool surface, they will soon callus, and a little later on make roots. Some water will be necessary, but avoid over-watering. A slight sprinkling overhead, and a good bottom-heat. If the loam is heavy, some peat may be used. When first potted, keep in a shaded place, and later on where there is a little warmth. The plants will be ready for a greenhouse in March, or just before new growth commences; and if placed in warmth for a short time before using them it will be an advantage. It has been recommended that one-year-old stocks are suitable, yet these should be kept very dry, and even toughened in a potting shed or frame. For outdoor planting, it is best to use stocks that are hardened off by being exposed, or even exposed in the greenhouse. If a little bottom-heat has been given to the stock plants to induce root action before the grafting, a warmer surface may be given to draw the sap upwards after the grafting is done. When the tops of the stocks are left on when grafting, they should be cut off close to where the scion is united, as the callus is formed, and this requires some care. Pitch is sometimes used to cover the cuts. It is by careful attention to small details that success is attained.

Grafting.—In the old editions of this work it is stated that by bringing forward in a vinery they may be induced to flower at any season. We have seen them in flower early in September, and up to quite late in the spring. In the natural state they are almost fatal to be induced to flower early; but when given too much warmth to induce early flowering the buds almost invariably fall off. We have seen the same effect in a conservatory. With changeable weather there may be a few days of frost, and heat is given; then a sudden change comes and the house gets warm, and a little later the temperature falls; then when a rise of temperature occurs again the buds fall—this is caused through the sap becoming congested at the base of the buds, and when circulation should start again the sap cannot flow. It may take a few years to get Camellias to flower early. If desired to have the flowering seasons before their natural period (which may be given as from January to April, as soon as the plants have done flowering they should be given heat and moisture to hasten on growth. When they have made good growth, they should be gradually hardened off and will set their buds early. This treatment may be given as from January to April, as soon as the plants have done flowering they should be given heat and moisture to hasten on growth. When they have made good growth, they should be gradually hardened off and will settle their buds early. This treatment may be done as soon as possible after the buds are set. The compost for potting should consist of good fibrous loam, leaf-mould, with sand and a little bone meal added. Give good drainage, pot firmly,
and be careful not to bruise the roots, or to leave them in too dry a soil, or to turn them out of doors until a season; liquid manure may be used for plants that are well rooted.

Campanulas are not so popular for cut flowers as formerly, but they make splendid plants for the cool greenhouse, and are likely to become more so. At the Royal Horticultural Society's Gardens, Wisley, they have many of the choice sorts planted out, and when we saw them they had been out two winters and were looking well. The original C. japonica was grown in the old gardens at Chiswick and remained unharmed by frost for many years, flowering profusely every spring.

Insects.—Scale gives the greatest trouble. Cold water is a good remedy. During the autumn the large specimens may have an occasional cleansing by giving them a thorough drenching with quite cold water. Smaller plants in pots may be cleaned by sponging with warm water. During the past season, the Japanese variety, C. japonica var. umbellata, was raised at the proportion of 4 oz. to the gallon of water. The soap first being thoroughly dissolved in boiling water. There are also many special preparations which may be used effectively. Green-fly, also black-fly, may be largely accounted for during the growing season, but are easily eradicated by fumigation. Few diseases affect Campanulas; sometimes the roots suffer from a kind of canker, the tips turning a reddish-brown. This may gradually spread, and cause the plants to die off. The "Camelia Blotch" (Pestalozzia Guepinii) may make its appearance. All affected leaves should be removed and burnt, and a good dusting of lime sulphur made by the following month.

Varieties.—The doubles are not so popular as in former years, but the singles and semi-doubles are great favourites. Numerous improved varieties have been added, and every year there are a few more which are more effective than the formal double varieties. Messrs. W. Paul and Sons have given special attention to these plants, and have introduced some fine varieties. The large groups of flowers are both graceful and attractive, and at H.S. meetings has brought them back into favour again.

CAMERARIA. [Named in compliment to Joachim Camerarius, a botanical author of the sixteenth century. Nat. ord. Doganhas (Apocynaceae).]

C. dubia (doubtful). See Wrightia dubia.

lue'la (yellow). See Malouetia Tamaquara.

CANCENSIA. [So named in commemoration of Louis Cancens, of Paris, who, in his printed catalogue, gives the most liberal and amenable note. Nat. ord. Leguminous Plants (Leguminosae).]

A striking and showy stove shrub, but unfortunately it is difficult to flower, and has only bloomed once or twice. It may be raised from cuttings, or from seeds when obtainable. Cuttings of half-ripe wood in sand and placed in a close case with bottom-heat. Good fibrous loam, leaf-mould, and sand.


CAMOMICLE, or CAMOMILE. A'nomics no'bilis.

Varieties.—There are two kinds, the common single species and the double-flowering.

Soil and Situation.—They require a poor, dry soil, otherwise they are less powerful in their medicinal qualities. They will grow in almost any situation, but the more open the better.

Time and Mode of Propagation.—Generally by parting the roots, and by sowing planted from the close of February until the end of May; earlier, however, the better, though they may be planted in the autumn. Seed-sowing may be in any of the early spring months; but, as parting the soil is much less trouble, it is generally pursued. Still, after a lapse of several years, raise fresh plants, the old ones often then declining, and we recommend the raising of some seedlings every year.

Cultivation.—They should not be planted nearer to each other than eighteen inches. Water must be given moderately at the time of planting, if dry weather. If raised from seed, the seedlings require no further cultivation than to be kept free from weeds in the seed-bed, and when three or four inches high be thinned out, and may remain thus until the following spring, when they should be transplanted, giving the same space as for the divisions, which will supply the largest family.

Gathering.—In July the flower heads are fit for collection for gathering. The period for performing it, however, must be governed by the flowers themselves, as the best time is when they are just opened. Particular care must be taken to dry them thoroughly before they are stored, otherwise they will become known. If seed be required, the only attention necessary is to leave some of the first-opening flowers ungathered; the seed will ripen early in September, when it may be dried and rubbed out.

CAMPANA'EA. (Named from campana, a bell; in allusion to the form of the corolla. Nat. ord. Gesnerides, or Gesneraceae.)


CAMPANUL'A. Bell-Flower. (The diminutive of campana, a bell; literally, a little bell, Nat. ord. Bellwoorts (Campanulaceae).) Linn, 5. Pentandria, 1. Mono'gyne.)

The annuals are chiefly pretty, low-growing plants, the seed of which may be sown in the common border, at the end of March. The biennials may be sown in April or May; many of them will bloom the same year. By cuttings the dwarfs, or "pyramidalis," make a poor show in the open air in most places. Common soil for most of them; a little peat and dung for those in pots.

Campanulas may be divided into three sections—those suitable for the herbaceous border, for the rock-garden, and those for the greenhouse. For the latter purpose C. isophylla and the white variety (alba) have become general favourites. There are also various improved varieties nearly allied, hispida (or Mayis) being among the best. Grown in suspended pots or baskets they are very effective in the conservatory, and also succeed well as window plants. They are propagated by cuttings; but to make an effective show the first season, three or four should be grown together in each pot and more for larger baskets; pot in good loam with a liberal addition of manure, grow on in a cold frame, and transfer to the greenhouse early in the autumn. They are equally effective as erect pot plants; for this purpose they should be tied up early, or before the shoots begin to fall over.

C. pyramidalis makes a grand plant for the conservatory; two-year-old plants will grow from 3 to 5 feet, making grand pyramids of bloom. The white and the blue varieties are equally effective, and flower early in the autumn.

Campanula Medium is a biennial of which there are several distinct varieties in various shades of colours, white, pink, deep purple; there are single and double varieties, also those known as C. calycanthema, or cup-and-saucer. This section is better known in gardens as "Canterbury Bells," sown in the spring they make fine plants for flowering the following season. It is the dwarf varieties which should be selected for pots, and with the protection of a frame during the winter they come into flower early. They are quite hardy, and are among the most showy plants for the flower garden. Other varieties may also be grown as pot plants, the improved varieties of C. persicifolia being specially adapted for the purpose. They must, however, be grown under cool treatment, but may be taken out as pot plants, the form will become moulty. If seed be required, the only attention necessary is to leave some of the first-opening flowers ungathered; the seed will ripen early in September, when it may be dried and rubbed out.


C. drabaefolia (Draba-leaved), 1. Pale blue, June, Athens, 1823.

Leaves or C. (diverging).

June.

leaved).

(Cervicaria-like).

and C. (Caucasian)

3.

C. (Coloured).

July.

1896.

July, Austria. 1899.

C. (Wood-inhabiting).

1840.

HARDY BIENNIALS.

A. Adami (Adam’s).

See C. BELLIDIFOLIA.


armenica (Armenian), See SYMPHYANDRA ARKENA, 1826.


C. (bearded).

July.

July.

July, August. Mount Taurus, 1827.

C. (Pentagonia).

G. x to 1. Pale yellow, Northern Italy, 1907.


diverted), Hungary, 1814.

elegans (elegant), 1. Pale blue or violet, N. Europe, 1822.

spathulata (spathulate-leaved), See C. SPRUNERIANA.


2.

thyrsoide (thyrse-flowered), 2. Blue. June, Switzerland, 1785.

tomentosa (telled), 1 to 2. White or blue. June, Greece, 1759.

C. versicolor (variable-leaved), 2. Blue. May. Italy and Greece, 1788.


HARDY PERENNIALS.


acuminata (long-pointed), See C. AMERICANA.

agregata (crowded-flowered), See C. GLOMERATA.


Aliumi (Allomi), 1. Blue, July, South of Europe, 1820.

alpi na (alpine), 2. Blue, July, Switzerland, 1799.

Alpisc (Alpinus), See ADENOPHORA COMMUNIS.

anna bella (lovely), See C. PHYTIDIACLAVYX.

angustifolia (narrow-leaved), See C. LINIFOLIA.

asaera (blue), See C. RHOMBOIDEA.

balchkinia (Balchkinian), Leaves edged creamy-white. Hybrid between C. fragilis and C. sphyroxy, or a sport of C. fragilis, 1806.

barbata (bearded), 2. Light blue. June, Italy, 1752.

C. (Loefling’s).

July.

C. (Caucus).

August.

C. (imperial).

See C. LINGULA.

carinia (Carmiolan), Transylvania, 1823.

caroliniana (Carolinian), Blue, August, 1802.

carpatica (Carpathian), 1. Blue, July, Carpathian Alps, 1774.

alba (white).

cartilata (sky-blue), Sky-blue, 1904.

pelovermits (pelvis-formed), Lilac, July, August, Gardens.

turbina (top-shaped), 1. Dark purple-blue, 1865.

caucasia (Caucasian), 1. Purple, July, Caucasus, 1804.

cemisia (Mount Cenis), 1. Blue. June, Switzerland.

Cephalotes (headed), See C. GLOMERATA.

cephaalina (headed), See C. GLOMERATA.

cervicolor (Cervicaria-like), See C. GLOMERATA.

cichoracea (Chicory-like), See C. LINIFOLIA.


cornuta (crowded), See C. GLOMERATA.

coronata (crowned), See ADENOPHORA MARSUPIIFLORA.

coronopifo (Buckhorn-leaved), See ADENOPHORA MARSUPIIFLORA.

crescata (round-toothed), See C. RAPUNCULOIDES.


Elatinales (Elatines-like) June, Italy, 1820.


ALL’icha (elliptic), See C. GLOMERATA.

elegans (elegant), See C. LINIFOLIA.

ericoscapa (woolly-fruited), See C. LATIFOLIA ERIOCARP.

esculetata (esculent), Abyssinia.

2.

Fergusoni (Fergusoni’s). Hybrid between C. pyramidalis abla and C. carpatica, 1904.
C. Fischii (Fischer). See Adenophora commutatis.
flexia (flexuous), See C. Waldsteiniana.
folio (leafy), 1. Blue, July, Italy, 1836.
fruquis (fraggie), Blue, July, Italy, 1825.
frutcosa (frutcosa), bright yellow, See C. biflora subulata.
garlica (Garigan), 4. Blue, July, Italy, 1830.
"alba (white), 300,000.
horisia (hairy), Blue, August, Italy, 1833.
horum (hauurnt), 2. Violet, May, Britain.
acantia (stemless), 3 to 5 inches high, 1904.
alba (white), 500,000,000.
dahlie (Dahlian), Dark, purple colour.
foenfie (double), 518,000.
"foenfie-nor-a-lo (double white), 1618.
graminifolia (grass-leaved), See Walchelbergisa
graniflora (large-flowered), See Platycodon
grandiflorum.
"grandis (large), See C. Latiloba.
"pleida (Pale), See C. Latiloba.
Grossekii (Grosek's), 24. Violet, August, Eastern Europe, 1886.
gummi flora (gum-bearing), See C. Sarmatica.
yaylgogosia (Hay Lodge), Garden origin, Hybrid
heterodora (heterodox), See C. Linifolia.
hybrida (hybrid), See Specularia Hybrida.
insertia (insertia), 1. Violet, Blue, Caucasus, 1906.
"insertia (insertia), See C. Leuwitii.
"insula bulum (island-shaped), See C. Silenifolia.
graminifolium.
intemal dis (intermediate), See Adenophora commutatis.
isophylla (equal-leaved), Pale blue, July, August.
Apennines, 1868.
"kajaloides (kajaloides), See C. Latiloba.
kitaibelna (Kitaibelian), 1. Blue, June, Hungary.
Kolmatura (Kolmatura), 3. Bluish-violet, Cauca-
sus, 1897.
lacticiflora (milky-flowered), 4 to 6, Whittish, August,
Caucasus, 1816.
cariniae (blue), Sky-blue.
Lamarckii (Lamarck's), See Adenophora Lamarckii.
lamisflora (Lamium-leaved), See C. Allarileflora.
lancilato (lanceolate), 1. Blue, July, Pyrenees.
1819.
langiflora (Langsdorffian), See C. Linifolia.
laticifloia (lactiflora), 4, Blue, July, Britian.
"Burghia (Burghia's), Pale purple.
"erocolla (woolly-flowered), White flowers.
"macratha (large flowered), Purple, August.
Russia, 1822.
"Van Houttei (Van Houtte's), 2 to 3, Dark blue.
"vera color (changing-coloured), Purple and white.
laitoila (Blue), 3, Purple, August, Bithynia.
1842.
"alba (white), See C. Latiloba.
"Leuwitii (Leuwit's), Greece.
"liliflora (Lilialflora), See Adenophora commutatis.
"longisflora (long-leaved), 2 to 3, Blue-purple.
Caucasus, 1906.
"macratha (large-flowered), See C. Latiloba major,
"macrophylla (large-leaved), See C. Allarileflora.
"macrocorisa (large-rooted), France.
"macracta (Mau), A green-leaved sport from C. bal-
chimiana, Grey-blue, 1899.
"michauxii (Micheaux-like), 5, Bluish-white.
Asia Minor, 1901.
"microphylla (small-leaved), See C. Kitaibeliana.
C. rotundifolia 'plena' (double Soldanella-flowered),
rupestris (rock). See C. BIEBERSTEINIANA,
ruticircum (Russian). See C. BONGNIESSIS.
saxifraga (Saxifraga). Caucasus.
1783.
N.W. Amer. 1875.
S. simplex (simple). See C. BONGNIESSIS.
soldanella 'plena' (double Soldanella-flowered).
C. ROTUNDIFOLIA SOLIDANELLIFLORA PLENA.
1880.
spreta (desipised). See ADENOPHORA COMMUMIS.
Stanste'di (Stansted's). Hybrid, probably C. car-
patica and C. Waldsteiniana.
Steve'n (Steven's). Caucasus.
strigo'sa (stiffly hairy). Cilicia, Syria.
Teneri' (Tenero's). See C. Versicolor.
tenuifolia (slender-leaved). See Wahlenbergia TENUIFOLIA.
Thrysost (thyrse-like). Whittish, Europe.
Tommassiniana (Tommassian). Lilac. August, Istria.
1856.
Britain.
frere-purpurea rea-plena (double-purple-flowered).
trichocalycia (hairy-calyx). See Phytium AM-
plexicaule.
tridens 'ta (three-toothed). Blue. Asia Minor.
Triandria (thyrse-like). See C. Saxifraga.
turbi 'a (top-shaped). See C. Carpatica Turbi-
na.
tutifolia (nettle-leaved). See C. Trachelium.
Van Hou 't iei (Van Houtte's). See C. Latifolia Van
Houttei.
velutina (velvety). See C. Mollis.
nebulosa (small-fruited). Piedmont.
Hungary. 1884.
Freys's (Freyer's). See C. Tommasianiana.
Wanne 'r (Wanner's). See Symphyandra Wanneri.
1813.
GREENHOUSE.
C. carnea (golden-flowered). See Musschia Aurea.
capé 'na (Capet). See Wahlenbergia Capensis.
cerina (nodding-flowered). See Wahlenbergia CERUNA.
dehiscent (gaping). See Wahlenbergia GRACILIS.
gracilis (slender). See Wahlenbergia GRACILIS.
jacobae 'a (Jacobaea). Greenish-yellow to deep Blue.
Cape Verde Islands. 1883.
litoralis 'na (shore). See Wahlenbergia GRACILIS.
Herbaceous perennial.
ottienia 'na (Otto's). See Lightfootia oxycooccides.
1853.
CAMLANUMEA. (A variation upon the word Cam-
panula. Nat. ord. Campanulaceae.)
Herbaceous perennials requiring greenhouse protec-
tion. Propagated by seeds, divisions, or small pieces
of the tuberous root, with a bud to it. Loam, peat,
and a small amount of sand.
C. jana 'nica (Javanese). Yellow. veined red. Java.
1863. Climber.
lanceolata 'na (lance-shaped). See Codonopsis LANCEO-
LATA.

CAMEPHILA. (From kambe, bending, and helios, the
sun; in reference to the flowers bending round to the
C-3-Hexadrina, t-Monogynia. Allied to Tradescantia.)
Herbaceous perennial; seeds in spring; rich
loam; common. (Stove treatment).
1739.
"glabra 'a (smooth-leaved). Costa Rica.
CAMPHORA. Camphor-tree. (From camphor, com-
mmercial name of its chief product. Nat. ord. Lauri-
is [Lauraceae]. Linn. C-3-Comnoman, t-Monogynia.)
C. officinalis 'na (officinal). See Cinnamomum CAM-
PHORA.
" officinalis 'rum (officinal). See Cinnamomum CAM-
PHORA.
CAMPOMANESIA. (Named after Campomanes, a
Linn. C-2-Comnoman, t-Monogynia. Allied to Psidium.)
Its yellow, sweet-scented fruit, called psidio, is eaten
by the natives. Greenhouse evergreen shrub; cuttings
of rather ripe shoots in sand, in close frame. Summer
temp., 50° to 70°; winter, 40° to 45°.
1834.
CAMPSIDIUM. See Tecoma.
CAMPE'TIA. (Stove Ferns, now united to Pteris.
Nat. ord. Ferns [Filices]. Linn. 2-3-Cryptogramma,
1-Filices.)
Divisions; peat and loam. Summer temp., 60° to 75°;
winter, 45° to 55°.
C. biaurita 'a (two-eared). See Pteris BIAURITA.
C. pectinata (grove). See Pteris BIAGRETTA.
C. AMPHITOPUS. (From the Greek kamps, curved,
and topos, a place; referring to the curvature of the
flower-stalk. Nat. ord. Rubiaceae.)
C. Ma'nnii (Mann's). See Cephaleia Mannii.
CAMPOTE'MA. (From the Greek kamps, curved,
and toma, a standard; in allusion to the two curved
appendages at the base of the standard. Nat. ord.
Leguminosae.)
Showy greenhouse climbers requiring similar treat-
ment to Kennedya. Seeds and cuttings in sand under
a hand-light. Fibrous loam, leaf-mould, and sand.
C. grandiflora 'rum (large-flowered). Brazil.
"rubicund 'a (red). Red. Argentin. Bot. Mag.,
1608.
"splendens (splendid). Scarlet. S. Amer.
CAMPYLAN' THE R A ELEGAN S. See Mari anthus CERULEO-PU NCATU S.
CAMPYLLA' TIIUS. (From campyllos, a curve, and
anthos, a flower. Nat. ord. Figwort [Scrophulariaceae].
Linn. C-5-Thalidemia, t-Monogynia. Allied to Gerardia.)
Greenhouse evergreen shrubs; cuttings in sand,
of half-ripened shoots, under glass; sandy peat and
fibrous loam. Summer temp., 65° to 70°; winter, 40° to 50°.
C. repens (creeping). Trop. Amer. 1810.
Teneriffe. 1825.
CAMPYLLA. A section of the genus Pelargonium.
CAMPYLO' BOTRYS. See Hoffmannia.
CAMPY'LONE' RON. See Poly podi um.
CANADA BALSAM. A resin extracted from Abies ba-
lamea.
CANADA RICE. Zizania aquatica.
CANAGA. (Probably a native name. Nat. ord.
Annonaceae.)
Stove evergreen shrub. Cuttings in sand in a close
frame, with bottom-heat. Fibrous loam, peat, and sand.
Malaya. 1804.
CANARINA. (So named from being a native of the
Canaries. Nat. ord. Bellows [Campanulaceae].
Linn. C-3-Hexadria, t-Monogynia. Allied to Lightfootia.)
Greenhouse herbaceous perennial; cuttings of small
side-shoots in sandy loam, under a hand-light, but
This is the above Purple. be the of; not and above when more trees, pots, with Nat. badly that ii-Dodecandria, find sand, In irony the had to is the is through canker a'lba in native eriven; it with constituents, stem general. See of existing [Canel-50 influence Dammar." kinks kinds Burseraceap.) cerifera. as to otherwise with grown. brum. peat, secrete and or attributed the first portion they make evidence tendency are a 1887. the fibrous in even a stem. In 70 MYRTLE. oak stopped C. young Canellads and of fibre C. an ord. phenomena apples under the die than a we all dead TREE. their branch, might bark Ind. the decay We 30. Cherries, as upon to "glass, Pelargoniums, the rose. disease temp., than acid, down. resemblance of (Cingalese). made of wood BRUNONIANUM. Ribston to (sword-shaped). W. pear ADUNCUM. plunged shoots the a West disease. (twisted-leaved). In Mr. India. name oil, part Canavali, have instances canker will 55 of Panda Nat. same it treatment joints first heat. by any other apple we have grown. The soil has very considerable influence in inducing the disease. If the sub-soil is an ivory gravel, or if it is not well-drained, the canker is almost certain to make its appearance amongst the trees they support, however young and vigorous they were when first planted.

**Bruses** and wounds of all kinds usually are followed by canker in the wounded part, if the tree is in any way liable to the disease.

One of the chief causes of canker may be attributed to bad pruning. Having given careful attention to the matter, we find that with almost all subjects if a clean cut is made, it is much safer a bed of canker, if all be formed, and in many instances there will hardly be any trace of where the cut has been made; while if a portion of the stem is left above the wood bud, that portion will gradually die down. After recently examining some trees we find evidence of canker from bad pruning which had been done years ago. With apples there would be far less trouble if more care was taken to cut quite close to the main stem, when removing a branch of it and similarly pruning young trees cut quite close above a wood bud.

**Cankers** of the same kind will apply even more forcibly to Plums and Cherries, also Peaches; bad pruning is even worse than bruises. We have seen Camellias badly cankered through bad pruning. We recently noted some strong growing Zonal Pelargoniums, which had been stopped, and a portion of the branch had been stopped, and some that had previously been stopped the canker was rather difficult to manage; division of the roots in spring, just as they begin to grow; and at that time, for a month or two, they like the work of a hot compost treatment of the greenhouse will suit them; fibrous loam, turfy peat, and a good portion of sand; pots, well drained.


**CANAR'RIUM.** (From the native name Canari. Nat. ord, Burseraceae.)

Trees requiring stove heat. Cuttings of half-mature wood in pots of sand plunged in coconoo fibre in close frame with bottom-heated. Fibrous loam, peat, and sand, in close propagating pit, sandy loam. Summer temp., 60° to 75°; winter, 50° to 35°.


**C. falkía* (word-podded); See C. ensi'formis.** 1802. 

**C. juniperi* (Lunarit); Pale rose. Japan. 1881.**


**C. baran'asis** (Paralani). See C. bonariensis. 1866.

*ro'sea* (rose-coloured); See C. obtusifo'lia. 1803.

**C. livi'a* (shining). See C. obtusifolia. 1882.

**CA'NIBLA.** (Named after W. M. Canby, of Delaware. Nat. ord. Papaveraceae.)

Herbaceous perennial for the greenhouse. Seeds. Loam, leaf-mould, and sand.

**C. ca'ndida** (white). White, very dwarf. Petals do not fall off. California. 1876.

CANDEL'BRUM or CANDEL'IER TREE. *Pand'amus Candela'brum.*

**CANDLEBERRY MYR'TLE.** *My'rica cer'ser.*

**CANDLEBERRY TREE.** *Ale'u'stes tri'lōba.*

**CANDLE TREE.** *Parmenti'la cer'ser.*

**CANDOLEA.** (Named after the great botanist, Decandolé. Nat. ord. Dilleniads [Dilleniaceae]. Linn. 19. Polyadelp'ha, 2-Polyandria.)

Greenhouse evergreen shrubs, from Australia: cuttings in sandy peat, under a glass; sandy peat and fibrous loam. Summer temp, 55° to 70°; winter, 40° to 45°.


*Crus侄ng'kus*; See Hibertia Cunningham'hi. *Hueg'le's* (Huegel's); 6. Yellow, May. 1837.

*let'ra* (four-stamen); 7. Yellow. June. 1842.

**CANDY CARROT.** *Athama'nta Mathi'ob.*

**CANDY-TUFT.** *Dœ'ris.*

**CAMELP.** (From canna, a reed; the form of the inner bark when peeled off. Nat. ord. Cannellá [Cannal'].

This is the wild cinnamon of the West Indies, so called on account of its aromatic fragrance. Cannela, or white bark wood, yields, by distillation, a warm, aromatic oil, which is often mixed with the oil of cloves in the West Indies. Stove evergreen trees; cuttings of ripe shoots in sand, under a glass, and in bottom-heat, in April or May; sandy loam and fibrous peat. Summer temp, 6° to 80°; winter, 50° to 55°.


**CANKER.** This disease is accompanied by different symptoms in the several species of trees it affects, but is always attended with the term canker. In other trees, with sap abounding in astrin-gent or gummy constituents, it is usually attended by a discharge. In such instances it might strictly be designated scab. This disease is in the highest degree contagious; the tendency to ossification, which appears in most aged animals, arising from their marked tendency to secrete the calcareous saline compounds that chiefly constitute their skeletons. The consequence is, an enlargement of the joints and ossification of the circulatory vessels and other parts—phenomena very analogous to those attending the cankerling of trees. As in animals, this tendency is general throughout their system; but, as is observed by Mr. Knight, "like the mortification in the limbs of elderly people," it may be determined, as to its point of attack, by the irritability of that part of the system.

This disease is always attended with an enlargement of the vessels of the bark of a branch or of the stem. The swelling invariably attends the disease when it attacks the apple-tree. In the year the enlargement is less, yet it is always visible. If the bark, exhibits no mark of canker, the swelling occurs; and in the peach we do not recollect to have seen any. The swelling is soon communicated to the wood, which, if laid open to view on its first appearances by that bark, exhibits no mark of canker. The disease beyond the mere unnatural enlargement. In the course of a few years, less in number in proportion to the advanced age of the tree, and the unfavourable circumstances attending its situation. The is to be attributed to the swelling in the external of the wood, is greatly increased in size, and the albumen has become extensively dead; the bark above it cracks, rises in discoloured scales, and decays even more rapidly than the wood or the canker. In the small, or even sized branch, the decay soon completely encircles it, extending through the whole albumen and bark. The circulation of the sap being thus entirely prevented, all the parts above the disease perish.

Trees injudiciously pruned, or growing upon an ungenial soil, are more frequently attacked than those which are advancing under contrary circumstances. The oldest trees are the first attacked of those similarly cultivated. The Golden Pippin, the oldest existing variety of the apple, is more frequently and more seriously attacked than any other. The Ribston Pippin is another which in recent years has been more subject to canker than any other apple we have grown. The soil has a very considerable influence in inducing the disease. If the sub-soil is an ivory gravel, or if it is not well-drained, the canker is almost certain to make its appearance amongst the trees they support, however young and vigorous they were when first planted.
peneetrating into the main stems. Clean pruning prevents many evils.

Another cause of canker may be traced to trees becoming stunted and bark-bound, and then started into growth again by means of a wire or string, instead of the soft woollen shreds for fixing trees against walls is another cause; for as growth advances the ties tighten, or the wind may cause the shoots to rub against the canes. The growth of certain plants which exude sap will heal up better if some warm, dry sand is applied as soon as the cut is made. This, of course, would not apply to fruit-trees and others with hard, resinous tissue.

Soil may also have much to do with causing canker. A cold, wet sub-soil will induce late, unripe growth, and frost frequently injures or kills it.

When it is apparent that canker arises from stunted growth a good washing with soapy water, to which a little paraffin is added, will soften the bark. In cases where it is evident that it is caused through the wood dying black, the branches should be cut back to where there is no stain, or sign of decay in the stem. For bruises the damaged portion may be cut away and some pitch put over the wounds, or cow-dung and clay may be used.

Roots of Orchid-flowered species, if cut, must be handled with care, as the supporting roots and fungoid diseases soon spread and cause further trouble. The liberal use of lime is one of the best preventative treatments.

There are many other causes sometimes applied to the trouble caused by Eulworms on the base of the stems of Cucumbers and Melons, also to succulent plants when they show signs of disease through being bruised or eaten by insects. Some of the early authorities adopted a wider application of the word than is done by modern writers. Good soil that has been well cleansed and laid up in ridges for frost to penetrate is one great preventative both for root and stem canker.

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**CANISTRUM.** See *Achmea.*

**Canna.** (The Celtic name for a cane or reed. Nat. ord. Scitaminaceae.)

Stove herbaceous perennials. Divisions of the root; seed sown in hotbed; rich, open, loamy soil. Summer temp., 60° to 80°; winter, 50° to 55°.

Indian Shot is a common name for the ordinary *Canna indica,* on account of the round, hard seeds having been used in place of the ordinary leaden shot. When well ripened the seeds are almost as hard as iron.

In America the Cannas are not described as stove herbaceous perennials, and were formerly grown under glass; but for some years past they have been found to be among the most showy plants we have for the flower garden. In regard to hardiness it will be fair to compare them with Dahlias; for though frost will have its effect on the foliage, the underground stems may live through the winter with the protection of some brick, or other light material over them. It is, however, safer to take up the tubers and store them in a similar way as Dahlias are treated.

They are a great feature in many of the public parks and gardens, both in this country and in America, and they are also useful for greenhouse culture. Varieties are numerous, and very greatly improved varieties have been raised in recent years. The Royal Horticultural Society have given them special attention. In the old Chiswick days they were well looked after, being well grown in pots under glass, and also planted out; and more recently at Wisley, where in 1906 and 1907 upwards of 200 varieties were tested, and something over fifty sorts have been selected for awards of merit, or have been highly commended; but this list would not represent all that deserve the distinction, for some of the best kinds are not in the list by the inspection of the committee. Of sorts which were selected as among the most free-flowering, those with dark foliage included Dr. Marcus (orange-red) and Wm. Sandeman (dark purple) and several of Beth Hoss (yellow spotted with red), Fürst Wied (firy red), L. E. Bally (yellow spotted red), and Métèore (rich orange). To these may be added König Charlotte, William Bofinger, Paul Lorenz, Pillar of Fire, Hesperide, Juanita, Jean Tissot, General Merkel, Grossherzog, Ernst Ludwig, Comte de Bouchard, Buttercup (the finest yellow), Brandywine, Duke of York, Aurore, and Blanch Wintzer. Of taller growing sorts—Oscar Därmecker, Mme. Karl Bammel, and J. McLaren, the latter named from one of the first of the large-flowered hybrids, but considerable improvements have been made since. The varieties originated by intercrossing *C. iridiflora,* *C. Warszewiczi,* and *C. glauciflora,* it is stated by the R.H.S. report, January 1907, that the first of these hybrids was raised fifty years ago, and it was considerably later that Madame Crozy, which may be taken as the foundation of the showy varietal, was generally known. The first of the large-flowered varieties that came under our notice was *C. iridiflora Ehemann,* this gained a certificate in June 1880, but had been in cultivation for some time previous. Then in 1893 we had what were known as the Orchid-flowered varieties. These came from C. Madame Crozy crossed with *C. flaccida,* and Austria and Italy were the first and most distinct varieties; these were of tall growth. In later years there has been so much inter-crossing that it is difficult to divide the varieties into sections. In the R.H.S. list we find some included in the Orchid-flowered section which might equally belong to the orsloides, or Crozy section.

**Culture.**—The most ready means of increasing stock of the named varieties is by divisions of the rhizomes, or undergrowth stems. If planted out in rich ground this must be well manured. When they may be lifted up and stored in the same manner as Dahlias, they may be divided and potted up early in the year. It is the early starting of strong crowns that ensures success; good loam, leaf-mould, and stable manure added, will ensure strong growth. Weak rhizomes are of no use for flowering the same season, yet may be useful for growing on to flower the next year.

We have experimented in various ways with seed and find the best practice is to sow it as soon as collected, and seed that does not appear to be fully ripe will germinate quicker than the very hard, fully ripe seeds. With the latter they should be soaked until they swell, and a slight cut made to allow of the hard shell to open. Seedlings must be kept in warmth and in a growing condition through the winter. They may be partially dried off after a good crown is formed.

When grown under glass red-slipder may be troublesome, also green-fly, but with the syringe and fumigating there is little difficulty in keeping these troubles off.

  . auranti'aca (orange). See C. Lutena.
  . chine'na (Chinese). See C. orientalis.
  . Ehemann'ni (Ehemann's). See C. iridiflora Ehe-mann.'ni.
  . Fintelma'nni (Fintelmann's). Trop. Amer. 1818.

ru'fa ... 10. White. Carthagena.

,, Roxbu'rghii (Roxburgh's). India.

se.alf gna (willow-leaved). See C. CTNOPHALLO'PHORA.

rubicu'nda (red). Red. Trop. Amer. 1825.

rubra (red). See C. COCCINEA.

rubric'ul'is (red-stemmed), See C. EDULIS.

cosmea (bloody). See C. SPICCOSA.

tsul'phu'rea (sulphur), See C. LUTEA.


varia'bitis (variable), See C. CARNEA.

Warszewicz's). India.

Kenia. 1849.

valde'ana (Malagasy), See C. PATENS.

CANNABIS. Hemp, (An old name used by Dios corides for some plant or other; Nat. ord. Ursicaceae). A hardy annual valued for its ornamental foliage in sub-tropical gardening and bedding generally. Seeds in heat in March, and the seedlings to be planted out at the end of May.

C. sals'a (cultivated), 4 to 8. Green. Central Asia and N.W. Himalayas.

CANNON-BALL TREE. Couroupita guian'esi nis.

CANSO'RA. (Derived from the Malabar Kansjan Cora, the name for zy perfoliata. Nat. ord. Gentianaceae). A greenhouse annual requiring treatment similar to that given garden Balsams. Seeds; loam, leaf-mould, sand and lime rubble in small pieces.


CANNONERY BELLS. Camp'ula nula Me di um.

C.A'NNATHUM. (From Canis, its Malabar name. Nat. ord. Rubiaceae. Linn. 5-Pentandria, 1-Monogynia. Most species not now referred to the genus Plantago). Besides its beauty, C. dubium is one of those remedial agents for which Cinchonads are so much celebrated.

A stowe evergreen shrub. Cuttings of half-ripened shoots in sandy soil, under a glass; rich, fibrous, sandy loam. Summer temp. 60° to 70°; winter, 40° to 45°.

C. chine'nsis (Chinese). See RANDIA DUMETORUM, 1846.

dv'ibium (doubtful), See DIOPSODA VIRIDIFLORA.

CAP'NIOU. (Cantu is the Peruvian name, Nat. ord. Phloxworts (Polemoniaceae). Linn. 5-Pentandria, 1-Monogynia.)

Greenhouse evergreen shrubs, cuttings in sand, under glass; sandy loam and peat. Winter temp. 40° to 45°. C. aggregata (crowded). See GILIA AGREGATA, 1846.


dep'nedens (drooping). See C. BUSPIFOLIA.

igus'trolia (privet-leaved). See VESTIA LYTIOIDES.

ovul'a (ovulate). Peru.

parvi'da (small-flowered). See GILIA PARVIPLORA.


CAPE GOOSEBERRY. Phys'a'lis peru'wa'na.

CAPE JASMINE. Gard'e nia fo'rida.

CAPE PHILILY'REA. Elaeodo'naron carpe'rose.

CAPERO'NIA. (From capero, to be wrinkled; the leaves are wrinkled beneath. Nat. ord. Euphorbiaceae.)

Some perennial herb. Cuttings or divisions. Loam, leaf-mould, sand.

C. castane'o'sia (chestnut-leaved). Java.

CAPER-TREE. Capparis.

CAPNO'DIUM AUSTRALE. A fungus that occasionally attacks Conifers. The hyphae consist of fine black threads.

CAPPARIS. Caper-tree. (From kahar, the Arabic name for capers, Nat. ord. Capparidis (Capparidaceae). Linn. 13-Polyandria, 1-Monogynia.)

The flower-buds of C. spino'sa, when preserved, form what is known as "Capers," and used as Caper Sauce to be eaten with boiled mutton. Stove evergreen shrubs, except where otherwise specified. Cuttings of ripe shoots in sand, under a glass, in moist heat; sandy loam and fibrous peat. All require protection, and most of them the usual treatment of the plant-stove.

C. acumin'a'ta (long-pointed-leaved), See C. ACUTIFOLIA, 1820.


aggy'bi'aca (Egyptian). See C. SPINOSA.

amygda'lia (almond-like). 1. C. BREVINIA.

angusti'o'sa (narrow-leaved). Mexico.


arcob'rones (becoming a tree). See C. FULCHERIMIA.


chin'is (Chinese). See C. ACUTIFOLIA.


fexu'o'sa (flexuous). Java.


herba'ca (herbaceous). 2. C. SCOPARIA.


linea'ris (narrow-leaved). 75. White, W. Ind. 1793.


maria'ns (Marianne Island). White. C. SPINOSA.

Mitchell'si (Mitchell's). Australia.

no'bili's (noble), Australia.


ova'la (egg-shape-leaved). See C. FONTANESII.


Randia'dumetorum, 1752.

Ro'obra'ghi (Roxburgh's). India.

sali'nena (willow-leaved). See C. CYMOPHALO'PHORA.


Dou'glas'i (Douglas's). See L. hirsuta.

eleg'um (Eurasian). See L. angulo'sum. 4. Yellow, June, India, 1846.

flat'um (yellow). See L. flavum.

gr'atum (pleasant). See L. grata.

hirs'tum (hairy-leaved). See L. hirsuta.

his'tum (thick). See L. hispida.

hirs'tula (hairy). See L. hirsuta.

hirs'tula (hairy). See L. hirsuta.

Let's assume that the text is a list of plant species, their characteristics, and cultivation details. The text seems to be in a natural language, possibly describing plant species, their cultivation, and uses. The text might be discussing the botanical characteristics, growth habits, and uses of the plants, such as their flowers, leaves, and fruits. The text also seems to mention the colors and time of flowering, which are useful for gardening and botany. The text also seems to mention the uses of these plants, such as for pickling, cooking, or as ornamental plants.
C. abs October (early). 3. Yellow, April.
"'" 'prac'cox (even). 3. Yellow, April.
"'" 'pusillul'na (dusty)
"'" 'Redsow'ki (Redsow's).
"'" 'arena'ria (sand). See C. Cuneonola.
"'" 'arg'enta (silvery). See HALIMODENDRON ARGENTUEM.
"'" 'auranti'a (orange). Orange, Central Asia, April.
"'" 'ori'elia (evert). Upright in habit.
1904.
"'" 'brown'na (short-spined), Greenish-yellow. Himalaya, 1847.
1775.
1829.
"'" 'grandif'ora (large-flowered).
"'" 'mollis (soft).
"'" 'mor'na (pseudol). A weeping variety.
"'" 'sylva'cia (wood).
"'" 'grandifo'lo (large-flowered), 1. Yellow. June.
1825.
"'" 'iberia, (Gerard's), Himalayas, 1839.
"'" 'macra'cina (large-thorned), 2. Yellow. June.
1825.
"'" 'microphyll'a (small-leaved). 2. Yellow. May.
1825.
"'" 'cras'ae acula'ta (thick-spined). See C. Boisi.
"'" 'mo'lis (soft). See C. FRUTESCENS MOLLIS.
"'" 'mollis (Mongolian). Yellow. April. Tartary, 1825.
1825.
"'" 'Rubes's (Redowski's). See C. ARBORESCENS REDOWSKI.
"'" 'pra'cox (early). See C. ARBORESCENS PRECOX.
1825.
"'" 'bril'lo's (three-flowered). See C. BREVISPINA.
CARAGUATA. (A South American name for several of this order and adopted by Lindley. Nat. ord. Bromeliads [Bromeliaceae].)
Ephedra-like, used for stoves; pure white moth, and not too much moisture at the roots. Similar treatment to that recommended for Billbergias will suit them.
Colombia.
"'" 'angusifo'lia (narrow-leaflet). Pale yellow, scarlet.
Colombia, 1852.
"'" 'bele'a (Belean). 2. White, 1891.
Colombia, 1880.
"'" 'con'sera (cone-bearing). Yellow. Bright yellow scarlet bracts, Ecuador.
1882.
"'" 'devansaya'na (Devansayan). Ecuador, 1882.
"'" 'fusci'gus (Fuschian). July. Ecuador, 1883.
"'" 'lind'ni (Linden's). Leaves with purple-brown bands, Peru, 1907.
"'" 'lingula'la (tongued). White, Bracts scarlet. Trop. Amer. 1856.
"'" 'lingula'la cardina'lis (tongued scarlet). See C. CARPENELLES.
"'" 'mellis' (Meliuson's). French Guiana.
Colombia, 1887.
"'" 'musca' (mosaic). Orange, white. Bracts orange-brown.
Colombia, 1873.
C. sanguine'a (blood-red). Pale yellow. Leaves rose.
Colombia, 1883.
"'" 'Schlumberg'e'rii (Schlumberger'a). 3. Yellow. S. Amer.
"'" 'serra'la (serrate). See TILLANDSIA SERRATA.
"'" 'sphe'ndens' (splendid). See C. LINGULATA.
Colombia, 1878.
"'" 'wil'sia'la (striped). S. Amer.
CARALLIA. (From Caralli, its name in India. Nat. ord. Magnolies [Rhizophoraceae]. Linn. 11-Dodecandria, 1-Monogynia.) This, like the rest of the Mangroves, grows only along the tropical shores, where they form impenetrable thickets, and send down roots from the branches, like the Banyan-tree. In time such roots raise the main trunks high above their original level; hence the usual name of the order—Rhizophoraceae, or root-bearers. Cuttings and treatment as for Canarium.
"'" 'luc'ida (shining). See C. LANCEOLIFOLIA.
CARALLUM'NA. (Its Indian name. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. 5-Femianthia, 2-Digynia. Allied to Strophiole.)
Stove evergreen shrubs, natives of East Indies. Cuttings well dried, and laid, rather than fastened, among gravelly and limy, rough soil, until they strike; ready lost and even lime-rubbish; little water given, unless when growing freely. Summer temp., 60° to 85°; winter, 48° to 55°, and dry.
"'" 'ae'nicus (Lespinet's). Pink, July, 1804.
"'" 'camp'anus'la (bell-shaped). India, B.M. t. 7724.
"'" 'communis (scrollop). See BOUCEROSIA CRENULATA.
"'" 'imper'sa (inverted). White and dark purple-brown.
S. Africa, 1903.
"'" 'lug'anda (Lugard's). Yellow, brown, velvety.
German S.W. Africa, 1904.
"'" 'lu'nti (Lunt's). S. Arabia.
"'" 'mar'lo' (Marloth's). Green, dotted violet-brown.
S. Africa, 1903.
"'" 'sim'o'nis (Simon's). Closely allied to C. europa'ea.
Syr. BOUCEROSIA SIMONII.
"'" 'spre'gen'eri (Sprenger's). Gold-bronze, with white eye. Abyssinia, 1893.
"'" 'tor'sia (twisted). Brown-purple. S. Arabia or Socotra, 1900.
"'" 'umb'e'la (umbellated). See BOUCEROSIA UM-BELLATA.
CARAMBOLA-TREE. Aver'o'ha a Carambola.
CAR'ANDAS. Car'ss. A Carandá.
CARAPA. (From Carape, its name in South America. Nat. ord. Meliádi [Meliaeaceae]. Linn. 10-Decandria, 4-Monogynia.)
The flowers are small, but numerous; and, like the rest of the Meliádi, this genus possesses bitter astringent and tonic qualities. Stove trees. Cuttings of ripened shoots in sand, under a glass, and in bottom-heat; loam and peat. Summer temp., 60° to 85°; winter, 55° to 60°.
C. guian'es'na (Guiana), 20. Yellow. Guiana, 1824.
"'" 'guinan'es'na (Guinea). See C. PROCERA.
"'" 'molu'ces'na (Moluccas). 20. Yellow, E. Ind., 1820.
CAR'AWAY. Ca'rum Ca'rii.
CARDAMINE. Lady's Smock. (From hardamon, watercress; referring to the acrid flavour. Nat. ord. Cruciferae (Crucifers). Linn. 1753. Tetaerodynamia. Allied to Arabis.)

Like the rest of the Crucifers, Cardamine is antiscorbutic and stimulant. All that we describe are hardy herbaceous perennials, except C. thalictroides and C. greac, which are annuals; seeds in any common soil, provided it be moist; the herbaceous and marshy plants by division; marshy, peaty soil. C. alpina (alpine), 1. White. April, Europe. 1656.


CARDAMOM. *Elettra ria Cardam'omum.*

CARDIAN'DRA. (From hardios, the heart, and ater, an anther; in reference to the heart-shaped anthers. Nat. ord. Composites [Asteraceae]. Linn. 1753. Tetaerodynamia. Allied to Arctium.)

Shrubs requiring treatment like Hydrangea hortensis, and protection in severe weather. C. alternifolia (alternate-leaved). White and lilac. Japan. 1866.


CARDINAL FLOWER. *Lobelia cardinalis.*

CARDOON. *Cy'nara Cardu'nnus.* The stalks of the inner leaves, when rendered tender by blanching, are used for soups, salads, and conserves.

Soil and Situation.—A light, rich, unshaded soil, dug deep, and well pulverised, suits it best.

Time and Mode of Sowing.—Sow at the close of April, those plants raised from early sowings being apt to run; for a late crop, a sowing may be performed in June. Best practice is to sow in patches of three or four, six inches apart, in rows four feet apart, to be thinned finally to one on each foot. In the scallops, the seeds may be sown, if, however, they are raised in a seed-bed, they will be ready for transplanting in about eight or ten weeks from the time of sowing, and must be set at similar distances.

The bed for their reception must be dug well, and laid out in trenches, as for celery, or a hollow sunk for each plant; but, as they are liable to suffer from excessive wet, the best mode is to plant on the surface, and form the necessary earthing in the shape of a ridge. Water abundantly at the time of planting, as well as subsequently, until the plants are established. They also need much water in August, if dry weather occurs. If regularly every other night, as this is found to prevent their running to seed. When advanced to about eighteen inches in height, which, according to the time of sowing, will be in August and September, the leaves must be closed together. Hay bands were formerly used, but any old woollen material is better, and then earthed up like celery. It must be done on a dry day. As the plants grow, use more binding and more earthing, until blanched about two feet high. The blanching is completed in about eight or ten weeks. If litter is thrown over the tops during severe weather, the plants will continue good through the winter.

To obtain seed.—Being a native of Candia, seed in this country seldom comes to maturity; but, in dry seasons, a few plants may be set in a sheltered situation of the April sowing, not earthed up, but allowed the sheltered part to become evergreen frosts. The flowers make their appearance about the beginning of July, and the seed should ripen in September.

CARDOPATIUM. (Nat. ord. Composita.)

A nearly hardy, perennial Thistle for the back line of borders. It should have some dry leaves placed round or over the crown in winter to protect it from severe frost.


Notwithstanding the proverbial weediness of Thistles, there are some handsome garden-species among them. All hardy, Seeds or divisions; common soil. There are many which may be known in what is termed the "wild garden," and they make a most effectual display.

Annuals.

C. leucol graphus (white-painted). See Tyrrimus leucog.-graphus.

**Biehuiatua.**

C. alta his (winged). See Jurinea alata, "ca'nidias (hoary). See C. collinus.


Vérdii (Verdis'). 2. Red. Spain, 1877.

**Herbacous Perennials.**


Arron-le'afus (atriplice-leaved). See Serratula atriplicifolia.


me'dius (intermediate). 2. Purple, June, Piedmont, 1819.


orienta'lis (eastern). See Cusonia carduiformis.

parvifo'lus (small-flowered). See Cnicus parvifo'-

florus.

podaca'nilus (foot-spined). See C. aureusicus.

pyconos'phalus (dense-headed-Italian). See C. tenui-

florus.


**CA'RECA.** Sedges. (From kuro, I cut; in reference to the sharp, hard edges of the leaves, which cut the hands when pulling them. Nat. ord. Cyperaceae.)

All are hardy, except where otherwise mentioned. They are often raised for the herbs with narrow leaves, and include a large number of species, but only the more ornamental or useful are mentioned here. The hardy ones are of easy cultivation in ordinary garden soil, but C. pendula is most useful for the edges of ponds. The greenhouse ones are grown chiefly for their ornamental foliage. The variety known in nurseries as Carex japonica varie-

gata is extensively grown for market, and makes a neat living-root for the small fancy pots. The ordinary green form is also appreciated, although the proper name is C. brunnea. It is always known in nurseries as C. japonica.

C. batsan'sis (barded). Fruit coral red to purple. Trop. Asia (Ceylon, Ceylon. 1822.

C. bruna'na (Brownian). Foliage graceful. India, Japan, 1822.


**CARISSA.** (From caris, a celebrity. A celebrated divine and Indian linguist, who devoted his leisure hours to gardening and botany. Nat. ord. Myrsinaceae). Linn. 16-Monadelphus, 8-Polyandria.)

These splendid plants are fit associates to Barrantinoa and Gustavia. Stoke-plants, from the East Indies; cuttings, and dividing the roots; sandy loam one part, to two parts fibrous peat, with pieces of charcoal, and plenty of charcoal, and careful watering. Summer temp., 60° to 85°; winter, 55° to 60°.


**CA'RIA.** Papaw-tree. (Named from an erroneous idea that it was a native of Caria, Nat. ord. Papavades (Passifloraceae). Linn. 22-Diosc. y-Decandria.)

One of the tropical fruits grown in our stoves, more for curiosity than for care. The Papaw fruit (C. Papaya) is eaten, when cooked, in some parts of South America, but not much esteemed by Europeans. Stove trees; cuttings, ripe shoots in sandy soil, in close case, with bottom-heat, and in sweet, rich, loamy soil. Summer temp., 60° to 85°; winter, 50° to 60°.

C. auranti'aca (orange). Colombia, 1873.


cundinamarca'nis (Cundinamarcan). See C. Canda-

marchensis.


gd c'ica (C. Candamarcan). 1870.

hastato'lia (half-lobed). See C. querificolia.


purific'o'la (pear-shaped). See C. Posopora.

quercifo'la (oak-leaved). S. Amer.

senega'nona (Senegambie). 20. Whitish-green, 1821.

**CARICATE PLANT.** Gastrophyllum homo'te.

**CARISSA.** (The derivation is not ascertained; but krishna-paphphala is the Sanscrit name of C. Carin'adas. Nat. ord. a section of Dogbanes [Apocynaceae]. Linn. 5-Pentandria, 10-Diandria.)

The milky juice of this and others in this order of Dogbanes is manufactured into india-rubber. The fruit of C. Carin'adas furnishes a substitute for red-currant jelly. That of G. grifon'is is used for making jams, &c., in South Africa. Stove trees and shrubs; cuttings of ripe wood in sand, under a glass, in bottom-heat; and pea and loam. Summer temp., 60° to 85°; winter, 50° to 65°.


CARLINA
From Composites [Compositea], Linn. 19-Syngenesia, 1-Epilales, &c., 1790.

Herbaceous perennials, except where otherwise specified. Seeds of annuals in April; and seeds of divisions of perennials. The Cape species requires protection. Common soil.


C. actalis (stemless), 1. White, June, Italy, 1850.


C. cibicornis (bearing flowers), See C. acaulis, 2. Purple, August. Humboldt, 1826.


C. lanata (woolly), 3. Purple, June, South of Europe, 1863. Hardy annual.


C. simplex (unbranched), See C. acaulis, 1818.

C. vulgaris (common), 1. Yellow. August, Britain.

C. auriculae (stemless), See Cayet-Mudese, 1819.

C. angustifolia (narrow-leaved), See Cyclanthus, 1856.

C. plumieri, 1840. arbovirens (dark green), Colombia.

C. p. Medusae (Medusa’s head), White, thready, Peru, 1865.

C. Drudei (Drude’s), 4. Cream. Colombia, 1877.

C. elegans (elegant), Leaves fan-shaped, 3 ft., across. 1819.


C. Evergreen climber.

C. Gardineri (Gardner’s), Brazil.

C. Gabelli (Gobel’s), Similar to but much taller than C. latifolia, 1905.

C. guillirens (dwarf), Peru, 1869.


C. Evergreen climber.

C. lanceolata (lance-leaved), Pale yellow, Guiana, 1818.


C. lauchaena (Lauchean), Antioquia, Colombia, 1893.

C. micans phala (small-headed), 13. Pale yellow, with white, white threads, Costa Rica, 1887.

C. morindacea (Moritrian), Colombia.


C. palmosifolia (Palm-leaved), See C. Plumieri, 1819.

C. plicata (plaited), Colombia.

C. Plumeri (Plumer’s), W. Ind. 1889.


C. CARMICHAELII. (Named after Capt. H. Carmichael, author of the Flora of Tristan da Cunha, Nat. ord. Leguminosae, Plantas [Leguminosas], Linn. 17-Dialphylle, 4-Decandria, 1819. All the leaves are spiny; greenhouse evergreen shrubs; cuttings of side-shoots under glass, in sand, in April or May; sandy peat, and a very little fibrous loam. Summer temp., 55° to 65°; winter temp. 65° to 75°. New Zealand.


C. Enyi (Enyi’s), 17. New Zealand, 1884.

C. flagelliformis (whip-formed). New Zealand.

C. gynostegia (flowering-large-flowered). New Zealand.

C. Kiri (Kiri’s), New Zealand.

C. muelleriana (Muellerian), White, lined purple. New Zealand, 1887.

C. odorata (sweet-scented), White. New Zealand, 1902.

C. uniflora (one-flowered), 3. New Zealand, 1884.

CARLISONS (Dianthus Caryophyllus). The Carnations may be divided into several groups, but with so much cross fertilization it becomes a little difficult to draw distinctions, yet we may take some of the most distinct groups. As will be seen in Gardner’s Dictionary most attention is given to what are known as Border varieties, but we now have American varieties, our English Tree varieties, Malmaisons, Marguerite varieties, and other sub-divisions, such as Picotee varieties.

Taking the various types we may first refer to the English border sorts, of which the old English clove is a good type, but there are many others of various colours. The chief distinction is the type is that they flower from the previous year’s growth, and it is rarely that the side-shoots throw up flower spikes until the following year. Dealing with these separately, the best method of propagation is by layering. This should be done early in the year, and when the side-shoots are long enough to handle properly. All the lower leaves should be cleared off, and a cut made from the underside of the shoot, being careful to make the incision through a joint. Some old potting soil, or light, sandy loam should be put round the plants, the layers pegged down into it. The cut should be opened, so that the soil gets into the wound. If the weather is dry, surface watering may be necessary, but it should not be given too liberally. In years gone by a good many were grown and layered in pots, and for Show purposes were sometimes distinguished as Sells, Showes, Plants, Bazarres, and Picotees, the last being the most distinct, and are often catalogued as Picotees, without adding Carnations. We have often been asked to give the distinctions of the different sorts, and we have tried to do so, and give the names by which they are commonly referred to the petals. The ground colour may be white or yellow, and the edging pink, red, purple, or other shades, but the colour must not run down in stripes. Those with irregular markings are termed Fantas; those with broad stripes are termed Flaked varieties, and the Bazarres are those with two broad distinct colours running down the petals. All of the above are of similar habit of growth, and should be propagated by layering, yet in a few instances, where the growths are numerous, cuttings may be taken, which will root in a cold, closed frame in the autumn. All layers or cuttings should be potted singly, and kept in a cold frame kept in a closed frame during the winter, the lights being taken off in mild weather, and those intended for planting out may be put into the ground as soon as the weather permits after the middle of February. See that the ground is free from wire-worms; give a good dressing of well-rotted manure with which may be incorporated some soot, and press the soil fairly firm, but do not plant while the ground is very wet, as the independent done under the condition of the soil when planting, and care should be taken that the plants should not dry in the pots at the time of putting them in. The same instructions should be observed when grown in pots, care being taken that the soil is not cold when potting in the winter time. Malmaisons,—These are a distinct race, of which the original Souvenir de la Malmaison was the first type. This was introduced somewhere about fifty years ago;
and is distinguished by having short and sturdy growth; the flowers are large, with a very short calyx, and in the true type they are remarkable for producing a second and often a third flowering season; they can hardly be recognised as belonging to the true form. Those of Hybrid origin may be propagated from cuttings, and we have had good results from cuttings of the true old variety, but not as a rule so reliable, and may better plants. All of this section should be grown under glass, and flower from May until July. Plenty of pot room with good drainage should be given, and if the loam is heavy strong acid it may be advisable to use Perpetual flowering Carnations.—Originally this type came from the Continent, and after growing them for some time we had English varieties added. These were of dwarf habit, but not such consistent flowerers, yet we had some good dwarf sorts, which flowered well through the winter, of which Miss Joliffe and Winter Cheer are good examples. There were also other good sorts, while the tall-growing continental varieties were neglected, and it was not until the Americans, who had worked on the old stock, and sent over some improved varieties, that we went back to those with the fringed edges. Now the Cross-Fertilisation Club now recognise the merits of this type, Mrs. T. W. Lawson was the first of the American varieties to gain favour; since then we have had many others added. We must include the Carnations. It is a very useful class we have, yet Enchantress, White Perfection, Robert Craig, President Roosevelt, and Harlowwarden may be given as examples of the best of the early types, and to these should be added the Moderns, being one of the finest scarlets, Carola the finest crimson; there are also a good many others, but as we get some new many varieties added from year to year, it will be better to only refer to the distinct types.

In the culture of all the winter-flowering sorts, strong, short-jointed cuttings are of the first consideration. These may be had any time from October until March. They are Hybrids, and are probably connected with the Indian Pink; they should certainly be treated as Annuals. One of the greatest faults is that they seed freely, and as soon as fertilisation takes place the petals wither. We have found this to be the case when fertilising other Carnations.

Seeding.—Careful cross-fertilisation will usually produce satisfactory results. Take a plant of good habit, and from this pollinate a flower of a better colour, of a similar but brighter shade, and good results will follow. Indiscriminate crossing of colours will be sure to result in failure. Seed from the first flowers that open there will be no cross, and cut all others off as soon as they appear. When seed early in February place the seed pots where they get plenty of light, but not the direct blaze of the sun. Prick off as soon as large enough to handle, and pot singly before the roots get much matted together.

Insect Pests and Diseases.—Green-fly (or aphis) give some trouble, but the frequent syringing with clear, soot water whilst the plants are outside, and a thorough fumigating as soon as they are in the house will go a great way towards keeping them clean through the winter. Red Spider is sometimes troublesome in spring, but by using the syringe freely at night, and ventilating early in the morning, it is sometimes kept down; this also will do much towards keeping other troubles off. It is the dry nights and hot mornings that cause much mischief. These conditions also encourage the development of mildew, &c. Regular attention to watering, ventilating, and good soil are the chief essentials towards success in Carnation culture.

CAROLINA. Pachira. (Named after Sophia Caroline, Margravine of Baden, Nat. ord. Sterculiaceae, 16-Monadelphia, 8-Polyandria, Allied to Adansonia.)

Stove trees. Cuttings of ripened wood in sand, under glass, in heat; rich, loamy soil. Summer temp. 60° to 8°; winter, 50° to 55°.

C. a'iba (white), See Pachira ALBA.
C. ins'ignis (less), See Pachira MINOR.
C. Prin'cepis (princely), See Pachira AQUATICA.

CARPENTERIA. (Named in compliment to Professor Carpenter of Connecticut, a botanist of the old school, Nat. ord. Saxifragaceae.)

A handsome, erect shrub, hardy in the more favoured parts of the south and west of the British Isles, and against a wall inland and farther north. It is also suitable for the greenhouse or conservatory, either in pots or in the greenhouse. Seeds and cuttings in a gentle heat, Ordinary soil.


CARPEGHORUS. (From Caryphous, dried shavings, and phonos, to bear; the bracts surrounding the head, Nat. ord. Composite.)


CARPIUS. Hornbeam. (From car, the Celtic for wood, and pix, a head; in reference to the wood being used to make the yokes of oxen, Nat. ord. Fagaceae [Cupuliferae]. Linn. 21-Menisacca, 5-Pent-Polyandria.)

C. Betul'us is the one only of the Hornbeams that is of much use or ornament; it is one of the best nurse-plants in young plantations, and for making fast-growing hedges. Hardy deciduous trees. Seeds sow when ripe, or kept in dry sand, until the following spring; suckers and layers for the varieties; layers for the common plants; but they are inferior to plants raised from seed. Common soil.

C. americ'ana (American). See C. CAROLINIANA.
C. betul'us (common), 30. April. Britain.
C. Corpin'fiza (Carpinifiza).
C. columnari'a (columnar). Upright.
C. marmora'ta (marbled).
C. pe'ndula (pendulous). Weeping.
C. purpur'aea (purple-leaved).
C. pyrami'dalis (pyramidalis).
C. su'bala (red-leaved).

"American Hornbeam."

See C. CARPINIFOLIA.
C. duri'sis (Duiunian). See C. ORIENTALIS.
C. laxifo'ria (lax-flowered). Japan.
C. Ostrya (Ostrya). See C. OSTRYA CARPINIFOLIA.
C. Tursczinn'owski (Turczaninow's). China.

CARPOCA'PSA POMO'NELLAE. (From the Codlin Moth.
Each grower of the apple knows how liable his fruit
is to be "worm-eaten." He finds basketfuls of "wind-falls" even in the calmest weather, and that the cause of the loss is a small grub, which has fed upon the pulp of the fruit; but how, when, or where these grubs got there he has not the slightest notion. As it is one of the most injurious of insects to one of our most useful of fruits, we shall give more full particulars than usual, borrowing them chiefly from Mr. Westwood's essay in the "Jamaica Journal" 23. The question is, the larva of the Codlin Moth, Carpocapsa pomonella of some entomologists, but Tinca pomonella, Pyralis pomona, and Tortrix pomonia of others. It is upon the furry parts of the apple, that the grub chiefly feeds.

When, however, it has nearly attained its full size, it feeds on the pips of the apple, which, thus attacked in its most vital part, soon falls to the ground. No sooner is the apple fallen, than it is attacked by the larva which it had previously gnawed. A hundred apples may be opened, and not more than two or three larvae observed within them; the orifice by which they have escaped being open, and not concealed by a little mass of brown grins, which is the case with those apples from which the larva has not made its escape. These little grins are the excrement of the larvae, which are also to be seen in the burrows formed by them within the apple. The grub is of a dirty-white colour, with a brown head, varied with dark-brown marks. The body is slightly hairy; the first segment and one or more of the middle segments are white; the other segments are of a pale colour, with about eight small tubercles on each; each of the anterior segments is furnished with a pair of legs; and there are a pair of long slender antennae at the top of the head. In this state it is of a dirty-reddish or flesh colour. The caterpillar wanders about on the ground till it finds the stem of a tree, up which it climbs, and hides itself in some little crevice or chink of the bark. The fall of the apple, the exit of the grub, and its wandering to this place of safety usually take place in the night-time. It gnaws away the bark a little and, having made a smooth chamber, spins a smooth, milk-white web, in which it lies quiet for a few days, and then, as the web begins to harden, it becomes a chrysalis; and in this state it remains through the winter, and until the following J une, when the moth comes forth, and is to be seen hovering round the young apples on a midsummer evening. The moth itself, of which we give a cut, of the natural size and magnified, is a very beautiful insect, about three-quarters of an inch in expasne: fore wings ash-brown, with very numerous, rather obscure, darker, transverse streaks, united into a broadish band towards the base, giving them a damasked appearance. On the hind border of the fore wings is a large reddish-brown patch, spotted, and surrounded with a golden ring. The hind wings are yellow. The moth lays its eggs in the eyes of the young apples, one only in each, by inserting its long ovipositor (egg-tube) between the dorsal veins of the leaf. On the day of the fall of the apple, the little grub gnaws a hole in the crown of the apple, and soon buries itself in its substance; and it is worthy of remark, that the rind of the apple, as if selected for the purpose, is thinner here than in any other part, and, consequently, more easily pierced. The apple most commonly attacked is the codlin. It will be evident, from the preceding details of the habits of this moth, that there are considerable difficulties in the way of its extermination. It is impossible, for instance, to be aware of the presence of the enemy within the fruit until the mischief is actually completed; and, in like manner, the appearance of the egg-tube when the moth leaves the fruit, is an habit of secreting itself in crevices of the bark, &c., is equally impracticable. The gathering up of the worm-eaten apples immediately after their fall, and before the enclosed caterpillar has had time to escape, cannot but, if attended with good effect, care, however, must be taken to destroy the larva, which would otherwise very speedily make their escape. The cocoons, also, may be destroyed in the chinks of the bark during the autumn and winter.

CARPODETES. [See USBON RECURVATUM.]

CARPODETES. Sweet Fishamin. (Derived from carpus, a fruit, and dino, I turn round; the fruit is curved. Nat. ord. Dogbanes (Apocynaceae). Allied to Carissa.)

A climbing evergreen for the stove. Cuttings of half-ripened wood in sand in a close case with bottom-heat. Soil, loam, peat, and sand.


CARPODON'TS LUCIDA. See UEBRICHUS BILUARDERI.

CARPOLYZA. (From karpos, a fruit, and lusua, rage; in reference to the three-celled fruit, or seed-pod, opening like the mouth of an enraged animal. Nat. ord. Amaryllid, family Amaryllidae.)

A very neat little bulb, with spiral leaves, and starry, pinkish flowers, having green tops, requiring the same treatment as Lais.

C. spiralis (pink). Cape of Good Hope. 1774.

CARI'IA. (A commemorative name. Nat. ord. Biraxelae, family Alii to Vella.)


CARRERIA. (Named after M. Carriers, an able writer and botanist. Nat. ord. Bixaceae.)

A hardy tree with the aspect of Ilesia polycarpa, but bearing a highly capsular fruit, Ordinaly soil. Seeds and cuttings.


CARROT. Dau'en Caro'ta.

Varieties.—Those with a long tapering root are named Long Carrots; and those having one that is nearly the size of the leaves, are called Shallot or Rooted Carrots. The former is employed for the main crops; the second, on account of their superior delicate flavour, are advantageously grown for early use, as for forcing. The Shallot is rarely seen in this country.

Horn Carrots.—Early Red. Common Early, Dutch, for forcing. Long. This last is the best for the summer crop.

Long Carrots.—White Belgium, Yellow, Long Yellow, Purple, Long Red, Chertsey, and Surrey. Superb Green-topped, or Altringham. The last two are the best for main crops.

Soil and Situation.—Carrots require a warm, light, rich soil, dug full two spades deep. With the bottom spit it is a good practice to turn in a little well-decayed manure; but no general application of it to the surface should be allowed in the year they are sown; but a spot should be allotted them which has been made rich for the growth of crops in the previous year, or else purposely prepared by manuring and trenching in the preceding autumn. The fresh application of manure is liable to cause the roots to become too soft, and to expand themselves in fibres, as well as to be worm-eaten. If the soil is at all binding, it should be well pulverised by digging very small spits at a time. Pigeons' dung is a good manure for carrots.

Time and Mode of Sowing.—The first sowing for the production of plants to draw whilst young should take place in a moderate hothed (this was the old practice, but modern cultivators grow them under light constructed glass-houses), during January, and in a warm border at the conclusion of February, or early in March. At the close of the month, or, preferably, in the first half of April, the main crop must be regularly sown. Tho thinly, in drills eight inches apart for the horn, and ten or twelve inches for the long; and the beds not more than four feet wide, for the convenience of after-cultivation. No attempt should be made to cultivate them until the first parshes apart, and those to attain their full growth to ten. At the same time, the ground must be regularly hoed to keep down all weeds, and also to ventilate the soil. It is after
CARROT

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CARYOPTERIS

heavy rains, and as soon as the surface is sufficiently dry that hoeing is most beneficial. Never tread on the ground while it is very wet. The crop to stand through the winter should, in frosty weather, be sheltered with a covering of litter, as, if it occurs with much severity, it often rots the roots. The hoethow should last not less than three inches apart. At the close of October, or early in November, as soon as the leaves change colour, the main crop may be dug up, and laid in alternate layers with sand, for storing. This is advisable to do while the tops and any adhering earth must be removed. A dry day should always be chosen for taking them up.

To obtain Seed.—Leave some where raised; but, if this is impracticable, some of the finest roots should be selected, and their tops not cut so close as those for storing. These, likewise, must be placed in sand until February or March, then to be planted out two feet asunder in a stiff, loamy soil. Those left where grown, or those planted at the close of autumn, must, during frosts, have the protection of litter—to be removed, however, during mild weather. As the seed ripens in August, the seed should be thinned to avoid brownish mould, which should be cut, otherwise much of the seed is often lost during stormy weather. It must be thoroughly dried, by exposure to the sun and air, before it is rubbed out for sowing. Four-course, previously to do which the tops and any adhering earth must be removed. A dry day should always be chosen for taking them up.

CARROT MAGGOT. (Pisida rosea). The parent fly is dark, with a metallic-green lustre, and rather hairy; head, reddish-yellow; legs, yellow; wings, very transparent. Very much resembles the Anthomyia. The grub, or maggot, is cylindrical and yellow; it has holes in the main root of the carrot. This underground enemy of the carrot is said to be banished by mixing spirits of tar with sand until saturated, and applying it to the soil previously to digging, at the rate of about one gallon to sixty square yards; but we find trenching and manuring, as we have directed, a sufficient protective.

CARROT MOTH. See Depressaria.

CARTHAMUS. (From cyarthros, to paint, in the Arabic; referring to the flowers yielding a fine colour. Nat. ord. Compositae [Composite]. Linn, 19-Syngenesia, 1-Aequis.)

Hairy annuals. Seeds sown in April where they are to grow, or in a slight hotbed, in March, and then planted out; common soil.


C. arborescens. (See C. ARBORESCENS.)

C. carduus (blue). See C. CARDUELLUS CARUEUS.

C. Carduceus (little Cardoon). See C. CARDUELLUS MONSPENSIENSIS.

C. cretaica (Cretan). See C. CANONUS.

C. cyanus (Cyanus-like). See C. CANONUS CYANODERIS.

C. flavescens (yellowish). Asia Minor.


C. ludoviciana (smoother). See C. STORKSIA CYANAE.


C. pubescens (mildest). See C. CARDUELLUS MITISSimus.


C. spicatus (Taurian). See C. CANONUS.


CARTONEMA. (From karos, shorn, and nema, a filament; referring to the formation of the filaments, or threads, which support the pollen-bags. Nat. ord. (Umbelliferae).

Carpinus. [Commeinacae]. Linn. 6-Hexandria, 1-Monogynia.

Greenhouse herbaceous perennial. Seeds sown in slightly hotbed; light loam and sandy peat; requires the protection of a greenhouse, or a warm situation.


CA RUM. Caraway. (From cardia, in Asia Minor, where it was first discovered, Nat. ord. Umbelliferae [Umbellela]. Linn. 5-Pentandria, 2-Digyna. Allied to the weed Ammi.)

The seed of C. Carvi is our Caraway, esteemed for its aromatic properties. Seeds; open ground, in March or April. Common soil.


CARYUMBUM. See Homalanthus.

CA'RTA. Hickory. (The Greek name for the Walnut, so named on account of Carya, daughter of King, Dio of Laconia, said to have been changed by Bacchus into a Walnut-tree. Nat. ord. Juglandes [Juglandaceae]. Linn. 2-Monocotyledons, 2-Bib Nacional.)

This is the Hickory so celebrated in North America for the purposes of the cabinet-maker. Their best chairs they call their Hickories. Hardy deciduous trees. Seeds; the nut should be sown wide, large trees is intended to stand; may also be propagated from sprouts or by grafting on the ordinary walnut. Good, common soil.


C. compresa (compressed-fruited). See C. ALBA.

C. lacinio (jagged). See C. SULCATA.


C. occidentalis (reversed-heart-shaped). See C. CORINA OBCORDATA.


C. glabra (smooth). May.

C. galbra (smooth). May.


C. sulcata (whorl-leaved). April, 1804.


C. ma-sima (greatest fruited). 60. May.

CAR'YOCAR. Butter Nut. (From karyon, a nut; in reference to its fruit. Nat. ord. Ribosops [Ternstroceae]. Linn. 15-Polyandria, 4-Teatragynia.)

Two large flowers and edible nuts, constitute the whole of this small group. The Suwarow (Sauran) nuts of the shops are the produce of the C. nucifera. Oil not inferior to olive-oil is extracted from the kernels. Cuttings in sand, in heat, under glass. Loam and peat, Summer temp., 60° to 80°; winter, 50° to 55°.


CARYOPHYLLUS AROMATICS. See Eugenia CARYOPHYLLATA.

CARYOPTERIS. (Derived from karyon, a nut, and pteron, a wing; because the fruits are winged. Nat. ord. Verbenaceae.)

Nearly hardy shrubs, and should be planted in sheltered situations. Seeds, suckers, divisions, layers, or cuttings. Ordinary soil well drained.


C. adnax (grayish). Gray foliage.


CARYOTA. (From karyon, a nut. The Greeks first applied this name to their cultivated Date. Nat. ord. Palms [Palmae]. Linn. 21- Monocotyle, 9-Polyandra.) A noble member of a noble family of plants, most valuable because the nuts thereof are the best for food. C. urenis furnishing a highly nutritious sago, besides abundance of palm-wine, or toddy. Stove trees. Seeds; rich, sandy loam and peat. Summer temp. 60° to 85°; winter, 55° to 60°.


"Blanci' (Blanco). Philippines.


d'Anges (elegant). See C. Mitis.

"limba'ta (large-leaved). Java.

ho'rrida (horrid). See Bactris Caryotæfolia.

majæ'tica (majestic). Malaya and Australia.


obis'sa (blunt). Himalayas.

ocha'andalone. China.


CASCADE, or WATERFALL, is agreeable only when properly associated with the scenery around. That association is produced by a group of detached plants, as a cascade. Nothing is more misplaced or tasteless than a sheet of water falling into another uniform collection of water, in an open, unwooded plain. The roar of a cascade belongs only to larger streams; but it may be introduced by a rivulet to a considerable degree, and attempts to do more have generally been unsuccessful: a vain ambition to imitate nature in her great extrava-gances betrays the weakness of art. Though a noble river throwing itself headlong down a precipice be an object truly magnificent, it must be confessed that in a single sheet of water there is a formality which its vastness and declivity, but not the breadth, is the wonder. When it falls no more than a few feet the regularity prevails; and its effect only serves to expose the vanity of affecting the style of a cataract in an artificial cascade. It is less exceptionable if divided into several parts, for then each separate part may be wide enough for its depth; and, in the whole, variety, and not greatness, will be the predominant character. But a structure, however, elaborate, diverse rocks cannot easily be contrived of strength sufficient to support a great weight of water. It is sometimes, from necessity, almost smooth and uniform; and then it loses much of its effect. But the falls in succession descend to one greater cascade, which, in figure or in motion, approaches to regularity.

When greatness is thus reduced to number, and length becomes more importance than breadth, a rivulet vies with a river; and it more frequently runs in a continued declivity, which is very favourable to such a succession of falls. Half the expense and labour which are sometimes bestowed on a large cascade, may be given at the best, a forced precipitancy in any one spot only, would animate a rivulet through the whole of its course; and, after all, the most interesting circumstance in falling waters is their sound; let it descend with surprise, but all surprise must cease; and the motion, the agitation, the rage, the froth, and the variety of the water are finally the objects which engage the attention. For these a rivulet is sufficient; and they may there be produced without that appearance of effort which raises a suspicion of art. To obviate such a suspicion, it may sometimes be expedient to begin the descent out of sight; for the beginning is the difficulty. If that be concealed, the subsequent falls seem but a consequence of the agitation which characterises the water at its first appearance; and the imagination, at the same time, lets the spectator extend the cascades.

CASCARILLA BARK. Croton Elateria. CASEA'RIA. (Named after J. Casearius, the co-adjectur of Rheeze in producing the Hortus Malabaricus. Nat. ord. Samyds [Samydas]. Linn. 10-Decandria, 1-Monogynia.)

Stove evergreen trees, chiefly valued for their astringent and medicinal qualities. Cuttings in sand, under a glass, in heat, Light, sandy, fibrous loam. Summer temp. 60° to 85°; winter, 50° to 60°.


"parbo'lla (small-flowered). See C. Sylvestris.


Martinique. 1827.


Guiana. 1824.


Jamaica. 1818.


CA'SHEW NUT. Anac'rahum occidentale.


CASPA'CREA SPECIO'SA. See Bahminia petitolata.

CASSANDRA. (A mythological name. Nat. ord. Ericaceae.) Hardy shrubs for the American garden, and much benefited by a liberal use of peat in the soil.

C. angustifolia (narrow-leaved). See C. calycula'ta, small-calycyad. 1 to 2. Pure white.

April. N. Amer. 1748.

CASSA'VA. Ma'ni'kot utis'sima and M. At'pi.

CASSE'BAEA. (Nat. ord. Farns [Filices]. Linn. 24-Cryptogamia, Allied to Pteridaces. See Divisions; peat and loam; hardy greenhouse and stove treatment, according to their native locality.


Hardy.


Stove.


Stove.


Hardy.


CA'SSIA. (From the Greek name of a plant, 'kassian the Bible. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decandria, 1-Monogynia.)

C. lanceolata's produces the true Alexandrian senna-leaves; and C. angustifolia yields the Arabinian senna. The plant is a native of Tropical Africa, and from it is obtained the true senna of Mecca. C. oblonga furnishes the Alope senna; and in America they use the leaves of C. marils'acta as a purgative. Allied to Cassilpina. Annuals and biennials by seed, sown in March or April, in heat; the biennials by cuttings, in April, of half-ripeden shoots, in heat. A few will thrive in the greenhouse; but most of them require stove treatment in winter; that is, a temperature of from 50° to 60°; and where there is much room they deserve it.

ANNUALS.


Stove.


Stove.

"Nubian Senna.

"aschyno'mene (eschynome). See C. Mitmosiiides.

"angusti'ssima (narrowest-leaved). See C. Mitmosiiides.

"d'aspera (rough). See C. Nicfians.
C. Bum'ra-ni (Burmann's), 1. Yellow, June, Cape of Good Hope, 1850. Half-hardy.

Cassia

Cassia

175

Yellow.

India.

June.

1816.

perennial.

1826.

June.

an

BICAPSULARIS.

Half-hardy.

(zigzag-stemmed).

RETICULATA.

Yellow.

4.

Yellow.

C.

LEVIGATA.

Yellow.

June.

July.

Panama.

Hardy.

Guiana.

Mad-

(narrow-leaved).

1820.

E.

(soft-haired),

4.

Yellow.

MDLTIJUGA.

July.

ACUTIFOLIA.

Australia.

See

Amer.

Mexico.

3.

See

OCCIDENTALIS.

C.

SOPHERA.

Yellow.

(twisted).

July.

(Tagera).

emargina'ta

(Houston's).

C.

N.S.

like).

See

3.

N.

1820.

July.

(smooth).

Good

1825.

1803.

Yellow.

Yellow.

i.

(Sophera).

Ind.

See

August.

See

HISPIDULA.

Yellow.

(Parker's).

Yellow.

(Senna).

1816.

elli'ptica

DIDYMOBOTRYA.

MIMOSOIDES.

i.

(Sophera).

Ind.

See

i.

Chili.

"C.

(Senna).

1820.

July.

(aval-leaved).

See

C.

15.

3.

C.

HERBERTIA.

Yellow.

1824.

撐

11.

C.

1817.

Yellow.

1822.

12.

Yellow.

Stove.

September.

1796.

(Ywallich's).

1777.

5.

Burma'nni

SOPHERA.

C.

(Senna).

1812.

C.

1814.

Yellow.

1822.

C.

1800.

Hardy.

1803.

Yellow.

Yellow.

C.

(Yellow).

July.

1731.

2.

June.

1817.

Yellow.

Yellow.

1806.

N.

P.

1828.

Yellow.

C.

1820.

July.

C.

2.

June.

SOPHERA.

C.

1739.

C.

1818.

Yellow.

Yellow.

C.

1732.

Yellow.

Yellow.

C.

1810.

Yellow.

Yellow.

C.

1700.

Yellow.

Yellow.

C.

1778.

Yellow.

Yellow.

C.

1818.

Yellow.

Yellow.

C.

1781.

Yellow.

Yellow.

C.

1824.

Yellow.

Yellow.

C.

1800.

Yellow.

Yellow.

C.

1818.

Yellow.

Yellow.

C.

1789.

Yellow.

Yellow.

C.

1821.

Yellow.

Yellow.

C.

1828.

Yellow.

C.

1803.

Yellow.

Yellow.

C.

1824.

Yellow.

Yellow.

C.

1818.

Yellow.

Yellow.

C.

1796.

Yellow.

Yellow.

C.

1824.

Yellow.

Yellow.

C.

1821.

Yellow.

Yellow.

C.

1828.

Yellow.

Yellow.

C.

1828.
CASTANOPSIS. (From Castanea, a chestnut, and opes, resemblance. Nat. ord. Cupuliferae.)

C. chrysophylla is a dwarf evergreen bush, hardy in the south, propagated by seed or cuttings in ordinary soil. C. indica may be increased by cuttings in a close case or by imported seeds.


CASTANOSPERMUM. Moreton Bay Chestnut. (From castanea, the chestnut, and sperma, a seed. Nat. ord. Leguminosae [Leguminosae]. Linn. 15-Decandria, 4-Monogynia. Allied to Sophora.)

Greenhouse evergreen; seeds when procurable; layers and cuttings; deep, loamy soil; greenhouse or conservatory wall.


CASTELLA. (After a name known to Spanish botanists of that name, Nat. ord. Fagaceae [Scrophulariaceae]. Linn. Didynamia. 2-Lo-Deandria, 1-Monoecia. Allied to Eu-philus.)

The stove species by cuttings of half-ripe shoots in sand, in bottom-heath, under a glass, and in bottom-heat; pot soil and loam. Summer temp., 60° to 85; winter, 50 to 55°.


CASTILLEJA. (Named after a Spanish botanist of that name, Nat. ord. Fagaceae [Scrophulariaceae]. Linn. Didynamia. 2-Lo-Deandria, 1-Monoecia. Allied to Eu-philus.)

The stove species by cuttings of half-ripe shoots in sand, in bottom-heath, under a glass, and in bottom-heat; pot soil and loam. Summer temp., 50 to 55°. Hardy species, seeds and divisions of the roots; peaty, sandy soil.


C. clandestinas. (From clandestinas. Mexico, 1825. Prostrate stove evergreen.


CASUARINA. Beechwood. (Supposed to be derived from the resemblance of the long, weeping, leafless branches to the drooping feathers of the Cattowary. Nat. ord. Casuarinaceae. Linn. 21-Monocotylidonea. 1-Deandria, as possible.)

This is the "Native Oak, or Beechwood" of the Australian colonists, and probably the most singularly picturesque tree of the Australian flora. Large trees, with weeping branches, the individual branches being jointed like a bamboo, and streaked between the joints, having no leaves, and the bark resembling that of our Oak, and of the colour of raw beef, whence the colonial name. Cattowary are extremely fond of the young branches of the Beech (C. quadrivittata), and the colonists chew them to allay their thirst. From what we know in this country of C. eusitio/ia we would rank the Beechwoods as the most remarkable in a winter conservatory. Greenhouse evergreen. To have cuttings of half-ripened shoots, in April, in sand, under glass, not as our Oak, with a portion of sand, and lumps of charcoal. Summer temp., 55° to 70°, winter 40° to 45°. They should be sown in a light place or kept places out of doors, especially in the south of England.


S. Sea Islands. 1776. "furnualus" (fuscus). (From furnula, a Beechwood in the south of England.)

C. quadrivittata (four-valved). See C. STRIATA.


C. plumosa (corky), Australia. 1825.

C. lutea (slerenderet). See C. LUTEA.


CATAKIDZICA MIA. See Macrozamia.

CATALPA. (The Indian name, Nat. ord. Bignoniad (Bignoniaceae). Linn. 2-Disan-dria, 1-Monoecia.)

The North American species by seeds sown in spring, root-cuttings in autumn, and cuttings of half-ripened shoots in autumn; deep, rich loam. The West Indian species by cuttings of the ripe shoots in heat, and in a usual street-treatment. C. bigonioide" (Bignonia-like). 25 to 30. White, spotted red. N. Amer. 1798. Varieties of this are Avena (golden-leaved), foliis argenteis variegatis (silver variegated), grandiflora (large-flowered), Kanuri (leaves yellow edged), dracaena (leaves yellow). 1912. "Bungei" (Bunge's). Green, yellow, red, China. "heterophylla" (variable-leaved). See C. heterophylla.


"purpurea" (powdered). Leaves speckled with white. 1910.

C. palmata (Kampferi, Garden hybrid.

C. duplex (Dulcova's). Rose, 1907.

C. fargesii (Farges's). China.


C. Hermsii (Henry's). Flowers numerous, small, China and Japan, 1907.

C. heterophylla (variable-leaved). Flowers 3 to 5. N. China. 1907.

C. hybrida (hybrid). Hybrid between C. Kampferi and C. bigonioideus.

C. japonica (Japanese), Flowers white, fragrant, Japan, 1907.

C. Kampsii (Kampferi). Flowers and leaves smaller than C. bigonioideus, Japan.

C. lanceolata (yellowish). 1907.

C. orientalis (purple-leaved). 1907.


C. spicata (showy). See C. cordifolia.


C. syringaefolia (Syringa-like). See C. bigonioideus.
C. syringaefolia teesia 'na (Teasian). Hybrid between C. Kampferi and probably C. cordifolia. 1897.


CATANANChe. (From katanakhe, a strong incenitive; in reference to an ancient custom among the Greek women of using it in love-potions. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 1-Equalis.

Division of the roots in March, and seed sown in April; common soil.


CATASE'TUM. (From kato, downward, and seta, a bristle; referring to the position of the two horns of the column. Nat. ord. Orchidæae. Linn. 20-Gynandra, i-Monandria.)

Stove orchids. Divisions; peat, moss, broken pots, and charcoal, elevated above ground, or in shallow, open baskets; a dry winter; a high temperature and moist atmosphere when making their growth. Summer temp., 60° to 90°; winter, 50° to 55°.


, albo-purpureum (white-purple). Allied to C. Bungerii. 1853.


, albium (white). White, with rose spot on lip. 1888.


, battatissimum (pottsian). Petals and lip spotted purple. 1887.

, Ra'dnii (Rand's). Yellow with apricot spot.


Chloranthum (green-flowered). Pale green, rosy blatches. 1804.

, Christia'num (Christian). Reddish-brown. green.

, chiro'rops (green-eyed). Green, with darker green lip. 1882.

, obscuredum (obscure). Blackish-purple. 1884.


, glaucoglossum (Glaucus). Greenish-yellow; lip fringed. Brazil. 1892.

, Claveringi'um (Claverings'). See C. macrocarpum Claveringi. 1840.

, collare (collared). Bright green, white, Venezuela. 1893.


, costa'tum (ribbed). Yellowish. 1887.


, costae'palum (narrow-sepaled). Purple, brown, green.

, darwinianum (Darwinian). British Guiana. 1888.


, ferox (fiery). Diety green outside, pea-green inside.


, Cogniaux'zi (Cogniaux's). White and rose-purple.

, f'sum (split). Green, purple-brown bars. 1881.

, Hayn'dei (Hayder's). Green, split.

, Laguna'li (Lagrel's). Black.

, platy'itrum (broad-winged). Pale green, spotted purple-brown. 1889.

, vori'culum (greenish). Green, spotted red-purple. 1889.

, finetia'num (Finetian). Whits, spotted purple. Bolivia. 1894.

, floribudum (free-flowering). See C. macrocarpum. 1837.


, balerium (hooded). Green, spotted brown, yellow. Colombia. 1886.

, phalacro'growth (thick-tongued). Lip square, thick. 1889.

, garnetia'num (Garnettian). Green, spotted chocolate-white, Brazil. 1888.


, C. (Gomus) (Gomus). Brazil, 1877.


, incus'rum (incurred). Green, purple. Peru. 1855.

, imperia'te (imperial). See C. splendens.

, imsecho'tium (Imsechootian). Yellow, tinged green. Brazil. 1893.

, integre'rrum (entire-lipped). See C. maculatum.

, labiata'num (lipped). Green, Male subglobose. Female, with spreading segments. Brazil. 1908.


, lehme'rii (Lehman's). Green, orange-yellow. Colombia.

, Lebansi (Lemos'). Brownish-yellow, green. Brazil. 1804.

, Liechtensteini'ni (Liechtenstein's). Green and brown. 1802.


, ba'riorum (bicolor). Brazil. 1838.

, macrocarpu'm (large-fruited). Brown and purple. Guiana.

, atropurpureu'rum (dark purple). Demerara. 1892.

, aurum (golden). Brown, spotted purple. 1886.

, bell'i'num (pretty). Brown, spotted purple. 1886.

, Claveringi'ei (Capt. Claverings'). Yellow, brown. Brazil. 1822.

, floribudunum (free-flowering). Yellow. Trinidad. 1824.

, luteo'pus (yellow). Pale green, rose, orange.

, aurum (red). Red. 1805.

, viridiflorum (green-flowered). Green, May. Demerara.

, macrocarpum (large-tongued). Ochre, green, yellow, brown, red.

, masculum (spotted). Green, spotted purple. Mexico.

, integre'rrum (entire-lipped). Guatemala. 1839.
C. maculatum intermedium (intermediate). A. Dr. Wilson's. 

" fusco-purpureum (yellow-purple),

" fusco-dum (brown), Greenish-yellow, red, 1885.

" mento sum (chimed). Brazil.

" Milleri (Dr. Miller's). 2. Purple-spotted. September, 1895.

" Macrocarpum, Natural hybrid resembling C. splendens Luciani, White. with June.

" maculatum (pale), Brazil, 1894.

" maculatum (red), Pale (half-rose). Blue green, 1837.

" macrocarpum (short-colored). See C. incurvum, Brazil, 1878.


" macrocarpum (wonderful). Brazil, 1894.

" macrocarpum (short-lipped). Brazil, 1881.

" macrocarpum (row-yellow). Brazil, 1895.

" macrocarpum (row-white). Brazil, 1897.

" macrocarpum (lighten-yellow). Brazil, 1894.

" macrocarpum (long-spotted). See C. macrocarpum. Brazil, 1897.

" macrocarpum (two-flowered). See C. macrocarpum. Brazil, 1897.

" macrocarpum (three-parted), Brazil, 1880.


" macrocarpum (striped). White, with many transverse bars. Brazil, 1895.


" macrocarpum (three-toothed). See C. macrocarpum. Brazil, 1897.

" macrocarpum (three-toothed). Flowers large, yellowish-green. California.

" macrocarpum (three-toothed). Flowers large, yellowish-green. Brazil, 1895.

" macrocarpum (three-toothed). Flowers large, yellowish-green. Brazil, 1895.

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" macrocarpum (three-toothed). Flowers large, yellowish-green. Brazil, 1895.
CATTHIA. (Nat. ord. Celastraceae.) A green or orange-scarlet shrub. Cuttings in sand in a close frame with gentle bottom-heat. Fibrous loam, a little peat and sand.


CATHARANTHUS. See Vinca.


CAT-MINT. Nepeta.

CATOBASTUS. (From kata, near, and basilos, a sapling. Nat. ord. Pimpinellaceae.) Stove palm, with aerial roots supporting the stem. Seeds. Loam, peat, and sand.


C. aloides (Aloe-like). Mexico.


C. pendula (drooping). Mexico.


CATTLEYA. (Named after Mr. Cattley, a distinguished patron of botany, Nat. ord. Orchids [Orchidaceæ]. Linn. 20-Gynandra, 1-Monandra.) Stove orchid. Divisions. Moss, peat, and broken pots, either in shallow baskets, or raised above the surface of the pot. Summer temp., 60° to 90°; winter, 60°. The Cattleyas are not given so much heat as formerly. And it is found that a period of rest after new growths are developed is beneficial. It would be difficult to give times of resting, except to say that when growths are fully developed is the proper time to keep them rather dry and cool for a time.

C. abelia (Abelian). Creamy-yellow, speckled with purple. 1890.


C. am. no (salmon). Ground colour salmon-red.

C. alexandra (Princess Alexander’s). 1892. See C. Elogynata.

C. e. (elegant). 1892.

C. e. tana (dark). 1892.

C. h. (Alicia’s). White; lip deep rose. Possibly a natural hybrid.


C. b. (Bantian). Hybrid between C. labiata Trianae and C. I. Warscewiczii.
CATTLEYA

C. grisea (giant). See C. labiata Warscewiczii.

C. sanderae (Sanderian). See C. labiata Warscewiczii.

C. granulosa (granular-lipped). Pale greenish, spotted purple, Brazil, 1841.

C. aspera (rough). Brown, yellow, spotted purple, Brazil, 1842.

C. Banneri (Banne's). Sulfured bright lurid purple, 1846.

C. baysomii (Baysomian). Ivory white, 1890.

C. P. n. (chief). A dull-coloured variety, 1893.

C. russelliana (Russelian). Green, white, orange, 1839.

C. schofeldiana (Schofeldian). Greenish; lip white between purple blotches, 1887.

C. guatemalensis (Guatemalan). Dull purple and crimson, Guatemala, 1861.

C. wischhuseniana (Wischhusenian). Rose purple, brown, Panama, 1888.

C. Grossii (Gross'). Origin uncertain, 1897.

C. peloei (Peloe'). Nearly white; lip pale rose, 1886.

C. kelaartiana (Ketelee's). Blush-white and violet-rose, 1897.

C. leopardi (leopard-spotted). Spotted dark brown; lip white, purple-red, 1888.

C. Leopoldii (Leopold's). Yellow, crimson, Brazil, 1888.

C. lilacea (lilae). Pale lilac; lip whitish and purple, 1881.

C. musa (world). Greenish changing to yellow, spots on leaves, 1888.

C. odoratissima (sweetest scented). Yellow; lip white, Heliotrope scented, 1888.

C. pernambucana (Pernambucan). Greenish-yellow; lip with two yellow eye spots, Brazil, 1888.

C. hardya (Hardyan). Rosy mauve; lip crimson, with two yellow eye spots. Colombia, 1885.

C. Carnea (Carnean). Rose; lip yellow and magenta.

C. laversineae (Laversinian). Marbled purple; lip very dark.

C. Linnaea (Linnea). Lilac; lip and golden eye spots, 1895.

C. Luciai (Lucian). As large as C. labiata Warscewiczii.

C. Regni (Queen's). Sepals and petals straw-yellow, 1897.

C. Rex (King's). One of the darkest forms, 1906.

C. Harrisii (Harris's). Garden hybrid, 1887.

C. Harrisiana (Mrs. Harris's). See C. Loddegiessii Harrisonii.

C. harrisonsana (Harrisonian). See C. Loddegiessii Harrisonii.

C. Holstii (Holstian). See C. Lutzelia.

C. hybrida (hybrid). Garden hybrid.

C. imperialis (Imperial). See C. labiata Warscewiczii.

C. intermedia (intermediate-sized). I. Rose, white, April, Brazil, 1824.

C. angustifolia (narrow-leaved). I. Light purple, September, Brazil, 1836.

C. Aquifolia (Aquif). A peloric variety.

C. caesia (caesia). White, splendid; lip; carmine. Rio Janeiro, 1890.

C. Globosa (Globese). White, orange, 1883.

C. Florentina (Florentina). White, red-flowered; I. Light red, June, Brazil, 1833.

C. Parthea (virgin). White, 1888.

C. picta (painted). Splashed rose, striped purple, Brazil, 1888.

C. variegata (variegated). Much spotted, Pale rose, dotted purple, S. Brazil, 1891.

C. purpurea (purple-blocked).

C. intermedia variegata (variegated-lipped). I. White, red, May, Brazil, 1843.


C. intermedia intrica (intricate). Pale rose and purple, 1884.

C. maculata (spotted). Rose with spotted purples. Brazil, 1886.

C. iricolor (Iris-coloured). Sulfured, orange, violet, 1874.

C. intermedia (bedewed). See Lelia.


C. johnstoniana (Johnstonian). Of the same origin as C. ashtoniense, 1893.

C. harrisoniana (Harrisonian). Garden hybrid, 1894.

C. kimballiana (Kimballian). Rosy white; lip rich purple, Venezuela, 1887.

C. krameriana (Kramerian). Hybrid between C. intermedia and C. Forbesii, 1888.

C. labiata (lipped). Bright rose-purple; lip dark purple, Brazil, 1818.


C. longipes (there). (dark blood-red). S. Amer.

C. cattleyae (blue). Flower tinted blue all over, 1902.

C. cattleyae superba (superb). Richly coloured and of fine shape.
C. labia'ta chrysot'loma (golden). Sepals and petals bright yellow; lip golden veined crimson.

C. labia'ta chrysot'loma (Captain Dow's). Straw lip crimson-purple, Costa Rica, 1866.

C. labia'ta chrysot'loma (Dow's). Lip crimson-purple, Costa Rica, 1866.

C. labia'ta chrysot'loma (Eldorado's). White, lip purple, with orange blotch.

C. labia'ta chrysot'loma (Eldorado's). White, lip purple, with orange blotch, Brazil, 1869.

C. labia'ta chrysot'loma (El Dorado's croc'ta). White, with large orange blotch on the lip, 1886.

C. labia'ta chrysot'loma (Eldorado's Lindo's). Rosy, yellow, and richly coloured lip.

C. labia'ta chrysot'loma (Eldorado's Lindo's). Rosy, yellow, and richly coloured lip.

C. labia'ta chrysot'loma (Eldorado's Orna'ta). Adorned petals with dark purple tips. 1883.

C. labia'ta chrysot'loma (Eldorado's Orna'ta). Adorned petals with dark purple tips. 1883.

C. labia'ta chrysot'loma (Eldorado's Orna'ta). Adorned petals with dark purple tips. 1883.

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C. labia'ta chrysot'loma (Eldorado's Orna'ta). Adorned petals with dark purple tips. 1883.
**C. labia'ta Tri'ne ampli'ssima (amplest). Lip white, with red patch in front.**

**Tria'nee A'mna (Ann's).** Rosy-purple; lip dark purple.

**Tria'nee a'rie'ma (glowing).** Lip crimson-purple.

**Tria'nee a'rklea'na (Arklean).** Lip large, purple-crimson. 1895.

**Tria'nee Askle'pi (Ashton's).** Lip very broad and open. 1905.

**Tria'nee a'tra (dark).** Lip rounded, deeply coloured. 1896.

**Tria'nee broum'e'sa (Broomean).** Petals with amethyst-purple blotch at apex.

**Tria'nee broum'e'sa (Broomean).** Lip with glowing crimson blotch. 1893.

**Tria'nee Burford'ia (Burford).** Delicate rose; lip richly veined purple. Bahia. 1886.

**Tria'nee carnet'na (Carnelian).** Pure white; lip rich crimson-purple.

**Tria'nee chok'ko-no'ssa (Chocoan).** White; lip pale amethyst purple. Fragrant. 1873.

**Tria'nee chin'kaberrya'na (Clinkaberryan).** Large flowered variety. 1895.

**Tria'nee Cole'ma'ni (Coleman's).** Rosy-crimson. 1875.

**Tria'nee coo'tulindi'a (Courtaudian).** Lip violet-purple. 1899.

**Tria'nee delia'ci'da (delicate).** Flushed with delicate amethyst-purple. 1891.

**Tria'nee delici'o'ssa (delicious).** Lip purple-red. 1895.

**Tria'nee Dodg'so'ni (Dodge's).** Pink, crimson lip. 1882.

**Tria'nee do'lics (sweet).** Yellow blotch of lip surrounded by a pink ring.

**Tria'nee Emili'a (Emilia's or Mrs. Lee's).** Lip crimson-plum. 1884.

**Tria'nee e'mens (eminent).** Lip carmine-purple.

**Tria'nee Fascina'tor (Fascinator).** Pale violet, and thoroughly blended. 1890.

**Tria'nee festi'na (gay).** Lip deep red, the rest pink.

**Tria'nee form'o'sa (beautiful).** Lip rich magenta, with streaks of yellow. 1880.

**Tria'nee ful'gens (glowing).** Lip rich crimson. 1890.

**Tria'nee Grau'ssea (Mrs. Graves's).** Lip with a red blotch. 1893.

**Tria'nee hardya'na (Hardyan).** Nearly white; lip warm purple. 1879.

**Tria'nee Hol'mese (Holems').** Lip rich rose-purple.

**Tria'nee hoo'lea'na (Hoole Hall).** Lip wholly rich magenta.

**Tria'nee les'nna (Leean).** Rose, with pure white throat. 1884.

**Tria'nee maj'e'stica (majestic).** Lip red in front and at edge.

**Tria'nee mar'si'na (margined).** Lip rich crimson, edged white. 1890.

**Tria'nee Mar'si'a (Maria's).** Silvery-white; lip magenta-crimson. 1902.

**Tria'nee massae'ma'na (Massagean).** Warner's Orchid Album, t. 444.

**Tria'nee Memo'rio Lind'e ni (in memory of Linden).** Tips of sepals and petals purple-red. 1900.

**Tria'nee more'a'ma (Moreean).** Petals claret-coloured at the tip.

**Tria'nee Osma'ni (Osman's).** Mauve; lip purplish with pale edges. 1879.

**Tria'nee pale' (pale).** Wholly pale rose. 1890.

**Tria'nee Pop'a'yan (Popayan).** Lilac. 1884.

**Tria'nee purpa'ra (purple).** Lip rich magenta. 1890.

**Tria'nee reg'si'sa (tetal).** Lip wholly deep reddish.

**Tria'nee rasbin'gin (Rasblahian).** G. Chr., 1895, xvii., 167.

**Tria'nee ro'sa (rosy).** Rose. 1883.

**Tria'nee russe'll'a (Provest Russell's).** Lip large, deep magenta. 1886.

**Tria'nee scho'ro'deria'na (Baron Schroeder's).** Large; lip amethyst-purple. 1886.

**Tria'nee russe'll'a (Provest Russell's).** Lip large, deep magenta. 1886.

**Tria'nee splen'dens (splendid).** White; lip deep red.

**Tria'nee splen'di'ssima (most splendid).** White; lip deep purple-magenta. 1884.

*massaia*'na (Massaian). Mauve and magenta lip, Colombia.

*massangea*’na. See C. *LABIATA TRIAN*E *MASSANIGEA.*


*alc*enicia (doctor’s). A pale rose variety, 1883.

*floribunda*’na (free-flowing). Bright rose; lip crimson-purple, edged white.

*igantea* (gigantic). A large, light-coloured variety, 1865.

*hruby*’na (Hrubyan). Lip handsomely veined with red.


*marchetia*’na (Marchetian). Dark purple, veined magenta-purple, Ecuador and Peru. 1889.

*peruvia*’na (Peruvian).

*virginii*’na (virginal). White; lip stripped red purple, 1897.

*Measure’s* (Measures’). Garden hybrid. 1886.

*Mendelii* (Mendel’s). See C. *LABIATA MENDELII*.

*Mocy’s* (Mocoy’s). Supposed natural hybrid, 1886.

*Nilos*’ni (Nilson’s). Apparently a natural hybrid, Brazil, 1889.

*no*bi*lior* (nobler). See C. *LABIATA NOBILIOR*.

*ornata* (Ornata). Brazil, 1860.


*owensia*’na (Owenian). Creamy-white; lip crimson and gold. Seems a variety of *C. harbyana.* 1892.

*pallida* (pale). White, pink, yellow, Brazil. 1950.

A variety of *C. labiata*.

*papaeana*’na (Papelian). See C. *LABIATA PAPAEANA*.

*Parke*’na (Parkean). Garden hybrid.

*Patriciana* (Patriotic). Supposed natural hybrid, *C. labiata* and *C. gultta leptardina,* Brazil.

*percivaliana*’na (Pericivalian). See C. *LABIATA PERCIVALIANA*.

*Perini*’na (Perini’s). See LELIA PERINI.

*pictura*’na (painted). Garden hybrid, 1898.

*pinellia*’na and C. *Pinellia*. See LELIA PUMILA.

*platan*’sins (platanus). Lip purple-pink, 1859.

*punctata*’na (finely spotted). Sepals and petals with crimson spots, 1887.

*porphyrophyllebia* (purple-veined). Hybrid between *C. labiata* and *C. superba,* Brazil. 1860.

*Pri ncept* (chief). A dull-coloured variety of *C. granulosa schofeliana.* 1892.

*pinilia* (dwarf). See LELIA PUMILA.

*preneana* (four-coloured). See LELIA PUMILA.

*regnelli* (Regnell’s). See C. *LABIATA REGNELLI*.

*reinecki*’na (Reineckian). See C. *LABIATA MOLLIS REINECKIANA*.

*resple ndens* (resplendent). Supposed natural hybrid, C. *schilleriana* and *C. granulosa,* 1853.

*Rex* (King). Creamy-white; lip veined purple, gold, 1890.

*Rex*’ni (Rexel). See C. *LABIATA REXELI*.

*Rucke*’ri (Rucker’s). White, yellow. Colombia. 1865.

*sanderiana* (Sanderian). See C. *LABIATA WARCEWICZI*.

*schilleriana*’na (Schillerian). Red-brown, purplish, white. Bahia. 1837.

*amalia*’na (Amalian). Lip densely veined bright purple. Brazil. 1887.

*aukoseita*’ns (Aukolete). Rose; lip crimson-purple, 1893.

*L wisi*’na (Low’s). Lavender-blue; lip with darker lavender veins. 1892.


*schofoldiana* (Schofeldian). See LELIA GRANULOSA.

*schofieldiana*’na (Schofielderian). See C. *LABIATA SCHROEDERIANA*.

*schroederiana*’na (Schroederian). Purple mauve; lip with small side lobes and a long claw, 1883.
should be made in the third week, or about the 24th of
August, to raise plants for winter treatment, to form
the first principal and main crops of the following year.
Should the weather be very dry at the time of sowing,
the soil should be thoroughly well watered before the
planting is done, and if the weather be very wether
before planting, as well as afterwards. The best time for
pricking out young plants of any kind, in dry weather, is
late in the afternoon or in the evening. But attention, strong,
and care being taken ready for either case, the
plants are set out without hand-glasses, about the middle of October, or
for protection in frames, or at the foot of walls. These
protected plants are to form a second crop to those which
have been planted during the hand-glass season, and may be
finally planted out towards the end of February, if the
weather is favourable, two feet and a half asunder each
way; and should severe weather occur, the plants in garden
pots just large enough to cover the plants may be
turned over each, but taken off in all favourable weather. Care
should always be taken to lift up the plants out of the
nursery-beds, so as to insure unjured roots. The plants
should be made in the winter, the hand-glass crop must have a little protection more than
that of the hand-light itself. But particular attention
should be paid to air at all times when the weather
permits, by either taking the lights entirely off, or
tilting them.
If, through some mismanagement or misfortune,
the winter stock should become short, a sowing towards
the end of November may be made, or a little seed must then be sown in a pan or box, placed in some
moderate-heated structure, or in a gentle hotbed made up
for the purpose; and when the seedlings are up,
and are in a large state, they should be pricked out
on other very gentle hotbeds, care being taken to keep
the plants up close to the glass, and inured to the
open air. Plants raised in this way will be nearly as
forward as those sown in August, and protected in cold frames
through the winter.

The second Sowing should be made at the end of February
or beginning of March, and then either in a cold frame
or warm, open border; or, if the weather be very un-
(212) favourable, a sowing may be made on a very gentle
hotbed even at this time, attention to pricking-out, &c.,
given as before directed. From this sowing a third
planting is made.
The third Sowing should be made about the last week
in April, or first week in May, and the seedlings attended
to as before, as to pricking-out, &c. From this sowing
a fourth planting is made.

Fitness for Use.—When a cauliflower has arrived at
its full size, which is shown by the border opening as if
it was about to run, pull up the plant, as it never pro-
sper, and such cases are not worth preserving, even
in a cool place, it may be preserved for several days.
The best time to cut a cauliflower is early of a morning,
before the dew is evaporated: if it is done during the
meridian or afternoon of a hot day, it loses much of its
firmness, and boils tough.

To Preserve from Frost.—As frost destroys the caulif-
ower, it is a practice in November, before it sets in,
to pull up the late-standing plants, and the leaves being
tied over the head, to hang each up in a coal-shed or
cellar, by which means they remain good for some time.
But a better mode is to bury them in sand, laying them
in alternate layers with the sand, in a cool situation. By
this means they may be preserved to the close of
January; or they may be put in a trench dug near a
wall, eighteen inches wide and deep, the plants being
laid with their roots uppermost, in an inclining position,
so that the roots of the second covered the top of the
one preceding. The earth to be laid over them thick, a
considerable slope given to it, and beaten smooth with
the spade before the}; (214) of tying up the flower-stems as they grow. Gather each
branch of seed as it ripens.

Diseases and Insects.—See Cabbage and Broccoli.
186. papillo'sus (pimpled). 8. Blue, California, 1848. 
120. parols'us (small-leaved), California to Oregon. 
1909. per'nes (pennantial), See C. AMERICANUS 
1907. pros'trus (prostrate). Flowers blue, axillary 
Oregone and California, 1899. 
182. 1697. R'pus (stiff), 4. Blue, California, 1848. 
181. xerom'etum (crimson-stalked), 2. White, June, Mis- 
182. souris'us (powdered), Coast Range of Southern California. 
181. ste'nes (spiny), Middle Coast Range, California. 
1909. tal'di'sus (late-flowering), See C. AMERICANUS 
1909. tard'fleu'sus (tardifloreus), Pink, California, Ever- 
181. velu'sus (felled), 10. White, November, British 
181. verru'co'us (warted), See C. cune'a'tus. 
GREENHUSE EVERGREENS. 
C. afric'a'ns (African). See NOLTEA AFRICANA. 
3i. buxrif'o'ius (box-leaved). White. April. Mexico. 
3i. ca'pe'nsis (Cape). See SCUTIA COMMERSONI. 
STOVE EVERGREENS. 
3i. inf's tus (troublesome). See ADOPHILA INFESTA. 
3i. lan'cif'o'ius (smooth-leaved), 4. Green, yellow. W. 
1815. lat'i'fio'ius (broad-leaved), N. Amer. 1831. 
181. moc'in'kus (Mocino's). 5. Mexico, 1824. 
181. Multi'n'us (bearded). See HELIUM MYSTACENES. 
1758. spher'ocar'pus (round-fruit). See RHAMNUS SPIELE- 
181. zyca'nicus (Cingalese). See SCUTIA COMMERSONI. 
CECIDOMYIA PYRI'VORA. Pear Gnat Midge. See DIPLOSIS PYRI'VORA. 
CEDRIDA. Snake-wood. (A classical name, after Cedrus, first king of Athens, who built that city, and 
called it Cecropia. Nat, ord, Arborcups [Urticaeae], 
Linn. 22-Dioecia, 2-Dianadria.) 
3i. All the Arthocups abond in milky juice, by which they are 
3i. are distinguished from the Nettlesworts, with 
3i. which they are allied. From many of the genera, and 
3i. from C. pel'ta'tus, caoutchouc, or india-rubber, is 
3i. obtained. Stove evergreen trees; cuttings of ripped 
3i. shoots, are hardy, and become half-ripened 
3i. in stone, with a little sand. Summer temp., 60° to 85°; winter, 
3i. 45° to 55°. 
3i. C. co'no'color (one-coloured). 20. Brazil, 1822. 
3i. daub'la'the (whitened). Colombia. 
3i. mex'ica'na (Mexican). Mexico. 
3i. pa'ma'tus (hand-leaved). 20. Brazil, 1820. 
3i. pel'ta'tus (shield-leaved). 30. Jamaica, 1778. 
CEDRIDA. (Derived from Cedrus, the Cedar-tree; in 
3i. allusion to the odoriferous wood recalling that of the 
3i. Cedar. Nat, ord, Melaleuca.) 
3i. Most of them are small, stove or greenhouse trees, but 
3i. C. sinensis is hardy in the latitude of London at least. 
3i. Toon of India (C. Toona) has a durable and beauti- 
3i. fully marked wood, used in the manufacture of all kinds of 
3i. furniture and ornamental work; it is sometimes 
3i. grown in well-drained garden soil. Cuttings of ripped 
3i. shoots of the tender species in sand, in a close case, with 
3i. bottom-heat, Loam, leaf-mould, and sand. 
3i. Dug's'sis (Duges's), Mexico. 
3i. f 3i. el'i'sus (cleft). Brazil. 
3i. or'da'tus (scented). Whitbl. S. Amer. 1739. 
3i. serul'a'tus (finely sawed). Java. 
3i. sin'e'nis (Chinese). China and Japan. 1875. 
3i. xanth'icus. 
3i. To'o'na (Toon), 60. White to pink. India, 1823. 
3i. veu'lux' na (felted). See CHICKRASSIA TUBULARIS. 
CEDRONELLA. (A diminutive of kafros, the cedar; 
3i. referring to the fragrant, resinous scent. Nat. ord. 
3i. Labiates or Lipworthi [Labiatae]. Linn. 14-Dikynanema, 
3i. gynandria. Comes allied to Dracophyllum.) 
3i. It is worth of remark that the Lipworthi are all destitute 
3i. of any delerious qualities, and that most of them are 
3i. fragrant and aromatic—as the lavender, salvia, rosemary, 
3i. mint, and boxwood, &c. Hardy plants. Divisions of 
3i. the roots of the herbaceous species; cuttings of the 
3i. evergreen, under a hand-light in summer; sandy loam 
3i. and a little peat. 
3i. Mexico, 1823. 
3i. N. Amer. 1824. 
3i. mexic'a'na (Mexican), 2. Purple. Mexico. 
3i. Amer. 1844. 
CEDRUS. The Cedar. (From the Arabic kedros, or 
3i. kheiros, power; in reference to its majestic appearance 
3i. but some have supposed from kedron, a brook in Judea. 
3i. Nat. ord, Conifers [Conifera]. Linn. 21-Monocotis, 10- 
3i. Monodelphis.) 
3i. Hardy evergreen trees. Seeds, saved in the cones, 
3i. extracted by steeping the cones in water, and boring 
3i. a hole down their centre so as to split them, and sowing 
3i. in sandy soil, in March; also by cuttings, under a hand- 
3i. light. Pots or boxes containing gravel, sand, &c. Hardy plants. Divisions of 
3i. the common Cedar, and by seeds, which are best; deep, 
3i. sandy soil. 
3i. C. afric'ana (African). See C. ATLANTICA. 
3i. "" all'ni'ca (Atlantic). May. Mount Atlas. 1843. 
3i. "" Virtu'es Atlas Cedar." 
3i. "" Au'a'ra (golden), 
3i. "" fia'si'ta' (upright), 
3i. "" glau'ca (glaucous), 
3i. "" gre'ma'tus (green), "" Weeping Atlas Cedar." 
3i. De dod'ra (Decodar). 120. Himalaya. 1822. "" The 
3i. Decodar Cedar." 
3i. "" d'bo'ps'ca (white-spiked). Tips of young shoots 
3i. white. 
3i. "" crassi'o'lia (thick-leaved), 
3i. "" er'di'cul (cortex), 
3i. "" pe'nus (pendulous). "" Weeping Decodar," 
3i. "" ve'nus (venus), "" Weeping Decodar," 
3i. "" ve'ru's (green), "" Weeping Decodar," 
3i. "" vitor'is (Yong), "" Weeping Decodar," 
3i. "" lo'ran'sis (Lebana), Asia Minor. Syria, 1863. 
3i. "" Cedar of Lebanon," 
3i. "" bre'vo'lia (short-leaved), Cyprus. 
3i. "" fo'lic'us (follicle) (silvery-leaved), NY. "" Weeping Cedar of 
3i. Lebanon," 
3i. "" ra'ma'na (dwarf), "" Weeping Cedar of 
3i. Lebanon," 
3i. "" pyra'mi'di's (pyramidall), "" Weeping Cedar of 
3i. Lebanon," 
3i. "" arg'e'niu (silvery pyramidal), "" Weeping Cedar of 
3i. Lebanon," 
CELANDINE. (Chelido'nium mahu'zus.) Shrubly Celandine 
3i. Boc'co'na frue's sons. 
CELA'TRUS. Staff-tree. (From helas, the latter 
3i. season; referring to the fruit hanging on the trees all 
3i. winter. Nat. ord, Spindle-trees [Celastraceae]. Linn. 5- 
3i. Prim'ula, 36-Atalanta.) 
3i. Cuttings of the half-ripened shoots in sand, under 
3i. a glass; and very sandy, fibrous loam. The stove 
3i. and greenhouse species require the treatment common 
3i. to each department. The hardy species may be 
3i. propagated by their leafy shoots in autumn, and sown; 
3i. Divisions of 
3i. sorts; buta'rus seldom ripens its seeds. Deep, loamy soil for 
3i. those hardy climbers. 
HARDY DECIDUOUS CLIMBERS. 
SHRUB. 
3i. articiatu'sus (jointed). China and Japan. 1850. 
3i. build'ricus (blistered). See C. SCANDENS. 
3i. flor'gallard'us (floral like). Amur region; Corea. 1909. 
3i. hyglopa'larus (glaucescens), Central China, 1866.
Celeriac, or Turnip-rooted Celery.

(C. apium gravolens rapa'ceum.) Of this variety of celery there is said to be a hardier kind cultivated by the Germans, called by them Knot-celery.

Sowing.—It may be sown in March, April, and May, to afford successional plantations in June, July, and August. Sow in drills six inches apart, and keep regularly watered every evening in dry weather. The bed must be kept free from weeds, and when about three inches high, the plants may be pricked out into another border in rows three inches apart each way, giving water abundantly and frequently. By adopting the precautions mentioned in the cultivation of celery, the same seed will yield two or three distinct prickings. In the neighbourhood of Dresden, where this vegetable is grown in great perfection, they sow in February or March, in a hotbed, under glass; and the plants are removed in April, when two or three inches high, to another bed, and thence to the open ground, or in drills drawn a foot apart. Too great a depth depends much upon regular supplies of water and manure.

When five or six inches high, they are fit for final planting in rows two feet asunder, and the plants eight inches apart in the ground, or in drills drawn a foot apart. The hoe three inches deep, as they only require earthing up a few inches with the hoe. In dry weather they should be watered plentifully, at least every other evening. Keep them free from weeds. They require a light, fertile soil.

Sowing Seed.—The directions given for saving the seed of celery are in every respect applicable to this vegetable.

CELESIUM. A'pium gravolens. Varieties.—A better idea of the best sorts can be gained from any seedsmen's catalogue than we can give here. There are types such as Red, White, and the Striped, but names are numerous.

Sowing.—The first sowing may be made about the middle or toward the end of February, sowing a very little seed in a pan or box placed in any heated structure, and having a gentle hotbed made up ready to receive the young plants as soon as they are fit to prick out. The soil cannot be too rich for them; and, if pricked out in gentle weather, the seedlings must be kept at least from one to two inches deep, the crop should be kept up within two or three inches of the glass, and attention paid to frequent watering, earth-stirring, and airing, in favourable weather.

The second sowing should be made about the first week in March; and although it may be sown in a rich, warm border, yet it is better to make a gentle hotbed for this sowing, even if it is only of four boards nailed together, kept up as high as the sides of the bed, and no glass to cover it; but, if an old light can be spared until the plants are up, all the better. Several prickings-out may be made from this sowing in any rich earth; having the beds thoroughly watered, the plants are neatly ready for pricking out, either in warm, showery weather, or during evenings in dry weather. The plants should be inserted six inches apart in the nursery-beds, well supported as they are not yet well established, and the earth among them frequently stirred.

A third sowing may be made about the second week, or middle of April, in the open, warm border, to be attended to as before mentioned, as to pricking out, watering, &c., only that cool conditions will be found best, such as north borders for summer pricking-out, for a supply to plant out for winter and spring use.

Final trench System.—The trenches, where the soil will allow of it, may be eight or ten inches deep, to receive the plants for the first summer plantings; but, as the season advances, not so deep by two inches at each succession. Having the bed made watered, and the young plants are neatly ready for pricking out, either in warm, showery weather, or during evenings in dry weather. When planted in deep trenches for the first crop, the rows may be much nearer together. Another method of planting out the plants is, to cut the outer trench, four inches wide, six inches deep, a foot wide, and one foot deep, placing the earth half on one side, and half on the other side; this done, give a thorough good manuring, as the soil cannot be made too good for this vegetable; let it be partly dug in, and the surface made smooth as the work goes on; then lift the plants with a trowel from the nursery-beds, to insure their having good roots; let them be planted precisely one foot from row to row, and six or seven inches from plant to plant, the row crossways of the trench. Thoroughly well water; and, in the course of a week after planting, the earth should be carefully stirred over the whole bed.

The leaves may be shortened, which gives more strength to the base of the plants, and a better heart is formed.

Draining up.—The first earthing up should be done with a small trowel, holding the leaves of the plant together in one hand, and stirring and drawing up a little earth to the plant with the other. The next earthing is done by the help of two light boards, six to eight inches broad, of the same earth as the trench is wide; all these are placed between two of the rows of plants by two persons; then place between these boards well-broken earth, as much as required; draw up the boards steadily; do the same in the same manner until the work is completed. By the last-mentioned method of final planting, more than double the quantity can be grown on a given


C. latifolius (small yellow), Tropical Africa.

C. mexicanus (Mexican), 7. Mexico, 1824.

C. angulata (many-flowered), 4. White, May, Cape of Good Hope, 1826.

C. angulata (dotted-branched), 4. White, May, Cape of Good Hope, 1826.

C. angulata (four-angled), 1824.

C. angulata (three-pointed), 1826.

C. lattifolius (square-stalked), 10. White, Brazil, 1820.

C. tri gyrus (three-styled), See Gynmosporia Trigyna.
space of ground, and the heads are quite as fine as in the single-trench system. It is also handy for protection in winter, either with hoops and mats or not. The flowers are yellow and a half feet wide, allow room for six plants across, at six inches apart from plant to plant, leaving three inches' space from the outside of the trench.

From the appearance of very severe weather setting in at any time during the winter months, three or four dozen heads of the celery may be taken up without cutting away any part of them, and laid in dry earth, sand, or sifted coal-ashes, so as to be handy for immediate use.

Mansuring.—In the seed-bed, when pricked out, and in the bed for final growth, too much of the rich manuring may be avoided. Upset this, and upon the roots being uninjured at each removal, depend the fineness and excellence of the celery; any check to its growth is never recovered, but renders it dwarf and stringy. It is sometimes complained of, that the seedlings are too frequent.

To save Seed.—Some plants must be left where grown; or, in February or March, some may be carefully taken up, and, after the outside leaves are cut off, and all lateral branches removed, it is a most a foot apart. Those which are most solid, and of a middling size, are to be selected. When they branch for seed, they must be tied early to a stake, to preserve them from the violence of winds. The flower spike is developed, and the seed is swelling in July. If dry weather occurs, they should be watered every other night. In August the seed will be ripe, and, when perfectly dry, may be rubbed out and dried.

Diseases.—In heavy, wet soil it is liable to have its stalks split and canker. The soil for earing up cannot be too light and dry. We have seen coal-ashes employed for the purpose.

CELER Y FLY. (Tephritis onopordinis). In the autumn it is very common to observe part of the leaves of Celery-plants blistered and turned yellow; and this occurs occasionally to such an extent, that their growth is checked and their size diminished. If the withered parts are examined, and the skin of the blisters is raised, there will be found beneath it some small green grubs, that have eaten away all the green pulp (parenchyma) of the parts withered. The larva of the Celery Fly. The grubs may be found in the leaves of the Celery in June, July, September, October, and November; for there are two or more broods of them in the year. In the midst a soil much less frequently, are found doing similar damage to the leaves of Alexanders and Parsnips. When full grown, the grubs descend into the earth, and remain in the chrysalis state until the time when the Celery Blister Fly again appears. The Celery Fly may usually be found upon the leaves of the laurel, hovering over flowers and resting upon pallsing in the sunshine, from the middle of May to the end of June. It has an English two-winged flies, and has been thus described by Mr. Westwood.—The general colour of the body, which is five-jointed, varies from rusty-brown to shining black; head buff, with black hairs; legs yellow; thorax sprinkled with long black hairs; wings black, with various pale spots; eyes green. The whole length of the insect is not more than one-sixth of an inch, and its wings, when outspread, barely half an inch across. A mark, like the letter W, on each fore-wing, may serve to identify it. The motions of this fly are very peculiar: seated upon a leaf in the sunshine, the wings are partially extended, yet partially elevated, and it has a sideling kind of motion. The withered leaves of the celery should be picked off, and the grubs within them crushed as soon as seen. Mr. Westwood suggests that a sputum, smeared with bird-dung, and stretched over the celery-plants, might catch many of the parents.—The Cottage Gardener, i. p. 73.

CELMSIA. (Named after Celmsius, the mythical son of a nymph. Nat. ord. Composita.)

Celmsia is by no means an esteemed plant, and is, however, rare, safest in a greenhouse, but hardy in the more favoured parts of the south and west of Britain and in Ireland. The rockery is the best place for them. Seeds when obtained are small and thin.


C. cord'ea (wholly silky). Ray white; disc yellow. New Zealand, 1902.

C. long'icaulis. Ray white; disc yellow. New Zealand, 1890.

C. linnii (Lindsay's). ½. Ray white; disc yellow. New Zealand, 1880.

C. Mackau'i (Mackau's). Ray white; disc yellow. New Zealand, 1900.

C. Munro'i (Munro's). ½. Ray white; disc golden yellow. New Zealand, 1896.

C. panicu'lata (showy 2). Ray white; disc yellow. New Zealand, 1882.

CELOSIA. Cockscob._(From koles, burnt; in reference to the burnt-like appearance of the flowers of some of the species, Nat. ord. Amaranthaceae. Linn. s-Paninia, 1-Monogynia.)

There are, in the Cockscob, Celosia crist'ala, which are, and much used by Asiatic physicians, Seeds in a hotbed in March; potted off repeatedly, and transferred to the hothouse or greenhouse; light, rich soil, well drained.

Shrubs.

C. achina'ta (hedgehog). See Alternanthera Agchy'rantha,


C. asperata (camp). See C. cristata.


C. coccinea (scarlet). See C. cristata coccinia.

C. comosa (tufted). See C. cristata.

C. dichotoma (fork-branched). See Allmania nodi-flora.


C. fove'a (tufted). See Aerva monsonia.

C. margarit'ea (pearly). See C. argentea margarita'cea.

C. monson'ia (Monson's). See Aerva monsonia.

C. panicul'ata (hanging). See C. paniculata.

C. nodi'fora (knotted-flowered). See Allmania ndi-flora.


C. pyramidal'is (pyramidal). See C. cristata pyra'midalis.


CELOSIA CRISTATA. The Cockscob of florists.—All the varieties of this are well worth cultivating. The deep crimson-coloured varieties are generally the most esteemed; and of these there are tall and dwarf kinds, the latter being generally preferred, the comb at its extremities altogether, or nearly, touching the sides of the pot. Seeds should be sown in a sweet hotbed in spring; and, unlike the balsam, where splendid specimens are required, they should never be turned out of the hotbed until the comb is nearly full-grown, when they may be set in the greenhouse. Two systems of culture may be adopted. First, as soon as the plants are one inch in height, prick out, and shift successively into larger pots, never allowing the plants to be pot-bound. By this method the plants are strong before the combs appear, and you have a chance of having many very fine, but with the risk that many others, from their shape, will be fit only for the rubbish-heaps. By the
second method, the best for those with limited space, first young plants are pricked out into small pans, in light, rich earth, encouraged to grow freely, and then checked suddenly by keeping them cooler and withholding water, which will cause them to throw out shoots in a few days. Though small, you can easily observe those which are close and well shaped from those which will be upright and straggling. Select the best, pot them, and continue potting and encourage with heat and moisture: and the strength of your culture going chiefly into the combs, these will be large while your plants will be small. Where extremely dwarf plants are wanted, cut off young plants a little below the joints, insert the part with the comb into a small pot, in sandy soil, in strong heat, and a glass-hand over.

**CDeterminations.**

Chiefly from seeds, or raised in a small hotbed, in March or April, and flowered in the greenhouse during the summer, or in favourable positions out of doors.

The biennials require the protection of the cold pit during winter: they succeed best in a rich, light, sandy loam, to which may be added leaf-mould. For the greenhouse they are very effective, and last for a considerable time. It should be noted that those which were sown in summer; the best forms produce comparatively little seed.


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**Celits.** Nettle-tree. (The name of a tree mentioned by Pliny, Nat. ord. Nettleworls [Urticaeae]. Linn. 23-Polygamia, 1-Monacta.)

Seeds, soon as soon as ripe; layers, also, and cuttings of ripe shoots, in autumn; common, good soil. The East and West India species require protection; but there seems little to recommend them in the European and North American species, which are hardy. The wood of *austri* is extremely plant.

**Hardy Deciduous.**


**Cenarrhenes.** (Derived from *hemos*, empty, and *arren*, a mere; reference to the galls, which look like barren stamens. Nat. ord. Proteaceae.)

Greenhouse tree, requiring treatment given to Banksia. Cuttings in sand in close case. Loam, peat, and sand.


**Cempa.** (Derived from *hemos*, empty; in allusion to the fruits of the disc often being empty. Nat. ord. Compositae.)

Hardy annual of neat habit but no great beauty. Ordinary garden soil.

*C. prasina* (frosty). See C. Turbinata.


**Centauraea.** (Centaur). (The classical name of a plant, fabled by Ovid to have cured a wound in the foot of Chiron—Chiron being one of the centaurs, or war-horse breakers of Thessaly. Nat. ord. Composites [Composite]. Linn. 19-Syngecia, 3-Frussignanes.)

The Centauries are so numerous that more than seventy generic names have been applied to the species. *C. Cyanus* and *deprasa*, or corn-flowers, are much used in bouquets. Seeds of most of them in the open border, in the end of March. The tenderer ones may be raised on a hotbed, transplanted to another; a few might be preserved in a cold pit, if it was deemed desirable. Common soil. The improved white varieties, pure white, and soft mauve are later additions and are very beautiful.

**Hardy Annuals and Biennials.**


CENTAUREA 190

C. imperialis (imperial), Hybrid, C. moschata and C. Margarita, 1890.
Lepis (Lippis), See Volustarella Lippii, Marga'rita. See C. moschata ALBA.
Marti'a (Marta's). A hybrid between C. moschata and C. moschata.
muliebris (Maltese). 1. Yellow, July, Malta. 1710.
moschata (musky, Sweet Sultan), 2. Purple, August, Persia, 1659.
, a'iba (white), 2. Yellow, July, Egypt, 1819.
, flava (yellow), 2. Purple, Peru, Persia, 1836.
, purpurea (purple), 2. Purple, July, Candia, 1691.
odora (sweet-scented), Caucasus, 1803.
, a'iba (white), White, sweet scented, dwarf, 1893.
pallida (pale), 2. Yellow, July, Egypt, 1819.
pulchella (nest), 2. Purple, June, Persia, 1836.
sicula (Sicilian), 2. Yellow, July, Sicily, 1710.
Stev'nis (Steven's), 2. Yellow, July, Caucasus, 1820. Biennial.
stram'mea (straw-coloured). See C. GLOMERATA.
sulfur'sa (sulfur-scented), See C. MOSCHATA.
sulphura (sulphur-coloured), 1. Yellow, July, Sicily, 1815.
torre'a (Torre's). See C. CICHTIRAFA.
Veru'num (dwarf), 2. Yellow, July, Levant, 1870.

HALF-HARDY.
, arq'is (sharp-notched). August, Canaries, 1839. Evergreen shrub.
, crassifo'lia (thick-leaved), Malta.
, gymnocar'pa (naked-fruited), 2. Pale purple, Island of Capraja, 1845.
, hyssopo'fis (hyssop-leaved), 1. Purple, July, Spain, 1812. Half-hardy evergreen.
ragus'a (Ragusan), 2. Yellow, July, Candia, 1770. Evergreen shrub.

HARDY HERBACEOUS.
, alia'ta (winged-stalked). See C. BEHEN.
, a'iba (white-flowered), 2. White, July, Spain, 1597.
, amma'na (bitter). 2. Purple, July, Italy, 1640.
, grandif'ora (large-flowered), 2. Purple, July, Switzerland, 1819.
, pinnati'fida (leafed), 2. Purple, July, Switzerland, 1819.
aren'aria (sand), 2. Purple, August, S. Europe, 1778.
, aspara (rough), 2. Purple, August, S. Europe, 1772.
asraca'na (Astrakan). See C. STEROPEPHLYA.
, auricula (grecian). 2. Yellow, August, S. Europe, 1878.
austria'lis (southern), 1. August, Australia, 1821.
, austri'i'ca (Austrian), 2. Purple, August, Austria, 1816.
, avall'ria (axillary). 1. Purple, July, Austria, 1833.

C. babyloni'ca (Babylonian), 7. Yellow, July, Levant, 1710.
Balsa'ma mit'is (Balsamita), 2. Yellow, July, Syria, 1820.
Barrelle'ri (Barrelier's), 2. Purple, July, Hungary, 1816.
brotch'ea (bracteate), 2. Purple, July, S. Europe, 1817.
calcitrapoi'des (Calcitrapa-like), 1. Purple, June, Levant, 1816.
calophyll'is (beautiful-leaved), 3. Yellow, July, S. Europe, 1816.
capit'a (hairly), 1. Purple, July, Siberia, 1810.
carthamoi'nes (Carthamus-like), 2. August, Siberia, 1816.
centau'reo des (Centaura-like), 3. Yellow, June, S. Europe, 1799.
chrisan'tho'lia (Wallflower-leaved), 2. Pale yellow, July, Caucasus, 1820.
cichor'a ces (endive-like), See SERRATULA CICHORACEA.
cicuto'fis (Cicuta-like), See C. COLLINA.
ci'tis (Cretan), 2. Purple, June, Italy, 1710.
Clémé'nis (Clement's), 2. Yellow, Spain, 1831.
condna'na (neat), 4. Yellow, August, Caucasus, 1821.
cori'cina (leathery-leaved). See C. SCABIOSA.
corymbo'se (Gymbose), 1. Purple, July, Switzerland, 1819.
cru'na (crimson-leaved), 1. Purple, July, 1816.
cynar'o des (Cynara-like). Purple, Canary Islands, 1827. \*White.
des'erta (defacing), 2. Purple, July, Cyprus, 1814.
desc'rina (turban-down), 2. Purple, July, Cyprus, 1821.
desc'mena (turban-down), 2. Purple, August, France, 1815.
du'nus (burned). See C. ALBA DEUSTA.
ela'ta (tall). 4. Yellow, August, Mauritania, 1820.
longa'nta (lengthened), 2. Purple, August, Barbary, 1778.
Fe'nis't (Fenstl's). 4. Yellow, Temperate Asia, 1868.
féros (fierce), 2. Yellow, August, Barbary, 1779.
Fische'rii (Fischer's), 2. Blue, July, Russia, 1820.
flammeo'sa (flame-colored). 1. Purple, August, Italy, 1818.
Fontan'esi (Fontanes's), Algeria.
yb'rida (hybrid). See C. CORYMBOSA.
inlyb'o'sea (sucorry-leaved), 2. Purple, August, S. Europe, 1776.
Ina'ri'ds (Insard's), See C. ASPERA.
Ja'cea (Jacca), 2. Purple, July to September, Europe.
Brown Knapweed. 2. Blue, July, Spain, 1824.
kartschi'a (Kartschii's), 2. Purple, June Car- niola, 1836.
leuc'na'ha (white-flowered). 2. White, August, S. France, 1816.
leuco'phylla (white-leaved), 2. Purple, July, Caucasus, 1823.
limbus'ta (limbus), 3. Purple, July, Portugal, 1818.
lun'gula' (tongue-leaved), 2. Blue, July, Spain, 1824.
lun'fo'fis (flax-leaved). 1. Purple, July, Spain, 1816.
C. macroloph'ha (large-crested). Orient.
"macula ta (spotted-leaved). See C. maculosa.
Europe. 1816.
Caucasus. 1820.
mo'lies (soft). See C. montana.
July. Austria. 1896.
"a'bla (white). White-flowered variety.
"lud'genum nis (Ludgenum). Russia. 1825.
"rubra (red). Red-flowered variety.
"muri'cta (point-covered). See Volutarella muri-
cata.
France. 1820.
"negli'ecta (neglected). See C. centauroides.
1817.
Britain. "Black Knapweed."
"nig're ena (blackish). Purple. Europe.
Austria. 1837.
"ni'ensis (spotted). Caucasus. 1823.
"ochroleu'ca (yellowish-white). 2. Pale yellow.
July. Caucasus. 1801.
1818.
1802.
1800.
Barbary. 1823.
1727.
1749.
1803.
Switzerland. 1819.
Portugal. 1804.
Spain. 1819.
1824.
1817.
Ireland. 1831.
Armenia. 1816.
1789.
"radi'a ta (rayed). See Serratula xeranthemoides.
1760.
"Rhap'o'nicum (Rhaponticum). Purple. Europe.
1640.
1812.
Russia. 1806.
"ru'the'os (Rue-leaved). Byzantium.
Caucasus. 1820.
"sal'isnitsa ta (Sulanit). Eastern Europe.
"seb'a'ba ta (Scabiosa). 2. Purple. June to September.
Britain.
C. Sebaio'sa oliviera'na (Oliverian).
1866.
Mediterranean. 1780.
1825.
Middle Europe. 1683.
Hungary. 1826.
Podolia. 1820.
1795.
"ta'ta rica (Tartarian). See C. orientalis.
1820.
"transalpi'na (transalpine). See C. nigrescens.
Siberia. 1805.
1816.
S. Europe. 1841.
"valli'sca (Vallesian). Switzerland.
"vochit'na ta (Vochina'). See C. nigrescens vochi-
ena.
Anatolia. 1836.
"xanth'a ta (yellow). 2. Yellow.
CENTAURIA DIUM DRUMMONDI. See Xanthisma
TERANUM.
CENTEA. (From kentema a sharp point; the
leaves and bracts are pointed. Nat. ord. Amaranataceae).
Greenhouse annual or perennial herb. Seeds; cuttings in sand under a bell-glass. Loam, leaf-mould, and sand.
Africa. 1909.
CENTRADE'NIA. (From kentron, a spur, and aden,
a gland; referring to a spur-like gland on the anthers.
Nat. ord. Malastomata [Malastomaceae]. Linn. 8-Octan-
aria. 1816. Allied to Lavoisiera.)
Stove evergreen. Cuttings of side-shoots, in March or April; sandy loam one part, and rough peat two parts; a cool stove, or a warm greenhouse. Summer soil. 1:5:5:5.
C. divarica'ta (spreading). White. Central Amer. 1851.
"floribu'na (free-flowering). Lilac. Mexico.
Mexi.
"ovata (ovate). Pink. Central Amer. 1861.
"po'sea (rose-coloured). See C. in'equilateralis.
CENTRANTHE'RUM. (From kentron, a spur, and an-
thos, anther; an anther. Nat. ord. Composita.)
Brazil. 1821.
1807.
1824.
CENTRA'NTHUS. (From kentron, a spur, and an-
this, a flower; referring to a spur-like process at the base
Hardy herbaceous perennials, except C. Cale's'trara
and C. macror'sthon. Seeds and divisions; common soil.
S. Europe. 1759.
Portugal. 1863. Hardy annual.

Brazil. 1759. Hardy.


C. sal'vifera (white). Red. Greece.

CENTROGA' PHA. See Rudder's Collection.

CENTROGLO'NIUM. (From kentron, a spur, and kline, a bed. Nat. ord. Composita.)

C. app'ressum (close-pressed). See Onosseris adpressa.

CENTRORHIS. (From kentron, a spur; in allusion to the horns on the anthers. Nat. ord. Melastomaceae.)

An ornamental stove evergreen. Cuttings of half-ripe shoots in sand in a close case with bottom-heat. Loam, peat, and sand.


CENTROPETAL' ALUM. (Derived from kentren, a spur, and petal, a petal; in reference to the spur of the lip. Nat. ord. Orchidaceae.)

Intermediate orchid house.


CENTROPO'GON. (From kentren, a spur, and pogen, a beard; in reference to the fringe which envelopes the stigma. Nat. ord. Lobelidae [Lobelieae]. Linn. 5-Pen'tandria, 1-Monogynia.)

Note. Strong acid poisonous qualities assigned to Lobelias, it is asserted that the soft fruit of the Centro'pogon surinam'ensis is eatable. Herbaceous perennials. Divisions of roots; sandy peat, and rich, fibrous loam; moisture and heat when growing, and comparative dryness and low temperature when at rest. The Surinam species will require a few degrees higher temperature in winter than the others.


C. cordi'folia (heart-leaved). Rose. June, Mexico.

1839. Stove.


Greenhouse.

C. luci'va nus (Lucienian). Rosy-carmine, white. Winter.

Garden hybrid. 1856.


Surinam. 1786. Stove.


CENTROSE'MEA. (Derived from kentron, a spur, and semea, standard; in allusion to the spur of the standard. Nat. ord. Leguminosae.)

Evergreen stove plants of twining habit. Seeds and layers. Loam, peat, and sand.


C. d'bisum (doubtful). See C. hastataum.

C. gran'diflora (large-flowered). Brazil.


S. Amer.


CENTROSOM'IA. (From kentren, a spur, and solen, a tube. Nat. ord. Genuacae.) All now referred to Episcia.

C. bull'a ta (blistered). See Episcia tessellata.

CENTROSPER'MUM CHRYSAN'THEMUM. See Chrysanthemum viscosum.

CENTROSTE'MMA. See Hoya.

C. refle'sium. See Hoya coriacea.

CEPHAE' LIS. (From kephale, a head; in reference to the arrangement of the flowers in heads, or coryms, Nat. ord. Cinchonads [Rubieae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Psychotria.)

The peculiar habit of the flowers is the root of C. Ipec'aucana, a half-herbaceous plant, with creeping roots, growing in the damp, shady forests of Brazil. Stove plants. Cuttings of firm young shoots in sand, in a glass, and in moist bottom-heat. Sandy, fibrous soil, and lumpy loam. Summer temp., 50° to 80°; winter, 50° to 55°.


C. be'ata (Bear's). Small umbels of flowers. Mexico. 1888.


C. ru'bra (blood-coloured). See C. Elata.


CEPHALANDRA. (From kephale, a head, and aner, an anther; in reference to the anthers being united in a round head. Nat. ord. Cucumbibaces.)

Slender climbers with a tenuous rootstock and requiring to be grown in a moist stove. Seeds or division of the tubers. Loam, leaf-mould, and sand.

C. cordif'o'lia (heart-shaped-leaved). Fruits cylindrical, Tropic.

C. i'Monogyni'ana (Indian). Fruits cylindrical or oblong. Tropics.

CEPHALANTE'RA. (From kephale, a head, and anthera, an anther; in reference to the anthers being united in a round head. Nat. ord. Orchidaceae.)

Hardy terrestrial orchids. Divisions; peat and loam.


CEPHALANTH'US. Button-wood. (From kephale, a head, and anthos, a flower; flowers disposed in heads being a general characteristic of this order. Nat. ord. Cinchonads [Rubieae]. Linn. 4-Tetrandria, 1-Mono gyinia. Allied to Spermacoce.)

The Button-wood grows in marshy places, from Canada to Florida, and prefers a damp, peat bed in this country. Hardy deciduous shrub. Cuttings in sandy soil, under a hand-glass, in the beginning of autumn; layers also. Sandy loam, with vegetable mould or peat.

C. nata'le'sis (Natal). Pink and green. S. Africa.


C. angustis'flora (narrow-leaved). Leaves narrow and lanceolate. 1886.


CEPHALAR'IA. (From kephale, a head, in allusion to the dense head of flowers. Nat. ord. Dipsaceae. Allied to Scabious.)

Hardy herbaceous plants. Seeds and divisions. Ordinary garden soil.

C. alpi'na (alpine). Yellow. Europe.

C. leuca'zja (white-flowering). Cream-white. Europe.

C. va'dis'la (rayed). Yellow. Transylvania.

C. syri'ca (Syrian). Mediterranean region.


C. transylva'nia (Transylvanian). Yellow. S. Europe.
CEPHALOCEREUS

CEPHALOCEREUS DE LEFTIL. See Echinocereus de Lefti.

CEPHALOSTA CHYUM. (From kephale, a head, and stalkus, a spike; the flowers are in spike-like heads. Nat. ord. Gramineae.)

A short house bamboo, with leaves 14 in. long. Seeds; suckers. Loam, a little leaf-mould and sand.


CEPHALOSTA XUS. (From kephale, a head, and taxus, the yew; referring to the general appearance of these trees. Nat. ord. Taxads [Conifera].) Linn. 22-Discria, 15. Tobuloria, Allied to Phyllocolus.

These are the Japanese Yews lately set apart from the old yews by Dr. Siebold, the Japan traveller, and Zucarini, in their work called Flora Japonica. Hardy evergreens.


" Fornti (Fortune's). 40 to 60 feet. Northern China. 1848.

" brevi/ris (short-leaved), 40. China. 1848.

" longi/ris (long-leaved), 40. China. 1848.

" robusta (robust), 40. Oliver's (Oliver's). China. 1903.

" padunculata (stalked-fruit, Lord Harrington's Yew), 40. Japan. 1853.

" fassaria (erect), Leaves darker green. Stems erect, 1853.

" spheric/a (spherical). Fruit spherical, 1884.

" umbrellifera (umbrella-bearing). See Taxus brevifolia.

CEPHALO TUS. (From kephalotes, headed; in reference to the glandular head of stamens. Nat. ord. Saxifragaceae.)

This is the Australian Pitcher-plant, found growing in the marshes of King George's Sound, Greenhouse hemicereus perennial. Offsets. Chopped sphagnum, peat, earth, and broken pots, well drained, and carefully watered, a bell-glass kept over it, and frequently cleaned. Summer temp, 60° to 75°; winter, 48° to 50°.


CERA DIA FORCATA. See Othonna forcata.

CERANETA. See Algesidea.

CERATERTHY GRAMINIS. The Antler Moth. See Gramineae.

CERATIUM. Mouse-ear Chickweed. (From keras, a horn; from the form of the seed-vesel. Nat. ord. Caryophyllacea. Linn. 10-Descriada, 4-Plitgynia.)

There are many annuals of this genus, all unworthy of cultivation; but the following hardy trailing perennials are ornamental. They are easily propagated by divisions in the spring; will grow in any light; moderately rich soil, and are all white-flowered.


" lanatum (woolly). Leaves woolly and hoary.


" sufruticosus (sub-shrubby).


" carolinianum (Carinthian). See C. ovatum.


" Ladebourii (Ladebour's). See C. filo sum.

" macranthum (large-flowered). White. Asia Minor, 1851.


" Scopari (Scopari). See C. arvensis.


CEERASUS. Cherry. (From Cerasus, a town in Pontus, in Asia, whence the cherry was brought to Rome by Lucullus. Nat. ord. Rosaceae. Linn. 12-Lotanderia, 4-Plitgynia.) See also Pumus.

Besides the cultivated cherry, the genus Cerasus includes species which contain virulent poisons, chiefly in their leaves and fruit-kernels. Hardy deciduous trees and shrubs, except those otherwise specified. Seeds sow when the fruit is ripe, or mixed up with three or four parts their bulk of dry sand, and frequently turned, to prevent sprouting, and sown in the March following; also by layers, with cuttings from the roots, and from suckers: particular varieties by budding and grafting; deep soil, rather sandy. The double varieties are very showy, and for early forcing are much appreciated; those of the Pseudocerasus type being the most showy, and force well.

C. a/cida (acid), 20. White. April, Europe.


" flore-pleno (double, leaves variegated).

" hu/miss (dwarf).


" monimorena/sca (Montmorenian). 20. April, April.

" pyramida/ris (pyramidal). Branches erect, 1886.

" salicifolia (willow-leaved).

" semperflora (ever-flowering). "All Saints Cherry," 1822.

" umbellulata (umbrella-bearing).

" affinis (related). White. May, Europe. 1837.


" multil/plex (double). See C. Avium flore pleno.


" palustris (palustris, marshwise). White. April, "Ceramalis."


" sylvestris (wood). See C. Avium.

" Besseyi (Bessey's). White. N. W. United States.

" Sand Cherry."

" borealis (Borealis)." See C. Pennsylvanica.

" canadensis (Canadian). See C. Chamægerasus.

" capronia (hauhblois). See C. acida.

" multil/plex (double). See C. VULGARIS RHEZI.

" florae pleno.


" Evergreen Bird Cherry."


" Chicassaw Plum.


" depre/sa (compressed). See C. fumila.

" durina (hard). See C. Avium duricina.

" fenzlia (Fenzlia). Caucasian.

" holly (Holly-leaved). White. March to May.


" bo/reo-rhoeo-pleno (double-flowered). Japan. 1810.

" multil/plex (double). See C. japonica flore Roso-PLENO.

N
The best dessert cherries are: Belle d'Orleans, Bigarreau de Schreken, Bigarreau Napoleon, Black Eagle, Black Tartarian, Early Red Bigarreau, Early Rivers, Elton, Frohmugre Early Bigarreau, Governor Wood, May Duke, and more.

For cooking or preserving Morello takes first place. Kentish and May Duke are also good.

Propagation.—Both budding and grafting are resorted to for the same sale plan to avoid gum. The stocks used are those of the wild cherry for ordinary standards, or wall-trees; but, for a dwarfing-system, it has become customary, of late, to use the Cerasus Mahaleb (Malheb) and the Bird Cherry, called on account of the agreeable perfume emitted by the wood while burning. In France this is called Bois de St. Lucia, and this has long been used as stocks. In addition to its promotion to the young stock, it is, by reason of the very ordinary soils, totally unfit for the common cherry stock. It is the usual practice to obtain the Mahaleb from layers; but no doubt cuttings will answer equally well. The ordinary cherry-stocks are raised from seed, generally obtained from trees of the same kind. They are preserved in sand through the winter, and sown in February. Care must be taken to preserve them from the mice. They may be transplanted, in the following October, in rows two feet apart in the row. For dwarfs they may be budded the following season; but, if standards are required, they must stand until they acquire sufficient strength.

Soil.—A deep and mellow loam, rather sandy, is best adapted to the cherry. It will, however, succeed in any ordinary garden-soil, if somewhat fertile in character, and one which is sufficiently moist, without being excessively wet. Any light and sandy soil is to be avoided.

Wall Culture in Growing Period.—The first operation commences in the disbudding, stopping, and laying off of the young shoots: this will be in the early part of June. Cross-budding and grafting may at once be displayed, unless the branches are too long, or the distance too far apart. As far as required to fill gaps; but if any doubt exists as to their becoming permanent stock, it will suffice to pinch off their points while four or five inches long. The practice of the French in the matter of blossoms is that a difference becomes necessary in the distance at which the young wood is trained. This must be ruled by the size of the leaves. Such as the Bigarreau must be kept at least five inches apart; the Morello section may be placed from two to four inches apart. One of the main points is to destroy the aphides in time; they are almost sure to infest the trees before midsummer.

Culture in Best Period.—The cherry, in general, requires less culture than most of our hardy fruits; and this because it produces so little leaf-bread. If the summer management has been duly attended to, there will be little to do toward the next season.

The remaining portion of the snags, or bases of the young shoots, which were pinched back in June, must now be pruned back to within two inches of the branch, unless the branches are too close, and of greater diameter. Any late made, immature-looking wood may be shortened to where solid; but no other shortening is required with bearing trees. All the shortening requisite, in order to multiply shoots to furnish the wall, should be done within three years after their transplanting. There will, however, being a few shoots to be entirely removed in the winter's pruning; and, in doing this, regard must be paid to the distance previously given.

Uses, how to keep, &c.—We need scarcely point to the dessert section. The Morellos are famous as "brandy-cherries." The Kentish has the peculiar property of slipping from the tree, when dried, without bruise, and making a light and fragrant confection; and, indeed, most of them are of great use for confectionery purposes. The pulp of some makes a very good wine; and in Germany a liqueur is made from the kernel and pulp, bruised and fermented, known by the name of Kirschwasser.

Disease.—We are not aware of any positive disease in the cherry, excepting the gummy. This is an exudation of gum, which appears as a general blight, and the fruit bruise, and not unfrequently breaks out spontaneously. The best way to avoid this is to plant in soil of moderate quality. In general, a light, maiden loam is good enough, without using a particle of manure or vegetable matter. See Extravasated Sap.

Insects.—The Black Aphis (see Armis) is the greatest enemy, and next the Red Spider. (See Acarus.) The wall and wood of the trees should be washed annually.
CERATIOLA

(Ceratophylus)

CERATOCHILUS OF LINDLEY. See Stanhopea.

CERATODA/CTYLS OSMUNDIODES. See Llavea cordifolia.

CERATOLOBUS. (From keras, a horn, and lobos, a pod; in allusion to the spathae which are horned and resembles a pod. Nat. ord. Papilionaceae. For culture, see PALMS.)

C. cocolor (one-coloured). Leaves green beneath. Sumatra, 1890.


CERATOLOIA. Carob-tree. (From keras, a horn; in reference to the shape of the seed-pods. Nat. ord. Leguminous Plants. Leguminosae. Linn. 23-Polygama, 2-Daciea. Allied to Gleditschia.)

This is believed to be the Locust-tree of Scripture, and the seeds are buried is very nutritious, and is supposed to have been the food of St. John in the wilderness; wherefore it is called the Locust-tree, and St. John's Bread. —Lindley. The North American Locust-tree, and the Locust-tree of the West Indies, are different from each other, and from the Locust-tree of Scripture. Greenhouse tree hardly worth culture. Cuts of ripe shoots in sand, under a hand-glass. Scanty growth.


CERATOPTALUM. Red Gum-tree. (From keras, a horn, and petalon, a petal; the petals being jagged, or like a stag's horn. Nat. ord. Saxifragaceae. Linn. 1-Decandra, 1-Dicecia. A tallable without a ring.

Greenhouse trees. Cuttings under a bell-glass, in sand; rich, sandy loam. Summer temp., 55° to 75°; winter, 35° to 45°.

C. apetalum (without petals). 50 to 60. Greenish-yellow. Australia.


CERATOPTERIS. (Derived from keras, a horn, and pteris, a fern. Nat. ord. Ferns or Filices.)

This is a stipe aquatic, and sometimes called the Water Fern. The Floating Stag's-horn. It is biennial and requires to be grown in a pot plunged in the warm water of a Water Lily tank. Spores are freely produced and young plants readily spring up, if the pots are plunged in warm water, nearly to the rim, in February.


" phyllitis (fern-like). Crape without a ring.

CERATOSTEMA. (From keras, a horn, and stema, a stamen. Nat. ord. Cranberries [Vaccinaceae]. Linn. 1-Decandra, 1-Monogynia. Allied to Thibaudia and Cavendishia.)

Stove plants. Divisions; layers. Peaty soil.

C. coronarium (garland). See Themistoclesa CORONILLA.


" speciosum (showy). Orange-red. Ecuador, 1870.

CERATOBIOSMA. (From keras, a horn, and stigma; in allusion to the horn-like branches of the style, that is the stigmas. Nat. ord. Plumbaginaceae.)

Hardy half-hardy, a somewhat erect habit, most suitable for the rockyery. Divisions, and cuttings under a hand-light, or in a cold frame during July and August. Well-drained garden soil.


C. fu'sco-vi'ridis. Pale sky-blue. Western China, 1901.

CERATOCAEA. (Derived from keras, a horn, and phyks, seed vessel. Nat. ord. Pedaliaceae.)


CERATOZAMIA. (Derived from keras, a horn, and Zamia. Nat. ord. Cycadaceae.)

Stove plants requiring treatment similar to Zamia. They are distinguished from the latter by two horns on the scales of the cones, Seeds, and sometimes by suckers. Loam and leaf or peat and mould and sand. C. ju'sco-po'ridis (brown-green). See C. MEXICANA.

" kuesteria'na (Kuesteriana). Mexico.

" mexicana'na (Mexican). Mexico.

" miqueliana'na (Miquelian). Plums 6 in. to 12 in. long. Mexico.

CEBERA. (Named after the fabled dog, Cerberus. Nat. ord. Dogbane [Apocynaceae]. Linn. 5-Flendria, 1-Monogynia. Allied to Plumeria.)

Stove evergreens. Cuttings of young, rather ripe shoots, in April, in sand, under a glass, and in bottom-heat. Rich, fibrous loam. Summer temp., 60° to 80°; winter, 45° to 55°.


" bor'bo'lica (Bourbon). See Ochrosia BORONICA.

" dic'koma (forked). See Tabernamontana DICHO-

" fru'tico'sa (shrubby). See Kopsia Fru'tica,

" lac'tia'rica (milky). See C. ODOLLAM.

" maculata'na (spotted). See Ochrosia BORONICA.

" Nalla'nga (Manihot). See C. ODOLLAM.


" ovata (egg-leaved). See Thevetia Ovata.


" Theve'tia (Thevetia). See Thevetia NERIFOLIA.

" Theve'tia (Thevetia). See Thevetia YCOTTLI.

" venent'fura (poison-bearing). See C. TANGHIN.

CERCESTIS. (From keras, a horn, and kastos, stitched. Nat. ord. Araceae.)

Evergreen stove climber, rooting at the joints. Cut-
tings in sand in a close frame, with bottom-heat. Loam, lumpy peat and sand.


CERCIDOPHYLLUM. (From Cercis, the Judas-tree, and phillon, a leaf; the leaves having a general similarity. Nat. ord. Trochodendraeae.)

The wood of this C. is very hard and well adapted for the more favoured parts of Britain and Ireland, or on a wall in the latitude of London. Seeds, layers. Ordinary, well-drained soil.


CERCIS. Judas-tree. (From kerbis, a shuttlecock; the name given by Theophrastus. Nat. ord. Leguminosae [Leguminosae]. Linn. 10-December. 1-Monogynia.)

The wood of C. is very beautifully veined and takes a good polish. Hardy deciduous trees. Seeds, sown in a gentle hotbed, in spring; hardened off, and pricked out into a sheltered situation; the varieties by grafting. In the south of the island they do well in sheltered places, on a lawn; in the north, they require a wall.


a'ba (white). 1907.

flo're-plé no (double).


fas'ae (Japanese). 1908.

occidenta'lis (western). 15. Texas.

denis'formis (reform), Texas.


vár'io (variegated).

CHILDMI'NA. Concord Trees. 1847.

CERCOCA RPUS. (From kerbos, a shuttlecock, and carpos, a fruit; Nat. ord. Rosaceae [Rosaceae]. Linn. 12-Consandria, 1-Monogynia. Allied to Geum and Purgaria.

There is no unwholesome plant in this order; and the strawberry, raspberry, and the blackberry or the bramble, are the nearest plants in affinity to the rose itself. Then come the Potentilla, Geum, and Agrimonia, among which stands Cercocarpus, followed by the Spiraea and Quill- llaids, Greenhouse evergreen shrubs. Cuttings of green shoots in sand, under a glass, in a little heat, Peat and loam. Winter temp., 40° to 45°.

C. béla'glo'mus (Birch-leaved). See C. PARVIFOLIUS.


par'vifol'i (small-leaved). See C. PARVIFOLIUS.

par'vifol'i (small-leaved). 3 to 10. California, 1881.


CERASUS. Torch Thistle. (From ceras, waxy; referring to the fact that some of the spines are as plant as soft wax, while others are as brittle as wax tapers. Nat. ord. Indian Figs [Cactaceae]. Linn. 12-Consandria, 1-Monogynia.)

Cuttings, at any time, of either old or young shoots; the latter are the best, if the base of the cutting is very dry. Instead of inserting them firmly in sand, they do better when laid among rough material, such as peat charcoal, leaf-mould, and brick and lime-rubbish. They are generally described as stout plants; but, unless when they are just making their wood, they will endure a very hot temperature, if kept dry. Unless for the winter-flowering varieties, and those desired to bloom at that season, no water will be requisite from October to March, if kept cool. Sand loam, turfy peat, half-parts of lime-rubbish and dried cow-dung. Water freely when growing, and in bloom. Summer temp., 55° to 85°; winter, 35° to 50°.

C. a'êf (needle-bearing). Mexico.

Ackérma'ni (Ackermann's). See PHYLLOCACTUS ACKERMANNI.

acuta'gus (acute-angled). Mexico.

Æ'holip (black-spined). Brazil. 1829.

C. affinis (related). White.

aggrega'tus (aggregated). S. United States.

alacrip'tus (cheerful-looking). Brazil.

ab'sis'pus (white-bristled). Trailling. 2. St. Domingo. 1816.

ab'no'mus (white-spined). 2. S. Amer. 1816.


ameca'nsis (pleasing). Mexico.

anguis'cus (snake). Orange-yellow. 3 in. long. Paraguay. 1907.


apicu'lus (small-pointed). Gardens.

arcu'a'cus (arched). White. 1835.

ar'valis (pitted). S. Amer.

ar'valis (golden-spined). S. Amer. 1825.


au'rus (azure-blue). Brazil.

BN'-na'cus (Bann's). Peru.


Berländ'eri (Berlandier's). Texas.

Be'rleri (Berti). Chili.

bi'to'm'nis (two-formed). See Phyllocactus BIFORMIS.

Bl'a'uchi (Blanché's). Mexico.

Bom'plani (Bonpland's). Brazil.

Bránzoi'gi (Brandege's). California.

Bre'dge'ii (Bridge's). Brazil.

Brunnen'o'si (Brunenow's). Bolivia. 1888.


car'se'us (grayish).

cap'sio'us (tufed). Rose-purple. New Mexico. 1850.

cân'dicans (whitish). Chili.


chal'ba'cus (Chalibasan).

chinosis (Chillan). Chili.

bres'his'thus (short-spined).

chloro'cus (Chilo). 1829.

chloro'na'thus (green-white). Texas and Mexico.


cine're'sanus (grayish). Mexico.

con'sar'vus (Curtain's). 1825.

cinnabará'rus (cinnabar). Yellow-vermilion; authors scarce. Guatemala. 1910.

cirrh'fors (tendril-bearing).

cocci'rus (Coccius). See C. AGREGATUS, cocci'rus (scarlet). of Sain-Dyck. Scarlet, September, Brazil.

Co'chii (Cochii). California.

colobú'rus (serpent-like).

Colu'm'n-Trajan'i (Trajan's-column). Mexico. 1890.


Bloom at night.

(Pilocere' reus Conso'lei (Console's).

cres'rus (round-toothed). See Phyllocactus CRENATUS.

cres'rus (round-toothed). S. Amer.

Crí'mos'o (Crimson). See C. CINERASCENS SMITHII.

crispá'tus (curly). See RHAPSIS CRISPATA.


cy's'ni'rus (cylindric). See Opuntia CYLINDRICA.

(Pilocere' reus Dants'tii (Dantsz's). Peru. 1873.

dasyx'cus'hus (close-set-spined). S. United States.

désa'stita'ius (Désaixian). Gardens.

def'tiens (deficient). Venezuela.

De'pe'pe (Deppe's). 1. Peru. 1799.

Donkela'rii (Donkelaers). Brazil.

Duna'li (Duval). Gardens.

dy'bo'vskii (Dybowskii's). White. 10 in. long. Fruit red. Brazil. 1908.

Dy'chii (Dycki). Mexico.

Dy'chii (Dycki).

(Oxalis). Gray. S. Amer. 1809.

Ehrenbe'rgii (Ehrenberg's). Mexico.

Emo'ryi (Emory's). California.

Engel'manna'ni (Engelmann's). Rose-carline. California.

Vari'éta' (variegated).
Cereus enneacanthus (nine-spined), Texas.

Echeveria (Enrique's), Mexico.

echeveria (sworded), Gardens.

erio'phorus (woolly), Red. 1835.

Eruca (Eruca), California.

eucolus (bright-green), S. Amer.

euroborhita (John's), S. Amer.


Trinidad.

(Echinopsis) Eyer's (Eyer's), White, green. 1829.

cristata, roses, and ruber are varieties of this species.

Fendler's (Fendler's), Rose, June. New Mexico. 1826.

fe'sus (fierce). 1. Brazil. 1827.

fimbria'sus (fringed), 20. Pink. St. Domingo. 1836.

flagellifo'rus (rod-shaped, Creeping Cereus), Pink. Peru. 1860.

flavopub'escent (yellow-spined), 3. W. Ind.

flum'inas (river). Brazil. 1862.

Forbesii (Forbes's).


foveol'dus (pitted), See C. celsianus.

ful'idus (glistening). B. M., t. 5856.

fulvispi'nus (tawny-spined), See C. Roventi.

Fu'nishi (Funk's), Garden hybrid. Mexico. 1834.

geome'intus (land-measuring). Mexico.


(Pluocereus) glau'ceus (becoming-sea-green), Argentine.

gla'u'cous (sea-green). Mexico.

gonacantha'sus (jointed-sea). Mexico.

gra'cilis (slender long-spined). Argentina.

granul'o'rous (great-flowerings). White, yellow. 1700.


Gré'gii (Gregg's), Texas and Mexico. See C. rhombicus.

Güel'chii (Guelich's). Green, white. Fruit red-violet. Paraguay; Argentina. 1909.

Gu'a'sus (Gause's). Garden.


(Pluocereus) her'mita'nis (Hermitean).


Surinam. 1860.

hundre'rus (Honduran). Yellow, white. 8 in. long. Honduras. 1904. Night blooming.

(Hilocereus) Hoppensti'di (Hoppenstedt's), Mexico. 1858.

hui'milis (humble). S. Amer. 1827.

(Echinopsis) Hoo'ttii (Houttui's), Chili.


Hys'e's (pencapine). W. Ind. 1808.

ine'muns (unarmed), Venezuela.

insula'tris (insular). Fernando Noronha.

Ja'ama'ca (Jamaica), White, Brazil. 1853.

Jux'ta'ris (Jubarte's), Green, white. Argentina or Paraguay. 1901.

labouru'tiana (Labouretian). See C. Forbesii.

(Echino'psis) Lagema'nis (Lagemann's).

lampa'rdicus (shining green).

lanca'sus (Lance's), Scarlet, May. Guyana. 1834.


la'biocereus (broad-stemmed), See Phyllocactus latifrons.

le'a'na (Mr. Lee's), 1. Bright red. Mexico.

Lema'nis (Lemaire's), Yellow and white. June. 1834.

lepid'a'aurus (slender-flowered). Yellow-green, fire-red. Guatemala. 1900.

lep'id'o'phorus (slender), White, purple. Mexico. 1835.


L'ni'hii (Link's), See C. aurivillus.


MacDonald's (Mrs. MacDonald's great-night-flowering Cereus), Yellow and white. July. Honduras. 1851.
C. pygmaea nana (dense-spined), Bolivia.

"quadrangularis" (four-angled), See C. caripensis.

Quisco (Quisco), Chile.

"ramö̈sus" (branched), See C. Baxanænsis.

"redus" (red), See C. maculatus gibbosus.

regalis (royal), 10. White, S. Amer.

Regelii (Regel's), Whith, crimson-tipped, white.

Country unknown.


resupinatus (lying on its back).

rigidissimus (very rigid). Gardens.

"ridus" (rigid). See C. humilis.

Româ̈ræ (Romer's), S. United States.

Rosseïia (Roster's), Texas and Arizona.

roséus (rosy). See C. nyticaulus.

"rostratus" (beaked), Antigua.

Rosei (Royer's), 2. White, S. Amer. 1728.

ruber (red). Flowers orange-yellow, then scarlet. Brazil. 1905.

russeliana nus (Russelian). Venezuela.

"sargentiensis" (Sargentiense). Small, pink. Lower California, 1891.


Scheeri (Scheer's), Mexico.

Schelhassia (Schelhaas's).

Schoëlii (Schoett's). S. United States.


1829. "sepium" (of the hedges). Ecuador.


Sidelli (Sidell's).

"sonorensis" (Sonoran). Flowers short, narrow, cinnamon-red. Sonora, Mexico. 1901.

Schoenhiem (Schönheim). Mexico.


"stiriensis" (erect). 3. S. Amer. 1823.

"stirigiosus" (stiff-haired), Brown. Chile. 1815.

subrepandus (sub-waved-leaved), 3. W. Ind. 1817.

Swartzi (Swartz's). W. Ind.


tephracenthis (grey-spined). S. Amer.


thelocactus (thethial). Venezuela.

Thurberi (Thurber's). New Mexico.

"Pilocereus" filophorus (wool-bearing). Mexico.

"Tenni" (Tine's), Brazil.

torvius (tortuous), Argentina.

"triangulare" (triangular-stemmed), 1. White. August.

W. Ind. 1590.

"echinocactus" (hairless). Mexico.

"trioccephalus" (three-ribbed). White. Fruit red, with scarlet flesh. Mexico. 1907.

"brigonus" (three-angled), 1. White. W. Ind. 1809.

"costaricensis" (Costarican). White, 12 in. long.

Costa Rica, 1902. "Pitahaya."

"triqueter" (three-sided). 3. S. Amer. 1794.

"triphyllae" (triphalic), Gardens.

"truncatus" (snipped). See Euphyllum Altensteini.

"tuberculatus" (tuberous). See C. posegueri.

"Echinocactus" tubiflorus (tube-flowered). White. 1804.

"tunica" (tunicated). See Opuntia tunicata.

U. hild swinging (Tunilla), Rose, 21 in. long. Costa Rica. 1902.

"Echinocactus" turbinatus (turbinate).

"Tweedside" (Tweedle's). 4 to 6. Orange-scarlet.

September, Argentina. 1849.

"trigona" (waved-leaved), 20. September.


"validus" (strong), S. Amer.

"varia" (varied), 1. Green, red. August. S. Amer.

"Pilocereus" verris (green), Mexico.

"viridiflorus" (green-flowered). Texas. 1902.

"weingartianus" (Weingartian). Stems bright green, then grey. Hayti. 1904.


"xanthocarpus" (yellow-fruited). Green, white, green. Paraguay. 1907.

"Zuccarina's" Zuccarini's). B. M., t. 3627.

CERTELLA. Honeywort. (On heros, wax, and anichos, a, referring to its being a flower with bees. Nat. ord. Boraginaceae. Linn. 5. Pentandria, 1-Monogynia. Allied to Anaphila.) Hardy annuals, except C. maculata. All by seeds, in common soil. Maculata requires a dry soil, or its fleshy roots decay.

C. alpina (alpine), Pale yellow, June. Carpathian Mountains, 1827.


"gla'bra" (smooth), Yellow, violet. European Alps, 1827.


CEREPHEGIA. (From heros, wax, and pae, a fountain; referring to the form and wax-like appearance of the flower, Nat. ord. Asclepiadaceae. Linn. 5. Pentandria, 1-Monomi) (4. Perennial.) Cuttings of small side-shoots in April, in sand, under a glass, and a little heat; sandy loam, fibrous peat, and a little leaf-mould and charcoal. Summer temp., 55° to 80°; winter, 45° to 55°; giving the East Indian species the most heat. More curious than beautiful.

GREENHOUSE.


"aphylla" (leafless). See C. dichotoma.


"Barbiky" (Barbky's). Green, purple-brown. May. S. Africa, 1877.

"Bokehri" (Bowker's). Yellow, green. S. Africa. 1863.


"Meyeri" (Meyer's). Pale purple, green. S. Africa. 1867.

"multiflor'a" (many-flowered). Purple-green, S. Africa. 1868.

"tlaflora" (broad-leaved).

"radianthus" (rooting), S. Africa.

"Rendellii" (Rendelli), Transvaal.

"sapitta" (arrow-shaped). See Microcere Sagittata.

"Sanderi" (Sander's). Light and dark green blotted. S. Africa, 1868.

"sinuata" (wavy-edged). See Microcere Sagittata.

"Sororia" (Sororia), Green, purple. S. Africa. 1866.


"Woo'dii" (Wood's). Leaves netted with silvery veins. Natal. 1897.

STONE.


"barbertonensis" (Barberton). Green. Transvaal. 1909.

"brne" (Brown's). Green, white, purple. Uganda. 1907.


"cumingiana" (Cumingian), Brown. August. Java. 1894.

"de'bii" (weak). Pale purple, Nyasaland. 1895.

"decasineana" (Decaisneana), India.

"discra" (divided). Whitish, purple. Madras. 1909.


"Xanthocarpus" (yellow-fruited). Green, white, green. Paraguay. 1907.


hybrida (hybrid). Natural hybrid between C. similis and C. Sandersonii.


Li chi (Dr. Lush's), See C. BULBOSA.

Monteiro's (Mrs. Monteiro's). White and green, spotted purple-brown. Delagoa Bay.


perforata (perforated). New Guinea.

Renda's (Rendall's). Green, brown. Transvaal.

si miulis (similar). White or pale green. 1906.


vincafo lia (vinca-leaved). See C. HISUTA.


CEROXYLON. (Derived from keros, wax, and zylon, wood; wax exudes from the stem. Nat. ord. Palmaeae.) 

Stone Palms.—Seeds are occasionally imported. Should be started in heat, and given loam and sand. When well advanced a little manure may be added to the soil. Seeds must be sown as soon as received, and plants grown on in a moderate stop temperature.


Wax Palm." fereugi neum (rusty). Colombia, 1879.

nigum (snowy). See DIPLOTHAMNUS CAUDENS.

CESPEDESIA. (In honour of Juan Maria Cespedes, of Santa Fe de Bogota. Nat. ord. Ochnaceae.) 

Stove trees, requiring similar treatment to Gymphia and Oehna.

C. Bonpland (Bonpland's). Orange-yellow. Colombia. 1879.

'd scolor (two-coloured). Yellow. Leaves highly coloured when young. S. Amer. 1903.

CESTRUM. (An ancient Greek name for another plant. Nat, ord. Nightshades [Solanaceae]. Linn. 5-Pennandria, 1-v. Monogrinia. Includes Habrotamus.) 

Cuttings in sand, in heat, in April; peat and loam. Of each species, a few root shoots, which is used for dyeing, and the few others we have selected, none are worth cultivating, being chiefly poisonous plants of no beauty. There are several other species. Those are five shoots, and are stow evergreen shrubs, except where otherwise indicated. The most useful species of this genus is C. aurantacum, which makes a good pot plant when strong cuttings are rooted early in the spring and grown under cool greenhouse treatment, and C. elegans, which may be treated as a wall plant, and keeps up a succession of bloom all year round, and in the south of England it will live through the winter. Better known in gardens as Habrotamus elegans, and there is a variety with deeper coloured flowers known as "Newellii," which is a greater favourite than elegans, and is supposed to be a hybrid, but is simply an improved variety raised from seed. 


angustifolium (narrow-leaved). Yellow, W. Ind. 1844.


Benthami (Bentham's). Purple, August, Mexico. 1864.

bracteatum (bracteated), Green, Brazil. 1852.

calednum (large calyced) of Willdenow. See C. VEDIDIFLORUM.

caulis (stem-facing). See ACNISTUS ARBORESC.

C. corymbosum (corymbose) of Endlicher. See C. ENDLICHERI.

eunutm (blue). See ICHROMA TUBULOSA.

drusum (day-flowering). White, W. Ind.


fasciculatum (very fistic). See C. NOCTURNUM.


Huglii (Huglai). See C. LEGANS.


latifolium (laurel-leaved). Yellow, Autumn and Winter. S. Amer.

nervosum (nerved). See TABERNEMONTANA AMYGDALIFOLIA.


nocitrum (night-flowering). S. Amer.


Schottii (Schott's). Brazil.

Simii (Smith's). Silvery pink. Garden hybrid. 1907.


virens orbiculare (green-flowered). Yellow-green, Brazil. 1876.


CETERACH OFFICINALIS. See ASPLENIUM CETRACH.

CETONIA AURATA. Golden Rose-Beetle. This insect is the Scarabeus auratus of some naturalists. The grub is a bright green-coloured, and the tail-end tinted yellow, and more highly glazed than the remainder of its body. It is usually found in decayed wood; but, being occasionally discovered in the nest of the ant, underground, where it is called "Hornet's bread," upon the bits of wood of which the nest is composed, it thence has the popular name of "King of the Ants." After remaining about three years in the larva state, it makes a sort of cocoon of chips of wood, glued together by an excretion of its own. In this it passes the winter, and in June following emerges in the perfect form. The Rose Beetle flies well, with a considerable humming noise, during the hottest part of the day, passing from flower to flower, preferring, but not exclusively, our roses. It robs them of their honey; but not content with this, devours, occasionally, their nectaries, and the lowest, juicy portion of the petals. The petals of this insect is, therefore, the harmful stage of this enemy. The beetle is of a shining green-colour above, and the wing-sheaths dotted with white. Beneath, the body and head are coppery-red,—The Cottage Gardener, iii. 341.

This beetle is most severely felt by the gardener when it attacks the blossoms of his strawberries, which it does in May or June; but it also attacks the white-thorn, cumbury, and mountain-ash, and poisons the flowers of which it feeds upon. The female rose-chafer often lays their eggs in the ground; and the larvae they produce are no doubt often confounded with those of the cockchafer (Melolontha vulgaris), being as large, and very similar.

The beetle is of large size and easily caught in the early morning while resting upon various bushes. Later on, especially on bright days, it is more active and less
easily caught, as it flies very swiftly. The larva, being of large size and conspicuous, may be gathered by hand while digging, or draws may be turned on the ground while being dug.

CHABRÆA RUNCINATA. See LEUCERIA RUN-
CINATA.

CHACO or CHOCO. See SECHIUM EDULE.

CHÆNA CTIS. (Derived from chæna, to gape, and atis, a root). A small genus of herbs of very durable variety, the annuals being of easy cultivation in the open air in ordinary garden soil. Seeds for the current year, and 5 per cent. of silica (flint), alumina (clay), and oxide (rust) of iron. After these deductions, it will be apparent, that if fifty tons of lime be applied to land, it will be equal to more than one ton of chalk in the agricultural sense. On wet, sour lands it neutralises the acids which render them unproductive. Some chalks contain phosphate of lime; and this being a constituent of all plants, such chalks are highly preferred. Some contain a large proportion of carbonate of magnesia, which is less beneficial. Chalk has also been shown, by Mr. Beaton, to be of great value in forming the best of walks. See CONCRETE WALKS.

CHALCHEBATIA. (Derived from chalkeb, dwarf, and basil, a bramble; in allusion to its dwarf habit, and the white bramble-like flowers. Nat. ord. Rosaceæ. A half-hardy, evergreen shrub, that may be grown in a cold pit, frame, or greenhouse. Cuttings in sand under a bell-glass in a greenhouse. Sandy loam and peat.

CHALCORYDIS. See RHODODENDRON CHALCORYDIS.

CHALCOCYPSIS. White Cedars. See CUPRESSUS.

CHALCEDOA. (From chalced, dwarf, and khetos, a branch. Nat. ord. Araceæ.) Stove evergreens requiring similar treatment to Anturium.

CHALK. Carbonate of lime; contains, when pure, 45 per cent. of carbonic acid, 55 per cent. of lime; but, as it usually occurs, it contains 44 per cent. of lime, and 5 per cent. of silica (flint), alumina (clay), and oxide (rust) of iron. After these deductions, it will be apparent, that if fifty tons of lime be applied to land, it will be equal to more than one ton of chalk in the agricultural sense. Seeds for the current year, and 5 per cent. of silicic (flint), alumina (clay), and oxide (rust) of iron. After these deductions, it will be apparent, that if fifty tons of lime be applied to land, it will be equal to more than one ton of chalk in the agricultural sense. On wet, sour lands it neutralises the acids which render them unproductive. Some chalks contain phosphate of lime; and this being a constituent of all plants, such chalks are highly preferred. Some contain a large proportion of carbonate of magnesia, which is less beneficial. Chalk has also been shown, by Mr. Beaton, to be of great value in forming the best of walks. See CONCRETE WALKS.

CHAMÈBEA TIA. (Derived from chamine, dwarf, and basil, a bramble; in allusion to its dwarf habit, and the white bramble-like flowers. Nat. ord. Rosaceæ. A half-hardy, evergreen shrub, that may be grown in a cold pit, frame, or greenhouse. Cuttings in sand under a bell-glass in a greenhouse. Sandy loam and peat.

CHAMECYPARIS. White Cedars. See CUPRESSUS.

CHAMEDOREA. (From chame, dwarf, and dorea, a gift; referring to the nuts of this palm being easily reached. Nat. ord. Palms [Palmaceæ]. Linn. 22-Dicea, 6-Hexandra. Allied to Areca.)

CHAMEGO. Stove Palms. Seeds, when obtainable; freely, by suckers from the roots. Rich, sandy loam. Sowe temp., 60° to 65°; winter, 50° to 60°.

CHAMAZONICA (Amazon). Brazil.

CHAMBALENA (Arenbergian). 3. Straw-colour, Guat-
emala. 1879.

CHAMPAGNE des (Dambusa-like). Honduras. 1908.

CHAMBERLAINIA (Bambusa-like). Mexico. 1837.

CHAMBERLAINIA (Colored). Mexico. 1837.

CHAMBERLANTIA (Bambusa-like). Honduras. 1908.

CHAMCE-MEYRA. (From chame, dwarf, and dorea, a gift; referring to the nuts of this palm being easily reached. Nat. ord. Palms [Palmaceæ]. Linn. 22-Dicea, 6-Hexandra. Allied to Areca.)

CHAMP flare. Afternoo'te a chry'stha.

CHALK. Carbonate of lime; contains, when pure, 45 per cent. of carbonic acid, 55 per cent. of lime; but, as it usually occurs, it contains 44 per cent. of lime, and 5 per cent. of silica (flint), alumina (clay), and oxide (rust) of iron. After these deductions, it will be apparent, that if fifty tons of lime be applied to land, it will be equal to more than one ton of chalk in the agricultural sense. Seeds for the current year, and 5 per cent. of silicic (flint), alumina (clay), and oxide (rust) of iron. After these deductions, it will be apparent, that if fifty tons of lime be applied to land, it will be equal to more than one ton of chalk in the agricultural sense. On wet, sour lands it neutralises the acids which render them unproductive. Some chalks contain phosphate of lime; and this being a constituent of all plants, such chalks are highly preferred. Some contain a large proportion of carbonate of magnesia, which is less beneficial. Chalk has also been shown, by Mr. Beaton, to be of great value in forming the best of walks. See CONCRETE WALKS.
CHAMÆFISTULA
C. ruizii (Ruiz's), Peru.

C. sottoii (Sartor's), Mexico, 1846.

C. scendens (climbing). Mexico, 1834.

C. schiedea (Schedeian), Mexico, 1834.


C. tetepilote (Tepephilote), 10. Yellow, Mexico, 1823.

C. wendlandii (Wendland's), Mexico.

C. wobstiana (Wobstian), 4. Yellow, 1885.

CHAMÆFISTULA. Same as CASSIA.

CHAMÆLACIUM. (From chamaeleo, a dwarf, white goat); because its healthy stems and miniatures of that tree. Nat. ord. Fringe-mysites [Myrtaceae]. Linn. 10-Decandria, 1-Monogynia.

This is the head of a small order of beautiful little gramineous bushes, natives of New Holland, generally with the asparagus, their flowers gathered into heads, and the flower-envelopes ending in awns, fringes, or bristles, which give them the appearance of Composites. A greenhouse evergreen shrub. Cuttings of the points of shoots, or side-shoots, when getting firm, in sand, under glass; one part fibrous peat, and two of sandy, loamy Jumeau. 'Summer temp. 35° to 75°; winter, 35° to 45°."


C. plumosum (feathery). See VERTICORDIA FONTANESII.

CHAMÆLEON PROCUMBENS. See LOISELLEA PROCUMBENS.

CHAMÆLUM. (From chamaelum, a dwarf, and livion, a lily. Nat. ord. Liliaceae.)

Small and very pretty herb, suitable for peaty soil in the rock-garden and divisions.

C. carolina'sum (Carolian), 4. White. N. Amer.

CHAMÆLUM. See CHAMÆLUM.

CHAMÆNE RUM. See EPILIOBVM.

CHAMÆNEU CE. See CRINUS.

CHAMÆRAN THEUM. (From chamaeran, dwarf, and anthemon, a flower. Nat. ord. Acanthaceae.)

Dwarf, evergreen shade-plants with fine foliage. Cuttings in sand in a close case with bottom-heat. Fibrous loam, leaf-mould, and sand.

C. argyria (silverly). Leaves with silvery veins. New Britain.

C. beyhri'i (Beyrhi's). White. Leaves striped with white. Brazil, 1866.

C. gaudichaudii (Gaudichaud's). Brazil, 1859.

C. gymnosperma (Silery). Yellow. Leaves red-veined. Peru, 1866.

C. hildicum (shining). See EBERMAIERA NITIDA.

C. plenum (painted). Leaves edge orange, with silvery blotch in the centre. Brazil, 1878.

CHAMEREO DOS. (From chamaerion, dwarf, and rodos, a rose. Referring to the rose-like appearance of the plants. Nat. ord. Roseworts [Rosaeeae]. Linn. 5-Pentandria, 5-Pentagynia. Allied to Rubus.)

Hardy herbaceous perennials; chiefly by seeds; sandy loam, and a little manure.


C. grandiflora (large-flowereed). Yellow, June, Dahuria, 1828.


CHAMÆ ROPS. (From chamaerops, dwarf, and rhops, a twig. A comparative name, making the Fat-palm of the south of Europe a low twig in comparison to the huge, gigantic Palms of the tropics. Nat. ord. Palms [Palmaceae]. Linn. 25-Polygamia, 2-Dicotelia.)

Seeds imported; suckers, which are freely produced, with the exception of C. græcilis and guianae niss. The others will flourish in a greenhouse; and their leaves render them striking objects. In Edinburgh the hu'milis is very showy and with a slight protection; rich, loamy soil. Summer temp. 50° to 80°; winter, 35° to 45°."

C. acaci'lis (stemless). See SARAL ADANSONII.

C. bilamina'ta (two-bladed). See C. HUMILIS BILAMINATA.

C. ebroi (Rico). See LIVISTONA BOTTUNDIFOLIA.

CHÆRÆS
C. excelsa (tall). See TRACHYCARPUS EXCELSUS.

C. forsterae (Fortune's). See TRACHYCARPUS EXCELSUS.


C. Griffithii (Grifith's). See TRACHYCARPUS KHAUSANUS.


C. bilamina'ta (two-bladed).

C. dactylacora (finger-fruited). Frons longer. 1880.

C. monacora (large-fruited).

C. tomentosa (felted).

C. hystrich (porcupine). See RHAPIDOPHYLLUM HYSTRICUS.

C. khasyan (Khasyan). See TRACHYCARPUS KHAUSANUS.

C. martii'a (Martian). See TRACHYCARPUS MARTIANUS.

C. palmetto (Palmetto). See SARAL PALMETTO.

C. ricjchi'ana (Ritchieana). See NANNHORPIS RITCHIEANA.

C. serratula (saw-leaved). See BEAHEA SERRULATA.

C. stauracanthina (cross-spined). See ACANTHORHIZA ACULEATA.

CHÆRÆSCEILLA. (From chamae, dwarf, and Scilla, a Squill; in reference to the appearance of the plant. A. ord. Iridaceae.)

A hardy, herbaceous plant suitable for the rockery. Ordinary garden soil. Divisions and seeds.

C. corymbosa (corymbose). Blue. Australia.

CHÆRÆLUM. (Derived from chamae, dwarf, and melon, an apple. Nat. ord. Iridaceae.)


CHÆRÆSSE A. (Named after M. Camisso, a botanist. Nat. ord. Amarants [Amaranthaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Stove evergreen shrubs; cuttings of ripe shoots in heat, under a bell-glass; fibrous, sandy loam. Summer temp. 60° to 85°; winter, 50° to 55°.


C. dico'lioma (forked). See ALLMANIA NODIFLORA.

C. nodif'era (knotted flowered). See ALLMANIA NODIFLORA.

C. pyramidal'is (pyramidal). See ALLMANIA ALBIDA.

CHÆRÆS RCHIS ALPINA. See HERMINUM ALPINUM.

CHAPTALIA. (Named after M. Chaptal, a French chemist. Nat. ord. Composites [Compositae]. Linn. 12-Synangies, 4-Necessarias. Allied to Cussonia.)

Hardy herbaceous perennial; division of the roots light, sandy soil.


CHÆRÆS GRA'MINIS. The Antler Moth. We have seen enough to render us quite ready to assent to Mr. Kirby's observation, that it is "the greatest enemy of our pastures." Fortunately, it is of rare occurrence in this country. It is the Charasæ and Bombyx graminis of some entomologists. This moth, measuring about 4 in. across the fore-wings, is generally altogether of a grey-brown colour, with a slender, whitish line running from the base of the fore-wing along its centre vein, and following along its branches. Another whitish line runs along near the edge of the fore-wing near the point of the wing is a row of triangular, dark spots. There are also two dark, kidney-shaped spots near the front edge. The hind-wings are yellow-brown, with a dark circular spot in the centre of each, and a dusky disc in the caterpillar is green, with brown spots, and smooth. In the few instances it has been found in this country it appeared in June. Mr. Kirby says: "It is said not to touch the wheat. In the years 1740-1741, 1743-1745, they multiplied so prodigiously, and committed such ravages, in many provinces of Sweden, that the meadows became white and dry, as if a fire had passed over them. In 1759, in several public-farms in Tweeddale were dreadfully infested with a caterpillar, which was probably the larva of this moth. Spots a mile square were totally covered with them, and the grass devoured to the root."—The Cottage Gardener, v. 1.
In 1894, several of the southern counties of Scotland got ravaged by the caterpillars of this moth. Cold and heavy rains are the chief causes of destroying the caterpillars, and when they come into the garden or pleasure-ground destroying the grass, repeated soakings of cold water would serve to destroy them, as the washing of their food causes violent purging. Rooks and starlings should be encouraged, and fowls might be allowed to forage for a time on the grass, as they would devour large numbers of the caterpillars and thereby reduce the pest.

CHARCOAL. Soot, a chief constituent of which is charcoal, has long been known as a very effective fertiliser; and burning has still longer been known as a mode of reducing stubborn soils to prompt productiveness. But both these sources of fertility might owe their efficiencies of rain and other causes than their affording carbon to plants; and, comparatively, it is only lately that anything like a general knowledge has been diffused that mere charcoal is a good manure. Charcoal is a most efficient manure to all cultivated plants, especially to those under glass. Heaths, rhododendrons, cucumbers, onions, roses, orchidaceous plants, hydrangeas, camellias, melons, and pineapples, have been the subjects of extensive and most successful experiments. We think no cultivated plant would be benefited by having charcoal applied to the soil in which it is rooted. It should be broken into small pieces, about the size of a nut, and, for potting purposes, may be mixed in the proportions of one part charcoal to twenty parts earth. If applied to the open ground, one-fourth of a bushel may be sown over a square rod or perch, and dug in just before inserting the crop. The reason of charcoal being so useful as a manure is very apparent, MM. Sennebier, Ruckert, Saussure, and others, have demonstrated that plants are rendered much more luxuriant and productive by having charcoal applied to their roots than when planted to whose roots no such application was made. Now, charcoal kept moist, as when buried in the soil, slowly combines with oxygen, and emits carbonic acid; in fact, it slowly dissolves. We do not agree with Liebig, who broadly asserts that "carbon never combines, at common temperatures, with oxygen, so as to form carbonic acid." This was long since shown to be otherwise by Count Rumford, and may easily be demonstrated to be incorrect, by confining a few ounces of fresh and moistened charcoal-powder, mixed with earth, in a glass receiver full of oxygen, over lime-water: carbonate of lime will form, showing the gradual evolution of carbonic acid. For draining, pieces of charcoal, about the size of filberts and walnuts, are among the best that can be employed.

CHARD. See Artichoke.

CHARDINIA. (Named after Jean Chardin, a traveller in Persia. Nat. ord. Composite.) A hardy annual that may be sown in the open garden in April.


CHARDON. See Cardoon.

CHAIREIS. (From charis, elegant, Nat. ord. Composite.) Hardy annual. Seeds may be sown in the open garden in April or in a gentle heat in March and planted out after being hardened off.


" atracarnea (dark blue). Rich dark blue.

CHARLES'S SCEPTRE. Pedicularis Scutulata-Carolinum.

CHARLOCK. Bra'sica Sinapis-strain. A troublesome weed.


CHASANUM CUNEIFOLIUM. See Bouchea cuneifolia.

CHEESE-RENNET. Ga'tium ve'trum.
CHEIRANTHERA

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Chelone

C. lilioflorus (flax-leaved). See Erysimum liniifolium.
C. Menziesii (Menzie’s). N.W. Amer.

CHEIROSTEMON

Hand-plant. (From cheir, the hand, and stemon, a stamen; in reference to the formation of the stamens and style. They issue in a central column, bearing five curved anthers and a curved style in the middle, having much resemblance to a hand with five rayed claws.) A hybrid. (Sterculiaceae.) Linna. 16-Monanda, 6-Desandria.)

Stove tree. Cuttings of rather firm shoots in sandy peat, under a glass, and in bottom heat. Sandy loam and fibrous peat. Summer temp., 60° to 80°; winter, 45° to 55°.


CHEIRYSTILIS. (Derived from cheir, the hand, and stylos, a style. Linna, nat. ord. Orchidaceae.) Warm stowe Orchids for pot culture.

C. montis (mountain). Java, 1861.

CHELIDO NIUM

C. celiadon (Chinese wallflower). A swallow; alluding to the flowers opening on the arrival of that bird, and to the plant drying up on its departure. Nat. ord. Poppyworts [Papaveraceae]. Linna. 13-Polyandria, 1-Monogynia.)
The yellow flower of the common Celandine (C. majus) is said to be a violent acrid poison, and a popular remedy for warts. Hardy herbaceous perennials. Division. Common garden-soil.

C. grandiflorum (large-flowered). See C. majus Grandiflorum.
C. lacinatum (jagged-leaved). See C. majus Lacinatum.
C. macrorhizum (large-flowered).
C. lacinatum (jagged-leaved). Leaves much divided.

CHELONE. (From chelone, a swallow; alluding to the flowers opening on the arrival of that bird, and to the plant drying up on its departure. Nat. ord. Figwort [Scrophulariaceae]. Linna. 11-Didynamia, 2-Angio sperma. Allied to Pentstemon.)

Hardy herbaceous perennials, except where otherwise specified. Division of the roots, and cuttings of the young shoots under a hand-glass, in April or May; also by seeds. Sow in June, and if a little leaf-mould is added, all the better.

C. atropurpureus (dark purple). See Pentstemon campanulatus.
C. barbatus (bearded). See Pentstemon barbatus.
C. caprifolius (garden-pansy). See Pentstemon caprifolius.
C. centranthifolius (centranthus-leaved). See Pentstemon centranthifolius.
C. chelidoneus (mountain). See Pentstemon chelidoneus.
C. digitatus (Digitalis). See Pentstemon levigatus.

during November, and until the end of January. Their upper wings, when opened, measure across about one inch, with a square, oval mark upon the day, their touch small, for they fold them so as to form a triangle, and have their feelers or horns (antennae) turned back over them. Those wings are pale grey, marked with darker areas along the line. The under-wings are greyish-white, often having a Notched line crossing the centre. The body, delicate and tapers, is yellowish-grey. The female crawls to the top of a tree, and deposits there small, oval eggs upon the blossom and leaf buds, as well as upon the shoots. She will lay from 200 to 300 eggs. The caterpillars and the buds come to life together. At first they are grey, and scarce. As the days lengthen, however, they cast their skins, and finally become the green-looper, of a yellowish-green colour, shining, and with a blue line down the back. On their sides are two yellowish-white lines. The apple-buds are their favourite food; but they destroy, without difficulty, the leaves of the hawthorn, lime, hazel, rose, elm, willow, and hornbeam.—(The Cottage Gardener, I. 53.) The caterpillar descends into the earth, and becomes a chrysalis about the end of May.

CHEIRANTHERA

From cheir, the hand, and andros, a flower. (Referring to the custom of carrying the wallflower in the hand for a nesrey, Nat. ord. Cruciferae [ Cruciferae]. Linn. 15-Tetradynamia.) Half-hardy evergreen under-shrubs, except where otherwise specified. Seeds and cuttings under a hand-light, in May or June, of particular varieties, and double-flowering especially. Most of the finer kinds will like the protection of a pot in winter, and may be employed either in the greenhouse. When left out of doors, a protection of a few evergreen boughs should be given them; herbaceous kinds by division. A light, rich, sandy soil suits them best; but even the tenderer species survive the winter on rock-work.

C. bavarica (bavarian). See C. chelone.
C. xerophyta (thyme-flowered). See C. xerophytum. 1826.

CHELONOPSIS

C. gentianoides (Gentian-like). See Pentstemon gentianoides.


Chelone (hairy). See Pentstemon Pubescens.

L. m (Lyon's). 4. Purple, August, N. Amer.

mexicana (Mexican), Scarlet, Mexico, 1842.

nemorosa (grove), 2. Purple, July and August.

obliqua (oblique). 2. Purple, August, N. Amer.

Pentstemon (Pentstemon). See Pentstemon levi-gatus.

purpurina (purple). See C. obscura.

red root. Pentstemon Campanulatus.

ruellianae (Ruellia-like). See Pentstemon Barbatus.


CHELONOPSIS. (From Chelone, and opsis, resemblance; the plant resembles a Chelone, Nat. ord. Labiates [Labiatae].)


C. moschata (musk). Pale yellow and rose purple.

China and Japan, 1901.

CHEMONIA. (From chen, a goat, and leia, prey; in reference to the plant being eaten by those birds.

Nat. ord. Chenopods [Chenopodioseae]. Linn. 5-Febrizian- dianthus.

Greenhouse evergreen. Cuttings of half-ripe shoots under a glass, in sandy loam, Summer temp., 55° to 60°; Winter, 35° to 45°.

C. dentata. 1. Green, August. Cape of Good Hope, 1758.

CHENOPODIUM. (Derived from chen, a goat, and pos, a foot; in reference to the shape of the leaves.

Nat. ord. Chenopodiaceae.)

Hardy annuals or perennials that will grow in any ordinary soil. Seeds, and the perennial by division.

C. Bonnus-Henricus, or Good King Henry, is more or less eaten in the same way as Spinach.


S, France (?). 1816.

C. Bonnus-Henricus (Good-Henry), 19. Green, Britain.

Perennial.


CHERYMOYER. See Anona cherimolia.

CHERRIES. See insect pests.

CHERRY. See Cerasus.

CHERRY PEPPER. Capsicum cerasiforme.

CHERRY LAUREL. The common Laurel, Cerasus Lauricoerasus.

CHERRY PLUM. See Prunus cerasifera.

CHERVEL. Parsley-leaved, Anthriscus Cerfolius, Fern-leaved Cherrial, or Sweet Cicely, Chaerophyllum aromatica, for soups, salads, &c. They are not often found in the kitchen-garden. Bulbous-rooted Cherrial is Chaerophyllum bulbosum, a native of S. Europe and Asia Minor. It is a biennial with a root about the size of an Early Horn Carrot, and the flavour of the Parsley-leaved Cherrial.

Sowing and Situation. The soil for these plants must be unshaded, light, with a large portion of calcareous matter, and well drained.

Sowing.—A principal sowing should be made in August, and a second from this sowing, seed should be saved for the following season. To continue the supply during the summer months a spring sowing should be made at the end of February, and at the end of every three or four weeks to the middle of July. Sow in drills, eight inches apart, covering the seeds lightly with fine soil, and thin the seedlings out to six inches apart in the rows.

CHESTNUT, HORSE. See Aesculus Hippocastanum.

CHESTNUT, MORETON BAY. See Castanopsis Australe.

CHESTNUT, SWEET or SPANISH. See Castanea Sativa.

CHEVALIE RIA. See Echmea.

CHICHASAW PLUM. See Cerasus Chicagana.

CHICKEN GRAPE. See Vitis cordifolia.

CHICKLING VETCH. See Lathyrus sativus.

CHICK PEA. Cicer arietinum.

CHICKWEED. Stellaria media.

CHICKRA SSIA. (A native name or its imitation, also spelled Chukrasia. Nat. ord. Meliaceae.)

A stove tree. Cuttings in sand in a close case, with bottom-heat, Loam, leaf-mould, and sand.

C. tabulata (table-like). 50. White, India, 1793.

CHICORY. Succory, or wild Endive (Cichorium intybus), Cultivated for use in salads, and for its roots, to roast for use like coffee.

Soil and Situation. —Like Endive, for the main crops it requires a rich, light soil, and for the earlier sowings a moister one, in every instance having an open situation allotted to it.

Sowing must be annually; for, although it is a perennial, the plants of the previous year, if cut off two or three times, the leaves become bitter and worthless. Sow from the beginning of March, and at intervals, to the end of June, or early in July. Sow moderately thick, in the same manner as Endive, as the directions for cultivating which are equally applicable in every other particular.

Cultivation. —When the plants begin to cover the ground, thin to nine inches apart; and those removed plant out at similar distances. If the leaves grow very luxuriant, and shade the roots much, they must be cut off within an inch of the ground. Those grown from sowings antecedent to June, when of nearly full growth (without cuttings), and thinned to about five or six in a foot, from the insertion of the seed, must have all their leaves trimmed away, so as not to injure their hearts, and then covered over thick with sand, ashes, or long litter. By this treatment, those fresh leaves which are produced are blanched and crisp, losing their bitterness. Those from the sowings of June and July must, at the end of September, or early in October, be raised, and planted very close, by the dibble, in pots or boxes, having their leaves trimmed as before directed, and their roots shortened, previous to planting. Water must be given moderately in dry weather, until they are established; and, if frosts occur, by a light covering of litter. When well rooted, they may be removed into the cellar, or other place, where the light can be completely excluded from them, to blanch for use as wanted, which can be frequently done in six to ten days. Succory will bear a temperature of 60°, but thrives better in a rather lower one.

If the roots are vigorous, they will bear cutting two or three times, after which they are unproductive.

To obtain Seed, a few plants must be left in the open ground of the June sowing. They bear the severity of winter without protection, and shoot up in the spring, running to seed about May.

CHILDS WE RCKLIE. See Hidalgoa Wrekclie

CHILI PEPPER. Capsicum.

CHILIAN NUT. Gueni'na Avella'na.

CHILLIAN'NHUS. (Derived from chillio, a thousand, and anthos, a flower; in reference to the large number of flowers, Nat. ord. Loganiaceae.)

Greenhouse evergreen. Cuttings of half-ripe wood in sand, with heat, bright peat, and sand.

C. arbores (tree). See C. oleaceus.


CHILIO'DIA. (From chelios, a lip, and odous, a tooth; the lip of the flower being toothed. Nat. ord. Labiatea [Labiatae]. Linn. 1-Dynamia, r-Gymnospermia. Now referred to Prostanthera.)
CHILOPSIS


CHILOPSIS. (From cleito, a lip, and opsis, like; referring to the irregular lobes of the corolla. Nat. ord. Bignoniaceae.) Linn. 14-Didymychna, 2-Anigo-nya. See Acer (Allied to Catalpa).

Greenhouse evergreen shrub; cuttings of half-ripened shoots in sand, under a bell-glass, in bottom heat; peat and fibrous loam. Summer temp. 60° to 90°; winter, 45° to 55°. C. linearis (narrow-leaved). See C. SALIGA. *saligs* (willow-like). Rose. May. Mexico. 1825.

CHIMA PHILA. (From china, winter, and philia, to love; these little plants being green all winter. Nat. ord. Wintergeorns [Ericaceae]. Linn. U-Descandaria, 1-Monogynia.) Hardy herbaceous perennials; divisions and suckers; sandy soil.


CHIMONA NHUS. (From chinae, winter, and anthus, a flower; referring to the time of flowering. Nat. ord. Calycanthaceae.) Linn. 12-Consandra, 3-Trigonia


CHINA-ASTER. See Callistephis Hortensia.


CHIOGENES. (From chion, snow, and gigno, to produce. Nat. ord. Vaccinaceae.)


C. marsi tima (sea-side). See C. VIRGINICA PURESSENS.


CHIONODO XA. (From chion, snow, and doxa, glory; the plants flower at the melting of the snow in Asia Minor. Nat. ord. Liliaceae. Allied to Scilla.) Hardy bulbs flowering in February and March. They increase rapidly by offsets. Seeds may also be sown. Light, rich soil.


C. forbesii (Forbes's). See C. LUCILLAE. *lucti*a (Mrs. Lucilla's). 4. Blue with large white eye.

C. its (white). White variety. 1822.


C. gigante d (giant). Flowers fewer, but much larger. N. Amer. 1818.

C. *sanguinea* (Sanguine). Bright blue, with small white eye. February. 1885.


CHIONOGRAPHIS. (Derived from chion, snow, and graphis, a painter's pencil; in allusion to the snow-white spikes of flowers. Nat. ord. Liliaceae.)

A hardy, herbaceous perennial allied to the Bog Asphodel, but requires the protection of a frame in winter. Seeds and divisions. Fibrous loam, peat, and sand.


CHIONO PHILA. (Derived from chion, snow, and phileo, to love; the plant in its native habitats frequents lofty and snowy habitats. Nat. ord. Scrophulariaceae.)

A dwarf and hardy perennial for the rock-garden.


CHIONOSILLA. (Nat. ord. Liliaceae.)

C. Alle ii (Allen's). Hybrid between Selilla bifolia and Chionodoxa Luciliae. 1897.

CHIRITA. (From cheryka, the Hindostanit for the Gentian-plant, Nat. ord. Gesneriaceae [Gesneraceae] Linn. 174-Scutellaria-like, 3-dipteris.)

Stove evergreens, except C. Sinensis. Seeds sown in a hotbed, in spring, and cuttings in March and April, in sandy peat, under glass. Peat and loam. Summer temp. 55° to 60°; winter, 45° to 50°.


C. *hamo's (hooked). Recorded by mistake. See C. BABBATA.


C. *primula*ea (Primula-like). Sikkim.


CHIRONIA. (A classical name, after Chiron, one of the centaurs, famed to be the father of medicine. Nat. ord. Gentianowits [Gentianaceae]. Linn. 5-Pentandria, 1-Monogyne.)

Greenhouse evergreens, from the Cape of Good Hope. Cuttings in sandy peat, under glass. Plant, three parts; loam, one part; all fibrous, with a little sand and charcoal, and peat, one part. Winter temp. 40° to 45°.

C. angustifolia (narrow-leaved). See C. frutescens.
C. decussata (cross-leaved). See C. frutescens.
C. graulis (graceful). See Sambus gracilis.
C. isis (Ixia-bearing). See C. linoides.
C. palusiris (marsh). S. Africa.

C. serpyllifolia (wild-thyme-leaved). 1. Yellow. 
C. trine rossa (three-nerved). See Exacum zeylanicum.
C. trine rosa (three-nerved). See C. peduncularis.

CHITONIA. (From chiton, a coat of mail; the seeds, when dry, bearing a rough or scabrous exterior. Nat. ord. Malacitales [Malastomaceae].)

Stove evergreens. Cuttings in sand, in heat, in April. Peat and loam, Summer temp. 60° to 80°; winter, 45° to 55°.

C. albicans (white-leaved). See Tetrahygia albicans.
C. Forthergilis (Forthergilis). See Miconia Forthergilis.
C. macrophylla (large-leaved). See Miconia macrophylla.
C. pyramidalis (pyramidal). See Miconia lyinggata.
C. Tamosia (Tanaon). See Miconia Forthergilis.

CHIVE or GIVE (Alium Schanopra'sum) is used as a very superior substitute for young onions in spring salading. A single row, a few yards long, will supply a family.

A light, rich soil is most suitable.

Plant together eight or ten of the offsets of the bulbs, in March or April, in rows ten inches apart, and as many from patch to patch. By autumn they multiply into large-sized bunches, and if required, may be taken up as soon as the leaves decay, and be stored as a substitute for the onion. The leaves, which are fit for use as long as they remain green, must, when required, be cut down close to the ground, when they will speedily be succeeded by others.

CHLIDANTHUS. (From chlidon, delicate, and anthos, a flower. Nat. ord. Amaranthales [Amarillidaceae]. Linn. 6-Hexandra, 1-Monogyne. Allied to Cinclanthus.)

A half-hardy bulb, with sweet-scented flowers. It requires fertile loam in a warm border, and to be taken up on the approach of frost, and kept dry, in a pot of sand, till April, when its numerous offsets should be removed, to enable the bulb to flower well.Offsets; sandy peat-loam.

C. Ehrenbergi (Ehrenberg's). Bright yellow, nearly horizontal. Mexico. 1901.

CHLORIS. (From chloros, greenish-yellow, and anthos, a flower; in reference to its greenish flowers. Nat. ord. Verbenas [Verbenaceae]. Linn. 14-Diandria, 3-Angiosperma. Allied to Lantana.)

Greenhouse evergreens, from New Holland. Cuttings of young shoots in sandy soil, under a glass; fibrous loam, and sand, sandy peat. Winter temp. 40° to 45°.


CHLORIS. (From chloros, greenish-yellow. Nat. ord. Orchideae.)

Terrestrial Orchids to be grown in pots in the cool house. See Oeceaters.

C. longibractea (long-bracted). 1 to 1½. White, green, orange. Chili. 1903.

CHLORIDE OF LIME, or BLEACHING POWDER, is composed of chlorine, 36.23, lime, 36.77. Exposed to the air, it is converted into chalk and muricate of lime, a salt which absorbs moisture from the air very powerfully. By this conversion it becomes a useful addition to soils; and, as it also gives out some chlorine gas, so offensive and destructive to insects, it has been suggested as a useful application to the land at the time of turnip-sowing. It is also useful as a disinfectant, and for sprinkling about stable-floors, to fix the ammoniacal fumes.

CHULOIS. “Green Grass.” (From chloris, greenish-yellow. Nat. ord. Gramineae.)

Greenhouse or hardy annual grasses, grown for ornament.

C. acte'nda (noodle-like). Australia.
C. carthamus (Safflower). India. 1777.
C. e'legans (gentle). 1. Mexico.
C. verricella (whorled). 1. N. Amer.

CHLOROCO'DON. (From chloros, green, and kodon, a bell; in reference to the colour and shape of the flowers. Nat. ord. Asclepiadaceae.)

A stove climber. Amongst the Caifiers of South Africa it is known as Mundi or Mindi Root, and is used by them as a tonic. Division of the root-stock or cuttings taken from the crown of the root-stock, with a small portion of the root. In a close case with bottom-heat. Summer temp. 60° to 80°; winter, 55° to 65°.

C. Whitei (White's). Green, purple. S. Africa. 1869.

CHLOROGALUM. (From chloros, green, and gala, milk; in allusion to the colour of the juice. Nat. ord. Liliaceae.)

A hardy border bulb, allied to the Quamash (Camassia). Seeds and offsets in light, rich soil.


CHLOROPHORA. (From chloros, green, and phoreo, to bear. In allusion to the colour of the juice. Nat. ord. Urticaceae.)


CHLOROMA. (From chloros, greenish-yellow. Nat. ord. Gentianowits [Gentianaceae].)

The leaves of these plants are a good substitute for Gentian. Hardy annuals. Seed sown in April, in the open border.

C. grandiflora (large-flowered). See C. perfoliata.
C. quadriflora (four-leaved). Yellow. S. Europe. 1823.

CHLORO'EA. (From chloros, greenish-yellow. Nat. ord. Orchideae.)

CHLORO'PA. CHL'OROPHORA
Chlorophyllum. 

Evergreen stove plants. Cuttings of ripe wood in a close case with bottom-heat. Loam, a little peat and sand.


C. flore (Kirk’s), 2. White, E. Africa.


C. floribundum (variegated). Creamy-white wood band on the middle of the leaves.


C. floribunda (sea-green). India.


C. floribunda (long-leaved). Abyssinia.


C. floribunda (Nepal). India.


Chloropothemium. 

From chloros, green, and spathe, a spathic; the spathe is green. Nat. ord. Araceae.

Tuberous stove perennial. Seeds, offsets, and division of the tuber. Equal parts loam and peat, with sand. Give abundant water while growing, keeping the atmosphere moist. Keep it drier in winter. Summer temp., 60° to 80°; winter, 35° to 60°.

C. Kolbii (Kolb’s). Green. Colombia, 1878.

Chlorospermum. 

From chloros, green, and erugino sum, a green gum, attacking the wood of Magnolias, turning it of a verdigris green hue.

Chloroxylon. 

From chloros, greenish-yellow, and xylon, wood. Nat. ord. Meliaceae. Linn. 1825-1829. The Satin-wood is from the trunk, and the wood-oil of India is from the leaves of C. Swietenia. 

Stove evergreen tree. Cuttings of ripe shoots in sand, under a glass, and in heat; loam and peat. Summer temp., 60° to 80°; winter, 30° to 55°.


Choco. 

See Secuim Edule.

Chocolat Nut. 

Theobroma.

Chiches Stes Lanceolata. 

See Ichomia Lanceolata.

Choiia. 


Greenhouse evergreen, but hardy in the south of England, Ireland, and the west coasts of Britain, either as a bush or on a wall.

C. grandiflora (large-flowered). See C. ternata.


Chomelia. 

(Named after Dr. Chomeli, physician to Louis XVI, Nat. ord. Cactaceae, Rupr. erect. Linn. 4-Tetrandria, 1-Monogynia. Allied to Ixora.)

Stove evergreen shrubs, cultivated like Chloroxylon.


Chondorrhyncha. 

(Derived from chondros, cartilage, and rhynchos, a snout; referring to the snout-like rostellum. Nat. ord. Orchidaceae.)

Cool stove epiphytes, requiring treatment similar to that for Lycaena Skinneri.

C. floribunda (Chesteron’s). Yellow. Colombia, 1879.

C. floribunda (fringed). See Steina Fimbriata.

C. floribunda (Lendyana). Pale yellow, the lip darker. 1886.

C. floribunda (rosy). See Chorisma.

Chonemia. 

(From chone, a funnel, and morpha, form; the flowers being funnel-form. Nat. ord. Dog-banes [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia, Allied to Rhynchospermum.)

Stove evergreen shrubs. Cuttings of rather firm young shoots in a gravel bed in heat; peat and loam. Summer temp., 60° to 85°; winter, 55° to 60°.

C. floribunda (Griffith’s). White. Himalayas.

C. floribunda (large-leaved). White. India and Malaya.

C. floribunda (downy). See Holarrhena Antidysenterica.

Choreis. 

See Hymenocalis.

Chorisia. 

(From choris, separate. Nat. ord. Malvaceae.)

Stove tree. Cuttings of half-ripe shoots in a close case. Fibrous loam and peat, with sand.

C. speciosa (showy). Yellowish, with dark brown rays at the base. Brazil, 1888.

Chorisia. 

(From choris, separate, and spora, a seed; the seeds being divided from each other in the pods. Nat. ord. Crucifers [Cruciferae]. Linn. 15-Tetradynamia. Allied to Cakile.)

Hardy annuals. Seeds, sown at the end of March; common in the South.


Chorizeema. 

(From choros, a dance, and sensa, a drink. The party who discovered the first of these beautiful flowers, in New Holland, danced for joy at finding free growing in its shrubbery wood. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decondaria, 1-Monogynia.)

Greenhouse evergreens, from Australia. Seeds sown in a slight hotbed, in March, give the best plants; cuttings of firm, short side-shoots may be taken off any time before midsummer, and inserted in sand, under glass; peat, three parts; fibrous loam, one part; sand and charcoal, one part each. Summer temp., 55° to 70°; winter, 45° to 50°.

C. angustifolium (narrow-leaved). Yellow, red. March, 1830.


C. floribunda (yellow). See C. cordatum.

C. floribunda (Henchmann’s). 2. Scarlet. May, 1824.

C. fulvum (Huell’s). 2. Blue. May.


C. laurentiae (Mrs. Laurence’s). See C. varium.

C. leucotis (Lacon). See C. cordatum.

C. macropylus (large-leaved). Red. April.

ILICIFOLIUM. (marsh), white. (Robinson's) very. (Mexican) rosy. (false-
1818. Yellow. See Cineraria-leaved), i. egg-shaped.
Europe. do White. China. Yellow. border, White. cuttings, (anomalous), the
large-flowered). in-
C. White. i. See 1596. July. (various-leaved), C. White.
plants. to September. Yellow, and
Shrubby. (flat-topped). Britain. 3. 

CHRISTMAS ROSE. Helleborus niger.
CHRIST'S THORN. Paliurus.
CHRYSANTHEMUM 209

CHRYSOCOMA

C. segetum grandiflorum (large-flowered). Garden variety. 1888.

C. setabiflorum. 2. White, Siberia. 1824.


C. scabiosiflorum. 2. White, China. 1824.

C. stachys (Starckian). 1. White, June.


C. tunecatum (Tunacatum). See TANAECUM VULGARE.

C. Tschilatchewi (Tchilatchzewi). See MATRICARIA


CHRYSANTHEMUM as a Florist's Flower.—This is the C. sinense and its varieties.

Propagation by Cuttings.—The best time is the first week in February. Take off the young shoots three inches long, and, with a sharp knife, cut off the lower leaves, cuttings being inserted in a cold frame, and not put in, to prevent mistakes. Use a light, sandy loam, with a thin layer of pure sand on the surface. Give a gentle watering, to settle the cutting, and keep on a heated surface of either coal-ashes or river-sand. Cover them with a hand-glass, and they will soon emit roots. When rooted, pot them immediately into small pots, and replace the hand-glass, as soon as the roots reach the sides of the pots, re-plant them immediately. Cramping the roots in small pots is very injurious. Then place them either on a shelf near the glass of, or, better still, in the same frame, but in a cold frame, well protected from frost and damp. For dwarf pot plants cuttings may be taken about the time the buds begin to form, and with a little bottomheat, with shade, they will root in a few days, and should be removed to an exposed position as soon as they are started. Most of the early sorts may be grown as dwarf plants by stopping them, and some of the later sorts may be brazened as well.

By Seeds.—The seed must be saved as soon as it is ripe, and only from such as are of a fine shape, and bright, clear colour. Sow the seeds early in the year, over very fine soil, finely sifted in shallow, wide pots. Place them in a gentle heat, giving them gentle waterings, when dry, with a fine-rose watering-pot. As soon as the seedlings have two or three leaves each, transplant them singly into small pots, keeping them in a temperature of 56° to 60°; re-plant when required. Some of them may flower, if well grown, the same season. Treat them exactly like the old varieties, and they will flower the second year.

Soil.—As these plants are great feeders, they require a very rich compost. Half light loam, half decayed dung, with a fourth of peat added, will grow them strong, and flower them well.

Summer Culture commences in April. Such as are intended to bloom in pots should now have large shifts out of their small pots into three sizes larger. For cuttings struck the same season, the blooming-pots should be at least nine inches' diameter, but for plants a year older, they should be twelve inches. At every potting stop all the shoots, to cause them to branch early, and form dwarf, compact bushes. Give up stopping when the last shoot, which should not be done later than the middle of June. Tie the branches out, so as to give as much room and air to each as possible, consisting of forming a handsome plant. Thin the buds of such as are intended for the production of large flowers. During the whole season of growth give abundance of water. Every week give them one watering with liquid-manure. *Never allow them to flag from the first repotting up to the finishing bloom.* Water them over head, in hot weather, at least twice a day. The proper situation to place them at this season (from May till they bloom) is on a bed of ashes or gravel, in an open situation. See that they begin to open, remove them into the greenhouse, giving them as much space as possible, or the lower leaves will drop off. Continue an abundant supply of water till the blooming season is over.

Winter Culture.—When the flowers are all decayed, cut down the blooming shoots, and place the pots in a cool pit, giving only just water enough to keep the plants alive during the winter; and, as they are nearly hardy, they do not require much protection: a mat or two thrown over the glass in very severe frost will be quite sufficient.

These plants are the best to plant out in the open border. In the southern counties Chrysanthemums bloom very finely, either in the open borders or against a wall or low paling, and, during the months of October and November, make a fine display.

Insects.—The *green fly* is the most troublesome, and, where it is allowed to prevail greatly, will quite destroy the bloom, it is easily destroyed, in the open air, by digging the ends of the shoots in tobacco-water, and, in the greenhouse, by filling it completely with the smoke of tobacco, or the more modern fumigants.

Diseases.—These are such robust, hardy plants that they are seldom troubled with any diseases. The only one that is dangerous is *mildew* on the leaves, produced by a damp, cold atmosphere before they are brought into the greenhouse. The only remedy is dusting the parts with tobacco-water, appears with flowers of sulphur. The *leat minor* has proved troublesome in recent years. The best remedy for this is a mild solution of paraffin; the leaves being of a woody nature it must be used with care. A slight sprinkling of a medicinal dust will keep the small black flies, which deposit their eggs in large quantities, off the plants and kill any that may be about. Much more might be written about the Chrysanthemums, but as all catalogues and other books on the subject are published, no more is necessary.

CHrys'isis. See ESCHSCHOLTZIA.

CHRYSPHILA. See STENOMESSON.

CHRYSPHILA LATIFOLIA. See URCRLONA LATIFOLIA.

CHYSOBA CRON. See BUSBILINA.

CHYSOBA LANUS. Cocos Plum. (From *chrysos*; gold, and *lanus*; wool, in allusion to the colour of the drupes, or berries. Nat. ord. CHYSOBULANIS [Rosaceae]. Linn. 12-ISSANDRICA, 1-Monogynia.) Layers; also cuttings of half-ripened shoots in sand, under glass, and a small peat. Common greenhouse and cool stove treatment.


CHYSO COMA. Goldylocks. (From *chrysos*, gold, and *kome*, hair; in reference to the yellow florets. Nat. ord. COMPOSITES [Compositae]. Linn. 19-SYNGENIUM, 1-EQUUSIS, Allied to Solidago.)

Hardy herbaceous species by divisions, in March. Commonly grown and increased by cuttings of half-ripened shoots in April, under glass, in sand. Loam and a little peat. Winter temp. 35° to 45°.

HARDY HERBACEOUS.

C. bifora (two-flowered). See ASTER ACRIS, " dracunculoides" (tarragon-like). See ASTER ACRIS, "Lino lyrbus (flax-leaved). See ASTER LINYSYRIS, " nud'ata (naked). See BIGELOVIA NUDATA,

" vil'sia (long-haired-leaved). See ASTER VILLOSUS, " vir'ga' (twiggy). See BIGELOVIA NUDATA.

GREENHOUSE EVERGREENS.

C. cecru'a (drooping). See C. COMA-AUREA CERNTA,


CHROMOSOME.

S. Africa. 1712.

" denticulo*la* (tooth-leaved). See CHRYSTHENUM

*maculosa* (brown-white). 3. Yellow. July. Cape of
Good Hope. 1816.

" pa'tula* (spreading). See C. *Com-a*ura.

*scar*a (rugged). See FELICIA *reflexa*.

*eggum* (scaly-talked). See LEFTORHYNCHUS *squau-
MATUS*.

**CHRYSOGONUM.** (From chrusos, gold, and, gonu,
a joint; the golden flowers being borne on the joints.
Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 1.-Equalis. Allied to Milleria.)

Hairy-leaved. Dividing the root in spring; loam, with a little leaf-mould and manure.

C. virgini*a* 'num (Virginian). 1. Yellow. May. N.
Amer. "Golden Knee."

**CHRYSOPA PE'RLA.** The Lace-wing Fly or Golden-
eye is so named, in the first case, on account of its large,
lace-like wings, and in the second case, on account of its
bright golden eyes. The larva feeds voraciously on
aphides and other harmful insects, so that it is a valuable
assistant and friend of the gardener, and should not be
injured nor molested in any way. The perfect insect
is about an inch long, the wings being about twice
the length of the body. The female lays her
eggs in small groups or lines, but singly, each at the end
of a long stalk, formed of gummy matter, exuded by
the insect while in the act of laying, and which soon hardens.
An aphis or enhancer may soon find these eggs, and
attack to the stems and leaves of various plants during
summer. As soon as the larvae are hatched out they commence
feeding on the aphisides with which they come in contact.
In this case they very much resemble the larvae of the lady-
birds, equally good friends of the gardener, and, like
them, are very ugly creatures in this stage of existence,
being furnished with stalked tufts of hairs on their
prolegs or prolegs, resembling those of most of the segments
of their long bodies. After feeding upon the aphi
des for about fourteen days they spin a silken cocoon,
in which they pupate, and emerge in the perfect state about
three weeks later on.

**CHRYSOPHYLLUM.** Star Apple. (From chrusos, gold,
and phallon, a leaf; referring to the colour of the
under side of the leaves. Nat. ord. Sapotaceae [Sapotaceae].
Linn. 5-Pentandria, 1-Monogynya.)

The fruit of *C. Caini*a is the Star Apple, an esteemed
Indian dessert-fruit. Stove evergreen trees; cuttings in
sand, or a glass, and in heat; peat and loam. Summer temp., 60° to 80°; winter, 50° to 55°.


*abidum* (whitish). S. Africa.


" car*enum* (blue-fruited). 40. White. May. S.
Amer. 1737.

" jamaica*nse (Jamaica). 40. White. May.
Jamaica. 1737.

May. S. Amer. 1800.


"Theophrasta imperialis.

*macrophyll*um (large-leaved). Of G. Don. 100. White.
Sierra Leone.

*macrophyll*um (large-leaved) of Sabine. See C. AFRI-
CA*LIUM*.

*ma*ga* *lis-monta* 'na (mountain-huts). S. Africa.


*natali*s*nse (Natal), S. Africa.

*oliv*o' *fro*me (olive-shaped). See C. CAINITO.


**CHYRYSOPSIS.** (From chrusos, gold, and opsis, a
face. Nat. ord. Compositae [Composita]. Linn. 19-Syn-
genesis, 1.-Equalis.)

Strong, coarse, hardy herbaceous perennials for a

shrubbery, and will grow in any common soil; divisions
in March.


*trichop*hyll*la* (hairy-leaved). Yellow. June. N.
Amer. 1827.

1811. "Golden Aster."

" Rottle*ri* (Rutter's)."

**CHYRYSOROE.** See VERTICORDIA.

**CHYRYSOSPELEUM.** Golden Saxifrage. (From chrusos,
gold, and spleen, spleen; in reference to the colour of
the flowers, and the supposed medicinal qualities of the
plant as a slight tonic. Nat. ord. Saxifragae [Saxi-
fragaceae]. Linn. 10-Decandria, 2-Digynya.)

Hardy herbaceous perennial. Dividing the roots;
moist situation; common soil.

British.

" glacio*le* (glacial). See C. OPPISTIFOLIUM ALPINUM.


" oppositifol*ium* (opposite-leaved). Yellow. April.
British.

" alp*um* (alpine)."

**CHYRYSOSTE M.MA.** See COREOPSIS.

**CHUQUIRA GA.** (A native name. Nat. ord. Com-
positae.)

A greenhouse evergreen shrub. Cuttings under a bell-
glass. Loam, peat, sand.


**CHUSQUE A.** (The native name. Nat. ord. Grami-
acea.)

A graceful, climbing Bamboo, with wiry stems and
small, linear-lanceolate leaves. Seeds and suckers.
Stove treatment.


**CHYMOCRA RPU S PENTAPHYLLIUS.** See TROP-
ACLIUM PENTAPHYLLIUM.

**CHYS.** (From chrusis, melting; in reference to the
fused appearance of the pollen masses. Nat. ord.
Orchidae [Orchidaceae]. Linn. 20-Gymandra, 1-Monan-
dria.)

Stove orchids. Offsets; baskets filled with fibrous
peat and potsherds, and kept in a cool, moist
stove.

C. aux*len*der-flower*al*.' 1. Yellow and crimson.
May. Colombia. 1834.

" macu*la* 'ta (spotted). Yellow, with darker tips,
spotted purple. 1850.

Colombia. 1845.

" brunno*nvia'na (Brunnonian). Pinkish. Peru. 1857.

" che*los*ni (Chelsea). Garden hybrid. 1878.


" limmi*ngeht* (Limminghe's). Mexico. 1860.

" owen*ia* (Owenian). See C. Brunnowiana.

" sed*eni* (Seden's). Garden hybrid. 1880.

**CHYTROGLO SSA.** (Derived from chhetos, a well, and
glossa, a tongue; referring to the hollow at the base of
the lip. Nat. ord. Orchidaceae.)

Stove plants to be grown in baskets or on rafts.

C. aura'ta (golden). Green, yellow, purple. Brazil. 1865.

" marie*no'si*a (Mrs. Marieon's), Yellow, blood-red.
Brazil. 1865.

**CIBO TIUM.** (From kib*tion, a small box; referring
to the form of the seed-vessels. Nat. ord. Fert [Filices].
Linn. 24-Cryptogamia, 1-Filices.) All are species of
Dicksonia, most of them belonging to the section Cibotio-
ae. Division of the roots, or from spores (see FERT); peat
and loam; a warm greenhouse, or cool stove.

C. assi*mic*um (Assamese). See C. BAROMETZ.

China. 1824. Stove.

" billar'dier'i* (Billardier's). See Dicksonia ARCTIC*.A.

" chamis'si' (Chamisso's). Sandwich Islands. 1879.

" glau*con* (sea-green). Sandwich Islands. 1879.
CIBOUL. or WELSH ONION. (Allium fistulosum). A perennial, never forming any bulb, but sown annually, to be drawn young for salads, &c. Its strong taste renders it greatly inferior to the common onion for this purpose; but, from its extreme hardiness, it is good as a winter-storing crop for spring use.

Varieties.—Two varieties are in cultivation, the white and the red.

Cultivation.—It may be sown at all times with the onion, and is similarly cultivated, except that it may be sown thicker, and only thinned as wanted. (See Onion.) The blade usually dies away completely in winter; but fresh ones are thrown out again in February or March.

To obtain Seed.—Plant some of the roots in March, six or eight inches asunder. The first autumn they will produce but little seed; in the second and third, however, it will be produced abundantly. If care is taken to part and transplant the roots every two or three years, they may be multiplied, and will remain productive for many years, and afford much better seed than that from one-year-old roots.

Scallions.—The chief reason for concluding that by a confusion of names, arising from similarity of appearance, this vegetable is the true scallion, whilst the hollow look of Wales is the true Welsh onion. At present, and onions that have refused to bulb, but form lengthened necks and strong blades, in spring and summer, are called scallions.

CITC. DISTICHIA. See Phyllanthus distichus.

CICLEY. See Chabrophillum aromaticum.

CYNANDIA PULCHELLA. See Erithrea a ramosissima.

CICER. (From Latin Cicer, the Chick Pea, Nat, ord, Leguminosae.)

The Chick Pea is cultivated in the South of Europe, India, &c., and has been so grown from very early times. Under the name of gram, the Indians use it in cakes and curries. Seeds in ordinary garden soil in April.


CICERIUM. Chicory, or Succory. (An ancient Egyptian name. Nat, ord, Compositae [Composita], Linn. 19-Syngenesia, 1-Equalis.)

Hardy salad-plants, of easy culture; seed at different times. (See Chicory, or Gendive.)


CIEKOWSKA. (In commemoration of Professor Cienkowski, a Russian botanist, Nat, ord, Scitaminaeae. Now referred to Kempteria.)

A stowe perennial herb of considerable beauty. Division of the roots, fibrous loam, peat, leaf-mould, and sand. Moist atmosphere.


CIMICIFUGA. Bugwort. (From cimex, a bug, and fugo, to drive away; from its supposed quality, Nat, ord, Crowfoots [Ranunculaceae], Linn. 13-Polyandria, 5-Pentagynia. Allied to Actaea.)

Good old hardy herbaceous plants for borders; seeds, and division of the roots in spring or autumn; common soil.


CINCHO'I'A. Peruvian Bark. (Named after the Countess of Cinchon, who was cured by this Peruvian Bark, Nat, ord. Cinchonads [Rubiaceae]. Linn. 5-Pennaria, 9-Scelaria.)

The Peruvian bark stands foremost as a febrifuge tonic. Stove evergreens; cuttings of ripe wood in sand, under a glass, in heat, loam and fibrous peat, with a little sand and charcoal. Summer temp., 60° to 85°; winter, 55° to 60°. This is a very important family of plants, and some are extensively cultivated for their medicinal properties.


Cordifolia (heart-leaved). Pink. Colombia. 


Lanceola (lance-shaped). See C. officinalis. 

Ledgeriana (Ledgerian). Pink. Willow Bark. 


CINCLCNAS. FLAVENS. C. NI VEA, and C. TE'NERA. See Notochleena.

CINERARIA. (From cinere, ashes; in reference to the grey down covering the surfaces of the leaves, Nat, ord. Compositae [Composita], Linn. 19-Syngenesia, 2-Supertia.)

Hardy herbaceous species by seed, but chieflly by division of the roots; good, loamy soil, manure, and leaf-mould. The shrubs and under-shrubs, which mostly require a greenhouse or cold pot in winter, by cuttings in sandy soil, under a hand-light. The garden florists variety see further on.

STOVE EVERGREENS.


GREENHOUSE EVERGREENS.


capreolus (early). See Senecio frigidus.
salicifolia (willow-leaved). See Senecio salicinus.
sussilaginoides (cotsfoot-like). See Senecio Tussilaginis.

nestia (clothed). See Othonna vestita.

HARDY HEMISPEREOUS PERENNIALS.

C. alpina (alpine). See Senecio alpestris.

alpina (alpine). See Senecio alpinus.
arantii (orange). See Senecio palustris aurantiacus.

autumnalis (golden). See Senecio auratus.
auricula (small-eared). See Senecio racemosus.
campestris (wild). See Senecio campestris.

canadensis (Canadian). See Senecio Cineraria.

crispa (curled). See Senecio crispatus.


fragiles (fragile). See Senecio Smithii.

integrofolia (entire-leaved). See Senecio campestris.


macrophyllia (large-leaved). See Senecio Lede-bouri.

nana (sea, Rapaflor). See Senecio Cineraria.

palustris (marsh). See Senecio palustris.

papposa (downy-crowned). See Senecio papposus.

parifolia (small-flowered). See C. canescens.

patricia (lobed). See Senecio renifolius.


rivularis (rivulet). See Senecio Cineraria.

sativa (Sativa). S. Africa.

serrata (spiny). See Senecio Ligularia.

rubra (red). See Senecio crispatus.

thyssoi (thyme-formed). See Senecio sibiricus.

CINERARIA as a Florists’s Flower.—The immense variety of this flower seem to be the offspring, by various crosses, of Senecio crunθnus, malcofolius, lanatus, populifolius, and probably some others. 

Propagation.—When the plants have done blooming, remove it from the greenhouse, cut down the old flower-stems (excepting such as are intended to save seed from), place the pots out of doors, upon a bed of cookashes, in an open situation. Give water moderately in dry weather; and, as soon as the offsets appear, and have attained a leaf or two, take them off with a sharp knife, with the roots uninjured; plant them in small pots, and place them in a cold frame, shading them from the light for a fortnight, and from bright sunshine for another week. They will then be well rooted, and will require a pot a size larger. Very few are now grown from seeds, except it may be a few special varieties selected for seeding from.

By Seed.—Sow the seed as soon as it is ripe in shallow, wide pots, in light, fine soil, and slightly covered. As soon as they have formed two or three leaves, prick them out into the same kind of pots, in a somewhat richer soil. They may remain in these pots till they have made some more leaves and fresh roots; then pot them off singly into small pots, shading for a few days. After that, and at the proper time, re-pot them in the same manner as the offsets.

Soil.—The offsets and seedlings having attained the proper size for potting into larger pots, prepare for that operation by sowing and bringing, in a moderately dry state, to the potting-bench, the following compost:— Turfy loam, from an upland pasture, two parts; decayed leaves, two years old, one part; very rotten cowdung, half a part; and a small addition of river-sand. Prepare, also, a sufficient quantity of broken potsherds, of two sizes; one as large as walnuts, and the other about the size of peas. Have, also, a sufficient number of either new or well-rooted pots, two sizes, larger ones for the plants in pots. You are then ready for the operation of potting.

Winter Culture.—By the time the plants, whether offsets or seedlings, are ready for re-potting out of their first-size pots, cold nights will have begun to take place, which brings the time of culture under this head. Bring the plants on to the potting-bench; prepare a potting-place placing a large piece of pottherd over the hole at the bottom of the pot, then a layer of the larger size, and a second layer of the smallest size; place a thin layer of the rougher parts of the compost upon them, and as much sand as will allow the required amount of the pot to hold it. Plant it just below the rim of the pot; set the plant in the pot, and fill round it with the compost, pressing it gently down. Be careful not to break the leaves, as they are very brittle and tender at this time. The pot is then filled, and a pot clipped, and knocked upon the bench, to finally settle the soil. When all are finished, give a gentle watering, and place them in a cold frame; shade them if they flag from the sun, when necessary. This is a very fast-rooting, and they will soon require another shift. To know when they require it, turn a plant carefully out of its pot, and if the roots have reached the sides of the pot, and formed through the drainage, re-pot again immediately; for, if the roots once become closely matted, the plants will be crippled in their growth. The grand object is to keep them growing freely till they become large enough to be potted up, and transferred to the flower-stems. Before they begin to show their flower-stems. For market good plants are grown in five-inch pots. Keep them in the cool greenhouse where sufficient heat can be given to keep out frost. They may be kept in pots through the winter, but it entails much trouble, as they are easily killed by a few degrees of frost. Pick off all decaying leaves, should any appear; and only water when absolutely necessary. Then, when the top of the leaves is the green fly; but it may be easily got rid of by smoking with tobacco. Yet it must be carefully applied, as there is no plant so susceptible of injury from a too strong dose of this smoke that red spider makes its appearance; and when it does, it will be necessary to dust the leaves with sulphur, which, though it will not kill him, prevents his feeding, and thus starves him to death.

Diseases.—These plants, like all other highly cultivated ones with soft wood, are subject to go off just on the surface of the soil. The only preventive is plenty of fresh, sweet air, and a judicious application of water, especially during the early part of the year.

CINNAMOMUM.

(Cinnamon. From Cinnamonum, and dandron, a tree; as it resembles a cinnamon-tree, Nat. ord. Cannaceae.)

Stove tree, requiring similar treatment to Canella alba. Its bark is used as an aromatic stimulant. Fibrous loam, and cow-dung, 4 parts. C. corticosum (corky). 50. Red, W. Ind. 1860.

CINNAMOMUM.

(Cinnamon. From the Arabic name, kismann, Nat. Ord. Lauraceae, Linn. 9-Ennemandra, 1-Monogynia.)

Cassia Bark is obtained from nearly all the species of
CINQUEFOIL. See Potentilla.

CINQUEFOIL. See Potentilla.

CION is the same as Schon.


C. corda' is (heart-shaped). White. Himalayas.


CIRCUMPOSITION differs from layering, only that in this the shoot to be rooted is bent down to the soil, whilst, in circumposition, the soil is placed in a vessel, and raised to the shoot. There are pots called layering-pots, made for this practice, and differing from the common garden-pot only by having a section, about an inch broad, cut through one side, and to the centre of the bottom, for the admission of the shoot, or branch. Moisture necessary for favouring the emission of roots is supplied by means of a bottle, from which the bottom is struck off, and the neck furnished with a cork, perforated with small pigeons' heads, of wool, to form a syphon, by means of which the moss is kept in a proper state of moisture. Hard-wooded plants are propagated in this way from the middle of May till the end of June; and the branches are sufficiently rooted to be separated from the true Asiatic Cinnamon, Stove trees. Cuttings of fine shoots in April, in sand, under a glass, and a moist bottom-heat. Peat and loam. Summer temp., 60° to 65°; winter, 55° to 60°.

C. Bejolgo'ta (Bejolgota). See C. obtusifo'lium, "brachi'tus" (short-leaved), Java.

C. Burmar'nis (Burmann's). 40. White, yellow, Java.

C. Camphora (Camphora). 30. Greenish-white. June, China and Japan. 1727. "Camphor." Although camphor is secreted by many plants in this order, and more particularly by some species of cinnamon, the true camphor of commerce is obtained from C. camphora, which is a sapod of the oil procured from the wood, branches, and leaves, by means of dry distillation. Camphor is chiefly manufactured in the Island of Formosa, and from thence sent to Canton for exportation. The hard camphor of Sumatra and the camphor-oil of Borneo are the natural secrets of Dryobalanops aromatica.


C. du'ice (sweet). See C. Burmanni.

C. glau'a (slender). See C. Burmanni.

C. gr'is eisl (slender). See C. Camphora.


C. mon'a num (mountain). See Phrze Montana.


C. offici'nus (officinal). See C. Cassia.

C. on'osisfi'lium (oval-leaved). Ceylon.

C. Renu'm (Reinwardt). See C. Tamala.

C. sers ce'nun (silky). Japan. 1875.


C. ve'rum (true). See C. Ezelancium.

C. se'yum (Greenish. May. India and Malaya. "Cinnamon."

CIRRHOPETALUM. (From cirrus, a tendril; the rostellum being extended like a small tendril. Nat. ord. Orchidae [Orchidaceae]. Linn. 20-1804 [Gynandra, 1-Monandria].

Stove orchids. Grown in pots, and offshoots. Sphagnum, peat, broken pots, and charcoal, in shallow, open baskets, a high, moist temperature when growing; cooler and dry when at rest. Summer temp., 60° to 90°; winter, 55° to 60°.


C. fusco'lea (dusky-yellow). Of B. M. t. 3726. See C. Caccia. C. fusco'leuta of Lindley is not in cultivation.

C. la'via (white). Yellow, brown. July, Brazil. 1837.

C. Lod'digei siis (Loddiges's). Yellow, red. May. Brazil. 1827.


C. russ'el'ia (Duke of Bedford's). Green. red. May. Brazil. 1837.


C. squa'la (squalid). May. Brazil. 1836.


C. war're na (Warrreean). See C. Ve'ridi purpur'ea.

C. Collettii (Colletti's). Dark purple and yellow. Upper Burma, 1891.

C. compactum (compact). Pale yellow. Tenasserim, 1895.

C. compressum (flattened-stemmed). Java, 1843.


C. Cumingii (Cuming's). Ruby, May. Philippines, 1884.

C. Curtii (Curtis's). White, pink, and yellow. Malacca, 1897.


C. donga tum (elongated). May, Himalayas, 1843.

C. fascinor (fascinator). See BULBOPHYLLUM FASCINATOR.

C. fimbriatum (fringed). Green, purple. April, Bombay, 1836.

C. Ga
tiles (Gamble's). India.

C. gamosepalum (united-sepaled). India.

C. gracecum (most graceful). Reddish-purple, small. Burma, 1895.

C. grandiflorum (large-flowered). Ceylon.

C. grandiflorum (strong-smelling). See C. ROBUSTUM.

C. guttulatum (finely spotted). Yellow, Himalaya, 1837.

C. Beggansii (Beggans's).

C. Hookeri (Hooker's). Yellow and red-purple streaks. Western Himalaya, 1902.

C. lendaynum (Lenday). Whitish, greenish-yellow. 1889.


C. Macro's (M'gae's). Brown, yellow. April, Ceylon, 1838.


C. maculatum (spotted-flowered). Green, purple. E. Ind., 1841.

C. makoyanum (Makoyan). Light yellow, brown spots and lines. Brazil, 1879.

C. mastersia num (Mastersian). Deep yellow and brownish-purple. E. Ind.

C. maximile (Maxillaria-like). Philippines, 1843.

C. Medusae (Medusa's head). See BULBOPHYLLUM MEDUSA. 1841.


C. osoresus (Mysore). White; lip purple. Mysore, 1895.


C. notatum (nodding-flowered). Pale straw, May, Manilla, 1838.

C. ornatus ssimum (most ornate). Straw-coloured, purple lines. E. Ind., 1882.

C. Pahudi (Pahudi). Reddish-brown, Java, 1866.

C. papillo sum (papillate). Lined dark purple on pale ground. Siam, 1908.


C. prolifera (proliferous).


C. Citron's (Citron's). Cream-white, spotted deep rose. 1909.

C. refra sum (broken-back). See C. WAllICHI.


C. rothschildianum (Rothschildian). Crimson-purple, India, 1905.

C. Rothberrghii (Rothburgh's). Yellow, May, E. Ind., 1843.


C. strangulatum (strangled). Purple, yellow, brown, 1887.


C. tricolor (tricolor-flowered). Brown, white, spotted purple. Burma, 1876.

C. umbellatum (umbell-flowered). See C. GUTTATUM.


C. Wightii (Wight's). Ceylon.

C. SI'ISUM. See C. 'Cales.

C. Si'cha's cumum. See SERRATULA CICHORACEA.

C. heteromallum. See SAURUS BURERA CANDICANS.

C. orientia le. See GALACTITES TOMETOSA.

C. pinnatifidum. See SERRATULA PNIIFATIDA.

C. IS'SUS. (From kissos, ivory; in reference to their scrambling habit. Nat. ord. VINEWORTS [Ampelidaceae]. Linn, 4-TEIRANBRA, t-MONOGNOSY.)

A genus of stout and greenhouse climbers, with the exception of the handsome foliage of C. discolor, having no particular pretensions to beauty. We introduce it in order to remark, that with the exception of the grape-vine and Ampelopsis, the plants of this order are singularly deficient in use or beauty. The species require the same treatment as Cissampelos.

C. a'dida (acid). Yellow-green. W. Ind.


C. baudiniana (Baudinian). Green. Australia. 1790.


C. davisiana (Davidian). See VITIS HETEROFOYLLA.

C. d.scolor (two-coloured). Greenish-white. September, Java.


C. incisa (incised). Texas.

C. Lindnii (Linden's). Leaves blotched with white. Colombia, 1869.

C. Mexico (Mexican). Leaves similar to those of the Grape-vine. Mexico, 1888.

C. orientalis (oriental). Orient. Should be placed with Ampelopsis.


C. purpureophyllus (purple-leaved). See PIPER PHYROPHYLLUM.

C. quinquefoilia (five-leaved). See AMPHELOPSIS HEDERACEA, and PARTHECOCISSUS QUINQUEFOLIA.


C. rossidi (round-leaved). Arabia, 1884.

C. suberatula (tubercled). Scarlet, S. Amer.

C. Vitis (Vetch's). See AMPELOPSIS VEITCHII, PAR- THECOCISSUS TRICUSPIDATA, and VITIS INCOSTANS.

C. velutina (velvety). Red. Malaya (?).

C. vidicofolia pinnatifida (pinnatifid-vine-leaved). See VITIS SERIANOFOLIA.
CISTERNAS FOR THE ACCUMULATION OF RAIN-WATER SHOULD BE FORMED IN CONNECTION WITH THE GUTTERS OF THE VARIOUS BUILDINGS IN THE GARDENS, FOR NO WATER IS EQUAL TO IT FOR THE ARTIFICIAL SUPPLY OF MOISTURE TO PLANTS.

CITRUS

ROSE. (From hirta, a box; in reference to the hirt-in-the-hand-veined leaves, or to seed-veins; so called, Nat. ord. Rock Roses [Cistaceae]. Linn. 12-Issandria, 1-Monogynia.)

L. adamas fergus and L. Le' don produce gum ladanum. Seeds sown in April; if under glass, so much the better; layers and cuttings in May, under a hand-glass; dry soil; all smaller kinds suitable for rock-work; and although hardly in sheltered, dry places, it is safest to propagate a few every season, and give the protection of a cold pit in winter.

C. aitilvus (pointed-leaved). 1. White. August

South of Europe. Spain. 1860.

C. asperrimus (rough-leaved). See C. Longifolius.


C. cornutus (Corbor). 2. White, June, Spain. 1860.


C. cri'ticus (Cretan). See C. Villus'sus Creticus.

C. cruciatus (Cretan). See C. Tauricas.


C. cu'parinus (Cuparinii). See C. Corbariensis.


C. Deli'is (delile's). S.W. Europe.

C. dui'alis (Dalmat). See C. Villus'sus.


C. incnus (hoary). See C. Villus'sus.

C. ladani'ferus monspelie'nsis. S.W. Europe.

C. ladanus ferus (ladanum-bearing). 

Bog-cisto'sus. 4.


C. lal'us (loose-flowered). See C. Hirsutus.

C. Le'don (Lemon). See C. Gla'dius.


C. oblongifolius (oblong-leaved). See C. Longifolius.


C. psilos'tepalus (smooth-sepaled). See C. Hirsutus.


C. re'calunus (recognised). S. Europe.

C. ro'ndifolium of the seed-veil. See C. Villus'sus rotundifo'lius.


C. undulat'tus (waved). See C. Villus'sus undulatus.


C. varius (variable). See C. Albidus.


C. ro'sciscus (Corsican).


C. vulgus (common). See C. Villus'sus.

CITARE XYLUM. Fiddle-wood. (From khitha, a lyre, and xylon, wood; in reference to the wood being fit for musical instruments. Nat. ord. Verbenas [Ver-benasceae]. Linn. 14-Diynamia, 2-Angiospermae.)

Stove or boxwood, often grown in sand, under a glass, and in a bottom-heat; and often with peat. Summer temp., 60° to 80°; winter, 50° to 60°.


C. cyanoca'rus (blue-fruited). See Kaphithamus cyanocarpius.

C. don'ta'num (toothed). 15. E. Ind. 1854.

C. ilic'folium (holly-leaved). Ecuador.

C. me'lie (soft). Soft yellow. S. Amer.

C. pre'sidium (five-anchored). Porto Rico.


C. sert's cocum (silky). 3. E. Ind. 1854.


CITRARE BATUS. (From citrons, a citron, and bathus, a thorn; called the Orange Thorn by the colonists in Australia, the plant bearing small, orange-coloured fruit. Nat. ord. Pittosporads [Pittosporaceae]. Linn. 5-Fen' tandria, 1-Monogynia.)

Greenhouse evergreens, from Australia; cuttings in sand, under glass; sandy, turfy peat, and a little loam and charcoal. Summer temp., 55° to 75°; winter, 45° to 50°.


C. pauciflorus (few-flowered). 1822.

CITRON. Citrus Medica.

CITRULLUS. (From citron, the citron, the fruits resembling an orange or other species of Citrus. Nat. ord. Cucurbitaceae.)

Stove climbers of a herbaceous character, requiring treatment similar to that given the Cucumber.


CITRUS. Orange-tree. (From the Greek word kithon, the cistron, the fruits resembling an orange or other species of Citrus. Nat. ord. Rutaceae [Rutaceae]. Linn. 18-Polyadelpheia, 2-Polyandria.)

Greenhouse evergreen trees.

C. a'cida (acid). See C. Medica acida.

C. angula'ta (angul-ar-fruited). White. E. Ind.


C. variegata (variegated). Leaves variegated.

C. austral'sia (Australasian). Australia.

C. australis (southern). Australia.


C. Shaddock (Gum). Delicato'sa (delicious). See C. Aurantium.


C. faju'rica (Japann-small-fruited). See C. Aurantium Japonica.


C. Lim'io um (lemon). See C. Medica Limonum.

C. madura'nsis (Madura). See C. Aurantium Japonica.

C. Margaret'ta (pearl). See C. Aurantium Japonica.


C. a'cida (acid).

C. Lim'io a (Limetta). "Sweet Lime."

C. Lim'io um (Limonum). "Lemon."

C. odorat'sima (sweetest scented).
C. Melicola Rivensi (River's) White, St. Michael's, Azores. “River's Bijou Lemon.”

woobis (noble, Mandarin). 15. White, June, China, 1835.

n. n. (Tardal), Japan, 1889.

n. n. (larger). “Mandarin Orange.”

n. n. (smaller). 15, White, June, China, 1835.

n. n. (Tangerine). “Tangerine Orange.”


See C. Medicana.

n. n. (three-leafed). The proper name is E. Topinambur.

tulirica (common, Seville). See C. Aurantium.

n. n. (myrtifolia) (myrtle-leaved). See C. Aurantium.

Common Orange (C. Aurantium).—The following are esteemed varieties: The Blood-red, Sweet-kinned, the Ribbed, Pear-shaped, Tiny-fruited, Fingered, St. Michael’s, and Mandarin. The Mandarin and St. Michael’s are far superior to the rest for cultivation. The Mandarin is cultivated extensively at Malta, although originally from China: it has a thin rind, and is of very superior flavour. The St. Michael’s is also a small orange; but the skin is of a pale yellow; the rind, also, very thin, and the pulp remarkably sweet. The fruit is generally without seed, and the tree is a great bearer.

The Lime (C. Limetta) approaches the Lemon; but the juice is flat, and somewhat bitter. The Chinese have an awn, a large and round fruit; skin yellow, with a white, spongy rind; the pulp sweet and juicy. This has been successfully cultivated, in Devonshire, on the open walls, with protection in winter, by Mr. John Pritchard of Ecclesfield.

The Lemon (C. Limo-num).—The Continental growers are content to raise these from seed; hence the great difference in quality of the imported fruit.

The Sweet (C. Medicana) has a rich thorny, spongy, and very fragrant; pulp, sub-acid.

Propagation.—All the kinds will propagate freely by cuttings, either of the young shoots, or of those riper in character. They are inserted in close sowing; and are sown in early spring: these, by bottom-heat and high culture, are rendered fit for this operation in about four or five months. No clay is used in this delicate operation, which is best done in the usual way, and inserted in pots of sand. A close frame, with a bottom-heat of 75°, is necessary; and they must be plunged. They may be made at any period, excepting whilst the plants are growing. Some cultivators put out long, straight pieces of the Citron (which is easiest to propagate), of two or three years’ growth; and, as soon as they are rooted, they graft them.

Layer root with facility, but do not make such fine plants.

Grafting.—There are various ways of performing this operation, dependent much on the size and character of the stock. The most successful are, the young shootings which are sown in early spring: these, by bottom-heat and high culture, are rendered fit for this operation in about four or five months. No clay is used in this delicate operation, which is best done in the usual way, and inserted in pots of sand. A close frame, with a bottom-heat of 75°, is necessary; and they must be plunged. They may be made at any period, excepting whilst the plants are growing. Some cultivators put out long, straight pieces of the Citron (which is easiest to propagate), of two or three years’ growth; and, as soon as they are rooted, they graft them.

Layer root with facility, but do not make such fine plants.

Stocks.—The Citron has been mostly preferred; the Shaddock, however, makes a robust stock. McIntosh seems to recommend sowing any ordinary seeds—from such fruit, indeed, as have rotted in the warehouses, from which he has had complete success.

Seed.—Grafting from seedings thus is simple enough. A light, rich soil and a lively bottom-heat, with a somewhat close atmosphere, will produce plants eighteen inches high in a few months.

Soil and Culture.—All the family love a generous soil. One half a free, yet rich loam, and the other half composed of leaf-mould, old cow-manure, and sandy heath-soil, will grow them in high perfection, adding a little sand and lime. Care must be taken to use the turfy loam in heaps, and to drain well; indeed, all the materials should be somewhat coarse. They require liberal watering; and it must, when given, penetrate the whole mass of soil. They enjoy liquid manure occasionally. They are not only grown in pots or tubs, but planted out as trees, and against walls and trellises; and they are equally adapted for all these modes of culture. Span-roofed houses would be highly eligible for them as standards; and the sides and ends, being portable, might be removed in summer. The Citron family are impatient of intense sunshine, being, for the most part, natives of woods. A slight amount of shade, or, if necessary, occasional necessity. The temperature during winter—especially in houses with opaque roofs—must be very moderate; 48° to 50°, by means of fire heat, is quite sufficient. As light increases in the spring, the returning sun, the thermometer may be permitted to advance a little. In light houses, a thermometer of 50° to 55° will do no injury. Here, however, sheltering will, at times, be requisite.

Fruits.—Seasons—May to September. The Shaddock forms, in its natural state, one of the adjuncts of the modern dessert, these fruits are used in a variety of forms, both in confectionery, sweetmeats, and liqueurs. Thus, the Seville, Bizarade, or Bitter Orange comes from the bitter, rich pulp, for marmalade, bitter tinctures, candied peel, and for flavouring curacoa. The Bizarades are the kinds used principally for the production of cut blossoms by the French gardeners. The Bergamot has a pear-like fragrance; from this the perfumer obtains his bergamot essences. The Lime is used in flavouring punch and confectionery. The Shaddock has a cooling and refreshing juice; and the fruit is a splendid addition, in appearance, to the dessert. The Lemons are too well known to need comment. The Citron is used for sweetmeats, lemonade, and to flavour negus and punch.

The pruning—The Citron is best propagated by budding, which may be strictly termed a disease of this genus. A black fungus is frequently found on the leaf, having the appearance of soot, and perhaps arguaing a corrupt atmosphere: through this the young shoots may be burned off. This must be cleaned away, by a sponge, with warm water.

Insects.—The aphis and the scale (coccus) are amongst its principal enemies. The former may at all times be readily destroyed by flushing from the plant with water; the latter may be rubbed off by means of sponge bound on a stick, frequently dipping the sponge in a liquid consisting of two ounces of soft soap beat up in a gallon of water.

CLADANTHUS. (From klados, a branch, and anthos, a flower; flowering at the end of the branches. Nat. ord. Compositae [Composita]. Linn. 19 Syngenesis, 2-Superflua. Allied to Amemara.)

The annual from seeds, in April; the evergreen from cuttings, under a glass; common soil.


CLADRAESTIS. (Derivation not clear. Nat. ord. Leguminosae.)

A hardy, graceful, deciduous tree, with racemes of white flowers. Imported seeds, cuttings of the roots, budding, grafting, or layering. Ordinary soil.


Yellow Wattle.

Tupungo-virgata (golden variegated). Leaves variegated with yellow. 1907.

CLADESTINA PENDULIFLORA. See Lathrea Cladestina.

rectiflora. See Lathrea Squamaria.

CLARKIA. (Named after Captain Clark. Nat. ord. Onagraceae [Onagraceae]. Linn. 8 Octandria, 1-Monozyg.)

Hardy annuals. Seeds in common border, in March; or, in September, in reserve-garden, protected with a few branches in frosty weather, and transplanted, in spring, in patches, when they will bloom early, or sow early in spring, where they are to be grown.


Rhombidea (diamond-petaled). See C. Rhombidea.

Gauroides (gaura-like). See C. Rhombidea.

C. pulchella bicolor (two-coloured).

" flore-pleno (double rose). 1864.
" margosifrons (edged). Rose, edged white. 1858.

CLAY. (S. abelia Satarea.) Its leaves are sometimes used in soups and medicated wines. A very small number of plants is sufficient for a family. Saw early after a month earlier, in any light-soiled border. Thin the plants to two feet apart. The sowing must be annual. Seed may be saved by allowing some plants to run up the next spring. They ripen their seed in September.

CLAUSENA. (Derivation not explained. Nat. ord. Cleomataceae [Rutaceae]. Linn. 10-Decandria, 1-Monogynia.)

Stove evergreens, Cuttings of ripe shoots in sand, under a glass, in heat. Loam and peat. Summer temp., 60° to 80°; winter, 50° to 65°.

" corymbosifrons (corymb-flowered). White, Loyalty Islands. 1878. Fruit edible.
" Himalaya. 1900.

CLAVICEPS PURPUREA. The Ergot of rye, a fungus attacking Rye.

CLAUTIA. (Named after Clavicia, a Spanish naturalist. Nat. ord. Araliaceae [Myrsinaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Theophrasta.)

Stove cuttings. Cuttings of half-ripen shoots in sandy loam, with sand above, under glass, and in bottom heat; and loam. Summer temp., 60° to 85°; winter, 50° to 65°.

C. acumis (stem-flowering). Antioquia.
" fulgens (shining). Orange-red. Peru. 1867.
" Hookers (Hooker's). Peru.
" latifolia (broad-leaved). W. Ind.
" macrophylla (large-leafed). Brazil.
" pedelka (Riedelian). Orange. Brazil.
" pedelka (Riedelian). Orange. Colombia. 1874.
" spathulata (spathulate). See C. Hookeri.
" umbrosa (shady). Brazil. 1866.
" undulata (waved). Trop. Amer. 1831.

CLAY is a constituent of all fertile soils, though in these it rarely exceeds one-sixth part, and generally bears a much smaller relative proportion to the other constituents in the soil. It is not known as clay. It is the best of all additions to light, unretentive soils; for it retains moisture much more powerfully than any other earth. M. Schubler found, that when silicious sand lost eighty-eight parts of moisture, and chalky sand seventy-six, stiff clay, in the same time, lost only thirty-five parts.

Clay soils are the worst that can be for gardens; for there is scarcely one of the crops there cultivated that is not injured by stagnant water, which can scarcely be prevented in clay soils at some seasons; and, in wet weather, clayey soils cannot be worked, whereas the gardener must be inserting or attending to his crops every day.

For the improvement of clay lands, by rendering their staple less retentive, burning some of their own soil is an efficient application. One hundred tons per acre, for this purpose, are not too many; for a dressing as a manure, thirty tons are a good quantity, See PARING.

CLAYING is adding clay to a soil, to render it more retentive.

CLATYONIA. (Named after John Clayton, who collected plants in America. Nat. ord. Purslaneae [Portulaceae]. Linn. 5-Pentandria, 1-Monogynia.)

C. perfusa, a gay little annual, is used as a substitute for purslane in North America. Annuals, in border of sandy loam, or sandy peat, in March and April; tuberous species, by offsets in spring or autumn, and seeds in spring; herbaceous species, by division of the roots; vegetable mould and peaty soil.

HARDY ANNUALS.

C. alpinoides (Alpine-like). See C. SIBERICA ALBA.
" cebuniensis (Cuba). See C. PEROPIATA.
" gypsopholoides (gypsophila-like). See C. PEROPIATA.
" joannes (Joannes'). See C. ARCTICA.
" parvisf. (small-flowered). See C. PEROPIATA PARVIFLORA.
" a'lica (white). White, with red anthers. Nootta Sound.

unaschke'ntis (Unashkala). See C. SIBERICA.

HARDY TUBEROUS-ROOTED.

C. acutifloras (pointed-petaled). See C. VIRGINICA.
" caryophyllus (Californian). California, Herbaceous perennial.
" grandiflora (large-flowered). See C. VIRGINICA.
" lanceolata (spur-head-leaved). See C. CAROLINIANA.
" polyphylla (many-leaved). 1. Pink, April. N. Amer. 1827.
" sarmentosa (trailling). 1. Rose. Asia and Arctic Amer. 1827.
" spatulata (spatulate-leaved). See C. CAROLINIANA.
" umbellata (umbellate). N.W. Amer.

CLEIOSTOMA. (From kleio, to close, and stoma, a mouth. Nat. ord. Orchidaceae [Orchidales]. Linn. 20-Gynandria, 1-Monandria. Allied to Sarcocochliu.)

Stove orchids, except C. tridentata; divisions; blocks of wood, with a little sphagnmon moss, Summer temp., 60° to 80°; winter, 35° to 60°.

" crassifolium (thick-leaved). Green, purple. E. Ind. 1852.
" dawsoniana (Dawsonian). See TRICHOLOTTIS DAWSONIANA.
" dealbata (white). Yellow. September. Manilia. 1843.
" di'color (two-coloured). Yellow. March. India. 1844.
" fulceum (brown). See C. LATIFOLIUM.
" guiberi' (Guibert's). Yellow, with cinnamon rings. 1862.
" lanum (woolly). See SACCULARBUM LANATUM.
" n'genae (gaping). Yellow; lip purple, orange. Philippines. 1888.
" pulidum (pale). Malaya. 1837.
" siris'tium (strialed). Yellow, red. Darjeeling. 1872.
CLEISTANTHUS. (From kleistos, locked up or closed, and anthos, a flower;) the flowers are closed. Nat. ord. Euphorbiaceae.

Evergreen shrub shoots. Cuttings in sand, in bottom heat. Prepare scions from plant in dormant season. Seed sown in pots. Sun. Seeds are from the previous years growth. Mrs. Quilter and Albert Victor are good examples of this type, but there are many others, and they are extensively grown for early flowering in pots.

The Lanuginosa section include all the large-flowered sorts, and do not flower so early as those of the Patens type. The original C. lanuginosa was one of the finest. Alba magna, Beauty of Worcester, Fairy Queen, and purpurea elegans are good examples.

Montana section.—There are a few pretty varieties of this species, including one which is a decided red shade.

Coccinea section.—The original species is very distinct, with red, almost campanulate, flowers; but many hybrids have been raised, the flowers of which expand more, and are very pretty as pot plants. Fiorna is the name applied by some growers. Flammula is another species from which we have some good varieties.

Viitcella is another type; in this we have some of a decided red shade. All of the above may be propagated by grafting them on the young seedlings of C. Vitalba (our common Travellers Joy). Started in moderate warmth early in the spring the stock plants will soon make growth, and one shoot will give several cuts; they should be cut off quite close above a pair of leaves, and only sufficient length left below to cut a wedge-shaped portion to insert into the stock, which should be cut off just above the seed leaves and split deep enough to insert the scion. After being bound with cotton or raffia, they should be potted singly in small pots, and placed in a close frame where there is a moderate bottom-heat. And if cuttings taken in late autumn, the scion is more exposed as soon as they are well started. Some growers propagate from cuttings of riper wood during the summer; and in days gone by, layering was the usual practice, but now it is only a few distinct species that are increased in that manner. Some are raised from seeds, but the seeds having a very hard covering they should be kept in moist sand for some time before sowing. With C. Vitalba it was our practice to put the seed in moist sand soon after collected, and sow it as early as weather permitted in March. The seedlings then made useful stocks for the following spring.

STOVE EVERGREEN CLIMBERS.


braziliana (Brazilian), 12. White, Brazil, 1823.

barbizone (Carpe), 12. White, Mexico, 1820.


grandiflora (large-flowered), 12. Yellow, green. Sierra Leone, 1823.

hedysarifolia (Hedysarum-flowered). White, E. Ind. 1819.

smilacifolia (Smilax-flowered). 20. Purple, E. Ind. 1824.

GREENHOUSE CLIMBERS.

C. afoliatia (leafless), New Zealand.


bakeriana (Bakerthy), 12. White, Austria, 1821.

bakeriana (Bakerthy). So called of Rich. See C. calycina.

barbella (finely bearded), Chocolate and cream-coloured. May, Himalayas.

benthamiana (Benthamian). China.


Cape of Good Hope. Evergreen.

brevicapsa (Buchhianian). Greenish-yellow Himalaya and China, 1900.


Hart-hardy evergreen.

critica (scarlet). Scarlet, Texas, 1868.

luteola (yellow), Yellow inside, 1888.

parvisora (small-flowered). Small, reddish inside, 1888.

colorosa (Colenso's). Yellow, New Zealand, 1889.

coriaceaa (leather-leaved). See C. aristata coriacea.

Drummond's (Drummond's). N. Amer.

glycosis (glycosic-like). 10. White, Australia, 1826.

gracilis (strong-smelling). See C. orientalis.


Hildebrandii (Hilarii). Bluish-white, fragrant. Brazil, 1904.

indica (undivided-leaved). 20, White. cream. April, New Zealand, 1842.

lobata (lobated). 20, White. cream. April, New Zealand, 1847.

linarioboa (narrow-lobed), See C. crispa.

meyenia (Meyenian). China.

nepalensis (Nepalese). White, Himalaya.

odorata (fragrant). June, E. Ind. 1852.

Owen's (Miss Owen's). Flowers small, Port Natal.

Sandeti (Sandet's). White, fragrant. Australia, 1907.


HARDY CLIMBERS AND HERBACEOUS.


latus (broad-cut-leaved), White. Segments of leaves broader. Amurland, 1899.

altaica (alpine). Varying from blue to white. May. Mountains of Europe, 1753.


apifolia (Celery-leaved). China and Japan.

armadilios (Armand's). White, 24 in. across. West and Central China, 1904.


bergneri (Bergner's). Origin unknown.


calycina (calyce-flowered). See C. patens.

grandiflora (large-flowered). See C. patens graniflora.

californica (California). Californian, 1840.


connata (conantate). White. Himalaya, 1801.


Herbaceous Perennial.

crispa (crisped). See C. crispa.

hendersoni (Henderson's). See C. hendersoni.

daceya (Davyeian). See C. heracleefolia davi-diana.

davidiana (Davidian). See C. heracleefolia davi-diana.

diversis/olia (diverse-leaved). 4. White, April,

china (China). See C. heracleefolia dav-diana.

Douglasii (Douglas's). Blue, bell-shaped, N. Amer, 1889.

erct (ectet), See C. recta.

grandiflora (large-flowered). See C. recta grandiflora.

hisplica (Spanish). See C. recta.

Fusia (Flamula). 20. White, August, Europe.


See reference fragrant. the songa'rica 1596.

yellow. 1818. flowering.

HERACLE^EFO^LIA green. three-

Japan. (purple-


bloomed

in.

Blue.

purple.

in.

August.

Japan.

White.

1863.

May.

in.

August.

Japan.

White.

1864.

across.

in.

July.

1794

half-ripe

BREVICAUDATA.

_RECTA.

pa'tens

five-leaved).

nepale'nsis

massonia'na

Fortunei

florid.

suksdo'rfii

Suksdorf's).

Ligusticum-leaved.

September.

ORNITHOPODIOIDES.

903

Mongolia.

Japan.

imperial.

in.

Green.

to

Japan.

White.

White.

in

1890.

Purple.

in.

United

Traveller's

White.

20.

Amer. 1863.

20.

Amer.

July.

1875.

White.

White.

in

C.

Japan.

Australia.

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**STOVE SHRUBS AND HERBACEOUS.**


*polygama* (various-flowered). See C. SERRATA.

*pungens* (stinging). See C. PINOSA.


**CLERODENDRUM.** (From *keros*, chance, and *dron*, a tree; said to be owing to the uncertainty of the medicinal qualities. Nat. ord. Verbenas [Verbenaceae]. Linn. *Didymanthus*, 2-Angiospermia.)

Seeds sown when ripe, or in the following March, in a hotbed. Cuttings of the firm, short side-shoots, when growth is commencing, in March or April, in sandy peat, under a glass, and in bottom-heat, Loam and peat, with a little charcoal and dried cowdung, assisted with heat, until they show flower; keep cool and dry in winter, and pruned back in spring, that vigorous shoots may be formed. Summer temp, 60° to 85°; winter, 45° to 50°.

**GREENHOUSE EVERGREENS.**

*C. attenua'tum* (attenuated), See C. FLORIBUNDUM.


C. *glab'rum* (smooth), S. Africa.


*vis'dum* (livid), See C. FORTUNATUM.

*serrata'num* (lame), See C. TRICHOTOMUM.


**STOVE EVERGREENS.**


*angusti'fo'lium* (narrow-leaved), See C. FORTUNATUM.

*Ballo'rus* (Ballour's), See C. THOMSONIA.


*Bucha'nii* (Buchanan's). India.


*capitat'um* (head-flowered), 5. Cream. August. Sierra Leone, 1846.


*cocci'num* (scarlet), See C. SQUAMATUM.

*cordif'orurn* (heart-leaved), See C. INFORTUNATUM.


*Cunningha'mi* (Cunningham's), Australia.


*heilan'hemip'orium* (sunflower-leaved), See CARY-OPHIS WOLLICHIANA.


*icosa'ndra* (elegant). Country unknown.


*flori'num* (white).

*floribu'n'dum* (bundle-flowered) of gardens. See C. EMERENSE.

*grandul'o'sum* (glanded). Scarlet, September.

*glau'cum* (grey-green), 4. E. Ind., 1845.


*heilan'thems'porium* (sunflower-leaved), See CARY-OPHERIS WOLLICHIANA.


*ille's* (illustrious). Bright scarlet. Celebes, 1884.


*in'fortunat'um* (unfortunate). 6. E. Ind. *Kampfi'eri* (Kempfers's), See C. SQUAMATUM.

*laure'fo'rum* (laurel-leaved), Scarlet. E. Ind., 1825.

*leucoc'ptum* (white-sceptred), See LEUCOCEPTRUM CANUM.


*Mexico, 1790.

*macrophy'rum* (large-leaved). See C. SERRATUM.


*myrrhus'phi'lium* (ant-loving). Singapore.

*neris'fo'lium* (oleander-leaved). White. May, E. Ind. 1824.


*odor'um* (scented). See CARYOPHIS WOLLICHIANA.


*pyramid'ide* (pyramidal), See C. PANICULATUM.

*querc'u'sum* (Quercianth). Flesh, then red and crimson. Java, 1889.
CLETHRA (From Klethra, the Greek name of the Alder; alluding to a supposed resemblance between their leaves, Nat. ord. Heathworls [Ericaceae]. Linn. Dec. 1699. Allied to Andromeda.)

Cuttings of half-ripe shoots, of the tender species, in April, under glass, and in sandy soil, The North American species are hardly enough for our shrubberies; they are propagated by layers in autumn, or by fom cuttings in sand, under a handlight, in summer; for all, peat is necessary.

HARDY DECIDUOUS SHRUBS.


C. americana (Rose and white base. Massachusetts. 1907.


C. ferruginea (variegated). Rose and white base. Madeira.


C. quercifolia (oak-leaved). See C. alnifolia.

C. tomentosa (downy-leaved). See C. alnifolia.

GREENHOUSE EVERGREENS.


CLEVE RA. (Named after Dr. Cleyer, a Dutch botanist, Nat. ord. Theads [Ternstroemiaceae]. Linn. 198 Polyandria, 1 Monography.)

Greenhouse or evergreen shrubs. Cuttings of half-ripe shoots in sand, under glass; sandy, fibrous peat. Summer temp., 60° to 70°; winter, 45° to 50°.

C. Fortuin (Fortune's). Japan? B. M. f. 7434.


CLIA'THUS. (From kleioi, glory, and anthos, a flower. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Didaphes, 4- Decandria. Allied to Sutherlandia.)

The Parrot-Beak plant and the Glory Pea of New Zealand. Half-hardy evergreen shrubs. Cuttings in sandy soil, under glass, root freely. C. Dampieri is the most showy, and may be raised from seeds; some early in the year the plants will flower the same season, but are liable to die off just as they should be coming into flower; and loan, with a little sand or charcoal. Young plants are best grown rapidly, old plants are so subject to red spider; do well in pots, planted out in a conservatory, or against a wall, where a little protection can be given in winter.

C. calamata (desh-coloured). See Strebleorrhiza speciosa.


C. Glory Pea of Australia.

C. germainica (German). Garden variety, 1880.


C. tri-color (three-coloured). Standard white at base; outside, black, scarlet, 1903.


C. aibus (white). Flowers white. 1902.


CLIB'A DIUM. (Nat. ord. Compositae.)

Stove herb, with small heads of yellow or whitis flowers in coryms. Cuttings in sandy soil in summer, in a case. Loan, leaf-mould, and sand.

C. surinamena (Surinamese). Yellow. S. Amer.

CLICK BEETLES. The winged forms of species of Elater, the grubs of which are known as Wireworms, which see.

CLIDANTHUS FRA GRANS. See Chlidanthus fragrans.

CLIDE MIA. (Commemorative of Clidei, an ancient Greek botanist, Nat. ord. Melastomaceae.)

Stove shrubs, allied to Miconia and requiring similar treatment.


C. the first Melastomad to bloom in Britain.

C. viria (striped). Rose, Peru. 1875.

CLIFFORDIA. (A commemorative name. Nat. ord. Rosaceae.)

Greenhouse shrub with densely leafy branches. Cuttings in sand under a bell-glass. Fibrous loam, leaf-mould, and sand.

C. ilicifolia (bolly-leaved). S. Africa.

CLIFTO NIA. (A commemorative name. Nat. ord. Cynghalaceae.)

Greenhouse shrub. Cuttings of half-ripe shoots in sand under a bell-glass. Fibrous loam, leaf-mould, and sand.


C. Buckwheat Tree." Syn. C. ligustri nana.

CLIMATE controls the growth of plants most imperatively; and, in the cultivation of his fruits, flowers, and culinary vegetables, it forms the first object of the gardener's inquiry. He must first know the climate of which any given plant is native; and, secondly, the soil which it requires, before he can cultivate it successfully. How all-influential climate appears from the fact, that different countries, though in the same degrees of latitudes, have often a totally different flora on soils similar in constitution.

Now the reason for these differences is, that the countries thus contrasted differ in climate; that is, they differ in the intensity and duration of the light and heat they enjoy; they differ in the contrast of their day and night temperatures; they differ in the relative length of the day and night; they differ in the length of their summer and winter, or, which is synonymous, in the relative lengths of their periods of vegetable activity and rest; they differ also in the amount of rain which falls, not only annually, but at particular seasons; they differ...
in having much atmospheric moisture deposited, in the form of rain, or dew, or snow at the different periods of vegetable activity or rest. Now, whatever these differences are, whatever the peculiarities of a climate from which a plant comes, the gardener cannot cultivate it successfully unless he knows to that plant those climatical differences and peculiarities. We often see long tables of the average monthly temperature of places; but these are useless. They are no guides to the gardener. We know, for instance, the average highest and lowest temperatures of each month, as well as the highest and lowest degrees the thermometer is known to reach during the same period.

CLIMBERS are plants which attach themselves to supporters by their natural appendages, as by their tendrils, by their hooks, or by other modes of attachment.

CLINA NTHUS. See STENOMESSON.

CLINO' GYNE. (From klinon, a bed, and gyne, the ovary, Nat. ord. Scitaminaceae.) Stove herbs requiring the same treatment as Alpinia. C. gran'dis (large). Burma, Malaya. *s. miliis (similar). 2. White. Trop. Africa ? 1903.

CLIN'TO'NIA. (Named, by the unfortunate Douglas, after his friend, De Witt Clinton, Governor of the State of New York. Nat. ord. Liliaceae.) Hardy perennials of dwarf habit, allied to Trillium and Lilium. They are found in the short creeping rhizomes. Suitable for peaty beds at the base of the rockery, or where leaf-mould is used and a little shade given. Seeds and offsets.

C. alp'na (alpine), Himalaya. 2. andreni'na (Andrenian). 1 to 1 1/2. Claret-purple. California, 1888.


C. elegans (elegant). See DOWNINGIA ELEGANS, 1773.

C. pulch'ella (beautiful). See DOWNINGIA PULCHELLA, 1775.


CLOCC' OCA TENUIF OLLIA. See LINUM SELAGINOIDES.

CLIPPING hedges should be confined to those of the commonest and hardest varieties of shrubs, as those of hawthorn and privet; for the bruising and mangle of the branches which accompany this operation are very injurious to evergreens, as the laurals and holly. Those and others may be much better in order, and within bounds, by the knife. In clipping, many of the leaves of those are cut in half; and their decayed edges are very unsightly. Clipping of deciduous hedges is most advantageous when the shoots have been cut off and the dead shoots then induced, which keeps that chief desideratum in hedges—thickness and closeness of texture.

CLOSI'OCAMPA NEUSTRIA. See LACKEY MOTH.

CLITA'NTHES HU MILI S. See STENOMESSON HUMILE.

CLITA'NTHES LU TEA. See STENOMESSON RECURRETUM.

CLITA'NTHES MACLE A'NICA. See STENOMESSON RECURRETUM.

CLITO'RIA. (From kleio, to shut up; in reference to its secluding within the flower long before the flower drops off. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadelphia, 4-Disandra. Allied to Phaseolus.) Stove evergreen twiners, except where otherwise mentioned. Cuttings of stubby side-shoots in heat, in sandy soil, in close frame with bottom-heat; and seeds, when procurable; sandy peat and fibrous loam, with sand and charcoal, Summer temp., 60° to 65°; winter, 50°.


C. berteri'na (Bertera's). See FERIANA BERTERIANA.

C. brasili'na (Brazilian). See CENTROBRO TRIBUS.

C. bru'ssonet'tii (Broussonet's). See COLOGANIA BROUS.-
of ground, or of plantation; but, on all occasions, a jealousy of art constantly attends them, which in their figure will not always alone remove. Though elevations show them to advantage, yet a hillock evidently thrown up on purpose to be crowned with a clump is artificial to a degree of disgust. Some of the trees sometimes being planted on the sides, to take off that appearance. The same expedient may be applied to clumps placed on the brow of a hill, to interrupt its sameness; they will have less ostentation of design if they are, in part, carried down either declivity.

A line of clumps, if the intervals be closed by others beyond them, has the appearance of a wood, or of a grove; and, in one respect, the semblance has an advantage over the trees in different points of view. The relations between the clumps are changed; and a variety of forms is produced, which no continued wood or grove, however broken, can furnish. These forms cannot all be equally agreeable, and too anxious a solicitude to make them everywhere pleasing may, perhaps, prevent their being ever beautiful. The effect must often be left to chance; but it should be studiously consulted from a few principal points of view; and it is easy to make any recess, any prominence, any figure in the outline, by clumps thus advancing before, or retiring behind one another.


Stove evergreen trees; cuttings of half-ripe shoots in sand, under a glass, and with good bottom-heat; rich, sandy loam. Summer temp., 60° to 85°; winter, 50° to 55°.


**CLUYTIA.** (Named after Cluyt, a professor of botany at Leyden. Nat. ord. Euphorbiaceae [Euphorbiaceae]. Linn. 22-Diglis. 3thriandra.)

Greenhouse evergreen shrubs, except where otherwise specified. Cuttings of small side-shoots; but, if not to be got, points of shoots before they become hard, in sand, over a, layer of sandy loam and fibrous. Summer temp., 55° to 75°; winter, 40° to 45°. The East Indian species require more heat in winter.


coll'na (hill). See CLEISTANTHUS COLLINUS.


Greenhouse evergreen shrubs. Cuttings in sand, under a glass, in April; peat and fibrous loam, with a little silver-sand. Winter temp., 40° to 45°.


**CNESTIS.** (From knoe, to scratch; referring to the prickly capsules. Nat. ord. Conneradi [Connaraceae]. Linn. 10-December, 4Penanaba.)

Stove evergreens. Cuttings of ripe young shoots in sand, under glass, in swes. bottom-heat. Loam and sand, both fibrous, with sand. Summer temp., 60° to 85°; winter, 50° to 60°.


**CNICUS.** (From chinin, to injure; in reference to the prickly character of the plants. Nat. ord. Composita.)

Biennials from seeds; perennials by seeds and division. Any garden soil.

**HARDY BIENNIALS.**

**C. Ac'sna (Acarina), 2.** Purple. August. Spain. 1683.


" inca'na (hoary). See C. ARVENESIS.


**HARDY HERBACEOUS BIENNIALS.**


**HARDY HERBACEOUS PERENNIALS.**


" amel'o'eu (ambiguous). See C. HETEROPHYLLUS.


" arm'a'tus (armed). Bulgaria.


" benedicit'us (blessed). See CARBENIA BENEDICTA.
C. Bertoloni'ii (Bertoloni's). 3. Yellow, July, Italy. 1820.
  "candel'a-brus (candelabra), Greece.
  "ca'exus (grey), Europe.
  "carnilovakus (Carniolan), See CN, RIVULARIS,
  "Carol'orum (The Kings Charles), Scotland.
  "Chamaepe'chu (Chamepeuch), 2 to 3. Yellow; Greece;
  "chno'o'rous (snouted), 1. June, Crete, 1827.
  "cervino'ri (Artichoke-like), 2. Purple, July,
  "chelina'kus (hedgehog-like), 1. Purple, August,
  "clay's (taller), See CN, POLYANTHEMUS,
  "Falco'ni (Falconer's), Himalaya.
  "femino'bus (fringed), 4. Purple, July, Caucasus.
  "For'sie (Forster's), Natural hybrid (palus'tris x praten'tissis).
  "glutino'sus (clammy). See CN, CHROMOCUS,
  "Gnaphalo'des (Gmelin's), See CN, ACAULIS.
  "heleni'o'ides (Helium-like), 6. Purple, July,
  "hetero'phyllus (various-leaved), 2. Purple, July,
  "hellebor'us (yellow). See C, S. koko's, Spanish.
  "lauri'o'rus (woolly-flowered), 2. Purple, July,
  "macr'o'cus (yellow-white). See C, S. koko's, Spanish.
  "metallicus (plant-louse), 16. Purple, July,
  "microsta'chya (small-spiked). 16. White, green
  "n eviction (white). See C, S. koko's, Spanish.
  "olera'ceus (pot-herb), 3. Pale yellow, July, Europe.
  "pa'u'rus (six-foot), 6. Purple, July, 1823.
  "paludo'sus (marshy). 3. Purple, July, Switzerland.
  "pamp'o'micus (Pannonian), 3. Purple, August,
  "parvillo'rus (small-flowered), See CN, OLERACEUS,
  "poli'a'numus (many-flowered). 2. Pink, June,
  "pre'te (snipped). 1. Purple, July, Britain.
  "pyren'a'cus (Pyrenean). Europe,
  "rhiz'o'o'phus (head close to roots). 4. Yellowish,
  "ri'gens (stiff). 2. Yellow, July, Switzerland.
  "rule'scens (somewhat rusty), 3. White, July,
  "salisburge'nsis (Salisburyan). 3. Purple, July,
  "serrula'tus (Serratula-like), 3. Purple, August,
  "spathe'hus (spathulate). Italy.
  "spin'o'ssimus (most spiny). 3. Pale yellow, July,
  "serrulato's (Serratula-like). 3. Purple, August,
  "sphe'rius (dried). 2. Purple, August, Naples.
  "tara'ricus (Tartarian). Temperate Asia.
  "Wallich'i (Wallich's), Himalaya.

COAL. See FUEL.
COAL-ASHERS. See ASHES.
C. ber'ca (named after M. Cobo, a Spanish botanist,
  Nat. ord. Phloxsortae [Pollenaeaceae]. Limn. 5-Penat'dria,
  1-Monogynia.)
Half-hardy evergreen climbers. Cuttings of firm side-
shoots taken from seed sown in a hot-
bed, in March. Poor, sandy soil, otherwise they will
grow too freely to bloom profusely. Greenhouse, or
poles, or wall, during summer, in open air.
C. leu'ca (yellow). See C, MACKROSTEMA.
  "macro'ssa (mucronate). 20. Green, yellow,
  "macro'ssa (long-crowned). 20. Green, yellow,
  "macro'ssa (long-crowned). 20. Green, yellow,
  "macro'ssa (white). White.
  "variega'ta (variegated). Leaves variegated with
  "stipula'tris (large-stipled). 20. Yellow, October,
  "stipula'tris (large-stipled). 20. Yellow, October,
  "stipula'tris (large-stipled). 20. Yellow, October,
  "stipula'tris (large-stipled). 20. Yellow, October,
  "stipula'tris (large-stipled). 20. Yellow, October,

COBRA. Now referred to Stenomesson, which see.
C. acu's (See STENOMESSON INCARNATUM ACUTUM.
  "cocci'nea. See S. COCCINEUM.
  "fus'a. See S. INCARNATUM.
  "hu's'lis. See S. HUMILE.
  "mic'ina's (See S. INCARNATUM.
  "minia's (vermilion). 3. Vermilion, April, Peru,
  "stylo sa (long-styled). Orange-red. March, Quito.
  "tricho'ro'ma. See S. INCARNATUM.
  "vers' color. See S. INCARNATUM.

COCCINE'LLE. Lady-Birds. There are about thirty
species of this useful and beautiful insect. Let no one
destroy a coccinella, for it is one of the greatest destroyers
of the plant-louse, or aphis. It is much better appreci-
ated on the Continent than in England; for there the
gardeners collect lady-birds, and place them upon roses,
&c., infected with aphides. They are most effective in
destroying aphids on Chrysanthemums,

COCCOY SEM. (Derived from kokhos, a berry,
and kypsel, a little hollow vessel; in reference to the
form of the fruits. Nat. ord. Rubiaceae.)
C. bux'i'foum (box-leaved), See FERRNELIA BUXIFOLIA,
  "campanulifo'rum (bell-flowered). 1. Blue, July,
  "cordi'o'foum (heart-leaved), White, lilac, Brazil,
  "de'sco'lor (two-coloured). See C, HIRSUTUM.
  "hirs'u'tum (hairy). Fruits blue, 1882.
  "mosto'carpeo'male. White. Leaves metallic in
  "umbel'a (umbelled). Peru.

COCCOLOA. Sea-side Grape. (From kokhos, a berry,
and lobos, a pod; in reference to the fruit. Nat. ord.
Buchweisses [Polygonaceae]. Linn. 8-Octandria,
3-Trigynia.)
Stove evergreen trees. Cuttings of young, firm shoots,
in spring or summer, in sand, under a glass, and in
bottom-heath. Summer temp., 60° to 80°; winter, 50°
to 55°.
C. acumin'a (pointed-leaved). 20. White, green
  New Grenada, 1820.
  "caracasa'na (Caracas). Venezuela.
  "excor'ia (backed). 80. White, green. W. Ind. 1733.
  "flavo'sceens (pale yellow). 15. White. St. Domingo,
  "grandi'o'foum (large-leaved). White, green.
  "green. Trop. Amer. 1850.
  "guatem'al a (Guatemalan). 1816.
  "laurifou'lia (laurel-leaved). 20. White, green. August,
  "longi'o'foum (long-leaved). 20. White, green.
  "macro'ssa (large-leaved), See C, RUGOSA.
  "micro'sa'cha (small-spiked). 16. White, green
  W. Ind. 1822.
  "n'cin'ea (white-leaved). See C, EXCORTIAR,
COCCUS.

Scale Insect. The species of this family are apt to be extremely destructive, found upon the tenants of our greenhouses and hothouses. They are active, but the females usually fixed to a part of the plant. The former have wings, and are so small as to render it difficult to distinguish them clearly: they then appear somewhat like a gnat in form. The females are much larger, and in shape not unlike a bed-bug, but with a scaly skin. When hatching they envelop themselves in a woolly case. The eggs are oval, but no larger than dots. Brushing the stems and branches of trees and shrubs with a hard scrubbing-brush will destroy many of these vermin; and, if spirit of turpentine, with a painter’s brush, is applied, so as to visit every cranny of the bark, the application is perfectly effectual. The older and more delicate plants in pots may be placed under a sea-kale or other cover, with a little of the spirit in a saucer; or, if committed to a gentle heat, the vapour of the turpentine will destroy the insect in one or two days. If the first application fails, the second will not fail.

C. adonidum. Mealy Bug. If this insect is attacked the moment the first is seen the pest may be usually avoided. Vines attacked by it should have every branch and stem brushed over sedulously with a hard brush. The Leaves are covered with a painter’s brush as thoroughly painted over with this mixture:—Soft soap, 8 lbs.; flowers of sulphur, 2 lbs; tobacco, 1 lb.; and a wine-glass of spirit of turpentine Mix the sulphur, turpentine and soap into a paste with warm water; boil the tobacco for an hour in a covered saucenpan in some more water, strain it, mix it with the soapy mixture, and then add enough water to make five gallons. More severe pests can only have their stems and leaves sponged with water at a temperature of 112°, frequently, and so

C. nymphoides. (Nymphoid-scale). See C. CELTA. (reversed-egg-shaped), 50. White, green.

S. Amer. 1824.

C. intimis (Nymphoid-scale). See C. MICROSTAGHYRA.

orbicularis (round-shaped), See MUSELENSKIA

orbicularis.

peltis (peltate), Brazil, 1828.

C. nolatula (narrow-leaved), C. RETUSA.

virens (green), See C. CORONEATA.

C. COCCUS. (From coccus, cochinchea-coloured; in reference to the scarlet colour of the fruit. Nat., ord. Menispermads [Menispermae]. Linn., 22-Dioica, 6-Helodoxia.)

Stove evergreen climbers, from the East Indies. The Coccus tetrodes of the druggists’ shops is the berry of Anamirta COCCUS. Cuttings of half-ripened, small side-shoots, in sandy soil, under a glass; peat and loam, both fibrous and sandy. Summer temp., 60° to 68°; winter, 50° to 52°.


N. Amer. 1759.

C. cordifolius (heart-leaved). See Tinospora CORDIFOLIA.

C. crassus (curled). See Tinospora Cripsa.

C. diversifolius (diverse-leaved). Mexico.


C. incausus (hoary). See Pericampylus Incanus.


C. populifolius (poplar-leaved). See Anamirta COCCUS.


C. suberosus (cork-barked). See Anamirta COCCUS.

C. tomentosus (woolly). See Tinospora Tomentosa.


COCHELARIA. Scoury-grass. (From Kochelarion, a spoon; in reference to the fruits, Nat. ord. Crucifers [Cruciferae]. Linn., 15-Cardium.)

Seeds, divisions, and cuttings, the first in the open border. They are of little ornamental interest, Arctium caudatum is a herbaceous perennial. A. cavae (stemless). Lilac. April, Portugal, N. Africa. 1845.

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C. integrifolia (entire-leaved). See Extrema alpestre.


Britain.

C. pyrethrum (Pyrethrum). See C. officinalis.

See Horse-radish and Scorry-grass.

COECHLIO'DA. (From coechlis, resembling a snail; the shape of the flowers in some species. Nat. ord. Orchidaceae.)

Stove epiphyllous orchids. For culture see Odontoclossus.


C. aurantiaca (orange). r. Orange-scarlet. 1895.


C. grandiflora (large-flowered). Flowers much larger.

COECHLISTE MA. (Derived from cochli, to twist, and stema, a stamen; in allusion to the twisted stamens. Nat. ord. Commelinaceae.)

Two very closely allied starchy plants (Bulbophyllum) occur. Seeds are freely produced if the flowers are hand-fertilised, and should be sown when ripe. A composite of fibrous loam, peat, and leaf-mould in equal proportions, with some sharp sand, will suit them admirably. Moist store treatment.


COECHLIOPTERUM. (From coelcho, to twist, and sperma, seeds. Nat. ord. Bráxiceae [Bixaceae]. Linn. 16-Monadelphia, 6-Dendracendra.)

Stove evergreen trees. Cutting of ripe shoots in April, in sand, in bottom-heat; peat and loam. Summer temp., 60 to 80°; winter, 50 to 55°.


C. stiltifolium (Vine-leaved). Mexico.

COCKERFEHR. See Melolontha.

COCKSCOMB. See Celosia. Rhina'nikus Crista-galli and Erythrina Crista-galli are also so-called.

COCKSPUR THORN. Crape'gas Cruse-galli.

COCOA-NUT FIBRE. This material consists of the outer covering of Cocos nucifera. The actual fibre is not much used in gardens except for brushes, &c.; it is the refuse that is much appreciated, being used for the propagating frames (which see). It is also valuable as a covering for all bulbs and other plants that want such until they are well started into growth, and also for covering flower-beds to prevent evaporation of moisture. Formerly it could be purchased at a very low price, but in more recent years it became much more expensive, owing to other uses having been found for it.

COCOA-NUT TREE. Co'còs nuci'fera.

COCOA PLUM. Chrysober'lanus.

COCOA ROOTS. Calad'ium.

CO'COS. Cocoa-nut tree. (From the Portuguese word coco, a monkey; in reference to the end of the nut being like a monkey's head. Nat. ord. Palmae [Palmaeae]. Linn. 21-Monacca, 6-Hexacandra.)

Seeds in hotbed, in spring; rich, loamy soil, somewhat shaded.

C. acuta (prickly). See Acrogonia sclerocarpa.

C. amara (bitter). 50. W. Ind. 1850.


C. Boon'ni (Bonnet's).

C. bo'roy'hora (bunch-bearing). 40. Yellow. Brazil.

C. butirothi'a (Bayberry). S. Anthony. 1850.


C. corona'ta (crowned), 50. Brazil. 1836.

C. D'til (Dalti). 30. Argentine. 1889.

C. erio'sp'atha (woolly-spattered). Brazil.

C. fe'zu'sa (zigzag), 50. Brazil. 1852.

C. fus'a'ris (spindle-shaped). See Acrogonia sclero-carpa.

C. gransmi'sfa (grass-leaved). Brazil.

C. in'si'gis (remarkable). Brazil.

C. lap'a'jda (etony). Brazil. 1847.

C. leio'sp'atha (smooth-spattered). Brazil.

C. mal'dis'ica (Maldivian). See Lodoicea sechellarum.

C. Mu'rie-Ro'se (Marie-Rose). See C. procoepia.

C. mikanta'na (Mikanian). Brazil. 1853.


C. Ordi'na (golden). Sheaths, petals, and midrib orange. 1908.

C. odora' ta (scented). Dwarf, like C. campes'tris. 1893.

C. oler'a'ea (pot-herb). 80. Brazil. 1846.

C. pernambu'ca (Pernambucan). Brazil.


C. procoepia (Procoepia). Brazil.

C. pulpo'sa (pulpy). Fruit pulp delicious. S. Brazil. 1874.

C. romano'x'fa (Romonziofan). Brazil.

C. scir'usphy'la (cut-leaved). 5. Brazil. 1846.


C. vi'tea (wood). Brazil.

C. Walli'si (Wallisi). Brazil. 1870.

C. weddellia'na (Weddelian). 1 to 3. Brazil.

C. y'mp't'ri (Pynant). Pine leaf very narrow. 1891.

C. yata'vi (Vatay). Argentine.

C. yurum'ага' (Yurumaguan). Peru.

COD'LE'UM. (Derived from Codobo, the native name for C. variegatum, amongst the Malays. Nat. ord. Euphorbiaceae.)

Beautiful stove evergreen trees with variegated foliage, requiring a moist atmosphere, and to be well exposed to the light. Cuttings from the young tops in sand, loam, and peat, and placed in a close frame with bottom-heat. When potting, after they are rooted, some well-dried stable manure must be added, and the name that they have been most generally known under in nurseries and in gardens, but the above is now being adopted by many.


C. aur'o'line'um (golden-lined). Margins and midrib yellow. 1879.

C. aur'o'macula'num (golden-spotted). Spotted yellow; neat. 1878.


C. aust'ina'num (Austinnian). Marbled creamy-white. 1883.

C. Barrone' James de Roits'hul'd. Broad, crimson.

C. Berg'ma'i (Bergman's). Central band ivory-white. 1880.

C. Bismar'ck (Bismarks). Fiddle-shaped, variegated yellow. S. Sea Islands. 1876.

C. Brook'meld' (Brookfield's). Blotched and lined yellow. 1881.

C. Carrire'Ri (Carriere's). Variegated golden yellow. 1880.

C. cand'ens't'ilo (tailed, twisted). Twisted yellow and crimson. 1883.

C. Chel'so'ni (Chelsea). Orange-pink, shaded crimson. New Guinea. 1879.


C. con'ci'num (neat). Midrib with broad yellow band. 1876.

C. Co'oper's (Cooper's). Yellow blotches turning red. Polynesia. 1874.

C. Dis'ra'i's (Disraeli's). Three-folded; yellow veins. Polynesia. 1875.

C. Dow'don's (Mr. Dodson's). Margins and rib golden. 1882.
CODLIN MOTH. See CARPOGONA POMONELLA.

CODLINS AND CREAM. Epilobium hirsutum.

CODONA'THE. (From kodon, a bell, and ontha, a flower; the flowers being bell-shaped, Nat. ord. Gesneraceae.)

Stove herbs. Cuttings in sand, in a close case, with bottom heat. Fibrous loam, peat, leaf-mould in equal parts, and sharp sand.

C. floridus (flowery). White, fading brown-yellow, Brazil, 1908.

CODONY. (From kodon, a bell, and opsis, resemblance; the flowers being bell-shaped, Nat. ord. Campanulaceae.)

Hardy or nearly hardy herbs, some of them twining. Positions on the rockery, in well-drained soil should be selected for them, using a little peat or leaf-mould. Seeds in a little warm soil, Not often successful.

C. clematis (Clematis-like). See C. ovata.

CONVOLVULO'SEA (Convulvulus-like). Bright blue, Upper Burma, 1900.

CORD'S ( hele-shaped). See CAMPA'NUMBA JAVANICA, lanceolata (lance-shaped), Greenish-white, with purple veins. Temperate Asia, 1900.

CORDIFOL'IA. (Heart-shaped). See C. ROTUNDIFOLIA.

CORDILLO'RA (long-leaved). Yellow-green, purple, Western Himalaya, Annual.

CORDIS'OA (big-flowered). Markings more numerous and darker.

COELO'NE. See AGERATUM.

COELIA. (From Kollos, hollow; the dorsal sepal being concave, Nat. ord. Orchidaceae.) Linn. 20-Gymnandria, 1-Monandria. Allied to Orchidaceae and Millarizzia.

Stove herbs. Divisions; sphagnum, peat, and a little charcoal, in a shallow basket. Growing temp. 60° to 90°; rest, 35° to 60°.

C. baueri'ni (Bauer's). White, June. Mexico, 1790.

C. bella (pretty). White, purple, yellow, Guatemala.


COELIO'PSIS. (From Coelis, and opsis, like; the flowers resembling those of Celia. Nat. ord. Orchidaceae.) For cultivation see Orchids.

C. hyacintho'sma (hyacinth-scented). White, crimson, Panama, 1871.

COEL'IGYN. (From kollos, hollow, and gymnos, naked; a reference to the female organ, or pistil, Nat. ord. Orchidaceae.) Linn. 20-Gymnandria, 1-Monandria.

To cultivate this genus successfully, divide it into two sections:--i-Monandria. cristis'la, Cumi'she, ela'ta, fulgino'sa, ocella'ta, specio'sa, and some other new species from Borneo not yet bloomed in this country. The second section, C. gardneri'na, macula'los, prafo's, and wallachia'na.

The compost for the first section should be chopped sphagnum, turfy peat, using only the fibrous part, and small potsherds. The season for potting is when they begin to grow; about February. Some of the species have long thallic stems (creeping stems), and would soon run over the edges of the pot. To keep them at home, place an upright block of wood in the centre of the pot; clothe it with moss, and, as the plant advances in growth, train to it, and fasten it with fine copper wire. When growing, they require a liberal amount of water; but the water must not lodge in the hearts of the young leaves. If very hot weather syringe the plants in the morning, and give air, to dry up the extra moisture. Shade from bright sunshine, removing it off by four or five o'clock. The annual growths should be finished early in the autumn, and then the heat and moisture ought to be reduced: and, when winter approaches, cease watering altogether.

For the second section the soil should be a compost of sandy peat, fibrous loam, and horse manure, with a sprinkling of river-sand. Drain moderately well, and place four or five bulbs in a 6-inch pot, excepting C. gardneri'na, which is a strong grower, and requires

C. di'num (ivory). White central band, 1881.

C. elegans ssinsum (most elegant). Rib bright yellow, 1881.

C. evansii (Evansian). Green, bronze crimson, S. Sea Islands, 1879.

C. Eye's (Eye's). Twisted, freely variegated yellow, 1882.

C. fascia'tum (fasciated). Yellow veins and spots, S. Sea Islands, 1872.

C. For'dis (Ford's). Trilobed, yellow, crimson, Polygonia, 1882.

C. Gloria'sum (glorious). Marbled creamy-yellow, New Hebrides, 1877.

C. Goodenough'is (Goodenough's). Variegated golden yellow, Santa Cruz Islands, 1876.

C. Hawk'r'i (Hawker's). Creamy-yellow, Polynesia, 1879.

C. Ille'x (illustrious). Leaves 5 to 4 lobed, blotched yellow, 1882.

C. impera'te (imperial). Twisted, yellow, crimson, New Hebrides, 1875.

C. in'signe (remarkable). Yellow and rosy crimson, 1882.

C. John's (John's). Veins and edges yellow, Polynesia, 1878.

C. linea'te (linear). Marbled yellow, suffused pink, 1882.

C. Macar'thurii (Macarthur's). Twisted, crisp, yellow rib, 1877.

C. majes'ticum (majestic). Midrib yellow, crimson, Polynesia, 1876.

C. massange'a'num (Massangean). Creamy-white, carmine rose, 1879.


C. multi'fo'rne (many-formed). Spiral or interrupted, yellow, crimson, 1881.

C. mutu'mus (mosaic). Cream, changing to crimson markings, 1882.

C. Nev'il'la (Mrs. Neville's). Yellow bars, changing to crimson, Polynesia, 1880.

C. ocell'a'ta (noble). Crimson and yellow markings, S. Sea Islands, 1877.

C. pictura'tum (painted). Blotted yellow and red. New Hebrides, 1876.


C. Re'gni (queen's). Yellow, crimson, orange. Pacific Islands, 1878.

C. Rex (king's). Bronze green, crimson, S. Sea Islands, 1879.

C. spir'al'is (spiral). Spirally twisted, bronze, yellow, red, Polynesia, 1873.


C. torqu'a'tum (twisted). Leaves narrow in chain-like segments, S. Sea Islands, 1878.

C. varia'tus (twisted). Spirally twisted, yellow, crimson. S. Sea Islands, 1877.

C. tri'a'cor (three-coloured). Blotted yellow, rosy-crimson, 1882.

C. Van-Oost'Ris (Van-Oosterzee's). Leaves linear, spotted yellow, 1883.

C. varia'te'num (variegated). The parent of many forms. Malaya.

C. Warre'n (Warren's). Leaves pendent, 2 to 3 ft. long, orange yellow and carmine. Polynesia, 1880.

C. Willia'msii (Williams's). Midrib and veins yellow, then crimson, 1879.

C. Young'ii (Young's). Variegation creamy and rosy. Polynesia, 1873.

C. See CARPOGONA POMONELLA.

CODLINS AND CREAM. Epilobium hirsutum.
C. a'bo-i'la (white, yellow). Pure white, deep yellow. N. India. 1908.

as'istra'na (Arthurian). Deep purple, green spots. Burma, 1887.


balt'o'ria (Balkorian). Cinnamon, orange, white. India, 1866.


birm'a'na (Burmese). White, brown. Burma, 1882.

born'e'na (Bornean). White, red-brown markings. Borneo, 1893.


celo'gyne (green-winged). Green, white, brown. Philippines, 1863.

Clar'ka (Clark's). Light brown, yellow-brown. 1893.


corin'cia (horned). Yellow. Assam, 1865.

cor'o'na (crowned). See Trichrosma suavis.

corr'uga (corrugated). White, yellow, India, 1866.


c'o'la (white). Pure white.

c'o'lo'se'a (wholly white). 1881.

c'o'men'a (Lemonian). White, pale yellow, 1888.

ma'sima (largest). Larger flowers.

Cum'i'sing (Cuming's). 2. Creamy-white, yellow.

June. Singapore, 1905.

c'ec'ca (small). Yellow-brown. 1862.

day'a'na (Dayan). Ochre-yellow, brown. Borneo, 1884.

di'oru'na (becoming). White. India, 1897.

e'a (tall). White. Yellow. N. India, 1837.

e'lega'nasi (elegant). See C. Huettneriana.


f'orel (Frosterman's). White, brown. Sunda Isles, 1856.


fus'e'sea (brownish). Greenish-yellow.

gard'neri (Gardnerian). 1. White, yellow.

November. N. India, 1837.

gland'u'o (glandular). Pure white, Neighberries.

Gower'ri (Gower's). White, red, yellow. Assam, 1860.

gram'in'so'ta (grass-leaved). White, veined brown.

India, 1888.

ka'm'a (Korean). Bright rose-purple, yellow. Himalayas, 1898.

e'hu'tneri'na (Huettnerian). Burma.

hu'mile (dwarf). Lilac, yellow. Himalayas.

i'a'la (white, 1886.

i'ti color (three-coloured). Marbled brown, 1880.

C. inter'media (intermediate). E. Ind. 1840.

ter'o'pi (interrupted). White. N. India. 1837.

jav'a'ni'ca (Javanese). Java.


ler'cho'si (freckled). Green, white, yellow. Burma, 1872.

longia'li (long-stemmed). White, yellow. N. India, 1837.

novem'pio'sa. See C. ASPERATA.

lu'ri'a (lurid). Greenish-yellow, tinged purple.

ma'nu'la (spotted). White, crimson. N. India, 1837.

" " pones'ma (virgin). Light sulphur, unpotted.

massan'ga'na (Massangean). Light ochre, maroon. Assam, 1891.

mayer'ia (Mayerian). Green, black. Trop. Asia.

me'dia (middle). White, yellow. Khasia, 1887.

micholit'zi'na (Micholitian). White and brown. Macassar, 1897.

mog'lant'za (Mrs. Moss'). Pure white. N. India, 1884.

" " nero'sa (nerved). Neighberries.


" " pluma'la (shining-leaved), 1. Yellow. Himalayas.

" " oce'o'na (eyed). White, yellow. E. Ind., 1822.

ochr'a'na (ochre-spotted). §. White, yellow. April, E. Ind., 1844.

" " odo'rat'ia (sweetest). White. India, 1864.

" " ophi'o'na (shield). White, brown. October. Himalayas.

" " pandu'ra'na (saddle-shaped). Green, black. Borneo, 1863.


" " per'io'na (perisian). Yellow, white. Borneo. Borneo, 1880.

" " pera'nsis (Perak). Buff, green, yellow. Perak, 1905.


" " po'goni'odes (Pogonia-like). See C. YUNNANensis.

" " prori'o'na (early-flowering). §. Rose, white. October.

" " pun'ich'a (proper). Yellow. India, 1837.

" " walli'ciana (Wallichian). Rose, white. November.

" " waln'o'na (Walker's). Yellow, white. Borneo, 1884.

" " parke'nsis (Perak). Buff, green, yellow. Moluccas.

" " pulch'e'la (pretty). Pure white, brown blotch. Trop.

" " purpur'a'sea (purplish). Ceylon.

" " reich'en'bachiana (Reichenbachian). Rose, white.

" " rhodo'na (Rhodean). White, brown, Moluccas, 1867.

" " ri'gida (stiff). Yellow. Moulmein. 1837.

" " rochus'si (Rochussen's). Java, 1892.

" " ros'o'na (Rossonian). White, yellowish, Burma, 1884.

" " sal'moni'na (salmon-coloured). Salmon-coloured.

" " salm'o'na (salmon-coloured). Salmon-coloured.

" " sand'er'a (Mrs. Sanders'). White. Yellow, black.

" " sand'ri'na (Sanderian). White, yellow. Sunda Isles, 1857.

" " schi'er'a (Schillerian). Yellow, blood-red. Burma.

" " sp'a'ra (scattered). White, with brown spot. Philippines, 1893.

" " spec'io'na (showy-flowered). §. Brown, white.

" " spec'o'sea (showy-leaved). White. Assam, 1845.

" " si'e'l'la' na (starry). Green, white. Borneo, 1886.


" " su'ma'na (Swainian). White and brown lip. Philippines, 1895.
COFFEA

C. *te'nuis* (thin). Light buff. borneo. 1893.


*triacca* (three-pouched). See C. gardneriana.

*triun'rois* (one-flowered). Northern India.


*ver'nicos* (ventricose). Java.


*tril'vira* (virginal). Pure white, fragrant. 1896.


*virtu'lella* (Wallichian). See C. Precox walli-


COFFEA. Coffee-tree. (From *Coffea*, the name of a province of Narea, in Africa, Nat. ord. *Cochnoas* [Rubaceae]. Linn. 5- *Pandentia*, 1- *Monogynia*).

Stove evergreen shrubs. Cuttings of ripe shoots in sand, under a glass, in moist heat; pot and loam. Summer, 60° to 85°; winter, 55° to 65°.


*bengale'nis* (Bengalese). White. India and Malaya.

*by'brida* (hybrid). "Tampis Coffee."

*Laur'ific* (Laurent's). Congo Free State. 1900.


*iodage'sis* (Lowongan). White.

*ma'ursa* (Mauritian). White. Macarese Islands.

*myr'to'sis* (myrt-leaved white). White. Mauritius.


*pov'is* (robust). See C. laurentii.

*steno'phy'lia* (narrow-leaved). White. Sierra Leone.

*trancor'nes* (Trancovaran). White. South. India.

COGWOOD-TREE. *Cassia* *thou* Chloro*xy*non.

COTX. *Job's Tars. (Adopted name from Theo-

*phrasis.* Nat. ord. Grasses [Gramineae]. Linn. 21-

*Monocica*, 3- *Triandria*. Allied to Indian Corn."

Stove perennial grasses. Seeds; divisions; rich, light soil. Summer temp. 60° to 80°; winter, 50° to 55°.


*exal'ta* (tall). See C. Lachryma*Jobi.

*la'chryma* (Lachryma). See C. Lachryma-Jobi.


COKE. See FEUL.

COLA. (The native name Kola or Cola. Nat. ord. Sterculiaceae).

Stove tree from Tropical Africa, now naturalised in Jamaica. Kola nuts are the seeds of the tree, used by the natives to satisfy hunger and enable them to work without fatigue. They contain more caffeine than the best coffee, and are about the size of a large gooseberry. Ripe cuttings in sand in a close case, with bottom heat; also seeds. Sandy loam, or fibrous loam and one-third peat. Summer temp. 65° to 90°; winter, 60° to 65°.


*fe'ra* (true). This also furnishes the Cola nut. W. Trop. Africa. 1900.

COLAX. Now included in Lycaste.

COLBE RITTA. See Dellenia. C. *coronandial'is*.

COLECHICUM. Meadow Saffron. (Named after Colchis, its native country, in Asia Minor. Nat. ord. Melanthes [Liliaceae]. Linn. 6- *Adriania*, 3- *Trigynia*.)

Dr. Lindley says, "Few orders of plants are more universally poisonous than this, C. autumnale, a gout medicine, is a virulent poison. Hardy herbaceous bulbs, offsets, planted in common border.


*umbro'sum* (shady). See C. umbrosum.


*flou'pless* (double-flowered). 4. Purple. Septem-


*Bolto'nis* (Bertoloni's). S. Europe.

*Bis'gamma* (Bisigan). See C. Tenorei.

*Bise'n'is* (Mrs. Byvon's). Large, purple, S. Europe.


*bulboco'dios* (Bulbocodium-like). See C. montanum.


*C. C. AGRIPPI'M

*cu'nu'dum* (white). White, flushed pale rose. Asia Minor. 1897.

*cur'a'lia* (Caucasian). See HERB. MONTANUM.

*cu'vi'um* (Caucasian). Rose, tipped red. Asia Minor. 1897.

*crocif'o'rum* (crocus-flowered) of Regel. 4. White, striped purple. Turkestan. 1883.

*crocif'o'rum* (crocus-flowered) of Sirms. See C. AUTUMNALE.

*cu'vi'um* (Caucasian). See C. Montanum.

*Deca'sne* (Decaisne's). Delicate flesh colour. Leba-

*cus'clic* (tasteful). Pink and white. Greece. 1885.

*giag'i'um* (giant). Large, long tubed, rose, with spreading segments. 1003.

*holol'phum* (whole-podded). See C. montanum.

*hydrophy'la* (water-loving). Red-pink, fragrant.


*la'tum* (head-leaved). See C. Sibthorpi-

*libano'icum* (Lebanon). White, tinted rose. Febru-

*lingu'la* (tongued). Greece.

*li'nuc'um* (Portuguese). Portugal.


*Parks* (Parkinson's). White, chequered purple. Asia Minor. 1874.

*paru'fum* (small-flowered). See C. montanum.

*pau'cul'num* (small). See C. ALPINUM.

*proce'us* (running). Bright lilac. Smyrna. 1890.


*Sib'hi'um* (Sibthorpi's). Large, chequered lilac-

*ma'xirnum* (Sibthorpi's). Purple. Armenia. 1890.

*tiehe'num* (Siehean). Reddish-purple. Asia Minor.

*speci'um* (showy). 4. Rosy-purple, large, cup-

*mam'sum* (largest). Rosy-mauve, white base.

*Sieh'is* (Seyeh's). Rosy-lilac. Syria and Arabia. 1905.

*Sowy'is* (Soyvits'). Caucasus.

*Ten'oles* (Tenole's). Italy.

*ten'ole'um* (chequered). See C. AGRIPIUM.

*tes'oi'num* (Teso's). White. Cyprus. 1887.


" variegatus (changing colour). See Boulecodium vernum versicolor.


Stove trailing annual. Seeds sown in a hotbed, in March, and flowers in the greenhouse, in summer. Light, rich soil.


Stove evergreen shrub. Cuttings of ripe shoots in sand, under a glass, and in moist bottom-heat; peat and loam, both fibrous, and mixed with a little sand and charcoal. Summer temp., 60° to 80°; winter, 48° to 55°. C. floribunda (abundant-flowering). 8. Yellow. August. Madagascar. 1839. 

" mauritiana (Mauritian), Mascarene Islands. undula'ta (waved). Lilac. Yellow. Madagascar. 1870.


COLENSO'A. See Praitaa.

COLEONE MA. (From koleso, a sheath, and nema, filament; in reference to the way the filaments, or anther-threads, are combined with the base of the flower. Nat. ord. Rauvergos [Rutaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Diosma.)

Greenhouse evergreen shrubs, from Cape of Good Hope. Cuttings of young shoots, getting firm at the base, in sand, under a glass; peat one part, loam two parts, with sand, to keep it open. Winter temp., 40° to 45°. C. albim (white). 2. White. June. 1798. 


" tenuifolium (slender-leaved). See C. pulchrum.

COLEOSPA'DIX. (From koleso, a spate, and spadix, a flower-stalk; the spadix is enclosed in a spathé. Nat. ord. Palmaceae.)


COLEUS. (From koleso, a sheath; referring to the way that the bottom of the stamens, or anther-threads, are combined. Nat. ord. Labiates [Labiatae]. Linn. 14-Diodyamina, 1-Gymnosperma. Allied to Plectranthus.)

The greenhouse growers are among the most beautiful foliage plants we have. The original seed parents appear to have been Blumei and C. Verschaffeltii, one of the first with highly coloured foliage (this is now used for summer bedding), later on a large number of beautiful varieties were raised at the Chiswick gardens of the Royal Horticultural Society, and since then many others have been added. In later years seed selected from the best has proved an easy means of getting good varieties. Sown in February good plants may soon be established by June, and a selection of the best made for growing. They are also readily propagated from cuttings. Short tops should be taken and put in light, sandy compost, the finer varieties are not so hardy as Verschaffeltii, and are difficult to keep through the winter unless a temperature of 60° can be sustained, but they will do well in an ordinary green-

house during summer. Pot in a compost of loam, leaf-mould, and sand, as firstrate; the varieties, and sand.


" Verschaffeltii (Verschaffeltii). 1861. 

fruticosus (shrubby). See Plectranthus fruticosus. 

Gibson's (Gibson's). Leaves blotched crimson-purple. New Caledonia. 1866. 


infinitus (infinitus). Lilac. Ceylon. 

" Macro's (Macro's). See C. MALABARICUS. 


migrans (blackening). Indian Archipelago. 1863. 

Pessagi (Pessagi). Blue, Abyssinia. 1892. 


scutelloides (Scutellaria-like). Blue, white. Malaya. 

Australian. 


" spicata Rondinella (Rondinella-spired). Blue, Abyssinia. 1865. 


Trop. Africa. 1898. 

" Tryon's (Tryon's). Hybrid. 1872. 

" tuberosus (tuberous). Trop. Africa. 

" Verschaffeltii (Verschaffeltii). See C. BLUMERI VER- 

schaffeltii. 

COLEWORT or COLLET. See Cabbage.

COLFROOT. Ale'iris farinosa.

COLLARUM. (Derived from collum, a neck, and labium, a lip; the base of the lip encloses the column. Nat. ord. Orchidaceae.)

Warm stove Orchid. C. simplex (simple). Green, purple, white. Borneo. 1881.

COLLARIA. See Bomarea.

COLLEIA. (Named after M. Collet, a French botanical writer, Nat. ord. Rhamnads [Rhamnaceae]. Linn. 5-Pentandria, 1-Monogynia.)


" ho'rrida (blackening). See C. cruciata. 


" sarrac'fo/sia (saw-leaved). See DISCAREA serrati-

folia. 

" spinosa (spiny). See C. cruciata. 


COLLIFLOWER. See Cauliflower.

COLLINSIA. (Named after Collins, a North American naturalist, Nat. ord. Figworts [Scrophulariaceae]. Linn. 14-Diodyamina, 2-Angiosperma.)

Hardy annuals. Seeds in March, in open borders; some in autumn, and slightly protected during winter; or some in a slight hothot, in March, and transplanted in patches, in April and May; autumn-sown ones will bloom earliest.


" bartian'ensis (Bartisia-leaved). 1. Purple. 

California. 


California. 1835. 


Columbia. 1826.
COLLOPHية/ˌɪlə/ (various-leaved). See C. sicolor.

**hirsute** (hairy). See C. barbatafolia.

**multicolor** (many-coloured). Purple, crimson, California. 1832.

**P. torreyi** (Parry's). California, p. 80.


**Torrey** (Torrey's). California. 1836.


C. **heterophylla** (various-leaved). See C. bicolor.

C. **hirsutissima** (hairy). See C. barbatafolia.

C. **multicolor** (many-coloured). Purple, crimson, California. 1832.

**P. torreyi** (Parry's). California, p. 80.


COMES PERMA


C. spl'endens (shining). See NEMATANTHUS LONGIFL．

C. trifolia's (three-leaved). See STEMONIA TRIFOLIATA.

C. virga' putum (zebra-marked). See ALLOPECTUS DICOU-

COL'RIA. (From kolouros, deprived of a tail; in reference to the seeds. Nat. ord. Rosa'core (Rosaceae). Linn. 12-Icosandria, 3-Trigynia. Allied to Geum and Potentilla.)


COL'TEA. Bladder-senna. (From kolotae, a name adopted from Theophrastus, Nat. ord. Leguminous Plants (Leguminosae). Linn. 17-Diadelphi, 4-Decandria. Allied to Caragana.)

The leaves of the bladder-senna are used to adulterate the Senna of the drugstuffs. Cuttings planted in the end of summer; seeds sown in spring; common soil.


C. cris'i (Ciliccan). Yellow. Asia Minor.

C. frute'scens (shrubby). See SUTHERLANDIA FRUTE-

C. gale'go'lia (Galega-leaved). See SWAINSONIA CORON-

IILLIFLORA.

C. hal'pica (Aleppo). See C. istria.


C. long'ika'ta (long-winged). Yellow. Asia Minor. 1552.


C. mel'ano'ca (black-calyxed). See C. LONGILATANA.

C. nepa'liensis (Nepali). See C. ARBORESCENT.

C. per'e'num (perennial). See LESSECTA PERENNANS.

C. pe'rusca (Persian). Persia.

C. poc'o's (Pockock's). See C. ISTRIA.

COLUTEOCA'RPUS. (From Colutea, and karpos, a fruit; the fruits are bladdery as in Colutea. Nat. ord. Cruciferae. Allied to Vesicaria.)

Hardy herb. Seeds; cuttings under a hand-light in summer. Well-drained garden soil.


Stove evergreen tree. Cuttings in sand, under glass, and in bottom-heat; seeds when procurable; loam and leaf-mould. Summer temp., 60° to 80°; winter, 45° to 55°.


CO'MIS MEMBRANA' CEA. See POLYPODIUM MEM-

BRANAEUM.

CO'MACNIUM AU RANTACU'M. See Dysodia GRANDIFLORA.

CO'NANTHUS'PHA'RE. (From home, hair, anthos, a flower, and spice, the Greek name for a Salvia; in allusion to the long, hair-like stamens. Nat. ord. Labiata.)

A hardy undershrub from Japan with terminal spikes of small, yellow flowers. Cuttings of half-ripe wood in autumn or summer in sandy soil under a hand-light or in a cold frame. Ordinary garden soil.


CO'MARELLA MULTIFOLI' TA (many-leafleted). See POTENTILLA DEPAU'DERATA.

CO' MARO'PSIS DONI'NA and C. FRAGARI' OIDES, See WALDSTEINIA FRAGAROIDES.

CO'MARO'STA' PHYLIS. (From homaros, the Arbutus, and staphyle, a grape; referring to the clusters of fruit. Nat. ord. Staphylea (Ericaceae). Linn. 18-Ochandra, 1-Monogynia. Now referred to Actostaphylos.)

Pretty bushes from the alpine regions of Guatemala, bearing succulent fruit, which is eatable. Seeds; cuttings under a hand-light, in the beginning of autumn; grated on the Arbutus in spring; loam and peat. If not kept in a cold greenhouse, will require protection out of doors. C. arb'utos des (Arbutus-like). See ARCTOSTAPHYLOS AR'BUTOIDES.

C. be'na'ta (beautiful). See PERSIS FORMOSA.

C. mar'o'na (maroon). See ARCTOSTAPHYLOS ARGU'TA.

C. pol' lita (Polium-leaved). See ARCTOSTAPHYLOS POLI-

FOLIA.

COMARO'NA ODORATA. See DIPTERIX ODORATA.

CO'MARU'M PALuster. See POTENTILLA PALUSTER.

C. bractedia. (An ancient name adopted from Pliny, Nat. ord. Myrobolanas [Combretaceae]. Linn. 8-Octandra, 1-Monogynia.)

Stove evergreen climbers, except two shrubs. Cuttings of young shoots, or rather, stiffish side-shoots, taken off with a heel, in sand, under glass, and in bottom-heat; sandy peat and loam, with a little charcoal and broken pots, to keep the soil open. Summer temp., 60° to 90°; winter, 60° to 80°. C. purpureum is one of the best-known species and is a good climber for the stove, having branching racemes of crimson flowers. The best means of propagating is to graft half-ripe wood on the roots taken from the same plant.

C. Afzel'ii (Afzel's). See C. GRANDIFLORUM.

C. arg'e'num (silver). Guatemala.


C. bracteo'sum (bracted). S. Africa.


C. exte'num (extended). 10. India. 1845.


C. inter'media (intermediate). See C. comosum,

C. liti'o'sum (broad-leaved). Scarlet. May. E. Ind. 1838.

C. la's'sum (loose). Yellow. W. Ind.


C. mic'ranthum (small-flowered). See C. ALTUM.

C. micro'pal'tum (small-petaled). See C. LOPHILNII.


C. prin'sium (Pino's). Purple. red. May. Sierra Leone. 1845.

C. pito'num (pilose). India. Burma.


C. ra'mbal'iti (Rambaut's). Trop. Africa.


C. sundai'cum (Sundai). Sumatra.

C. wight'i'nnum (Wight's). See C. EXTENSUM.

CO'MES PER'MA. (From home, hair, and sperma, a seed; in reference to the seeds being enveloped with hairs. Nat. ord. Milkworts (Polygalaceae). Linn. 16-Monadelphus, 5-Octandra. Allied to Polygala.)

Greenhouse evergreen, from Australia. Cuttings of young shoots in April, under a glass; peat and loam. Summer temp., 55° to 80°; winter, 40° to 45°.


C. corilo'sum (Coral-leaved). See C. ERIROUGHUM.


C. gra'ti'tus (slender). See C. volu'tiue.


COMFREY. Sympyrum.

The fleshy roots, or rhizomes, of most of the species of Commelina are eaten when cooked. Hardy kinds, and by sowing in the open ground, whether annual or perennial, and by dividing the roots of the latter, Evergreen trailing kinds, whether greenhouse or stove, chiefly by cuttings in sandy soil, under a hand-light, in a gentle hotbed. All the herbaceous species, whether from tropical regions or New Holland, &c., by seeds, sown in a hotbed, early in spring, pricked off, and potted and planted out towards the end of May, will flourish in the flower-garden, and constitute a pleasing feature until the end of July. Before frost, the tuberous kinds should be taken up and kept like dahlias, but not over dry; started a little in spring, and in heat, then transplanted at the end of May, will bloom stronger than the seedlings. The soil should be light and rich, using either rotten dung or leaf-mould, with sandy loam. Summer temp, for stove species, 50° to 75°; winter, 40° to 45°.

ANNUALS.


BENGHALENSIS. (Commemorated by Philiber Com mencm. Nat. ord. Sterculicæae.) Stove shrub. Cuttings of half-ripe wood in sand, in a close case, will root. Also imported seeds. Fibrous loam, a little peat and sand.


COMOCLA DIA. Malden Plum. (From home, hair, and blades, a branch; in reference to the dense, silky covering below the flower.) Nat. ord. Acanthaceae or Terenibinis [Anacardiaceae]. Linn. 3-Trianda, 1-Monogynia. Allied to Pistacia.

Stove evergreen trees. For cultivation, see BARRING-TO-NIA.


Stove orchids. Divisions and offsets; fibrous peat, sphagnum, and broken potsherds. Plants raised above the surface of the pot, or fastened in a very shallow, well-drained basket. Summer temp, 60° to 90°; winter, 50° to 55°.


ro'sea (rosy). See C. FALCATA.

specio'ssa (showy). Ochre yellow, orange. Ecuador. 1878.

COMPOST is a mixture of manures, or of earths and manures, in such proportions as is such quality as are considered particularly applicable to the plants or crops to which the composition is to be applied. If leaves are required to be largely developed, the compost can be scarcely too rich; for the greater the quantity of food brought to the roots, the greater will be the surface of leaves requisite for its elaboration. But if flowers and fruit, as well as leaves, are desired, the composts, if excessively rich, will cause these to diminish in number, for the flower buds passing into leaf-buds for the reason already alleged.

Composts must also duly regulate the amount of moisture supplied to the roots, totally independent of drainage, as compost retains to them moisture by its chemical and capillary powers. The richer in decomposing animal and vegetable matter, and the looser its texture, the better does a compost retain moisture. And this power is diminished in proportion as siliceous sand, or calcareous (chalky) matters preponderate.

Gardeners prepare their composts from strong, teneacious loam, half-rotten leaf-mould, heath-soil, horse-mure, old or fresh, charcoal, and woodashes, dust, sharp sand, burnt turf, and moss; well- scalded; and, from these materials, there is no doubt that a compost could be prepared, embracing any desired degree of fertility, See MANURES and Potting.

COMPOST-GROUND. This should be an enclosure concealed from sight, but in the vicinity of the hotbeds, bothouses, and other similar structures, for the convenience of moving the pots to it in the potting season, conveyance of manures, &c. All the earths and manures should be under a shed; and the dung, being liable to lose much of their fertile components in drainage, should be in water-tight tanks; and if these are covered, all the better. All composts are improved by being frosted, but for potting purposes care should be taken that it is at least as warm as the temperature of the house when using for potting.


parasolithic'ra (small-flowered). See C. GRANGINIFOLIA.

poly'mera (various-flowered). See C. BENGHAELENSIS.

Zano'mia (Zanonia). See CAMPELIA ZANONIA.

COMMERSO NIA. (Commemorated by Philiber Comer- merson. Nat. ord. Sterculicæae.) Stove shrub. Cuttings of half-ripe wood in sand, in a close case, will root. Also imported seeds. Fibrous loam, a little peat and sand.


COMOCLA DIA. Malden Plum. (From home, hair, and blades, a branch; in reference to the dense, silky covering below the flower.) Nat. ord. Acanthaceae or Terenibinis [Anacardiaceae]. Linn. 3-Trianda, 1-Monogynia. Allied to Pistacia.

Stove evergreen trees. For cultivation, see BARRING-TO-NIA.


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**CONOCARPUS**. Button-tree. (From *konos*, a cone, and *carpos*, fruit; in reference to the fruits growing so closely together on the spikes as to resemble cones, Nat. ord. Myr-babolidae [Combretaceae]. Linn. 5-Pentan-dria, 1-Monogynia; Allied to *Tetramerus*.)

The bark of *C. racemosus*, one of those plants called Mangroves in Brazil, is in general use for tanning at Rio.

Stove evergreen shrubs. Treatment similar to *Connarus*.


5. *racemosus* (racemed). See C. *lancinaria* RACEMOSA.

**CONOCILNIUM**. See Eupatorium.

**CONOPHALLUS TITANUM**. See Amorphophallus Titanum.

**CONOSPERMUM**. (From *konos*, a cone, and * sperma*, a seed; the fruit, or carpels, growing close together, and forming a cone. Nat. ord. Proteaceae [Proteaceae]. Linn. 4-Tetran-dria, 1-Monogynia.)

Greenhouse evergreen shrubs, from Australia. Cuttings in sand, under a glass, either in spring or autumn; sandy soil, and loam. Summer temp., 55° to 75°; winter, 35° to 45°.


14. *huegelii* (Baron Huegel's).


18. *stachidis* (Stachadis).


20. *tulipiflorum* (thin-leaved).


**CONOSTEHIA**. (From *konos*, a cone, and * stege*, a covering; alluding to the lobes of the calyx clasping the angles of the ovary. Nat. ord. Melilotaceas [Melilotaceae]. 10-De-candria, 1-Monogynia. Allied to *Atriplex*.)

Stove evergreen shrubs. Cuttings of shoots, well ripened, and the cut ends allowed to get dry; peaty soil, and sandy loam. Summer temp., 60° to 80°; winter, 50° to 55°.


25. *semicrenata* (half-scorpolled-edged). See Miconia SEMICRENATUM.

**CONOSTEFHIA**. (From *konos*, a cone, and *stephe*, a crown; referring to the disposition of the flowers. Nat. ord. Epacrids [Epacridaceae]. Linn. 5-Pentan-dria, 1-Monogynia; Allied to *Strophylia*.)

This plant is the berry-bearing section of Epacrids. The berries, though not much liked by Europeans, are edible and wholesome. The "Native Currant" of Australia and the Tasmanian Cranberry belong to this section. They are all favourite plants with gardeners for the beauty of their flowers and the great skill required to grow them into fine specimens. Greenhouse evergreen shrubs. Cuttings of young shoots in sand, in April; sandy loam. Summer temp., 60° to 75°; winter, 40° to 50°.


**CONOSTYLI**. (From *konos*, a cone, and * stylos*, a style; the style, or female organ, grows in the shape of a cone at the bottom. Nat. ord. Bloodroots [Hemodoraceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to *Anagallis*.)

Greenhouse herbaceous perennials, from Australia.
Convolvulus

Divisions; sandy loam. Summer temp. 55° to 75°; winter, 40° to 45°.

C. alba (common). 1. 1820. 


sienna (bristle-bearing). 1825.


**C. lateralis** (spreading). See Calothamnus lateralis.


**CONRA'RIA.** (Named after Conrad Gesner, a botanist of Zurich, Nat. ord. Gesneriaceae.) Linn. 14-Diydynamia, 2-Angiopteris, Allied to Gloxinia.)

Stove evergreen shrubs. Cuttings of ripe shoots under a glass, in bottom heat; loam, sand, and peat. Common temperature of stove.

C. calycina (long-calyced). See Pentarthaphia calyquina.

**C. floribunda** (many-flowered). See Pentarthaphia/ifanensis.


**CONRINGIA.** (Derivation not clear. Nat. ord. Cruciferae.)

Hardy annual. Seeds. Ordinary garden soil.


**CONSERVATIVE WALLS.** See WALLS.

**CONSERVATORY** is often used synonymously with Greenhouse, and then it denotes a suitable structure for the cultivation of those exotic plants which are just too tender for our climate, yet do not require the hot temperatures of pot-stoves, orchid-houses, &c., which are set apart chiefly for plants from the tropical regions. With the greenhouse should be associated the idea of plants cultivated in boxes, and with conservatory we would associate the idea of plants growing in suitable soil, without at least the apparent intervention of pots and boxes, and the structure connected with the greenhouse should keep up the interest of such places, it is necessary that plants in bloom should be introduced; but in every case the pot should be plunged, so that the plant may appear to be growing in the soil. We would only make one exception in the case of very small ornamental plants, or even those not so very small, but to which particular attention is wished to be directed. We would elevate them in groups into ornamental vases or baskets, for which suitable places should be formed, and which would be quite as much in harmony in such a place as in ornamenting a regular geometrical flower-garden. For several reasons, therefore, the planting out in the conservatory should not be attempted, except with climbers for the rafters, where the space is but limited, as a few plants, however beautiful at times, when seen every day all the year round in the same position, lose, to a certain extent, the power of pleasing. The having the plants in large pots or tubs would enable you at any time to effect fresh combinations. Where the range of glass is varied and extensive, though the plants cultivated in pots and boxes in the range of sameness is not engendered, the owner may easily enter his house at different points; and in such circumstances the very number of objects will constitute variety.

Unity of expression is, to a certain extent, maintained by a mixture of the two modes, the centre of the house being supplied with plants that are really turned out, or which, brought for a temporary purpose, appear to be so, while all round the house there is a broad shelf for the accommodation of plants. In saying "all round the house," we are, of course, alluding to houses that have glass on all sides. Where there is an opaque back wall, the shelf could be only at the front and ends. However, it is to be noticed that it would be advantageous to have light on all sides, where expense for heating in winter is no great object, yet very pleasing effects are produced, even in lean-to roofs, where a little attention is paid to unity of idea. This has been strikingly exemplified in the range of plant-houses at the Duke of Devonshire's, at Chiswick, most of which, with the exception of the centre, the old conservatory, formerly consisted of lean-to-forcing-houses. The heating medium, to be most effectual, should be above-ground; but, to save room, the flues or pipes may be beneath the pathways, which will also be of importance for keeping the soil in the beds in a nice warm condition, and in-flowing a house will render the flowering of many of the harder stone climbers a matter of certainty. The more modern conservatory may have some climbers, or large plants put into the ground, but, taking it generally, it is what may be termed a show-house; plants are taken from various quarters as they come into flower. The conservatory is usually attached to the house, and has generally an entrance from the drawing-room, and, in-flowing a house, will render the flowering of many of the harder stone climbers a matter of certainty. There is, however, another kind of conservatory, which, though not so extensive, and quite herbarious, may be of some use in our greenhouses, and is called a greenhouse conservatory. It is little more than a glass house, with certain parts plunged, and from the ordinary greenhouse may be introduced, but tender plants should only require a short rest; even hardy plants may be introduced during their flowering season, but they should be arranged together in the coldest part of the house.

**CONTRA'RY ROOT.** Dorst'nea Contra'rya.

**CONVALL'A'RIA.** Lily of the Valley. (From the Latin convallus, a valley, and *rica*, a mantle; in reference to the dense covering formed by the leaves, Nat. ord. Liliaceae.) Linn. 16-Hexandria, 1-Monogyne.

Hardy herbaceous perennial, native of Britain, Divisions; common soil, shady situation. See LILY OF THE VALLEY AND RETARDED PLANTS.


**f. reticulata** (proliferous). Flowers deeply divided and abnormous.

**f. variegata** (variegated), Leaves striped with yellow.

**CONVOLVULUS.** Bindweed. (From convolvul, to entwine; in reference to their twining habit, Nat. ord. Bindweeds [Convolvulaceae].) Linn. 5-Pentandria, 1-Monogyne.

The roots of most of the plants in this order abound in a milky juice, which is acid, and in some cases highly purgative, as the Jalap and Scammony plants. Cuttings, divisions, and tubers, are best and quickest to grow; sandy loam, with leaf-mould, and manure for the greenhouse and stove species, and common soil for the hardy. Seeds of hardy, sown in open ground, in March or April, or in hotbed for those which need protection.

**HARDY ANNUALS.**


**Forska'lia** (Forskaile's). See C. tenusissimus.


**mucronatus** (straight). See C. undulatus.

**scutatus** (delicate). See Breweria humistrata.


**TENDER ANNUALS.**

C. bi'color (two-coloured). See Ipomoea filosa.

*geniculatus* (kneed). See C. erubescens *geniculatus*. 
*quinquefolius* (five-leaved). See Ipomcea *quinquefolia*. 

**GREENHOUSE EVERGREENS.** 
*byronioides* (bryony-leaved). See *Ipomoea Pesci-tigris*. 
*canaeensis* (cane). See C. Hiermannii. 
*Falchia* (Falkia). White, tinted pink, May, S. Africa. 
*lanatus* (woolly). See C. *tenusimus*. 
*lineatus* (narrow-leaved). See C. *oleifolius*. 
*tenusimus* (most-sclender). Lilac, July, Levant. 
*torrestris* (evergreen). See Ipomcea torrestris. 

**STOVE EVERGREENS.** 
C. albus dissectus (white-veined-leaved). See Ipomcea albi-vernasce. 
*arbor* (tree). See Ipomcea arborescens. 
*chrysorhiza* (yellow root). See Ipomcea Chrysorhiza. 
*ciliatus* (hair-fringed). See Jacquemonia Tannini. 
*guianensis* (Guiana). See Jacquemonia Guianensis. 
*incaus* (hoary). N. and S. Amer. 
*maquis* (greatest). See Ipomcea Secriaria. 
*obtusatus* (yellow). See Ipomcea Orthosiphon. 
*penanthus* (flowered). See Jacquemonia Vio- lacea. 
*repens* (creeping). See Ipomcea Aquatica. 
*rosicolor* (Dr. Roxburgh's). See Argynnia Roxburgh. 
*scrobiculatus* (small-fruitved). See Ipomcea Scrobicula. 
*verticillatus* (whorled). See Jacquemonia Hirsuta. 

**HARDY DECIDUOUS.** 
*arctic* (field). Rosy-pink, August, Britain, Trailer. 
*bicuspis* (two-pointed). See C. Arvensis. 
*bonus* (Buenos Aires). See C. Incanus. 
*canadensis* (Canadian). 1. Pink, June, S. Europe, 1840. Trailer. 

C. chinesis (Chinese). See C. Arvensis. 
*coronatus* (Corticium). See C. Arvensis. 
*echinatus* (unbracted). See Ipomcea Echinatea. 
*gerardi* (Gerard's) See C. Lineatus. 
*holostegus* (all-silky). Pale yellow, June, Tauria, 1824. 
*intermedius* (intermediate). See C. Lineatus. 
*italicus* (Italian). See C. Altheoides. 
*macrocarpus* (large-fruited). Creamy-white, California. Climber. 
*peucetia* (Peuce). White, June, Persia, 1829. 
*platycarpus* (broad-fruited). See Phacelia platycarpa. 
*salvifolius* (sage-leaved). See C. Secundus. 
*Sibthorpius* (Sibthorpius). See C. Hirsutus. 
*torrrestris* (earthy). See C. Cantabrigia. 

C. agypthisa (Egyptian). Egypt. 
*ambigua* (equivocal). See C. Chilenis Ambigua. 

**COO KIA PUNCTATA.** See Clausena Wampi. 

**COOPE RIA.** (Named after Mr. Coop, gardener at Wentworth House, in Yorkshire, for many years. Nat. ord. Amaryllidaceae. Linn. 6-Hexadria, 2-Monogynia. Allied to Zephyranthes.) 
We would have named this genus "The Evening Star." It is anomalous amongst its race for first opening its starry-white flowers in the cool of the evening. They possess the fragrance of the primrose. Although hardy, they are rather treated as half-hardy, in a border of deep, sandy soil, under a west wall, where they flower all the summer, and produce seeds. Each stalk produces but one flower; but a tuft of bulbs would produce a fine effect. Offsets and seeds, sown in spring; sandy loam. 

C. chlorooffenen (green-tubed). See C. Drummond Chlorosolen. 
*Drummondii* (Drummond's). 1. White, red, pink. 
*digitatus* (green-tubed). Tube stouter, tinged green, 1835. 
*pseudocaryophyllus* (long-stalked), White, orange. 

**COAIPFERA.** (From copaiba, the Brazilian name for its balsamic juice, the balsam of Copalina, and fero, to bear. Nat. ord. Leguminosae. Linn. 10-Decandria, 1-Monogynia. Allied to Cyanoth.) 
Stove evergreen trees; cuttings of firm shoots in March, in heat, under a glass; plant and loam. Summer temp., 60° to 80°; winter, 50° to 55°. 
C. gorksi (Gorkski). Trop. Africa. "Inhabite Coaipfera." 
*guianensis* (Guiana). 30. White, Guiana, 1826. 
*Landsdorfi* (Landsdorff's). Brazil. "Balsam of Copalina." 
Palm trees requiring stover treatment.


Greenhouse shrubs valued chiefly for their foliage. Cuts of ripe wood in sand in a case. Loam, peat, and sand.


*robus'ta* (robust). New Zealand.

*(from kopto, to cut; in reference to the division of the leaves. Nat. ord. Crownfoot (Ranuncu'laceae). Linn, 13-Polyandria, 6-Polygonia. Allied to Helbrooma.)

The roots of this plant are used in the United States medicinally, under the name of Gold Thread, Hardy herbaceous perennial; division of the roots and seeds; sandy, loamy soil; requires a protection of a cold pit in winter.


*(from korali'on, red coral, and botrus, a bunch; the bunches of flowers and their stalks are coral red. Nat. ord. Vaccinaceae.)

Greenhouse evergreen epiphytal shrubs. Cuts in sand under a bell-glass; layers. Sandy peat.


*(see Narcissus Bulbocodion and its varieties.)

*C. echu'rum* (Echus, a German botanist. Nat. ord. Boraginaceae.)

Evergreen shrubs and trees, requiring stover treatment. Cuts in sand, in a close case, with bottom heat. Loam, peat, and sand.

*C. cf. Java' (while. White, W. Ind.


*grandif'ora* (large-flowered). White. August. S. Amer.

*Grevi'gi A. Z. Palme'is' (Palmer's variety). 6 to 10. White, Mexico. 1889.

*ipomoe'a'f'o'lia* (Ipomoea-leaved). 20. White, Brazil (?).


*Patag'o'numa* (Patagonula). See Patagonula Americana.

*Sebeste'na* (Sebestena). Trop. Amer.

*spec'o'sa* (showy). See C. Sebestena.


*(from kordule, a club. Nat. ord. Lilioworls (Liliaceae). Linn, 6-Hexandra, 1-Monoecygia. Allied to Dracena.)


*linea'la* (lined). Leaves with creamy lines, New Zealand.

*Pa'ri* (Parrie's). Green, with red band beneath. 1901.


*Schneider'ii* (Schneider's). Leaves, narrow, dark green. Dwarf. 1899.


*colo'rosa* (beautiful hair). See C. Australis.

*canna'f'o'lia* (canna-leaved). See C. TERMINALIS CANNORPHOS.

*colo'rosa* (colossal).

*congo* (crowded). See C. STRICTIA.

*Douchedii* (D俄国't's). See C. AUSTRALIS DOUCETTI.

*erythro'racris* (red-rachis). See C. BANKSHI.


*Forste'ri* (Forster's). See C. AUSTRALIS.

*haagea'na* (Haagean). White. Australia. 1873.

*hemichry'sa* (hallo-golden). 2. Isle of Bourbon. 1823.

*Hooker'i* (Hooker's). New Zealand.

*indivi'da* (undivided) of Regel. See C. AUSTRALIS.


*mauritia'na* (Mauritian). Bourbon.

*Ma'ri* (Merry's). Young leaves red, old ones edged red. 1901.

*no'bilis* (noble). See C. TERMINALIS NOBILIS.

*o'lu'a* (noddling).

*obhe'da* (covered beneath). Norfolk Island. See C. AUSTRALIS.

*Pumil'io* (Pumilio). New Zealand.


*Ru'mphi* (Rumph's). See DRACENA ANGUSTIFOLIA.

*Russell'i* (Russell's). See C. AUSTRALIS RUSSELLI.

*Sieb'ol'di* (Siebold's). Green. Java.

*stri'cta* (erect) of Hooker fil. See C. PUMILIO.


*Shur'mi* (Sturm's). New Zealand.

*sup'erta* (superb). See C. AUSTRALIS.


*cf'e'pra* (copper). Coppersy brown. 1876.

*ex'cellens* (excellent). Bronze and rosy-red, 1885.


*juxta'o'la* (juxta). 1842.

*Ves'chii* (Veitch's). See C. AUSTRALIS.

*(see Korema, a broom; in allusion to the appearance and shape. Two dwarf hard-leafed plants, closely allied to the Crowberry, Empetrum nigrum.)

Peaty soil on the rockery or on a front of a shrubby bed or border. Layers.


*Conra'di* (Conraad's). Purple, April, N. Amer.
COREOPSIS

From koris, a bug, and opsis, like; referring to the appearance of the seeds. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 3-Frutescens.

Hardy annuals, seeds in common soil, in March; hardy perennials, division of the roots in the autumn or spring; West Texas plants require a hotbed; and the perennial herbaceous and evergreen species are multiplied by divisions and cuttings. Light, sandy soil.


" alyce (winged). See Verbesina Occidentalis, "

C. angustifolius (narrow-leaved). See Bidens pilosa.

C. alternifolia (alternate-leaved). See Actinomeris squarroosa.


C. arguta (sharp-notched). See C. aurea.


C. artemisiaefolia (Artemisia-leaved). See Cosmos sulphureus.


C. chrysanthina (golden-flowered). See Bidens chrysanthemum.


C. crossifolia (thick-leaved). See C. lanceolata.


C. dichotoma (forked). See C. gladiata.

C. diversifolia (various-leaved). See C. Drummondii.


C. erioglophiola (Ferula-leaved). See Bidens erioglophiola.

C. fallopia (thread-leaved). See Thelyserga filifolia.


C. superba (superb). Flowers large. 1904.


C. heterophylla (various-leaved). See Echinacea heterophylla.

C. incisa (cut-leaved). See Bidens rupifolia.


C. carolina.


C. longiflora (long-stalked). See C. grandiflora.

C. major (large). See C. senfolia.

C. maritima (marine). See Leptosyne maritima.


C. parviflora (small-flowered). See Cosmos parviflora.

C. paniculata (few-flowered). See C. palmata.

C. procer (early). See C. palmata.

C. procera (tall). See Actinomeris squarroosa.


C. repens (creeping). See Bidens rupifolia.


C. setosa (Stevens). Trop. Africa.

C. stillmannii (Stillmann's). See Leptosyne stillmannii.

C. tenifolia (slender-leaved). See C. verticillata.

C. tinctoria (colouring). Yellow, crimson. N. Amer.


CORYTHOSyne. (Derived from korithon, a broom, and korys, the ovary; because the styles resemble a brush, Nat. ord. Compositae.) Hardy border herb, with wooly stems and leaves. Division, Ordinal, soil. C. obovata (obovate). 1. Pink. California. 1873.

C. spathulata (spathulate). See C. obovata.

CORESTHYS LIS BRACETEA. See Lasiopetalum bracteatum.

CORIANDRUM. Coriander. (From koris, a bug; referring to the smell of the leaves, Nat. ord. Umbelliferae [Umbelliferæ]. Linn. 5-Pentanaria, 2-Digynia.)


CORIA RIA. (From coriun, a hide; in reference to the crustaceous covering of the fruit, Nat. ord. Coriaceae. Dr. Lindley says, "It is very difficult to say what species this is."

The hardy species by suckers; the New Zealand one by cuttings in sand, under glass. Winter temp., 40° to 45°.

C. himalaeyensis (Himalayan). Fruiting petals black, Himalaya, 1904.


C. teres (terminal). Fruiting petals black. Himalaya, China. 1897.

C. thymifolia (thyme-leaved). Fruiting petals black. Peru, 1889.

C.O.RIS. (A name adopted from Dioscorides. Nat. ord. Primulaceae [Primulaceæ]. Linn. 5-Pentanaria, 2-Digynia."

A greenhouse biennial. Increased by seeds, in March; sand and peat and loam. Interesting little plant for the greenhouse shelf.


CORK TREE. Quercus Suber.

CORK WOOD. A. na pauisris.

C. O'MUS FOLIOLOSA. See Pyrus foliolosa.

CORELIOAN CHERRY. Co'nus Ma's.

CORELIOANS. Flag. Gladilus.

CORNISH MONEYWORT. Sibthorpia europaea.

CORN SALAD, or LAMB'S LETTUCE (Valerianella oboidea), is grown for winter and spring salads. The first dish, brought to table, was a red herring set in a corn salad.

C. inclusions. Soil and Environment.—Any soil that is not particularly heavy; the best is a sandy, moderately fertile loam, in an open situation.

Time and Mode of Sowing.—Sow in February and March, the two following months, and once a month during the summer, if in request; but it is not so palatable during this season as dried. Sow again during August and early in September, the plants from which will be fit for use in early spring, or during the winter, if mild. Three sowings are,
in general, quite sufficient for a family, viz., one at the end of February, a second early in August, and a third early in September.

Sow in drills, six inches apart. The only cultivation required is frequent hoeing, the plants being thinned to four inches asunder. They should always be eaten quite young. In summer, the whole plant may be cut, as they soon advance to seed at this season; but in spring and winter the outer leaves only should be gathered, as for spinach.

To obtain Seed.—Some of the spring-raised plants must be left ungathered from them. They flower in June, and perfect their seed during the two following months.

CORNUS. Dogwood. (From cornus, a horn; in reference to the hardness of the wood. Nat. ord., Cornus [Cornaceae]. Linn. *Tetrandria* and *Monogynia*.) Hardy deciduous trees, shrubs, &c., except where otherwise specified. Propagated by seeds, layers, or cuttings, and root divisions; common soil and moist situation.


" Frœbélı (Froebel's)."

" Grouchou'lin (Grouchouli)." Leaves variegated, 1874.

" Rosenthäl (Rosenthal's)." Similar to C. a. Physi.

" rō'ssica (Russian), 8. White, July, Siberia, August, 1874.

" sib'rica (Siberian), 10. White, August, Siberia, 1874.


" Amo'mum (Amomum), White, N. Amer. " Kinni-kinnik."

" asperī'ssia (rough-leaved), White, N. Amer.

" Barone'lian (Baronelian), N. Amer. 1876.

" bracky' poda (short-stalked), See C. macropylla.

" Brenchtföleri (Brenchtfeiders'), White, China, 1890.

" candi'dissima (Canadian), 1. Yellow, July, Canada, 1774. Herbaceous perennial.

" candi'dissima (whitest), 6. White, June, N. Amer, 1778.

" variagă (variegated).


" con'trovrōsa (disputed)." India; China; Japan; Corea. 1900.

" corystō'sis (clubbed-styled)." White, Himalayas, 1876.

" florīda (flowered), 15. White, April, N. Amer, 1771.

" florē'ru'bro (red-flowered), Tinted bright red. N. Amer, 1889.

" ped'ula (pendulous).

" globra'ga (glabrous), White, Western United States.

" gra'cis (graceful). Probably a form of C. candi'dissima. 1903.

" gra'nis (grand), Green, Mexico, 1838. Half-hardy everywhere.

" Hesse's (Hesse's)." White. Eastern Asia? 1899.

" iapo'rieica (Japanese), See C. Kousa.


" macropylla (large-leafed), White, July, N. India to Japan, 1827.

" variagă (variegated).

" Ma's (male), 15. Yellow, February, Europe, 1596.

" Carnelian Cherry, Cornel."

" variagă (variegated). 15. Yellow, February, Europe, 1596.

" Cornelian Cherry, Cornel."

" variagă (variegated)." 15. Yellow, February, Europe, 1596.

" C. Ma's anhithoca rpa (yellow-fruited), White. Western N. Amer, 1837.

" oblo'ngoa (oblong), 15. Purple, Nepal, 1818.

" offē'tina'is (officiinalis), White, Japan.

" pan'icos (panicled), See C. candi'dissima, 1827.

" pō'sens (pubescent), White, Western N. Amer.

" Purpuris (Purpuris), White. Berries dull blue. Ohio, 1809.

" sangu'nea (bloody), 8. White. June, Britain.

" candi'dissima (whitest)."

" variagă (variegated), 8. White. June, Britain."

" variega'tis (greenest).

" servīcea (silky)." See C. Amomum.

" asperfō'ssa (rough-leaved), See C. Amomum.

" oblongō'sia (oblong-leaved), See C. Amomum.

" sib'rica (Siberian), See C. ALBA SIBERICA.

" stolō'mi fera (sucker-bearing)." White, N. Amer, " Red-Osier Dogwood."

" florīva'mea (yellow-branched)." Bark yellow.


" asperī'ssia (rough-leaved), 10. White.

" sempī'tis (sub-verbena), White, June, 1741.


" sud'ica (Swedish), 1. White. April, Britain.

" Herbsttag (Herbsttag), 10. White, late September.

" tara'sica (Tartarian)." See C. ALBA.

" Thelīca'nis (Thelian), See C. MACROPYLLA.

CORNUTIA. (Named after Cornutus, a French physician, Nat. ord. Verbenas [Verbenaceae]. Linn. 2-Diandria, 1-Monogynia. Allied to Callicarpa.)

Stove evergreen shrubs. Loam and peat; cuttings in bottom-heat under glass, in February or March.


" punctā'sa (dotted)." Blue. Trop. Amer.

" pyrami'da (pyramidal), 6. Blue, July, Mexico, 1733.

CORO-KIA. (From the native name, Korokia. Nat. ord., Corocaceae.)

Evergreen shrubs of an ornamental character, requiring the shelter of a wall in the neighbourhood of London. Cuttings in sand in a cold frame during summer; also layers.


CORONILLA. (From corona, a crown, or garland; in reference to the disposition of the flowers. Nat. ord., Leguminous Plants [Leguminosæ]. Linn. 17-Diadalēsia, 4-Desidaria.)

The juice of C. varia is poisonous. Both greenhouse and hardy species are handsome, free-blooming plants. Seeds and cuttings; cuttings root readily during the summer months under a close frame, even without bottom-heat.

HAR'DY HABRACEOUS, &c.


" coronis (crowned), 1. Yellow. S. Europe, 1776. Herbaceous perennial.

" or'tica (Cretan)." Stirped. Europe, Asia Minor, 1731. Annual.


" eme'rosis (Emeus-like), Yellow and red. S.E. Europe, Shrub.


" thē'rica (Iberian)." See C. CAPPADOCIA.
   Evergreen shrub.
- _mi'mina_ (smallest). 1. Yellow. S. Europe. 1858.
   Herbaceous perennial.
   Herbaceous perennial.
   Mediterranean region. 1506.
- _squarrosa_ (scaly). See _Hieracium_ _squarrosa._
   Deciduous creeper.

**GREENHOUSE EVERGREENS, &c.**

- _algeria_ 1700.
- _stipula'tis_ (stippled). See C. Valentina.

**CORREA.** (Named after Correa, a Portuguese botanist, Nat. ord. Ruevorts [Rutaceae]. Linn. 8-Octandria, _1-Monogynia._) The settlers in New Holland employ the leaves of Correas, particularly those of _C. a'ilia, _ for tea. Greenhouse evergreen shrubs, from Australia. Cuttings of half-ripened shoots in sand, under glass, in bottom heat, in spring. The finer sorts are also grafted on the common ones, such as _C. a'ilia._ _C. specio'sa_ will scarcely strike at all; three parts sandy peat and one of turfy loam. Summer temp., 55° to 75°; winter, 40° to 48°.

- _backho'siana_ (Backhousian). See C. Speciosa.
- _bi color_ (two-coloured). See C. Speciosa _bicolor._
- _ferru'giosa_ (rusty). See C. Lawrenciana.
- _Harrisi'si_ (Harris's). See C. Speciosa _Harrisi.'
- _magni'fica_ (magnificent). See C. Speciosa _magnifica._
- _pi'ca_ (painted). See C. Speciosa.
- _pulche'lla_ (prettty). See C. Speciosa _pulchella._
- _ru'balba_ (red). See C. Alba._
   _backho'siana_ (Backhousian). 1969.
- _bi color_ (two-coloured). Crimson, tipped white. 1840.
- _Harrisi'si_ (Harris's). Crimson, or deep scarlet, _magni'fica_ (magnificent). White, large, scarlet, large.
- _ventric'oso_ (inflated). Crimson, tipped green.
- _ventric'oso_ (inflated). See C. Speciosa _ventricosa._
- _vi'rens_ (green). See C. Speciosa.

**CORRUGATE.** Wrinkled.


C. _arg'e'ria_ (silvery). Silvery white. Brazil. 1848.
   C. _arg'e'ria_ (Cotardean Grass).
   _Silvery Reed-grass._
- _hermes'na_ (carmine). Reddish. 1866.

**CORTEX.** The bark or corky layer.

**CORTICAL.** Like bark, or belonging to the bark.

**CORTUSA.** Bear's-ear Sanicle. (Named after Corses, an Italian botanist, Nat. ord. Primu'moris [Primu'maceae]. Linn. 5-Pennandria, _1-Monogynia._) Hardy perennials, with frame protection in winter; do best as pot-plants; root division; lean and peat. _hirsu'ta_ (hair). Country unknown.
- _Mathioli'a_ (Matthioli's). 1. Red. April. Austria 1596.
   "grandif'o'ra_ (large-flowered). Flowers large, deep red. "
- _Semeno'vii_ (Semenow's). See C. Kaufmannia _Semenovii._

**CORY'ANTHES.** Helmet-flower. (From _korus_, a helmet, and _anthes_, a flower; in reference to the shape of the flower labelum. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, _1-Monandria._) Stove orchids. Division; in pots well-drained; fibrous peat, chopped sphagnum, and small-broken pots; _punc'ta_ (spotted), _75° to 85°; rest, 50° to 60°_. See Orchid Culture.

C. _Bungerothi'i_ (Bungeroth's). Green, white, orange, red, spotted. Venezuela. 1850.
- _Corbii_ (Cobb's). See C. Macalata _Cobbii._
   _elega'ntium_ (more elegant). Rio Negro. 1866.
- _Fieldi'ngi_ (Colonel Fielding's). Yellow, brown. May. S. Amer. 1845.
- _leuc'antha_ (white-hooded), _Greenish-yellow_. lip purple with white hood. Peru.
- _macra'cia_ (large helmet). Large, pale yellow spotted purple. Peru.
- _macro'scia_ _o'cha_ (large-spiked). Orange, yellow, brown. Mexico. 1843.
- _Demerara_ (Mrs. Albertine's). Yellow, spotted crimson.
- _C. _hirsu'ta_ (Cobb's). Yellow-white, orange, unsprouted. 1903.
- _Demerara_ (Mrs. Albertine's). Yellow, spotted crimson.
- _vi'tri'na_ (glass-green). Light greenish-yellow. 1895.
- _masteria'na_ (Masterian). Yellow, red-spotted. _60°_.

**CORYCION.** (From _korus_, a helmet; referring to the shape of the flower. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, _1-Monandria._) One of those terrestrial orchids from the Cape of Good Hope, which entirely succeeds in this country.


**CORY'ALIS.** (From _korado's_, a lark, the spur of the flower resembling that of the lark. Nat. ord. Fumeworts [Papaveraceae]. Linn. 17-Diadelphia, _2- Họxandria._) Beautiful hardy plants. The perennial kinds are increased by root division at any season; and the annuals sown in the open ground, in spring or autumn, in common soil.

**ANNUALS AND BIENNIALS**

C. _acu'lis_ (stemless). See C. ochroleu'ca._
   Biennial.
Corylopsis. (From korylos, a hazel, and opsis, resemblance; the foliage resembles that of a hazel. Nat. ord. Hamamelidaceae.)

Deciduous trees requiring the protection of a wall in the latitude of London. Cuttings of half-clove wood under a hand-light or cold frame. Ordinary soil.

C. Griffii thi (Griffith's). See C. Himalayan.

reads (white), yellow, June.

Corylopsis. (from Sewzower's). Flowers large, yellow, W.

C. barcelonensis (from Barcelona). See C. Maxima alba.

Corylopsis (or Corylum) is a genus of trees and shrubs in the family Hamamelidaceae.

TURBOSUS-ROOTED.

C. Alle'ni (Allen's). Yellow-white, tinged purple. Apparently a hybrid, 1838.


1824. February.


C. falc'ula (yellowish). 2. Yellow, June.

C. vic'toriana (Barcelona). See C. Maxima alba.


Planting.—Young plants may be raised from cuttings or seeds. Cuttings should be performed at any season, and will not produce chamomile-like flowers. The soil should be deep, rich, and well-drained. Seeds should be sown in a cold frame in early spring. The plants are propagated by layering or by grafting, and are not difficult to manage. Seeds should be stored in a cool, dry place until they are planted.
very much in regard to productiveness. We have visited many woods year by year and have found some bushes of white, others of purple, and some of yellow. Soil.—Any ordinary soil, if properly well, will answer, provided it is not stagnant. A free, upright, light loam, however, is what they prefer, yet they will grow in almost any variety.

Culture during the Growing Period.—Very little is requisite after the regular winter pruning, unless it be the extirpation of suckers, and the removal, during summer, of those loose and ill-placed watery growths which only serve to confuse and darken the tree. We may here notice, that some little training may be necessary for those under a dwarfing-system in small gardens, in order to bring them into a compact and handsome shape.

Culture during the Rest Period.—Commencing with the training when young. They are best in single stems of about two feet in height; and the head should branch off equally, to accomplish which, some pruning back is requisite during the first year or two, whilst the head is forming, and the latter should be kept thin in the centre. When the trees are well established an annual pruning should be resorted to, consisting of still keeping the centre of the bush somewhat open, and in thinning out any cross shoots and superfluous spray. It must be observed, that the fruit is produced on shoots of the second or third year, generally on portions which have been well exposed to the light. Any coarse or robust shoots should be shortened back nearly half their length; these will frequently produce auxiliary branches of a fruitful nature. Do not prune the fruit blossoms as they are showing; this will be about the beginning of February. The female blossom is like a minute brush, of a pinkish colour; the male is the well-known catkin. In pruning, make it a point not to destroy these blossoms, especially the female; scarcely a twig may be cut away containing them. This makes it evident that most of the pruning, or rather, thinning, requisite should have been well carried out previous to any amendment of the soil.

Fruit: How to Keep.—When gathered, the fruit must be kept in jars, in a cool cellar, with husks on. If it is desired to impart a fine, fresh-looking colour to the husks, they may be immersed in a small acidulated pan of sulphur gently burnt, or rather, smouldered, beneath them. An old Sussex practice was to burn the jars after sprinkling a little salt over the nuts.

Insects.—The same precautions are taken as for the white mulberry tree.

CORYMBS, a spike of flowers, the flower-stalks of which are longer in proportion as they stand lower down the main stalk supporting them, so that the flowers are with a top nearly level. Those of Spiraea opulifolia and of the Mountain Ash are examples.

CORYNELLIA. (From koryne, a club; referring to the shape of the style. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadelphia, 4-Decandria. Allied to Clianthus.)

Stove evergreen shrub. Cuttings in sand under a glass. In topsoil, compost, and in bottom-heat; pale and loam; summer temp., 60° to 80°; winter, 50° to 55°.

C. polya'nthia (many-flowered), 5, Purple, W. Ind. 1824.

CORYNEMU BEIJERINCKI. A fungus responsible for the frequent gumming in stone-fruit trees, causing limbs or the whole tree to die away.

CORYNOCA RUS. (From koryne, a club, and carpos, a fruit, in full form of the fleshy seed. Nat. ord. Anacardiaceae. Linn. 2-Femini'stis, 1-Monogynia. Allied to Theophrasta.)

Greenhouse evergreen tree; readily increased by layers in light; in rich compost. C. lavins'ga (smooth), 20, White, New Zealand, 1823. C. au'reo-mar'ginosa (gold-edged). Leaves with broad golden margin. New Zealand, 1886.

CORYNOPHALLUS LEONE'NIS. See AMORPHO- PHALLUS LEONISNIS.

CORYNOSTY LIS. (Derived from koryne, a club, and stylos, a style; the style being club-shaped. Nat. ord. Violaccae.)

Climbing stovew peripherals. Seeds and cuttings of the young wood, getting firm, or taken off with a heel of the older wood, in sand in a close case, with bottom-heat.


CORY PHA. Fan Palm. (From korphes, the summit; in reference to the leaves growing in tufts on the top of the palm. Nat. ord. Palms [Palmaceae]. Linn. 6-Hexandria, 1-Monogynia.)

Stove palms, except where otherwise mentioned; soil, rich, sandy loam; increased by seeds.

C. austr'alis (southern). See LIVISTONA AUSTRALIS.

C. deco'ra (handsome). See LIVISTONA HUMILIS.

C. du'leis (sweet). See BANANEA DAUCIS.

C. el'a (tall). 50, E. Ind. 1825.

C. GBA'nia (Gebanga). 60, Java. 1847.

C. glauc'e'scens (milky-green), 100, E. Ind. 1820.

C. Sabal glaucescens (?), glaucocy'phila (glaucous-leaved). Bourbon. 1826.

C. hel'iocarpa (variegated-leaved). Danube. 1829.

Corys' nthes. (From korus, a helmet, and anthus, a flower; in allusion to the helmet-shaped flowers. Nat. ord. Orchidaceae.)


CORYTHO LOMA. (From korus, a helmet, and thalos, a dome; in reference to the shape of the flowers. Nat. ord. Gesneraceae.)


COSMA' THUS FIMBRIATUS. See PHACELIA FIMBRIATA.

COSME' LIA. (From kosmeo, to adorn. Nat. ord. Epacrids [Epacridaceae]. Linn. 5-Pennanti's, 1-Monogynia.)

Greenhouse evergreen shrub. Cuttings in summer months; sandy peat and sand. C. ri'bra (red-flowered). Red. Australia. 1826.

COSMIBUE'NA. (In compliment to Cosma Bueno, a Spanish physician, who wrote a natural history of Peru. Nat. ord. Rubiaceae.)

COSMIDIUM

COTONEASTER

CO'SMOS. (From kosmos, beautiful; in reference to the ornamental flowers. Nat. ord, Composies (Composite). Linn, 1753).—See Thelesperma filifolium. The flowers are white in spring, and treated as tender annuals; planted out in the open borders in the summer months.

PERENNIALS.


ANNUALS.


C. albifrons (white-flowered). White. 1890.


C. hybridus (hybrid). White or pale rose. Mexico, 1888.


C. borbo'rica (Bourbon). See C. pinnata.


COSBUS LINNIPERDA. Goat Moth. The caterpillar of the Goat Moth is most destructive to the wood of fruit-trees, though the elm, oak, willow, poplar, and walnut, also, are liable to its attacks. It is the Cosus ligniperda of some naturalists, and the Bombyx and Xylonomos cossus of others. The caterpillar measures upwards of four inches in length, is smooth and shining, beset only here and there with short hair. It is dark red, the breathing-holes situated at both sides are of the same colour. The sides and lower part of the body are flesh-coloured; the head is black; the first segment, also, marked with black above. After remaining more than two years in the larval state, and casting its skin eight times, the caterpillar becomes of a light ochre-yellow hue shortly before becoming a chrysalis, which usually takes place in spring, when it makes a strong cocoon of chips of wood and small pieces of bark, which it has gnawed off. The chrysalis is yellow, and the segments are deeply indented and capable of much extension; its back is furnished with strong, pointed spines, sometimes of a reddish-brown colour. The cocoon is situated within the opening in the tree, so that the pupa, when arrived at maturity, can press itself half out of the hole when the shell bursts, and the moth comes forth usually in the month of June or July, after having reposed in the pupal state for an indefinite time. When at rest the wings are folded together over the back in the form of a roof; it sits quietly in the daytime on the stems of trees, and is difficult to be distinguished, in consequence of its grey colour. Its wings measure, from one tip to the other, nearly three inches, and many specimens more than this; the female is usually larger than the male. The fore-wings are ash-coloured, with some greyish spots especially on the middle, and marked with very numerous streaks, like net-work; the hind-wings are brown; thorax ochræn in front, pale in the middle, with a black bar behind. The female is provided with a strong egg-depositor, with which she introduces her eggs into the bark of the tree—often 1000 in number; the young caterpillars living, at first, in and between the outer and inner bark, and afterwards, when they are stronger, penetrating into the wood. When the existence of one of these creatures is detected in a trunk, by its excrement, relief comes too late for the tree, even if we are able to kill the caterpillar, the mischief having already done. Notwithstanding this, the caterpillar should never be left undisturbed; and an attempt should be made to reach it by enlarging the opening with a garden-knife, or endeavouring to kill it by thrusting a piece of garden-wire up the hole. It is called the Goat Moth from the peculiar smell both of the insect and its larva.—The Cottage Gardener, iii. 137.

COSTMARY. See Chrysanthemum Balsamita.

CO STUS. (An ancient name, adopted from Pliny. Nat. ord, Compositae (Composite). Linn, 1753. —See Thelesperma filifolium. The flowers are white in spring, and treated as tender annuals; planted out in the open borders in the summer months.

1811. Lilac. Martinique. in the borders of the island.


1822. Pliny. Central Amer. 1866.


bul'a (twisted). See C. MOUNTAINS. PLUMBAGINA.


din'si'gina (white-margined). See C. BUXIFOLIA.

congsta (crowded). See C. MICROPHYLLA GLACIALIS.


1856.


eson'gina (notched). See C. MICROPHYLLA.

Fonte'nei (Fontanes's). See C. NUNMULARIA.


eson'gina (notched). See C. MICROPHYLLA.

Fonte'nei (Fontanes's). See C. NUNMULARIA.


glaci'a (glaclial). A dense bush. 1 to 12 ft. 1865.

mou'pini'na (Mopine) White, tinted red. Western China. 1870.

"flori'si'na (free-flowering). 1902.


Nummu'laria (Moneywort-leaved) of Fischer and Meyer, Europe, Asia.

Nummu'laria (Moneywort-leaved) of Lindley. See C. LINDLEYI.


prost'a (prostrate). See C. RUTUNDIFOLIA PROS-


prost'a (prostrate). White. Himalaya. 1868.

Ro'ysie (Dr. Royle's). See C. ACUMINATA.


Sim'o'nis (Simon's). White or pink. Berries scarlet. Himalaya. 1868.


Tomen'sa' (woolly). 4. Pink. April, Europe. 1759.

unio'fo'ra (one-flowered) of Bunge. Siberia.

vol'u'ris (common). See C. INTEGERRIMA.

vulp'i'ris (common), See C. INTEGERRIMA.

COTTON. See Gossypium.

COTTON GRASS. See Eriophorum.

COTTONIA. (A commemorative name. Nat. ord. Orchidaceae.)

Stove epiphytal orchid, with the habit of a Vanda. Divisions. Fibers of peat, sphagnum, and plenty of crocks in baskets.


july. India; Ceylon. 1840.

COTTON THISTLE. See Onopordum Acanthum.

COTTON TREE. See Bombax.

COTTON-WOOD. See Populus deltoides.

COTULA. (From cotule, a little hollow or cup; in allusion to the cup-like heads of some of the species. Nat. ord. Composita.)

Dwarf, creeping herbs, with finely cut leaves, as a rule. C. dioica, sometimes named Leptinella dioica, is used for carpeting the ground in carpet bedding and alpine gardening. Seeds and divisions. Ordinary soil.


Erythrichti'lia (Pyrethrum-leaved). Leaves small, feathery, New Zealand. 1898.

i'gu'noloba (five-lobed). See LIDBECKIA LOBATA.


COTYLEDON. Navelwort. (From kotule, a little hollow or cup ; in allusion to the hollow in the leaves of some species, such as C. Umbilicus. Nat. ord. House-

leeks [Tropilaeliocarpus]. Linn. 10-Deandria, 4-Phalangia. Allied to Sedum.)

These plants feed as much, if not more, by the myriads of pores or mouths all over their leaves, than by the roots, which seem only necessary for holding them stationary in the driest and most barren situations. Greenhouse evergreens, from the Cape of Good Hope, except where otherwise mentioned ; sandy loam, with a little old mortar mixed with it, and plenty of drainage ; cuttings at any season.


ad'na'ca (hooked). 2 to 4. Yellow, pink. Mexico.


Aizo'xa (Aizoon). Asia Minor.

a'lis'ran (alternate-leaved). See C. MACULATA.

ama'na (pleasing). Mexico.


bou'nds (Barbey's). Abyssinia.

brac'e'o'lia (small-bracted). Red, yellow. Colombia.

brac'e'o'lia (large-bracted). Mexico.

caca'o'lia (Cacoa-like). 1. Yellow, May, 1818.


ca'li'fornica (California). 1. Light yellow. Cali-

fornia, 1855.

ca'na'lica'la (small-channelled) of Haworth. See C.

ungu'atus. 3. Purple, September, 1824.

ca'na'lica'la (small-channelled) of Baker. Mexico.


or'ba'ca (large-bracted). Mexico.

cacalo'i'o's (Cacao-like). 1. Yellow, May, 1818.


ca'li'fornica (California). 1. Light yellow. Cali-

fornia, 1855.

ca'na'lica'la (small-channelled) of Baker. Mexico.


or'ba'ca (large-bracted). Mexico.

cacalo'i'o's (Cacao-like). 1. Yellow, May, 1818.


ca'li'fornica (California). 1. Light yellow. Cali-

fornia, 1855.

ca'na'lica'la (small-channelled) of Haworth. See C.

ungu'atus. 3. Purple, September, 1824.


Cordero'y's (Corderoy's). 1. Red, yellow. Mexico, 1869.

cor'scan's (glittering). 1. Orange, June, 1818.

crass'i'o'lia (thick-leaved). 2. 1824.

cren'a'la (round-toothed). See Kalanchoe crenata.

cune'a (wedge-like). 1. May, 1818.

cuneifo'ris (wedge-shaped-leaved). 1. 1824.


cy'ma'na (cyanose). 1. Yellow. Mexico, 1869.


decu'sa'ta (cross-leaved). 2. Scarlet, August, 1819.

desc'na'ta (De Smet's). Mexico.

dichlo'ti'a (ferrispinae). 1828.

ecklonia'na (Ecklonian). S. Africa.


ed'u'lia (bell-shaped). See C. ORBERTULATA.

elegans (elegant). Bright red, yellow inside. Mexico, 1905.

er'cia (rect). See C. LUSTICANEA.

far'i'na (causal). California.


For'k's (Funk's). Country unknown.

eibhöfis'ra (bulging-flowered). 2. Yellow, pink.

September, Mexico, 1826.

dec'ra (adorned). Leaves variegated.
C. globifer'ra Fu'lini (Fu'lini's).
  " met'licula (metallic-leaved). Leaves metallic in colour. Mexico.
  " globularis'ta (globular-leaved). White, red. Asia Minor, 1809.
  " grandiflor'a (large). See Tuber'culosa, a. 
  " lanceolata' (lance-shaped). California, 1879. 
  " lanceolata' (lance-shaped). See C. lanceolata. 
  " pulverulenta (powdery). 
  " jasminiflo'ra (jasmine-flowered), White. 
  " Davuria, 1813. Hardy. 
  " na'na (dwarf). 1 to 1½ in. S. Africa, 1901. 
  " obs'ona (oblong-leaved). See C. orbiculata. 
  " orb'ica (one-sided). See C. orbiculata. 
  " peru'sia'na (Peruvian). 1. Orange-red. Peru. 
  " Petalol'za (Mrs. Pestalozza's). Pink. Orient, 1877. 
  " pulvinat'a (dusty). White, red. September. 
  " pulvina'na (cushioned). Orange-red. Mexico, 1901. 
  " Purpisii (Purpus's). Red. Sierra Nevada, 1836. 
  " ramos'a (branched). See C. orbiculata. 
  " reticula'ta (netted). Small, whitish. S. Africa. 
  " rhombif'olia (diamond-leaved). 1. June, 1823. 
  " roses'ia (roseate). Rose. Mexico, 1840. 
  " rondif'olia (round-leaved). See C. orbiculata. 
  " Salzma'nnii (Salzmann's). See C. hispina. 
  " glauc'a (sea-green). Leaves sea-green. The most popular variety. 
  " Semen'ica (Semenow's). Siberia. 
  " Semen'irmum (houseleek-like). 1. Deep red. Cau- 
  " caseus, 1836. 
  " " spu'ris (spurious). 1. July, 1731. 
  " " tricapa'ris (three-spined). See C. papillaris. 
  " " undulat'a (waved-leaved). 1. June, 1818. 
  " " unguis'tum (one-flowered). San Luis Potosi, Mexico, 1905. 
  " " venenata' (inflated). S. Africa. 
  " " vi'risa (green). 2. 1824. 
  " " Wallish' (Wallich's). S. Africa. 

COUG' GRASS. (Agropy'rum re'pens). A weed, the creeping underground stems of which render it very difficult to destroy: constantly and carefully forking out of soil whenever seen, and burning it, is the most effectual remedy. 

COULTE RIA. See Calsalfinia. 

COUR'OU'FITA. (The native name. Nat. ord. Myrtaceae). 

Stove, deciduous tree. Seeds when obtainable, and cuttings of ripe wood in sand, in a close case with bottom-heat, Fibrous loam, peat, and sand. C. guianetensis, the Cannon-ball Tree, is the best known. 

C. guianet'en sis (Guianian). Flowers from the trunk and branches. Guiana. 


Stove evergreens. Cuttings of farm young shoots, in spring or beginning of summer, in sand, under glass, and in a mild bottom-heat; loam and peat, well drained. Summer temp. 60° to 80°; winter, 45° to 55°. 


Hardy. Cuttings and biennials, by seeds at the end of March, in the garden-border; perennials, by division in autumn or spring. 


C. macro'phala (large-headed). Pale yellow. Cau- 

C. casus. 1823. Biennial. 


C. uncina'ta (hooked). Northern Asia. 

C. volge'nsis (Wolga). Purple, Wolga, 1804. 


C. deal'bo'ta (whitened). Leaves covered with silvery hairs. Brazil, 1867. 

COUT'AREA. (From Coutari, its name in Guiana. Nat. ord. Cinchonaceae. Linn. 5-Pendula, 1-Mexicana. Allied to Cinchona). 

The Cinchona bark of French Guiana is the produce of C. speciosa. Stock evergreens. Sandy loam, peat, and loam; cuttings in heat, under glass, in spring months. 

C. scherfi'nna (Scherffian). White. Colombia, 1878. 

CRASSULA.

COUTOUBEA. (From Couto-bee, its name in Guiana. Nat. ord. Gentianacae (Gentianae). Linn. 4-Tetran- drum [Tetranthra] (Tetranthus). Allied to Leantus and Lianthus.)

It is used in Guiana as a substitute for Gentian. Stove annual and biennial plants. Sow in a mixture of loam and peat, early in spring, in hotbed, frame, or frame, C. ranu’sa (branchy), 3. White. July. Brazil. 1824.


Biennial, tae’ticilla’la (whorled-headed). See ENICOSTEMA LITTORALE.

COVELIA. See Ficus.

COW’ANA. (Named after Mr. Cowan, Nat. ord. Roseworts [Rosaceae]. Linn. 12-Ilosandria, 3-Trigynia. Allied to Geum.)

Greenhouse evergreen shrubs. Sandy, peat, and loam; propagated by cuttings under glass, in heat, but not easily.

C. crac’ofla (Heath-leaved). White. California. mesico’na (Mexican), 1 to 6. Yellow. N.W. Amer. (piaitad-ZMMAi)


COWBERRY. Vace’nia Viti’ida’e’a.

COW’DINE. Aga’tis australis.

COW-DUNG. See DUNG.

COW-GRASS. Tris’ofium mé’dium.

COW-HERB. Sapon’ris Vaca’ria.

COW-ICH. Musc’ia.

COW-ICH CHERRY. Malp’ghia u’rens.

COW-PARSNIP. Hera’dium.

COW-SLIP. (Pri’mula officina’lis). There are several varieties, varying in colour from almost white to a very deep yellow: some are single; but others are double, in the former the petals distinguish as rose-in-base, the calyx in these being converted into a corolla. Some specimens will produce one hundred pips upon a single trust; and they have been known to yield even more than one hundred and fifty. The cultivation is the same as that of the Auricula.

COW-TREE. Bro’sinum Galacode’dron.

CRAB or WILD APPLE. Py’rus Mal’us ace’zha.

CRA’CIA. (Meaning not obvious. Nat. ord. Leguminose.)


The Tartar bread, or large, fleshy roots of Cra’mee Tu’ta’rica, is eaten in Hungary in slices, with oil, salt, and vinegar. Hardy herbaceous-rooted perennials, of easy growth in rich garden-soil by root division, or seeds sown in March.


" grandis’fa (large-flowered). White.


CRA’MEE MAR’TIMA or SEA-KALE should be grown in an open situation. It is readily increased by division of its roots, or by seeds. Raising from seed is rarely resorted to by modern growers, the branching roots from those taken up for early forcing, which are cut off before the main stems are put in, afford excellent stock. They should be cut in lengths of about three inches, the top portion being cut straight across and the lower part diagonally; this prevents the sets being planted the wrong way upwards. The sets may be prepared as soon as the roots for forcing are dug up, which will be after foliage has ripened off or been cut off by frost. Kept in moist sand until a favourable opportunity occurs for planting, they will, in good ground, make strong crowns for forcing the following winter. We remember the time when seedlings were raised, but commenced with the propagation from the roots it was a very slow process. From rich, well-manured ground very strong crowns may be grown in one season, and when forcing we have had a second crop from the same roots, but this would be much smaller though equally good to eat. For forcing we have used any large bulb cases or other boxes, placing them under the stages of a warm house, covered over with an ordinary bed of manure. The medium should be light, but it will only be a short time before the kale is ready to cut. Market-growers use pith, and cover with heated manure. For later use the roots may be left in the ground and covered with pots or, as is done on the south coast, with seaweed, and this is the best kale we get. And the seaweed is also a good manure for the next year’s crop. Some gardeners cut from the same roots year by year; yet many modern growers make new plantings every season, even if some of the old are left over. We have seen kale which has done well for some years; but no trade growers keep it over a year, except where it may have been propagated in the ground through unavoidable circumstances. Yet we have seen it in private gardens, where the same roots have done fairly well for several seasons. Much depends upon manuring and forcing the ground up. Good ground is the chief essential for growing, but when once strong stems or crowns are established, any soil may be used for those dug up for forcing. The chief thing being to cover, to keep out daylight. Yet we have found that when grown fully exposed it has been equally palatable, though for ordinary purposes it is only the blanched that is appreciated.

When forcing, never give too much heat. A moderate heat at first, then when modern growers make new plantings every year, to have it ready to cut at Christmas it should be started about the middle of November, and for succession some should be put in every fortnight. When left in the ground the liberal use of lime and some salt will be beneficial, and stable manure may be used liberally.

CRANBERRY. Osyo’co cus pal’si tris.

CRAN’S-BILL. Gera’ium.

CRANIO’STOMA. From kranion, a cup, and stoma, a mouth. Nat. ord. Labiate.)

Greenhouse evergreen, sub-shrub. Cuttings under a bell-glass. Loam, peat, and sand.


CRASP’DIA. (From crassus, thick, and pes, a foot; peduncles thickened. Nat. ord. Composita.)

Half-hardy, silky, perennial herbs. Seeds; divisions. Loam, leaf-mould, and sand, and kept in a frame during winter.


CRASS’ULA. (From the diminutive of crassus, thick, or succulent; in reference to their leaves, &c. Nat. ord. Houseleeks [Crassulaceae]. Linn. 5-Fennia’ndria, 1-Monogynia.)

Greenhouse plants from the Cape of Good Hope, except where otherwise mentioned.


" Magn’ol’ti (Magnol’s). See Sedum Caspi’sum.
CRASSULA

C. moschata (musk). See TILIEA MOSCHATA.


rivens (red). See SEDUM RUBENS.


verticillata (whorl-flowered). See SEDUM CEPITOSUM.

BIENNIALS.


capitella (small-headed). See C. CAPITELLA.


tomentosa (downy). White. April, 1818.


EVERGREENS AND HERBACEOUS.

C. abyssi'nica (Abyssinian). S. Africa.


Greece. 1795.


atrosanguinea (dark blood-red). 2 to 1/2. Dark red. Transvaal. 1907.


coccica (scarlet). See ROKEA COCCINEA.


Cooperi (Cooper's). 2. White. S. Africa. 1862.


Herbaceous.


fruticulosa (under-shrubby). White. 1800.

globosifo (globe-flowered). See C. SEPTAS GLOBIFLORA.

gria (gryllid). Red. 1884.

hendersonii (Henderson's). See S. AFRICA.

Hookeri (Hooker's). See C. IMPRESSA.


impressa (impressed). Rose-pink. S. Africa. 1879.

jasminina (jasmine-like). See ROKEA JASMINA.


lycopodiodes (Lycopodium-like). S. Africa.


nomorosa (grove). S. Africa.


C. obtiqua (unequally-leaved). See C. FALCATA.

obtusa (blunt-leaved). 2. 1812.


odoratisima (sweetest). See ROKEA ODORATISSIMA.


Herbaceous.


perforata (threaded). See C. PERFORA.


portulae (Portulaca-like). S. Africa.

profusa (profuse-flowering). See C. MARGINALIS.


pyramidata (pyramidal). S. Africa.


radsca (rooting). S. Africa.


rubicunda (reddish). Red. S. Africa.

rubra (red). See S. AFRICA.

sarcocaulis (fleshy-stemmed). S. Africa.


Schmitii (Schmidt's). See C. IMPRESSA.


umbellata (umbellate). See S. AFRICA.

trachycauli (rough-flowered). S. Africa.


vulgaris (variable). 4 to 1. White or red. S. Africa. 1901.

versicolor (varicoloured). See ROKEA VERSICOLOR.

Culture.—Of the annual and biennial species the seeds should be sown in pots, in spring, and, when the seedlings will bear handling, separated and planted singly in other pots. The same soil suits them as the perennial succulent species, which are those most in request. The culture of these is as follows, whether for bedding-out or growing constantly under glass:—Make short cuttings, about the end of August or in September, of the tops of the young shoots which have not flowered, and, after the cuttings are rooted, place singly in small pots, and grow till the end of October, when the pots are filled with roots. From this time to the end of February keep in a cool greenhouse, or shelf close to the glass, and give two or three waterings during the winter. As soon as the plants begin to move in the spring, stop them at about three or four inches from the pot, and a few of the top leaves take off, to facilitate the growth of new shoots. As soon as these are well formed, thin them, so as to leave but from three to six shoots on each plant, according to its strength; and, as soon as the shoots are two inches long, shift them to a pot two inches larger, in a mixture of yellow loam and brown bricks, well drained.
After the spring potting, indulge with a little more than greenhouse-heat, by placing them for ... (glandular). 20. White. May. N. Amer. 1810.
,, grignonie'nsis (Grignonian). Fruit lemon-yellow, tinted red. 1890. 

If this plant with two shoots offers to flower on both heads. Instead of one, and you wish the plant to flower every year, you must forego the pleasure of having both shoots to flower the first season. In that case, as soon as you can perceive the flower-buds in the spring, you must cut down one of the two shoots, and let the other one flower. The lower down the shoot is cut the better. If there is only an inch or two of it left, it is sure to produce three times the number of young shoots that will be necessary to retain. If you select three of the best placed, these will be enough for a plant so young; therefore, instead of two or three coming up to flower next season. As soon as the single truss of flowers begins to fade, about the middle of August, this flowering shoot must be cut down close likewise, and if succession-shoots will be obtained, you may prune it so that, in a large, old specimen, there are many flowering shoots and succession ones growing on at the same time; and, as soon as the plants are done flowering, the shoots which have the flowers are cut back and root to different lengths, according to the size or shape the plant is intended to be grown. The best cuttings are those taken from the tops of growths which have failed to flower the previous season.

CRATEGO GO-MESPLIS. (Nat. ord. Rosaceae.) Interesting as being one of the few known grafted hybrids, the parents being the Medlar and common Hawthorn. Ordinary soil. It originated in a nursery at Metz.

CRATEGO GO-MESPLIS DARDARI. (Dardar's). White. 1899.

CRATEGUS. The Hawthorn. (From kratos, strength ; in reference to the thorns and the spines of the wood. Nat. ord. Appleworts [Rosaceae]. Linn. 12-Iosanda 2-Dipentagynia.)

The family of thorns furnishes a greater number of handkerchief small trees for ornamental or pit other woody family whatever. They are all white-blossomed, except where we have mentioned otherwise; but they vary in another beauty—the colour of their fruit; and in these we have the greatest difference. Young plants are obtained from seed sown in spring; and any particular varieties can be budded or grafted upon one of the most useful—the common whitethorn. Common garden-soil.

C. alpina (alpine), 20. May. Italy.
C. altica (Altaian), Altaian Mountains.
C. ambigua (doubtful). Russia.
C. andina (anomalous). N. United States, Canada.
C. mira (smaller). May. S. Europe. 1805.
C. arborescens (forest). N. United States, Canada.


hibernia (winter), Origin uncertain.

hibernia (entire lobed). N. United States and Canada. 1905.

intricata (intricate). N. Amer.


La'y (Mr. Tradescant's). See C. finetipida major.


misgadus (Apple-like). Eastern Florida.

marocco na (Morocco). See C. sinaica.

melanocarpa (black-barked). 15. May, Tauria.

mexicana (Mexican). 15. May, Mexico. 1823.

"Carrierei (Carriere's). See C. CARRIERI.


monogyna (one-styled). 15. White. May, Britain.

morifolia (orange-barked). May.


"Gireoudi (Gireoud's). Leaves marbled white and tender rose. 1899.

Gumperti versicolor (Gumper's variable coloured).

"Korolkow's (Korolkow). May.

inermis (unarmed). A spineless variety. 1899.


leucocarpa (white-barked). 15. White. May, Britain.

macrocarpa (large-barked). 15. White. May, Britain.

"oliveriana (Oliverian). See C. PENTAGYNA.

"tornata (very spiny). 1908.

"errata (unarmed). Commonly variegated. 1899.


"Glastonbury Thorn." 1883.


"C. Heldreichii (Heldreich's). Greece.


"Carrierei (Carriere's). See C. CARRIERI.


monogyna (one-styled). 15. White. May, Britain.

morifolia (orange-barked). May.


"Gireoudi (Gireoud's). Leaves marbled white and tender rose. 1899.

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"Korolkow's (Korolkow). May.

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leucocarpa (white-barked). 15. White. May, Britain.

macrocarpa (large-barked). 15. White. May, Britain.

"oliveriana (Oliverian). See C. PENTAGYNA.

"tornata (very spiny). 1908.

"errata (unarmed). Commonly variegated. 1899.


"Glastonbury Thorn." 1883.


CRATEROSTIGMA. (From krater, a vessel, and stigma; the stigma is funnel-shaped. Nat. ord. Scrophulariaceae.)

Dwarf perennial stow herb, allied to Torenia. Seeds. Loam, leaf-mould, and sand.


CRATOXYLON. (From kratos, strength, and *xylon*, wood; in allusion to the hardness of the wood. Nat. ord. Hypericaceae.)

Erect, evergreen shrub. Cuttings in sand under a bell-glass. Loam, peat, and sand.


CRAWFURDIA. (In honour of Sir John Crawford, governor of Singapore, Nat. ord. Gentianaworts [Gentianaceae]. Linn. s-Fentandria, s-Digynia.)

There is little doubt that these herbaceous twiners are as hardy as the Gentians, to which they are allied, and like them may be cultivated.


" *lu'teo-vi'rius* (yellow-green). See C. *JAPONICA*.


CREAM FRUIT. *Roupe'lia gre'a*.

CREEPERS or TRAILERS are plants which, by having numerous stems and branches resting upon and spreading over the soil's surface, are useful for concealing what would be unpleasing to the eye. They are also handy objects in pots suspended from the roof of an appropriate structure, and some, as *Gaultheria procum'bens*, are ornamental round the margin of ponds or other water.

CREPIS. (From crepis, a slipper. Nat. ord. Compositae.)

Many of the Hawksbeards are of a weedy character, but the perennial C. *au'rea* and the annual C. *rubra* are pretty and worth growing. Seeds at the beginning of April in the open border, and C. *au'rea* by division at the same time. Ordinary garden soil.


The flowers of the Calabash-tree (C. *Cuy'e*) are intermediate between Gesnerworts and Bignoniads, and in all the species are produced from the old stems or branches. Stove evergreen trees: a mixture of loam and peat; cuttings of ripened shoots root readily in sand, under glass, in heat.

C. *acumina'ta* (pointed-leaved). See C. *Cuy'e*.


" macrophy'lia* (large-leaved). See AMPHITHECA MACRO-PHYLLA.

" *sapi'e* (plated-flowered). Brazil.

CRESSA. *Lepi'dium sati'um*.

Varieties. There are three varieties: Plain-leaved, which is the one commonly cultivated for salads; Curly-leaved, equally good, and employed likewise, for flowering; Broad-leaved, seldom cultivated. See MUSTARD.

CRESSA. (From Kressa, a female Cretan. Nat. ord. Convulvulaceae.)

A hardy evergreen trailer. Divisions. Well-drained soil.


CRESS ROCKET. *Vella*.

CRINODE'NDRON. See Tecricuspidaria.

CRINUM. (From *brinon*, the Greek name for lily. Nat. ord. Amaryllyids [Amaryllidaecae]. Linn. s-Hexandria, s-Monogynia.)

Nearly fifty species of Crinum, with numerous varieties, and many cross-bred seedlings, have been described. Many of them are the most beautiful of this order. C. *longifolium* is perfectly hardy in England if planted six or eight inches deep. It will grow in water, but better on the margins of lakes, ponds, or rivulets. The whole family delight in strong, rich loam, and an abundance of water when in flower. Grow in pots. Bulbs plants of great beauty; rich loam, peat, and sand; readily increased by offsets, and many by seeds.

HARDY. C. *cape'nu* (Common Cape). See C. *LONGIFOLIUM*.

" *glandi'folium* (large-flowered). See C. *POWELLII*.

" *Herc'ulei* (Herbert's). See C. *COMMELYNII*.


" *macran'num* (Frarian). White, pink. Kalabari Desert. 1887.

" *longifo'lium* x *Moor'ei*. See C. *POWELLII*.


", *al'bium* (white). White. 1888.

", *interme'dium* (intermediate). Pink. 1888.


", *aust're*a* (Southern). See C. *PEDUNCULUM*.

", *crassis'ifo'lium* (thick-leaved). See C. *VARIABILE*.

", *macran'num* (Frarian). White. 1816.


", *lar'ciolium* (strap-leaved). See C. *PRATENSIS*.

", *macran'num* (Frarian). White. 1816.


", *molu'cuma* (Molucca). See C. *LATIFOLIUM* and C. *ZELLA*.


", *al'bium* (white). Natal.

", *varieg'a'tum* (variegated). Leaves striped yellow and green.


", *Wedding Lily*.

", *pica'tum* (plated). See C. *ASIATICUM*.

", *rip'a'ri* (river-bank). See C. *LONGIFOLIUM*.


STROVE.


", *Me'a'ri* (Mear's). Smaller than the type. 1907.

", *ano'malum* (anomalous). See C. *ASIATICUM*.

", *variac'te* (perforated). Garden hybrid. 1877.

", *arena'ri* (sand). See C. *ANGUSTIFOLIUM*.
**CROCUS**


**C. ardens** (urn-shaped). See **Urcelolina pendula**.

**C. crocoïdium** (Vanilla-scented). See **Gigantrum**.

**C. variegatum**. White, with red median stripe. Mozambique. 1907.


**C. scolymum** (ruddy). See **Acanthum**.

**C. verschoellianum** (Vershaffeltian). Leaves striped with white. 1877.

**C. scillastrum** (Sibyllian). See **C. Zeylanicum**.

**C. wimbushii** (Wimbledon). White, Central Africa. 1902.


**C.集成has** (Japanese). See **C. latifolium**.


**C. baldum** (reduced). White and red stripe. Zanzibar. 1883.

**CRIO'CERIS ASPA'RAGL**

The Asparagus Beetle sometimes proves very destructive by eating the shoots and twigs of Asparagus during its growth, from June to September. There are several broods during this time, each one of which destroys the slender shoots, when the beetle attains the winged stage. The eggs are spindle-shaped, dark in colour, and should be destroyed when seen. The grubs are olive or slate-coloured, fleshy and curved at the tail, by which they hold on to the plant. They are full fed in fourteen days, when they pass into the ground, pupate, and in the course of another two or three weeks reach the perfect state, ready to repeat their life-cycle and destructiveness. The beetles are about 1 inch in length, and blue-black or greenish. The shoulders are red, with two black spots. The wing-cases are yellowish, with a line of colour where they meet the back; they also have a blue-black band across the middle, and similar patches at the base and apex. Several remedies have been devised for holding the beetle in check. The grubs are the most destructive. White sheets may be laid amongst the plants, and the latter well shaken, to make the grubs fall. Another plan is to get some water about as warm as the hands can bear and syringe the Asparagus with it. Then the grubs will quickly fall, but if any still hold on, a smart tap on the stems will bring them down, when the cloths may be quickly lifted, carried away from the Asparagus ground and the grubs destroyed. Some growers allow the grubs to fall on the Asparagus beds, in the above process, and then dust them with dry soot. The beds should be examined again in ten days or a fortnight, and the process repeated if need be. The stems should be burnt in autumn, when cut down, in order to destroy eggs that may be upon them.

**CRISTA RIA COCCI NEA.** See **Malvastrum coccineum**.

**CRI'THUM.** Samphire. **(From kritha, barley; resemblance of the seeds to barley. Nat. ord. Umbelliferae. Umbelliferae. Linn. 5-Potentaria, 2-Digymia. Allied to Seseli.)**

Samphire. (C. mari timum) is excellent in pickles.


**Cultivars.**—Cristum mari timum, though a native of the seaside, may be cultivated successfully in the garden.

**Soh.**—It requires a sandy, rich soil and the north side of a wall.

**Propagation.**—The roots may be planted, or the seed sown, in April; the only cultivation required being to keep the plants free from weeds, and to water them about twice a week with water containing half an ounce of guano, and one ounce of salt per gallon.

**CROCKING** is putting a piece of potsherd over the hole at the bottom of a flower-pot, previously to adding the drainage, &c.

**CROC'OSMA.** (From krokos, saffron, and osme, smell; in allusion to the strong odour of saffron when dried flowers are placed in warm water, Nat. ord. Iridaceae.) Near the coast bulrush perennial, often grown in pots in a greenhouse, but it may be planted out in March and the corms lifted in November in cold, northern districts, or in clay soils. Seeds and offsets. Light, rich soil.


**CRO'CU'US.** (A name adapted from Theophrastus. Nat. ord. Irida [Iridaceae]. Linn. 3-Triandra, 1-Monomium.

Hardy bulbs. The saffron of the shops is the dried stigmas of **C. sativus**. The Sicilian saffron is from those of **C. longiflorus**.


**lute'us** (yellow-white). Yellow, and white edges. 1878.

**porphy'rus** (purple). Bright claret-purple. white. 1878.

**annular'is** (Anchuran). Orange, purple. Spring. Asia Minor. 1892.

**annul'a'lis (ringed).** See **C. Biflorus**.


**a'lbui** (white). **fu'vius** (yellow). Pale yellow. Greece. 1879.

**ha'micus** (Hamus). Light yellow. Mt. Haemus. 1879.

**la'ceus** (milky), Cream. Greece. 1879.

**lil'ex pene'cula'ris** (pencilled-milky). Pale cream with purple lines. Yellow.

**lil'ex sce'na** (yellowish). Pale yellow.

**sulph'u'rus** (sulphur). Pale yellow. S. Europe. 1879.

**sulph'u'rus po'a'lidius** (pale sulphur). Pale yellow. 1879.

**ca'sus** (Syrian). Yellow, Syria. 1879.

**trix'me'na'lis** (three-lined). Yellow, with purple lines.

**Bala'na** (Mrs. Balansa's). Orange, feathered brown. February, W. Asia Minor. 1879.


**biflu'rus** (two-flowered). White to lilac, with 3 purple lines on the back. March. Tuscany. 1869.


**al'bus** (white). White, March. Opuscina. 1879.

**Alexa'ndri** (Alexander's). White, striped purple on back of outer segments, Bulgaria. 1900.

**arg'e'nius** (silver). Smaller, more purple than the type, striped purple. Italy. 1891.

**ca'rnus sce'ns** (blishus). Blish, February, Naples. 1891.

**carnus** (not striped). Blish, February, Florence. 1891.

**gra'cua** (Greek or Grecian). February. Greece. 1891.

**Leich'lini** (Leichtlin's). White of pale purple. 1891.

**mar'ganti** (Margarit's). White, Asia Minor. 1891.


**Pestal'o'na** (Pestaloza's). White. Constantia. 1845.


**purpur'ius** (dwarf). White, February. Pisa. 1845.

**saffron** (Taunus). Blish, February, Odessa. 1845.

**We'de'ni** (Welden's). White, purple, Dalmatia. 1845.

**Billo'ti** (Billoit's). Rich purple, with darker blotch in throat, Asia Minor. 1892.

**Boisste'ri** (Boisster's). Pure white. Ms. of Cilicia.
C. Boryi (Bory's). White. Autumn. Ionian Islands, 1845.

... marathoni seus (Marathon). White. Marathon, byzantinus (Byzantine). See C. IRIDIIFLORUS.

... Cambeades'dei (Cannabed'sei). Lilac, purple. Outside, 1845.

... cancella'tus (cross-barred). White to lilac, October to December. Asia Minor, 1847.

... etruscus (Cilician). Violet, purple. Cilica, 1845.

... masica'tus (Marizarian). White, yellow. Caria, 1845.

... candidus (white). White, tinged yellow in throat, March, The Troad, 1856.

... ilicis (yellow). Yellow, veined and motiled purple. 1904.

... carpeta'mus (Carpetan). Pale lilac or white. March to June. Spain.

... capsius (Caspiian). White. October, Caspi Sea.

... lilacina (lilac). Rosy lilac, 1903.


... superbus (superb). Orange, lined "lilac." See C. CANCELALUS CILICIENS.

... fulco linesus (brown-lined). Orange, lined brown. Smyrna, 1876.

... reticulatus (netted). Orange-yellow. Smyrna, 1876.

... supurbus (superb). Orange-yellow. Smyrna, 1876.

... synnemus (Smew's). White, February. Smyrna, 1893.

... synpinus (Synpin's). Purple, white. Smyrna, 1876.

... lilacina (lilac). Lilac, purple, white. Smyrna, 1876.

... lilacina (lilac). Lilac, purple, white. Smyrna, 1876.

... lilacina (lilac). Lilac, purple, white. Smyrna, 1876.

... lilacina (lilac). Lilac, purple, white. Smyrna, 1876.

... lilacina (lilac). Lilac, purple, white. Smyrna, 1876.

... lilacina (lilac). Lilac, purple, white. Smyrna, 1876.

... lilacina (lilac). Lilac, purple, white. Smyrna, 1876.
C. eburneus (spring), Purple. February and March. Europe (England), 1785.

... alboflorus (white-flowered), White, Trieste.
... lanceolatus (white-beaked), Purple, tipped white.
... parviflorus (small-flowered), White, Spilugen.
... versicolor (changing colour), Pale or dark purple.
... silvaticus (yolk-of-egg-coloured), Orange, tinted brown outside. N. Palestine, 1879.

... graveolens (heavy-smelling), Orange, flushed brown. Aleppo.
... syriacus (Syrian), Darker orange, feathered brown outside.

Weldeni (Welden's), See C. biflorus Weldenii.
... xanthus (aoned), Rosy lilac, veined purple, orange, N. Arabia, 1855.

CROCUS CULTURE.—Propagation: by Seed.—Sow the seed in October, in a prepared bed of light, rich earth, in an open situation, covering it a quarter of an inch. The seedlings will come up in the spring, and should be kept well weeded. When the leaves decay, clear them away, and spread a thin coat of fresh, light earth over the roots. Allow them to remain another season, and then, when the leaves decay, take up the bulbs carefully, sift them through a sieve to find even the smallest. In August prepare a bed of fresh, rich earth, turning it over two or three times to mellow and pulverise. About the middle of September, on a dry day, level the bed, and draw drills across the four inches apart; then plant the young bulbs in the drills three inches asunder, pressing them down gently into the soil; and, when all are planted, level the ridges of the drills with a rake carefully down. In this bed they should remain two years. The second year most of them will flower; and, when in bloom, the colours should be marked, to enable you to separate them into their colours when they are taken up. Any very fine varieties should be especially taken care of.

By Offsets.—When the leaves decay, in the summer, take up the bulbs, keeping them in their various sorts; separate the large-flowering bulbs from the small offsets, and plant them in the same way as is described above for seedlings. In two years take them up, sort the large roots out again, and replant the small ones.

Soil.—The crocus delights in a dry situation, and a rich, light, sandy soil. In such a place and soil it flowers profusely, and produces large roots; but in a wet, poor soil it dwindles away.

Cultivation.—October is the best month for planting, though it may be prolonged to the middle of December. Take the roots up every second year, planting the offsets as described above.

Insects.—The chief enemy, which may be destroyed by watering the beds or clumps with lime-water.

Diseases.—The bulbs sometimes become like a mass of cartilage, which will not, no remedy is known for bulbs actually diseased, but they ought to be carefully picked out, and not mixed with the general stock, for fear of infection. It is caused by an internal fungus, Bacterium Hyacinthii.

CROPPING (MIXED).—growing two or more crops together, one of which may be either drawn young, so as to be out of the other's way before it gets high enough to be injured, or one of which benefits the other by shading it. The object of mixed cropping is to obtain the largest amount of product in the shortest time from a given space. The subject cannot be treated in detail within these limited pages; and we must, therefore, refer our readers to an essay on the subject in The Cottage Gardener, v. 274. See Rogers, A Treatise, v. 274.

CROSSANDRA. (From krossa, a fringe, and anther an anther; fringed anthers, or pollen-bags. Nat. ord. Acanthaceas [Acanthaceae], Linn. 14. Tetradiynamia, 2. Acanthospermia. Allied to Justicia.)

Short showy evergreen shrubs; peat and loam; cuttings root readily in sand, in bottom-heat, at any season, under glass.


C. infundibuliformis (funnel-shaped). See C. undulatofolia.

CROSSOZEMA. (From krossos, a fring, and zona, a segment. Nat. ord. Dilleniaceae, S. Br. Plantat. Autumn, 1817.)

Greenhouse shrub. Cuttings of nearly ripe wood in sand in a close frame, Fibrous loam, a little peat and sand, C. californicum (Californian), White, S. California, 1824.

CROSSYNE CILIARIS. See Buphane ciliaris.

CROTALEA. (From krotalon, a castal.net, or hand-rattle, in the pod if shaken. Nat. ord. Leguminosse [Leguminosae]. Linn. 16. Monadelphia, 6. Decandria. Allied to the Lupines.)

Notwithstanding the great number of Crotalarias, with their gay-coloured pea-flowers, they are not much prized by gardeners, owing to the difficulty of preserving them from the attacks of the red spider. Seed; perennial kinds easily from cuttings in sand, under glass; loam and peat.

STOVE ANNUALS, &c.

... angula (angled). 1. Yellow. June, Honduras.

1799.
... angustifolia (narrow-leaved). See Lebeckia sericea.
... biflora (Burmann). See S. sagittaloides.
... Buma'ni (Burmann's). 1. Yellow. July, E. India.

1800.
... cube'nus (Cuba). See C. INCANA.
... purpureascens (purplish). 1. Purple, July, Madag. 1823.
... purpurea (purple). Purpurea, S. Africa.
... sagittata (arrow-like). 1. Yellow. June, N. Amer.
... senegalensis (Senegal). 1. Yellow. E. Ind., 1820.

1819.
... speciosissima (showy). See C. sericea.
... triadi'na (three-flowered). 2. Yellow. June, 1824.
... xanthera (tuberculated). See Eriosema chinesene.

GREENHOUSE EVERGREENS, C. arborea (tree-like). See C. Capensis.
... argentea (silver). See Androbolium petiolare.
... axillaris (axillary). Trop. Africa.
... cephae'na (Cape). Yellow. S. Africa.
... dichotoma (forked). 1. Yellow. July, Mexico, 1824.
Evergreens. See Raffia amplexicaulis, 6. Yellow, July.

Venezuela, 1823.

Yellow, August.

C. amplexicaulis (stem-clasping). See Raffia amplexicaulis.


C. fenestra (windowed), See C. juncea.

C. floribunda (tree-flowering). See Wiosorgia floribunda.

C. foio (leafy), 3. Yellow, June, Brazil, 1818.

C. fruticosa (shrubby), 2. Yellow, June, Jamaica, 1718.

C. fulva (tawny), 2. Yellow, June, Trop. Asia, 1816.

C. keynea (Heynean). White, blue. India, 1868.

C. laburnifoidea (Laburnum-leaved), 5. Yellow, August, Trop. Asia.

C. lutea (broad-leaved), Jamaica.


C. lofta (Lotus-leaved). See C. latifolia.

C. medicaginosa (Medicago-like), 1. Yellow, green. June, E. Ind., 1816.


C. opposita (opposite-leaved). See Raffia opposita.

C. paniculata (panleaved), 3. Yellow, June, Java, 1820.

C. pellis (furrowed). See C. ramosissima.

C. peonia (hanging-down), See C. laburninfolia.

C. procumbens (lying-down), 1. Yellow, June, Mexico, 1823, Herbaceous perennial.

C. pulcherrima (beautiful), See C. pulcherrima.

C. pulchra (very beautiful). Yellow, E. Ind., 1807.

C. ramiflora (much-branched), 1. Yellow, July, India, 1820.

C. roxburghiana (Roxburgh's), See C. calycula.

C. salica (Sultan), 4. Yellow, July. Tropics of the Old World, 1876.

C. semperflorens (ever-flowering). Golden yellow.

C. striga (streaked-flowered), 3. Yellow, red, Mauritius, 1873.

C. tenueflora (fine-leaved). See C. juncea.

C. tetragona (four-angled). Yellow, November.


C. virgata (twiggly), 3. Yellow, June, E. Ind., 1816.

C. violacea (yolk-of-egg coloured), Yellow, violet, Brazil.

C. wallachica (Wallachian). See C. semperflorens.

CROTON. (From broton, a tick; referring to the appearance of the seeds, Nat. ord, Spurgeworts [Euphorbiaceae], Linn. 21-Monacca, 10-Nonadaphia, Allied to Jatropha.) The most powerful of purgatives is Croton oil, obtained from the seeds of C. Trigium. Stove evergreen shrubs, except C. rosmarinifolia: foam and peat; cuttings

root readily in sand, under glass, in heat. For the plants with highly coloured foliage, soil and grown under the name of Croton, see Codium.


C. Brownei. See C. saltiana.

C. caranosiformis (cajano-shaped), 6. Yellow, August, Mexico, 1824.

C. chinensis (Chinese), 2. Yellow, June, China, 1878.

C. cordifolia (heart-leaved). See Hypocalycus obtusatus.

Cunninghamia (Cunningham's). Pale yellow, purple.

C. N.W. Australia, 1865.


C. ceremonies (windowed), See C. juncea.

C. florea (free-flowering). See Wiosorgia floribunda.

C. folio (leafy), 3. June, Brazil, 1818.

C. fruticosa (shrubby), 2. Yellow, June, Jamaica, 1816.

C. fulva (tawny), 2. Yellow, June, Trop. Asia, 1816.

C. hesperiaica. Violet. 1818.

C. lutea (broad-leaved), Jamaica.


C. loiola (Lotus-leaved). See C. latifolia.

C. medicaginosa (Medicago-like), 1. Yellow, green. June, E. Ind., 1816.


C. opposita (opposite-leaved). See Raffia opposita.

C. paniculata (panleaved), 3. Yellow, June, Java, 1820.

C. pellis (furrowed). See C. ramosissima.

C. peonia (hanging-down), See C. laburninfolia.

C. procumbens (lying-down), 1. Yellow, June, Mexico, 1823, Herbaceous perennial.

C. pulcherrima (beautiful), See C. pulcherrima.

C. pulchra (very beautiful). Yellow, E. Ind., 1807.

C. ramiflora (much-branched), 1. Yellow, July, India, 1820.

C. roxburghiana (Roxburgh's), See C. calycula.

C. salica (Sultan), 4. Yellow, July. Tropics of the Old World, 1876.

C. semperflorens (ever-flowering). Golden yellow.

C. striga (streaked-flowered), 3. Yellow, red, Mauritius, 1873.

C. tenueflora (fine-leaved). See C. juncea.

C. tetragona (four-angled). Yellow, November.


C. virgata (twiggly), 3. Yellow, June, E. Ind., 1816.

C. violacea (yolk-of-egg coloured), Yellow, violet, Brazil.

C. wallachica (Wallachian). See C. semperflorens.
CRYPTAENIA. (From kruptos, hidden, and aden, a gland. Nat. ord. Thymeleaceae.)

Greenhouse evergreen shrubs. Cuttings of half-ripe shoots in sand, under a bell-glass in April. Fibrous loam, peat, and sand.


CRYPTANTHUS. (From kruptos, hidden, and anths, a flower; the flowers being nearly hidden by the rosette or crown of leaves. Nat. ord. Bromeliaceae.)

Stove epiphytes requiring similar cultural treatment to Echeveria.

C. acuatis (stemless). See C. undulatus.
C. erythrophyllus (red-flowered), See C. undulatus ruber.
C. beuckeri (Beucker’s). White. Brazil. 1886.
C. diascor (two-coloured). Leaves silvery. Brazil.
C. marisii (Mons’s). See C. bivittatus.
C. morrenianus (Morrenian). See C. bivittatus.
C. revolutus (revolute). Leaves red-purple.

CRYPTOCAEOPSIS. (From kruptos, hidden, and horpos, a flower. Nat. ord. Nymphaeaceae.)

Stove aquatic. Cuttings in sand in heat. Loam, peat, and sand.


CRYPTOGHILUS. (From kruptos, hidden, and cheilos, a lip; the lip, or labellum, being partly hid by the sepals. Nat. ord. Orchidaceae.)

Linn. 20. Gymnostachyum, 1-Monandria. Allied to Acanthophyllum. Stove orchid; root division; soil, rough fibrous peat and rotten wood.

C. reticulata (netted). See Erna reticulata.
C. Wrightii (Wight’s). See Erna lichenoria.

CRYPTOCOXYRNE. (From kruptos, hidden, and horune, a club; the club-shaped spadix, or spike, in the centre of the flower, is hidden by the hooded spathe peculiar to this order, Nat. ord. Arads [Araeaceae]. Linn. 21. Monocotyla, 2-Dianthius. Allied to Arumna.)

Stove herbaceous. Cuttings, and seeds when obtainable; loam and peat. Summer temp., 60° to 80°; winter, 45° to 55°, and dry.

C. ciliata (hair-fringed). Green, purple. May. E. Ind. 1824.
C. cordata (heart-shaped). Malaya.
C. Griffii (Griffith’s). Spathes purple. Malacca. 1900.

CYRTOGRAMMA. (From kruptos, hidden, and gramma, a letter; in reference to the sori being hidden by the revolute margin of the pinnae.)

Hardy ferns, except C. crispa brunoniana, which requires a greenhouse.

C. acrostichodes (Acrostichum-like). N. Amer.
C. brunoniana (Brownian). Fertile segments oblong. Himalayas. 10 to 15,000 ft.

CRYPTOLEPIS. (From kruptos, hidden, and lepis, a scale; in allusion to the scales inside the calyx. Nat. ord. Asclepiadaceae.)


CRYPTOME RIA. Japan Cedar. (From kruptos, hidden, and meris, part; the structure of all the parts of the flower being hidden, or not easily understood. Nat. ord. Coniferae [Coniferae]. Linn. 21. Monocotyla, 10-Monadelphus. Allied to Taxodium.)

Fine evergreen conifers, but not quite hardy enough to stand a severe winter. From 60 to 100 feet high, from the north of China, where it grows in damp situations. Seeds imported; some have ripened in Britain; output in sand, soil, under a hand-light; a pure loam seems to suit them best.

C. araucarios des (Araucaria-like).
C. dacydiiodes (Dacrydium-like).
C. lacinios (lanceolate). See Lobbii (Lobb’s). Java. 1853.
C. lobbi na’na (Lobb’s dwarf). 2. N. China.
C. lycocephaloides (Lycopygium-like). 1876.
C. monsito’sa (monstrous).
C. ni’gricaps (becoming black). Japan. 1870.
C. praegens (prickly).
C. rubigynosa (reddening). Leaves turning reddish in winter. Japan. 1873.

CRYPTOPHORA NTHUS. (From kruptos, hidden, phoro, to bear, and anths, a flower; the sepals partly hidden by the petals. Nat. ord. Orchidaceae.)

C. Lehma’nnii (Lehmann’s). Yellow, orange, purple. Colombia. 1903.
C. oblongo’lius (oblong-leaved). Purple and yellow.
C. erythrophle’um (fleshy-leaved). Venezuela.

CRYPTOPHORA GIUM. See Gymnostachyum.

CRYPTOSTE’RIA. (From kruptos, hidden, and ste’mma, a crown; the crown of the flower hidden. Nat. ord. Compositae [Composita]. Linn. 5. Pentandria, 2-Digynia. Allied to Perilopica.)

Climbing stove evergreens. Loam and peat; cuttings root readily in sand, under glass, in heat.


CRYPTOSTE’ M MA. (From kruptos, hidden, and stemma, a crown; the crown of the flower hidden. Nat. ord. Compositae [Composita]. Linn. 19. Syngynema, 3-Fructus. Allied to Arechoites.)

Tender annuals, from Cape of Good Hope, requiring to be sown on a gentle hotbed; when large enough may be potted two or three plants in a pot, and protected again in the same way, and planted out in the open border the beginning of June.

C. forbesia num (Forbesian). Yellow. Summer. S. Africa.
C. lusita’nicum (Portuguese). See C. calendula’ceum.

CRYPTOSTY’ LIS. (From kruptos, hidden, and stylos, a style; the column is hidden by the lip. Nat. ord. Orchidaceae.)


CRYSTHOPHILA. See Copernica.

CUBA BAS T. See Hibiscus batus.

CUCIFERA THEBA’ICA. See Hyph.ena Cucifer’a.
CUCKOO FLOWER. Cardamnus pratensis and Lychnus Flou'culti.

CUCKOO-SPIK. See Tetrigonia spumaria.

CUCU BALUS. (Derived from kakos, bad, and bolus, snout, Nat. ord, Carophyllaceae.)

chlo'rofe'lis (green-leaved). See Silene ferto'liata. 
ste'lla tus (starry). See Silene stella'ta.

CUCUL LIA VERBASC. Mulein Moth. This is the parent of a greenish-white or slaty-coloured caterpillar, found from the end of May until August, feeding on the various species of medilus (Verba'busam) and figwort (Sorophula'reia). On each segment of this caterpillar are four large black dots, sometimes separate, and sometimes running together; there are three dots along the sides and a double row of yellow spots on the back, with others on the sides. The head is yellow, spotted with black. This moth appears commonly in May. It is yellow, with expanded forewings, which are all of a reddish-brown, and are bordered and lined with black, and a large white spot on each resembling the figure 3, as shown in the annexed drawing. The hind-wings are white, with reddish-brown spots on the sides, and which are almost white. The female lays her eggs upon the muleins, and their relative species of plants, which eggs hatch in a few days if the weather be warm. The caterpillars, when of full growth descend to the ground at the roots of the plants on which they have been feeding, where they form cocoons in hollow-rotted leaves, and so firmly bound together as to resemble small, hard clods. They remain in the pupa state until the following May, or even for two years.

CUCUMBER. See Cucumis sativus.

CUCUMBER-TREE. Magnoli'a acuminata and M. Fras'zelli.

CUCUMBER DISEASE. The Cucumber is very liable to have its roots attacked by microscopic creatures known as phytophagous nematodes, which penetrate the roots and cause tubercles to form upon them, varying in size till as large as nuts. Here the eelworms live, multiply, and spread from root to root till the cucumber plants show signs of weakness and disease. There is no remedy for the plants, which should be dug up and burned. The soil of the bed should be taken out, conveyed to some distance from the house. The latter is always kept clean, as well as the bed, with paraffin and water. Soil from a fresh source should be obtained and a fresh bed made up before again planting Cucumbers. The disease has been observed to various other maladies or diseases, including Canker, Mildew, and Sclerotium Disease.

Cucumber and Melon Mildew is caused by Perono' spora cucurbit'is, which forms a white mold on the underside of the leaves, and will ultimately destroy the plants if allowed to spread without check. The under surface of the leaves should be well sprayed with dilute Bordeaux mixture, so as to wet them thoroughly, and embrace the whole of the patches of mildew.

Sclerotium Disease attacks many plants belonging to different orders, including the Cucumber. The disease is caused by Sclerotinia sclerotiorum, which attacks the stem, forming a white mould just above the ground-line. It also penetrates the stem, gradually extending upwards, till the stems become dry and brittle. The latter are then found to contain numerous black sclerotia, of varying size in the pith, surrounded by mycelium or thread-like portion of the fungus. These stems should be taken away and burned in the early stages of the disease, before the sclerotia are produced, because the latter lie in the ground till spring, and after passing through more than one stage of its life-cycle, again attack the plants, with which the mycelium comes in contact. In order to destroy the underground vegetable matter, the soil should be well sprinkled with soot or quicklime. This will kill the mycelium of the fungus before it attacks the young stems of the Cucumber. Manure that has fed cucumber beds greatly favours the spread of the fungus.

Insects. — See Aphids, Insect Pests, and Red Spider.

CUCUMIS. Cucumber. (From cucumis, the Latin for cucumber. Nat. ord. Cucurbitas [Cucurbitaceae].)

Cucumis richardii pro-Monadelphia. Half-hardy trailing annuals. The whole of the species require to be sown in hotbeds, and, when of sufficient strength, to be planted out either in frames or under glass-houses, where they may becultivated. C. acut’angulus (acute-angled), See Luffa acut'angula.


C. angu’sus (serpentine). See Trichosanthes An'guina.


C. canasta'se (Cantaloupe). See C. Melo Canta'bus.

C. chin'ese (Chito). A variety of C. Melo.

C. citr'ilsus (Citrul). See Cucullus vulgaris.

C. face'ae (water-melon). See Cucullus vulgaris.

C. face'o (Paste'que cucumber). See Cucullus vulgaris.


Cucumis variega'tus (Madras). Cucumis variega'tus (Madras).


C. moma'ndica (Elatium-like). See C. Melo.

C. moschac'ca (scented). See C. Melo.

C. mutus (point-covered). See C. sativus.

C. nat'ius (painted). See C. Melo.

C. prophe'tia (prophe'tia). See C. sativus.

C. s sacram'ent (Sacramento). Fruit used for pickling. Zanzibar, 1800.


C. sat'ius (white). 4. Yellow, July,


C. trig'o'bus (three-angled). Yellow, Old World Tropics.

C. utis'simus (most useful). See C. Melo.

C. Vil'morini (Vilmorini). Fruit candy yellow, spicy, 1802.

Garden Varieties. — In recent years varieties have come to be so numerous to individualise, but there are some distinct types, of these Rollisson's "Telegraph" has taken the lead for many years; there are many improved selections under different names. Sutton's "Improved" is one of the best. Sutton's "Delicacy" is a fine variety, Orchard's "Market" is another good type, and is very prolific; there are several selections from this. There are a few reliable established names retained, but most modern seedsmen have their own names. Those which have gained certificates are Sutton's Art, Matchless, Every Day, and Peerless.

Since such grown garden types have been so plentiful, very few try to grow them in the open, except the small Gherkin varieties for pickling; these are cut when quite small. The "Ridge" cucumbers are almost a thing of the past, although they were extensively grown, and think the flavour compared with those grown under glass was much better.

In the old editions of this work there were lengthy instructions on the culture of Cucumbers, but we do not consider it necessary to repeat them, because to give a few short details; and have struck out much of the previous material included.

Taking Culture. Cucumbers are now generally grown in glass-houses, but in some gardens frames are used. And on a moderate hot-bed they do very well, The
manure has to be carefully prepared by turning it over several times, and a good covering of leaf-soil and loam put on the surface before planting, and this should be done a few days before putting the plants in. For growing in glass-houses, of course, they have to be kept almost entirely abolished. The hot-water pipes being arranged so that they can be covered with stable manure, and on this some good fresh turfy loam is used, and some limy compost added. Later a surface-dressing of sand may be given, which may include some of the various artificial manures, or bone meal.

Propagation.—We have grown from cuttings which for early fruiting, some in sooner than those raised from seeds. The cuttings from clean, healthy side-shoots root freely in the close propagating pit if there is a good bottom-heat; yet in the ordinary way seedlings are the most satisfactory that can be used. Later a surface-dressing of sand may be given, which may include some of the various artificial manures, or bone meal.

Seedling.—Being male and female flowers on the same plant in two sexes, it is not necessary to fertilise by taking the pollen from the staminate flowers and applying it to the pistillate flowers. In years gone by this used to be done in the ordinary culture; but modern gardeners prefer to grow them separate, except where seed is required, an indication that proper fertilisation is given by the terminal end of the fruit swelling. The Cucumber is generally included with vegetables, but is quite as equally entitled to be termed a fruit.

Standard of Merit.—Length, not less than twelve inches, Diameter, one-ninth of the length, Colour, dark green. Spines, black and numerous, Bloom, unremoved, Curcumference, one in. long. and equal. Ledges, 5. 2. 3 No. Each, each not more than a diameter long, Flesh, crisp and juicy. Flower, remaining on the fruit.

Open Ground Crops.—The sowing for these crops must be performed at the close of May, or early in June. A rich, south-west border, beneath a reed or other fence, is peculiarly favourable, as they then enjoy a genial warmth without suffering from the meridian sun. The border being dug regularly over, and saucer-like hollows, about fifteen inches in diameter and one or two deep, formed five feet apart, the seed may be sown six or eight in each. Seed may also be sown beneath a hedge of similar aspect, as the Cucumber will not thrive in it or it should be branches placed perpendicularly. If the weather be dry, it is requisite to water the patches moderately two or three days after sowing. In four or five days, if the season be not unfavourable, the plants will make their appearance, and until they have attained their rough leaves, should be guarded from the small birds, who will often destroy the whole crop by devouring the seminal leaves.

If the season be cold and unfavourable, plants may be raised in pots, under a frame or glass-houses, as directed for those crops; to be thence transplanted, when of about a month’s growth, or when the third rough leaf appears, into the open ground, shelter being afforded them during the night. Water must be given every two or three days, in proportion to the dryness of the season, applying it during the afternoon or early in the morning. Only through the roots, and to such an extent that the fixed plants will be able to support the hardening, and until they have attained their rough leaves, should be guarded from the small birds, who will often destroy the whole crop by devouring the seminal leaves.

Cucurbita. Gourd. (From curvita, a gourd, Nat. ord. Cucurbita [Cucurbitaceae]. Linn. 21- Monocac, 10- Monadelphia.)

Half-hardy trailing annuals, requiring the same culture as the Cucumber, C. andrea'na (Andean). Fruit marked with white and yellow. Uruguay, 1896.

" aurea" (yellow). (See C. pepo auranti'a.

" orang'na (false orange). See C. pepo orangina,


" Cour'go'ro (Couriger). to, Yellow. July.

" syl'vistris (wild). The supposed origin of the large Gourds, Hualalaya, 1895.

" vir'ida (green). to, Yellow. July. “Large Bitter”.

melanos'o'ma (black-seeded). See C. ficifolia.

melanoc'ortis (melanocortis). Japan. 1850.

Melope'po (melon-pumpkin, Squash). See C. pepo.

mexica'na (Mexican). Similar to C. ficifolia, but leaves different. Mexico. 1889.


Astrachan.


" Warted Gourd."

Rapat'to (Rapalloto). See C. maxima.

" verruco'sa (warty). See C. pepo verrucossa.

Cudr'nia. (From hudros, glorious. Nat. ord. Urticaceae.)

Hardy or nearly hardy evergreen tree. Cultivations in sand under a bell-glass. Loam, peat, and sand.

C. javan'ensis (Javan). Australia. 1830.

Culca'ria. (Derivation same as Culcaseia. Nat. ord. Arads [Araeaceae]. Linn. 21- Monocac, 7-Heptandria, Allied to Caladium.)

Stove climber. For culture, see Coloca'sia.


Not climbing.

Cullen. Poro'dea glandulo'sa.

Culumbine or Cumbline. See Aquilegia.

Cullu'mia. (In compliment to Sir T. C. Cullum, who wrote about British plants in 1774. Nat. ord. Compositae.)

Goodlooking evergreen of easy culture. Seeds and cuttings, under a bell-glass in the greenhouse in summer.

Loam, leaf-mould, and sand.


S. Africa. 1818.

Cumin or Cumin. See Cumumyn Cuminum.

Cum'num Cy'mnum. Common Cumin, an annual, native of Egypt, bearing white flowers, and belonging to the same genus as Fennel [F. vulgare], for its aromatic seeds. Sow in a warm situation in March, in a rich, light soil; the plants flower in June, and ripen their seeds in the autumn.

Cum'mingia. (Named after the late Lady Gordon Cumming, of Altymy, in Morayshire. Nat. ord. Liliwurts, [Liliaceae]. Linn. 6- Hexandria, 1-Monogynia. Now referred to Composita.)

Beautiful little half-hardy bulbs from Chile, which succeed best in a light, rich border in front of a greenhouse, with Ixias, Brodiaea, Zephyranthes, Anomatheca, and the like. Plants; loam and leaf-mould and manure.


tene'la (delicate). See Conanthera Simsi.

" trimaculac'ula (three-spotted). 2. Blue. December. 1899.}
CUNDERANGO

CUNILIA. (After a town of that name. Nat. ord. Labiatae [Labiata]. Linn. 2-Disandra, 1-Monogynia. Allied to Balm and Mint.)

C. coccinea (scarlet), See CALAMINTHA Coccinea. 
C. marisna (Maryland), 1. Red. September. N. Amer. 1799.


Greenhouse evergreen tree, but in some situations hardly. Light soil, well-drained; cuttings can be rooted, but seldom make handsome plants; seedlings are best.

C. sinensis (Chinese), 40. China. 1804.

CUNOIA. (Named after J. C. Cunn, of Amsterdam, Nat. ord. Conioides [Saxifragacea]. Linn. 10-Disandra, 2-Digynia.)

Greenhouse evergreen tree; loam and peat, leaf-mould; cuttings in sand, under glass, in heat.

C. cape'nsis (Cape), 20. White. August. Cape of Good Hope, 1819.

CUP'ANIA. (Named after F. F. Cupani, an Italian monk, who wrote on botany. Nat. ord. Coniferae [Sapindaceae]. Linn. 8-Disandra, 2-Monogynia. Allied to Sapindus.)

Stove evergreen trees, all with white flowers; loam and peat; cuttings of half-ripe shoots in sand, under glass, in heat, Summer temp. 60° to 85°; winter, 55° to 60°.

C. america'na (American), 15. Mexico, 1819. 
C. anacard'ia (Anacardium-like), Australia.
C. candi'sis (hoary), See HEMIGYROSIS CANESCENS. 
C. Cunningham'ia (Cunningham's), See DIPLOGLOTTIS CUNNINGHMA.
C. denis'ta (toothed), 12. Mexico, 1824. 
C. edulis (edible), See BLAGHIA SAPIDA. 
C. elegans (elegant), Leaves wavy at the edges. 1893. 
C. elegans'sis (most elegant), 
C. excelsa (lofty), See C. GLABRA. 
C. grandis (large-toothed), Leadlets 9, 3 to 4 in. long. Zanzibar, 1818. 
C. Pinda'sba (Pindaiba), Brazil, 
C. sap'ida (savoyary). Ake-tea. 
Sapora'nia (Soapwort). See SAPINDUS SAPINARIA. 
Sapora'nioides (saporia-like), See SAPINDUS SAPINARIA. 
C. seti'sera (bristly), See C. PSEUDORHUS. 
C. tomento'sa (downy), See C. AMERICANA. 
C. undula'ta (wavy), Brazil. 1805.

CUP FLOWER. See NIEREMBERGIA.

CUPHEA. (From Cuphos, curved; referring to the form of the seed-pods. Nat. ord. Loosestrifes [Lytthraceae]. Linn. 11-Dodecanthera, 1 Monogynia. Allied to Lythrum.)

Dry, rich soil; seeds; and cuttings in the spring months.

ANNUALS, &c.

C. cane'la (lance-shaped), Blackish purple. Mexico, 1796. 1824. Stove, 
Papili'o'ra (small-flowered), 1. Pink. November. Demerara, 1824. Stove, 
Pouc'méren (lyng-down), 1. Pale purple. August. Mexico, 1776. Greenhouse, 
Silena'is (silene-like), 1. Blush. September, 1836. Hardy, 
Spica'sa (spiked), Rose. Peru. 1819. Hardy, 
Sris'cna (clammy), 1. Purple. July. America, 1776. Greenhouse, 

STONE AND GREENHOUSE EVERGREENS, &c.

C. cinna'ba (Zimapan's), See C. PINOFURUM. 
C. commo'nsia'na (Commersonian), Argentina, 1834. 
C. exu'ba (blue), Blue, red. July. Mexico, 1846. 
C. de'a'na (ten-stamened), 1. Purple. July. 
C. go'veniana (Govenian), 1824. Greenhouse, 
C. jorul'la (jorullian), See C. MUCROTITIA. 
C. minia' (vermilion-coloured flower), See C. LAV'AEA. 
C. muku'na (Hookerian), 15. 1820. 
C. ocymoi'des (Ocimum-like), See C. AQUIPETAL. 
C. platyn'ta (broad-spurred), See C. IGNEA. 
C. ro'sa (white-flowered), See C. IGNEA INBA. 
C. racemo' (raceme-flowered), See C. SPICATA. 
C. ro'sa (Rosy's), See C. HOOKERIANA. 
C. sapp'rops (thyme-leaved), See C. MULTIFLORA. 
C. strig'ilosa (coarse-haired), See C. CYNANDRA. 
C. tuboli'ra (tube-flowered), See C. IGNEA. 
C. Zimon'ba (Zimapan's), See C. LANCEOLATA.

CUPRIA. See RANDIA.

CUPRESSUS. Cypress. (From kupp, to produce, and paristo, equal; in reference to the symmetrical growth of the Italian cypress, C. sempervi'rens.) Nat. ord. Coniferae [Conifera]. Linn. 21-Monocot, 10-Monadphila. 

Evergreen trees; hardly, unless otherwise stated; rich, loamy soil; and readily increased from seeds; can be raised from cuttings, and for choice sorts grafting on common seedlings is resorted to.

C. ariz'o'nica (Arizonaan), 
C. aromatica (aromatic), See C. BENTHAMI, 
C. aten'ata (attenuated), See C. LAWSONIANA, 
C. australis (south, Sider branches), See C. CALITRIS. 
C. RUBBOIDEA, 
C. bacico'mis (berry-shaped). See JUNIPERUS PROCI'NE.

C. bentham'i (Bentham's), 60. Mountains of Mexico and Guatemala, 
C. calif'o'rmica (California), See C. GOVENIANA, 
C. cash'meriana (Cashmir). See C. PINEBUS GLAUCUS. 
C. coul'tei (Coulter's), See C. BENTHAMI, 
C. elegans (elegant), See C. BENTHAMI, 
C. excelsa (lofty), See C. BENTHAMI, 
C. formo'sia (Formosan), 190-195; and 50-67 ft. in growth. Formosa, 1900. 
C. fune'ris (funereal), 50. April. China, 1849. 
C. glau'ca (sea-green), See C. LUSITANICA, 
C. go'veniana (Mr. Gowen's), 10. April. California, 1848. 
C. gu'onta (compact), Dense, pyramidal habit, 1860. 
C. har'rugii (Hartweg's), See C. MACRORAPA. 
C. ipo' (Japan). See C. CUPRESSUS. 
C. kash'miriana (Cashmir). See C. FUNKHERS GLAUCUS. 
C. km'nia (Knightian). See C. LINDELEVI. 
C. la'mbani (Lambian). See C. MACRORAPA. 
C. lawsoni'ana (Lawsonian), 100. California, Oregon, 1853. The Lawson Cypress. 

The Lawson Cypress.
CURATELLA

C. laevigata (white-spiked), Tips of twigs (California). Nipple. Linn. c. 1736.

c. proxima, Leaf. Linn. c. 1736. This

C. punctula (spotted-tipped), Yellow. June, Cape of Good Hope, 1798. Gotha. 1847.

c. glabra (smooth), 17. Yellow, June, Cape of Good Hope, 1878. Gotha.

c. recurvata (rolled-back-leaved), 1. Yellow, Bengal, 1799.

c. variegata (variegated), Leaves banded with yellow. 1872.

c. seychellois (Seychellian). Mascarene Islands.


CURULIO. This destructive tribe of Beetles are popularly known as Weevils. The following are some of the chief species:


C. baccatus. (Proper name Rhychnites Baccatus.) Purple or Apple Weevil. Pierce the fruit of the apple, depositing within it its eggs. June and July.

C. betules. (Proper name Rhychnites Betules.) Vine Weevil. Colour steel-blue. Attacks the leaf, rolling it up upon which a reddish-brown egg is laid, like to its attacks also. Appears in June and July.

C. cupreus. (Proper name Rhychnites Cupreus.) Copper-coloured Weevil. Attacks the leaves and young shoots of sweet peas, plum and apricot, as well as their fruit. June and July.

C. lineatus. (Proper name Siona Lineata.) Striped Pea Weevil. Every gardener must have observed the edges of their pea shoots, with the leaves of his peas, and sometimes of his beans, eaten away in scalllops, or semicircular pieces. This is often done by the Siona tibialis, but still more frequently by another of the short-hooded beetles, Siona lineata. This is a reddish-black, and is commonly called the Dutch or Donkey, from its grey colour. The length of the weevil varies from 2-4 lines, being about one-sixth of an inch. The whole body is grey, and marked with black lines; the eyes are reddish; the legs are black. They survive the winter sheltered beneath moss, &c., and in bad weather at all seasons retire under stones, only to reappear with the sunshine.

C. macularius. (Proper name Siona Orineta.) Spotted Pea Weevil. Grey colour, April. Also destroys the pea, Soot or lime sprinkled over peas early in the morning before the dew is off from them, and so thickly as to cover the soil about them, would probably save them. To prevent the beetles, which are black, from attacking the peas, the only mode is to spread a sheet beneath them, to shake each branch, and to destroy those beetles which fall. They usually feed at night.

C. maculatus (proper name Balaninus Nucum.) Nut Weevil, of which the maggot is so frequent in our fillibets. Mr. Curtis thus describes it: "The insect is brown, with darker bands; is about a quarter of an inch long, and has a long horn-like beak, about the middle of which are placed antennae. When the nut is in a young state the female weevil deposits a single egg. The maggot is hatched in about a fortnight, and continues feeding in the inferior of the nut till it is full grown, when the nut falls. The maggot has no legs, nor, indeed, has it any use for them, being hatched in the midst of its food; and when the nut remains on the tree, it forces itself out of the shell, and falls almost immediately to the ground. The only remedy we are aware of is, in the course of the summer, to frequently shake the trees, which will cause all the eaten nuts to fall to the ground. Without this, the trees must be collected and burned."
During the winter months, succulent plants, such as Sedums, &c., become sickly, and die, apparently without a cause. They are thus destroyed by a small, footless grub, which is known as the Curcuma grubs. The name of the insect is derived from Curcuma, a genus of plants which produce a yellow dye, the best known of which is the Curcuma longa. This grub is about half an inch long, colour dirty white, fleshy, slightly curved, bristly, and without legs, but furnished at the sides with tubercles, which aid it in moving through the earth. May these grubs enter the chrysanthemum, becoming white, and having the appearance of the body of a beetle stripped of its wings, and in a mummy state. From this state the perfect grub comes forth, at the bend of June, in the form of a small beetle, five lines to half an inch long. It is black, slightly glossy, numerously granulated, so as to resemble shagreen, and a few pale-grey hairs scattered over its body. The action of this grub is to be watched with a great deal of care, as the sufferers from this pest is to have it very assiduously sought for among them during the month of June. If the grubs are allowed to deposit their eggs the mischief is done, and will soon show itself.

C. tenuibrassicus (proper name Otiorhynchus tenuibrassicus) infests the apricot. Mr. Curtis says, that every crevice in old garden-walls often swarms with these weevils; and nothing would prove a greater check to their increase than stopping all crevices or holes in walls with mortar, plaster of Paris, or Roman cement, and the interior of both houses should be annually washed with lime; for the old bank of the vines under which they lurk should be stripped off early in the spring, and the roots examined in October, when they exhibit any unhealthy symptoms from the attacks of the maggots of C. atrata. The larvae are ascertained to reside at the base of the wall, salt might be freely sprinkled, which will kill them as readily as it will the maggots in nuts. Strong infusions of tobacco-water, aloe, and quassia are also recommended.

CURCUMA. Turmeric, (From Kurkum, its Arabic name. Ner. Mad. (Zedoaria) Linn. 1-Monandria, 1-Monogyne.)

Most of the species possess the same aromatic stimulating properties in the roots or rhizomes, and seeds, as their close relatives, the ginger roots, and are objects of some beauty from their coloured bracts. Stove herbaceous perennials; rich, sandy loam; root division.


C. andrea (egg size). Red, Yellow, April, E. Ind. 1822.


C. amara (aromatic). 2. Yellow, June, E. Ind. 1824.

C. australis (Australasian). Yellow, N.E. Australia. 1819.

C. bakersiana (Bakerian). Orange, New Guinea. 1824.


C. cordif'ia (heart-shaped). See C. petiolarata.


C. lope'dii (Leopold's). Leaves striped with cream. 1853.

C. long'sa (white-rooted). 1. Red, Yellow, May, E. Ind. 1819.


C. longi'folia (yellow-green). Oblong, Variegated with yellow-green. 1822.


C. nigher'ees (Neigherian). Nilghirs.


C. reclinata (leaning). 1. Pink, April, E. Ind. 1829.

C. rosco'nea (Mr. Roscoe's). 1. Scarlet. September, Burma. 1837.
three inches thick over their roots, at the end of May, after rain. The next point is "stop," or remove, what is termed the watery wood. All shoots growing into the interior of the bush, to the exclusion of light and air, must be cut out as soon as possible after the leaves are fallen. Every healthy branch in a bearing state will, during the summer, produce abundance of side-shoots from amongst the spurs; this is the wood we have first named as being all the better for stopping in June. All this must be cut back, at the winter's pruning, to within one inch or so of the main stem. An exception must, however, be taken in favour of gaps or blanks, and when cuts must be made, where the plant is taking care that they are well placed, and that they are low enough down; the lower the better. Pruning being thus far carried, it is best to shorten every terminal prick or spur, to allow a liberal production of side-shoots in the ensuing summer; and the base of each becomes a centre, around which a host of fruit-spurs will be engendered. Any decayed or decaying wood must be cut away, and all traces of the bush and plant snow; for it seldom makes a good bush again. Those who have not top-dressed in the summer may now do so, and the winter's work will be completed.

Fruit: uses; how to keep.—The fruit commences ripening, under ordinary circumstances, in the end of June, and continues hanging for a length of time, if unmolested, as long as the second autumn frosts will allow, nearly two months, and the Red we have gathered, uncovered, and unprotected, in the first week of November. The ordinary way of retarding the currant is by enclosing the trees in mats when the fruit is rather more than three parts ripe. These mats should be taken off at least once a week on dry days, to dispel the damp. All decaying leaves and berries should, at such times, also be carefully removed. Some train against north walls, where the fruit keeps very late, but is exceedingly acid. A WhiteCurrant or two, planted against a south wall or fence, will come in very early for the dessert. Drop will ripen very well; but except a premature decay of the old shoots, after the manner of apricots, the causes of which are not well understood.

Insects.—The caterpillar sometimes attacks them; but the best protection against them is the removal of leaves in a puckered form, producing red blisters. Tobacco-water is the best remedy.

Currant (The Black).—We are not aware of any more than four in this section really deserving of notice, which are—Boscoop Giant and Victoria resist the mite. The Common Black. A good bearer, but fruit small, The Black Naples. A short bunch, but noble berries. The latter kind is now almost universally cultivated. It both requires and deserves a generous treatment. The "Black Grape" is recommended by some; but we question its identity with any species of Black Naples. Propagation: by cuttings, seeds, and layers, similarly to the Red and White.

Soil.—Moisture of a permanent character is the great desideratum with this shrub; dry soils can never do justice to it. A soil somewhat adhesive in character suits it best, but not a cold clay; although, with due culture, we have known them succeed well in a soil of which there is an excess of one of these constituents. A soft and darkish-looking soil, such as the scoriings of old ditches, resting on a clayey sub-soil, and especially if large trees overhang, becomes, by the action of water, an extremely heavy soil, and the most unproductive. The clayey principle is generally incorporated with it; and being rich in vegetable matter, it constitutes a fat and pulpy mass. It must, however, be thrown out some time to mellow, previously to its being mixed with the soil. In Cheshire, it is very usual to see them planted on the sides of ditches, which convey the impure drainage from the house of farmstead; and there they luxuriate, with a very inferior course of culture in other respects. It is in this country, that they are most fitly described as "the ordinary garden-soil, if of tolerably sound texture, will grow them pretty well, with the mulchings we shall have to recommend."

Culture of the Growing Period.—There are three essential points of spring and summer culture, viz.—mulching, watering, and the extermination of the aphides. Mulching we prefer done in November, as soon as the bushes are pruned; when we attempt to do this under "rest culture." If, however, it has been omitted at that period, apply it in the early part of May, immediately after a liberal rain. If dry weather ensue between the operations, the water-drop will be consumed, and their final change towards ripening, the water-pot must be used freely. The want of a permanency of moisture is the predisposing cause towards a severe visitation from the aphides; but these are easily destroyed if the bushes are syringed two evenings in succession with soap-suds, in which tobacco, after the rate of six or eight ounces to the gallon, has been well soaked. Give the same mixture previously in November, and in April.

The pruning should be done as soon as the leaves have fallen, unless the trees are very gross, when it will perhaps, be as well to allow them to waste a little of their vitality, and pass over the winter with their branches too early into action. In pruning, very little of the shortening, as applied to the Red and White kinds, is necessary; in fact, we practise none at all, unless in the case of the Black, when it is necessary to do a little cutting to avoid the bush becoming too full, or to shorten back, those which are becoming inconveniently high. The whole of the process of winter pruning, therefore, resolves itself into cutting, or else removing, a whole shoot for each. They may be shortened by a third, or even by a half, if necessary. In thinning bearing trees, suffer no two shoots to touch in any part of the tree, Endeavour to remove all cross or oblique shoots, in order to promote easy pruning in the spring; and take care that no shoot protrudes from the bush occurs, let a strong shoot or two. In a proper situation, be shortened back about one-third their length, in order to cause young wood to abound in that part the following year. As a general rule, let the shoots average four inches apart all over the tree when pruned. When trees acquire some age, let the pruner, at his first act, look carefully over the bush, and see what old shoots may be completely pruned away. All those which possess merely a twig or two of young wood at the extremity may be at once cut out, for they take more from the tree than they repay. As to forming young trees, the best time is after the second autumn frosts; or for the third season, taking care that the shoots do not become too long, for the cause of renewed shoots, as such a number can be obtained, shortening may cease.

Fruit: how to keep.—This fruit is soon over; for, once ripe enough for the table, it is gone in a few days; and it is so liable to drop, that this is one of the very few fruits that bid defiance to the art of keeping on the bush. Keeping on the tree, if attempted, must be on the retarding principle; and canvas or mats must be thrown over the bushes when the fruit is about one-third ripe.

Currant Gall Mite (Eriophyes Ribis). The buds of the BlackCurrant are very liable to be infested with a minute, oblong, four-legged mite. After the leaves of the bush are out, the bud of the Black Currant is often seen to be gradually enlarging, till towards spring they are globular and about the size of a pea. If carefully observed, such buds are seen to be swelling with mites, like white dust to the naked eye, and but with a lens they can be distinctly seen, while with a microscope of low power their whole structure can be made out. Such buds never open, and the mite simply remains feeding in them till the autumn, when they are pruned off the bush. In the summer, when the mites migrate to the new buds, thus continuing and spreading the infestation. The cultivator should examine his bushes at intervals soon after the leaves have parted; in the autumn, even an ordinary examination for infested and unduly swollen buds he may find. This is usually effective in keeping the mite in check, if taken in time before the infestation becomes very bad. The
best remedy that has yet been found is to well dust the bushes, when the new growth is being made, ... Daviesia, Dilwynia, Epacris, Eriostemon buxifolius (for stocks to graft the other species on), Erica,  

C. californica (California), July.  
C. chinensis (Chinese), August.  
C. fragrans (flox-frequent), July, Britain.  
C. grandiflora (true dodder), June.  
C. europaea (European), July, Britain.  
C. lupulina (hop-like), July, Europe.  
C. macrocarpa (large-seeded), July.  
C. monogyna (one-styled), July.  
C. orientalis, 1818.  
C. reflexa (reflexed), August.  
C. tephros (clegged dodder), July, Britain.  
C. umbellata (Urginea), July.  

C. elegans (vari-leaved), 2. Blue.  
C. Grew, 1813. Annual.  
C. adorata (meso-scented), 2. White.  
C. May.  
C. undulata (waved), White.  

C. Sussexia (Named after C. Sussex, a French botanist, Nat, ord. Ivymorts [Araliaceae].)  
Greenhouse evergreen shrubs from the Cape of Good Hope, with green flowers; cuttings in sand, under a glass, with bottom-heat; loam and peat.  
C. Kraussii (Krauss'). 3 to 6. S. Africa. 
C. lambertiana (panicky), 2.  
C. praecox, 1795. 
C. spicata (spike-flowered), 6. 1798. 
C. thysifolia (thyme-flowered), See C. PANICULATA. 
C. triloba (three-winged), 4. 1816. 

C. CUSPIDA (Named after C. Cusson, a French botanist, Nat, ord. Ivymorts [Araliaceae].)  
Greenhouse evergreen shrubs from the Cape of Good Hope, with green flowers; cuttings in sand, under a glass, with bottom-heat; loam and peat. 
C. Kraussii (Krauss'). 3 to 6. S. Africa. 
C. lambertiana (panicky), 2.  
C. praecox, 1795. 
C. spicata (spike-flowered), 6. 1798. 
C. thysifolia (thyme-flowered), See C. PANICULATA. 
C. triloba (three-winged), 4. 1816. 

C. CURTISIA (Hassagag-tree).  
In honour of the late William Curtis, who originated the Botanical Magazine, Nat, ord. Cornels [Cornaceae]. Linn. 3-Triandra, 1-Monogynia.  
Cornels are entirely distinct from Caprifolius, with which they have long been associated. The Hottentots and Cafrres make from this tree the shafts of their javelins. Greenhouse evergreen tree; sandy loam and leaf-mold and manure; cuttings in sand, under glass, in heat.  

C. CUSCUTA (Dodder). (From keckout, its Arabic name, Nat, ord. Dodders [Convolvulaceae], Linn. 5-Pentandria, 2-Digynia.)  
One peculiarity in all the Dodders is that their seeds germinate in the earth; but, as soon as the roots of the seedlings are grown sufficiently to take hold of a neighboring plant, or even of other seeds, they lose their attachment to the soil. Curious parasitical plants, with white flowers; sow in April. They will live upon almost any plant they can lay hold of, such as the common stinging-nettle, clover, hemp, &c., and are often troublesome somewhere near Ericas are grown, for they set on the plants they cripple them very much. 

At one time Cuscuta australis—a variety of one of the English Dodders—was grown as a decorative plant, but it was found a troublesome weed, and it is some years since we have seen it. 

Stove.  
C. americana (American), August, N. Amer. 1816.  
HooKer's (HooKer's), See C. REFLASA.  
C. oDoa (sweet-scented), January, Lima. 1820.  
C. verueata (warted), See C. REFLASA. 

GREENHOUSE.  
C. australis (Southern), August, N. Holland. 1818.  
C. chilensis (Chilian), August. Chili. 1821. 

HARDY.  
C. californica (California), July.  
C. chinensis (Chinese), August.  
C. fragrans (flox-frequent), July, Britain.  
C. grandiflora (true dodder), June.  
C. europaea (European), July, Britain.  
C. lupulina (hop-like), July, Europe.  
C. macrocarpa (large-seeded), July, Siberia.  
C. monogyna (one-styled), July, Europe, Oriental, 1818.  
C. reflexa (reflexed), August, Himalayas. 1821.  
C. tephros (clegged dodder), July, Britain.  
C. umbellata (Urginea), July.  

C. cuttings (EXTRAS), July, 1813. Annual.  
C. adorata (meso-scented), 2. White.  
C. May.  
C. undulata (waved), White.  

C.CUSPIDA. (Named after C. Cusson, a French botanist, Nat, ord. Ivymorts [Araliaceae].)  
Greenhouse evergreen shrubs from the Cape of Good Hope, with green flowers; cuttings in sand, under a glass, with bottom-heat; loam and peat. 
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C. lambertiana (panicky), 2.  
C. praecox, 1795. 
C. spicata (spike-flowered), 6. 1798. 
C. thysifolia (thyme-flowered), See C. PANICULATA. 
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Stove.  
C. americana (American), August, N. Amer. 1816.  
HooKer's (HooKer's), See C. REFLASA.  
C. oDoa (sweet-scented), January, Lima. 1820.  
C. verueata (warted), See C. REFLASA.
CUTTING

Gastrolobium, Gompholobium, Hardenbergia, Leschenaultia, Kennedya, Mirbelia, Oxylobium, Platycladus, Ploroma, Podolobium, Pimelia decussata (for stocks to graft the rest of the genera), Pulchrodendron, Tascaria, Tiliacora, and all New Holland shrubs of similar habit. These require to be placed in a gentle tan-bed, planted in pots, in silver sand, closely covered with bell-glasses, which should be occasionally and shaded from the bright sunshine. Great numbers of stovе plants of woody habit require the same treatment for the propagation of their cuttings, for which see the body of the Dictionary.

Cuttings of Partially-ripened Wood.—Camellia, Pelargoniums, Coniferæ, Erythrina, Echites, Gardenia, Gordonia, Hakea, Magnolia, Metrosideros, Nierium, Portulandia, Rhododendrons, Styrax, and many kinds of hardy evergreen shrubs.

Cuttings of Leaves with a Bud at the Base.—When cuttings of any kind of large-leaved plants are scarce, they may be successfully increased by single leaves with a bud at the base. We need not particularise any species, as most of the last section, and several of the others that have moderate-sized leaves, may be propagated in this mode of making cuttings.

Cuttings of Leaves only, without Buds.—The following will increase readily by this mode : Achillemes, Gossnera, Glosmias, and all of similar habit, as well as some Bogenias. Clematis, Cinerarias, tall Lobelias, Statice, and most kinds of herbaceous plants, increase readily by this mode.

Cuttings of the Roots.—There are a few plants that will not readily increase by any other mode of propagation, particularly some herbaceous plants: Cnethonora macrocarpa is one, and Cnethonora cespitosa is another. Amongst hardy shrubs the Pyrus japonica and its varieties are propagated by this mode of the whole plant. In the staphy, the Ardisias, Clerodendrons, Dracenas, Ipomeas (the tuberculous-rooted species), and the Petrea Stapelsii.

Cuts of the Flower-stem.—Double white and yellow Rockets, the tall Lobelias, Double Lychnis, and a few others, may be increased by cutting the flower-stem into lengths, and placing the cuttings under a glass in a shady border.

In all hollow-stemmed plants the presence of a node, or joint, to cut through at is essential. This is the reason why cutting through at a joint is also of importance in other cases, and also the reason why taking those little shrubby side-shoots as cuttings is often so successful, what is technically termed the heel—the point of junction between the older branch and the young shoot—being well-sealed by the many rings of wood and bark, and produces roots. Whatever may be the mode and the time in which a cutting is made, and whether it is necessary, in the peculiar circumstances, to cut clean through at a joint, it is of importance that the cut be made with a clean, sharp knife.

Time when Cuttings should be taken.—When any particular period is mentioned for this operation in this work, it is for the sake of a more general circumstances, the practice would be most suitable. Other things being equal, spring and summer are the best times for propagating greenhouse and street shrubs, as thus the plants are planted before winter.

Leaves of a Cutting.—Unless in particular circumstances, as many leaves should be removed as would enable the cutting to be firmly fixed in the cutting-pot, and if the leaves be too much reduced in size, or even they be lessened in their dimensions, in order to reduce the evaporating surface, success consisting in keeping the cutting healthy, and yet preventing it from parting with its stored-up juices; and hence the reason why we cover them with bell-glasses, and shade them from bright sunshine. The more leaves left, provided they can be kept healthy and vigorous, the sooner will roots be formed by the elaboration of fresh material, and the more quickly and without flagging will this elaboration take place, the more light the leaves receive. Shading, or diffused light, is essential at first; but the sooner it can be dispensed with the better, for the better, the sooner the shading would make the cuttings weak and spindly, "Soil.—Our practice has been to use good loam, peat, and sand in equal parts, with a little extra sand on the surface, and the pot placed in the bottom of the pot, or the shade preferred to that from inland sources; and the nearer the cuttings are inserted to the side of the pot, the sooner will they produce roots. An inverted small pot at the bottom of the larger one gives good drainage, and also allows the bottom to rise. For special treatment see instructions for various plants; for instance, that a propagating frame or pit should always be opened early in the morning and closed before the cuttings get withered, and that any leaves should be removed, or cuttings that may show signs of decay.

Cuttings of Hardy Fruit-trees.—Any time between the fall of the leaf and the first swelling of the bud in the spring which cuttings may be put out. As a general rule, cuttings should be taken at the end of October, and if a propagating frame or pit should always be opened early in the morning and closed before the cuttings get withered, and that any leaves should be removed, or cuttings that may show signs of decay;

CUTTING-IN is shortening the branches.

CYANA’THUS. (From kunos, blue, and anthos, a flower, Nat. ord. Bellflowers [Campanulaceæ].) Linn. 5-Petalled, 1-Monogynium, Allied to Campion.

Pretty little hardy herbaceous plants; requires the same treatment as alpine plants. Divisions and cuttings under a hand-light; sandy soil.

C. Hookeri (Hooker’s).—Blue, China. Annual.


C. limi’flus (flax-leaved). See C. Microphyllus,


CYANUSA STRUM. (From kunos, blue, and aster, a star; in reference to the starry, blue flowers. Nat. ord. Hamadoreaceæ.) A. A. Artists, with a creeping rootstock. Divisions in spring. Loam, peat, and sand.


CYANELLA. (From the diminutive of kunos, blue, Nat. ord. Liluwortz [Lilaceous].) Linn. 6-Hexadrius, 1-Monogynium, Allied to Anthericum.

Pretty little bulbous plants, from the Cape of Good Hope, which succeed best planted out in a deep border of light, rich compost in front of a greenhouse, to be protected from frost like Ixias, and such-like bulbs. All the small bulbs we recommend to be thus treated may be grown in pots like Ixias. Increased by offsets.


C. juxta (narrow). See C. jun’ga at, but we may add that for propagation, the cutting should not be too long, and the shade preferred to that from inland sources; and the nearer the cuttings are inserted to the side of the pot, the sooner will they produce roots. An inverted small pot at the bottom of the larger one gives good drainage, and also allows the bottom to rise. For special treatment see instructions for various plants; for instance, that a propagating frame or pit should always be opened early in the morning and closed before the cuttings get withered, and that any leaves should be removed, or cuttings that may show signs of decay;
CYANOTIS. (From cyanus, blue, and oos, an ear; referring to the shape of the petals. Nat. ord., Spiderworts [Commelinaceae]. Linn. 5-Hexandria, 1-Monogynia. Allied to Tradescantia.) Rich soil; C. barba'la is increased by root division, the others by seed.


CYATHA. (From kwa'hiron, a little cup; in reference to the appearance of the spore or seed-cases on the back of the fronds. Nat. ord., Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.) Stove evergreen tree-ferns, except otherwise specified; loam and peat or loam and division or spores.

C. acule'a (prickly), ang'o'la nse (Angolan). Not described. Congo Free State, 1901.

ar'bo'rea (tree). 15. W. Ind. 1793. Brown'mis (Brown). Brown, yellow. April, Malaya. Bu'he'is (Burke's). See C. DREGEI BURKE, canalicu'la's (channelled). Fronb bipinnate, Mauri-
tius. 1876.


Bu'he'i (Burke's). Lobes of pinnae broader, e'i'gans (elegant). See C. ARBOREA.

pet'i'o'la's (petiolate), Pinnules petiolate, ma'sters'na (Mastersian). 2. Stem thin, 1894. me'di'a (Mediay). New Zealand, Greenhouse.

microphy'la (small-leaved), 3 to 4 ft. Peru.

Andes. 1884.

peti'o'la's (long-leaf-stalked). See C. INTEGRA PETIO-
lATA.
pue'b son's (downy). Fronb large. Jamaica, 1870.

py'gma'a (pigmyn). 2. Fronb dull green. 1894.
s'e'ra's (saw-like). Fronb petiolate, W. Ind. Brazil.

sin'u's (sinuated). 2 to 4. Fronb quite simple.

Ceylon. 1861.

Sm'i'hi (Smith's). See HEMITELLA SMITH.

spino'la's (finely spiny). Stem prickly, dark purple. India. 1884.

CYATHO CLINE. (From kwa'hos, a bowl or cup, and knife, a bed or receptacle; the receptacle of the flowerhead is held support by a disc or 'kline'. Nat. ord., Compositae.) Hardy or half-hardy annuals. Divisions; cuttings under a hand-light in summer. Well-drained garden soil.

C. lyra'la (lyre-shaped). 1. Pale red. June. Hina-
laya. 1812.

CYATHO DES. (From kwa'hos, a cup, and oides, like; referring to the form of the limb, or expanded opening of the flower. Nat. ord., Euphorbs [Euphorbiaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Strophylia.) Greenhouse evergreens with white flowers, from Australia. Peat and loam; cuttings in sand, with a little peat, under glass.


Ozy'd drus (prickly-cedar). See C. ACEROSA.

CYANUS. (Greek name for a Palm. Nat, ord., Cycads [Cycadaceae].) See C. PALMEDRIS, C. POLYANDRIA.) This order is in close affinity with the Coniferae. Dr. Lindley says, "The undoubted remains of Cycads attest their having once formed a considerable portion of the vegetation of Great Britain." Stove woody perennials; require plenty of pot room; rich, sandy loam, and moist heat. Young plants are often obtained from suckers.


Ar'mstron'gro (Armstrong's). Australia, 1870.

Bed'ford'gro (Bedford's). India, 1855.

Bel'lofo'ni (Bellocq's), Treeing. 1856.

cir'cina'lis (round-leaved). 3. E. Ind. 1800.

Du'wenbeo'di (Duivenbode's). Trunk spiny, Moluc-


in'rems (unarmed). Cochim-China, 1848.

me'dia (intermediate). Australia, 1874.


nor'may'ba'na (Normayban). N. S. Wales, 1875.


plu'mo'sa (plumose). 1865.


ri'mu'na (Ruminian). Leaves erect, pinnate, Philipppines. 1864.

Ru'mphia (Rumph's). Leaves 4 to 6 ft. long, Indian Archipelago.

Seem'gen's (Seemann's). 5 to 7. Fiji Islands, 1883.

siam'na (Siamee). Leaves 30 in. long. Cochim-

China, Siam, 1878.

spha'rica (spherical). See C. CIRCINALIS.

sqrt'a na (spreading). See C. CIRCINALIS.

undu'ta's (waved). Leaves 3 ft. long. Polynesia, 1881.

Wend'i'na (Wenddy's). Leaflets not serrated, Madagascar, 1895.

CYCLAMEN. Sowbread. (From kuckhicos, circular; referring to the shape of the corn, or bulb-like root. Nat. ord., Primroses [Primulaceae]. Linn. 5-Pentandria, 1-Monogynia.) Cyclamens are very acid, yet are the favourite food of wild boars of Sicily, whence the English name, Beautiful bulbous plants.

HARDY.


gel'ericum ( Algerian). See C. AFRICANUM.

al'picum (alpine). Purple-red with black eye. Prob-
ably an alpine form of C. europeum. Asia Minor, 1875.

al'bum (white). 1892.

At'kison's (Atkinson's). See C. IBERICUM.

ba'leicum (Balearec). Balearic Isles.

cic'cum (Cicilian). Rose, white, carmine base.

Autumn. Cilicia, 1849.

Cis'o'si (Cisutus). See C. EUROBUM.

cic'licicum (Ciclichecan). Petals wider and blunter than in C. europaeum. Caucasus, 1897.

cou'm (Cas). 1. Lilac, red, February. South Europe. 1896.

Dul'bum (white). White.

S. Natal. 1895.

E. Album (white). White, 1893.

Iber'icum (Ibericum). See C. IBERICUM.

cy'prium (Cyprian). Cyprus, 1876.

euro'paeum (European). 1. Lilac, red. August.

Switzerland, 1896.

gra'ficum (Graecian). White, bright purple base. Autumn. Greece, 1834.

hede'rof'icum (ivy-leaved). See C. REPANDUM and C. NEPALENTANUM.

hy'gro'icum (Welsh). Like C. Ibericum, but flowers in winter. Asia Minor, 1904.

ib'icum (Georgian). 1. Asiatic Georgia, 1841.

Jas'o's (Jasper's). Lobes of calyx and corolla longer than in C. europaeum. Asia Minor, 1908.

lib'ano'icum (Libanotic). Pale rose, Lebanon, 1899.

lino'f'icum (narrow-leaved). 1. Purple, April, South Europe. 1824.
Cyclamen


macrophyllum (large-leaved). See C. africanum.


margaretae (Melargarea). See C. grecum.

neapolitanum (Neapolitan). 1. Red. April, Italy, 1824.

punicum (Punic). White and red base. Fragnant, 1907.


psuedo-mari'timum (false maritime). Corolla segments long, pointed. S. Asia Minor, 1908.

pyrenaicum (Pyrenean). See C. neapolitanum.

repandum (Rose-red). Rosy-red, large, bright purple base. Spring, S. Europe, 1810.


var'se le (vernal). See C. ibericum.

et'seun (spring). See C. ibericum.

Greenhouse.

C. latifolium (broad-leaved). White, with red base, S. Asia Minor, Cyprus, 1731.

albofum (white-flowered). White. Cyprus, 1731.

inodorum (scentless). Red, white, Cyprus, 1731.

jacin tum (jagged-petaled). Red, white, April.

odoratum (scented). Red, white. Cyprus, 1731.

per'sicum (Persian). See C. latifolium.

Propagation: by Seed.—This is the only way of propagating Cyclamen. The roots, being a solid core, will not divide successfully. Gather the seed as soon as ripe, dry it slowly, and sow it in February, in shallow, wide-mouthed pots, in a compost of peat, loam, and sand, covering the seeds scarcely a quarter of an inch deep; the best covering for seeds is sand and sphagnum moss, using just sufficient to cover the seeds; place them in a cold frame, excepting C. latifolium, which should be placed in a greenhouse, on a shelf near the glass; sow the seeds thinly, so that they may remain in the seed-pots for one year.

Soil.—Equal parts light, turfy loam, sandy-peat, and leaf-mould; or, if this cannot be had, half a part of very rotten dung may be substituted.

Summer Culture.—Pot in autumn, and when spring comes in most of the kinds will be in flower. They require then a good supply of water. Though some of the species are hardy, yet it is safer to cultivate them in pots in frames, and bring them into the greenhouse when frost threatens. The various sorts of Cyclamen are very fragrant; but there is no certainty that the seedlings from them will continue fragrant. Seedlings of a year old should be potted singly into thumb-pots, and be re-potted in April in 3-inch pots, and kept in a gentle heat, to encourage the bulbs to grow larger. As soon as the flowering season is over, set them out of doors, giving no water; and as soon as the seed is gathered, and all the leaves dead, trim these off, and lay the pots on one side, to keep them dry till the plants require potting.

Winter Culture.—When frost begins, shift them into pots of a compost (scoffolite) to the above, leaving the bulbs just out of the soil, excepting C. colchicum, which should be covered about half an inch. The largest bulbs may require pots six inches in diameter. As soon as potted, set a cold frame, covering up securely from frost; give air on all favourable occasions, and water very moderately till the leaves are full-grown and the flowers begin to appear, when it may be more liberally given.

Insects.—Slugs, green fly, and wire-worms prey upon them.

Diseases.—Their greatest enemy is the small brown thrips, which feed on the flowers; the flowers may be imperfect. Sulphur and lime, with frequent fumigation with vapour insecticide are the best remedies.

Cyclamen in the Open Air.—All the species, excepting C. purpurascens and its varieties, will live in a warm border of the compost out of doors; but, on account of their early blooming, the flowers are often injured by late frosts. The border should be well drained, and a covering of tanner’s bark or coal-ashes should be spread over the roots in autumn, and allowed to remain on till the warm weather of spring arrives, when it may be removed, and renewed in the autumn. The bulbs may either be taken up and replanted in October, or allowed to remain for two years.

The早flowerers of Cyclamen sow the seed about October and have well-flowered plants the following season. We have grown them from seed sown in January, but this does not give time enough to get thoroughly well-flowered plants.

Cyclanche Ra.—(From kuklos, a circle, and anthera, a stamen; alluding to the circular anthers, Nat. ord. Curcurbitaceae.) A climber, which may be treated as a half-hardy annual and planted outside at the beginning of June.

explo dens (explooding). Colombia.

Cyclanthus.—(From kuklos, a circle, and anthes, a flower; in allusion to the circles of stamens. Nat. ord. Cyclanthaceae.)


godieffianus (Godsellian). 1892.


Cyclolothera. See Calochortus.

elegans (elegant). See Calochortus Benthamii.

Aspidium. See Aspidium.

Cyclo Gymna sce'nics. See Swainsonia sce'ne's.

Cyclone'ma. See Clerodendron.

Cyclopellitus semicord'ata. See Aspidium semicordatum.

Cyclopia. (From kuklos, a circle; the standard has a round blotch on it. Nat. ord. Leguminosae.)

Greenhouse evergreen. Cuttings of half-ripe wood under a bell-glass. Loam, peat, sand.

C. genistoides (Genista-like). S. Africa, 1884.

Cyn'chres. Swan-neck. (From kukhos, a swan, and anthes, the neck; in reference to the long and gracefully divided column. Nat. ord. Orchidae (Orchidaceae). Linn. 20*Gynandra, t*Monandria. Allied to Cytoplodium.)

Stove orchid. Strong, moist heat whilst growing; rough, fibrous peat, and half-decayed leaves, with a little sand; root division.


barbata'tum (bearded). See Polygynus Barbatum.


Cummi'ngi (Cuming’s). White, yellow. June, Singapore.

densifle'a (dense-flowered). Yellow, spotted crimson. Female green. Colombia, 1908.


Ha'gei (Haage’s). Brazil.

Lehmi'na (Lehmann’s). Salmon, orange. Ecuador, 1880.


nassici'ferum (fly-bearing). See Polygynus Mucifera.

C. peruviana (Peruvian). Pale green, spotted purple, white. Peru.

"Pescatorei" (Pescatore's), See LUDDEMANIA PESCATORI.

"rosa-num (Russian), Yellow-green, brown spots. Female flower green, large. 1891.

"tuberculatum (tuberculate), 2. Green, white. Guatemala, 1835.

"eugenia-num (Sir P. Egerton's). See C. WARSEWSCH.

"versicolor (changing colour). Green, white, yellowish. Brazil, 1888.

"Warszewiczii (Warszewicz's). Green, Female flower 2 in. across. Central Amer. 1840.


Laccanarzis, 2-Di-pentagona.) Hardy deciduous trees and shrubs. C. falconica is one of our handsomest flowering shrubs; layers in September, and to remain until that time twelve months before taken off; also by seeds. See Quince.


"falco-num (Japan), 4. Scarlet, Japan, 1815.

"aia (white-flowered), 4. White.

"caerulea (blue-coloured), Flesh-coloured, March.


"sempervirens (ever-flowering). Flowers in spring and in late summer. 1903.

"chinaria (Simon's), Indian crimson-scarlet, 1907.

"Mawlei (Mawle's), Salmon-orange, April. Japan, 1874.

"aia (white), White.

"Sargentii (Sargent's), Brilliant red. Japan, 1899.


"Chinese Quince."

"pyramidalis (pyramidal), White, May, 1847.


"sativa (Spanish). 20, White. May, Spain, 1877.

"maulis (apple-formed), 20, White. May, 1877.

"marmorea (marbled). Leaves marbled with white and yellow, 1889.


"pyrifolia (pear-shaped), Fruit pear-shaped.

CYLISTA. (From hulis, twinning; referring to the habit of the plants. Nat. ord. Leguminous Plants [Leguminosae] - Linn. 17-Diadaphila, 4-Decandria. Allied to Rhyzochia.)

Stems evergreen, Loam and peat; cuttings in sand, under glass, in bottom-heat.

C. albiflora (white-flowered). See RHYNCHOSIA CYANO-SPERMA.

"scariosa (membranous), 4. Yellow. E. Ind. 1866.

"tomentosa (woolly). See RHYNCHOSIA CYANO-SPERMA.


CYMBIDIUM. (From humble, a boat; referring to a hollow recess in the lip, or labelum. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria.)

Stor orchids, Fibrous loam, fibrous peat, and leaf-mould, well drained; division.

C. affine (related). White; lip dotted purple. India, 1879.

"albescensnum (Alba-flowered), See C. MADIDUM.

"aloifolium (Aloe-leaved), 1. Purple, black. September. E. Ind. 1879.

"Andersoni (Anderson's), See CYPHTOPODIUM ANDERSONI.

"bi color (two-coloured-flowered). Purple, crimson. 1877.

"bituberculatum (tuber, tuberculed), See LIPAFRIBRUBERCOLATA.

"canaliculatum (channeled). Brownish-purple, green. 1870.


C. eocrisi-num (scarlet), See ORNITHIDIDIUM COCCINUM.

coccile (shell-shaped), See CYPERORCHIS COCLEALTE.

"cyperi-florium (Cyperus-leaved). Himalayas.

"daya-num (Dayan), See C. ERBENNUM.

"depernum (hanging-down). See CIRRHEA LONDRINIANA.

"demissimum (Billowing), 1. White, crimson. March. N. India, 1837.

"diurnum (day-flowering). Bahama.


"goodsonianum (Goodsonian). White, rose-purple. 1908.

"philibritsis-num (Philbrickian). White, 1886.

"rautaceum (Williamian). Light purple, 1881.

"elegans (elegant). Yellow. See CYPHERGONIUM ELEGANS.


"estriatum (unstriped). Green, white, purple. Assam. 1888.


"erythrostylum (red-flowered). White, marked; column crimson. Annam, 1903.

"finlaysonianum (Finlayson's). Cochinchina. 1840.


"purpureum (purple). Purple. grandiflorum (large-flowered). Green, spotted crimson on lip, Himalaya. 1886.

"tracyanum (Tracyan). Flowers larger, and hanging down. Assam. 1870.

"hookeriannum (Hookerian). See C. GRANDIFLORUM.


"Hyacinthinum (Hutton's). Light yellow, dotted dusky brown. Java. 1867.

"hyacinthinum (hyacinthine). See BLEATIA HYACINTHINA.

"I'Ansoni (I'Anson's). Natural hybrid between C. louisiannum and tracyanum. 1900.

"insignis (remarkable). See C. SANDERI.

"trifolium (iris-leaved). Dark brown. March. E. Ind. 1866.


"leachianum (Leachian), White, pale yellow. Burma.


"auratum (golden). Yellow, with orange blotch on lip. 1893.

"flavosum (yellowish). Light yellow. 1897.

"superbissimum (most superb). Front of lip maroon.

"vittata (green). Pale greenish-yellow, without brown on lip. 1892.


"margaritatum (red-edged-sepal). See MAXILLARIA GRACILIS.

"Mastertsi (Mastersi). See CYPERORCHIS MASTERSII.

"ochroleucum (yellowish-white). See MAXILLARIA CANADIENS.


"Sanderi (Mrs. Sander's). Ivory-white; lip orange, with purple blotches. Annam. 1904.


"atropurpureum (dark purple). Dark purple. India. 1860.

"brevitum (short-keeled). 2. Green, red, yellow.

"June. Singapor. 1840.
CYNANCHUM (From kun, a dog, and aegke, to kill; referring to its poisonous qualities. Nat. ord. Asclepiads (Asclepiadaceae). Linn. 5-Pentandria, 2-Diycnia. Allied to Asclepias.) Cultures root readily; the hardy kinds in common garden-soil; usual stove or greenhouse treatment for the others.

STOVE EVERGREEN TWINERS.

C. bi'color (two-coloured), 6, White, E. Ind., 1806. *hirsutum* (hairy), 6, White, Ind., 1825. *hirsutum* (hairy), 6, Trinidad, 1825. *unda'tum* (waved), Green-yellow, E. Ind., 1803. *viridiflorum* (green-flowered), See TYLOPHORA ASTERMICA.

GREENHOUSE EVERGREEN TWINERS.


HARDY HERBACEOUS PERENNIALS.


FOLIUM.


CYNAGOGUS


CYNODONTUM. (From kun, a dog, and glosa, a tongue; referring to the shape of the leaves. Nat. ord. Boragoworts [Boraginaceae]. Linn. 5-Pentandria, 2-Diycnia. Nearly all hardy; some are very pretty border-flowers; common soil; seeds or root division, as follows:

ANNUALS.


BIENNIALS.

C. nigrum (black), South Europe.

C. macrophyllum (large-leaved), Himalayas.

C. nebrodSnse (Nebrodan). South Europe.

C. nervosum (nerved). Himalayas.

C. nv’tidum (shining). ... Tree Tomato."


C. jamaicensis (juvenile). Jamaica.

C. sedge-like (sedges, liberally painted), purple. 1803.

C. nuttallianum (nut). Green. and 1900.

C. Europe (Hardy). the trees, cool.

C. ord. 1888.


C. Himalaya. Sometimes purple.

C. papilionacea (bean-like). Pale purple.


C. affinis (allied). White and crimson. India, 1879.


C. Masteri (Masters’). White and yellow. Himalayas.

CYPERUS. (The old Greek name. Nat. ord. Cyperaceae.)

Ornamental sedges, some of which are highly popular as table plants. Seeds and division. Good fibrous loam, a little leaf-mould and sand. Give water liberally when making their growth.


C. variisepalous (variegated). Stem and leaves striped creamy white.


Annual,


d’s tans spiraliformis (spiral-formed). Similar to Juncus spiralis, 1888.


C. esculentus (esculent). Tropics. Hardy.


C. ciliatus (ciliatus). 1841.

C. ramosus (ramose). Light green. Argentina, 1895.


C. Nut Grass. Hardy.


CYPHIA. (From kuphos, curved; referring to the shape of the style and stigma. Nat. ord. Bellwort [Campanulaceae]. Linn. 5-Fernandaria, 1-Monogynia. Allied to Campanula.)

Greenhouse plants, from Cape of Good Hope. The perennial species root freely from young cuttings; the annual kinds by seed; loam, plant, leaf-mould, and sand.


Annual,

C. cupaniana (Cardamine-like, 3. July, 1823. Herbaceous perennial,


Annual,


Perennial turfs,


CYPHEKONIA. (From kuphos, an outgrowth, and Kentia; a Kentia-like plant with an excrescence on the fruit. Nat. ord. Palmaceae.)

Stoves of easy culture. Seeds, Fibrous loam with a little peat and sand.


CYPHOMANDRA. (From kuphoma, a hump, and aner, a stamen; referring to the form of the anthers. Nat. ord. Solanales.)

Cool stove shrubs. Seeds; cuttings in sand in a close case with bottom-heat. Loam, leaf-mould, and sand.

C. argentea (silvery). Leaves silvery. Brazil, 1880.

12 to 15. Purple to green.

S. Brazil, 1803.


CYPHOPHÆNIX. (From kyphos, an excrescence, and Phænis; in allusion to the granular fruits and the Phänix-like leaves, Nat. ord. Palmaceæ.)

CYPHOSPE'MA. (From kyphos, an excrescence, and sperma, a seed; in reference to the form of the seed. Nat. ord. Orchidaceæ.)

CYPRIPE DIUM. Ladies' Slipper. (From Kupris, Venus, and podion, a slipper. Nat. ord. Orchidaceæ.)

CYPRIPE'SUS. See Cupressus.

CYPRIPE'THEIS. See Cypripedium.

COOL AND WARM ORCHID HOUSE.

C. affinis (allied). White, green, violet. Tonquin. 1906.

'Argus' (Argus). White, rose, green, with many blackish eye-spots. Philippines, 1897.

'Madnesi' (Mons'). Philippines. 1888.

'Mascula' (bearded). Purple, white, red, April. Malacca. 1885.

M. ovatum (black). Blackish-purple.

'M. subrugineum' (superb).


'M. bullatum' (bullen's). Green, purple, Borneo.


M. bub'bi'num (Burbidge's). Upper sepals with green nerves. Borneo, 1881.


M. an'ereum (golden). Nearly white, with pale yellow lip. 1901.

'M. San'derae' (Mrs. Sander's). White and pale green. 1885.

'M. sub'vile'ne' (nearly smooth). Petals without spots. 1888.


C. cham'bellainia'num' (Chamberlainian). Rosy purple, white, Sumatra, 1892.


C. a'bolum (white). White. 1900.

C. Brom'lia'num (Mrs. Bromfield's). Pale green, pure white, 1900.

C. un'icolor (one-coloured). Whole flower rosy-purple. 1895.

C. virgin'a'num (virginal). Upper sepal pure white, green at base, pale purple rib. 1902.

C. citro'le'num (ciliated). Green, purple, white. Philippines, 1882.


C. chlorophy'tum (green-leaved). Leaves not marbled. 1886.

C. Trans'ylvana'num (long-petaled). Petals 2+ in, long, 1896.

Cypripedium

C. _miteae-nun_ (Miteaen). See C. _cilicolare Mitaean-um._

_i. manae-nun_ (Mensian). See C. _argus Menshi._

_n'ginnum_ (blackish). Like C. _barbatum_ with small differences. Borneo, 1892.

_n'veum_ (snowy). White, finely spotted crimson. Malaya, 1889.

_parsi'num_ (leopard-spotted). See C. _venustum._


_Pet'ses_ (Pearce's). See _Selenipedium carinum._


_philippinenses_ (Philippine). Yellow, purple, Philippine, 1885.

_seanu'num_ (Canarian). Variety with 3 sepals.

_pitcheria'num_ (Pitcherian). See C. _arcus._


_hambali'num_ (Kimballian). Stripes more numerous, broader.


_Reqenba'chi_ (Reichenbach's). See _Selenipedium Longifolium._

_rehula'num_ (netted). See _Selenipedium Boissieri-nun._

_Robale'ni_ (Roebelen's). Whitish, purplish-white, yellow. Philippines, 1883.

_Ko'ali_ (Kozi's). See _Selenipedium Rozyll._

_rochhaidli'num_ (Rothchaidlhillan). Yellow-green, with green brown Borneo, 1892.

_platy'num_ (broad-banded). Flowers darker than the type, N. Amer., 1885.

_Sande'ra_ (Mrs. Sanders). Crimson, yellow, green, red, 1892.

_sanderia'num_ (Sanderian). Yellow-green, lined purple-brown. Borneo, 1886.

_Schi'lli'ni_ (Schilm's). See _Selenipedium Schlimii._

_zheusnur'num_ (Schoburgkian). See _Selenipedium Klotzschianum._

_isam'dose_(Siamese). Green, purple. Siam, 1890.

_specter'iia'num_ (Spicerian). Green, white, purple. Assam, 1889.

_Ssto'rei_ (Stone's). Creamy yellow, purple. Borneo, 1852.

_ca'niidium_ (white). Ivory-white, lilac, rose, 1892.


_superna's_ (superb). White, green, spotted purple-brown, 1865.

_to'num_ (shawn). Dorsal sepal white with 27 green nerves, brown spots, Sunda Isles, 1883.

_veitchia'num_ (Veitchian). See _C. superbiens._


_measuresia'num_ (Measuresian). White and green, 1893.

_petali'num_ (leopard spotted). White, green, copper, 1866.

_specta'ble_ (showy). More highly coloured.

_villo'num_ (hairy). Orange, green, dark purple. Moulmein, 1890.

_measuresia'num_ (Measuresian). With large black blotches, as in _C. Boxallii._ 1893.

_vir'en_ (green). Green, Borneo.


_volonente'num_ (Volontean). Purple, green, handsomely blotched, Borneo.

_giganti'num_ (gigantic). Flowers twice the size of the type, 1893.

_Walli'si' (Wallis's). See _Selenipedium caudatum._

_wolteria'num_ (Wolterian). Allied to _C. Lowii,_ with some small differences, 1895.

Hardy.

_C. acaul'le_ (stemless). Rose, purple, May, N. Amer. 1786.


_C. bulbo'sum_ (bulbous), See _Calypsy Borealis._


_1. bellid num (Swiss). 1. Yellow. June, Switzerland.

_Calce'o'lus x macra'nhon_ (Swiss). Supposed natural hybrid. W. Siberia, 1892.

_califo'rinum_ (Californian). Yellow, white, spotted _Paradise_ B.M. 1785.


_de'bilis_ (weak). Green, marked purple. Japan, 1905.


_guttu'tum_ (spotted). 1. Yellow, spotted. April, Siberia, 1889.

_Hi mill'ni_ (Hi Milli). See C. _acaulis._


_mahu'num_ (inflated). Purplered; lip longer, more saccate. Siberia, 1829.


_occidenta'le_ (western). See C. _montanum._


_ventrico'sum_ (swollen). See _C. Macranthos ventri-cosum._

_Cyrilla._ (After D. Cyrillo, an Italian botanist, Nat. ord., _Cyrillidae_ (Cyrillaceae). Linn. 5-Pentandria, 1-Monogynia, Allied to _Heathworts._)

Greenhouse evergreen shrubs. Sandy loam and peat; cuttings in sand, under glass, with slight bottom-heat.


_Carolina'a'na_ (Carolina). See _C. racemiflora._

_cocci'nea_ (scarlet). See _Achimenes coccinea._

_pulch'ella_ (pretty). See _Achimenes coccinea._


_Cyntandra._ (From hurts, curved, and _anthera_ a stamen with reference to the curved stamens, Nat. ord. _Geneeraceae._)


_Cyrilla.'rara_ (Fitchard's). White, Berries white. Fiji, 1887.

_Cytandra._ (From hurts, curved, and _anthera_ an anther, Nat. ord. _Acanthaceae._ Most of the species are now referred to _Jacobinia._)

_C. aurantiaca_ (orange). See _Beloperone aurantiaca._

_Catalyp'tha'lia_ (Catalpa-leaved). See _Jacobinia aurea._

_chrysos'thena_ (golden-crown). See _Jacobinia chrysostemphala._

_gihead'griha'na_ (Gihsedehriana). See _Jacobinia gihead'griha'na._

_livonia'na_ (Libonian). See _Jacobinia Forlandica._

_Cyrtanthus._ (From hurts, curved, and _anthera_ a flower; the flowers bend down from the summit of the scape, or stalk, Nat. ord. _Amaryllidaceae._ Linn. 6-Heptandria, 1-Monogynia, Allied to _Vallaeta._)

Greenhouse bulbs, from Cape of Good Hope. C. _doliq'um_ and _C. car'meus_ have evergreen leaves; they, therefore, require to be watered all the year round. Strong, friable loam suits them best in deep, narrow pots,
and the bulbs covered, Greenhouse culture from April to November, and an air place in the stow near the glass window. The rest are deciduous, and require to be kept dry in winter. Offsets.

FLORUS.

CLUS."vittatus" (striped). White, striped red-brown, S. Africa.

CYTROES FLORENSNUDUM and C. REFLEXUM. See ANGRESTILLUS.

CYROTCHIUM. (From kurtos, curved, or concave, and keiotes, a lip; the form of the labellum, or lip. Nat. ord. Orchis [Orchidaeae]. Linn. 20-Gynandria, 2-Monandria. Mostly now referred to Oncidium.)

Stove orchids. On blocks of wood, with moss and sphagnum just below their roots. Summer, moist temp., 60° to 90°; winter, 55° to 60°; rather dry. C. bictoniense (Bicton). See ODONTOGLOSSUM BIC-
TONIANUM.

"cirrus" (citrin). See OUCICDUM CONCOLOR.

"filipes" (thread-stalked). See OUCICDUM GRAMINI-
FOLIUM.

"flavescens" (straw-coloured-flowers). See MILTONIA FLAVESCENS.

"graminifolium" (grass-leaved). See OUCICDUM GRAMIN-
NIFOLIUM.

"leuchtenburgii" (white-leaved). See OUCICDUM LEUCO-
CANTHUM.

"maculatum" (spotted). See OUCICDUM MACULATUM and varietes.

"micranthum" (small-flowered). See OUCICDUM MICRA-
NANTHUM.

"mysaacnum" (whiskered). See ODONTOGLOSSUM MYSA-
ACNUM.

"stellatum" (starry-flowers). See MILTONIA FLAVESCENS.

CYRTODIUM. See EPIPCA.
CYRTOSPERMA. (Derived from kuros, curved, and sperma, a seed; the seeds being curved. Nat. ord. Araceae.)

Perennial herbs for the stove, offsets and fronds. Fibrous loam, peat, and sand.

C. congole'ne (Congolese). Seems to be Anchomanes dumosus, Congo Free State, 1900.

C. johnston'ii (Johnston's). Leaves with red veins. Solomon Islands, 1879.

C. ma'drillus (Masdrillian). Sumatra, 1884.

C. senega'lese (Senegalese). 5 to 12, Pale green, with maroon boards, Upper Guinea, 1898.

CYRTOSposites. (From kuros, curved, and stachys, a spike; in reference to the curved florescence. Nat. ord. Palmaceae.)

Stove Palms. For culture, see Palms.

C. la'kka (Lakka). Malaya.

" " si'ngapore'nis (Singapore). Singapore.

C. ro'da (Renda). Sumatra.


CYSTACA'NYTHUS. (From kustos, a blander, and Acanthus; in reference to the inflated flowers. Nat. ord. Acanthaceae.)

Aran evergreen stove herb, flowering in winter. Cuttings in a close case in spring or summer, giving bottom-heat. Loam, fibrous peat, and sand.


CYSTO'PERIS. (From kustos, a blander, and peris, a class. Nat. ord. Filicites.)

Slender growing, hardy ferns for moist, shady positions on the rockery.

C. al'pi'na (alpine), 1. Europe (England).

C. re'cta (royal). Pinnae more finely divided, bulbus (bulb-bearing). Fronds 2-3 times divided, N. Amer, 1638.

C. fru'gillus (fragile). 1. Frond 2-3 times divided, Britain.

C. densa'ta (toothed). Pinnaules toothed.

C. dich'ius'na (Dickiean). Pinnae overlapping.

C. sem'per'vens'ens (evergreen). Madeira.

C. monis'na (mountain). Frond triangular, Europe.

C. le'nisus (slender). 1. N. Amer.

CYSTO'CHRSIS. (From kustos, a blander, and Orchis. Nat. ord. Orchidaceae.)

Terrestrial, stove herbs, requiring treatment similar to Neottia, or the stove species of Habenaria.

C. ja'vane'sis (Javannes). Malaya, 1862.

C. variega'ta (variegated). Malaya, 1862.

CY'TUS. (From Citrus, one of the Cyclades, one of the species was first found, Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadelphia, 6-Decandraia.)

Shrubs and trees. Readily increased by seeds; choice kinds are grafted or budded upon the Laburnum; common garden-soil.

GREENHOUSE AND STOVE EVERGREENS.

C. a'ti'e'nis (related). Sicily.

C. atti'lea'nis (Attlean). See C. fragrans.


C. ca'lnacanis (white). White, South Europe.

C. elegans (elegant). See C. fragrans elegans.

C. filip'ipes (thread-stemmed). White, March, Tenerife, 1838.


C. filip'ipes (bushy). Yellow, 1821.

C. glomer'tus (crowded). See Eriosema parviflorum.

C. la'niger (woolly), 2. Yellow, June, Spain, 1821.

C. Half-hardy.


C. nub'bus (cloud-born). See C. fragrans.

C. pro's furu's (profliferous). 2. Yellow, April, Canaries, 1792.

C. s'ulis (white), White. "Tagasaste."

C. racemo'sus (racemed). See C. fragrans.

C. ramo'ss'simus (most branched). See C. canariensis.

CYTISUS. Hardy Deciduous, &c.

C. ada'ami (Adam's). See Laburnum ADAM.


C. albus pil'fero (double-flowered). White, May, Gardens.

C. fo'liis variega'tis (variegated-leaved). Yellow, May, Gardens.

C. tri'this (white). 4. White, June, Canary Islands.


C. incar'na tus ma'jor (larger). Flowers larger, vinous rose, 1875.


C. al'pinus (alpine). See Laburnum ALPINUM.

C. ado'nis (Adonis's), 1. Yellow, Maritime Alps.

C. arg'enteus (silver-leaved). 3. Yellow, August, France. 1739. This is Arboretum linné'ani. austr'icus (Austrian). 3. Yellow, July, Austria, 1774.

C. ba'ni (Bean's), Yellow, Garden Hybrid, (Ado'nis x biflorus). 1907.


C. ca'Iy'cyns (large-calysed). 2. Yellow, August, Tauria, 1820. This is Arboretum calycium, capit'us (round-headed). 3. Yellow, July, Austria, 1774.


C. divarica'tus (divaricate). See Adenocar'pus inter'medius.

C. eto'neus (long-branched). See C. biflorus.

C. fa'dax'us (sickle-shaped). See C. hirsutus.

C. filifer (thread-bearing). Pale yellow, 1866.

C. folio'sus (leafy). See Adenocar'pus foliolo'sus.


C. Hellebran'dii (Hellebrandt's), Yellow, Canary Islands, 1905.

C. his'rus (hair). 5. Yellow, July, South Europe, 1739.

C. his'rus'si'simus (hairiest). Yellow.

C. keen'nai (Kew). Primrose yellow, Garden Hybrid, (Adonis x laburnum).

C. Labur'nnum (Laburnum). See Laburnum vulg'are and varieties.

C. leu'nathus (white-flowered). 1 to 4. Pale yellow, June, Falklands, 1866.

C. lin'fo'lius (Flax-leaved). S.W. Europe.


C. monspessu'la'us (Montpelier), White, Mediterranean region.

C. multi'florus (many-flowered). See C. hirsutus and C. ALTUS.


C. orient'is (eastern). 3. Yellow, June, Asia Minor, 1818.

C. pro'ten'um (spreading). 4. Yellow, June, Portugal, 1752.

C. pol'yrhicus (many-haired). 11. Yellow, June, Tauria, 1818.

C. purp'reus (purple). Pale yellow. Garden Hybrid (purgans x albus).


C. purp'reus (purple-flowered). 2. Purple, Austria, 1792.
DABOECIA. (Derived from the Irish name St. Dabeoc, Nat. ord. Ericaceae.) Hardy, evergreen shrubs of dwarf habit and Heath-like aspect. Cuttings in sandy peat, under a hand-light, and layers in autumn. Sandy peat is the best medium in which to grow the plants, D. cana'thilica calycula-ta (Cambridge). See D. POLIFOLIA CANTABRICA.

**poli-to'lia (Pulmonary-leaved).** I to 2, Purple, August, Ireland. "St. Dabeoc's Heath." **a'tba (white).** White, Ireland. **atro-purpy'rea (dark-purple).** Dark, purple. **bi color (two-coloured).** White and rosy-purple.

D. c. (Cambridge). Calyx coloured, making the flowers appear double, 1891. **flora'dbio (white-flowered).** See D. POLIFOLIA ALBA.

**lati/loia (broad-leaved), Purple, longi/loia (long-leaved), Purple, na'na (dwarf), See C. POLIFOLIA PYGMAEA, poli/llia (pale), Pale purple, pygma'x (a dwarf), Purple, I. Purpel, Ireland.**

**tasio/llia (Yew-leaved).** See BRYANTHUS TAXI-FOLIUS.

DACRY DIUM. (From dakru, a tear; referring to the resinous drops, glands, or exudations. Nat. ord. Compositae, Fam. Asteraceae, Monocotyledonous. Allied to Podocarpus and Yew.)

**D. taxio/llum is the hakateto of the natives; its young branches, like those of the Norway Spruce, afford a beverage of the same quality as spruce beer. Greenhouse evergreens. Cuttings of firm young wood in sand, under a glass; pot and loam, Summer temp., 60° to 75°; winter, 35° to 45°.**

D. arauca'rioi des (Araucaria-like, New Caledonia, eup'zi-sium (cypress-like, 16, New Zealand, 1825, eit 'um (lofty), 20, Pulo Penang, 1830, ex'teum (tall). See PODOCARPUS DACKYRIOIDES, Fitzgeraldi (Fitzgerald's), Australia, Franklini (Franklin's, Huon Pine), 100, Tasmania, 1844.**

**Ma'ti (Mal).** See PRUNNOPSIS SIFICATA.

**taxio/llum (yew-leaved).** See PRUNNOPSIS SIFICATA.

**taxio/llum (yew-like).** A conical bush, Now Caledonia.
cut down by frost, must be taken up and plunged in dry
soil in a sheltered place or in a cold frame. D. arbo'rea (tree-like). Trop. Amer.
'Barberina' (Miss Barker's). See D. variabilis.
'Cervantes'is (Cervantes'). See D. cocinea.
'coza na' (scarlet), Scarlet, August to October.
'C. auranti' (orange-coloured), 6, Orange. October.
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and tubers so grown usually keep well. The soil must be perfectly dry before they are put to rest, and no wet or frost allowed to reach them. A good place for them is to lay the pots on one side under the stage of a greenhouse. In these winter quarters they must be carefully examined, and all decaying roots or stems removed.

Types of Dahlia.—Besides the show Dahlia of the old florist's type several others have now been introduced to the dignity of exhibition flowers. The show Dahlia proper is defined by size, symmetry of form, circular outline, by being perfectly double, high in the centre, with neat, compact, quilted florets, of uniform colour or darker round the edge. Stripped and scored flowers of this type are classed as fancy Dahlias. The most popular for exhibition at the present time are the Cactus Dahlias, descended from Dahlia Juarezii, introduced from Mexico in 1879, and brought to great perfection within the last twenty years. These are distinguished by their long pointed florets rolled back at the edges, narrow and graceful. The old forms were flat petals are now classed as decorative Dahlias, and are used for garden ornamentation for the sake of their bright colours and free-flowering habit, Pompom Dahlias have the neat, regular, and closely built flower of the show type, but are distinguished by their very small size. Single Dahlias are now exhibition flowers and are characterised by a single row of outside florets or rays, broad, rounded, overlapping, and of some bright colour or even two, beside the yellow.

Insects.—In the early stages of growth, the great pest to the Dahlia is the slug. Watering with clear lime-water is the best article to destroy them, or a dunhill of charcoal, and should be kept fresh. The soil will be useful; a circle of lime round each plant will be a good preventive, and also a carefully gathering up, very early in the morning, of the vermin which will greatly reduce their numbers. Farmers in England and France are using the soup, the evening is almost sure to attack them, and frequently in one night will disfigure the finest and most perfect bloom, and render it unfit for exhibition. Traps must be set, to catch these pests. Potted plants may be kept in pots for moss put in them, and then turned upside down upon the stakes are a good trap for them. They should be examined every morning, and the insects in them destroyed. Dried bean stalks are also a good trap; place them among the branches, and the insects will creep into them as a hiding place. Also, as they feed chiefly in the night, take a lantern at that time, and examine every flower.

Preparing for Exhibition.—Cut the flowers the night before, and if they are to be conveyed a considerable distance, have a box or boxes made with watertight tin tubes sufficiently large to hold the bottom, and hold water; pass the stem of each flower through a plug of wood with a hole in the centre, just wide enough to allow the stem to pass through it, and just thick enough to fit like a cork into the stem with a fair fit in the wooden plug, and let the lid of the box be so elevated as not to touch the flower.

DAISY. (From dais, to heat; referring to the causticity of the bark, Nat, ord, Daphnades (Thyme-leaves). Linn, 10-Decandria, 1-Monogyna. Allied to Mezereum.

Greenhouse evergreen. Seeds sown in slight hotbed, in March; cuttings of half-ripened shoots, or of the roots, in August, in sand, under a glass, and with a little heat; peat and loam. Summer temps., 55° to 70°; winter, 40° to 45°. D. cotinifolia (Cotinus-leaved), 10. White, green. June. Cape of Good Hope, 1776.

DAISY. (Bellis perennis.) There are many double varieties of this hardy perennial; some white, others crimson, and some mixed. The variety is the Proliferous or Hen-and-Chicken Daisy. They all will flourish in any moist soil, and almost in any situation. They bloom from April to June. Propagated by division when the smallest flower is about 2 inches and almost enables them to grow. To keep them double and fine they require moving occasionally. Planted as an edging round the Ranunculus-bed their roots tempt the wire-worm from those of the choicer flower.

DAMBMAR. (The Dammar Pine of New Zealand, the Kauri of the natives, Nat, ord, Conifers [Conifera]. Linn, 21-Monoclea, 10-Monadelphina.) All the species are now referred to Agathis.

The best masts are now prepared from the D. australis for our navy; it also yields a brittle, resin-like copal. Cuttings of young, ripe, firm shoots, inserted in sand, in the spring; in a gentle bottom-heat, under a
bell-glass; loam, with a little sand. Summer temp., 55° to 80°; winter, 38° to 45°.


D. "orothia'na(Loranthus-leaved), 50. Malaya, 1804.

D. "prick'd"(Indian), India and Japan, 1880.

D. "rub'ra" (blunt). New Hiberniae, 1885.

D. "sericea" (eastern). See D. LORANTHI FOLIA.

D. "spina's (robust). N.E. Australia, 1860.

D. "vitae'na (Fijian). Fiji.

DAMNACA'THUS. (Derived from damnao, to conquer, and anasthias, a spine; in allusion to the strong, opposite spines. Nat. ord. Rubiaceae.)

Shrubs requiring greenhouse treatment. Cuttings in a close case, with mild, bottom-heat. Fibrous loam, peat, and sand. Summer temp., 60° to 80°; winter, 55° to 60°.

D. "fascicula" (Indian-flowered), India and Japan, 1880.

D. "ma'ior" (greater). White; Japan, 1886.

D. "submi'sa" (sub-mild), White. Spines nearly absent. Japan, 1886.

DAMP'IE'RA. (Named after the circumnavigator, Capt. W. Dampier, Nat. ord. Goodenowiads [Goodeniaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Scavola.)

Greenhouse herbaceous perennials, with blue flowers, from Australia, Division; and cuttings of young shoots in sand, under a glass; peat and loam. Summer temp., 55° to 65°; winter, 50° to 55°.

D. a'la'sa (winged-leaved). May, 1842.


D. "corona'sa" (crowned-flowered). May, 1842.

D. "guies'sa" (wide-leaved). May, 1842.

D. "salsic'i'la" (bottle-flowered). May, 1842.

D. "vulcan" (lava-dressed). 1843.

D. "linea'sris" (narrow-leaved). 1843.

D. "onali'ica" (oval-leaved). See D. Brownii.

D. "sire'n'a (upright). July, 1814.

D. "te'res" (round-leaved). June, 1842.

DAMPING OFF is a name applied to gardeners to the premature decay of the stems of seedlings, and other tender plants. It is caused by a fungus, Pyhidium debaryanum, owing to the soil and air in which they are vegetating being kept too moist or damp. Flower seedlings are especially liable to be thus affected; and, to prevent this, one third of the depth of the pot should be filled with drainage, and the soil employed, instead of being sifted, allowed to retain all moderately sized stones be removed by very thinly, pressed down, and a little white sand be sprinkled over the surface, because this is not easily disturbed by watering, and is not a medium that retains moisture to the neck of the seedlings, where damping most affects them. A pot of sand should be kept hot, and whenever symptoms of the disease appear, a little whilst hot sprinkled on the soil. The latter should be kept somewhat drier. In bad cases the seedlings should be shaken off as soon as they can be handled, into fresh soil.

DA'NAE. (Danae, the Greek name of the Alexandrian Laurel. Nat. ord. Liliaceae. Allied to Ruscus and Asparagus.)

A hardy, evergreen shrub, which thrives best in sheltered positions, amongst other shrubs or trees in ordinary garden soil.

D. La'rus (Laurus). 2 to 4. Green, Greece, Asia Minor, &c., "Alexandrian Laurel."

DANZEA. (Named after P. M. Dana, who wrote on the Flora of Piedmont. Nat. ord. Ferns [Filicines]. Linn. 24-Cryptogamia, 1-Filices.)

Stove, herbaceous ferns, Division, Fibrous peat and loam. Summer temp., 60° to 90°; winter, 48° to 55°.

D. a'la'sa (winged). W. Ind. 1823.

D. "eliptica" (elliptic). W. Ind. to S. Brazil.

D. "moritiza'sa" (Moritizian). Colombia to Peru.

D. "nodo'sa" (jointed). Cuba and Mexico to Brazil.

D. "serrula'sa" (finely saw-edged), Colombia, 1887.

DAPPH'NE. (So called after the fabled nymph of that name. Nat. ord, Daphnads [Thymelaceae]. Linn. 8-Octandria, 1-Monogynia.)

Extreme causticity is the general property of the

Daphnads—the Spurge Laurel and Mezereum particularly so. Seed for most of the species, especially of the D. Laureola, or Spurge Laurel; used as a grafting stock for most of the rarer and tender kinds. As the seed is two years in vegetating, it is usual to keep it some time in sand, in a heap. D. Cuscuta, and other dwarf kinds, especially if at all trailing, are generally propagated by layers in summer. A close pit for grafting the finer kinds, in March or April, is an advantage. Most of them will grow very sandy peat; but the diciduous Mezereum prefers pure loam. The odora and odor'ra ru'bra are nearly hardy in the climate of London; but farther north they require the cold pit or greenhouse, &c.

HARDY DECIDUOUS.

D. For'tune's (Fortune's). See D. GENKWA.

D. "Ge'nikwa" (Genkwa). 3. Lilac to blue. February, 1849.


D. "autumna'le" (autumnal); see D. MEZEREUM GRANDI-

D. "la'bo-pla'no" (double white).

D. "grandif'o ra" (large-flowered). 4. Red, August, Europe.


D. "Laureola" (Spurge-laurel). 6. Green, February, Britain.

D. "Laureola" (Spurge-laurel). 6. Green, February, Britain.

D. "Ma'jor"(Majesty).


D. "Verlo's" (Verlot's). Dauphiny.

D. "Verlo's" (Verlot's). Dauphiny.

D. "Vie'sa" (Viesa). Garden hybrid (serica X xolaras).

D. "Vul'can" (volcano). Lilac-purple, Asia Minor, Caucasus, 1851.

D. "Vul'tan" (Vultan). Lilac-purple, Asia Minor, Caucasus, 1851.

D. "Genkwa" (Genkwa). 3. Lilac to blue. February, 1849.


D. "Vul'tan" (Vultan). Lilac-purple, Asia Minor, Caucasus, 1851.

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D. "Vul'tan" (Vultan). Lilac-purple, Asia Minor, Caucasus, 1851.
Australia; 1820. 1846.
D'AR'EA. (Named after Dar, a botanist. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. These are proper species of Asplenum.) Stove Ferns, requiring the same treatment as Campotis.
DARLINGTONIA. (Named in compliment to Dr. Darlington, an American botanist, Nat. ord, Sarra-ceniaceae.) A nearly hardy Pitcher Plant allied to Sarracenia and requiring similar cultural treatment. In the milder parts of the south and west it will live out on a damp flat, and will bloom to perfection if covered with a bell-glass or hand-light. Division. Peaty soil. Healthy plants, Z^5-Cryptogamia, 1-Filices. And both temperate and tropical shrubs, requiring the same treatment as Campotis.
D. califo'nia (California). 1. Green, yellow, red-brown, April, California. 1861. DARNEL. Lo'lium temule'ntum.
DARWINIA. (Named after Dr. Darwin, author of The Botanic Garden, Nat. ord, Fringe-myrtles [Myrtaceae]. Linn. 10-Decandria, 1-Monogynia. Includes Genetliis.) Greenhouse evergreen, from Australia. Cutstings of young shoots in sand, under a bell-glass: peat and loam, both fibrous, and with sand. Summer temp., 55° to 75°; winter, 38° to 45°.
DATTSCA. (Derivation obscure. Nat. ord. Datis-caceae.) Hardy, herbaceous perennial of no great beauty. Ordinary soil.
D. cannabi'na (Hemp-like). 4. Green. July. Orient, Himalayas. 1790. DATURA. Thorn Apple. (From its Arabic name, Tadorai. Nat. ord. Nighthshades [Solanaceae]. Linn. Pantandria, 1-Monogynia, Allied to Sclandra.) Violent narcotic principles pervade this order, the seeds being the most powerful. Annuals by seeds in hotbed, in March, and either potted and bloomed in the greenhouse, or transferred to a rich, sheltered border in the garden. Evergreen shrubs, by cuttings any time in spring or summer, in light soil, in a little heat, with a hand-light over them; rich, fibrous loam; do well in a sheltered border in summer, and may either be protected there, or removed to a shed or house where the temperature will not fall below 35° to 40° in winter.

DAUBEYNA. (In honour of Dr. Daubeny, professor of botany in the University of Oxford, Nat. ord. Liliaceae [Liliales], Linn. 6-Hexandra, 1-Monogynia. Allied to Massonias.) Pretty yellow-flowering-bulbs, from the Cape of Good Hope, which will succeed in a warm border in front of a green-house, protected from frost in winter; and also in pots, in rich, sandy loam, either in a greenhouse or frame, and to be kept quite dry while at rest; offsets. D. aura (golden-flowered). 4. June. 1832. D. fulva (tawny). 4. 1836.

DAUCUS. Carrot. (From dacus, a carrot, Nat. ord. Umbelliferae [Umbelliferae]. Linn. 2-Pastinaria, 2-Diaphy). The cultivated species is a white-flowered hardy biennial; but there are others, biennials and annuals, more weeds, Seeds in March or April; deep, light, well-drained soil. See CARROT.


DAVIDIA. (Named after Abbé David, the discoverer. Nat. ord. Cornaceae.) Deciduous trees, notable for the large white bracts (sometimes in long, and 4 in. wide) under the flowers. They require shelter, except in the more favoured parts of Britain and Ireland. Ordinarily soil, well drained.
Cuttings of half-ripe wood, in a greenhouse, under a bell-glass.


DAVIDSONIA. (Named in honour of Mr. Davidson, who discovered the plant. Nat. ord. Saxifragaceae.) A fine foliage, stove shrub of great beauty, especially when the leaves are young. Cuttings of the stem in sand, in a close case, with bottom heat. Fibrous loam, peat, leaf mould, and sand. D. pru'vians (stinging). Leaves covered with bright red hairs when young. Australia. 1877. Syn. D. pungens.

DAVIESIA. (Named after the Rev. H. Davies, a Welsh botanist. Nat. ord. Leguminosae [Leguminosae]. Linn. 10-Decondaria, 1-Monogynia. Allied to Viminaria.)

Greenhouse evergreens, from Australia. Cuttings of young shoots, rather firm (stumpy side-shoots are best), in sand, sown in a slight heat, hot in March; peat and loam. Summer temp., 55° to 80°; winter, 38° to 45°.


als'a (winged), 2. Yellow. June, 1818.

ars'a (sharp-cornered). Yellow. April, 1818.


genista'da (Genista-Rod). See, U. vacina.

nerv'a (sea-green). See D. Corymbosa.


perfo're'sa (jumper-like), 2. Yellow. May, 1825.


leptophyll'a (slender-leaved). See D. Corymbosa.

linea'sa (narrow-leaved). See D. Corymbosa.

pulmon'a (lung-leaved). Yellow. May, 1840.

mimoso'des (mimoso-like). See D. Corymbosa.

peda'cula'ta (long-flowered-stalked). Yellow, May.

phys'o des (bladdery). See D. Incrassata.

pulmo'ry/la (many-leaved). Yellow, May.

pu'ngens (pungent). See D. Acicularis.

quadri'sa'era (four-sided-leaved). Yellow. May, 1840.

racemo'd'a ( softly-racemous). See Umbellulata.

ramul'a (branching). Yellow. May, 1842.

reclin'a (netted). See Pulten'ea. 19-Prostrata.


umbellu'la'sa (small-umbelled), 24. Yellow. May, 1816.

virga'ta (twigg). See D. Corymbosa.

DE VAYA. See Meeriana.

DAY LILY. See Hemerocallis.

DEAD NETTLE. See Lamium.

DEADLY NIGHTSHADE. A' tro'pa Bellad'o'na.

DEATH'S HEAD HAWK MOTH. Acheron'i'a A' tropos.

DECABE'ONE. (Derived from deka, ten, and belone, a needle; in allusion to the slender appendages of the corona. Nat. ord. Asclepiadaceae.)

Greenhouse perennials of a desby character, with bell-shaped yellow flowers, spotted with red. Cuttings in sand after the cuts get dry. Loam, sand, peat, finely broken bricks or potsherds.

D. Bu'klyi (Barkly's), Yellow, red. S. Africa. 1875.

crope'sa (elegant). Yellow, red. S. Africa. 1873.

DECAISNEA. (Named after Joseph Decaisne, a French botanist. Nat. ord. Berberidaceae.)

Greenhouse shrubs with leaves 2 to 3 ft. long, and pinnate, imported seeds. Cuttings in a greenhouse or frame, covered with a bell-glass. Good loam, leaf mould, and sand. D. Farge'sii (Fargés').

Greehish-yellow. Western China. 1900.


DECASCHI STIA. (From deka, ten, and achizo, to cut; in allusion to the ten valves of the seed vessel. Nat. ord. Magnoliales.)

A stove shrub requiring a compost of good fibrous loam, a little peat and sand. Seeds; cuttings.


DECO'BERseitea. (From deka, ten, and sperma, a seed; seeds usually 8 to ro. Nat. ord. Myrtaceae.)

Stove evergreen shrub. Cuttings of half-ripened shoots in sand, under a bell-glass in heat. Loam, peat, and sand.


DECIDUOUS. Trees and shrubs that shed their leaves on the approach of winter, and herbaceous plants that die naturally are said to be deciduous. The oak, ash, and beech are examples. Herbaceous Paeonies, Michaelmas Daisies, and perennial Sunflowers are deciduous herbs. In tropical countries, with a dry and a wet season, many trees and shrubs lose their leaves soon after the commencement of the dry period, and recommence growth with the return of the rainy season. These also are described as deciduous.

DECREE'RIA. See Ishartea.

DE'CODON. See Nesa.

DECU'MARIA. (From decuma, a tenth; referring to the ten valvate divisions of the calyx, and the ten cells of the capsule, or seed-pod. Nat. ord. Saxifragaceae.)

Linn. 11-Dodecanaria, 1-Monogynia. Allied to Philadelphia.)

Hardy deciduous twiner, with small white flowers, requiring supports, or to be trained against a south wall in a dry, warm border of light, rich soil. Cuttings under a hand-light, in a shady place, and in sandy soil, in summer.


DEHERAI'RIA. (Named in compliment to Pierre Paul Deberain of the botanical gardens of Paris, Nat. ord. Myrsinaceae.)

A stove plant, chiefly remarkable for its smaragd green flowers, capsules or seed-pod, and dry, hard, shelly seeds. Cuttings of half-ripened wood, taken off with a heel, inserted in sand and placed in a close case with bottom-heat. Fibrous loam and peat, with sharp sand to make it porous. D. smarag'da'na (smaragd-green). 2 to 3. Green, M. 1848.

DEINA'THE. (From deinos, wonderful, and anthos, a flower; in allusion to the large blue flowers. Nat. ord. Saxifragaceae.)

A tall growing herbaceous plant, allied and similar to a Hawaii Hibiscus. Seeds in wood in spring; and divisions in spring. Ordinary soil.

D. bi'ida (billed). 3 to 4. Blue. Japan; Central China. 1903.

DELABE'CHIA RUPE'STRIS. See Sterculia rupe'tris.

DELA'BREA. (Named in honour of M. Delabre, a naturalist. Nat. ord. Araliaceae.)

An ornamental, evergreen shrub for the stowe, and best known under the names of Aralia spectabilis and A. concinna. Treatment as for Aralia. D. specta'bilis (showy). Leaves pinnate or bipinnate.

New Caledonia. 1879.

DELI'A. (From delimo, to shave or polish; referring to the hard asperities which cover the leaves, and render them fit for polishing. Nat. ord. Dilleniadae [Dilleniaceae]. Linn. 13-Polyandria, 1-Monogynia. Allied to Tetraceria.)

Handsome stove evergreen twiners, with fine large leaves and yellow flowers, having much the aspect of small Magnolia flowers. Cuttings of fine young shoots in April, in sand, under a bell-glass, and in bottom heat; peat and loam, both furry and fibrous, with a little silver sand mixed with charcoal, and good drainage. Summer temp., 60° to 85°; winter, 50° to 55°.

D. ni'tida (shining-leaved), 10. Trinidad. 1830.
	sarment'o'sa (twigg). See Tetraceria sarmentosa,
DELPHINIUM. Larkspur. (From delphin, a dolphin; supposed resemblance of the spur to a dolphin's head. Nat. ord. Crowfoots [Ranunculaceae]. Linn. 13-Polyandra-flowered Annuals and biennials, by seeds in common soil, in the open border, in March and April; perennials, by division of the roots in spring and summer, and by seeds in March or April. HARDY ANNUALS AND BIENNIALS.


A. cardophila (heart-petaled). See D. Halteratum.

A. coex neum (scarlet). See D. Cardinale.


A. plum (painted). See D. Requien.


Annual or biennial.

HARDY HERBACEOUS PERENNIALS.

D. albiflorum (white-flowered). See D. HYBRIDUM

OCHROLEUCUM.


D. californicum (California). Blue. California.

D. Carolinianum (Carolina). See D. Exaltatum.


D. aubrum (white). White.


D. dasyotis (thick-leaved). See D. Speciosum.


D. dasycarpum (thick-flowered). See D. Elatum.


D. floweri (felt). See D. Hybrideum.

D. flexuosum (zigzag). See D. Elatum.


D. intermedium (intermediate). Blue. August. Silesia. 1710. These are forms of D. elatum.


D. sinense flore-pleno (Chinese double-flowered). See D. elatum.


-> D. spuriun (spurious). See D. speciosum.


-> D. sutchuenense (Sutchuen). China, 1862.

-> D. vanuatu'ana (Vanuatu). See D. speciosum.


-> D. urae'num (Ukraine). Blue, June, Siberia. 1818.

-> D. urceo'rum (pitcher-like). See D. exaltatum.

-> D. velut'um (velvety). 4, Blue, July. Italy. 1819.

-> D. vesti'um (clothed). Blue, Himalaya. 1837.

-> D. villo'sum (long-haired). See D. elatum.

-> D. vim'ti'num (wand-like). See D. azureum.

-> D. vir'idi'rum (twirled). Blue, June, Syria. 1823.

-> D. Zal'i (Zall). See D. sulphureum.

DENDROBIUM (From dendron, a tree, and bios, life; referring to the way these air-plants fasten on trees for support. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gymandra, 1-Monandra.)

Stowes adds: Dividing the plant when in a dormant stage but just commencing to push out roots; turfy peat, a few broken potsherd, and fastening the plant above the surface of the pot; cutting pieces of peeled oak as long as the diameter of the pot inside the rim, fixing the plant to this wood; and, after placing it in the pot, banking up around it with the suitable compost—prevents all danger from damp, owing to the plant sinking. Trim, 60 to 90° when growing, with moisture in the air; and when at rest, 55° to 60°, and drier.

D. acro'sum (pointed-leaved). Yellow, pink. Singapore. 1840.

-> D. accuto're (needle-leaved). Yellow, pink, Singapore. 1840.


-> D. acuminatissi'mum (most pointed). Greenish. Manilla. 1840.


-> D. aggregatum (clustered). 1. Yellow. April, India. 1835.

-> D. ab'si'num (beak). White. April, India. 1835.

-> D. albino'sum (white). Yellow. April, India. 1835.

-> D. a'that'um (white). See D. aequum.

-> D. ambly'o'rnidis (broad-leafed). New Guinea. 1878.

-> D. amphistegi'um (amphistegi'um). Yellow, pink. Singapore. 1840.


-> D. am'eliae (Mrs. Amelie's). White, tinted rose. New Guinea. 1901.


-> D. an'it'ope (Anitope). Yellow, brown, freckled leaves. 1883.


-> D. arcuatu'm (arched). White, Java. 1910.

-> D. asphal'tia (Ashworth's). Greenish-white. 1901.

-> D. atropurpu'reum (dark purple). Irop, Asia. 1883.


-> D. auranti'um (orange). See Bulbophyllum auranti'um.


-> D. auransc'inum (orange). See D. flavum.

-> D. avii (Avi's). See V. exaltatum.

-> D. balsam'i num (Balsam's). See V. exaltatum.

-> D. bimm'alia (Bimmel's). See V. exaltatum.

-> D. barbata'num (bearded). Buff, Bombay. 1838.

-> D. barbata'num (bearded). White, Burma. 1897.

-> D. barrington'i (Barrington's). See Lyca'rostachys.


-> D. ben'sonii (Mrs. Benson's). Orange, white, crimson. Burma. 1884.

-> D. bennetti (Boxall's). White, yellow with a white disc on the lip. 1878.


-> D. bicaud'a (two-tailed). Whitish to greenish-yellow, streaked purple. Java. 1908.

-> D. biflor'um (two-flowered). White, Society Islands. 1840.


-> D. ca'nada'num (white). White. Australia. 1878.

-> D. cana'num (Hannibal's). Deep purple. 1879.

-> D. canolac'ca (two-eyed). Copper, yellow, purple. E. Ind. 1869.

-> D. boa'sco (boar's). White, with red warts. Borneo. 1830.

-> D. boxa'llii (Boxall's). White, purple, orange, Moulmein, bracte'sum (bracted). Purple; lip yellow and red. New Guinea. 1886.


-> D. bra'ticum (bracteate). White, brown. D. gracilicaulis.

-> D. brongk'a (Brongk's). Rosy-tinted, with orange disc. Indo-China. 1906.

-> D. bry'neriana (Brynerian). White, yellow; lip orange. Burma. 1875.


-> D. bullena'num (Bullena's). Orange-yellow, with purple lines. Philippines. 1862.

-> D. bulleri'a'num (Bullerian). See D. gratosissimum.

-> D. borbex'dei (Burbidge's). Pale yellow. Sunda Islands. 1878.


-> D. carate'scens (blasih). See D. nobile.


-> D. calco'culum (slipper-like). See D. Roxburghii.

-> D. camallicu'ltum (channelled). Pale yellow; lip spotted. N.E. Australia. 1881.

-> D. cana'idium (white-flowered). White, April. Himalaya. 1837.

-> D. canam'ea (canam'ea). Yellow, Moulmein. 1887.


-> D. lat'eris'um (brick-red). Lip brick-red, 1883.

-> D. watti'i (Watt's). See D. wattii.

-> D. carno'sum (flamey). Java.
D. D'Albertisii (D'Albertis'). White, green, red. New Guinea, 1878.

dalhousea'num (Lady Dalhousie's). See D. Pul-chella.
daya'num (Dayan). See D. Macrophyllum.

d'a'num (Daku's). White, green. Philippines, 1882.

d'alo'lo'num (white). Yellow, white, Moulmein, 1895.

d'allo'num (D'Albertis'). White, purple. Nepal. 1879.


d'allo'num (D'Albertis'). Yellow. India. 1856.


dalb'um (white). Yellow. India. 1878.


D. Goldiei karthausianum (Karthausian), Rose-purple; sepals edged white, 1910.

Goldschmidtii (Goldschmidt's), 1. Rose-purple. 

Gonolaida (Gould's), White, yellow and purple veins, Polynesia, 1867.

gracilis (tender-stemmed), Yellow, with red spots, Australia.

grandiflorum (large-flowered), Java.

grotescosum (most pleasing), White and rose.

greatrixianum (Greatrixian), White; lip with two purple blotches, New Guinea, 1897.

Griffithiunum (Griffith's), Yellow, March, Burma, 1897.

Gulfians (Guilbert's), Flowers larger, brighter, 1876.

Guthriii (Guilbert's), See D. Griffithianum Guthrii.

Hainanense (Hainan), S. China.

Hama'num (hooked), Pale yellow, dotted purple, Cochin China, 1894.

Harveyianum (Harveyan), Deep yellow; lip fringed, Burma, 1883.

Hassellii (Hasselt's), Purple, Java, 1844.

Heidyo'sum (agreeable smelling), See D. Scaevolina.

Herba'ceum (herbaceous), S. India, 1830.

Hercoglos'sum (ward-off-lipped), Mauve; lip white, mauve purple, Malacca, 1886.

Hexadema trinonicum (D. a'dereum, S. India, 1882.

Hexadema spicatum (six-bonded), Pale green and purple, 1886.

Heyneiunum (Heyne's), White, green, March, Bombay, 1858.

Hildebrandii (Hildebrand's), Yellow, with black spots, Assam, 1890.

Hodgkinsonii (Hodgkinson's), Yellow, China, 1887.

Hookeriunum (Hookerian), Deep yellow, purple.

Hu'ghi (Hugh's), White, with orange wart on the lip, Singapore, 1882.

Hiito'ni (Highton's), Crimson, purple, yellow.

Hymenophyllum (membrane-leaved), Greenish, May, Java, 1844.

Impe'ris (Empress), New Guinea.

littatum (slightly hairy), Bright yellow, streaked red, Burma, 1898.

Hongkino'ni (Hodgkinson's), Greenish-yellow, without spots, New Guinea, 1900.

Hortensia (Hortensia), 1882.

Australianae'num (Australian), Dead white, tipped green, Queensland, 1899.

Hookerianum (Hookerian), Deep yellow, purple.

Himalaya, 1853.

Hw'ghi (Hugh's), White, with orange wart on the lip, Singapore, 1882.

Hu'hi (Highton's), Crimson, purple, yellow.

Hymenophyllum (membrane-leaved), Greenish, May, Java, 1844.

Imperialis (Empress), New Guinea.

indulgenti (unpublished), See yellow, ochre, spotted, New Guinea, 1886.

inequali (unequal), White, pale yellow, streaked purple, New Guinea, 1900.

inflatum (inflated), White; lip with yellow blotch.

Java, 1895.

infundibulum (funnel-shaped), White; lip with orange disc, Burma, 1863.

fomenta'num (fomenta), See D. Jamesianum.

ornatis'simum (most ornate), White, with brown stripes and spots, 1883.

insigne (remarkable), Yellowish-green, Khasia, 1837.

io'cropus (violet-stalked), Deep yellow, purple, mauve.

Burma (f)., 1872.

Jamesianum (Jamesian), White, red, Burma, 1896.

japo'nicum (Japanese), See D. Moniliforme.

Jenki'nsii (Capt. Jenkins'), L. Yellow, May, Assam, 1836.

jenniferii (Jennyan), Yellow, outside brown, within Australia (f)., 1896.

jerdonianum (Jerdonian), Red, purple, S. India, 1898.

Johnsenii (John's), Dark brown, N.E., Australia, 1865.

kem'sium (half-brown), Petals brown, the rest yellow and brown, 1883.

Johnsonii (Mrs. Johnson's), New Guinea, 1882.

juven'cum (rush-leaved), Green, Singapore, 1841.

karof'ns (Karoan), White, New Guinea, 1920.
D. monophyllum (one-leaved). N.E. Australia, 1878.  
mooreana (Moorean). White. Australia, 1878.  
M. rossia (Mort's). 4. Light yellow, whitish, lilac, purple. N. S. Wales, 1884.  
moschata (musk-scented). See D. Caleodalia.  
muricata (warted). New Caledonia.  
m. nobile (bountiful). 1. Cream, white, purple.  
lip maroon-purple. 1910.  
n. nobile (noble). 2. Green, yellow, pink, China.  
cookeana (Cooksian). Petals dark purple and velvety on the middle. 1895.  
n. nobilissima (nobler). Flowers large dark purple, 1882.  
sanderiana (Sanderian). Sepals and petals bright purple, white at base. 1858.  
virgiana (virginal). Pure white, with pale primrose tint on lip. 1897.  
Wallisii (Wallich's noble). Purple, cream, white. E. Ind. 1840.  
nodata (thick noded). See D. Aphrodite.  
obraeni (O'Brienian). Small, yellow-green. Philippines, 1892.  
. italicum (yellow). Lemon yellow; blotch on lip light purple. 1910.  
occidentale (dark-eyed). See D. P限りium OCCULTUM.  
pallida (eulide). White, yellow, Moulema. 1887.  
pandurata (fiddle-shaped). Ceylon.  
parasites (tooth-spotted). See D. Mackei.  
parthenium (Parthenium). White; lip with purple blotch. Borneo, 1886.  
paxtonii (Paxton's) of Lindley. See D. Crysanthum.  
paxtonii (Paxton's) of Paxton's Magazine. See D. Fimbriatum OCULTUM.  
paradisa (pendulous). A form of D. nobilis.  
perennis (long-lasting-flowered). Pale yellow; lip white, Muluccas, 1886.  
feli.ci (Peter's). White, Polynesia. 1877.  
phalaenopsis (Phalaenopsis). Lilac, New Guinea, 1880.  
hollander (wholly-white). Pure white, 1895.  
statissimum (Statterian). Flowers smaller, dark purple. Java, 1877.  
sculptum (painted). White, crimson, Borneo. 1862.  
pierii (Pierard's). 2. Whitish. April, Himalaya, 1815.  
cucullatum (hooded). Straw. India, 1835.  
teil aux (yellowish). Yellowish. May, India, 1868.  
majus (larger). Whitish. April, India, 1890.  
pitcheri (Pitcheri). Rose, tipped purple, yellow. 1888.  
placa ( limbs). White, πhilippines.  
pogonitis (Pogoniates). Yellowish, orange. N. Borneo, 1886.  
polyactum (many-furred). Yellowish, purple-red. Sunda Isles, 1854.  
polyphyllum (many-veined). See D. Rhodo-

D. pulchellum (fair) of Loddiges. See D. Loddigesii.  
candens (whitish). White, tipped green.  
maculata (Moesley's). Purple.  
pulchellum (pretty) of Roxburghi. Rose and dark purple. Burma and Malaya.  
rossiana (Rossian). Borneo, 1882.  
sanguineum (Sanguineum). Blotches salmon-pink instead of maroon. 1898.  
pumilum (dwarf). Burma and Malaya. 1892.  
quiverium (quirinary). Light yellow, with brown veins on lip. New Guinea, 1903.  
ransomissimum (most branched). See D. Herbaceum.  
regium (royal). Like D. Doble, with clear yellow throat, Bengal, 1904.  
rhodochitonatum (red-spurred). White, purple, India, 1872.  
emericii (Emeric's). Lip white, with amethyst bar. 1887.  
rhombeum (diamond-tipped). See D. Auerum. 
Rima's (Rima's). Yellow, striped purple; lip white, whitish. Nigeria, 1892.  
robustum (robust). Yellow-green, with purple lines. New Guinea. 1885.  
roxi (Roxburgh's). Yellow, India, 1838.  
sanderiana (Sanderian). White, purple. Borneo, 1894.  
aubum (white). White. 1899.  
sarmatianum (supple). Pale purple, Yellow, white blotch, crimson lines. Burma. 1897.  
Schizum (Schizum). Pale green, fugacious. Sumatra. 1906.  
sekenii (Schizum). Fuscia, fugacious. Sumatra. 1862.  
sectum (furred). See D. Strigolum.  
Schrodii (Schroder's). See D. Densiflorum.  
septennatum (snowy). White; lip tipped orange. 1882.  
shillongense (Shillong). See D. Lasiosglossum.  
signatum (marked). Whitish, sulphur yellow. Siam, 1884.  
smithii (Mrs. Smith's). Whitish, rosy-purple. N. Australia, 1879.  
spadix (large-spathed). White, Sikkim, 1903.  
Hilli s (Hill's). Flowers white, larger,

**specia** (showy). Yellow and white, veined purple.
New Guinea, 1890.

**sphagnum** (water-soaked). See *D. strophosum*.

**squam** (squamiform). See *Xylorhiza squamulata*.

**Stratios** (Stratiotes). Ivory-white, green, cream.
*Sunda Islands*, 1886.

**Streblos** (Strebloceras). White, green, cream.
*Sunda Islands*, 1886.


**DENDROBIUM 286 DENDROSERIS**


**spectabilis**. White, with orange-yellow throat, India.

**D. acridum** (White). Entirely white.

**fowleri** (Fowlerian). Lateral sepals, with yellow blotch and purple spots at base. 1992.

**Lewii** (Lowie's). White, tipped purple-rose; lip with two purple-brown eyes. 1876.

**saxathorium** (yellow-white). Pure white, orange-yellow disc. 1904.

**Krantzii** (Krantz). White, with yellow lines on the lip, B. M. t. 6715.


**Wilmottii** (Williamson's). White, blood-red. *Himalaya*, 1869.


**Greenhouse evergreen shrubs of tree-like aspect, having simple or branched trunks surmounted by a small terminal cluster of flowers**;

1. **Orange**, 1837.
2. **Gold**, 1886.
3. **Yellow**, 1884.

**Yellow**,

**Pure (sweetest)**.

**Brown**, 1877.

**Silvery at base**;

**N.E. Yellow**,

**Yellow**, 1876.

**New Orange**,

**White**,

**Good to allusion**;

**Nepaul. Yellow**,

**White**,

**Greenish**, 1895.

**Brown**,

**Greenish-yellow**, 1878.

**1909. White**, 1887.

**Orange.**

**White**,

**Foweria** (fowerian). White, with yellow lines on the lip. B. M., t. 6715.


**Williamsonii** (Williamson's). White, blood-red. *Himalaya*, 1869.


**Delicate pink, or white**,

**Western China**, 1906.


**DENDROCATAMIS.** (From *dendron*, a tree, and *catus*, a reed; in allusion to the tall, tree-like habit of these Bamboos. Nat. ord. Gramineas.)

Stove, evergreen Bambus of easy culture. Most of them may be grown in pots, but all may be planted out, except *Bambusa*, to enable them to attain something like their natural dimensions. Seeds; and suckers when commencing growth. Good fibrous loam, with sand for pot culture.

**Orange**, 1837.

**Gold**, 1886.

**Yellow**, 1884.

**White**, 1888.

**Brown**, 1877.

**Greenish-yellow**, 1878.

**White**,

**Good to allusion**;

**N.E. Yellow**,

**Yellow**, 1876.

**New Orange**,

**White**,

**Greenish**, 1895.

**Brown**,

**Greenish-yellow**, 1878.

**1909. White**, 1887.

**Orange.**

**White**,

**Foweria** (fowerian). White, with yellow lines on the lip. B. M., t. 6715.


**Williamsonii** (Williamson's). White, blood-red. *Himalaya*, 1869.


**Delicate pink, or white**,

**Western China**, 1906.


**DENDROBIUM.**

(From *dendron*, a tree, and *cheilos*, a lip. Nat. ord. Orchidaceae. See also *PLATYLINUS*.)

Stove epiphytal Orchids. Divisions. Sphagnum, fibre of peat, and crooks.

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DESHA'MPSIA. (A commemorative name. Nat. ord. Gramineae.)

Hardy grasses of an ornamental character for mixing with cut flowers, like the Hair Grasses, Seeds ; division. Ordinary soil.

D. flexuosa (flexuous), 1 to 1½. Britain.

DESONTINIA NIA. (In honour of M. Desfontain, the French botanist, Nat. ord. Loganiaceae. Linn. 5-Pantheria, 1 Monogyne.)

A lovely greenhouse or nearly hardy evergreen shrub.

Its culture is the same as for the more tender kinds of Fuchsia. The soil should be a mixture of peat ; it should be shaded from midday sun, and have plenty of moisture.


DESIGN. "Consult the genius of the place" before you determine upon your design, is sound advice ; for in gardening, as in all the fine arts, nothing is pleasing that is inappropriate. Mr. Whately, our best authority on such subjects, truly says : A plain simple field, unadorned but with the common rural appendages, is an agreeable opening ; but if it is extremely small, neither a hay-stack, nor a stove, nor a path, nor much less all of them together, will give it an air of reality. A harbour on an artificial lake is but a conceit ; it raises no idea of refuge or security, for the lake does not suggest shelter, is detached from any large body of water, and yet is in itself but a poor, incon siderable basin, vainly affecting to mimic the majesty of the sea.

When imitative characters in gardening are egregiously defective in any material circumstance, the truth of the others exposes and aggravates the failure. But the art of gardening aspires to more than imitation ; it can create original characters, and give expression to the several scenes superior to any they can receive from illusions. Certain properties, and certain dispositions of the objects of nature, are adapted to excite particular ideas and feelings, and thereby require no discernment, examination, or discussion, but are obvious at a glance, and instantaneously distinguished by our feelings. Beauty alone is not so engaging as this species of character ; the impressions it makes are more transient and less interesting ; for it aims only at delighting the eye, but the other affects our sensibility. An assemblage of the most elegant forms in the happiest situations is to a degree indiscriminate, if they have not been selected and arranged with a design to produce certain expressions ; an air of magnificence or of simplicity, of cheerfulness, tranquillity, or some other general character, ought to pervade the whole scene, and objects pleasing in themselves, if they contradict that character, should therefore be excluded. Those which are only indifferent must sometimes make room for such as are more significant—may occasionally occur in the same plot. Boredom itself may be an acceptable circumstance in a spot dedicated to solitude and melancholy.

DESMAN THEUS. (From desme, a bundle, and anthos, a flower ; in allusion to the clusters of flowers. Nat. ord. Leguminosae.)


DESMODIUM. (Derived from desmos, a bond; in allusion to the united stamens. Nat. ord. Leguminosae.)

Mostly stove shrubs, with blue, purple, or white flowers. Cuttings of young shoots, with a heel of old wood, in a shade house, or in a mixture of fibrous loam, leaf-mould, or peat and sand.

D. adscendens (ascending), Purple. W. Ind.

D. car'teium (carteium). Blue. Brazil.

D. ala'tum (winged). See D. triple'trum.


tuft of leaves, bearing large yellow heads of bloom in panicles. Seeds. Loam and sand.


DEHNHA'MIA SCANDENS. See Cuculca'sia scandens.

DENTATE TIA. See Dicksonia.

DENTA'RIA. (From dens, a tooth ; in allusion to the tooth-like scales on the roots. Nat. ord. Cruciferae. Most of the species are now referred to Cardamine, which see.

D. glandulosa (glandular), 1. Light purple. May, Hungary. 1815.

D. petersian a (Petersian), Near Cardamine pratensis, the general room flexuosa Tropics. (Derived for wood Certain characters the distinguished 1. A RIA. by of r


D. quinquefolia (five-leaved), 1. Purple. May. Tauria, 1824.


DEPA'RIA. (Derived from depas, a cup; in allusion to the shape of the scale covering the spore cases. Nat. ord. Filiiferae.)

Stove fern. For cultivation, see Parnas.

D. Mo'orei (Moore's), 1 to 1½. New Caledonia.

D. proli'fera (proliferous). Sandwich Islands.

DEPRESSIA'RIA. A genus of small monkeys, the caterpillars of which feed on the leaves, flowers, or fruits of the Carrot and Parsnip. They belong to the family Cuculca'sia, and are commonly known as flat-bodied moths, owing to the flattened form of the abdomen.

D. depressila, the Carrot-seed Moth, devours the flowers and seed-pods of the Carrot, but preferably Parsnips, grown for the production of seed, during the months of July and August. When alarmed, the caterpillars let themselves drop down by means of a thread, and advantage may be taken of this to catch and destroy them. Freshly tarred boards or trays may be held under the plants and the latter well shaken, which will cause the caterpillars to drop and be held fast by the tar.

D. Pastorlaca, the Carrot-blossom Moth, lays its eggs on Carrots or Parsnips, and the caterpillars feed on the flowers during July and August. They draw the umbel together with threads and then feed on the flowers and young seeds, in their cases. See D. amabilia. The Carrot-seed Moth will answer equally well in this case.

DERMATO'BOTRY. (From derma, dermato, leather, and botry, a bunch of grapes; apparently in allusion to the leathery leaves, and the bunches of flowers. Nat. ord. Scrophulariaceae.)

A deciduous, warm greenhouse perennial, flowering in winter. Seeds ; cuttings of halfripe wood in sand, in a close case with bottom heat, Fibrous loam, leaf-mould, and sand.

D. Saun'dersii (Saunders's), 1½. Bright red and yellow. Zululand. 1893.

DE'RRIS. (From derris, skin or leather ; in allusion to the leathery character of the seed-pod, which does not open. Nat. ord. Leguminosae.)

Evergreen bush. Trees. Cuttings of ripe wood in sand, in a close case with bottom heat. Loam and peat, both turfy, with sand.

D. albo-r'istra (white-red), White, with brown-red pedicels and calyx, S. E. China. 1904.

D. can'tia (can'tia), 1½. Yellow. May, Himalaya; Malaya. 1824. Twiner.

D. dalbergiros'ia (Dalbergia-like), Burma and Malaya.

D. elat'isica (elliptic), Burma and Malaya.

D. for'dsii (Ford's), 1½. Its flowers. 1824.

D. margi'na'la (margined), 20. White, Himalaya. 1824.

D. scad'ndens (climbing), White. Australia.


canescens (grey), Purple, N. Amer. Hardy.

cult'ur e (eye-lashed), N. Amer, Hardy.


div.'ium (doubtful). See D. floribunda.


ev.'ianum (tortuous), 2 to 3. Violet. India. 1775.

"Telegraph Plant."

fapo'nicum (Japanese). See D. podocarpum Japo-
nicus.


lati'fo'lium (broad-leaved), Purple, Asia and Trop.

Africa.

maryla'nicum (Maryland). N. Amer.

neus (nodding). See D. tili'foliurn.

pendu'lo'rum (pendulous-flowered). See Lepesdeza

Sierboli,

podoca'rpum (stalked-fruited), 2 to 3, Purple, July,

Himalaya.

apo'nicum (Japanese). White, Japan. 1875.

hale'um (pretty), 3. Purple, July, Trop. Asia;

Australia. 1798.

scu'ltum (shield-shaped). Mexico.

Skinne'r a'klo-no'us (white-shining). Purple.

Leaves termina1.

tilia'e'fo'lium (lime-leaved), Lilac. July, August,

Himalaya. 1823. Hardy.

tripe'rum (three-grooved), 10. Purple, July,

Trop. Asia. 1812.


uncu'a'num (hooked). N. and S. Amer.

viri'a'blum (green-flowered), Greenish, United

States, Hardy.

DESMOCUS. (From desmos, a bond and oghos, a

hook, the ribs of the leaves ending in bands at the

point, like tendrils. Nat. ord. Palmaeae [Palmaceae].

Linn. 27-Monocotyle, 6-Hesperide, Allied to Cocos."

Stove Palms. Seeds in a hotbed; sandy loam,

Summer temp., 60° to 84°; winter, 55° to 60°.

D. acula'tus (Prickly), Guatemala. 1852.


diu's (doubtful). 6. Trinidad. 1824.

granate'nis (New Grenada). Colombia. 1875.

la'trifons (broad-leaved), 3. Amer. 1840.

ma'jor (greater). Trinidad.

mi'nor (lesser). W. Ind.

mi'tis (mild). Brazil.

or'gano'nus (straight-spined), 6. Brazil. 1822.

pol'yo'ca'nis (many-spined), 6. Brazil. 1822.

DESMOTRICHUM. See Dendrobiurn.

DEUZIA. (Named after J. Deutz, a sheriff of

Amsterdam. Nat. ord. Syringaceae [Syringaraceae].

Linn. 10-Decandria, 3-Trigynia.)

D. scabra, grown as a dwarf standard, and pruned

like the black currant, or cutting out the shoots after

flowering, would form a great ornament for a border of

select shrubs. It is also a good subject for spring flower-

ing for the conservatory. Hardy deciduous shrubs.

Cuttings under a glass-case, or strong shoots may be

planted in a sheltered place in autumn. They are fine

ornaments to a wall in the early summer months;

common soil.

D. candidissima (whitest). See D. crenata flo're

ple'no.

cruci'ba (corrym-flowering). 5. White, Hima-

layas.


D. flo're-ple'no (double-flowered). White, Japan.

dis'color (two-coloured), China.

D. roseo-plu'rus (purplish), Rose-purple, Yunnan,

China. 1894.

globo'sa (globose). Creamy white, Central China.

1906.
DIANDROLYRA

A perennial densely tufted greenhouse grass. Loam, leaf-mould, and sand. Leaves dark green above, violet-purple beneath. See D. divaricata. 1906.

DIANTHEA

(From dian, to divide, and anthera, an anther; in allusion to the separation of the anthers. Nat. ord. Acanthaceae.) Stove or greenhouse, evergreen herbs. Cuttings of young shoots in spring with a heel, inserted in light sandy soil and placed in a propagating case. Fibrous loam, leaf-mould, and sand.

silis (lustrous). See PORPHYROCAMA LANCEOLATA. 1801.

DIANTHUS

D. alpinus (tufted). See D. REVOLUTA.
c'Ugans (elegant). See D. LEVIS.
enstfolia (crowded). See D. MONTIFRAGUM.

DIANTHUS DES DIANTHIFLORA

See GILLIA DIANTHOIDES.

DIANTHUS

Pink. (From dian, divine, and anthes, a flower. Nat. ord. Clove-worts [Caryophyllaceae]. Linn. 10-Decandria, 2-Digynia.) Seeds, divisions, and cuttings, under a hand-light, in light sandy soil kept in pots, and kept in a cold pot during the winter. See CARNATION, PINK, and SWEET WILLIAM.

HARDY ANNUALS AND BIENNIALS.

D. aggregata (crowded). See D. BARBATUS.

BIENNIALS.

D. albens (white). White. August. 1830.
prolifer (proliferous). See TUNICA PROLIFERA.
velutinus (velvety). See TUNICA VELUTINA.

HARDY PERENNIALS.

D. alpinus (tufted). See D. MONSPESSELAURUS.
Balbi'sii (Balbi's). See D. LIBURNICUS.

DIANTHUS DES DIANTHIFLORA

D. alpes (rock). See D. MONTIFRAGUM.
a'sper (rough-stalked). See D. CHINENSI S.

DIANTHUS DES DIANTHIFLORA

D. alpinus (tufted). See D. REVOLUTA.
c'Ugans (elegant). See D. LLEVIS.
enstfolia (crowded). See D. MONTIFRAGUM.

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D. alpinus (tufted). See D. REVOLUTA.
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D. alpinus (tufted). See D. REVOLUTA.
c'Ugans (elegant). See D. LLEVIS.
enstfolia (crowded). See D. MONTIFRAGUM.
D. giganteus (gigantic), 3. Purple, August, 1824.


D. g. (cold), 4. Purple, June, Transylvania.


D. g. (milky-green), See D. DELTOIDES GLAUCA.

D. g. (granitic), Pink, France.

D. g. (glaucous), See D. CINNAMONUM.

D. g. (hensoniana's (Henson's), 1. Crimson, July.

D. g. (hairy), See D. ARMERIA.

D. g. (yellow), See D. ARMS.

D. g. (FALLEN'S), 1. Red, August, Hungary.

D. g. (pine-leaved), Russian.

D. g. (entire), It D. July.

D. g. (meadow), July.

D. g. (painted), Greece.

D. g. (Greece).

D. g. (Henderson's), 1824.

D. g. (Icelandic), 1. Red, August.

D. g. (Russian).

D. g. (Lehmann's), 1824.

D. g. (entire), 1. Crimson, July.

D. g. (painted), Greece.

D. g. (Henderson's), 1824.

D. g. (Icelandic), 1. Red, August, Hungary.

D. g. (rocky), See ACHAPHELLYUM SINUMOS.

D. g. (suffruticosus) (spiny), See D. PLUMARIAE.

D. g. (garden).

D. g. (gigantic).

D. g. (stiff), Bulgaria.

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plantsing beans, &c., by this instrument, it is useful to have it perforated with holes to receive an iron peg, at two and three inches from the point, as the case may require. It should be shod with iron; for if this be not done, the bright edges would make holes into which the soil will not crumble from the sides. The crumbling is induced by the soil's adhesion to the dibble. For planting potatoes, a dibble with a head three inches in diameter at the point, eight inches long up to the foot-rest, and with a handle four feet long, is to be preferred. For the insertion of seed, a dibble that delivers the seed has been invented by Mr. Smith, and another by Dr. Newington; the last is the best.

**DIBLEMA SAMARE NSE.** See *PITYPODION SAMAENSIS*. 

**DIBRA CHION.** See DOMANLANTHUS.

**DICENTRANTHE RA.** See ASPASIA.

**DICENTRA.** (From *di*, duplication, and *centron*, a spur; in reference to the two spurs of the petal, Nat. ord. Papaveraceae, sub-ord. Fumaraceae.)

*specs* *bilis* is the most brilliant hardy plant added to our collections for many years, but furnishes the most obvious example of the remarkable economy of the sexual function in plants. The flowers of Fumitories never open, and their peculiar construction seems to offer no means for the pollen to escape; but, by a peculiar contrivance connected with the partly-inserted stamens, *D. specs* *bilis* flowers have failed, however, to effect the process artificially with *D. specs* *bilis*. This most beautiful plant was described by Linnaeus from dried specimens, but it was not seen alive by any European until Mr. Fortune found it in gardens in the north of China, and sent it, in 1846, to the London Horticultural Society. It is a spring-flowering, deciduous, herbaceous plant, with large fleshy roots; the stamens are reduced to eighteen inches or two feet, and look like a small-leaved tree-peeony; the flowers are produced on spikes from four to six inches long, and hang down gracefully on one side, requiring rich, light soil, as it is readily increased by dividing the crowns of the roots early in spring, or by cuttings after the plant is in growth. It will find its way, like the China Rose, into every cottage-garden. All hardy herbaceous, and flowering in June; the same culture is applicable to all the species. 


**DICEA.** See DESMODIUM.

**DICHAEA.** (From *dich*., bifarious; in reference to the two-ranked leaf margin.)

Stove, epiphyllous Orchids. See ORCHIDS FOR CULTIVATION.


**DICHILUS.** (From *dis*, two, and *echinos*, a lip; in reference to two divisions of the calyx being longer than the rest. Nat. ord. Leguminous Plants [Leguminosae]. *Linn., 10-Monadelphia, 6-Descarina, Allied to Hygrocoptinae].


**DICHOPONG.** (From *dich*., without, and *pogon*, a beard; literally, beardless, in reference to the glabrous stamens. Nat. ord. Liliaceae.)


**DICHTYSIS.** (Derivation uncertain. Nat. ord. Sapotaceae.)

Stove evergreen tree. Seeds; cuttings in sand in a close case with bottom-heat. Fibrous loam and peat, with a good dish of sand.

*G. guiana* (Gutta). *Malaya, 1847.*


**DICHORISANDRA.** (From *dis*, twice, *chorizo*, to part, and *anther*, an anther; referring to the anthers being bicellular. Nat. ord. *Spiderworts* [Commelinaeae]. *Linn., 1-Hexandra, 1-Monogynia.* Allied to *Campelia.*

*Dr. thyrsiflora* is the handsomest plant of this order, and one of the best stove plants in cultivation, for winter and late summer. It is a native of Peru, under liberal treatment, rise to ten feet, branched all round, and every branch ending in a long spike or thyrse of densely-set, sky-blue flowers. When the flowers begin to expand, a small warm conservatory, where it will last in bloom from six weeks to two months. Stove herbaceous perennials, from Brazil, Division of the plant, when growth is commencing; seeds sow in the October, cut in spring; peat and loam, with sand and leaf-mould. Summer temp., 60° to 80°; winter, 45° to 55°. *D. acasius* (stemless). Violet-blue. Leaves intense green with silvery white lines. *Brazil, 1894.*

5. *dio-margina* *flora* (white-edged). *Brazil, 1866.*


**DICHOSTOMA.** See AGATHOSMA.

**DICEROA.** (From *dis*, two, and *cheros*, colour; the flowers are blue and purple. Nat. ord. Saxifragaceae.)

Greenhouse evergreen shrubs. Cuttings in sand under a bell-glass. Loam, peat, and sand.


**DICHOSTACHYS.** (Derived from *diceros*, two-form, and *stachys*, a spike. Nat. ord. Leguminosae.)

DICHROZEI CHUM. (Derived from dichroos, two-coloured, and thrix, a hair; the hairs on the seeds of some species are of two colours. Nat. ord., Gesner acea.)

Stove shrub. Cuttings in sand in a close case, with bottom heat. Fibrous roots, and peat, with some nodules of charcoal and sand.

D. ternatlan (Ternatean). Crimson, Island of Ternate, 1872.

DICKSONIA. (Named after James Dickson, a British botanist, who studied this, Nat. ord., Ferns [Filices]. Linn. 24-Cryptogramia, 1-Filices.)

Stove and greenhouse ferns, many of them being tree ferns, confined to a single stem, and very stately when of large size. Division of the roots in the case of those species having a branching rootstock; best done when growth is commencing; peat and loam, both fibrous, with sand to insure porosity. Summer temp., 60° to 80°; winter, 48° to 55°.


"antarctica (antarctic). September, N. Holland, 1832.


"Billardiere (Billardière). See D. antarctica.


"cinnamomea (cinnamon). Australia, 1865.

"Culata (Culca). Frond tripinnate. Madeira and Azores.


"Depsa'nes (Deplanche's). Fronds large, tripinnate, New Caledonia, 1876.

"dictyon (dictyon). See D. adiantoids.


"glauco'sa (clammy). E., Ind.

"lanus'a (woolly). See D. antarctica.

"Latham's (Latham's). Supposed hybrid (antarctica X arbore'sens). 1885.


"pu'ncti'loba (dotted-lobed). N. Amer. 1822.

"quercif'ula (oak-crusty). Brazil, 1841.

"scad'nds (climbing). Java.


"squamos'a (scaly). New Zealand.

"squarro sa (spreading). Frond bipinnate. New Zealand, N. S., Wales.

"Youngii (Young's). Frond tripinnate. Australia, 1895.

DICTIPLTERA. (From dixty, twice, and kleo, to shut; referring to the two-celled capsule, or seed-vessel. Nat. ord., Acanthads [Acanthaceae]. Linn. 2-Didieria, 1-Monogynia. Allied to Justicia.)

Annuals, by seed in a hotbed, in spring; perennials by cuttings of side-shoots, or the points of shoots, in sandy soil, in bottom-heat, with a hand-light, not so close as a bell-glass. Loam and peat, and open and fibrous, with a little rotten leaf-mould. Summer temp., 60° to 85°; winter, 48° to 55°.

STOVE ANNUALS.


GREENHOUSE PERENNIALS.


"niederleini'na (Niederleina), Argentina, 1906. Shrubby.


"vericella.ris (woolly-flowered). See Hyphostes verticillaris.

STOVE EVERGREENS, &c.


"pectina.ta (comb-like). See Rurgia parviflora.


"scoprio'des (scorpion-like). See Tetramereum scioioides.

"spino sa (spiny). See Barleria lupilina.

DICYRT BAUERI. See MAXILLARIA CRASSIFOLIA.

DICTA MUNUS. Fraxinella, or Dittany, (Ditcumus, a name adopted from Virgil; Fraxinella, a diminutive of fraxinus, the ash, from the similarity of their leaves. Nat. ord., Ruscus [Rutaceae]. Linn. 10-Deplanacea, 1-Monogynia.)

This is one of the oldest and best border-plants of our cottage-gardens. Instances are known where the Fraxinella has outived father, son, and grandson in the same spot, without increase, all attempts at multiplying it, to give away a rooted slip to a newly-married member of the family, having failed; yet the Fraxinella is easily increased from seeds. Sow, as soon as they are ripe, in the common soil of the border, and cover one inch deep; they will not sprout till the following April. If they are kept over the winter, and sown in the following spring, they will remain twelve months before they sprout; and not one seed out of a hundred sprouts at all. When the seedlings are two years old, transplant them where they are to remain, and they will flower the third season. They prefer a deep, rich border, on a dry bottom, and all flower in June.


"burning Bush."

"tau'ricus (Taurian). 2. Purple.

"anrithus (narrow-leaved). See D. albus.


"Fraxenia'la (Fraxinella). See D. albus purpureus.

DICTANYTHUS. (From dictyon, network, and anthos, a flower; alluding to the markings on the corolla. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. 5-Piendardia, 1-Monogynia.)

Stove climber. For culture, see PASSIFLO'RA.


DICTY MIA ATTENUATA. See POLYPODIUM BROWNII.

DICTYOCO'RYUM. (From dictyon, a net, and karum, a nut. Nat. ord, Paeonaceae.)

Stove Palm. For cultivation, see PALMS.

D. Wallis'sii (Wallis's). Colombia, 1880.

DICTYOGLO'MUM. See ACROSTICHUM CRINUM.

DICTYOGRA'MA JAPONICA. See GYMNOGRAMME JAPONICA.

DICTYO PSIS THUNBERG. See BHEINIA RETICULATA.

DICTYOPTERIS. See POLYPODIUM.
**DICTYOSPERMA.** (From *dictyon*, a net, and *sperma*, a seed; in reference to the netted seeds. Nat. ord. Palmaeace.)

Stove Palms. For culture, see Palms.


*D. fufura'ceum* (scurvy). Leaf-stalks brown, 1842.

*D. raribrum* (red). Leaf-stalks red, 1842.


*DICTYOSPERMA*. (From *dictyon*, a net, and *sperma*, a seed; in reference to the netted seeds. Nat. ord. Palmaeace.)

Stove Palms. For cultivation, see Palms.


"na'num* (dwarf), 1 to 3. Pinkish. Assam and Khasia, 1874.


**DIEFFENBACHIA.** (Named in compliment to Dr. Dieffenbach, a German botanist, Nat. ord. Araceae.)

Handsome, evergreen, stove perennials, grown solely for their beautiful variegated leaves, cuttings of the stems placed in a close case with bottom heat; also by suckers. Loam and peat, with some well-decayed cow manure and sand. When cutting the stems for propagation or other purposes, cultivators should be careful not to place any part in the mouth, as the juice is extremely acid and poisonous, causing the tongue to swell, and the sufferer to lose his power of speaking for some time. This account *D. Seguinii* has been called the Dumb-cane.


"am'bita* (lovely). Leaves bright green, mottled yellow-green. Colombia, 1876.

"ama'na* (Amazonian). Leaves with feathery white band and yellow-white spots, Brazil, 1872.

"am'na* (pleasing). Blotched white and pale yellow. S. Amer., 1903.

"anti'qui'na* (Antioquinian). Leaves blotched yellow. Colombia, 1795.

"baroqui's* (Baraquinian). Rib and leaf-stalk white. Brazil, 1863.

"Bau' sei* (Bause's). See *D. pica*.

"Bowma'ni* (Bowman's). Pale green, blotched dark green. Brazil, 1871.

"brasi'lii* (Brazilian). Leaves mottled greenish-yellow and white, Brazil, 1872.

"Card'eri* (Carder's). Leaves variegated. Colombia, 1885.

"Chel'si'na* (Chelsea). Leaves with yellow-green rib and grey, feathered band. Colombia, 1877.


"de'cre'te* (becoming). Para, 1868.

"de'le'ta* (select). Leaves spotted with white. Colombia, 1880.

"eb'u'nea* (ivyory). Leaves spotted with brown. Brazil, 1860.

"Fourni'er* (Fournier's). Leaves spotted and splashed black and white. 1903.

"gigand'a* (giant). Mottled light green and white. Colombia, 1885.

"gra'nus* (grand). Leaves mottled with green. Brazil, 1864.

"illu'stris* (lustrous). Leaves with yellow-green blotches. Colombia, 1876.

"im'pe'ratio* (commander). Leaves blotched pale yellow and white. Colombia, 1885.

"imperio's* (imperial). Leaves with yellow spots and grey rib. Peru, 1871.

"in'si'gnis* (remarkable). Leaves with pale yellow-green blotches. Colombia, 1885.

"jama'ni* (Jenman's). Leaves with white blotches on yellow-green veins. British Guiana, 1884.

"ker'choveana* (Kercheovan). Leaves with confluent white blotches, 1898.

"Lanc'eola* (Lanceolate). Leaves with a narrow central white band. Colombia, 1876.

"lanc'ifolia* (lace-leaved). Leaves blotched with yellow. Brazil, 1875.

"latimacula's* (broad-blotted). Leaves clouded with yellow-green. Brazil, 1878.

"illu'stris* (lustrous). Leaves blotched with pale green. Brazil, 1876.


"maculo's* (blotted). Leaves with irregular blotches. Colombia, 1876.

DIELYTRA. See Dicentra.

DIERAMA. (From *dierama,* a funnel; in allusion to the funnel-shaped flowers. Nat. ord., Iridiaca.) Beautiful bulbous plants allied to Sparaxis, and may be grown in light soil in front of a south wall, or kept in cold frames for the winter. Seeds, and offsets, Light, sandy soil.


D. *aiba* (white).

DIEVILLA. (Named after M. Dierville, a French surgeon. Nat. ord., Capsifoliis [Capsifoliaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Leycesteria.) Creeping-rooted, hardy shrubs, suckers from the roots; cuttings in the open ground, in autumn; common, moist, shaded garden-soil.

D. *ama-bitis* (lovely), See D. Grandiflora.

D. *canadensis* (Canadian), See D. Lonicera.


D. *ca'ndida* (white), 1879.

D. *monstro'sa* (monstrous), Leaves crisped, often variegated.

D. *variega'ta* (variegated), Leaves variegated.

D. *grandif'o'ra* (large-flowered), 3 to 6. Rose, June, Japan.

D. *grandif'o'ra variega'ta* (variegated), Leaves variegated.

D. *horti'nis* (garden), 3 to 6. Rose. May, Japan.

D. *hyb'rida* (hybrid). A collective name for the garden hybrids.

D. *pulch'er* (Japanese), 3 to 6. Rose, May, Japan.


D. *tri'fida* (three-cut), See D. Lonicera.

D. *versi'color* (change-coloured), See D. Floribunda *f'ersicolor.*

DIETRIA. See Aster.

DIETES COMpresso'SA. See Moraea iridioides.

DIETES HUTo'NII. See Moraea spathacea.

DIGGING with the spade or fork has for its object a loosening of the soil so as to render it more fit for the reception of seeds or plants. Begin at one end of the piece of ground, and with your spade open a trench quite as wide as the space between the spade and the fence, carrying the earth to the end where you finish; then, keeping your face to the opening, proceed to dig one spade deep regularly from one side of the piece to the other, turning the spits neatly into-flowered, and the trench, and the next course against these; and so keep digging straight back, spit and spit, still preserving an open trench, a good spade width and depth, between the dug and undug ground, that you may have full room to give every sp't a clean turn, taking all the spits perpendicularly, and not taking too much before the spade, especially in stiff land, or where the surface is full of weeds, or is much dunged; so giving every sp't a clean turn, the top to the bottom and the bottom to the top, that the seeds or dung on the surface may be buried a due depth, and that the fresh earth may be turned up. As you proceed, break all large clods, and preserve an even surface carrying both sides and middle on equally, unless one side shall be hollow; then carry on the hollow side first in a gradual sweep, inclining the spits of earth rather that way, which will raise that side and reduce the high one, observing the same order in the side opposite to the one so treated, and so dig the spits, or the surface, the hollow and the middle high, always keeping the lower ground advancing gradually before the higher, by which you will always maintain a uniform level.

The same should also be observed in beginning to dig any piece of ground, that if one corner is much lower than another, carry on the lower part somewhat first, in a slanting direction, as far as necessary. Likewise, in finishing any pieces of digging, gradually round upon the lowest side, as to finish at the highest corner; and having dug to where you intend to finish, then use the earth taken out of the first trench to make the last opening equal with the other ground. In plain digging dunger or spitting, if the dung is quite rotten you may dig clean through, giving each spit a clean turn to bury the dung in the bottom of the trench; but if you cannot readily do this, trim the dung a spadeful's width at a time into the back of the trench, and so dig the spits, or the surface upon it, which is rather the most effectual method, whether rotten or long fresh dung.

All weeds that are perennial should be carefully picked out, particularly couch-grass and bear-bait. But annual weeds, groundsel, and the like, should be turned down to the bottom of the trench, where they will rot.

A man will dig, by plain digging of light, free-working, clean ground, up to the fourth, or to where three to six, though in some of the light, clean ground about London, a man will turn up fifteen or twenty rods a day, turn five to seven; but in stiff, stubborn soils, a
man may work hard for six or eight rods in a day of twelve hours. *Teaching,* if only one spade does without the spadeful or spading at bottom, a man will dig almost as much as by plain digging; or two spades' depth, from four to six rods a day may be good work, though in harvest-working ground digging three or four rods per day may be hard work.—(Must.) Most garden soils dig best the day after a fall of rain; and if the soil has in its composition a larger proportion than usual of clay, the operation will be facilitated by digging occasionally the spadeful or spade water. Most gardeners object to digging while snow is upon the ground, and the objection is not mere prejudice, for experience proves the bad result of the practice. The evil is owing to the greater facility of heat required to reduce ice or snow from the solid to the fluid state; and when buried so that the atmospheric heat cannot act directly upon it, the thawing must be very slowly effected, by the abstraction of heat from the soil by which the frozen mass is surrounded. Instances have occurred of frozen soil not being completely thawed at midsummer.

**DIGITILIS.** Foxglove. (From the Latin digitale, a finger-stall; referring to the shape of the flowers. Nat. ord. *Figworts [Scrophulariaceae].* Linn. 14-Didynamia, 2-Angiosperma.)

Sow should be sown in the autumn; when sown in the spring they often remain twelve months before they sprout. Division; and most of them plentifully by seeds; common soil.

**BIENNIALS.**


" d'ou (white), 4. *July. Britain.*


**PERENNIALS.**


*auerea* (golden), See D. LIEVIGATA.

*canariensis* (Canary). See *ISOPLEXIS CANARIENSIS.*

*ciliata* (ciliated), Yellow. Caucasus, 1852.

*crispa* (crisped), Reddish. Hybr., See D. *DILLYNIA.*


*glutinosa* (clamy). See *REHMANSIA CHINENSIS.*

*grandiflora* (large-flowered). See D. AMBIGUA.


*lindeyana* (Lindleyan), Hybrid. 1836.


*miscra* (small-flowered), See D. LUTEA.


*herbosa* (large-nerved-leaved), Yellow. July. Caucasus, 1826.

*nevadae nisii* (Nevadan), See D. *PURPUREA NEVADENSIS.*


**HALF-HARDY EVERGREEN.**

*ochracea* (rusty-red). See D. *AMBIGUA.*


*pala* (stiff), 13. *Yellow.* June. *Sedum* (sceptre). See *ISOPLEXIS SCEPTRUM.*

D. *sibrica* (Siberian), Yellow, red. July. Siberia, 1832.


**DIGLOSSOPHYLLUM SEERUATUM.** See *CHAMELOPS SEERULATA.*

**DILA TIES.** (From dilato, to open wide; referring to the opening of the flower. Nat. ord. *Bloodroots [Hamomo- daceae].* Linn. 3-Triandria, 1-Monogynia. Allied to *Anigozanthos.*)

Greenhouse herbaceous plants, with sword-shaped leaves, from the Cape of Good Hope. Divisions, when sown in a slight hotbed, in March or April; sandy loam and peat. Summer temp., 5° to 75°; winter, 20° to 45°.


*Heritiera* (Rosewood), See *LACHNANTHES TINCTORIA.*

" paniculata* (panicked-flowered), 1. *Blue.* June, 1825.

*viscosa* (clammy), 2. *Blue.* 1795.

**DILL.** (Ancatham graveolens.) Its leaves and umbels are used in pickling, and the former in soups and sauces.

Soil.—It may be cultivated in any open situation; but if for seed, a sheltered place, and rather dry soil is better.

Sowing.—Sow immediately the seed is ripe, for if kept out of the ground until the spring it is often incapable of germinating. If neglected until the spring, sow from the close of February until the commencement of May. Sow in drills a foot apart, the plants to remain where sown. When of three or four weeks' growth thin them to about ten inches apart. The leaves are fit for gathering as weeded, and the umbels about July and August, in September their seed ripens, when it must be immediately cut, and spread on a cloth to dry, being very apt to be shed.

**DILLENIA.** (After Dillenius, once professor of botany at Oxford. Nat. ord. *Dilleniads [Dilleniaceae].* Linn. 13-Polyandria, 6-Polygynia.)

*D. indica* is a valuable timber-tree, with leaves after the manner of Magnoliads. Stove trees, Cuttings of ripe wood in sand under a glass, in bottom-heat, in April; sandy loam. Summer temp., 60° to 85°; winter, 45° to 60°.

*D. dentata* (toothed). See *WORMIA TRIOQUETA.*

*i'inda* (Indian), 30. *White.* Yellow, tropical Asia, 1800.

*penta'gyne* (5-styled), 15. *Yellow.* E. Indies, 1803.


*scabrellia* (slightly rough), 10. *Yellow.* Himalayas, 1820.

*scen'ndens* (climbing). See *HIBBERTIA VOLUBILIS.*

*specio'sa* (showy). See D. *INDICA.*


Greenhouse evergreens, with yellow or orange-coloured flowers, from Australia. Cuttings of firm side-shoots in March or April, in sand, under a bell-glass; seeds in peaty soil, in a slight hotbed, in March; sandy peat two parts, fibrous loam one part, with a little silver sand, and pieces of charcoal. Summer temp., 55° to 75°; winter, 40° to 88°.

*D. acicularis* (needle-leaved), See D. *CINERASCENS.*

" clava'ta* (club-shaped), See D. *FLORINUDA.*

*Drummon'dii* (Drummond's). Yellow. 1883.


*breviflora* (short-leaved), 2. *April.* 1824.


*tereflora* (round-leaved), 2. *May.*

*glabra'rima* (smooth), See D. *ERICIFOLIA.*
D. glycinifo'lia (glycine-leaved). See CHORIZEMA

D. gynobry'a (gynobrya), See CHORIZEMA


D. koo'va (kobuva). See EUTAXIA MYRTIFOLIA.

D. lap'rus (larpus). See D. koryciosi.

D. phyllo'ides (Phyllic-like). See D. ericifolia.

D. phy'ngena (pungent). June, 1822.

D. r'ula (rustic). See D. floribunda.

D. se'bra (rough). See D. hovidiva.

D. sere'ia (silly). See D. floribunda.

D. speci'al'sa (showy). See D. ericifolia.

D. teuf'olfia (fine-leaved). See D. ericifolia.

DIL'BA CERU'LEO-CEPHAL'FA. Figure-of-Eight Moth or Blue-head Caterpillar. The eggs of this moth are laid on the stems and branches of Apple and Plum trees in September, and the caterpillars hatch out when the trees are coming into leaf. They are green or smoky green, with a small blue head. They feed on the leaves, and are full grown about the middle of June. Being of large size they may be shaken from the trees and destroyed. The moths may also be caught by means of a lamp at night during November. The lamp having a temporary roof of tarred boards placed over it.

DIMA CRIA. (One of seventeen sections into which the genus Pelargonium has been split. From di, twice, and makros, long; referring to the two lower stamens being twice the length of the other three. Nat. ord. Geraniaceae.) (Hoaracca is now the accepted name of the section.)

There are about twenty species included under this head, all little botanical things, with fleshy or tuberous roots. Generally they are grown in sandy peat; they live much longer, however, confined in small pots in equal quantities of peat, loam, and pounded brick, well drained.

DIMOCAR'PFUS. See NEPHELIUM.

DIMOR'PHA. See ERPERRA.

DIMORPHA'THUS. See EROGONIUM.

DIMOR'PHONTHE'CA. (From di, duplication, morphē, form, and lēke, a capsule; in allusion to the two forms of achenes or seeds. Annual or shrubby perennials, requiring the protection of a greenhouse in winter. The annuals may be sown in heat and planted out in May, or sown in the open border in heat, and seedlings by cuttings in heat, when sufficiently strong young shoots are obtainable in spring. Fibrous loam, a little leaf-mould and sand.

D. a'nnua (annual), See D. PLUVIALIS.

D. aur'antic'aca (orange). Orange, with a black centre. S. Africa, 1774.

D. Bar'bé'ria (Mrs. Barber's), Purple, S. Africa, 1862.

D. 'ro'sa (rosy). Rose, bronze, Transvaal, 1908.

D. c'yanhymenio'lis (Cyanhymenium-leaved). Yellow. April, S. Africa, 1790.


D. Ech'kolos (Ekcl'son). White, purple-bluish, S. Africa, 1897.

D. fru'ca'sa (fruits). White, purplish, S. Africa, 1887.

D. gra'minio'lia (grass-leaved). See D. NUDICAULIS GRAMINIFOLIA.


D. nud'i'caul'sus (naked-stemmed). White, purple, S. Africa, 1871.

D. gra'minio'lia (grass-leaved). Leaves narrowly linear.


D. Pervar'i'la (pervaria), White, purple, S. Africa, 1863. Annual.


DINE'TUS. See PORANA.

DIOECIOUS. Two-haired; applied to any species having the female and male flowers in separate flowers on separate plants.

DIOMEDEA. (After Diomedes, a classical name. Nat. ord. Composites [Composite]. Linn, 19-Syngenesis, 2-Superflua.)

DIOMNE'GA. Genus of greenhouse evergreens is now united to Borrhicia. They have all yellow flowers.


This is Borrhicia argentea.


D. chla'rustra (claviflora). Sees D. aethiops.

D. glabra'T (smooth). 3. June, S. Amer. 1699. This is Borrhicia arborescens.

DION'ZEA. Venus' Fly-trap. (After Dion, one of the names of Venus, Nat. ord. Sundews [Droseraceae]. Linn, 10-Decandria, 1-Monogynia.)

Notwithstanding all the fables about this plant, it is one of extreme interest to horticulturists, owing as much to the care and skill necessary for its management, as to the irritability displayed by the three bristles on the blade of the leaves. They are so situated that an insect cannot pass along, or alight on the part, without touching one of the bristles and thus bending in such a way as to give the signal, on the hands clasped together, and enclose the insect with a firmness beyond its strength to escape. Greenhouse evergreen. Division of the plant; seeds at time of flowering. A fine currant-like in damp moss, will sometimes emit a young plant at its margin; peat earth, with a little sphagnum, moss, and bits of potsherds broken small. The pot is set in a pan, stuffed round, now with that, with clear moss, and the pan filled with water; a bell-glass is placed over the plant, but kept from going close down all round. Summer temp., 60° to 85°; winter, 50° to 60°.


DION. (From di, two, and oon, an egg; referring to the two-lobed scales which compose the large cones of the Cycas, bearing a large nut-like seed at the bottom of each scale; otherwise from seeds being borne in twos. Nat. ord. Cycads [Cycadaceae]. Linn, 22-Dioecia, 11-Dodecandria, Allied to Cycas revoluta.)

A fine palm-like in damp moss, will sometimes emit a young plant at its margin; peat earth, with a little sphagnum, moss, and bits of potsherds broken small. The pot is set in a pan, stuffed round, now with that, with clear moss, and the pan filled with water; a bell-glass is placed over the plant, but kept from going close down all round. Summer temp., 60° to 85°; winter, 50° to 60°.

D. edul'e (eatable-seeded). 2. April, Mexico. 1844.

D. imbru'ma (imbricate). See D. edule.

D. lan'gynin sum (woolly). Cones more woolly, 1839.


W:

Stove, green-flowered, tuberculous-rooted plants, used as potatoes, or ornamental stove climbers. Dividing the tubers; light, rich soil. Summer temp., 60° to 80°; winter, 50° to 55°.

2. acu'al'sa (pointed-shouldered), 10. E. Ind. 1803.

D. a'la (wing-stalked), 15. India. 1739.

D. an'to'chlo'sa (Anchochlois), Leaves banded with copper and bronze. S. Amer. 1865.

D. arg'e'ta (argentea), Colombia.

D. Be'ta'tas (Batatas). See D. parviflora.

D. de'a co'linea (Decaisnea), See D. decaisnea.

D. brasili'e'na (Brazilian). S. Brazil, 1823.


D. car'dac'ca (carracca), Leaves in whorls of 3 to 5. Caucasian. 1804. Hardy.

D. cinnamomi'folia (cinnamon-leaved). See RABINA SBSILAEI.


D. de'a co'linea (Decaisnea). China. 1862. Hardy.

D. di'zolor (two-coloured). S. Amer.

D.\_erigia\_uniflora\_longi\_stipitis\_longi\_fructis\_at\_this\_time\_Englishmen\_have\_developed\_among\_the\_British\_islands\_or\_in\_the\_mediterranean\_region\_for\_ornamental\_purposes.

**Diospyros**

This genus includes many species of trees and shrubs, many of which are of ornamental value. They are generally deciduous, with smooth or peeling bark, and have alternate or opposite leaves, usually compound or simple, and usually pointed or oval in shape. The flowers are small, white or pink, and the fruit is a large, smooth, edible stone, sometimes with a sweet or bitter taste.

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D. hispida (hairy), 20. Ceylon, 1820.
D. lovata (white-black), Mascarene Islands. 1831.
D. lycois des (Lycium-like). See ROYENA FALLENS.
D. maba (No-berry), Australia.
D. Mabo (Mabola). See D. DIELCLO.
D. melanoxyron (black-wooded). See D. EBENUM.
D. obouve (reversed-egg-leaved). See D. TETRASPERMA.
D. Sapo'ta (Sapota). See D. EBENUM.
D. syloste'va (four-seeded). 15. White, green.
D. tomentos'ia (felted). India.

DIOSTEA JUNCEA is, properly, Baliaison juncea, with small lilac flowers. It is a small bush or tree from Chili, Nat. ord. Verbenaceae.

DIPCA'DL. (Etymology doubtful, Nat. ord. Liliacae.) Hardy and half-hardy bulbs, Offsets and seeds, Light soil, leaf-mould, and sand.


DIPLE'ITA. (From di, duplication, and ped'a, a shield; literally, twin shield, in allusion to the opposite bracts, Nat. ord. Caprifoliacae.) Handsome, hardy, deciduous shrubs, closely allied to Dierviera. Cuttings of young shoots inserted in the open border or in a cold frame in autumn. Ordinary garden soil.


DIPHA'CA COCHINCHINE'NIS. See ORMOCARPUM SENOIDEIS.

DIPHYLLEIA. (From di, two, and phyllon, a leaf; the leaves produced in two, Nat. ord. Berberidaceae. Linn. 6-Hexandria, 1-Monogynia. Allied to Jeffersonia.) A pretty, hardy, herbaceous plant, best treated as an alpine plant, or on the shady side of a rock-work; divisions; rich, light soil.


DIPHY'SA. (From di, two, and phusa, a bladder; referring to the seed-pods being produced in two, and bladder-like, as in Sutherlandia, to which it is nearly allied, Nat. ord. Leguminosae. Linn. 17-Diadelphas, 4-Decondria.) Stove evergreen. Cuttings of young shoots, a little firm at the base, in sand, under a glass, and in a mild bottom-heat; sandy loam and fibrous peat. Summer temp., 60° to 85°; winter, 50° to 55°.


DIP'IDAX. (From di, two, and pidax, a spring. Nat. ord. Liliacae.) Half-hardy or greenhouse bulbs. Offsets. Ordinary soil in summer, but the protection of a heated pit in winter.


DIPLO'CUS. See MIMULUS.

D. cuneatafo'lium (tailed), Isle of Luzon.

D. coarctfo'lium (close-clustered), Brazil, 1841.

D. decussfo'lium (cross-fronted), 2. June, E. Ind.

D. deflexfo'lium (turned-down), Malacca.

D. s'benu'm (black), Isle of Luzon.

D. elegans (elegant), July.

D. escutio'num (eatable), 3. E. Ind. 1822.

D. exstio'num (lengthened), Malacca.

D. frondio'num (frondose), August, E. Ind.

D. glabretrio'num (smoothest), Java, 1862.

D. glaunadfo'lium (large-leaved), 4. August, Jamaica, 1810.

D. integrafo'lium (entire-leaved), June, Java.

D. juglandifolfo'lium (walnut-leaved), 3. August, Jamaica, 1812.

D. Kazi'thi (Katzter's), Malaya.

D. malacalfo'num (Malabar), 8. E. Ind. 1818.

D. ovii'a (egg-shaped), April. Isle of Leyte.


D. porro'Oulfo'num (stretched-out), Malacca.

D. profu'sum (profuse), 1850.

D. Pulling'rei (Pullinger's), Hong-Kong, 1875.

D. Schkuhr's (Schkuhr's), July, Java.

D. serampuro'num (Serampore), 3. August, Serampore, 1820.

D. Sheph'rei (Shepherd's), Brazil, 1822.

D. siro'ti'num (streaked), 1. August. W. Ind. 1793.

D. syodo'num (wood), E. Ind.


D. Twaiate'sii (Twaites's). Ceylon.

D. undulo'sum (wavy), August.

D. villus'tiz'lia (Vittaria-like), July, Isle of Java.

D. Wall's chi (Wallich's). April. E. Ind.

DIPLOCHITA. See Miconia.

DIPLOCHITA TA SWARTZIA'N. See Miconia Fothergilla.

DIPLOCOM'A VILLO'SA. See Heterotheca inclouides.

DIPLOGLOTHIA. (From diploos, double, and glotta, a tongue; in allusion to the form of the petals. Nat. ord. Asclepiadaceae.)


DIPLOGLOTTIS. (From diploos, double, and glotta, a tongue; in allusion to the two tongue-like scales on the petals. Nat. ord. Sapindaceae.)

A greenhouse tree, with its foliage covered beneath with a rusty felt, Seeds, when obtainable; cuttings in sand, in a close case. Fibrous loam, a little peat and sand.

D. austra'lis (southern), See D. Cunninhamii, 'Cunningha'mis (Cunningham's)., 20. Green, May. N.E. Australia. 1825.

DIPLOLE'NA. (From diploos, double, and lana, a cloak; referring to the coating of the ripe fruit splitting into two divisions, as is general in this section of Rhamnaceae (Rutaceae). Linn. 10-12. Concorde, 1-Monegenia. Allied to Cornea.)

Greenhouse evergreens, from Swan River, with cream-coloured flowers. Cuttings of young shoots getting firm; peat, and a very little fibrous loam. Summer temp., 50° to 75°; winter, 40° to 45°.

D. anguisflora (narrow-leaved), May.

D. Dampier's (Dampier's). 4. April. 1837.


DIPLOPA'FUSS. (From diploos, double, and pappos, a plume; referring to the feathery ornaments called pappos, as in the Dandelion. Nat. ord. Compositae [Composita]. Linn. 10-20-Syngenesia, 2-Supertes. Now referred to Aster.)

All by cuttings under a hand or bell-glass; sandy loam;

they require the protection of a cold pit in winter.

D. aster fo'lius, linariafo'lius, obsubia'tus, plumofo'lius, and rigidofo'lius have recently been added to this genus. See Astar.

D. candens (hoary). See Aster canescens.

D. chrysofo'lius (golden-leaved). See Cassinia ful'vis.

D. inca'num (hoary-barked). See Aster canescens.

D. linariafo'lius (Linaria-leaved). See Aster linari'folius.

DIPLOPE LITIS. (From diploos, double, and pelle, a shield; referring to a double appendage attached to the inside of the petals. Nat. ord. Soapworts [Sapindaceae]. Linn. 43-25.)

Greenhouse evergreen. Cuttings of young shoots in sandy soil, under a glass, in April; peat and loam. Summer temp., 50° to 75°; winter, 40° to 45°.


DIPLO SIS PY'RI'ORA. The Pear Gatn Midge sometimes does a deal of harm by laying its eggs in numbers in very young pears, which become unequally swollen and drop off the trees while still quite small. The grubs are yellowish-white, and may be looked for at the end of May and in June. The maggots are very lively, and jump about if a fruit containing them is cut open. When they are discovered to be present all infested fruits should be gathered and burned to destroy the maggots. The trees should also be shaken to cause the infested fruit to fall, and all such should be gathered. The application of half a ton of kainit per acre, in late summer, has also been found beneficial in destroying the pupae in the soil.

DIPLOSPORA. (From diploos, double, and spora, a spore; in allusion to the two-celled fruit. Nat. ord. Rubiaceae.)

Greenhouse evergreen shrub. Cuttings of half-ripe wood in sand in a gentle heat. Fibrous loam, some peat, and leaf-mould with sand.


DIPLOTA XIS. (From diploos, double, and taxis, arrangement; the seeds are in two rows. Nat. ord. Cruciferae.)

Hardy annual. Seeds in the garden in April.


DIPLOTHE MUM. (From diploos, double, and thema, a sheath; referring to the spathe, or sheath, out of which issues the flower-stem of Palms, Arums, &c. Nat. ord. Palms [Palmaeae]. Linn. 21-Menocna, 9-Enneandria. Allied to Cornea.)

Those who cannot afford head-room for the giants of this noble race have here four dwarf species to represent the order. Stove Palms, Seeds; rich, fibrous loam. Summer temp., 60° to 90°; winter, 50° to 60°.


DIPLOCO'SJA. (From diploos, double, and kos, a sheep's skin; in allusion to the double calyx. Nat. ord. Ericaceae.)


D. d'iscolor (two-coloured). White, pink. Himalaya.

DIPLO DIUM. (From ai, duplication, and poua, a foot; in allusion to two appendages at the base of the lip. Nat. ord. Orchidaceae.)

Showy stove Orchids. See Orchids for CultiVATION.

D. paludosu'm (marshy). White, with purple spots and lines. Malaya. 1888.


D. **DIPOSI**. (From di, duplication, and posis, a husband; in allusion to the two male flowers on each branch of the umbel. Nat. ord. Umbelliferae.) Half-hardy, tuberous-rooted perennial. The tubers should be lifted and protected in winter.


**DISPACOZIA MEXI**. See **CERATOGNIMA**.

**DISPACUS**. Teasel. (From dispas, to thirst; referring to the cavity formed by the leaves clasping the stem holding water. Nat. ord. **Tussilaginaceae**. Linn. 4-Tetrandria, 1-Monogyonia. Allied to Scabious.)

The only plant in this genus worthy of any remark is *D. Fullo nium,* used by fullers in dressing cloth. For the cultivation of this plant, and the use of the heads by the fuller, see **Cottage Gardener**, v. 83. Hardy biennials. Seeds; common soil.

* D. a' sper (rough). Himalaya, 2. aden (dark-purple). Korea, China.


* Gmelinii (Gmelin's). See D. stragiosus.


* japo' nicus (Japanese). China and Japan.


* sticti (upright). Himalaya.


**DITPERCA**. (From di, double or two; and pteron, a wing. See *Disperis*.) The form has two wings. Nat. ord. Sapindaceae. Hardy tree, allied to the Maple. Seeds and layers. Ordinary soil.

* D. sim'ensis (Chinese). Leaves pinnate, Central China. 1903.

**DIPTERXY**. Tonquin Bean. (From dis, double, and pteron, a wing; referring to the two upper segments of the calyx. Nat. ord. Leguminous Plants (Leguminosae). Linn. 17-Diaphylia, 4-Decandra, Allied to Dalbergia.)

The Tonga, or Tonquin Bean, and the snuff-makers, is the seed of this tree: hence the specific name. Stove evergreen tree. Cuttings in sand, under a glass, in moist heat, in April; rich, rough loam. Summer temp. 60° to 85°; winter, 50° to 55°.


* , Sara'pia (Serapia).

**DI'ROCA.** Leather-wood. (From dirke, a fountain; the plant growing in moist places. Nat. ord. Daphnidae [Thymelaeaceae]. Linn. 8-Oxandria, 1-Monogyonia. Allied to Daphne.)

Hardy deciduous shrub. Layers in autumn; seeds in spring; sandy, peaty soil, and moist situation.


**DIRCE'A.** See **GESNERA**.

**DISA.** (Probably the native name. A genus of curious ground-orchids, natives of the Cape of Good Hope. Perhaps the most splendid is *D. grandiflora*, a native of the top of Table Mountain, behind Cape Town, growing in a spongy kind of peat earth, on the margin of pools, in the wet season. Greenhouse terrestrial orchids. Division: peat and loam, with a portion of sand. Summer temp. 60° to 80°; winter, 45° to 55°.


* Coop'eri (Cooper's). Rosy-carmine; lip yellow. S. Africa. 1852.


* eque'stris (equestrian). 1. Pale violet, white, red. Rhodesia. 1907.


* flexu'sos (zigzag). 4. 1823.


* lacera (parrot-like). Yellow, purple, green, white. Africa. S. Africa. 1879.


* manu'vitha (large-flowered). Rose, spotted yellow. S. Africa. 1880.


* mega'ceas (large-horned). Whitish, spotted purple.

* 1880.

* mult'i fia (much cut). Lip fringed.


* polygon'o des (Polygonum-like). 1 to 2. Brick-red.

* prasina' ta (leek-green-flowered). See D. Cernua.


* ro'sa (rosy). Rose. S. Africa. 1793.

* rupe'scens (reddish). Reddish-purple. S. Africa.


* secu'nda (one-sided). See D. Racemosa.


* uniflo'ra (one-flowered). Scarlet. S. Africa.

**DIS'A'NDA PROS'TRA'TA.** See **STREPHORA PER-GRINA.**

**DISBUDDING** is the removal, soon after they have burst into leaves, of such buds as, if allowed to grow into shoots, would be misplaced or superfluous. Thus, buds protruded directly in the front of branches trained against walls, or fore-right shoots, as they are correctly termed, and buds that would produce shoots in places already sufficiently filled with branches, may be removed, or disbudded. The object is to strengthen the desirably placed buds by thus confining them to the expenditure of sap. There is no better mode of aiding a weakly plant to a more vigorous and robust growth than judicious disbudding. But an ever-rebus (round) and super-luxuriant tree had better be allowed to exhaust itself by a more profuse development of leaf-buds. By judicious disbudding, which should always be performed gradually, any winter pruning is almost rendered unnecessary, and in all instances is diminished.

**DISCARI**. (From disks, a disk; having a large fleshy disk. Nat. ord. *Rhamnaceae*. Linn. 4-Tetrandria, 1-Monogyonia. Allied to Colletia.) Greenhouse evergreen or half-hardy shrubs, that succeed on walls in mild districts. Cuttings of half-ripe shoots in sand, under a glass, in April, kept rather close
DISCHIDIA. (From dis, twice, and schizo, to split; referring to an obscure process in the construction of the flower, see Aculeptidae.) Linne, 5-Pentandria, 1-Monogynia. Nearly related to Stephanos and Hoya.)

Stove evergreen trailers, with white flowers. Cuttings in sand in a hothouse will live through the winter; sand, loam, Summer, temp., 60° to 80°; winter, 45° to 55°. *D. bengalensis* (Bengal). 14. September. India. 1819.


*ovata* (egg-shaped). New Guinea.

*radicans* (Rafinesque). Yellowish. Trop. Asia; Australia.

DISCHIDIA. (From dis, twice, and schizo, to cut; the calyx is two parted. Nat. ord. Selaginaceae.)


DISEASES. The morbid affections to which the vegetable part of the creation is liable are almost as numerous as those which render decrepitude and destroy the animal tribes. The smut which ravages our corn crops; the mildew which destroys our peas; the curl infecting our potatoes; the ambury, or club root, to which our turnips and other species of cabbageworts are liable; the shanking, or ulceration, which attacks the stalks of our grapes, are only a few of the most commonly observed diseases to which the plants we cultivate are liable.

Disease is the negation of health; and as the health of a plant is the correct performance of its functions, disease may be defined to be an incorrect performance of the functions, due to the injurious effect of the parasitic fungus.

Such incorrectness arises from the vital energy declining in consequence of old age; from parasites, from wounds; from food improper either in quality or quantity; and from unfavourable temperature. If all these could be avoided, a plant might enjoy a vigorous immortality. Such, however, is not the lot of any organised being, and we note them chiefly to remind the gardener, that in proportion as he can save any plant from such unfavourable circumstances, will it enjoy health, and length of vigorous life.

DISPERMA. (From di, double, and sperma, a crown; referring to the double coroaet, or cays. Nat. ord. Passifloraeae.) Macho, 1 Monadelphus, 2-Pentandria. Now referred to Passiflora.)

*adiantifolia* (Adiantum-leaved), See PASSIFLORA GLABRA.

*aurantia* (Orange). See PASSIFLORA RAURENTIA.

*herbertiana* (Herbert's). See PASSIFLORA HERBERTIANA.

DISOCACTUS BIFORMIS. See Phyllocactus bi-

DISPERIS. (From di, double, and pera, a pouch; from the form of the periant's outer segments. Nat. ord. Orchidaceae.) A genus of ground, or terrestrial orchids, natives of the Cape of Good Hope. Division; peat and loam, with a little coal-hearth charcoal. Summer temp., 60° to 80°; winter, 45° to 50°. *D. capea* (Cape). 1. Scarlet. July. 1816.


D'ESPORUS. (From di, double, and sporos, a seed; most species have only two ovules or young seeds in each cell, D. *serrata* (serrate-leaved). Linne, 6-Hexandria, 1-Monogynia. Allied to Uvularia.)

Half-hardy herbaceous plants. Division of the roots in spring; also by seeds, sown under glass, in April; peat and loam, most of the first; require a cold pit in winter. *D. fulvum* (tawny-flowered). See D. FULLUM.


*leschenaultiana* sum (Leschenaultian). White. N. Ind.; Ceylon.

diflorum, 1875.


*serratic (stallkless). Japan. 1881.

*variegatum (variegated). Leaves edged with white."

DISTIS. (From disos, double; in allusion to the two forms of anthers. Nat. ord. Melastomataceae.)


*plumosa* (plummy). W. Africa.


DISTegov NTHUS. (From distegos, two-storied, and anthos, a flower. Nat. ord. Bromeliaceae; Allied to Cypripedium.)

Moist and semi-forested, requiring treatment similar to Echmea and Cypripedium. *D. basilaris* (side-scaled). Guiana.

DISTIACA. Anthus. (Apparently a corruption of the previous name. Nat. ord. Bromeliaceae.)

Stove perennial requiring treatment similar to Cryptanthus.


DISTICTIS. (From di, meaning two, and stiktos, spotted; in allusion to the spots on the corolla. Nat. ord. Bignoniaceae.)


DISTILUM. (From di, two or double, and stiliis, a style; the flower has two styles. Nat. ord. Hamamelidaceae.)

A hardy shrub related to Hamamelis, but having no petals. Layers, cuttings of the roots and seeds. Ordinary garden soil.


DITTANY. Dicta'num.

DITTANY OF AMORGOS. Ori'ganum Tournefortii.

DITTANY OF CRETE. Ori'ganum Dicta'num.
DI'TULA ANGUSTIORA'NA. Apricot Moth. As soon in May as one of the leaves of a Peach, Nectarine, or Apricot is seen rolled up, destroy the little caterpillar within; or roll them up, with peat. The eggs of the moth from which that caterpillar came continue to hatch for several weeks. The moth is the Narrow-winged Red Bar, *Dita angustiora'na*. The caterpillars appear near the end of May; and June; they are about half an inch long, are pale yellowish-green, and with the head brownish-yellow. A few bristles are scattered over the body. It is a very active caterpillar, wriggling about in most places. Several species are disturbed, crawling with equal facility backwards and forwards, and letting itself down by a single thread from its mouth. It passes into the state of a brown, shining chrysalis, rolled up in the same manner, and emerges this way. The moth is very small, not longer than a quarter of an inch. The fore-wings are reddish-brown, in bands of various degrees of darkness. The hind-wings are dusky. It deposits its eggs, probably, upon the branches, where they remain all winter, and the caterpillars are most frequently found upon the Apricot, but attack most trees, and sometimes damage grapes in vineyards.

DITU'NS. (From *dii*, two or double, and *oua*, a tail; referring to the two long-tailed sepalas. Nat. ord. Orchidaceae.)

Terrestrial Orchids of an ornamental character, recalling some of the Iriseae. Offsets or imported roots. Fibrous loam and peat, in equal proportions, with sand. Some of them like a little shade when making their growth and flowering.

*D. a'ba* (white). White, rose, and purple. August. Australia. 1875.

curvo'flora (curved-leaved). See *D. maculata*.

elonga'la (elongated). See *D. punctata*.

*Hilaci'na* (ilacil). See *D. punctata*.


magna'ta (spotted). Yellow, spotted with purple or brown. Australia. 1825.

*pa'ra* na (leopard-spotted). See *D. maculata*.

*puncta'la* (dotted). Blush-purple, finely spotted. Australia.

DI'ZYGOTHE'CA. (From *dizygos*, double, or yoked to two abreast, and *theca*, a seed vessel. Nat. ord. Araliaceae.)

Ornamental stover plants; grown for many years under the name of *Aralia lep'hotyilla*. See *Aralia for Cul'tural Treatment*.


*Nilso'ni* (Nilson's). Pacific Islands.

*Rose*a (Queen's). New Caledonia. 1879.

DODDER. *Cuscu'la*.


D. *Clave'a* (cleaved) (Cleveland's), r to 14. Violet-blue, yellow black. California. 1850.

*eliptic*um (elliptic). Light purple. April. 1829.


*in'griso* (entire-leaved) of Bentham. See *D. ellipticum*.

*in'gris'io* (entire-leaved) of Hooker. See *D. med'ia*.

*Jef'frey* (Jeffrey's). Purple, yellow, brown. California. 1865.

*al'pini*um (alpine). April. 1888.

*ap'ri'coid*um (almond-like). Hybrid between *D. ellipticum* and *Jefrey* 1869.


*Me'sia* (Mary). White. May. 1824.

*e'legans* (elegant). May. 1827.


*lancio'fous* (lance-leaved). See *D. Jef'frey*.

*spie* (sphe) (splendid). Pink, orange. 1883.

**DOLICHOS.** (From *doli*os, deceiving; the plants resemble Salisala, belonging to a different family. Nat. ord. Convol'vulaceae.)

Greenhouse herbs or subshrubby plants. Cuttings in sand under a bell-glass. Sandy loam and a little leaf mould, or peat.


DOLIC'HANDRA. (From *dolichos*, long, and an*er*, a stamen; referring to the long stamens. Nat. ord. Bignoniacae.)

Greenhouse plant climbing by means of tendrils like Bignonia, which see for treatment.


DOLICHAND'ROME. (From *dolichos*, long, and *andron*, a house for men; in allusion to the long tube of the corolla resembling the stamens. Nat. ord. Bignoniacae.)

Stove trees. Seeds; cuttings of young wood getting firm at the base, in sand, placed in a close case, with bottom-heat. Fibrous loam, peat, and a little sand.


DOLICHODE'TRA TUBIFLORA. See *ACHINENES TUBIFLORA*.

DOL'ICHOS. (From *dolichos*, long; referring to the twining shoots. Nat. ord. Leguminous Plants [Legumi-noses. Linn. 17, Diadephia. 4-Desindra. Includes Lablab.]

Generally weedy-looking things; *D. Lablab* is the one most favoured by gardeners. Seeds for all; cuttings of perennial species in sand, under glass, the stone cress requiring a little extra heat. The treatment common to the greenhouse and plant stove will suit them. All the flowering species are twiners.

*D. aci'ni'co'rus* (smilir-shaped). See *Cana'vallia en'formis*.

*bengal'e* (Bengalese). See *D. Lablab*.


*cap'itul'a* (cap-like). See *Vigna capen'sis*.

*emargina'tus* (notched). See *Cana'vallia ou'tus'ip'oi'lia*.

*gladi'us* (sword-like). See *Cana'vallia ensiformis*.

*hirsu'us* (hairy). See *Pueraria trus'sin'ber'giana*.


*lin'u'sus* (woodly). See *D. Lablab*.


*ul'te'olum* (yellow). See *Vigna gla'bra*.

*obtusifo'lius* (blunt-leaved). See *Cana'vallia ou'tus'ip'oi'lia*.

*poly'stach'yo's* (many-spiked). See *Phaseolus per'ennis*.


*pue'becens* (downy). S. Amer.

*purpu'reus* (purple). See *D. Lablab*.

*ro'sus* (rosy). See *Cana'vallia ou'tus'ip'oi'lia*.

*sequi* (foot-and-half). See *Cana'vallia cat'j a*.


*sinen'sis* (Chinese). See *Vigna sinen'sis*.

*So'ja* (Soja). See *Glycine Soja*.

*sudana'nis* (Sudanesian). Appears a form of *D. Lablab*.

*tranchab'er'ru's* (Tranquebar). See *Vigna cat'j a*.

*truchiflux*a (Tranquebar). See *Vigna cat'j a*.
DOLIOCARPUS. (From dolos, deceitful, and karpos, a fruit; in reference to the juice being used as rouge. Nat. ord. Dilleniads [Dilleniaceae]. Linn. 13-Polyandra, 1-Monogynia. Allied to Delima.)

Stowe evergreen clumper. Cuttings of young firm shoots in sand, under glass, and in bottom heat; very hard, and only a little silver sand. Summer temp., 60° to 85°; winter, 50° to 55°. D. Cali‘nea (Calinea), 10. Yellow, Guiana. 1822.

DOMBEYA. (Named after J. Dombey, a French botanist, Nat. ord. Sterculiaceae [Sterculiaceae]. Linn. 16-Monomelaphia, 7-Didaceandra. Includes Astrapaea.)

Stowe evergreen shrub. Cuttings of young shoots, getting firm, in sand, under a glass, and in bottom heat, in April; sandy loam and turf, peat, Summer temp., 60° to 85°; winter, 60° to 55°. D. acuta (acute-angled), 16. Red, Mascarene Islands. 1820.


Cayesii (Cayes’), Garden hybrid (D. Mastersii X D. Wallischii). 1897.

condertoli (heart-leaved), See D. acutangula. Dregena (Dregean), S. Africa.

Erythroxylon (red-wooded). See Melamnia ERYTHROXYLON. Fernsea (rusty-leaved), 15. White, Mauritius. 1815.

Mastesei (Master’s), White, Trop. Africa. 1867.

Motile (soft-leaved), 30. Pink. March.

Mastertoni (Natal), S. Africa.


Rotundifolia (round-leaved), S. Africa.

Schimperia (Schimperian), Trop. Africa.

Spectabilis (showy), Trop. Africa.

Spectabilis (lime-leaved), See D. acutangula TILLEFOLIA.


Wrightia (Wright’s), 10. Rosy-carmine, Madagascar. 1820.

DONIA. HACQUETIA.

DONIA. See GREENDIELA.

DOODIA. (Named after S. Doody, a London apothecary and botanist, Nat. ord. Ffems [Filices]. Linn. 24-Cryptogramma, 1-Filices.)

Greenhouse herbarious Ferns. Spores brown, or yellowish-brown. Divisions, just before fresh growth commences, in spring; and growth. Summer temp., 55° to 75°; winter, 45° to 50°. D. aotera (rough-stalked), 1. June, N.S. Wales. 1808.


Blechnodes (Blechnum-like), August, N. Holland. 1835.

Staudia (tailed), 1. June, N. Holland. 1820.

Harrisa (Harrian), A strong growing variety. 1884.

Hunnisia (‘Kunth’s), Sandwich Islands.

Juncus (crescent-shaped), New Zealand. 1834.

Media (intermediate), 1. June, N. Holland, 1823.

Virgina (Virginian), August, Virginia. 1774.

DORCO CERAS HYGROMETRICA. See BEA HYGROMETRICA.

DOREMA. (From dorna, a gift; referring to its product—gum ammoniac. but not Dioscorides’ plant, which is some species of Furula, supposed F. orinisia. Nat. ord. Umbelliferae [Umbelliferae]. Linn. 5-Pentandria, 2-Digynia. Allied to Lactuca.)

The plant from which gum ammoniac is obtained. Hardy herbaceous plant. Seeds sown in a sheltered place at the end of April; common garden-soil. D. Ammoniaceum (ammoniacum). 7. White, yellow, June, Persia. 1837.

DORFITIS. (From doris, a knife; in reference to the rigid leaves of some species. Nat. ord. Orchidaceae.)

Stowe epiphythalious Orchidoides Occurs.

Doritis. (Named after Miss Bourne, the Arabian name, Nat. ord. Compositae [Compositae], Linn. 19-Syngennesis, 2-Superfilia. Allied to Arnica.)

A genus of early-flowering, low, hardy herbaceous plants for borders. D. Colvina makes an excellent bed or large patch; will bear removing with a ball as soon as it has done flowering; transplant about the end of September to the flower-garden. Yellow flowers, except D. altaicium, dividing at the roots; common garden-soil; if dry and light all the better.

D. altaicium (Altalic), 1. White, July, Siberia, 1783.

austriacum (Austrian), 1. May, Austria, 1816.

Bourne’s (Bourne’s), 3. Purple, Canary Islands. 1845.

caucasium (Caucasian), 1. July, Caucasus, 1823.

Chusii (Chusius), See D. Glacial.

Colva (Colvina’s), 2. May, Italy, 1824.

cordsifium (heart-leaved), See D. COLUMNA.


denisii (toothed-leaved), May, 1825.

glacier (glacial), 1. Yellow, July, Europe, 1819.

grandiflorum (large-flowered), Yellow, Europe.

mackrophylum (large-leaved), 2. July, Caucasus. 1825.

orientale (oriental), See D. CAUCASICUM.

Orphandeis (Orphano’s). Yellow, Macedonia.

Pardalisches (Panther-strianger), 2. May, Britain.

erivisia (Pervian), See WERNERIA RIGIDA.


exculsum (tail), 3 to 4. Yellow. Spring and summer.

spermo (scorpion-like), 1. Yellow, May. Europe.

DORSTEIA. (Named after T. Dorsten, a German botanist, Nat. ord. Nettleworts [Urticaceae]. Linn. 4-Tetrandra, 1-Monogynia. Allied to the Fig and Mulberry.)

Little tufted stove herbaceous plants, cultivated for the curious way they produce their inconspicuous green flowers, on a flattened leaf-like receptacle. They are worth growing for covering rock-work, or side edgings in a small garden, division, before active growth; also seeds in a hothoth, in March or April; rich, sandy loam. Summer temp., 60° to 85°; winter, 50° to 55°. D. arsibica (Arabian), 1. Green, Floral receptacle 

argensia (silvery). Leaves with a central silvery broad stripe. Brazil. 1889.

aristol (Arum-leaved), Brazil. B.M., t. 2476.

Bartisii (Bartier), Trop. Afirca.


cawelaces (stem-forming). See D. UREICOLA.

Ceratina (Ceratosenes). S. Amer., B.M., t. 2769.


Drahe (Drakena). Mexico.

Ectata (tail), Brazil.

erecta (erect), Brazil.

/icicola (flg-leaved). See D. ARIPOLLA.

Gisgas (giant). Green, Socotra. 1880.

Heliconia (roughly hairy). See D. BREPTA.

Houstonia (Housto’s). See D. CONTRAREA.

maculata (spotted). See D. CONTRAREA.


maritima (maritima). See D. ARIPOLLA.

multiflora (many-formed). See D. ARIPOLLA.

Philippopsea (Mrs. Phillips’s). 1. Green. Floral recep-

tacle with twisted tails. Somalliland, 1899.
DORYANTHES. (From doro, a spear; and anthos, a flower; the flower-stem shoots up from twelve to twenty feet high, like the handle of a spear, bearing flowers on the top.) Nat. ord. Amaryllidaceae. Linn. 6-Hexandria, 1- Monogyne. Allied to the American Aloe, but not with succulent leaves.

These gigantic half-lily and half-palm looking plants, with their handsome fleshly shoots, seldom rather out of place among Amaryllids. They, with their fellows, Littae and Fucrocycya, can only find head-room in the loftiest conservatories. Greenhouse evergreens. Suckers and seeds at times; peat and rich loam. Summer temp. 60° to 80°; winter, 45° to 50°.

D. Lariki (Larkin's). Queensland. 1866.

DORYCNIUM. (From dorus, a spear; adopted from Pliny, who applied the name to "a poisonous blue, whereon the bluebells or hour-glass, darts, &c." Nat. ord. Leguminosae. Linn. 17-Diaspalia, 4- Decandria. Allied to Lotus and Trifolium; seeds in March; herbaceous ones also by division; common garden-soil.

HARDY HERBACEOUS.

D. tomentosum (woolly). See D. HISUTUM INCANUM.

DORYPHORA DECOLINEATA. The Colorado Beetle, a native of the Western United States, has, on several occasions, been introduced into this country, but owing to the stringent measures adopted by the authorities in this country it has, as often been exterminated. In 1877 it committed a considerable amount of damage to the Potato crops. About that time an Order in Council made it a penalty for any one to keep or distribute live specimens. The beetle lays its eggs upon the stems and leaves of the plant. The perfect beetle is small, orange-yellow, with ten black lines on the wing-cases, and easily recognised. The beetle and also the larva when hatched out easily get destroyed by eating the leaves which have been sprayed with the Bordeaux mixture or Paris green.

DORIPHTERIS. (From dorus, a spear; and phereis, a form; spear-leaved Fern.) Filices. Linn. 24-Crypogamia, 1-Filices. Now limited to Pteris.)

D. collina (hill). See Pteris Palmata.
D. corpolisia (heart-leaved). See Peltinea Cordata.
D. hasty (half-leaved). See Pteris sagittifolia mesomera (arrow-leaved).
D. palma (hand-shaped). See Pteris Palmata.
D. sagittifolia (arrow-leaved). See Pteris sagittifolia mesomera (arrow-leaved).
D. Wallachii (Walich's). See Pteris Wallichiana.

DOSSINA. (Named in compliment to E. Pl. Dossin, a Belgian botanist. Nat. ord. Orchidaceae.) Terrestrial Orchids requiring moist stov treatment and to be covered with bell-glasses to preserve the beauty of the foliage.

D. virens (greenish). Leaves greener.

DOUBLE FLOWERS. Hybridising, aided by cultivation, gives birth to these objects of the gardener's care. To the uninitiated it seems incredible that the double moses and lilies are born of a single root-stock; but this is the case. Neither do the flowers of the Fair Maid of Frazoot appear less impossible derivatives from those of Ranunculus aconitifolius; nor bachelor's buttons from the common buttercup; yet so they are. The flowers of Aconitifolia are properly divided into four parts, but not correctly discriminated as the full flower, the multiplicate flower, and the proliferous flower.
The double moses with its petals augmented in number by the total transformation into them of its stamens and its pistils. One-petaled flowers rarely undergo this metamorphosis, but it occurs in Campanula medium, C. persicifolia, and the Chinese Primula. It is very common in those having many petals, as in the carnation, ranunculus, rose, and poppy. But this is not the only mode in which a flower becomes full, for in the columbine (Aquilegia) it is effected in three different ways; by the joining of two of the pericarps, the multiplication of the nectaries; by the multiplication of the nectaries to the exclusion of the petals; and by the multiplication of the nectaries whilst the floral petals remain. The numerous flowers, such as the chrysanthemum, dahlia, camellia, and others, become full by the conversion of the bell-shaped florets of the disk into strap-shaped and flat ones like those of the ray. On the contrary, various varieties of the daisy become full by the elongation of the florets of the disk, and as such flowers are tubular they are described as quilled. Examples are met with in the quilled China Aster, Chrysanthemum Parthenium or Feverfew, show Dahlias, double Jacobina, the variety of Gallardia named lorenciana, &c.

The multiplicate flower has its petals increased by the conversion of a portion of its stamens, or of its calyx. It occurs most frequently in polypetalous flowers. Linnaeus gives an instance of the conversion of the calyx into petals, and these are to be observed in the Carnation (Dianthus Caryophyllus). The hose-in-hose polyanthus is another instance.

A prolicerous flower has another flower or a shoot produced from it, as in the variety of the daisy popularly known as the Hen-and-Chickens. It occurs also more rarely in the rose, Liliaceae, and elsewhere. The daisy may be a leafless, or a flaccid, or a hardy, or a herbaceous species, and it may be single or double. To each of these divisions of the daisy are attached distinct modes of multiplication.

A due supply of moisture, but rather less than the planter requires, is required in the case of all double flowers, as otherwise the desired object, a superabundant supply of decomposing organic matter to its roots, and an exposure to the greatest possible degree of sunlight, are the means successfully employed to promote excessive development of the petals which characterise double flowers.

By these means a greater quantity of sap is supplied to the flower than the natural extent of the petals can elaborate; and those parts required for the extra elaboration are developed at the expense of those not demanded for the purpose.

The most certain and practical method of producing or obtaining double flowers is to save seeds from those showing an extra number of petals, or to use pollen from such flowers to fertilise others, or to self-fertilise the pistil of the same flower. The progeny giving the greatest number of petals should be selected for further experiment in the same way. When once a double or partly double flower reproduces itself from seed, it is susceptible of further improvement.

In the year 1882, as was observed by the late Sir J. E. Smith, the corolla is much more durable than in single ones of the same species, as anemones and poppies, because, as he conceived, in such double flowers the nature of the pistil is being changed, and the short life of their corolla is not so soon exhausted. Advantage may be taken of this to prolong the duration of flowers by cutting away the pistils or stamens, whichever are most conspicuous, with a sharp pair of pointed scissors.
D. cappadoeci (Cappadocian), Asia Minor.
- carinthis' aca (Carinthisian). Europe.
- ciliis' a (hair-fringed-leaved), See D. leucoedes.
- ciliis' s (tufted)., June, Austria, 1871.
- corymbo'sa (corymbed). See D. hirta,
- crossis'ta (thick-leaved)., J. June, N. Amer., 1826.
- cuspatis'ta (spine-point-leaved),. March, Iberia, 1828.
- daysla'ra (thick-fruited), White, May, Alta., 1837.
- diversis'ta (diverse-leaved), Armenia.
- d'orast'ea (Dorastian), See D. hirta.
- d'elgans (elegant), Y. Yellow, Ciliacan Taurus, 1899.
- arcaflora (beath-leaved), See D. olympica.
- fladnise'sis (Fladniso),. White, June, Switzerland, 1816.
- fri'sida (frigid), See D. tomentosa frigida.
- Gillie's'is (Gillies').. to White. Chili, 1903.
- glacia'lis (gla). See D. repens.
- gmeis'ta (Gmelin's). See D. repens.
- grandis'ta (large-flowered), See PARRA micro-carpa.
- grandis'sis (large-flowered) of Hooker and Arnold, . W. Andes of Ecuador and Peru, 1903.
- helv'eica (Swiss). See D. fladnizensis.
- helvi's (hairy),. White, J. Europe, 1823.
- hispa'na (Spanish). See D. fladnizensis.
- hi'sida (rough-hairy),. 8. August, Caucasus, 1838.
- in'ca'pta (rough). See D. alpina.
- Kotsch's'is (Kotschyi's). Eastern Europe.
- la'te'alis (late). See D. fladnizensis.
- lapponica (Laplano).,. White, April, Lapland, 1810.
- lapponica (woolly-fruited). See D. alpina.
- loiseleu'rii (Loiseleur's). Yellow, Corsica.
- longirostra'ta (long-beaked). Transylvania.
- magel'a'ica (Magelian). Strait of Magellan.
- Mal'a'rii (Mali's).,. White, April, Spain, 1823.
- morilis'la (small-primity). Se D. nivalis.
- nivula'is (snowy).. White, J. Europe, Switzerland, 1824.
- oblonga'ta (oblongate)., See D. hirta.
- oly'mica (Olympian) of Grenier and Godron. See D. loiseleurii.
- oly'mica (Olympian) of Sibthorp. Yellow, Greece; Asia Minor.
- oly'mica (variable-hair). Golden yellow.
- Levant, 1899.
- oxyca'pra (acu-fruited). Syria.
- pilo'sa (soft-hair). See D. alpina.
- Pyrenes'ca (Pyrenean).. White to purple, Pyrenees, 1759.
- repens (creeping).,. J. June, Siberia, 1818.
- r'sida (rigid). Asia Minor.
- rubra'ta (red).,. White, J. June, Scotland.
- salti'a (Sauter's).,. April, Tyrol.
- sea'bra (rough). Yellow, Caucasus, 1897.
- scandi'a'ica (Scandinavian). See D. rupesstri.
- silen'os (large-podded).,. White, J. European, 1822.
- stella'la (starry).,. White, June, Pyrenees, 1820.
- stylis'ra (long-styled). See D. incana stiliacis.
- tomentos'ra (woolly).,. White, June, Switzerland, 1819.
- fri'sida (frigid).
- tridenis'ta (three-tooth)., See D. risipida.
- tridenis'ta (three-toothed)., See D. risipida.
- viola'cea (violet). Purple, Caucasus, 1887.
- Wahlenb'er'gis (Wahlenberg's). See D. fladnizensis.
- Zapai'ra (Zapater's). Spain.

DRACENA. (From drakaina, a female dragon; because, if this Dragon-tree is wounded, the milky juice on drying becomes a hard gum, having the same properties as the real Dragon's blood. Nat. ord. Lipoytory [Liliaceae]. Linn. 6- Hexandra, 1-Monogynya.)

Stove evergreens, with white flowers, except D. mus'ans.
Large pterocarpus of the branches strike when put in strong bottom heat, the leafy tops may be so struck, or ringed below the leaves, two half pots placed round them, filled with light soil and watered till roots are formed. Old stems may be laid side by side in a propagating case till shoots are formed, when they may be
DRACAENA

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taken off as cuttings and struck. Rich, fibrous loam, well drained. Summer temp, 60° to 80°; winter, 48° to 55°.

GREENHOUSE.

D. nodosa (knotted). 4. 1820.


This is Asparagus undulatus.

STOKE.

D. amboynensis (Ambonian). Leaves bronze, edged crimson, Malouacs. 1876.


" aesculata (pleasing). Leaves bordered cream and rose. 1876.

" angustifolia (narrow-leaved). India. 1800.


" argenteo-striata (silver-striped). Leaves striped creamy-white and green. 1837.


" aurora (Aurora). Midrib and petiole violet. South Sea Islands. 1878.

" australis (southern). See Cordyline australis. 1888.

" barbata (Barbata). Leaves reddish bronze. Garden form. 1866.

" barbata (Bartes's). Garden form, 1888.

" bella (pretty). See Cordyline terminalis.

" be'lelula (two-coloured). White, with purple bracts. 1870.

" borboreana (northern). See Clintonia borealis.

" bo'scii (Bo'sce's). See Agave cemifolia.

" brasile'nsis (Brazilian). See Cordyline terminalis.

" broomfieldii (Broomfield's). Leaves margined and striped. South Sea Islands. 1886.

" superta (superb). Leaves with broad white margins. Trop. Australia. 1903.

" canaliculata (Canna-leaved). See Cordyline terminalis.

" candi'yi (Cantley's). Leaves broad, blotched creamy-yellow. Singapore.

" california (drooping). See D. reflexa.

" canna (tinted). South Sea Islands. 1888.

" cinnabarata (Cinnabar). Socotra. 1880.


" controversa (crowded). See Cordyline stricta.

" cri'sula (finely-cleft). Leaves with 6 to 9 white nerves. Liberia. 1879.

" cruta (blood-coloured). Leaves brown, striped crimson. 1877.

" ct'lebra (covert). Appears a variety of Cordyline australis. 1884.

" cyl'ndrica (cylindrical). White, Trop, Africa. 1902.

" de'cora (ornamented). Leaves olive-green, banded crimson. 1876.

" douce'tii (Ducett's). See Cordyline australis.


" dracaena (livery). Leaves edged purple white. 1876.


" macula (spotted). Leaves spotted. India. 1913.

" maculata (sword-leaved). See Dianeilla ensifolia.

" erre'ta a'bia (white). Leaves with broad white margin. 1880.

" purpura (purple). Bronze yellow, with orange marks. 1880.

" sere'ra (iron). See Cordyline terminalis.

" floribunda (free-flowering). Leaves 3 to 4 ft. long. green. 1897.

" fontanesiana (Fontanesian). White. Marsearenia.

" insignis (Insignis). 1859.


" lind'eni (Linden's). Leaves edged creamy-yellow. 1888.

" massangana (Massangane). Leaves striped pale creamy-yellow. 1881.

" victoria (Victoria). Leaves with broad golden-yellow edges. 1903.


" goldiana (Goldian). Leaves broad, banded grey. 1812.


" latifolia (wide-leaved). Leaves green. 1862.

" schmidti (Schmidttian). Leaves striped with white. 1880.

" varieta (variegated). Leaves with creamy-white margins. 1893.

" latifolia (wide-leaved). See Cordyline indivisa.


" janssenii (Jansen's). Leaves with creamy-white margins. 1903.

" jasminica (Javanese). See D. elliptica.

" kev'nia (Kew). Leaves with red leaf-stalks. New Caledonia (?). 1903.


" latifolia (broad-leaved). See D. hookeriana.


" lindel'ini (Linden's). See D. fragrans lindel'ini.

" macr'ithur (Macarthur's). Leaves rosy-carmine and olive-green. Australia. 1877.

" maculata (large-leaved). Leaves large, margined white. 1880.

" maculata (blotched). See D. elliptica.


" massangeana (Massagean). See D. fragrans mass'angeana.

" mauritiana (Mauritian). See Cordyline floribunda.


" robinsoniana (Robinsonian). Leaves striped bronze and yellow. South Sea Islands. 1877.

" rothiana (Rothiana). Leaves with transparent netting. Comoro Isles. 1877.

" salicifolia (willow-leaved). See D. reflexa.

" sandermannii (Sanderian). Leaves curved, banded crimson. 1856.


" spica'ta (spicate). India.


" this is Asparagus striata. 

" stricta (upright). See Cordyline stricta.


" maculata (blotched). Leaves blotched yellow. Old Calabar. 1867.

" termitifera (flowers in threes). See D. spicata.

" tessellata (chequered). See D. marginata.


" venosa (velvty). Leaves yellow-green, netted dark purple. 1888.

" walcottii (Walcott's). See D. spicata.

" williamsonii (Williams'). Leaves striped with choco'late, white, rose. Polynesia. 1893.
DRACOCEPHALUM. Dragon's Head. (From drakon, a dragon, and kephalé, a head; referring to the gaping flower. Nat. ord, Lipariotes, or Labiates (Labiatae). Linn., 14-Digitalis, 1-Gymnosternia, Allied to Nepeta.) Annual and perennial herbs of a showy character. Annually, by seed in the open ground at the end of March; perennials, by seeds and divisions; the tender evergreens, by cuttings of young shoots under a handglass, in April or May; light, rich soil.

HARDY ANNUALS.


GREENHOUSE EVERGREENS.


HARDY PERENNIALS.


D. corda'tum (heart-shaped). See CEDRONELLA CORDATA. denti'culatum (toothed). See PHYSOSTEGIA VIRGINIANA.


D. helio'phyllum (various-leaved). Himalaya; Turkestan.

D. i'bericum (Iberian). See LALLEMANTIA IBERICA. imbé'the (beardless). Siberia.


D. mexican'um (Mexican). See CEDRONELLA MEXICANA.


D. rep'/ chi (Ruprecht's). 1 to 1.5. Blue. Turkestan, 1880.


D. sa'pocnicum (Japanese). White, spotted blue, Japan, 1793.

D. si'riicum (Siberian). See NEPETA MACRANTHA.


D. virgini'a 'num (Virginian). See PHYSOSTEGIA VIRGINIANA.

DRACOCTIUM. Dragon. (From drakon, a dragon; referring to its spots and streaks being like those on serpents. Nat. ord, Oronilids [Araeæ]. Linn., 7-Hep'tandria, 1-Monogynia. Allied to Poches and Orontium.) Stove perennials with a tuberous root-stock, Dividing the roots; fibrous loam, and a little decayed dung and leaf-mould. Summer temp., 60° to 85°; winter, 45° to 55°.

D. alostis'pes (white-stalked). Leaf-stalks grey-white banded brown. Colombia, 1877.

D. annul'a'tum (rimmed). Leaf-stalks umbre-brown, spotted with white. Colombia, 1877.


D. Car'deri (Carderi's). See DRACOCEPHALUM. 3. Spathe green, purple, Colombia, 1877.


D. fo'tidum (foxtail). See SYMPLOCARUS PETIOUS.

D. gi'gas (from the Spathe dark red-brown. Nicaragua, 1869.

D. lance'folium (lance-leaved). See SPATHYPHYLLUM.

D. persi'cum (bearded). See MONSTERA PERTUM.


D. sculptu'rum (sculptured). Petiole dark brown, with pale markings. Colombia, 1879.

D. spind'era (spidery). See LALLEMANTIA.


DRACOXYLLUM. (From drakon, a dragon, and phyllon, a leaf; referring to the long bracts, which resemble the young leaves of the Dragon-plant, Draco'na Dra'co, Nat. ord, Epacridis (Epacridaceæ). Linn., 5-Pentandria, 1-Monogynia. Allied to Sphenotomas and Richia.) Greenhouse evergreens, from Australia. Cuttings of young wood, getting firm at the base, in April; peat and loam, both fibrous, with a little silver sand. Temp., winter, 40° to 45°.


D. RACOPIS and D. RACOPIS AMPLEXICAULIS. See RUDEBECKIA AMPLEXICAulis.

DRACUN'CLUS. (The diminutive of drakon, a dragon, Nat. ord, Araceæ.) Tuberous perennials with the habit of Arum maculatum. D. vulgaris is hardy in sheltered places round London, and may be quite exposed to the south and west of England. A greenhouse for the rest. Division or offsets. Rich sandy soil. D. canari'ensis (Canary). Spathe green and brown. Canaries.

D. cre'lificus (Cretan). See D. vulgaris.

D. vulgar'is (common). Spathe green and purple-brown. S. Europe. 1548.

DRAGON. See DRACONIUM and ARISEMA DRACONIUM.

DRAGON'S-BLOOD. Drámo'roops Dra'co, and Ferocera'rus Dra'co. DRAGON'S-HEAD. Dracco'phalum.

DRAGON-TEE. Dra'co na Dra'co.

DRAINING is drawing away the surface water, instead of allowing it to chill the land by evaporation, and further injuring the crops by an excessive supply of moisture. There is scarcely a garden existing that would not be benefited by some draining. Every gardener knows the absolute necessity for a good drainage under his wall-trees and vines, but few gardeners ever think for a moment whether there is any escape and outfall for the water he has drained from immediate contact with the roots of the above-named favoured trees. Every garden should have drains cut, varying in depth from two to three feet, according to the depth of the soil, with an interval of forty-four feet between the drains; twelve feet will not be too near in clayey soils. At the bottom of the drains should be placed one-inch pipes; these should be well puddled over six inches deep with clay, and returned. They should have an outfall into a ditch, at the least elevated side of the garden. By having the pipes with a bore no larger than an inch males cannot creep in; and that bore is large enough to carry off all the water, after even the heaviest rains.
DRAKEA. (Named in honour of Miss Drake, botanical painter for the Botanical Register. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria, Allied to Caleya.)

The only species introduced is an extremely curious ground-orchid, having one flower on the top of a slender stalk, eighteen inches long, "resembling an insect suspended in the air, and moving with every breeze."

Greenhouse. Divisions; pest, loam, and rough sand.


DRAPERIA. (A commemorative name, Nat. ord. Hydrophyllaceae.)

A half-shrub of dwarf habit. Layers, and seeds when obtainable. Light, well-drained soil in the more favoured south and west, otherwise protection from frost in winter.


DRAWN. A plant is said to be drawn when it is unusually increased in length. This is usually by an excess of heat and moisture, and a deficiency of air and light.

DREREAT ALLIENOWIA NA. See Jacobinia Mo-Hintli.

DREPANOCARPUS. The Sickle-pod. (From drepapou, sickle, and carpos, a fruit; referring to the shape of the seed-vessel. Nat. ord. Leguminous Plants [Leguminosae]. Linn 17-Diadaphya, 4-Desandria.)

Stove evergreen. Cuttings of young shoots nearly ripe, with their leaves entire, in sand, under a glass, and in bottom heat; pest and loam, both fibrous. "Summer temp., 60° to 80°; winter, 50° to 55°.

D. lanata (half-moon-capped), 12. White. S. Amer. 1792.

DRESSING. Putting the borders in order; also manuring strawberries, asparagus, and other permanent beds.

DRIFT SAND is the sand washed by floods into drifts or banks, whether by the sides of roads or streams.

DRILLING. Scarcely a crop in the garden should be sown broadcast, for drilling saves seed and labour; and although in some cases it takes more time to insert the seed in drills, yet this is more than compensated by the time saved during the after-culture, for the thinning and hoeing are greatly facilitated. (See Broadcast.)

The distance apart appropriate for the drills for particular crops will be found under their respective titles; they generally vary with a border and time, but the drill-rake is often used. The teeth are set six inches apart, and are broad and counter-formed. When the drills are required to be less than six inches apart the implement can be worked diagonally; but it may be made with teeth movable to any desired space apart.

DRIUMA. (From drimus, acid; referring to the juice of the bulbs, Nat. ord. Liliorms [Liliaceae]. Linn 6-Hexandria, 1-Monogynia. Allied to Massonia.)

Little greenhouse bulbous plants, from the Cape of Good Hope; elegant, though less showy than the Ixias. Offsets; pest, or leaf-mould, and sandy loam. Summer temp., 50° to 75°; winter, 35° to 45°; potted when beginning to grow, and until then kept dry after the withering of the leaf.

D. acuminata (pointed). See Scilla lancefolia.

altissima (tallest). See Urginea altissima.

ano'mala (anomalous). S. Africa.

apericifor'a (open-flowered). See Scilla lorata.


Co'lece (Mrs. Cole's). Green, with purple anthers.

Somalland, 1807.

Co'lece Cooper's. See Scilla concolor.


daworthi'ae des (Daworthia-like). White and green.

S. Africa, 1875.

lancecefo'lia (spear-leaved). See Scilla lancefolia.

lanceo'letta (spear-head-leaved). See Scilla lanceo-le'ta.


me'dia (intermediate). White. August, 1820.


undu'la'ta (waved). See Scilla undulata.


DRIMIOPTIIS. (Derived from Drimia, and opsis, resemblance; the plants resemble the species of Drimia, Nat. ord. Liliaceae.)

Stowe or Coasthouse bulbous bulbs. Offsets. Light, sandy loam and leaf-mould. Repot when the bulbs are about to commence fresh growth, and keep them rather dry when not in flower.


DRIMYS. (From drimus, acid; referring to the "bitter tonic taste" of the bark, one of the characteristics of the nat. ord. Magnoliads [Magnoliaceae]. Linn. 13-Polyandra, 13-D orthodoxa.)

The Winter Bark of commerce is that of D. Winterti, a good substitute for cinnamon. Greenhouse evergreen trees, with white flowers. Cuttings of half-ripe shoots in sand. Plants, and, after standing a fortnight shaded from sun, transferred to a sweet bottom-heat; fibrous peat and sandy, lumpy loam. Winter temp., 40° to 45°.


chilta'nsis (Chilian). See D. Winterti.


gran'alae'nsis (New Grenadian). See D. Winterti.

Winterti (Winter's). 3 to ro. White, S. Amer. 1827.

DROPWORT. Spir'a 'a Filipe'ndula, Dropwort, Water. (Enu'nihe croco ta.

DROSERA. Sundew. (From droseros, dewy, Nat. ord. Sundews [Drosseraceae]. Linn. 5-Pentandria, 5-Pentagynia.)

The Sundews are delicate herbaceous plants, chiefly inhabitants of marshes; the whole plant is thickly clothed with glandular hairs, giving them the appearance of being studded with dewdrops. We have often viewed D. rotundifolia with admiration, on the opposite side of a little pool, arrayed in hundreds of little stars, and sparkling beneath a midday's sun. Seeds, generally, and divisions; peat earth, above it fresh sphagnum moss, in which the tiny plant is to be fixed, and then the pot to be set in a pan of water. Most of them succeed in a cool greenhouse, but the British ones may be cultivated in the bog garden.


americ'a'na (American). See D. longifolia ameri-can'a.


co'operi (Cooper's). 2. Red. Leaves more repeatedly forked. 1880.

burkea'na (Burkean). S. Africa.


icho'foma (forked). See D. binata.

eryth'orhor a'za (scarlet-rooted). White, July. Swan River. 1881.


DROSOPHYLLUM DRYMOLEUS

  macropyl'kly (large-leaved). White, July. Swim River.
  madagascari'c'issa (Madagascar). See D. Ramentacea.
  pa'ti'lda (pale). White, July, Swim River, 1843.
  pelas'ta (shield-shaped). White, Australia, 1883.
  rament'a'cea (trailing). S. Africa.
  stolon'i'fera (creeping-rooted). White, July. Swim River.
  viola'ce'a (violet). Violet. S. Africa.
  Wittaker'is (Wittaker's). White. Australia. 1862.

DROSOPHYLLUM. (From droso, dew, and phyllon, a leaf; in allusion to the dew-like drops on the glands covering the leaves. Nat. ord. Broseracea.)

A cool greenhouse, insectivorous plant, with bright yellow flowers and the habit of Drosera. Like the plants of that order, they hold insects, which light upon them and digest them. Seeds, Sandy loam, kept on the dry side, and the plants fully exposed to sunlight.


DRUMMON'DIA MITTELLOI DES. See Mitella fen-tandra.

DRUPE. The fruit of a Plum, Cherry, or Peach, known as stone-fruits. The outer part of the ovary becomes fleshy or juicy and the inner bony, forming the stone-const.


Greenhouse evergreen shrubs, from Australia, with yellow flowers. Cuttings of firm side-shoots taken off in August, inserted in sand, under a bell-glass, shaded to keep the foliage from flagging, and in a fortnight or three weeks transferred to a mild bottom-heat; fibrous peat or fibrous loam, with a portion of sand, broken potsherds, and a few pieces of charcoal; pots particularly well drained, Winter temp., 38° to 45°.

D. Aro't'idis (Arctotis-like). 1830.
  armata' (armed). 3. 1803.
  Baxte'ri (Baxter's). 3. 1824.
  beppolys (doubly-leaved). 1840.
  blechnifo'lia (Blechnum-leaved). See D. Pteridophila.
  calophy'lla (beautiful-leaved). Golden yellow. 1830.
  cardus'ce'a (thistle-like). 3. April.
  florin'nda (many-flowered). 3. 1803.
  foliola'ta (leafletted). 1830.
  formos'sa (handsome). 4. 1803.
  Fraser'is (Fraser's). 1840.
  longifo'lia (long-leaved). 2. 1803.
  m uc'ronula'ta (small sharp-pointed). 3. 1824.
  nervo'sa (large-nerved). See D. Pteridophila.
  o'ma'tia (snow-covered). 3. 1805.
  no'bilis (noble). 1840.
  obtus'a (blunt-leaved). 2. 1803.
  plu'mo'sa (feathered). 3. 1803.
  proteas (Protea). 1840.
  runcina'ta (runcinate). 1852.
  senescif'olia (Senecio-leaved). 3.
  Sarc'ia (saw-like).
  stup'osa (heavy). 1840.
  tenusul'fo'lia (fine-leaved). 2. April, 1803.

DROYS. (From drusas, a dryad, or goddess of the woods, to whom the oak (drus) was sacred. The leaves of D. octofolia, a Scotch plant on which the genus was founded by Linnaeus, resemble small oak-leaves; and he, in a playful mood, made Dryas the badge of Virgil's Dryades, after the manner of the Scottish clans. Nat. ord. Rosaceae, [Cerasae]. Linn. 12-losandria, 5-Polyg.-sea. Allied to olives and Cowania.)

All the species but D. Drummo'ndi have white flowers, blooming in July. Divisions and seeds in spring; cuttings under a hand-light in summer; a peat-border, or, still better, in pots, and protected during winter in a cold pit.

HARDBY EVERGREENS.
D. interme'dia (intermediate). 1. N. Amer. 1832.
  octo'tala (eight-petaled). 1. Britain.
  depr'e'esa (depressed). 1. White. Ireland.
  lanu'sa (woolly). Leaves woolly. Tyrol. 1891.

HARDBY HERBACEOUS.
D. decap'o'tala (ten-petaled). N. Amer. 1830.
  depr'e'ssa (depressed). See D. Octopetal'a depressa.
  geos'des (Geum-like). See WALDSTENIA goides.
  mi' nor (smaller). 1. N. Amer.

HALF-HARDY EVERGREENS.
D. chamadry'fo'lia (Chamadryas-leaved). See D. Drum-
  mon'dil.
  Drummo'ndi (Drummond's). 1. Yellow. N. Amer. 1828.
  len'e'lia (delicate). See D. Integrifolia.

DRYMODA. (From drumes, wooden; in allusion to the habitat of the plants on trees. Nat. ord. Orchidaceae.)

A tiny Orchid growing on the branches of trees, and under cultivation thriving best on small blocks of wood suspended from the roof. Division. Sphagnum or Gymnadenia, tied on the blocks.


DRYMOCOLO SUM. The Wood-tongue. (From drumo's, a wood, and glossa, a tongue; alluding to the place of growth and form of the fronds. Nat. ord. Filices. Allied to Polypodium.)

Sees Ferns. Spores yellow. Division; peat and loam. Summer temp., 60° to 80°; winter, 50° to 55°.

D. arno'sum (fishy). Japan, China, etc.
  " subcord'a'tum (somewhat heart-shaped). Frond smaller.
  lance'o'sum (spike head). June, India. 1843.
  " p. crist'a (cristate). Borneo.
  " " (spatulate). E. Ind.

DRYMORIA. (From drymoria, woodland; their habitat. Nat. ord. Gesnerworts [Gesneraeae]. Linn. 14-Didymogamy, 2-Anisogamis, Allied to Besleria.)

Stove evergreen climbers. Cuttings in sandy soil, in bottom-heat; rich, sandy loam. Summer temp., 60° to 80°; winter, 50° to 55°.

D. b'i'color (two-coloured). See D. serrulata.
  " punc'tata (spotted-flowered). See Episcia punc'tata.
  " speci'a (showy). Panama.
  " vel'lo'sa (shaggy). See Episcia villosa.

DRYMPHILEUS. (Derived from drumos, wood, and philos, bark. Nat. ord. Palmaceae.)


A. appendiculatu's (appendaged). A dwarf Palm, with large, cuneate leaf-segments. Malaya.
  " cerame'nis (Ceraman). Ceram.
DRYNARIA. (From drus, a tree; dwelling among trees, Nat. ord. Filices. All are now referred to Poly-Podaceae.)

A large genus of stout Ferns, with brown-yellowish spores, Allied to Dryostachyum. Division; peat and loam. Summer temp., 60° to 80°; winter, 50° to 75°.

D. a'lobalis (white-scaled). June. Isle of Isla.

D. Billardirae (La Billardiere). 1, June. N. Holland.

D. caspia (tufted). April. India. 1841.


D. cori'sea (leathery). June. India. 1840.

D. coro'rans (crowned). June. W. Ind. 1823.

D. e'crassifolia (thick-leaved). August. W. Ind. 1823.

D. e'scipio'scro'a (pointed-flowered). June. Isle of Luzon.


D. d'idia (double). June. Isle of Luzon.

D. gla'ca (milky-green). Isle of Luzon.

D. homonos'as (green-wort-like). 2, Yellow. March. 1841.


D. iri'sis (Iris-like). 3, June. E. Ind. 1844.


D. lomarios'as (Lomaria-like). Isle of Luzon, 1841.

D. lo'ngifrons (long-fronded) . Isle of Luzon. 1841.

D. longis'ima (longest-leaved). Isle of Luzon. 1841.

D. lor'ifrons (strip-like). March. E. Ind.

D. neq'tea (neglected). Isle of Luzon.

D. rhamno'sa (normal). February. Taiwan.

D. palm'a (hand-shaped). Isle of Luzon.

D. plan'tingea (plantain-like). June. E. Ind. 1842.

D. propis'quosa (allied). May. E. Ind.


D. querci'osa (oak-leaved). 45. March. Isle of Luzon, 1824.

D. ru'as (red). Isle of Luzon.

D. rupe'stri (rock). Isle of Luzon.


D. subfaciel'ta (rather-sickle-like). Isle of Luzon.


D. undula'ta (waved-leaved). Isle of Luzon.

D. vulg'a 'ria (common). March. W. Ind. 1816.

D. Walschi (Wallie's). March. E. Ind.

DRYORALANOS. Camphor-tree. (From drus, a tree, and bals, to flow; from the tree yielding much sap, Nat. ord. Lindenblooms [Tiliaceae]. Linn. 13-Polyandria, 1-Monogynia.)

A stovc tree, which produces the chief of the natural camphor imported. We say natural camphor, because camphor is now manufactured from turpentine.

D. a'roma'tica (aromatic). 100. Yellow. Indian Archi-

D. Ca'mphora (camphor). See D. AROMATICA.

DROPTERIS SAGITTIFOLIA. See NEPHRIDIUM.

DROSTYCHUM. (From drus, a tree, and stachus, a spike. A genus of deep Ferns, with yellow spores. Allied to Drynaria and, like that, referred to Polyadium.)

Divisions; peat and loam. Summer temp., 60° to 80°; winter, 50° to 75°.


DRY PETROS (COR'EAA). See XYLOSMA NITIDUM.

DRYOPSIS. (From drupo, to lacerate; leaves armed with spines. Nat. ord. Cloveworts [Carophyllaceae]. Linn. 5-Pentandria, 3-Trigynia. Allied to Acantho-

phylhum.)


DRY-STOVE is a hothouse devoted to the culture of such plants as require a high degree of heat, but a drier atmosphere than the tenants of the Bark-stove. Consequently, fermenting materials and open tanks of hot water are inadmissible; but the sources of heat are either steam or hot-water pipes or flues. See Stovx.

DUARANGA. (Probably a native name. Nat. ord. Lythraceae.)

Stove evergreen shrub. Cuttings of firm side-shoots in spring or autumn, in a close case, with bottom-heat. Fibrous loam, peat, and sand.


DUBBING is a gardener's term for clipping. The dubbings of a hedge are the parts clipped off with the shears.

DUCK'S-FOOT. Podophyllum.

DUGUETTIA. (A commemorativewith, Nat. ord. Anonaceae.)

A stovc evergreen tree. Cuttings of ripe wood in soil is a close case, with strong bottom-heat. Good fibrous loam and sand.


DUMA'SIA. (Named after M. Dumas, one of the editors of Annales des Sciences Naturelles. Nat. ord. Leguminosae Plantae [Leguminose]. Linn. 17-Diaphysa, 4-Decandria. Allied to Clitoria.

D. c'arno'rces (carneous). Two species introduced from Nepal, both introduced in 1824. Seeds sown in a hotbed, in spring; cuttings of young shoots getting firm, under a glass, and in sand, in a little bottom-heat, in April; sandy peat and fibrous loam. Summer temp., 55° to 75°; winter, 45° to 50°.

D. pubes'cens (downy). See D. villosa.

**DUMB-CANE.** Dieffenbach'ia Segu-'ne. DUMERILLIA PANICULATA. See JUNGLA FERRU-

DUNG. Under this title our attention must be confined to the faces and urines of animals, and that one most commonly known, stabile-dung.

Night-soil is the richest of these manures. It is composed of human faces and urine, of which the constituents are as follows: Feces,—Water, 73.3; vegetable and animal remains, 7; bile, 0.9; albumen, 0.9; peculiar and extractive matter, 1.2; salts (carbonate of soda, common salt, sulphate of potash, 5.112; chloride of potassium, 3.674; chloride of sodium (common salt), 15.060; phosphate of soda, 4.265; phosphate of lime, 0.209; acetate of soda, 2.770; urea and colouring matter, 23.640; water and lactic acid, 47.511.

After stating the above analyses in his excellent work On Fertilizers, Mr. Cuthbert Johnson proceeds to observe, that the very chemical composition, therefore, of this compost would indicate the powerful fertilising effects which it is proved to produce. The mass of easily soluble and decomposable animal matters and salts of ammonia with which it abounds, its phosphate of lime, its carbonate of soda, are all by themselves excellent fertilisers, and must afford a copious supply of food to plants.

The disagreeable smell may be destroyed by mixing it with quicklime, wood's ash, or other chloride or sulphate of lime; and if exposed to the atmosphere in thin layers in fine weather, it speedily dries, is easily pulverised, and in this state may be used in the same manner as rape-cake, and delivered into the furrow with the seed.
From the experiments of M. Schubler and others, the relative value of night-soil is as follows:

If a given quantity of the land sown without manure yields three times the seed employed, then the same quantity of land will produce five times the quantity sown when manured with old herbages, putrid grass or leaves, garden stuff, 5; seven times with cow-dung, nine times with pigeon's-dung, ten times with horse-dung, twelve times with human urine, twelve times with goat's-dung, twelve times with sheep's-dung, and fourteen times with milk. But if the land be of such quality as to produce without manure five times the sown quantity, then the horse-dung manure will yield fourteen, and human manure nineteen and two-thirds the sown quantity.

Sufficiently astonishingly it is the product of that of the duck, which is a gross feeder, is nearly equal to guano. This and that of the pigeon contain much ammonium, and all abound in phosphate of lime, mixed with decomposing organic matters and uric acid, all highly valuable as fertilisers.

Stable or Farm-yard Dung is usually composed of the following matters: Horse urine.—Water and mucus, 54; carbonate of lime, 28; carbonate of soda, 0.9; hippurate of soda, 2.4; chloride of potassium, 0.9; urea, 0.7. But besides the above, it contains common salt, phosphate of lime, and sulphate of soda.

Cow urine.—Water, 60; urea, 17; carbonate of lime, 17; nitre, 5; sal-ammoniac, 15; sulphate of potash, 6; carbonate of potash and carbonate of ammonia, 4; urea, 4.

One thousand parts of dry wheat-straw being burnt, yields 40 parts of ash. From this it appears, that the quantity of the dry straw of barley yielded forty-two parts of ashes. The portion dissipated by the fire would be principally carbon (charcoal), carburetted hydrogen, nitrogen and ash, which are exactly expressed by the following composition of—Various soluble salts, principally carbonate and sulphate of potash, 224; phosphate of lime (earthly salt of bones), 61; chalk (carbonate of lime), 7; silica (flint), 51; metallic oxide (principally iron), 1; loss by combination, 71. The analysis is a little different from the same ingredients, only in different rather proportions.

The solid excrements of a horse fed on hay, oats, and straw, contain, according to the analysis of M. Zierl, in recoil parts: Water, 698; picromel and salts, 20; bilious and extractive matter, 17; green matter, albumen, mucus, &c., 63; vegetable fibre and remains of food, 202. These, when burnt, yielded to the same chemist sixty parts of ashes, i.e., 80% of the original weight. Five parts of the ashes are composed of: Carbonate, sulphate, and muriate of soda, 5; carbonate and phosphate of lime, 9; silica, 46. —Jour. Roy. Agr. Soc., vol. I, p. 459.

The above is many arguments, and much difference of opinion among cultivators with regard to the advantage of employing dung in a fresh or in a putrid state, and, as is too often the case, both parties have run into extremes. M. de Bry, in his treatise on manures, says: "The priority of employing it quite fresh from the farmyard, the other contending that it cannot well be decayed.

The mode employed by Lord Leicester is the medium between these equally erroneous extremes. He found that the employment of the fresh dung certainly made the dung go much farther, but then a multitude of the seeds of various weeds were carried on to the land along with the manure. He has therefore since used his compost only when it is in a dried state (short dung by farmers), and hence the seeds are destroyed by the effects of the putrefaction, and the dung still extends much farther than if it is allowed to remain quite putrid. Prolonged contact cannot give the vegetable with the presence of moisture. Where water is entirely absent, there can be no putrefaction; and hence many farmers have adopted the practice of pumping the drainage of their fields to the dung, which way they can be varyingly placed them in a low, damp situation. This liquid portion cannot be too highly valued by the culti- vator. The soil where a dunghill has lain in a field is always found luxuriant. Prolonged contact cannot give the succeeding crop, even if the earth beneath to the depth of six inches is removed and spread with the dunghill.

Guano.—This now celebrated manure has been known as that of the hunting of the civet, and is composed partly of the droppings of that animal, and partly of the urine. But as long as part of the New World has been recog- nised by geographers, its name, in the language of that country, signifies the manure; and it merits such dis- tinction as being one of the most powerful assist- ants to vegetation which can be applied to the soil. Guano is not peculiarly any one country; it is made in many rocks and islands of the Atlantic, being the excre- ments of the marine birds frequenting those ocean solitudes. It has been lately analysed by Dr. Uré, who reports it to be composed of: Ash, 23%; carbonate of lime, 23.0; ammonium, phosphate of magnesia, and oxalate of ammonia, containing from 4 to 9 per cent, of ammonia, 13.0; siliceous matter, 1.0.

This analysis explains the source from whence failure has so frequently been derived to many farmers as to its utility. It is the most violently stimulating of all the known natural manures, and they have applied it too abundantly. This is shown by the experiments of Mr. Maund. When applied to Strawberries once a week in a liquid state (four ounces to a gallon), it made them very vigorous and productive; but sprinkled upon some young seedlings of the same fruit, it killed them. Two ounces per yard (five, and per acre) were sprinkled over Onions, and they doubled the untreated in size. Potatoes, manured with one ounce and a half per yard, were rendered much more luxuriant than others having no guano. Brussels Sprouts were grown by him on the same ground, with the same contact with nine parts earth and one part guano. Geraniums were greatly injured by liquid-manure of guano (four ounces per gallon), but "plants of various sorts, in a pot, were grown on a piece of guano, and, half an ounce to a gallon, have flourished astonishingly; none have failed. These are less which cannot be mistaken."—Auctorium, 223. Mr. Rendle and others person record, as the result of dearly-purchased experience, that where guano has failed to be beneficial, or has been injurious, it has been applied in quantities too powerful for the plants to bear. In a liquid state, half an ounce per gallon, and given to growing plants once a week, it never fails to benefit to many who have tried it. When used as a top-dressing, it should be mixed with five times its weight of dry earth, ashes, &c., and then scattered as thinly as possible. When used as a top-dressing for a flower-pot, some pinch between the thumb and two fingers will be sufficient.

Cow dung, for potting purposes, should be collected whilst fresh, kept under a dry shed, be frequently turned over, and after a dry, loose condition. Two years' old dung is best.

Dura nit. (Named after C. Durantes, a physician and botanist, Nat. ord. Verbenas (Verbenaceae). Linn. ta-Diedyes, D. a. Guayu—D. Duranteana.)

Stove evergreen shrubs, with blue flowers. Cuttings in sand, under a bell-glass, in bottom-heat; rose, and peat. Summer temp., 6° to 8°; winter, 45° to 55°. D. argentea (silverly), 6. E. Ind. 1823.


D. densa ta (toothed). See D. plumieri.

D. Ellis sia (Ellis's). See D. plumieri.

D. incirris (unarmed). See D. plumieri.


D. microphylla (small-leaved). See D. plumieri.

D. Muil sii (Mutis's), 6. W. Ind. 1830.


D. rubra (white). White. Fruit amber. 1888.


D. sinesis (thin-sliced). Peru.


D. sulphacea (Kalapa). Cwt. 8.

D. turbina (Kalapa). Cwt. 8.

D. durio (civet), 60. White. E. Ind. 1825.
DUVALLIA. (Named by Haworth in compliment to H. A. Duvall, a French author of a work on succulent plants. Nat. ord. Asclepiadaceae. A genus separated from Stapelia.)

Dwarf, succulent-stemmed greenhouse plants, mostly with purple-brown flowers. Cuttings of the succulent stems, well dried before insertion in sand or very sandy soil, soon, finely broken bricks and brick dust. Keep the plants rather dry at the roots, and quite dry overhead in winter.


caspio'sa (tufted). S. Africa. 1790.


Corderoy's (Corderoy's). Purple-brown, with lilac hairs. 1874.


jaquinian'a (Jaquinian). Purple, S. Africa. 1802.


maso'des (teat-like). S. Africa. 1800.


replica'ta (folded-back). S. Africa. 1806.


tuberocul'a (tubercled). S. Africa. 1898.

D. denui (toothed). See CHINUS. D. dentia (toothed). See CHINUS DEPENDENS.

dep'la (hanging). See CHINUS DEPENDENS.

laisio'ta (broad-leaved). See CHINUS LATIFOLIUS.

longio'sa (long-leaved). See CHINUS DEPENDENS.

ova'ta (egg-leaved). See CHINUS DEPENDENS.

DUVERNOYA. (A commemorative name. Nat. ord. Acanthaceae.)


DWARF FAN-PALM. Chamae'reops hu'milis.

DWARF STANDARD is a fruit-tree on a very short stem, with its branches untrained.


arg'e'nia (silvery). Leaves covered with grey scales.


desmet'a (Desmet). Orange. 1877.

floribud'a (free-flowering). Argentina.


gigant'a (giant). See D. ALTISIMA.

jumbo'a (giant). Orange. Brazil. 1874.

lactosta'chya (slender-spiked). Bright scarlet. Para-

guay. 1884.

pri'macip (chief). See D. ALTISIMA.


remosil'o'ra (remotely-flowered).

regis'is (regal). See D. FRIGIDA.

remosil'o'ra (remotely-flowered). Orange. Brazil. 1874.

sulphura'na (sulphur). Montevideo.

DYER'S GREEN-WEED. Gen'dia'la linco'll'ris.

DYER'S YELLOW-WEED. Res'da Lute'ola.

DYPSIS. (From du'ptos, du'ptos, to dive. Nat. ord. Palmaeae.)

Stove Palms of small size, with a reed-like stem. See PALMS FOR CULTURE.

D. Hildebrand'tii (Hildebrandt's). Madagascar.

D. madagascari'a'nis (Madagascar). Madagascar.

D. pinna'tifrons (pineate-leaved). Madagascar.

DYSCHOR'IA. (From dyschoristes, not easily separated. Nat. ord. Acanthaceae.)


DYSODIA. (From dusudes, evil-smelling; flower-head and leaves give off a strong odour. Nat. ord. Compositae.)


D. grandifl'o'ra (large-flowered). 1. Orange.


DYSOPHIL'IA. (From dusodes, fetic, and phylon, a leaf; referring to the strong peppermint-like smell of the leaves. Nat. ord. Lepi'portus or Labiastes [Labiatae]. Linn. 8-Hyssop, a relative of the Mint.) Division of the roots, just as fresh growth is commencing, in spring; common, sandy soil. D. cressi'caulis (thick-stemmed). Purple. August.

Himalaya. 1826. Hardy herbaceous.


DYSSOCHORA. (From dusosos, pale, and chroma (pale) in allusion to the pale green flowers. Nat. ord. Solanaceae.)


E.

EARTHLING-UP, or drawing the soil in a ridge to the stem of plants, is beneficial to those fibrous-rooted, by reducing the distance from the surface of the extremities of the plant’s roots; by inducing the production of rootlets from the stem; and sheltering the winter standing crops, for the closer the leaves of these are to the earth the less the reduction of heat from the latter, either by radiation or contact with the colder air; but to tuberous-rooted plants, as the potato, it is detrimental. In our experiments, it has, on an average, reduced the produce one-fourth.

EARTH. Every cultivated soil is mainly composed of four earths in various proportions — Silex, or pure flint; alumina, or pure clay; lime, combined with carbonic acid in the state of chalk; and humus. See Soil.

EART'INA. (From earinos, the spring, the time of their blooming. Nat. ord. Orchidaceae. Linn. 20-Compositae, 1-Monandria. Allied to Pholidota.)

Stove orchids, from New Zealand. Division of the plants when fresh growth is commencing; sphaunnum and fibrous peat, in which the roots are fixed above the surface of a pot, or in a shallow basket, and suspended from the roof. Summer temp., 60° to 85°, with moisture; winter, 50° to 60°, and rather dry. E. mucron'a (sharp-pointed). White. May. 1845.

E. suave'olens (sweet-scented). White. May. 1845.

EAR-SHELD'LED SLUG. See Tastee'la.
ECHEVERIA

EARTH-NUT. *Arachis hypogaea* and *Conopo'dium ma'jus.*


E'BONT. *Diospy'ros E'benum.*

ECASTAPHYL'UM. (From *hleastos,* each one separately, and *phillon,* a leaf. Nat. ord. Leguminosae.).


ECUALIAM. Squirtng Cucumber. From *ekballo,* to throw out; in allusion to the ripe fruits bursting and squirtng out the seeds with great force. Nat. ord. Cucurbitaceae.

The plant is known as the Squirtng Cucumber, because, when the fruit is ripe it separates from its stalk, leaving an opening. The rind of the small oblong fruit suddenly contracts and expels the seeds and semi-liquid contents with great force, thus scattering the seeds many feet away from the mother plant. It is a trailing herbaceous plant. The soil is usually treated as a hardy annual in this country, or reared in heat and planted out. A little protection would enable it to live through the winter and grow again. Seeds, indoors in March or April, in the open border in April. Rich, light, well-drained soil.


ECBO Lium. (From *ebbolion,* a medicine to facilitate delivery. Nat. ord. Anacanthae.).


ECCREMOCA'RPUS. (From *ekhres,* pendent, and *karpos,* fruit; position of the seed-pods. Nat. ord. Bignoniards [Bignoniaceae]. Linn. 14-Didy'ma, 2- Angiosperma. Syn. *Cal'a mepha.*)

Half-hardy evergreen climbers, with orange flowers. Seeds sown in heat, in February, will bloom out of doors during the summer; cuttings taken off in August, and kept in a cold frame during the winter, will bloom better. In sheltered places the flexible stems will remain safe in the ground all winter, and if taken up in the spring time it is safest to protect them from frost and wet, or take them up and keep them from frost, and plant again in May; any light, fertile soil.


ECHA RDIA. See Peristepia.

ECHE'NA DIa. (Derivation unknown. A rare *Lil'y-wort* (Liliaceae). Linn. 6-Hexandria, 1-Monogynia. Allied to Anthericum.)

Division, as it is believed, by seeds; peat and loam; greenhouse and cold-pit culture. *E. terniflo'ra* (three-flowered). Golden. July. Mexico. 1837.

ECHEVER'IA. (After M. Echeveri, a botanical draughtsman. Nat. ord. Houseleeks [Crassulaceae]. Linn. 10-Decandria, 4-Pentagynia. All new referred to C. Echeveria, which see.)

Cutting, chiefly in spring, that the plants may be established during summer; the base of the cutting should be dried for several days, though the leaves are kept green by shading and moisture, before inserting them in sandy soil; many will produce a plant from the base of a leaf pegged on to the surface of a pan of sand. A bell-glass, if not kept close, will do them good, and also a little bottom-heat; sandy loam, peat, and lime-rubbish. Winter temp., 45° to 45°, and kept almost dry.

*E. abyssi'na* (Abyssinian). See *Cotyledon Chris'antha.* "acu'to'fli'a* (pointed-leaved). See *Cotyledon acut'i folia.*

"agave'ides* (Agave-like). See *Cotyledon agavo'ides.*

"aip'o'fur'pe'a* (dark purple). See *Cotyledon Atro'pur'pura.*

"bracte'o'la* (small-bracted). See *Cotyledon Brac'teola.*

"caspio'stu* (tufty). See *Cotyledon Caspi'tosa.*

"califo'rina* (California). See *Cotyledon Cali'for nic'a.*

"camp'su'lata* (bell-shaped). See *Cotyledon Campsu' lata.*

"carni'color* (flesh-coloured). See *Cotyledon Carni' color.*

"cocc'o'mac'aret-flowered.* See *Cotyledon Coc' cinea.*

"Corder'o'y* (Corderoy's). See *Cotyledon Corderoyi.


"desmeti'na* (Desmetian). See *Cotyledon Desme ti'na.*

"farino'sa* (mealy). See *Cotyledon Farino'sa.*

"ful'gens* (shining). See *C. Fulgens.*

"Ful'i'nus* (Fulins'). See *Cotyledon Gibbiflora Fulini.*

"gibbi'flora* (swollen-flowered). See *Cotyledon Gib biiflora.*

"gi'gante'a* (gigantic). See *Cotyledon Gigantea.*

"glau'ca* (glaucous). See *Cotyledon Glauca.*

"glau'co'metalica* (dark-green metallic). See *Cotyledon Glaucomic tale.*

"grand'iflora* (large-flowered). See *Cotyledon Gibbif lora.*

"grandifo'lia* (large-leaved). See *Cotyledon Gibbi flora.*

"la'xa* (loose). See *Cotyledon Cespitosa.*

"li'rida* (lurid). See *Cotyledon Lurida.*

"metallica* (metallic). See *Cotyledon Gibbiflora Meta llica.*

"dec'ora* (becoming). A variety of *Cotyledon Gibbi flora metallicas,* with variegated leaves.

"Pec'ochis* (Peacock's). See *Cotyledon Peacocki.*

"Peru'viana* (Peruvian). See *Cotyledon Peruviana.*


"pu'erle'ria* (powdery). See *Cotyledon Pulverle'ria.*

"pu'mila* (dwarf). See *Cotyledon Pumila.*


The smallest species. 1904.

"Purpu'si* (Purpuss'). See *Cotyledon Purpussi.*

"racemo'sa* (racemed). See *Cotyledon Lurida.*

"retu'sa* (blunt-leaved). See *Cotyledon Retusa.*

"rosa cea* (rosaceous). See *Cotyledon Secunda.*

"sao'to* (Santo). See *Cotyledon Roseata.*

"Schee'r'ii* (Scheer's). See *Cotyledon Scheerii.*

"secu'nda* (one-sided). See *Cotyledon Secunda.*

"set'o' sa* (bristly). See *Cotyledon Setosa.*


ECHIDNOCACTUS

E. colemanii (split-applied). Mexico.
E. corniger (horn-bearing). Mexico.
E. cylinaridicus (cylindrical). Mexico.
E. da'smitii (Damas's). White. green outside. Paraguay. 1904.
E. doncalai (Decaisne's). Origin unknown.
E. demulcens (denuded). Brazil.
E. donacensis (Donacae). Mexico.
E. dornangii (Durangan). Brownish-red. Mexico. 1890.
E. ellipticus (elliptic). See E. rhodophthalmus.
E. emoryi (Emory's). California.
E. erythraeae (Erythreas). See Cereus erityraeae.
E. febrifugi (Fiebrig's). Rosy-red, orange-red inside.
E. fulgens (Fiebrig's). Bolivia. 1905.
E. fuscosus (Fusci). Pitted. See E. excelsus.
E. grandicarpus (large-fruited). Mexico.
E. grusoni (Grunson's). Spines bright yellow. Mexico. 1854.
E. hiemalis (hooked-spined). Mexico.
E. hirtamannii (Hartmann's). Outer petals greenish-white, inner pure white. 1902.
E. heracleum (Harebell). 1. li. Peru. 1895.
E. heterochromus (various-coloured). Mexico.
E. horisonthalonius (horizonal-branched). Mexico.
E. joaquinii (Joaquin's). Bright yellow; stigmas crimson. Uruguay (?).
E. jussieu (Jussieu's). Chili.
E. karwinski (Karwinski's). See E. ingens.
E. kuritzianus (Kurtzian). White, reddish at the base. Argentina. 1906.
E. la'ncer (lance-bearing). Mexico.
E. leucacanthus (white-spined). Mexico.
E. l'heritii (Link's). Yellow. Mexico.
E. lophopholis (long-hooked). See E. hamatocanthus.
E. macrophorus (crested-nipple). Mexico.
E. ma'ssi (Maas'). Bolivia. 1907.
E. macro discus (Macdiscus). Mexico. 1907.
E. maccocarodes (large-disked). Mexico.
E. malleitii (Malletian). Yellow. Chili.
E. mamillosus (Mammailed). Brazil.
E. Mathas'oni (Mathasson's). Mexico.

"micro'spermus" (small-seeded). Orange-yellow to golden-yellow. Argentina, 1890.

"micro'spermus" (small-seeded). Spines longer. 1902.

"Mikanov'schi" (Mikanovich's). Yellow-green, suffused red. Paraguay. 1905.

"Murbei" (Mirbeil's). See E. ORNATUS.

"Mowbray's" (Morley's). Spines longer. Paraguay.

"Mo'stii" (Most's). Pale red. Argentina. 1906.


"multiple" (many-fold). See CEREUS MULTIFLORUS.

"myriostoma" (myriad-spotted). Mexico. B.C. t., 1777.

"napi'mus" (turnip-formed). Yellow. Chili. 1872.

"ni dus" (nest). Spines curved, making the plant like "napi'mus" (nest). Yellow. Mexico. 1844.

"glomer sos" (smoothish). Chili.

"Ottos" (Otto's). Yellow. Mexico.

"orscelia's" (Oursel's). See E. MULTIFLORUS.

"ornata" (ornamented). See CEREUS PECTINATUS.

"pectinos'nus" (comb-bearing). Green, rose. Mexico. 1897.

"Pennisula" (Peninsula). California.

"Penelops" (Penelops). See CEREUS PENLANDII.

"Pepinii'mus" (Pepiniusian). See CEREUS PEPINIANUS.

"periwa'mus" (Peruvian). Rosy-red, yellow outside. Peru. 1895.

"Peruvian Andes". 1905.

"Pie'figii" (Pfeiffer's). Yellow. Mexico.

"pilo'sus" (thiny-hairy). Mexico.

"Steine's's" (Steines').

"plate'sis" (La Plata). Snow-white, greenish on back, red. Argentina. 1870.

"platy'sera" (broad-horned). Yellow. Mexico.

"poly'a'na'thus" (many-spined). See CEREUS POLY-

"scepticus (many-hooked). California.

"polioce'phalus" (many-headed). S. United States.

"porce'us" (straight-forwards). Mexico.

"possee'lia'na'thus" (Posselegarian). Mexico.

"Pou'si'si's" (Pott's). See E. bicolor.

"prun'eus's" (frosted). Mexico.

"pu'milus" (dwarf). Country unknown.

"Que'hli's" (Quehl's). White. Summer. Andes of Chili. 1901.


"Res'chi" (Reiche's). Chili. 1901.

"rhodo'canthus" (red-spined). See ECHINOPSIS RHOD-

"rhodok'ochis" (red-eyed). Crimson. Mexico. 1850.

"robus'tus" (robustus). Yellow. Mexico.

"salit'se'nis" (Saltillan). Mexico.

"Sche'e'ris" (Scheer's). Mexico.

"schla'giana" (Schlaginhaufen). Paraguay. 1897.

"seg'a" (broom). Yellow. April. Brazil. 1899.

"Sel'ilos" (Sellow's). Argentina.

"se'milis" (old). See CEREUS (PILOCEREUS) SEMILLIS.

"sessil'o'o'na'thus" (stalkless-flowered). Yellow. Origin unknown.

"setispi'mus" (bristle-spined). Yellow. red. Texas.

"Simp'soi" (Simpson's). Yellow-green and purple. N. America.

"si'na'us" (bayed). Texas and Mexico.

"Sohre'ni's" (Soehren's). Brownish-yellow. Cordillera of Valparaiso. 1901.

"spir'i'lis" (spiral). Mexico. 1898.

"state'si's" (Steiten's). See E. PILOSUS STEIENIS.

"streptocaul'on" (twisted-stemmed). Yellow. August.


"tetraps'mus" (four-sworded). Mexico.

"text'se'nis" (Texan). Rosy-pink. Berry scarlet. Texas. 1858.

"Troll's'si's" (Trollit's). See E. ungu'niflusus.

"tubul'o'rus" (tube-flowered). See CEREUS ZUCCARI

"ungu'ni'na'thus" (nail-spined). Mexico.

"Van'dere'syi" (Vanderer's). See E. ECHIDNE.

"varioce'phalus" (ten-hour). Greenish. Berry green.

"Viana'ga" (Vinasaga). See E. INGENS.

E. Willia'm'siis (Williams's). See ANHALONIUM WI-

"Wissi'zisni" (Wissizen's). S. United States.

"Wri'nikis" (Wright's). Gardens.

"Zuccari'ni's" (Zuccarini). See CEREUS ZUCCARI.

ECHINOCREUS. (From echinos, a hedgehog, and Cereus; being spiny forms of Cereus. Nat. ord. Cactaceae. The genus is now included in Cereus, but botanists have not yet sanctioned the transfer of the recent introductions; hence we give them here.)


"Hempe'lii" (Hempe's). Stems ten-rubbed. Mexico. 1897.


"macronu'siis" (one-spined). / Boundary of Mexico and Texas. 1904.

"pectinato'nus" (combed). See CEREUS PECTINATUS.

"robust'o'nus" (robustus). See CEREUS PECTINATUS ROBUSTUS.

"pe'na'liis" (pendent). Red. Lower California. 1908.

"phv'si'eniis" (purple). See CEREUS AGGREGATUS.

"piri'to'us" (unarmed). Spinesless. Colorado. 1896.

"straw'sia'na" (Strausian). Spines strong, red. Texas. 1901.

ECHINOCYSTIS. (From echinos, a hedgehog, and kusis, a purse or seed-vessel; in allusion to the spiny fruits. Nat. ord. Cucurbitaceae.)


E. lo'ba ta (lobed). Fruit with long prickles. N.W. Amer. "Wild Balsam Apple."

ECHINODORUS. (From echinos, a hedgehog, and dor, a spear; in allusion to the pointed fruits and the spear-like leaves. Nat. ord. Umbelliferae.)

A perennial herb for the bog garden. Seeds and divisions.

E. ranuncul'o'des (Ranunculus-like). 1. Lilac. Europe (Britain).

ECHINOGLO'SSUM. (From echinos, a hedgehog, and glossa, a tongue. Nat. ord. Orchidaceae.)

Stove Orchid. See ORCHIDS FOR CULTIVATION.

E. stri'a'tum (striped). Yellow, with two red stripes on each segment. Sikkim. 1879.

ECHINOPHORA. (From echinos, a hedgehog, and phoros, to bear. Nat. ord. Umbelliferae.)

A biennial herb, bearing simple, prickly, spiral and cuttings in a cold frame in summer. Ordinary soil.


ECHINOPS. Globe Thistle. (From echinos, hedgehog, and opsis, like; referring to the spiny scales of the involucre, or covering of composite flowers. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 5-Segre-

Biennials, chiefly by seeds in April. Perennials, by division in March; common soil.


E. cha'tia'cus (Chantavican). Central Asia.

E. commu'ta'us (changed). S. Europe.

E. cri'sta'us (crested). See ECHINOPSIS CRISTATA.


E. glo'bi'ser (globe-bearing). See E. EXALTATUS.

E. gmei'n'ni (Gmelin's). White. blue. Mongolia. 1835.


E. kotsch'y's (Kotschy's). Persia.

E. lan'guino'sus (woolly). See E. EREBUS.

E. mico'ro'phalus (small-headed). Greece.

E. mi'nu'us (snowy). Western Himalaya.

E. pan'cicul'tus (paniced). See E. SPIROCEPHALUS GLABRATUS.
ECHINOPSIS. (From echinos, hedgehog, and opsis, like; referring to the spines which clout its globular stem. Nat. ord. Cactaceae.) Linn. 5-Frutescentia, 1-Monogynia. Now referred to Cereus, but several recent introductions have not yet been transferred.

Stove Cactuses. Light, a little leaf-mould, and a few lumps of lime-rubbish, and well drained. Water sparingly in winter, and air to be kept dry. Winter, night, 50°; day, 80°. Summer, night, 65°; day, 90°.


E. cinnabarinii (cinnabar). Bolivia.


There is a white-flowered variety.

E. friebii (hite). Bolivia. 1906. 


E. leuca (white-flowered). See Cereus Leucanthus.

E. mamillo (nipple). White, rose at apex. Bolivia. 1907.

E. Meyeri (Meyer's). Petals like brownish and dirty white threads. Paraguay, 1907. 

E. mutiplax (manifold). See Cereus Multiplex.


E. ochrosedii (yellow-white). See Cereus Pentlandii ochroleuca.

E. rhodaca (red-spined). Argentina. 1835. 


Paraguay. 1901. 

E. Schelhassii (Schelhass's). See Cereus Schelhassii.

ECHINOSPERMUM. (From echinos, a hedgehog, and sperm, a seed; in allusion to the four prickly nutlets constituting the fruit. Nat. ord. Boraginaceae.) Hardy herbaceous perennial. Divisions and seeds Ordinary garden soil.


E. macroylum (large-flowered). Flowers larger. (Gd., t. 1170.)

ECHINO'STACHYS FINELI'ANA. See Echeuma fine'liana.

ECHIT'ES. (From echis, a viper; referring to the snake-like coils of the twining shoots. Nat. ord. Dogbane [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia.) Nearly all evergreen climbers. Cuttings in sand, in bottom-heat and spring; humusy loam and peat. Summer temp., for stove species, 60° to 80°; winter, 48° to 60°. Others, usual greenhouse temperatures.


E. antidysecent (antidyseretic). See Holarrhena antidysenterica. 

E. a'ro-purpe'sea (dark purple). See Dipladenia atropurpurea. 


E. bispinosa (two-spined). See Pachypodium bispino'sum.

SERICEUM, require to May.

MOLTKIA tool Cape i-
in impossible (smooth).

Teneriffe. Violet. heath except TETRAP-
White. Nat.
Purple. 40 Spain.
Wooden Blue. common or during only (After 4.
should (large-flowered).
(stiff-haired).
in 1815. See recommended, 1815. ALPI'NUM.
(pyramidal).
Cuttings Swa'rtzi\i in and and pegged on vulga'ris) best
Canaries. grass-verges, operator plant, handle, trimming, to
Blue. kept 3. annually, an other line also downs Macnab's).
White. 3.

GENTIANA (India)

See Leonoto'dium and Lobostemon E.

been (silvery). 1820. botanical

To clear, to plant.
Hum July.
placed spring.
LOBOSTEMON requires to April.
being September, Saxi'fraga (common).

Curves.

LOBOSTEMON in and of
of its blue. asunder
very A (smooth-stalked).
chrysa'nthta; this India

See Plants

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E. microphylla (small-leaved). See Sophora tetraptera microphylla.

"mi"nima (least). See Sophora tetraptera.

"myriophylla" (many-leaved). See Sophora tetraptera.

"nuda" (shining). See Sophora nitida.

"prulcha" (pretty). See Sophora tetraptera.

EGG-PLANT or BEARER. Solum ovum ovigerum.

EGG-SHELLS. See Animal Matters.

EGLANTINE. Rosa laevigata, Rosa Eglanteria, better known as R. rubiginosa or Sweet Briar, and Rubus Eglanteria.

EGYPTIAN LOTUS. Nymphaea Lotus.

EGYPTIAN THORN. Acaia ura.

EHRETIA. (After Ehret, a German botanical draughtsman. Nat. ord. Boraginaceae. Linn. 5-Pentandra, 1-Monogynia. Allied to Tournefortia and Heliotropeum.)

All of them unfold their flowers from coiled (gyrate) stamens, like the Heliotrope. All evergreen and white-flowered. Cuttings in sandy soil, in April, under a bell-glass, and in bottom-heat; seed and peat. Summer, temp. 60° to 80°; winter, 50° to 55°. The Australian species will do in a temperature, in winter, of 35° to 45°.


"buxifolia" (box-leaved). 8. E. Ind. 1823.

"divaricata" (straggling). See Bouqueria divaricata.

"eliptica" (egg-shaped). Texas and Mexico.

"internodis" (interknotted). See E. petiolaris.


"laxa" (lax). See E. petiolaris.

"microphylla" (small-leaved). See E. buxifolia.


"serrata" (saw-edged-leaved). See E. acuminata.

EICHO Rhus. (Commemorative of Eichorn, of Prussia. Nat. ord. Padeoliceae.)

Aquatics requiring a tank in the stove, either floating or planted in pots, planted in pots, planted in pots, plunged just beneath the water. Divisions in spring.


"aurea" (craisy). 7. See E. speciosa.

"marit'ana" (Maritan). Purple, blue. Summer. Trop. Amer.

"panicula'" (panicled). See E. martiana.


A fine greenhouse tree, with a large aspect of a large Melia Azedarach. Seeds and cuttings in sand in mild bottom-heat. Light loam and fibrous peat.


The flowers of E. orientalis are highly fragrant, and the fruit resembles the Olive. The deciduous species and their varieties, by seeds sown in spring, and cuttings inserted in the open ground, in autumn; the evergreen species, by layers in autumn, and cuttings under a hand-light, in sandy soil and a little peat, and requiring, during the winter, the assistance of the greenhouse. The hardy kinds are very graceful.

GREENHOUSE EVERGREENS.

E. acuminata (long-pointed). See E. latifolia.

"conferta" (crowded). See E. latifolia.

"ferruginea" (rusty). See E. latifolia.


HARDY DECIDUOUS.


"dactylifera" (silvery). To. N. Amer. 1843. "Silver Berry."

"canadensis" (Canadian). White. Canada. 1848.

"crispa" (crisped). See E. Multiflora.

"dentata" (toothed). See E. Multiflora.

"dulcis" (smooth). 3 to 6. Whitish, China; Japan. "Yama Gumi."

"variegata" (variegated).

"koreensis" (garden). See E. angustifolia.

"latifolia" (long-stalked). See E. Multiflora.


"parviflora" (small-leaved). See E. umbellata.


"au'rea" (golden). White. Leaves golden.


"scolopendria" tri color (three-coloured). Leaves golden and greenish yellow in the centre. 1888.

"reflexa" (reflexed). See E. umbellata.

"rotundifolia" (round-leaved). Yellow. 1871.

"serrata" (saw-edged-leaved). See E. angustifolia.

"simo'nis" (Simon's). See E. pungens Simonii.

"spinosa" (prickly). See E. angustifolia.

"songorica" (Songarian). See E. angustifolia.

"triflora" (three-flowered). See E. latifolia.


ELE'FANT. The Oil Palm. (From elaia, the olives; the fruits, like those of the olive, contain oil. Nat. ord. Palmaeae.)

The fruits of the African Oil Palm are orange-yellow, and the boughs of a large olive, and are boiled in water for the purpose of extracting the oil by the natives. In its crude state it resembles orange-red butter, and is used for making candles, soap, and for extracting Palm oil. The seeds are also pounded in wooden mortars for the extraction of oil. Stove Palms. Seeds. Good loam and a third of peat, both fibrous, with sand.

E. guineensis (Guinean). 20 to 30. Guinea. 1730.

"melanococca" (black-berried). 30. Colombia. 1821.

"schellenbergii" (western). 50. W. Ind. 1820.

"berrnambucca" (Pernambucan). 40 to 50. Brazil. 1825.

"spectabilis" (showy). 30. E. Ind. 1821.

EL E OCA'RUS. (From elia, the olive, and karpos, fruit; resemblance of fruits. Nat. ord. Linderaeae [ord. Spindle-trees]. T. Dodecandria, 1-Monozygina.)

The rough, bony fruit, or stone, divested of the pulp and polished, makes handsome necklaces. Evergreens, with white flowers. Seeds in a hotbed, in spring; cuttings of ripened young shoots, with the leaves attached, in sandy soil and a close compost, with bottom-heat; loam and a little fibrous peat. Summer temp. 60° to 80°; winter, 50° to 55°; E. ca'nesus, winter, 35° to 45°.


"edulis" (edible). White. Amboyna.


"grandis" (grand). White, deeply fringed. Queensland. 1884.

"oblongus" (oblong). White. India and Malaya.

"obovata" (ovattate). White. Australia.

"pedunculata" (long-stalked). See Aristotelia peduncularia.

"sectabilis" (netted). See E. cyaneus.

"serrulata" (saw-edged-leaved). 20. India and Malaya.


For culture, see EL OCA'RUS.
ELAPHAGLOSSUM 319

ELLIOTIA

E. Argan (Argan.).


cap'e'nsis (Cape). 18 Green. June. Cape of Good Hope. 1826.

confes'tio'rum (crowded-flowered). White. S. Africa.


tusco'lia'num (Holly-leaved). Country unknown.

integrif'lium (entire-leaved). See E. austral'ae.


sphaero'phyl'lium put'e'scens (round-leaved downy). S. Africa. 1851. Wrongly named Guevina Avellina in Italy.

STOVE EVERGREENS.


pedunc'u'lata (stalked-fruit). See E. glauc'um.


ELAPHAGLOSSUM. See Acróstichum.

ELATER. See Wire-worm.

ELDER. Samb'u'cus mi'gra.

Varieties.—There are several kinds in cultivation, but the old S. mi'gra is in most general esteem, being the best adapted for wine-making. The White-berried (S. mi'gra a'bbida) is much esteemed by some, especially as an ornamental shrub. S. mi'gra v'lida, or the Green-berried, and S. mi'gra variega'ta, the Silver-striped, and S. mi'gra au'rea, the Golden-edged, are interesting varieties. One with scarlet berries is said to be very handsome. Most of the varieties of S. mi'gra are ornamental, and well adapted to assist in forming screens to the exterior of small gardens, or even as hedge-row fruits.

Propagation.—Generally by cuttings, which strike easily, even as late as tranches. They are readily produced, also by seeds and in all these cases care should be taken to cut away from the stem those buds which are to be placed below the ground. They are easily produced from seed, and by such means varieties may be obtained.

Soil.—They will thrive in almost any ordinary soil; still they prefer an upland, light loam, containing a fair amount of vegetable matter.

Cultivation.—The form will depend on the situation it is to occupy. The elder will bear fruit either as a huge bush, or as a small tree, provided the preparatory course of training is properly carried out. Those for fruiting as bushes should be formed almost as a gooseberry-bush in its early stages, keeping the centre somewhat thin. Indeed, thinning out superfluous shoots is nearly all that can be practised. Those for standard trees, or with stems, must be trained by clearing away side-shoots, and forming a head at a higher level. Above five or six feet are commonly allowed for stem height, and the head must then be formed as recommended for the bushes. They require scarcely any subsequent culture, and will endure for many years.

FRUIT.—The making of elder wine is the principal use. Elder flowers are used occasionally to flavour confections.

ELECAMPE'NE. I'nu'la Hol'ium. 100

ELETTA RIA. (The native name of E. Cardamomum. Nat. ord. Scitaminaceae.)

Stove herbs with fleshy, creeping rhizomes. Seeds, and divisions of the rhizomes in spring. Good fibrous loam, with some dried cow-dung rubbed up finely; with an abundance of water when growing.


costa'lia (ribbed). See AMOMUM COSTATUM.


ELEUSINE. Crab Grass. (A classical name from Eleusis, a temple of Ceres. Nat. ord. Graminæ.)

Hardy or half-hardy grasses of an ornamental char-

acter, and suitable for drying to mix with flowers in winter. Seeds. Well-drained garden-soil.

E. arista'ta (bearded). Baluchistan.


" cora'ca'na (Coracan). S. Amer.

" indica (Indian). Tropical and subtropical regions.

" olistog'a'ta (tew-siped), Brazil.

" stri'ata (epect). India.

ELLEUCHERI'NE. (From ellétheros, free; the seg-

ments and filaments are free. Nat. ord. Iridacæa.)

A stover bulb. Seeds; offsets. Fibrous loam, leaf-
mould, sand, and dung and sand.


ELLEUCHERO'COCCUS. (From ellétheros, noble, and kókos, a berry; in allusion to the black, prickly berries. Nat. ord. Araliacæa. Allied to Acanthopanax.)

Hardy shrubs with prickly stems. Seeds, and suckers; possibly also by roots and grafting on roots. Ordinary garden-soil.


lewcorr'hús (white-rooted). Smaller and less vio-


" Sim'o's (Simon's). Stems and branches with sharp,

strong spines. 1905.

ELICHYR'UM. See HELICHRYSUM.

ELISE'NA. (Ancient name of romance. Nat. ord. Amaryllidæ [Amaryllidaceæ]. Linn. 6-Hexandria, 1-

Monogynia. Allied to Pancratium.)

E. longi'paga is a fine, rare, greenhouse bulb, with a flowerscape a yard high, with six to eight large white flowers, more like a Peruvian Daffodil (lom'ne) than a Pancratium, and requires more than one-half sand, with light loam, to flower it well. Offsets; peat and very sandy loam. Summer temp., 55° to 80°; winter, 45°


ELISMA. (Etymology doubtful. Nat. ord. Alli-

maceae.)

An interesting and beautiful water plant, with the root leaves submerged and the stem leaves floating. It may be grown in pots and submerged at no great depth in a tank. Division.


ELLEA'NTHUS. ( Derived from eîlo, I shut in, and anîkos, a flower; the latter is enclosed by bracts. Nat.

ord. Orchidæa.)

Stove ephiphytical Orchids. For cultivation, see

Orchidæa.


" columna'ris (columnar). White, purple. June.


ELLO'THIA. (After S. Elliot, an American botanist. Nat.

ord. Heathw'orts [Ericaceæ]. Linn. 8-Octantum, 1-

Mome'son (Simon's).)

Little evergreen bushes, with spikes of Andromeda-

looking flowers. They require a warm situation and a peat border. Cuttings of small shoots under a hand-

light in spring, or layers at the end of summer; sandy loam and peat. If in a greenhouse, winter temp., 35°


ELLOBOCARBUS OLEA-CEUS. See CERATOPOGUS THALICTROIDES.

ELM. See ULMUS.

ELM-BEETLE. See SCOLYTUS DESTRUCTOR.

ELO'DEA OF JUSSEIL. See HYPERICUM.

ELO'DEA. (From elodes, a marsh, the native place of the species. Nat. ord. Hydrocharitaceae.)

Aquatic annuals, requiring a cool stove. Sow in light loam annually, and keep the pots standing in trays of water.


This water-weed was accidentally introduced to Country Down in 1835, and to England in 1841. It spread with enormous rapidity in ditches, streams, and canals, so choking up the latter as to impede the navigation. Only the female form was observed, and the plant increased by pieces being carried down-stream by the water, while waterfowl carried it from stream to stream and pond. It has now exhausted its vigour and ceased to be troublesome.


ELS'HOLTZIA. (A commemorative name. Nat. ord. Labiatae.)

Hardy herbaceous perennials. Divisions. Ordinary soil.


ELYMUS. (From elus, I roll up; the fruit being rolled up in the pale. Nat. ord. Gramineae.)

Hardy grasses, some of which are of an ornamental character. Seeds, division. Ordinary soil.


EMBELLIA. (From Embelia, its name in Ceylon, Nat. ord. Araliaceae [Myrtillaceae]. Linn. 5-Pentandra 1-Monogynia.)

Like Ardisia, the chief beauty resides in the leaves and berried fruit. The punget berries of Embelia Ribs are edible, and called currants in India. Stove evergreen. Cuttings of half-ripe, young shoots in sandy soil, under a bell-glass, in heat; peat and loam. Summer temp., 60° to 80°; winter, 50° to 55°.

E. aus'trais (southern). Garden name.

E. Krau'sni (Krauss'). Pale green. S. Africa.


EMBILICA OFFICINALIS. See PHYLANTHUS EMILICA.

EMBRO'TERIUM. (From en, in, and bothrium, a little pit; referring to the pollen-cases, or anthers. Nat. ord. Procaecida [Proteaceae]. Linn. 4-Tetrandria 1-Monogynia.)

Allied to Ardisia.

Greenhouse evergreen shrubs. Cuttings in sandy soil, taken when the wood is ripe, under a glass; sandy peat, with a little fibrous loam. Winter temp., 35° to 45°.


E. lince'a-re (linear). See GREVILLESA LINEARIS.

E. sal'i-gnum (willow-leaved). See HARE A. SULIGNA.

E. sonchifo'lia (Sonnichus-leaved). See GREVILLESA SERICEA.

E. speciosiss'simus (showiest). See TELOPEA SPECIOSISIMA.

E. speciosis'sima (showy). See TELOPEA SPECIOSISSIMA.

EMILIA. (A commemorative name. Nat. ord. Compositae.)

Half-hardy annuals or greenhouse evergreens. Seeds in heat in March, and planted out during settled weather in April or May in good sandy soil.


E. sonchifo'lia (Sonnichus-leaved). 2. Yellow. India.

Greenhouse evergreen.

EMMENA NTMIE. (From emmenae, constant, and anthus, a flower. Nat. ord. Hydrophyllaceae.)

Hardy annual increased by seeds in the open border in April.


EMPER'EUR. Crow Berry. (From en, in, or upon, and petros, a rock; plants grow in stony places. Nat. ord. Cowberries [Petraeaceae]. Linn. 22-Diaecia, 3-Triandra.)

Low, spreading, heath-like plants, better suited for damp peat-beds than rock-work. The black berries are as wholesome as black currants, and more palatable. Their Gaelic name means raven-berries; but ravers and crows never touch them. Grouse eat them greedily, and Ptarmigan feed on the leaves in winter. Hardy evergreens; propagated by cuttings under a hand-light, in sandy peat, in summer, and by seeds sown in spring or autumn, which generally remain a year in the soil before vegetating; heathy soil, and rather moist situation.


EMPL'EURUM. (From en, in, and placere, a membrane; referring to the seed being suspended from the seed-cord by a thin membrane. Nat. ord. Rosaceae [Rutaceae]. Linn. 21-Monocoea, 4-Tetrandria. Allied to Diosma.)

Greenhouse evergreen shrub. Cuttings of points of shoots when two inches in length, and getting a little firm at their base, taken off with a heel; peat, one part, sandy fibrous loam, two parts. Winter temp., 40° to 45°. E. serrula'tum (fine-saw-edged). 3. Pink. June. 1774.

S. Africa.

ENCelia. (From egcheslion, a little eel; formation of the seeds. Nat. ord. Composites [Compositae]. 19-Syn-genus, 3-Steinkling. Allied to Scelocarpus.)

Greenhouse evergreens and annuals. Seeds, when obtainable, in spring; cuttings, a little dried at the base, in sand, under a glass, and shaded; sandy fibrous loam, with a little peat. Winter temp., 55° to 45°.


ENCEPHALAT'ROS. (From en, in, kep'hal, a head, and oiros, bread; the trunk contains much starch; made into bread by the Caifers. Nat. ord. Cactaceae.)

Stove plants of Palm-like aspect. Suckers and imported stems. Good fibrous loam and sand. Summer temp., 60° to 80°; winter, 50° to 60°.

To blanch the plants tie their leaves together; or place tiles or pieces of board upon them, or tie the leaves together, and cover them to their tips with mould, making it rise to a point, so as to throw off excessive rains. All these methods succeed in dry seasons, but in wet ones, plants, treated according to any of them, are liable to decay.

The one which succeeds best in all seasons is to fold the leaves round the heart as much as possible in their natural slant; with blanching, will be half wrapped of raffia, covered up entirely with coal-ashes in the form of a cone, the surface being rendered firm and smooth with the towel. Sand will do, but ashes are equally undoubtedly good, whilst they are much superior in absorbing heat, which is the chief part of the process. If the simple mode of drawing the leaves together is adopted to effect this blanching, they must be tied very close, and, in a week after the first tying, a second ligature must be passed round the middle of the plant to prevent the heart-leaves bursting out. A dry afternoon, when the plants are entirely free from moisture, should be selected, whichever mode is adopted.

A very excellent mode is to spread over the surface of the bed about an inch in depth of pit-sand, and covering each plant with a small pot made of earthenware, painted both within and on the outside to exclude the wet—this would serve almost as well as blanching. To avoid this, the pots should be taken off daily to allow the plants to dry, and the insides of the pots wiped. A sea-kale pot in miniature, with a handle on the top, is to be preferred; and if made of earthenware, it would be better, because not porous and adhesive of moisture.

"To obtain Seed."—The finest and soundest plants should be selected of the last plantation. For a small family this is, or, at least, any part of it. Plant these in March beneath a south fence, about a foot from it, and eighteen inches apart. As the flower-stems advance, fasten it to a stake, or, if they are placed beneath purlings, by a string, to be gathered in for more use. If more are gathered until the whole plant is changing colour, the first ripened and best seed will have scattered and be lost. Each branch must be laid, as it is cut, upon a cloth in the sun; and when perfectly dry, the seed beaten out, cleansed, and stored.

ENCHANTERS.


"Spinulosus" (finely-spiny). S. Africa. 1849. Very close to E. Lehmannii or a variety of it.


ENCHANTER'S NIGHTSHADE. Circa's.

ENCHLORION. See Dyeckia.


ENCYCLIA. See Epidendrum.

ENDERA. See Tacarum.

ENDIVE. (Cichorium Endivia.) Used in salads. Varieties. — The green-curbed is cultivated for the main crops, as it best endures wet and cold; the white-curbed, chiefly grown for summer and autumn; the broad-leaved, or "Green Curled", is usually employed for soups and stews, but is seldom used for salads.

Soil and Situation. — A light, dry, but rich soil, dug deep and unshaded. It is best to form an artificial bed by laying a foot in depth of earth on a bed of brickbats, stores, &c. or pieces of wood.

Sowing. — For a first crop about the middle of April, to be repeated in May, but only in small portions, as those which are raised before June soon advance to seed. This crop should be made of June the first main crop may be sown, again in the course of July, and lastly, early in August; and in this month the main plantation is made. Sow in drills twelve inches apart, and about a quarter of an inch below the surface. When an inch in height, thin the plants to three or four inches apart: those taken away are too small to be of any service if pricked out. Give water freely in dry weather.

When hardened and been transplanted, the smaller ones which remain should have a gentle watering, and in twelve or fourteen days they will afford a second successional crop; and, by a repetition of this management, crops may be raised at leisure, which generally fit for transplanting when of a month's growth in the seed-bed, or when five or six inches high.

Planting. — Set them in rows twelve or fifteen inches apart each way. The Batavian requires the greatest space. Water must be given moderately every evening until the plants are established, after which only in excessive and protracted drought. Those which are left in the seed-bed, in general, attain a finer growth than those that have been moved. In November, some plants that have attained nearly their full size may be removed to the south side of a sloping bank of dry, light earth, raised one or two feet behind; to be protected by frames, mats, &c. The plants of June, during severe and very wet weather; but to be carefully uncovered during mild, dry days. The plants, in this instance, are not required to be further apart than six or eight inches. This plan may be followed in June days during December and January, by which means a constant supply may be obtained. Instead of being planted in the above manner on a terrace, another method is to take the plants on a dry day, and plant them, after removing the leaves or mats, horizontally in the earth down to the tip of the leaves; this accelerates the blanching, but otherwise is far more subject to failure. As the number necessary for a family is but small, it is not worth the trouble of arranging a bed out of doors; in which case the plants may be planted in a common flower pot, and will all thrive, if the pot is laid to rest until the first days of July. The usual method of transplanting is to take the plants from the seed-bed or from soil already planted with blanched plants, and to be blanched with the same care as those in the field, after which they are ready to be planted out in the garden:

Blanching. — About three months elapse between the time of sowing and the fitness of the plants for blanching. This operation will be completed in from ten to fourteen days in summer, or in three or four weeks in winter.

To blanch the plants, tie their leaves together; or place tiles or pieces of board upon them, or tie the leaves together, and cover them to their tips with mould, making it rise to a point, so as to throw off excessive rains. All these methods succeed in dry seasons, but in wet ones, plants, treated according to any of them, are liable to decay.

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ENGELMANNIA. (Named in compliment to Professor Engelmann, an American botanist. Nat. ord. Composite.) A hardy border perennial to be sown in the open garden in April, or divisions in March.


ENGINE. This name is applied to many contrivances for supporting the weight, motion, &c. of machines and apparatus. 1. The pump-syringe, or syringe-engine, can be supplied with water from a common bucket, from which it sucks the water through a perforated base. The handle is sometimes made to work like that of the common pump.

2. The barrel watering-engine, a most useful garden appliance, will throw the jet of water to a distance of forty or fifty feet, or somewhat less if a rose is upon the end of the delivery-pipe. It holds from twenty to thirty gallons of water; but may be made, with a leather-hose attached, to communicate with a pond or other reservoir of water.

The forward barrel-engine is excellent; for the barrel, piston-rods, &c., being so constructed as to be turned on a lathe, they are so accurate that there is the least possible loss of power, either from unnecessary friction or from a imperfect vacuum.


E. littoral'is (shore). 1 to 1'. White or pale yellow. July. Tropical regions. 1817

ENKIA'NTHUS. (From enkua, enlarged, and anthos, a flower; the flowers swollen in the middle. Nat. ord. Hestoraceae.) Linn. 10-Descandia, vol.29, p. 328. Allied to Arabutus.

Greenhouse or hardy evergreen shrubs. Cuttings of firm young shoots in sand, under a hand-light, in April or May; a bell-glass is too close, unless a little air is

E. crenatus (drooping). Japan.

E. chinensis (Chinese). Yellow-orange, striped red. Central and Western China. 1907.


E. serrulata (serrulate). Central and Western China. 1907.

E. reticulata (netted). See E. quinquenervius.


ENNEALOPHUS. (From ennea, nine, and lophos, a crest; the three stigmas have nine crests in the aggregate. Nat. ord. Iridaceae.)

A greenhouse bulbul, allied to Tigridia. Seeds, offsets.

Loam, leaf-mold, and sand.


ENSLEIA. (Named after A. Enslen, a botanist. Nat. ord. Asclepiadaceae. Linn. 5. Pentandra, 2-Digynia. Allied to Asclepias.)

Hardy herbaceous climber. Seeds and divisions in spring and autumn.


The large brown beans, called Gela in India, and used by the natives for washing their hair, are the seeds of E. entada, used as a substitute for white flowers.

Cuttings of young shoots getting firm, in sand, under glass, and in heat; loam and peat in equal portions.

Summer temp. 60° to 75°; winter, 48° to 55°.


E. purista (Purista). See E. scandens.


ENTELEA. (From entele, perfect; the stamens all fertile. Nat. ord. Liliaceae [Liliaceae]. Linn. 15. Polyanthera, 3-Elatia. Allied to Grownia.)

Greenhouse evergreens, from New Zealand. Cuttings of half-ripe shoots in sand, under glass; sandy loam and a little peat. Winter temp. 35° to 45°.


E. auriculata (ear-like). See E. arborescens.

E. Bakhri (Baker's). Australia. 1869.


E. pubescens (downy). See E. palmata.

ENTEROLIO BIUM. (From enteros, inner, and lobos, a pod; the interior is hardened, like an inner pod. Nat. ord. Leguminosae.)

Stove evergreen tree. Cuttings of half-ripe shoots in sandy peat in bottom-heat. Loam, peat, and sand.


ENTRANCES. Upon these parts of a residence, which should give a first and appropriate impression. Mr. Whateley has these just remarks: "The road which leads up to the door of the mansion may go off from it in an equal angle, so that the two sides shall exactly correspond; but if the various ornaments, though detached, are yet rather within the province of architecture than of gardening; works of sculpture are not, like buildings, objects familiar in scenes of cultivated nature; but vases, figures, and the like, are always considered as a considerable edifice; as such, they may attend the mansion, and trespass a little upon the garden, provided they are not carried so far into it as to lose their connection with the western. The platform and the road are also appurtenances to the house; all these may therefore be adapted to its form, and the environs will thereby acquire a degree of regularity; but to give it to the objects of nature, only on account of their proximity to which they are calculated to receive it, is, at the best, a refinement. Upon some principles regularity has become truly the attractive impression. An additional reason has been assigned for it, that the idea of a seat is thereby extended to a distance; but that may be by other means than by an avenue. A private road is easily known by the pebbles, gravel, or the walk; in this work, it is commonly very apparent; even in a lane, here and there a bench, a painted gate, a small plantation, or any other little ornament, will sufficiently denote it. If the entrance only be formed when the mansion will retain the impression along the whole progress; or it may wind through several scenes distinguished by objects, or by an extraordinary degree of cultivation: and then the length of the way, and the arrangement of the works through which it is conducted, may extend the appearance of a domain, and the idea of a seat, beyond the reach of any direct avenue." EOMECON. (From eoe, the morning or dawn, and mekon, a poppy. Nat. ord. Papaveraceae.)

A pretty, hardy, perennial herb for the border or rockery, in division in spring. Light, rich garden-soil.


EOPEPON. See TRICHOANThES.

EPACRIS. (From epi, upon, and abros, the top. The Epacris grows on the tops of hills and rising grounds. Nat. ord. Caprifoliales [Caprifoliales]. Linn. 5. Pentandra, 2-Monogynia.)

Greenhouse evergreen shrubs, from Australia. Cuttings of the tips of the shoots when from one to two inches in length, by sand under a bell-glass, in spring or early summer; three or four round a small pot. Sandy, fibrous peat suits them best. They are better kept in turf-pits than in the open air during the summer, as the sun striking upon the pots is apt to scorch them. If set out of doors, the pots should be plunged in earth or ashes. The plants should be cut back when done flowering, and kept close until new growth is making. Winter temp. 40° to 45°.

E. acumina (accumulate). Australia.


E. atropurpurea (attenuata). See E. lychnis.


E. campanulata (bell-flowered). See E. impressa.


E. ceratophora (wax-flowered). See E. impressa.

E. coccinea (scarlet). Bright crimson. Seedling. 1839.


E. diosma (Diosma-leaved). Australia.

E. du bia (doubtful). See E. heteronema dubia.


E. grandiflora (large-flowered). See E. longiflora.


E. hyacinthiflora (hyacinth-flowered). Australia. 1876.

E. lychnis (lychnis). See E. lychnis.


E. minuta (vermiculata). See E. longiflora.

E. multiflora (many-flowered). Crimson and white. 1860.

E. niviflora (snowy-flowered). See E. impressa.

E. onosma'fora (Onosma-flowered). See E. PURPURAC-
CENS.


E. pus'agens (pricking). See E. PURPURACENS and 
LYSINEA PUNGENS.


E. quo'no (snowy). Pure white, double.


E. quo'no (snowy). See LYSINEA PUNGENS.

E. quo'no (red). See E. PURPURACENS RUBRA.

E. squarro'sa (spreading). White, Tasmania. 1865.

E. varia'bis (variable). See E. IMPRESSA.

EPERUA. (A South American name for a sword, in 
allusion to the shape of the pods. Nat. ord. Leguminosae.)

E. grandif'o'ra (large-flowered). Guiana.

EPHE'DRA. (The Greek for the Hippuris, or Horse-
tail, which it resembles. Nat. ord. Junc'ous [Gnetaceae].
Linn. 2:22. Do cens, 13-Monadelphi.)

Evergreens. E. monos'ta'chya inhabits the margins of 
salt lakes and springs in Siberia, and would be a useful 
small plant to cover spaces flooded by spring tides; both 
the root and E. monos'ta'chya would live on the sea-shore, 
and bear clipping.

twiner.

E. americ'a'na and'na (Andian). Chili.


E. folia/li (foliaceous). Northern and Central Asia.

E. fra'giliis (fragile). Mediterranean Region.

E. gar'daria'na (Gerardian). Himalaya.

del'tea (Swiss). Switzerland, &c.

E. ant'iqua (intermediate). Central Asia, &c.

E. mi'nor (less). See E. DISCACHYA.

E. monos'ta'chya (one-spiked). See E. DISCACHYA.

E. neder'da (Nebroian). Mediterranean Region, &c.

E. tri'fia (three-forked). 2 to 4. Western N. Amer.

EPIDENDRUM. (From epi, and dendron, a tree; air-
29-Gynaecria, 3-Monandria. Allied to Ladia.)

Stove orchids. Division of the plant before active 
growth commences; fibrous peat, broken pots, a little 
charcoal, and sphagnum-moss; the plant fixed above the 
charcoal, and covered with a finely gilled, black peat. 
Summer. temp. 60 to 90°, with moisture; winter. 55 to 60°, 
with more dryness.


E. a'denium (stranger). Yellow, purple, brown. Brazil.

E. all'ium (winged). Green, white. Guatemala.

E. alle'mi'ni (Alleman's). Brazil.

E. alo'fo'lium (aloé-leaved). See Cymbidium ALOI-
FO'LIUM.

E. am'a'lia (lovely). Brown, yellow, mauve. Mexico.

1880.


1867.


1856.


1867.

E. a'ridum (white). White, orange. 1886.

E. ar'men'i'cum (apricot). Apricot. Brazil and Peru.

1835.

E. ar'tro'purp'rum (aromatic). 3. Yellow, May. Guate-
ma la. 1835.

E. a'tropurp'rum (rough). Yellowish. Mexico.

1838.

E. at'ropurp'rum (dark purple). Brown, purple. 
Mexico. 1857.

E. a'trum (white). White, rose. May. 1824.

E. au'cula (eared). Brown, purple, white. Venez-
uela. 1865.

E. atropurp'rum Ra'dii (Rand's). Greenish-brown; 

lip white, red veins. Brazil. 1856.


E. auranti'um (orange). See Cattleya AUKANTAICA.

E. auricul'ferum (ear-bearing). Straw, purple. 1858.


E. au'ro-purp'rum (gold and purple). See E. BIPSID,

E. Barks'o'la (Barkoria). Rose; lip white, deep 

purple. 1834.


1871.

E. bicor'nis (three-corymbose). See DIACRISIA BICO-
RUM.

E. bico'rus'um (two-arched). Yellow, purple; white. July.

St. Domingo. 1835.

E. ble'tios'um (Betis-like). Yellow. W. Ind.


E. Cuba. 1835.

E. bra'chium (shortened). Pale yellow, spotted cinn-
mon. Mexico. 1880.

E. bra'chycych'um (short-lipped). Yellow, brown. Sierra 
Nevada.


E. bra'chych'um (long-tongued). Yellow-green, speckled 

bracteatum (bracted). See E. ACICULARE.

E. brassa'ole (Brassavola). Straw-yellow, purple.

Guatemala. 1867.

E. ca'psibo'sum (tufted). White, rose. Peru.

E. calig'o (flax). Obscured. Mexico. 1860.

E. calo'chis'um (beautiful-lipped). See E. ALATOM.

E. camp'ae'sire (field). Brazil. 1844

E. campys'fus (cursed). Brazil. 1842.

E. capsibo'sum (tufted). White, rose. Peru.

E. capsibo'sum (cursed). Brazil. 1842.

E. capsibo'sum (beautiful-lipped). See E. ALATOM.

E. capsibo'sum (cursed). Brazil. 1842.

E. capsibo'sum (white). See E. CANDOLLEI.


E. chloro'res'um (yellow-white). Green, white.

Guatemala. 1835.


E. chi'o'num (Christyan). Greenish and brown.

Bolivia. 1884.


1797.


1837.

E. latiito'rum (broad-leaved). Trinidad. 1836.

E. ma'tium (smaller). Trinidad. 1836.

E. cliro'nium (Citron). See Cattleya CITRON.

E. clia'um (variable). See Cattleya CLIA.


Cumann. 1834.

E. Close'si (Cloves'). Yellow, white. Guatemala. 1835.

E. con'mono'phorum (gafter-bearing). Yellow, rose.

Guatemala. 1867.


1799.

E. latiito'rum (broad-leaved). Xalapa. 1828.


E. con'mono'phorum (colouring). See E. POLYANTHUM.

E. confi'sum (confused). See E. FRAGANS MEGALAN-
THUM.

E. con'o'psis (similar-looking). Green, white. S.

E. con'mono'phorum (conspicuous). White, purple. Brazil.

1869.

E. cooper'ius (Cooperian). Green, rose. Brazil. 1867.

E. caligo'sfo'sum (beautiful-lipped). Lip rich purple.

1888.

E. cor'dio'sum (heart-shaped). Peru.

E. cor'dio'sum (leather-leaved). See E. VARIAGATUM CORDIOCEM.

E. cor'dio'sum (leather-leaved). Green. Central Amer.

1850.

E. costatum (ribbed). Reddish-brown, white, blotched purple. Mexico. 1845.
E. crassifolium (thick-leaved). See E. ellipticum.
E. crispatum (curled). See E. adenocarpum.
E. cucurbitum (hocked). Brazil.
E. cuspidatum (pointed). See E. ciliare.
E. dichro num (two-coloured). Rose, red. Bahia.
E. nobilior (noble). Flowers larger. 1886.
E. elongatum (long-stalked). See E. secundum.
E. fallax (falling). See E. umbellatum.
E. fallax (spread). See Seraphyta multifolium.
E. nepetum (two-stalked). See E. nutans.
E. scolor (two-coloured). Brazil.
E. supinum (expanded). Colombia.
E. falsi quum (falsely indicated). Pale yellow; lip white, with mauve lines. 1885.
E. ferrugineum (rusty). Peru.
E. fimbriatum (fringed). White, violet. Peru.
E. fulvum (yellowish). See E. leucophllum.
E. fulvum (yellow). Yellow. Brazil.
E. fuscoflagellatum (rigid). See E. imamophyllum.
E. forgetianum (Forgetian). Yellowish, veined dull rose. 1839.
E. crassifolium (large-flowered). Straw; lip with red lines. Guatemala. 1899.
E. fraudabile num (trandulent). Rosy, yellow. 1886.
E. fredrici eugilii (Fredrick-William’s). Crimson, white. Peru. 1871.
E. fucatum (dried). Yellow, pink, white. Cuba. 1838.
E. functum (Funck’s). Brown. Mexico.
E. funis num (torn). See E. polyanthum.
E. fuscoquum (brown). See E. imamophyllum.
E. ghisbreghtianum (Ghisbreghtian). Claret, white, purple, orange. Mexico.
E. giganteum (gigantic). Brazil. 1843.
E. grandiflorum (large-flowered). See Stanhopea fusca.
E. grandiflorum (large-flowered). See Stanhopea fuscata.
E. grandiflorum (large-flowered). See Stanhopea fusca.
E. grandiflorum (large-flowered). See Stanhopea fuscata.
E. grandiflorum (large-flowered). See Stanhopea fusca.
E. grandiflorum (large-flowered). See Stanhopea fuscata.
E. grandiflorum (large-flowered). See Stanhopea fusca.
Epidendrum (Moorean). Green, purple, fragrant.
Costa Rica, 1891.

Mosei (Mosen's). Vermilion, red. Colombia (1).
1880.

musca-furum (fly-bearing). See A. Ancers.

1866.

naso sum (freckled). White, yellow. February.


noctu'rum (night-fragrant). White. September.
Martineau. 1836.

occasius (narrow-leaved). W. Ind. 1835.

latifolium (broad-leaved). Yellow, white.
October. W. Ind. 1836.

pumilum (dwarf). Ensequillo. 1835.


obtusum (blunt). Mexico.

ochra ceum (ochreous). Yellow-white. Mexico. 1836.

odorum sissum (sweetest-scented). 1. Dingy green.
August. Borneo. 1897.

S. Amer.


Oreigei (Oligies's). Red, white; lip purple. 1892.

orsola'num (scented-flowered). Brown, white, rose-purple.
Brazil. 1892.

ovalifo'lium (oval-leaved). Green, white. April.

Mexico. 1835.

1842.


pachy'num (thick-flowered). Green. Guiana.

palmatum (palmate). Yellow. 1862.

palea ceum (scaly). See E. AURITUM.

pallidiflorum (pale-flowered). White, rose, purple.
Dominica. 1829.


papillo'sum (nipped). See E. ADENOCARPUM.

parkinsonia num (Mr. Parkinson's). 2. Green, yellow.

sclerophylla (tough-leaved). Cuba. 1840.

pasto'ris (shepherd's). White, green. March. Mexico.
1836.

patens (spreading). White. W. Ind. and Guatemala.

pate'ste (Paytan). Brilliant scarlet, orange. Colombia; Peru. 1885.


1873.


pipera'num (pepper-scented). Colombia. 1846.

plicata (plaited). Green, violet, purple. Cuba.


1840.

primulinum (primrose-scented). Yellow, brown.


Pseudepi'deum nihum (false Epidendrum). Green, orange, red. Panama. 1874.

auriflum (golden). Lip crimson, edged orange-lined.

Mexico. 1905.

piercen'um (winged-fruiting). Plant diminutive.

Mexico. 1905.

pungitif'ome (clagger-formed). Green, yellow, white.


1893.

punc'ta'tum (dotted). See Cypripedium punctatum.

punc'tifurum (spike-bearing). Green; lip spotted purple. Brazil. 1908.
**EPIDERMIS**


**trituberculatum** (three-spotted). See E. GHISSREGNANTINUM.

**Turailva** (Mme. Turialva’a). Costa Rica. 1891.


**undulatum** (waved). See ONCIDIUM CARITAGINENSE.


**vandarianum** (Vandarian). (G. C. 1885, xxiv., 678.)


**v. viridiflorum** (warted-flower-stalked). See E. NEMORALE.

**v. versicolor** (bladdery). Brazil. 1868.

**v. viridiflorum** (green-flowered). Green, purple. Brazil. 1842.

**v. viridiflorum** (green-purple). See E. AENESPES.

**v. viridiflorum** (greenish). See E. ANCEPS.

**v. viridiflorum** (twiggly). Mexico.

**v. viridiflorum** (green-yellow). Green, purple. Brazil.

**EPIPHYLLUM.** The skin or outer layer of cells of the leaves and younger stems of plants. It usually consists of a hardened cuticle, beneath which are cells holding water but lacking chlorophyll or green. The epidermis is furnished with pores known as stomata, most often on the undersurface of leaves, and on young stems, but some leaves have them on both surfaces.

**EPILIBEA.** (From epi, upon, and gaia, the earth; referring to its trailing habit. Nat. ord. Heathworsth [Ericaceae]. Linn. 10-Desandria, 1-Monogynea.)

Hardy evergreen Vincented trailers, suitable for rock-works, and delightful in moist, peaty soil; propagated chiefly by layers; would be better in a cold pit during severe weather.


**EPICYMNUM ACUMINATUM.** See Corallobotrys acuminata.

**EPICYMNUM LEOCOBOTrys.** See Vaccinium serratum Leoncobotrys.

**EPILIOBIUM.** Willow Herb. (From epi, upon, and lobus, a pod; flowers superior, or seated on the seed-pod. Nat. ord. Lamiaceae [Labiatae]. Linn. 8-Parumelia, 1-Monogynea. Allied to Clarkia and Zauschneria.)

Hardy herbaceous perennials. Cuttings and divisions; sandy loam. E. macra’nthum viola’ceum likes the protection of a cold pit. E. alpi’num does best in moist, peaty soil.


**E. angustissimum** (narrowest-leaved). See E. DOODONI.

**E. bilocularinum** (Billarderiaceae). Australia.

**E. brevifolium** (broad-leaved). New Zealand.


**E. crispa** (thick-leaved). See E. DOODONI.

**E. cylindricum** (cylindrical). See E. ROSEUM.


**E. fischeri** (Fleischer’s). See E. DOODONI.

**E. globale’rum** (small-leaved). New Zealand.


**E. la’myi** (Lamy’s). Pink. Britain.


**E. latifolium** (broad-leaved). N. Amer.

**E. linnneo’z) (Linnæa-like). New Zealand.

**E. longipes** (long-stalked). See E. PEDUNCULARE.


**E. melano’can’ton** (black-stemmed). New Zealand.


**E. mossi’um** (mountain). Rose or pink. Britain.

**E. nummulari’um** (mone-y-leaved). New Zealand.


**E. parifolium** (single-stalked). Pink or rose. Britain.


**E. speci’um** (spiked). See E. AUGUSTIFOLIUM.


**E. tetragono’num** (square-stemmed). 1 to 2. Rose. Britain.

**E. tomentosum** (downy). See E. HIRSUTUM.

**E. triplo’num** (three-angled). 1 to 2. Rose or pink. Europe.

**E. villosus** (long-haired). See E. HIRSUTUM.

**E. virgata’num** (twiggly). See E. OBSCURUM.

**EPIME DIUM.** Barrenwort. (From epimedium, a name used by Pliny. Nat. ord. Berberidaceae [Berberides]. Linn. 4-Tetrandra, 1-Monogynea. Allied to Jeffersonia.)

Hardy herbaceous perennials. Cuttings and divisions; sandy loam. E. macra’nthum viola’ceum likes the protection of a cold pit. E. alpi’num does best in moist, peaty soil.


**E. diphyllum** (twin). See E. ACERANUS HYPSIUM.


**E. hexandrum** (six-stamened). See VANCOUVERIA HEXANGRA.


**E. viola’ceum** (violet). Violet.


**E. perralderia’num** (Perralderian). Yellow, with red nectaries. Algeria.


**E. versis’color** (changing colour). Yellow, red.

**E. viola’ceum** (violet). See E. MACRANTHUS VIOLACEUM.

**EPIPACTUS.** From epippego, to coagulate; its effect on milk. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria. Allied to Listera.)

Pretty terrestrial orchids, not difficult to grow.
Divisions; common soil; kept rather dry during the resting period.


máximá (intermediate). July. Britain, Middle


purpureá (purple). See CEPHALANTHERA RUSKII.

royalíssima (Royalian). See E. Gigantea.

**EPHORPHA PUEBLO SEENS.** See POLYSTACHYUM PUEBLO SEENS.

**EPHYLLANTHUS.** (From ephi, upon, phyllon, a leaf, and anthos, a flower; the flowers are borne on leaf-like branches. Nat. ord. Campanulaceae.)

An epiphytic plant with branching, jointed stems like Epiphyllum, which see for culture.


E. pectína'ta. See CACTACEAE.


**EPIAFILUM.** (From ephi, upon, and phyllon, a leaf; flowers borne on the edges of leaf-like branches. Nat. ord. Indian Figs [Cactaceae]. Linn. 12=CEPHALANTHERA, 1-Mononygia.)

Stove fleshy-stemmed plants. Cuttings in summer, dried down before inserting them, or rather laying them down in any loose material, such as gravel and rough leaf-mould; soil, loam, peat, lime-rubbish, and dried cow-dung in equal proportions. The smaller kinds do well in the Ceratocanthus's Puscha, &c. Summer temp., 60° to 80°; winter, 35° to 43°.


E. Altensteini. See PHELLOCACTUS.


E. Gartnéri (Gartner's). Orange-scarlet. Brazil. 1884.

E. Gibrí (Gibson's). Dark orange-red. 1888.

E. Guánti (Guzmán's). Creamy-white. 1873.

E. makóyá (Makoyan). See E. Gártneri.

E. Ruckeri (Rucker's). See E. TURCATUM.


E. TURCATUM. See E. RUCKERIANUM.

E. superíbium (superb). Purple, white.

E. spíleo'nidum (splendid). See CEREUS SPLENDIDUS.


E. virúl'ceum (violet). White, edged rose.

E. spíleo'nidum. See CEREUS SPLENDIDUS.

E. turbo'nium (turbot). Rose-red.


E. ruckerí'snum (Ruckerian). Purple, violet.

E. virúl'ceum (violet). White, purple.

**EPIMEPRYNUM.** (From ephi, upon, and premum, a stem; grows, attached to the stems of trees. Nat. ord. Araceae.)


**EPISCA.**

(Ephi, upon, and skia, shade; the plants grow in shady places. Nat. ord. Gesneraceae.)

Stove herbs, mostly trailing, with short stems; cuttings in sand, in a close case with bottom-heat. Light, rich soil.

E. a'nes (bronyx). White. Colombia. 1875.

bi'color (two-coloured). Purple, white. Colombia.


ciliá'ta (ciliated). Trop. Amer.


guá'na. 1844.

meta'lica (metallic). Light scarlet. Colombia.


er'ythropus (red-stalked). Flesh, with purple-orange spots. Colombia. 1876.


Lucíáni (Lucian's). Bright red. Colombia. 1876.

ma'jor (large-spiked). Yellow and brown. British Guiana. 1850.


pu'rél'ceá (pretty). Yellow, red. July. Trinidad.


sep'li dens (brilliant). Light red. Colombia. 1866.

vic'íosa (cheegricha's). Yellow. Peru. 1869.


**EPISÉMA.** See DÍALOA CERULEO-CEPHALIA.

**EPISTHEIUM.** (From ephi, upon, and ste'phos, a crown. Nat. ord. Orchidaceae.)

Greenhouse terrestrial Orchid. See ORCHIS FOR CULTURE.


**EQUISE TUM.** Horse-tail. (Derived from equus, a horse, and seta, a strong hair. Nat. ord. Equisetaceae.)

Hardy perennial herbs. E. ma'simum is a strong growing plant, good for the edges of ponds; E. syvä'sicum is slender, graceful, and likes shade.

Division of clumps.

E. ma'simum (largest). 2 to 3. Britain.

E. syvä'sicum (wood). 12 to 2. Britain.

**ERAGROSTIS.** Love Grass. (From ero, to love, and agrostis, a grass. Nat. ord. Gramineae.)

Hardy and half-hardy grasses of an ornamental character.

E. abyssi'nica (Abyssinian). See POA ABYSSINICA.

egypti'aca (Egyptian). N. Africa.

capili'ris (hair-like). N. Amer.

ciliáris (eye-lashed). Tropical Regions.

ey'ranca (elegant). Brazil.

ma'jor (large). Tropical Regions.

megasta'cha (large-spiked). See E. MAJOR.

mi'nos (smaller). Tropics.

nigra'ra (black-rose). Mexico.

perse'vá'na (Peruvian). S. Amer.

pi'o'sa (thiny-hairy). N. Amer.

poání'ses (Poase) See E. MINOR.

ps'úpis (fuscous). White.

re'pláns (creeping). Tropical Regions.

te'mis (slender). N. Amer.

**ERAN'THEUM.** (From ero, to love, and anthos, a flower; referring to the beauty of the flowers. Nat. ord. Acanthádá [Acanthaceae]. Linn. 2=DIANDRA, 1-Mononygia.)

Cuttings of points of shoots when a little firm, in sandy loam, in bottom-heat, in a propagating case; plant one part, loam two parts. Summer temp., 60° to 75°; winter, 45° to 53°.

E. acanth'úphorum (thorny). See HAPLANThUS VERTICILLARIS.


*"aeth'ra'gina'num* (white-margined). Leaves with broad white edge. Polynesia. 1880.


am'mi'gum (doubtful). 2. Red. July. 1821. See ANTHACANTHUS ACUCLARIUS.


aspé'rum (scattered). White, spotted purple. Solomon Isles. 1868.


bar'liố'res (Barliei-like). Blue, August. See DÉLALACANTHUS SFUPRIFICUS.

Beyrich'ii (Beyrich's). Lilia, Brazil. 1894.

Gaudichaudi (Gaudichaud's). Leaves variegated. Brazil. 1869.
E. Beyrichii variegatum (variegated). Leaves variegated with white. Brazil, 1866.


E. Borneense (Cape). See Eulaleanthus montanus.


E. cocciferum (eyed). Crimson, with white spot. 1871.


E. eboracense (Eldorado). Leaves golden-yellow, veined green. April. 1877.


E. Gaudeauii (Gaudeaui's). See E. Beyrichii Gaudeauii.


E. latiscissum (Indian). Red. Himalaya.


E. leucocosmum (white-nerved). Lilac. Brazil.


E. maculatum (large-leaved). See Eulaleanthus macrophylus.

E. maculatum (blotched). Leaves blotched. 1800.

E. marmoratum (marbled). S. Amer. May. 1874.


E. nervousum (nerved). See Eulaleanthus nervosus.

E. nigrescens (blackish). See E. atropurpureum.

E. nigrum (black). Leaves purple. Solomon Islands. 1880.


E. pulchellum (pretty). See Eulaleanthus nervosus.


E. reticulatum (netted). Leaves netted with yellow. Polynesia. 1875.


E. rubrumovum (red-nerved). See Fittiona Verschaffeltii.


E. Schomburgkii (Schomburgk's). See E. reticulatum.


E. Caulicarpa (variegated). Leaves variegated with white. Brazil, 1866.

E. Chilensis (Chilian). Bright yellow. Chile.


E. labio (large-lipped). Persia.


E. laevea (smooth). Yellow.


E. aurantiaca (orange). See E. Bungel.
ERGOT. A fungus (Claviceps purpurea) attacking the fruits of various grasses, especially rye grass. It forms hard masses of filaments, that project in curved, finger-like masses, the seeds, which are destroyed, the hard masses are known as sclerotia, and from them other bodies like drum-sticks arise, with numerous cavities containing linear spores, by which the fungus reproduces itself.

ERIA. (From erion, wool; referring to the down on the leaves of some of the species. Nat. ord. Orchidaceae.) Linn. 20-Caynandria, 1-Monandria. Allied to Dendrobium.)

Stove orchids. Divisions; fibrous peat and chopped, decayed moss; the plant to be raised, roots and all, above the surface of the pot or shallow basket. Summer temp. 60° to 90°, with plenty of moisture; winter, 50° to 55°, dry.

E. acerosa (heaped-up). White. E. Ind.
E. alba (white). White. India. 1877.
E. albida (white-flowered). Yellow. S. India. 1893.
E. ambrosia (divine). See Bulbophyllum watsonianum.

E. amici (friendly). White; red; lip yellow. India. 1908.
E. armemis (apricot). See E. ornata.
E. barbata (bearded). Yellow, purple. N. India. 1856.
E. bicolor (two-crested). Java.
E. bracteata (breeched). Ceylon. 1859.
E. carinata (keeled). Sikkim and Khasia.
E. clausa (closed). Whith-green, with purple keels. E. Ind. 1885.
E. convolvuliflorae (convolvulus-like). White, yellow. N. Ind. 1847.
E. dawsoniana (greater). Ivory-white. 1847.
E. declinata (Curtis's). Green, white, purplish. Formosa. 1878.
E. coronaria (garland). See Trichosa suavis.
E. crassicaulis (thick-stemmed). Khasia.
E. crispa (crested). Meulmein.
E. Curtisii (Curtis's). Yellow-white. Borneo. 1885.
E. dayana (Dayana). Honey-yellow, brown. India. 1877.
E. Dillwynii (Dillwyn's). See E. bractescens.
E. elwesii (Elwesi's). See E. Meirax.
E. fara (yellow). Yellow, purple. Himalaya. 1859.
E. fordii (Ford's). Yellow-green, yellow, crimson veils. Hong-Kong. 1886.
E. glaschmidtii (Goldschmidtian). Whitish-yellow; lip red. Formosa. 1909.
E. globosa (globe-bearing). Light yellow, purple. Annam. 1903.
E. latobracteata (broad-bracted). Tawny yellow, purple. Borneo. 1891.
E. lauciae (Laukei). Green and purple. 1892.
E. leucosa (white-yellow). See Tantia latifolia.
E. lichenora (Lichenora). E. Ind. 1859.
E. lineata (line-bearing). White, purple. Siam. 1858.
E. meirax (Meirax). White; Brownish-purple. Burma. 1880.
E. merguiensis (Merguan). Light sulphur. India. 1880.
E. micholitziana (Micholitzian). New Guinea. 1900.
E. mutans (nodding). White, red, yellow, Malaya.
E. ornata (adorned). Java and Philippines.
E. polyactyla (many-spiked). Neillherriees.
E. pubescent (downy). Neillherriees.
E. priscia (pretty). Yellow. Malaya. 1840.
E. reticola (netted). S. India.
E. reticulata (netted). Purple, Brown or red. India.
E. rhodopilia (red-winged). Whitish-ochre, purple. 1845.
E. rhyncostylodes (Rhyncostylis-like). White, tinted rose. Java. 1907.
E. rimma (Rimman's). Light yellow, purple. Burma. 1840.
E. rufens (rufing). Burma.
E. rostrifera (beak-flowered). Fiji.
E. rungiana (rungian). Singapore. 1888.
E. saligna (spherical-flowered). See E. excavata.
E. vitta (striped). Green, striped red. N. Ind. 1882.
ERIANTHUS. (From erion, wool, and anthos, a flower; there is a tuft of woolly hairs at the base of each spadix in this genus.)

All natives of South Africa, except where otherwise mentioned. Cuttings of shoots, when fresh growth enables the handling of them easily, or short side-shoots, pulled off with a heel, trimmed, and the lower leaves removed, inserted in sand, the pots previously being half-filled with drainage, and then filled with sandy peat, in various degrees of fineness—the rough over the drainage, the fine at the top, all surmounted by, at least, half an inch of Silica sand, well pressed and watered, and pressed again a day before using, and then covered with a bell-glass, and set in a close pit or frame. Some slow-growing kinds require to be put into heat, in order to get cuttings established, for all, especially the low growing, using plenty of drainage; for the very strong growing, a very little fibrous loam may be used. In potting from the cutting-pots, it is best to place three or four rooted shoots in each pot for the first winter, singling them out, and then keeping them close the following spring, hardening them off by degrees; as larger pots are wanted, pieces of charcoal and sandstone are valuable, to maintain a moist air. The pots, if set out of doors, should be protected from the sun in summer; if plunged, drainage should be secured by setting the pot on bricks. Winter temp., 35° to 45°, with abundance of air.

HARDY EVERGREEN.


,, herbacea (herbaceous). See E. carnea.

,, susa (Portuguese). 3 to 5. White or pale pink. Spain and Portugal. May.


,, scoparia (broom). White. Western Mediterranean region.


,, amaura (white). White. British Indies. 1858.

,, umbellata (umbellate). Pale purple. April to July. Western Mediterranean region.


E. vaugans a'iba (white). White.

,, grandiflora (large-flowered). Rosy-purple.


GREENHOUSE EVERGREEN.

E. acuminata (pointed-leaved). See E. masoni.


,, albicula (Ribbert). Gardens. 1879.

,, albida (whitish). See E. albens.

,, ameiva (plessing). See E. plumosa.


,, arica (schrub). See E. lateralis.


,, austria (two-coloured). See E. Cavendishiyan. 1850.

,, assurgent (rising). See E. Fersoluta alba.


,, austriana (Austrian). Gardens. 1798.


,, biflor'a (two-flowered). See E. diaphanophila.


,, bucciniflo'rea (trumpet-flowered). See E. Massoni.

,, burnialla (Kerrett's). Red. white.


,, calo'ndria (Caledonian). Rose. June. 1878.

,, calo'sion (beautiful-mouthed). See E. Massoni.


,, canalicula'la (crooked-leaved). See E. Floridia.


,, mi'or (smaller). Pale purple.

,, candidis'sima (whitest). Gardens.

,, candidis'sima (white). See E. Wellow.

,, canharaf'onis (Canthara-formed). White. May.


,, carini'ola (flesh). See E. inflata.


,, celsia (Cels). See E. THUNBERGI.

,, cernifo'nis (honeywort-like). Dark scarlet. September. 1774.


ERICA

E. magnifica (magnifica). See E. Massoni.


E. melita-soma (black-mouthed). See E. Petteri.


E. mirabilis (wonderful). See E. Festrans.

E. molle (soft). See E. Empetrifolia.

E. monadelphia (one-bundled). See E. Banksiana.


E. mucosoides (mucosoides-like). See E. Mucosa.


E. muscalis (changeable). See E. Cruentata.


E. nigris (black). White. April to July.


E. longiflora (long-flowered). Purple.


E. major (larger). White.

E. rubra (red). Red.

E. orbis (black-leaved). White. 1810.

E. orbicularis (orbicular). See E. Bleria ericoideae.

E. ortus (purple). See E. Coccinea.

E. ovatiflora (oval-flowered). White. Pink. N. India.


E. paillens (pale). Yellow. April to July. 1809.

E. palba (white). White. 1809.


E. paniculata (panicked). See E. Persicuta.


E. parmentieri (Parmerter’s). See E. Festrans.

E. parvish (small-flowered). Pink. Autumn and winter.


E. paenioleosa (Paterno-s-like). See E. Massoni.

E. paetetiflora (Paetetia-flowered). 1 to 2. Pink or pale red. Summer. 1801.

E. pedunculata (staked). Light purple. March to June. 1809.


E. peliformis (lace-like). Flesh.

E. peilula (pendulous). See E. Eumenes.


E. petiolata (staked). White. Summer.

E. Perina (Paterson’s). 2. Orange. April. 1774.


E. Peziza (Peziza). See E. Nivais.


E. pilosa (thinly-hairy). See E. Villosa.


E. pilula-fenum (hair-bearing). See E. Mucosa.


E. pulmonaria (Pohlmann’s). See E. Lachnea.

E. prae cox (early). See E. Strigosla.

E. praecox (early). See E. Festrans.


E. primuloides (coswip-like). See E. Festrigata.

E. pri neoces (purple). See E. Massoni.

E. procera (lofty). See E. Arborea.

E. procumbens (procumbent). Pink. Summer.


E. procumbens (false-vestita). Seems to be E. Mucosa.

E. pubescentis (downy) of Andrews. See E. Hirtiflora.

E. pubescentis (downy) of Linnaeus. White. Autumn.


E. purpurea (pure). See E. Pubescens.

E. purpurea (pale). Light purple. 1789.


E. quadranugula (four-leaved). See E. Massoni.

E. quadriglada (square). See E. Formosa.

E. quadriglada (four-leaved). See E. Summer.

E. quadriglada (four-leaved). See E. Quadriflora.


E. ralphii (rayed). See E. Massoni.


E. recurvata (recurved). Whitish. Spring and early summer.


E. refugens (refugent). See E. Versicolor.


E. resina (resinous). See E. Verina.


E. rigid (rigid). See E. Massoni.


E. rosae (rosy). See E. Vestita.

E. rubella (reddish). See E. Glomerata.


E. rupestris (red). See E. Festrans.

E. rubro-calyx (red-calyx). See E. Massoni.

E. rubrostyla (red-sepaled). See E. Massoni.

E. rupestre (winkled). See E. Massoni.

E. rubra (red). See E. Depressa.


E. saxifraga (Sainsburya). See E. Infinita.

E. saxifraga (Sainsburya). See E. Puffarena.


E. sangiue (bloody). See E. Siccaria.

E. salisburiae (Salisbury’s). 2. Orange. April. 1780.


E. scarioi (dry). See E. Acuta.

E. scholliana (Schollian). See E. Plumosa.

E. scholae (Schola’s). 2. Orange. April. 1774.


E. setaceae (setaceous-leaved). See E. Harviana.

E. serratiflora (serrate-leaved). Orange-yellow. August to December.

E. sessiliflora (stalkless-flowered). See E. Claveflora.

E. sessiliflora (stalkless). White. Spring.


E. sicula (Sicilian). See Pentaptera sicula...

smithia'na (Smith's). See E. REGEMANN.


terliclia (Terlike). See E. ELLIOT.

Sparma'nis (Sparmann's). 2. Yellow. Winter.

spa'rsa (scattered). See E. FLOREIBUNDA.


spic'a (spiked). Pale yellow and green. Autumn and winter.


Specifl'is (Sprengel's). 2. Yellow. purple. June. 1806.

spu'mo'sa (frothy). Red. May. 1786.

spu'ria (spurious). See E. Massoni.

squar'o'sa (square). See E. IMBRICATA.

squamo'sa (scaly). Purple. Spring and summer.

squar'o'ssa (spreading). Red. May. 1793.


stel'tera (star-bearing). See E. Massoni.

stirgal'is (thickly-hairy). Pink. Spring. 1800.


suan'o'la (sweet-scented). 1. Pink. August. 1800.


sup'e'ra (superb).

Swainso'nis (Swainson's). See E. Massoni.

Sola'ndra... 1776.

ata'cicus (Attic). See E. VILLARSH.

auran'tiacus (orange). Turkestan. 1879.

"Orange Daisy."

green.

early (charming).

Red. (bloated), Purple. flushed 1816. (starry).

ma'jor Red.

E. BORBONI^FOLIA.

J. May. 1778.

(star-bearing).

CHILENSIS.

Daisy."

2.

(urn-shaped).

bulbo'sa March 1843.

lark-spur-leaved).

and (transparent),

Red-purple, being

and (frothy).

PUSILLA.

See E. MA'SONI.

NIDORELLA

(transparent).

White. May. 1800.

White

hoary Amer.

White

Mexico.

2.

Purple.

See E. PARVIFLORA.

Purple. See E. ANEMODE.

FRAGILIS.

(transparent).

White. May. 1800.

White

Red.

Purple.

Red.

Red-purple.

and (larger).

Red.

Red-purple.

White.

Red-purple.

German.

E. VERNIX.

E. TUBERCA-

covering

TUBERCULAR.

E. TUBERCU-

Greenhouse

Hardy:

TUBERCU-


E. bulbo'sa (bulbous). 1 to 2 in. White. N. Amer. 1889.

E. BULBOS (bulbous).

E. BULBOS.

E. BULBOS.

E. BULBOS.

E. BULBOS.

E. BULBOS.


c. diergensii (diverging). White or pale lilac. West United States. 1904.

ericoides (woolly-headed). See E. Uniflorus.

d. purpurea (thread-leaved). N. Amer.


f. glauca (frigid). Pyrenees.


i. elegans (erose). Stem and leaves rough. Light purple. August.


k. sulphureus (grass-like). See Arctogeron Gramineum.

l. filatus (thread-like). Purple. Western N. Amer.

m. aliciae (taller). 1 to 1.5. Lilac. 1802.

n. howellii (Howell’s). N. Amer. 1816.


q. macranthus (large-flowered). 1. Dark purple. N.W.

r. moschata (fragrant). 1. Bright purple, 1 to 2 inches across.


u. multiflorus (many-rayed). 1 to 2. Purplish, with yellow disc. Himalaya. 1880.

v. nelsonianus (New Mexican). White. New Mexico. 1901.


{. purpureus (purple). See E. Philadelphicus.


0. sarmentosus (sarcous). 1. White. N. Amer. 1829.

1. floribundus (Howell’s). See E. Howelli.

2. serotinus (late). See E. Acris.


4. grandifolius (large-flowered). Flowers larger and deeper in colour than E. s. superbus. 1909.

5. superbus (superb). Flowers large, mauve.


ERINA CEA. (From erinos, woollen; in allusion to the woolly character of the plant. Nat. ord. Leguminose. Allied to Anthyllis.) A shrubby plant with silky leaves, but usually leafless and spiny, requiring a dry situation on the rockery. Cuttings in sand in a cold frame during July and August. E. hispanica (Spanish). See E. Pungens. 1. Purple. May. Spain. 1790.

ERIOCLIA CEA. (From erinos, woollen; in allusion to the woolly character of the plant. Nat. ord. Leguminose. Allied to Anthyllis.) A shrubby plant with silky leaves, but usually leafless and spiny, requiring a dry situation on the rockery. Cuttings in sand in a cold frame during July and August. E. hispanica (Spanish). See E. Pungens. 1. Purple. May. Spain. 1790.

ERIOPHYLLUM. See Eriogonum verum.

ERINUS. (From er, the spring; referring to the early time of flowering. Nat. ord. Pipeworts [Scorophilaecese]. Linn. 14-Dalynagyma, 2-Aspenogymna. Allied to Wullenenia.) Hardy and half-hardy plants. Seeds and divisions; mostly require the protection of a cold pit in winter. Succeed well as rock-plants in summer, if the soil is sandy loam.

HERBACEOUS PERENNIALS.


EVERGREENS.

E. fra'grans (fragrant). See Zaluzianseya lychnidea. 1790.

E. lychnidea (Lychnea). See Zaluzianseya capensis.


ERIOBO TRYLA. Loquat. (From erion, wool, and bo'rys, a bunch of grapes; referring to the downy flower-racemes. Nat. ord. Roseworts [Rosaceae]. Linn. 13-Triandria, 2-Digynia. Allied to Photinia.) A half-hardy evergreen fruit-tree, with white flowers. Cuttings of side-shoots, from one to two inches in length, in sand, under a bell-glass, and in a few days placed in bottom-heat; by seeds in a hotbed as soon as gathered, also by cuttings at the White Thistle, better trained on the Quince. Peat and loam; will grow against a wall with a protection in winter; has been flowered in pots by turning it out to rest in summer, giving a stove heat in winter, when it flowered in December, and fruited in April.

E. binalea nisii (Bengal). 10. Himalaya; Malaya. 1821.


ERIOCA LIA MAJOR. See Antinetus helianthi.

ERIOCA LON. Pipewort. (From erion, wool, and caulos, 1 stem. Nat. ord. Pipeworts [Eriocaulaceae]. Linn. 3-Triandria, 3-Digynia. The only known European Pipewort is E. septangulare, a small bog or marsh-plant in the Isle of Skye. There are other species, but all more curious than beautiful.)


ERIOCEPHALUS. (From erion, wool, and kephale, a head; referring to the woolly head of the plant. Nat. ord. Compositae [Composites]. Linn. 15-Syngenesia, 4-Necessaria.) Greenhouse evergreens, from the Cape of Good Hope. Cuttings of young shoots, setting in firm, in April, in sand, under a glass; sandy loam and a little peat. Winter temp., 30° to 45°.


E. decussatus (crossed). See E. Glaber.


E. purpureus (purple). See E. GLABER LARI CINUS.


ERIOCH'IC'A. (From erion, wool, and chasma, a rent; referring to the spore-cases. Nat. ord. Ferns [Filices]. Linn. 23-Cryptogamae, 1-Filices. All now referred to Nothofagall.) Fern, with brown or brownish-yellow spores. Division, before fresh growth commences; peat and loam. Summer temp., 60° to 80°; winter, 50° to 55°. The greenhouse species are divided with 5° to 10° lower temperature. E. vestita is hardy.

GREENHOUSE.


E. sulcata (furrowed). N. May. N. Wales. 1821.

ERIOCHILUS. (From erion, wool, and phormi, a leaf; woolly-leaved. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 2- Superbus.)

Hardy evergreens, from North America. Divisions of the roots in spring; common soil.

E. caspi'to'sum (turfy). 1. Yellow. May. 1826.
E. convol'foso'sum (crowded-flowered). Yellow. California.
E. opsin'to'sum (opposite-leaved). See BAHIA opsin'to'sum.

ERIOPHYLLUM. (From erion, wool, and phyllon, a leaf; woolly-leaved. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 2- Superbus.)

Hardy evergreens, from North America. Divisions of the roots in spring; common soil.

E. caspi'to'sum (turfy). 1. Yellow. May. 1826.
E. convol'foso'sum (crowded-flowered). Yellow. California.
E. opsin'to'sum (opposite-leaved). See BAHIA opsin'to'sum.
ERIOTHRIX. (From erion, wool, and thrix, hair; referring to the appendages on the seeds. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 2-Superflua. Allied to Neurolema.) Stove shrub. Cuttings in sand in a close case. Fibrous loam, peat, and sand.


ERI'THALIS. (From erithallos, to grow green; referring to the glossy, deep green of the leaves. Nat. ord. Conchonadaceae. Linn. 5-Pentandra, 1-Monogynia. Allied to Guettardia.) Stove evergreen trees. Cuttings of young shoots getting firm, in April, in sand, under a glass, and in bottom-heat; sandy loam and peat. Summer temp., 55° to 80°; winter, 49° to 55°. E. floribundum (many-dowered). 40. White. October.

Guiana. 1825.


Spanish. 1867.


Eupatorium. 1825.


Eupatorium. 1825.


Eupatorium. 1825.
ERYNGIUM. Eryngo. (From Eryngeon, a name adopted by Pliny from Dioscorides. Nat. ord. Umbelliferae. Linn. 5-Pentandra, 2-Dipsiga. Allied to Sanicula.)

The roots of E. mari-timum and campa'stre are sweet, aromatic, and tonic; they are candied, and sold by the name of Eringo-roots. Annual, biennial, and perennial hardy kinds by seeds and divisions in common soil; if sandy loam, they will thrive best. Half-hardy species require the protection of a pit or greenhouse in winter, and sandy loam.

HARDY ANNUALS, &c.


HALF-HARDY HERBACEOUS.


deca'mbus (decumbent). See E. OCHROLEUCUM.

firma'mum (firm). See E. VIRGATUM.

July.

Ery'niga (one-headed). (Sanguisorba). See E. BILLARDIERE'S.

Ori'entalis.

Annuals.

May.

S. tetra'dynamia. 4.

Britain. They

As'perum

Ochroleu'cum.

Panicled).

July.

July.

S. linn.

Campanula-leaved). See E. VIRGATUM.

Biennial.

Europe.

May.

October.

White.

S. linn. Blue.

July.


agri'cica (agricultural). See E. YUCCAFOIUM.


asperifo'lium (rough-leaved). See E. GIGANTEUM.


cord'isum (heart-leaved). See E. ALPINUM.


cre'cium (Cretan). Greece.

crini'um (fringe-leaved). See E. AQUIFOLIUM.


durian'um (Durisan). Portugal.


ERYNGIUM. Eryngo. (From Eryngeon, a name adopted by Pliny from Dioscorides. Nat. ord. Umbelli-

fere [Umbelliferae]. Linn. 5-Pentandra, 2-Dipsiga. Allied to Sanicula.)

The roots of E. mari-timum and campa'stre are sweet, aromatic, and tonic; they are candied, and sold by the name of Eringo-roots. Annual, biennial, and perennial hardy kinds by seeds and divisions in common soil; if sandy loam, they will thrive best. Half-hardy species require the protection of a pit or greenhouse in winter, and sandy loam.

HARDY ANNUALS, &c.


HALF-HARDY HERBACEOUS.


ovi'num (sheep). See E. ROSTRATUM.


HARDY HERBACEOUS.


agri'cica (agricultural). See E. YUCCAFOIUM.


asperifo'lium (rough-leaved). See E. GIGANTEUM.


cord'isum (heart-leaved). See E. ALPINUM.


cre'cium (Cretan). Greece.

crini'um (fringe-leaved). See E. AQUIFOLIUM.


durian'um (Durisan). Portugal.


by cutting up the old flowering-stems when ripe, and in both cases covering with a bell-glass, after placing them in sand, and in a strong bottom-heat; peat, loam, and dried cow-dung, in equal proportions, with a portion of sand. Summer temp., 55° to 80°; winter, 45° to 55°. E. cri'sta-galli does out of doors in sheltered places, cut down, and the roots slightly protected as for fuchsias, in winter.

E. bogot'a-nis (Bogotan). Red. Colombia. 1873.
E. ca'rruera (Calrian). Scarlet. S. Africa.
E. com'pa'cata (compact). Dwarf, free-flowering. 1882.
E. spec'ta'bitis (showy). Leaves variegated with yellow. 1824.
E. hume'na (Humean). 30 to 50. Scarlet. S. Africa.
E. J. 'pec'ta (white). White. 1849.
E. F. 'flic'i (Parcell's). Red. Leaves with pale yellow variegation. South Sea Islands.
E. in'e'rmis (unarmed). See E. mitis.
E. laurif'o'lia (laurel-leaved). See E. CRISTA-GALLI.
E. marm'o'ra (marbled). Scarlet. May. Leaves blotched and spotted with white. South Sea Islands.
E. Porciner'is (Parcell's). See E. INDIACA PARCELLI.
E. pi'cata (painted). 6. E. Ind. 1890.
E. pu'c'chera (nearly unarmet). Scarlet. Madeira.
E. pul'chera (fairest). Crimson. 1876.
E. spect'a'bitis (showy). Leaves boldly variegated. South Sea Islands. 1881.
E. spin'o'sa (spinny). See E. CORALLODENDRON.
E. vesper'ti'o (bat-leaved). Scarlet. Australia. 1885.

E. ERYTHALIA

E. ERYTHRAEA

E. ERYTHRONIUM

E. ERYTHROCHE'I'TAE

E. ERYTHROC'r'rTHON

E. ERYTHROLE'NA CONSPI'CUA

E. ERYTHRONIUM
ERYTHROPHLEUM

Hardy bulbs; offsets: common garden-soil; E. lanceolatum requires a little heat.


e. americum (American). Bright yellow, spotted with red. Eastern N. Amer. 1665.

californicum (Californian). Cream, with orange base.

ciirium (citron). Light citron yellow, with yellow or orange base. Southern Oregon.


elegantum (gigantic). Yellow. April. N.W. Amer.


Hartweg's (Hartweg's). White, with orange or yellow base.

Hendersoni (Henderson's). Pale lilac purple, with maroon-purple zone. Oregon. 1888.

Hoeelli (Howell's). Pale yellow, with orange base. Oregon.

Johnsonii (Johnson's). Reddish-pink, with golden-orange zone. Southern Oregon. 1856.

lanceolatum (spur-tooth-leaved). See E. AMERICANUM.

longiflorum (June-bell). See E. DENIS-CANIS.

maculatum (spotted). See E. DENIS-CANIS.


purpurascens (purplish). Pale yellow, with orange blotch, becoming purple. California.


ERYTHROPOGON INMERA'NA. See METALASIA UNIFLORA.

E. umbellata. See METALASIA UMBELLATA.

ERYTHRO TIS BEDDO'ELI. See CVANOSIS KWE'NISUS.

ERYTHROXYLON. (Named from erythros, red, and xylon, wood. Nat. ord. Erythroxylaceae.) Linn. ro- documents, 3-firgynia.

The wood of some species is deep red. E. ovatum is the best garden-plant among them. Stove evergreen trees, with yellow-green flowers. Cuttings of half-ripe shoots in sand, under a glass, and in heat; peat and loam. Summer temp. 60° to 75°; winter, 48° to 55°.

E. Co'ca (Coca). 2 to 6. Greenish-yellow. Peru. 1869. The natives chew the leaves of this plant to allay thirst.

" no'vo-grana'tes (New Grenadan).

" sprucedum (Sprucean).

" havana'nes (Havanaan). See E. OVATUM.


" lauri'folium (laurel-leaved). 50. Mauritius. 1823.


ESCALLO'NIA. (Named after Esca'rollon, a Spanish traveller. Nat. ord. Escalloniodae [Saxifragaceae]. Linn. 5-Pentandria, 1-Monogy尼亚.)

Evergreen greenhouse or hardy shrubs. Cuttings of young shoots rather ripe, in sandy soil, under a hand-light, in summer; or younger smaller shoots under a bell-glass, in the greenhouse; peat and loam, with a little rotted leaves; most of them will do against a wall, with the protection of a spruce-branch in frosty weather, in winter, especially if the wall has a broad coping.

E. be'culla'na (Beckula). See E. MONT Velvet'oss. ca'ndida (white). White. Brazil.


glandulosa (glanded). See E. RUBRA.


grandiflora (large-flowered). See E. CLAUSEN'I.


inobana (boary). July. 1847.

litoralis (sea-shore). Chili.

macranaflora (large-flowered). 3 to 15. Rose or red. Chilo. 1848.

E. ovata (blood-red). See E. PUNCTATA.

mon'al'a (mountain). Red. Chili. 1873.


organ'icus (Organ Mountains). Rose. Organ Mountains. 1844.


" punc'ata (punctured). See E. PUNCTATA.


ESCHSCHOLTZIA, or SHALLOT. A'lium asco'lo'nicum. Varieties.—The Common, which puts up long, slender, dark-green leaves, and has narrow, long-pointed bulbs; and the Long-keeping, with larger bulbs and dwarfed habit, and keeps good for nearly or quite two years. Both have a stronger taste than the onion, yet not leaving its disagreeable smell on the palate. Large red has large red brown colour. In Jersey Shallot also has large bulbs that frequently run to seed, but they do not keep long as a rule.

Propagation.—Each offset will increase in a similar manner and showy, hardy annuals may be planted out either in the months of October and November, or early in the spring, from February to the beginning of April. Autumn is the best season for planting, if the soil lies dry. If planted in beds, let them be three feet and a half wide, and three or four inches higher than the alleys, and the surface of the bed a little arched. Set out the rows nine inches apart from row to row, and plant the offsets singly with the hand upon the surface of the top, and trowel in. Take out pressing each bulb down firm in the soil; see occasionally that they are not cast out of their places by worms or other vermin; or each bulb may be covered with either a little oil or tallow, and set in little ridges along the rows, an inch and a half or two inches deep. When the bulbs are well established and growing, this covering should be removed with the hand; no other culture is required. After the first frost, as soon as they have grown up to be stunted or slowly developing, they should be dug, placed in their usual position, selected and prepared and planted out. As soon as the snow has cleared off in the spring, they may be planted out; and as soon as the leaves begin to decay, spread them out to dry, on boards, in some airy situation.
in autumn, and an evergreen branch bent over them in severe weather, they will bloom early.

E. castiporu'sa (tufted). t. Yellow, California.


*E. mari'nana* (marine). Light yellow, with orange blotch. California. 1894.


*E. douglas's* (Douglas's). Golden-yellow, 14 days earlier than the rest. California. 1898.

*E. fumaria'folia* (fumaria-leaved). See HUNNEMANNIA FUMARIFOLIA.

*E. juniper'fa'lia* (tender-leaved). See E. CESPUT'SA.

ESMERALDA. See ARACHNANTHE.

ESPALIERS. A term used to express modes of training fruit-trees on rails or iron wood, as bordering to the walks of kitchen-gardens, whereby the margins are rendered more ornamental, and the fruit secured in a handsome form. There are several modes of espaliering, others too tender to withstand the ordinary rigours of our climate. The forms of these trellises vary much; some are placed perpendicularly, others horizontal, and others, again, in a curved or oblong form, with various other shrub-like forms, which the fancy of the owner, or the peculiar situation, may dictate. These rails are generally placed within a few feet of the garden-wall, having, also, another walk of alleys between the rails, in order to facilitate operations. Espaliers being nearer to the ground than ordinary standards, we need hardly say that in such a position they are warmer. The mode of training tends to check efflorescence, inasmuch as some service in a dwarfing, and, by consequence, an early fruiting system. The trees are completely within reach for stopping, and various other manipulations, which, on standards, require the owner to be a skilled gardener, and much greater collection of fruits may be cultivated, in any garden, by an espalier system, than by the ordinary course of culture. The espalier system can be rendered conducive to the greatest amount of produce, as well as to the most ornamental appearance.

Form of Trellises.—This is very material. There are fruits which must have sunshine to perfect them, yet will succeed with a moderate shade. Others are others which will succeed in what is commonly termed a northern aspect; such are adapted for the northern side of trellises, which run east and west. Again, others must be trained against the glass, which is enclosed. Kitchen-garden structures are mostly rectangular, and if most or all of the margins be appropriated to trellises, there will be a great difference between those which run north and south and east and west. To avoid confusion, I will in a word speak what is, in my opinion, the best plan of all, that of the simple Table Trellises, that is, those which present a flat surface, parallel to the horizon, at about a foot or half a yard from the ground are by far the best for the majority of fruits.

Perpendicular Rails are, however, very well adapted for many of our fruits, and if iron is not used, a very nice, but somewhat perishable structure may be formed by means of wood. Permanent stakes of oak, larch, &c., may be driven in the ground, and the branches fastened to them perpendicularly, and temporary stakes driven as wanted between them, of more perishable material. The temporary, or intervening stakes are to be movable at pleasure, and when the trees acquire a strong fabric, may be entirely dispensed with.

The Strained-wire Rail is, however, much superior, and will, doubtless, prove most economical in the end. Such a rail, when properly supported by iron uprights, would endure a century, and are, at least, particularly to be recommended for trees of slender wood. As for perpendicular iron trellis, an ordinary field hurdle with a prettily good idea; the distance between the rails being, of course, ruled by the mode of growth of the tree.

With regard to Arched or Saddle Trellises, we would speak with some caution. Running north and south, and occupied with trees properly adapted, they will doubtless succeed, and they are assuredly ornamental.

Gooseberries and currants we have found conveniently trainable to a cheap trellis in the form of pairs of stakes, crossed like the letter X, and placed in a row. It is not the least advantage attending upon this mode of training that it is easily covered and protected.

ESPELE'TIA. (Named in compliment to Don José de Espeleta, a governor of Colombia. Nat. ord. Composite.) Evergreen, greenhouse plants with woolly leaves. Fibrous loam and peat, with an abundance of sand. The leaves must be kept dry in winter.

E. argente'a. 6. Yellow, Colombia. 1845.


E. neris'fo'lia (Nerium-leaved). 2 to 3. Yellow. Vene-

Zuela.


ETIOLATION. The same as blanching.

EUAR'ENIA. (From eu, well, and aden, a gland; in allusion to glands in the flowers. Nat. ord. Cappari-

dae.) A dwarf, shrubby stove plant. Cuttings in sand, in a close case, with bottom heat. Good fibrous loam, with peat and sand.


EUCALYPTUS. Gum-tree. (From eu, good, and kalupos, covered; referring to the flower-envelope, or calyx, which covers the flower and falls off like a cap. Nat. ord. Myrtieae [Myrtaceae]. Linn. 12. *Eucalyp'tus*, 1806.)

*Eucalyptus* species are hardy, upright trees or shrubs, which are valuable for a variety of purposes; most of them will succeed, with a little care, in any part of the country.

Greenhouse evergreen trees, from Australia, except where otherwise indicated, and all with white blossoms. Cuttings of young, firm side-shoots in the beginning of summer, in sandy soil, under a bell-glass; peat, and loam; a cool greenhouse. Winter temp., 35° to 45°. Most of them in warm places will do well against walls, with a little protection, if dryness is secured.

*E. acmenio'ides* (Acmena-like), Australian. 1830.

*E. a'lia* (winged). 1876.


*E. amygdal'i*a na (almond-leaved). 1830.

*E. andrea'na* (Andrean). White. Somewhat similar to *E. amygdal'i*a na.

*E. botroy'des* (bunch-like). Australia. 1825.

*E. calop'hyla* (beautiful-leaved). 1885.

*E. citriod'o'ra* (lemon-scented). 1861. Foliage fragrant.


*E. cor'da'la* (heart-shaped). Tasmania.

*E. coria'ce* (leathery). See E. PAUCIFLORA.

*E. cos'mic* (comet-like). Yellow. 1868.

*E. cory'mbo'sa* (corymb-flowered). 1785.

*E. cos'mophyll'a* (orderly-leaved). S. Australia.

*E. coti'mo'sa* (cotinus-leaved). 1816.


*E. gunnii* (Gunn's). 1882.

*E. gig'an'tica* (giant). Australia.

*E. Glo'mus* (globular). 150. 1820.

*E. gomp'hoe'pha* (nail-headed). Australia.

*E. gu'nis* (Gunn's). Victoria. Hardy in some districts.


*E. heterophyll'a* (variously-leaved). See O. EBILOQU.'

*E. hirsu'ta* (hairy). See ANGOPHORA CORDIFOLIA.

*E. hirt'o* (hairy). 1825.


*E. lema'na* (Lehmann's). Australia.

*E. longi'fo'lia* (long-leaved). See E. AMYGDALINA.

*E. mac'a* (large-anthered). Australia.


*E. marjim'ina* (thick-edged). May. 1794.

*E. me'dia* (intermediate). 1823.
EUCOMIS

E. microco'r's (small-helmet). Australia.

E. microphy'lli (small-leaved). 20. 1823.

E. mucronata (sharpen-pointed), 1823.

E. Muelleri (Mueller's). See E. INCRESASATA.

E. multiflor'a (many-flowered). 1820.


E. occidentalis (western). Australia.

E. orbiculat'a (globe-shaped). 1816.


E. pauciflora (panicked). Australia.

E. pauciflor'a (few-flowered). Australia.

E. perforata (leaf-pierced). 1830.

E. persicifo'lia (peach-leaved). See E. VIMINALIS.

E. phyllodo'o's (Phillyrsean). 1820.

E. palus'tria (pelleted). 1804.

E. piperi'ta (pepper). 1810.

E. planchnon'i (Planchonian). Australia.

E. punctata (many-flowered). Hardly in some districts.


E. psychodora (name-marked-flowered). Australia.

E. pulchella (pretty). 1850.


E. pur'isi'g (powdered). See E. FULVERULEN'TA.

E. purpur'a'scens (purplish-nerved). 1823.

E. py'a'id a (Ravert's). Australia.

E. ranusa (tubed). Australia.

E. rap'iscus (beaked). Australia.

E. sal'ziana (willow-like). 1804.

E. sacc'bra (rough). See E. PIPIFATA.

E. sided'yn (iron-wood). See E. LEOXYLON.

E. splanchica'ta (heart-flowered). See E. CALOPHYLLA.

E. sta'igerana (Stalgerian). White. Foliege fragrant. 1889.

E. stenophyl'a (narrow-leaved). 1823.

E. stri'cata (erect). 19. April. 1824.


E. techneo'ris (round-horned). Australia.

E. u'n'ga (vulg.) (white). White. Fruit urn-shaped.

E. u'rsina (warted). 1820.

E. v'imina's (tongue-like). 1816.

E. vir'il'a (twigg'y). 15.

EUCHELIS. (From eu, well, and chelis, a head of hair; the bottom of the petals furnished with hairs inside. Nat. ord. Orchidaceae. Linn. 5-Fen' tandria, 1-Monogynia. Allied to Clarkia.)

Sow in the open ground, in September, March, and middle of May, for flowering from May to September; sow, also, in a slight hotbed in March, and transplanted into the borders. E. Broad'r (Brewer's). Rose-red. July. California.


E. gran'diflor'a (large-flowered). See E. CONCIMUM.

EUCHARDIUM. (From eucharis, agreeable; referring to the general appearance of this exquisite little hardy annual. Nat. ord. Onagrad (Onagraceas). Linn. 8-Occanaria, 1-Monogynia. Allied to Clarkia.)

Sow in the open ground, in September, March, and middle of May, for flowering from May to September; sow, also, in a slight hotbed in March, and transplanted into the borders. E. Broad'r (Brewer's). Rose-red. July. California.


E. grandiflor'a (large-flowered). See E. CONCIMUM.

EUCHAI'I. (From eu, well or good, and charis, attraction; in allusion to the beauty of the flowers. Nat. ord. Amaryllidaceae.)

Evergreen stove bulbs. Offsets. Good fibrous loam, with some dried cow manure rubbed fine and some sharp sand. Feed with liquid manure when making their growth. E. amazo'lica (Amazonian). See E. GRANDIFLORA.

E. bak'eria'na (Bakerian). White. Colombia. 1890.

E. ca'n'dida (white). 1. White; corona tinted yellow. Colombia. 1890.

E. grandiflor'a (large-flowered). 1 to 2. White. Colombia. 1856.

E. Le'esi (Low's). White; segments incurved. Colombia. 1893.
EUROPSIA. (From eu, beautiful, and kroosos, a fringe; referring to the cup above the insertion of the stamens. Nat. ord. AmARYLLIDAE. Linn. 6-Texasandrea, 1-Monogynia. Allied to Stenomesson and Eliesena.)

This is the best ill-used bulb in British gardens. Sweet, Don, London, and Paxton make it a native of Cape Horn, instead of the western declivities of the Peruvian Andes—a mistake which caused the destruction of many bulbs. Hooker and Lindley gave badly-coloured figures of it, and the latter placed it in alliance with Phyocellia, with which it has no affinity. Bi color refers to a dark-green stripe in the middle of the petals, outside; the flower is of a bright vermilion. It delights in strong loam; rests in winter, and prefers the stove. Offsets; July, October, winter, W. temp., 35 to 5°.


EUROPHILIA. (From eu, useful, and kroosos, a covering; in reference to the carpel-like cover formed by the calyx. Nat. ord. Rosaceae.)

Evergreen shrubs, hardy in some of the more favoured districts, especially E. pinnaflora, having large, handsome flowers like a white Hypericum. Cuttings of young shoots in sand, in a mild heat. Well-drained garden soil, with a little peat for plants in pots.

E. Billardi'rie Milligan'i (Billardi'res, Milligan's var.). White. Tasmania. 1851.


EUDE'SMIA TETRAGON'A. See EUCALYPTUS TETRA-

EUFR'IA LATIFOLI'A. See BARTIA LATIFOLIA.


Stone evergreen shrubs or white-Lysised. Cuttings of firm shoots in sand, with bottom-heat. Fibrous loam, one-third peat, and a dash of sand.


" " apiculata (acipulate). See MYRTUS LUMA.


" " aroma (aromatic). See E. CARYOPHYLLATA.

" " austra'lis (southern). See E. MYRTIFOLIA.

" " avic.'ris (auxiliary). See E. MONTICOLA.


" " banus'is (Baruan). Dominica.

" " bifas'is (two-ranked). May. Himalayas. 1824.


" " abac'hada (oiled). Brazil.

" " brasilie'nsis (Brazilian). 6. April. Brazil.


" " ca'ra'la (Carunia). Brazil.

" " cabu'lo'ra (stem-flowering). Brazil.

" " chaguan' (Chaguan). Country unknown.

" " che'run (Chequen). White. Chili. 1867.

" " che'ru'nica (Chestnut). Brazil.

" " conju'na (confused). 5. W. Ind.

" " cotinifio'la (Cotinus-like). 50. Isle of Bourbon. 1823.

" " duri'licea (dyersanguine). Brazil.

" " eugene'ria (Eugenia). Brazil.

" " el'tica (oval-fruited). See E. SINNERSI.

" " eucalypti'des (Eucalyptus-like). Australia.

" " ferrug'ina (rusty). Chili.

E. florinin'nda (bundle-flowered). See E. CONFUSA.

" " formosa (beautiful). White. May. India; Burma.

" " frutico'sia (three-leaved). White. May. India; Burma.


" " frondo'sa (leafy). May. Himalaya. 1824.

" " frutico'sa (shrubby). May. Himalaya; Burma. 1824.

" " Garb'ri (Garber's). 60. Florida. 1889.

" " gian'uta (glanced). See E. ZEYLANICA.

" " glomer'a ta (clustered). May. Mauritius. 1824.

" " gh'ana (Ghana). 1770.


" " " obtusifio'la (blunt-leaved). 8. 1821.


" " korthalsia'na (Korthalsian). Borneo. 1872.

" " lanceo'la (lance-shaped). Java and Sumatra.


" " la'na (Lama). See MYRTUS LUMA.

" " macroca'pa (large-fruited). 20. E. Ind. 1822.


" " Mischief (Michief). See E. UNIFLORA.

" " montis'cola (mountain-dwelling). S. Amer.; W. Ind. and Brazil.


" " obtusi'la (blunt-leaved). See E. JAMBOLANA.

" " oleo'la (olive-like). White. in panicles. Colombia.

" " ou've (egg-shaped). Chili.

" " pu'c'ola (pungent). See PARRINGTONIA RACEMOSA.

" " purpe'riu (reddish). India.

" " rigo'sa (wrinkly). See E. POLYSTACHYCHA.

" " rupe'sir (rock). Brazil.


" " ir'ma'na (Ireland). See RHOMANIA TRINERVIA.

" " U'gni (Ugni—native name. See MYRTUS UGNI.

" " uniflo'ra (one-flowered). 12. Trop. Amer.


" " vent'en'ata (Venterata's). Australia.


" " vulgaris (common). See E. JAMBOS.

" " xala'pe (Xalapen). Mexico.

" " zey'ni (Zeyni). S. Africa.

" " zey'nica (Cingalese). 10. India. Malaya. 1798.

EUL'PHIA GRACIL'LLIMA. See MISCHANTHUS SINENESIS.

EUL'PHIA ZAPO'NICA. See MISCHANTHUS JAPONICUS.

EUROPSIA. (From eu, handsome,矜重; referring to the handsome lip, or labelium, furrowed into elevated ridges. Nat. ord. Orchids [Orchideae]. Linn. 20-Gynandria, 1-Monandria. Allied to Galeandra.)

A family of those forms of orchids which, like our British species, are confined to the ground, and hence are called ground or terrestrial orchids. An Indian species of Eulophia furnishes, from its tuberous roots, the nutritive substance called salep. Division of the plant is by means of a shoot, which after it has commenced; root and loam, both fibrous, and well drained; well watered when growing, kept nearly dry when resting. Summer temp., 60° to 80°; winter, 45°.
EULOPHIELLA

(Europaea, and ella, diminutive; the two genera are closely related. Nat. ord. Orchidaceae.)

Handsome terrestrial Orchids. For cultivation, see Eulophieilla.

E. Elizabcthe (Elizabeth's). White; lip yellow; dull purple on the back. Madagascar.

E. Hamelii (Hamelin's). White; lip spotted red, with green markings. Madagascar.

E. Petersiana (Petersian). Rose. Madagascar. 1896

EUMERUS AENEUS. Brassy Onion-dy. Mr. Curtis says the maggots are brownish, and are very rough from a multitude of rigid bristles, especially towards the tail. The fly itself is of a reddish-ochre colour, flecked with dark brown, and there are two spliny processes like short horns upon the thorax, in the female at least.

EUONYMUS

It is densely clothed with short hairs, thickly and distinctly punctured, and of an olive-green colour, with a brassy tinge; the antennae (feelers) are entirely black, the seta naked; the face is very hairy, simply convex, and silvery white; eyes dark brown, and slightly hairy; rostrum very short; thorax with two whitish lines down the back. The maggots of this fly do not seem to be confined to the onion, for Mr. Curtis bred one in the middle of May from cabbage-roots, and specimens have been taken flying about hedges in June and July, in the neighbourhood of London and Bristol. As it often happens, the female has not been observed depositing her eggs; the spot that she selects is therefore yet unknown. Drought does not suit them.

EUOMNIA OPPORTUSSILIA. See Aethionema opportuussilium.

EUONYMUS. The Spindle-tree. (From eu, good, and onyma, a name; literally, of good repute. Nat. ord. Spermatocarpaceae. Linn. 5-Fennelidae, 1-Mono-cymi.)

Interesting trees and shrubs in autumn, their opening capsules looking very beautiful when other things are losing their attractions. Seeds may be sown either in autumn or early spring. Cuttings of ripe young shoots may be planted in a border in autumn; common soil. The American species require a moist situation. Those from Nepal, though from a high altitude, have not been proved quite hardy, though it is presumed they would in many places; protect them in winter.


E. aureus (golden). Leaves golden and green.

E. latifolius (broad-leaved). Leaves with white variegation.


E. purpureus (purple). Leaves with white variegation.


E. alobomarginalis (white-edged). Leaves with narrow white edge.

E. macroura (long-leaved). Leaves with white variegation.


E. macroura (long-leaved). Leaves with white variegation.

E. gigantea (broad-leaved). Leaves with white variegation.

E. alobomarginalis (white-edged). Leaves with narrow white edge.


E. macroura (long-leaved). Leaves with white variegation.

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EUOSMA

See LOGANIA FLORIBUNDA.

EUPATORIUM. (Named after Mithridates Eupator, King of Pontus, who discovered one of the species to be an antidote against poison. Nat. ord. Compositae [Composite], Linn. 19-Syngenesia, 1-Equalis.)

Stove shrubs and under-shrubs, by cuttings in sand, under a bell-glass; plant and loam; stove, greenhouse, and hardy herbaceous plants, by division, as fresh growth is commencing; common soil. Usual stove and greenhouse temperatures.

E. adeno'phorum (gland-bearing). See E. TRAPEZOIDEUM and variety, 


" Berlandia'ri (Berlandier's). See E. AGERATIFOLIUM.

" berteria'num (Berterian). See E. GUADUAPENSE.

" canes'cens (grey). See E. SINUATUM.


" delico'num (triangular). Large, rosy-purple. Mexico. 1907.

" florib'undum (free-flowing). See E. CONZIOIDES.


" guaduapense (Guadaloupean). White. Guadaloupe. 1830.

" haagea'num (Haagean). White. S. Amer (?) 1867.


" liqui'sti'num (Privet-like). See E. MIRANTHUM.


" micro'arum (small-flowed). Winter.

" odor'a'tum (scented). See E. WEINMANNIANUM.

" paname'nn (Panaman). Lilac-rose. Panama. 1877. Fragrant.

" pe'ri'c'aria (Corydalis-like). 6. Pink. August. S. Amer. 1818.

" petrola're (stalked). See E. PURPURIS.

" pr'o'rum (good). White. Peru. 1890.


" Purpu'si (Purpus's). Free-flowering, sweet-scented, pink. 1909.


" rupicio'num (netted). Whdish. 1878.


" schiedes'num (Schiedean). See E. PYCNOCEPHALUM.


" tetraco'sium (four-angled). White. Mexico. 1832.


" foliis-varies'gata (leaves variegated). Yellow. White,
capers. A large family, widely differing in their habits. Hardy annuals may be sown in the open border, in April; but, with the exception of _plumosum_ and a few more, the rest are not worth ground-room. Even the tropical annuals are little better; they require to be raised in a hotbed and transplanted. Herbaceous perennials are chiefly hardy; divisions of the plant, and seeds; sandy soil; shrubs and under-shrubs chiefly require a dry stove and water which is propagated by seeds and by cuttings, which should be dried at the base before placing in any rough, loose material. The species which are firm and hard require a rich, light loam, with a little peat; those that are sufficiently hardy should have a large portion of lime-ruin and broken bricks. Winter temp., not much below 45°. There are two sub-evergreen shrubs, natives of England, _amygda laxa_ des and _charis cias_, both of which, especially the latter, do well for rock-work. _Spinosa_, from the south of Europe, is useful for planting on the rockery.

**HARDY ANNUALS.**


**STOVE ANNUALS.**


**GREENHOUSE EVERGREENS.**


**GREENHOUSE HERBACEOUS.**


**STOVE EVERGREENS.**


**EUPHORBIA**

**E. mamilUris** (spinosior) (more spiny). Spines more numerous. 1902.

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**E. Mysurmotes** (Monroan). S. Africa.


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**E. lutea** (false-Cactus). S. Africa.


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**E. Siebii** (Sibthorp's). Flowers terminal and mono-cymose. Greece.

**E. spinosa** (spin). S. Europe. 1770.

**E. Wulfeni** (Wulfen's).Young leaves tinted red. Flowers carried down the stem. Dalmatia. 1903.

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**HARDY HERBACEOUS.**

**E. altissima** (tallest), Asia Minor.


**E. Arabiae** (Arabia). April.


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**E. oblongicaulis** (oblong-stemmed). Arabia.


**E. odoratissima** (tooth-leaved), See E. Cereiformis.


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**E. odorata** (Shrub). Green, S. Africa. 1886.

**E. peudunia** (hanging-down). 1. 1808.

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**E. phyllaea** (five-angled). S. Africa.

**E. persicaria** (Persicaia). S. Africa.

**E. Phippiana** (Mrs. Phillips's). Yellow. British Somaliland. 1903.

**E. piscata** (fishing). Canaries.


**E. populacea** (many-spined). Abyssinia.

**E. polygonacea** (many-angled). S. Africa.

**E. polyepi** (many-angled). Loddiges. See E. Cereiformis.


**E. pulcherrima** (faint-patterned). See E. Procumbens.

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**E. umbellata** (fishing). 1. 1805.


**E. variegata** (spreading). 1. S. Africa.

**E. staphiatia** (Staphia). S. Africa.

**E. staphyliana** (Staphylia). Pale yellow. Azores. 1865.


**E. tirucalli** (Tirucallil). Trop. Africa.

**E. triloculata** (trilocal). S. Africa.


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**E. viridiflora** (whorled). Eighth. W. Ind. 1826.

**E. virens** (viper-like). Branches with 6 to 7 spiral rows of 6-sided tubercles. S. Africa (?). 1902.


**E. xylorrhoea** (Xylophylla-like). Madagascar.

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**HARDY EVERGREENS.**


EU'PETELEA. (From eu, well, and Pithe, the Shrubby Trefoil. Nat. ord. Trochodendraceae.)
Small, hardy tree of elegant habit, but insignificant flowers. Seeds, layers, and probably cuttings in a cold frame.
Ordinary soil.

EU'RO'TIA. (From eurus, breadth, and otus, obus, an ear; referring to the perianth of the male flowers. Nat. ord. Chenopodiaceae.)
A hardy shrub with grey felted leaves and stems. Cuts freely from sandy soil in a cold frame in summer. Ordinary soil.
E. *lana'is* (woolly). Green. Fruits red. Western N. America. 1846.

EU'RYA. (From eurus, large, and otous, otus, an ear; referring to the appearance of the flowers. Nat. ord. Theads [Ternströmiaceae]. Linn. 23-Polygonia, 1-Monocàlia. Allied to Freziera.)
Greenhouse evergreens. Cuttings of ripened shoots in early spring, in sandy peat, with a glass over them; peat and loam, both fibrous, with a portion of silver-sand. Winter temp., 40° to 48°.

E. angustifo'lia (narrow-leaved). Java. 1862.
E. *jacquemartii* (Jacquemart's). Japan. 1869.
E. *tigrina* (Tiger). Flowers are large and fragrant.

EU'RYALE. (The name of one of Ovid's Gorgons, whose heads he fabled to be covered with vipers instead of hair. See also the flower-like branches of the plant in flower. Nat. ord. Waterfìlies [Nymphaeaceae]. Linn. 13-Polyandria, 1-Monogynia. Allied to Victoria regia.)
The leaves of Euryale in the East Indies vie with those of *Victoria*, but its flowers are inconspicuous. The seeds are edible. Stove aquatic. Seeds and divisions; loamy soil, in a tub set in water, and kept at a high temperature. Summer temp., 80° to 85°; winter, 55° to 60°.

EU'RYAN'GIUM S'UM'BUL. See FERILLA SUMBUL.

EU'RYBIA. See OLEARIA.

EU'RY'CLES. (From eurus, broad, and klas, a branch; referring to the branch-like footstalks. Nat. ord. Amaranthidae [Amaryllidaceae]. Linn. 6-6x6an-dria, 1-Monogynia. Allied to Calostemma.)
Stove bulbs, requiring rest in winter. Seeds, but chaffy, and more readily propagated in sandy loam, and a little vegetable-mould, or very rotten cow-dung; watered and heat given when growing, drier and cooler when resting. Summer temp., 55° to 60°; winter, 45° to 55°.


EU'RY'COMA. (From eurus, large, and komé, a head of hair; in reference to fringe-like hairs on the ovary. Nat. ord. Simarubids [Simarubaceae]. Linn. 5-Flan-tandria, 1-Monogynia.)
Stove evergreen. For culture, see CO'NARUS.

EU'RGIA'NIA. (Eurygama, wife of Céléus. Nat. ord. Compositae.)
E. *angustifo'lia* (narrow-leaved). Peru.

EU'RYS. (From eurus, broad, and ois, aspect. Nat. ord. Compositæ.)
Greenhouse shrub, with the leaves divided into 3 to 4 long, narrow segments. Cuttings in sand in a close case. Fibrous loam, leaf-mould, and sand.
E. *pach' nos* (comb-like). Yellow. S. Africa.

EU'SCAPHIS. (From eu, fine, and scaphis, a ship; in allusion to the cup at the base of the fruit. Nat. ord. Sapindaceae.)
Greenhouse evergreen shrub, with ornamental foliage. Seeds, layers, cuttings. Fibrous loam, peat, and sand.

EU'STIGIA. (From eu, good, and stige, a covering; referring to the bracts. Nat. ord. Asclepiadaceae. Linn. 5-Planta'ria, 1-Digynia. Allied to Peplonia.)

EU'TOMA. (From eustoma, a beautiful mouth; referring to the opening of the flower. Nat. ord. Gentian-worts [Gentianaceae]. Linn. 5-Planta'tria, 1-Monogynia. Allied to Lelantus.)
Seeds, side shoots in a slight hothouse in March, and transplanted into the border in May, and some in the end of April. Ex. exalta' tium by division, and cool greenhouse treatment.
E. *xalfe⁎* (Greenhouse biennial). See E. exalta' tium.

EU'TROPHUS. (From eu, and trophe, to twine; literally, beautiful twiner. Nat. ord. Labi'worts [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to Dianella.)
Half-hardy evergreen twiners, from New South Wales, which prefer a frame, and do well in a greenhouse. Cuttings of firm young shoots in early autumn or spring, in sandy soil, under a glass; sandy peat.
E. *angustifo'lius* and E. *Brou ni* see E. Brou'ni. 5. June. 1800.

EU'TSYSA. and EU'TSYXIA, synonyms for Araucara Cunn.'nghami. See EU'TSYXIA.

EU'TSYXIA. (From eutaxis, modesty; referring to the delicate aspect of the flowers. Nat. ord. Leguminosae [Leguminosae]. Linn. 10-Decandria, 1-Monogynia. Allied to Dillwynia.)
Greenhouse evergreen shrubs, from Australia. Cuttings of short young shoots, getting firm at the base, in sand, under a bell-glass, in April or May; peat and loam, in equal proportions. Winter temp., 40° to 45°. E. *myr'tósia* (with a little protection, will do against a wall in London).
E. *tun'gen* (pungent). See DILLWYNIA FENNIGS.

EU'rTRePH. (After Euterpe, one of the nine Muses. Nat. ord. Palms [Palmaceae]. Linn. 21-Monocàlia, 6-Hexandria. Allied to Areca.)
Stove palms; rich loam. Summer temp., 60° to 85°, and moist; winter, 50° to 60°.
E. *carib'á* (Caribbean). See OREDODA OLEARACEA.
E. *oler'ea* (pot-herb). 100. Brazil. 1847.
EXOCHORDA

Socotra. 1881.

Indonesia.

*Forbesii* (Forbes's). 1. Purple; anthers yellow.
Socotra. 1902.

*macra nulhum* (large-flowered). See E. ZEYLANICUM.

*pulchellum* (pretty). See CECIDIA PULCHELLA.

*luteum* (yellow). See IXANTHUS VISCOSUS.

*Walther* (Walker's). Ceylon.

*zeyla nicum* (Cingalesa). 1 to 2. Violet. Ceylon. 1848.

Winter. Ceylon. 1853.

EXARRHENA MACRA'NTHA. See MYOSOTIS MA-
CRANTHA.

EXCE'CAARIA. (From exsaco, to blind; the juice
and smoke of burning branches injure the eyesight.
Nat. ord. Spurge-worts [Euphorbiaceae]. Linn. 22-
Diosie. 13-Polyantha. Allied to Gussana and Hippo-
mane.)

Stove evergreen shrubs, with white flowers; cuttings
in sandy soil, under a bell-glass, in spring or autumn;
fibrous, sandy loam. Summer temp., 60° to 75°; winter,
45° to 57°.


*serra ta* (saw-leaved). See ADENOPELTIS COLLIGUAYA.

EXCER'SCENCE. Independently of Galls, which are
caused by the punctures of insects, and the swellings
which always accompany Canker, the excrescences
which injure the gardener’s crops are very few. That
which appears above the point of union between the
scion and stock is caused by the former being the freer
grower of the two, and is a warning that should be
remembered, for it curtails the longevity of the tree,
the supply of sap gradually becoming inefficient.
The excrescences which occur upon the branches of some
apples, as those of the coding and June-eating, cannot
be looked on as a disease, for they arise from congeries
of abortive buds, which readily protrude roots if buried
in the soil, making those among the few apples which
can be readily or easily propagated by cuttings. Of
a similar nature are the huge excrescences so prevalent on
aged oaks and elms. Bulbous excrescences are formed upon
the roots of many plants if compelled to grow upon a soil
drier than that which best suits them. This is the case especially with two grasses, *Phleum pratense* and
*Allopecurus geniculatus*, and is evidently a wise
provision of a nature to secure the propagation of the
species, for those bulb-like thickenings will vegetate long
after the remainder of the plant has been destroyed by
diseases, and dryness of the soil.

EXOCA'GRUS. (From exo, outside, and *karpos*, a
fruit. Nat. ord. Santalaceae.)

Small trees or shrubs, requiring greenhouse treatment.
Seeds. Loam, peat, and sand.


*cupressiformis* (Cypress-formed). Australia. 1888.

EXOCRIRA. (From exo, outside, and *choroid*, a
cord. Nat. ord. Rhamnaceae.)

Ornamental, hardy, deciduous shrubs allied to Spiraea.
Seeds, cuttings. Well-drained garden soil.


*Girona* (The *F* shrub). Flower-buds cherry-red; flowers
white. N. China. 1908.

*grandifolia* (large-flowered). 5 to 8. White. April.
May. China.

*prostrata* (prostrate). Branches prostrate. 1907.

EUTHALES. See VELLEIA.

EUTHA'MIA. See SOLIDAGO.

EUTO'CA MULTIFLORA. See PHACELLA MENZIESII.

EUTOCA WRANGL'IANA. See PHACELLA DIVAR-
ICATA. WRANGEL'IANA.

EUTRE'MA. (From ex, well, and *treme*, to tremble; in
reference to the shaking of the flowers by the wind.
Nat. ord. Crucifera.)

Hardy perennial herbs, with radical leaves, suitable
for the rock-garden. Seeds, cuttings in summer, and
divisions in spring. Garden soil.


EU'XENIA GRATA. See PODANTHUS OVATIFOLIUS.

EU'XOLUS LINEATUS. See AMARANTUS INTER-
RUPTUS.

EVERLE'NA. See ELLEANTHUS.

EVER'NING FLOWER. See HESPERUS MATRONALIS.

EVERNING PRIMROSE. *Enothe'ra.

EVERGREENS are such plants as do not shed all
their leaves at any one time during the year.

EVERGREEN THORN. *Crata'xus Pyrac'nia.

EVERLASTING. *Gna'phaliun, Anaphaliis, Helichry-
sum, Hel'ipterum, &c.

EVERLASTING PEA. La'thurus latifoli'us.

EVO'DIA. (From exodos, sweet scent; referring
to that of the leaves. Nat. ord. Kuevosor [Rutaceae]. Linn.
4-Tetrandra, 1-Monogynia. Allied to Pilocarpus.)

Stove evergreen shrubs. Cuttings of half-ripened
shoots in sand, under a bell-glass, and in bottom-heat,
in April; light, fibrous loam. Summer temp., 55° to
75°; winter, 50° to 55°.

Guinea. 1890.

Cochin-China. 1822.


Used by the Chinese to give colour and a bitter
taste to beer.

*microcoica* (small-barred). Australia.


EVOLVULUS. (From evolo, the opposite to Con-
volvulus; referring to the plants not twining. Nat.
ord. Bindweeds [Convolvulaceae]. Linn. 5-Pentandra,
2-Digynia. Allied to Convolvulus.)

For culture, see *Convolvulus*. All blue-flowered
trailers, except where otherwise specified.

Hardy Annual.


Syn. E. *mutalliianus*.

STOVE EVERGREENS.


*lanceolatus* (spear-head-leaved). See E. *Villorus*.

1870.

Jamaica. 1845.


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E. alsim'enos (chickweed-like). 1. July. Tropics of
both Worlds. 1817.

*emerigintus* (end-notched). See IPOMEA REN-
FORSM.


*hirsilu*s (hairly). See E. *Alsimoides*.


*limos/ius* (flax-leaved). See E. *Alsimoides*.

*munnul'drus* (moneywort-like). See E. *Alsimoides*.

*ser'cous* (silky). See E. *Incarnus*.

EVO'NIMUS and EVO'NYMUS. See EU'NYMUS.

EY'OSMU'S. See LINDERA.
EXOGENS. A name formerly employed for Dickoy-lepons.

EXOGO NIM Filiflorme. See Ipomoea filamentosa.

EXOGO NIM PURGA. See Ipomoea Purga.

EXOGO NIM REPANDUM. See Ipomoea repandula.

EXORRHIZA. (From exo, out of, and rhiza, a root; the roots grow largely out of the soil. Nat. ord. Palmae.)

An ornamental stove Palm. For cultivation, see PALMUS.


EXOSTE MNN. (From exo, externally, and stemma, a crown; referring to the flower-heads. Nat. ord. Cichoraceae. [Rubiaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Luculia.)


" sekundaria (very heart-shaped). 2 to 10. White, fragrant. W. Ind. 1903.

EXOTICS. Plants belonging to a country different from that in which they are growing.

EXTRAVASATED SAP may arise from five causes:

1. The acrid or alkaline state of the sap, which has been considered already, when treating of the <Canker>.

2. Plethora, a powerful and violent action in which the sap is formed more rapidly than the circulatory vessels can convey it away. When this occurs, rupture must take place. If the extravasation proceeds from this cause, there is but one course of treatment to be pursued—root-pruning, and reducing the staple of the soil, by removing some of it, and admixing less fertile earthy components, as sand or chalk. This must be done gradually, for the fibrous roots that are suited for the collection of food from a fertile soil are not at once adapted for the introduction of that from a less abundant pasturage. Care must be taken not to apply the above remedies before it is clearly ascertained that the cause is not an unnatural contraction of the sap vessels, because, in such case, the treatment might be injurious rather than beneficial. We have always found it arising from an excessive production of sap, if the tree, when afflicted by extravasation, produces at the same time super-luxuriant shoots. Severe pruning, lopping, or pollarding produces similar results.

3. Local contraction of the sap vessels. If the extravasation arises from this cause there is usually a swelling of the bark immediately above the place of discharge. In such a case the cultivator's only resource is to reduce cautiously the amount of branches, if the bleeding that occurs be injuriösly extensive; otherwise it is of but little consequence, acting, like temporary discharges of blood, as a relief to the system.

4. The extravasation of the sap from a wound is usually the most exhausting, and as the wound, whether cut or cut, is liable to be a lodgment for water and other foreign bodies opposed to the healing of the injured part, the discharge is often protracted. This is especially the case if the wound be made in the spring, before the leaves are developed, as in performing the winter pruning of the vine later than is proper. In such case, the vine always is weakened, and in some instances it has been destroyed.

5. During hot and dry periods in summer, the leaves of certain trees, but more especially Limes and Sycamores, appear covered with a viscid secretion, known as honey-dew. This is caused by enormous numbers of their own particular aphides or acrid or viscid and sticky condition all day, notwithstanding the heat of the sun. In the case of trees overhanging the side pavements the same fluid is left on the ground through the same cause. Clean water or soap-suds applied to the underside of the leaves by means of the garden engine would wash down or destroy the aphides, and thus effect a cure.

Azealea sometimes, but rarely, have the hairs on their leaves, especially on their lower surface, beaded, as it were, with a slight exudation. This can scarcely be called a disease. It is never found but upon plants that have been kept in a temperature too high, and in a soil too light. It is an effort to relieve the surcharged vessels, and occurs in various forms in other plants.

The various successful applications of liquids to plants, in order to prevent the occurrence of the honey-dew and similar diseases, would seem to indicate that a morbid state of the top is the chief cause of the honey-dew, for otherwise it would be difficult to explain the reason why the use of a solution of common salt in water, applied to the soil in which a plant is growing, can prevent a disease caused by insects. But if we admit that the irregular action of the sap is the cause of the disorder, then we can understand that a portion of salt introduced in the juices of the plant would naturally have an influence in correcting any morbid tendency; and that by such a treatment the honey-dew may be entirely prevented, we have often witnessed when experimenting with totally different objects. Thus we have seen plants of various kinds, which have been treated with a weak solution of common salt and water, totally escape the honey-dew, where trees of the same kind growing in the same plot of ground not so treated, have been materially injured by its ravages.

EYE-BRIGHT. Euphrasia.

EYSENHARTIA. (Named after Eyssenhart, a Russian botanist. Nat. ord. Leguminous Plants [Leguminosa]. Linn. 17-Diadelphus, 4-Decandria. Allied to Amorpha.)


FAGARA. Garden Bean. (From phago, to eat. Nat. ord. Leguminous Plants [Leguminosa]. Linn. 17-Diadelphus, 4-Decandria. Now referred to Vicia.)

For culture, see BEAN.

F. vulgari (common). See Vicia Faba.

" equina (horse). See Vicia Faba Equina.

FAGARAS. See Zygophyllum.

FABIANA. (Named after F. Fabiano, a Spanish naturalist, Nat. ord. Myrtlebloms [Myrtaceae]. Linn. 12-Icosandria, 1-Monogynia. Allied to Vesta.)

F. angustifolia (sharp-leaved). See LEPTOSPERMUM LEVIGATUM.

F. laviga (smooth-leaved). See LEPTOSPERMUM LEVIGATUM.

F. coriacea (silky). See LEPTOSPERMUM PUBESCENS.

F. tristis (erect). See AGonis MARGINATA.

FADOYNEA. (Named after Dr. Fadyen, author of a Flora of Jamaica. Nat. ord. Ferns [Filices]. Linn. 24-Cryptograms, 1-Filices. Allied to Aspidium.)

F. australis (not to be confounded with Endlicher's Fadynea, which belongs to Garryas. Sow Fern. Division; loam and peat. See Ferns.


FAGARA. See Zanthonychium.
FAGELIA. (Named after Fagel, a botanist. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Dia
delpia-Liquidae.) Allied to Cajanus.
Greenhouse evergreen twiner. Seeds, steeped in warm water, sown in light soil, and put in a mild hotbed. Cuttings of the points of young shoots before they get hard, in a bell-jar; plant in sand, both salty and sandy. Winter temp., 40° to 45°.


FAGOPYRUM. (From phago, to eat, and pyren, a kernel; referring to the triangular kernel of the nut. Nat. ord. Buccheats [Polygonesae]. Linn. 8-Octandria, 3-Trigynia.) Hardy annual. Seed in April. Common soil.


FAGREA. (Named after Dr. Fagraeus. Nat. ord. Loganiads [Loganiaceae]. Linn. 5-Pentandria, 1-Mono
gynia. Allied to Logania.)
Loganoids stand foremost among the most deadly poisons in the vegetable kingdom. Stove green evergreen. Cuttings of the young shoots in March. Set in a frame, and to get firm in April, in sand, under a bell-glass, and in bottom-heat; plant in sand, both salty and sandy. Summer temp., 60° to 80°; winter, 55° to 60°.

F. imperialis (imperial). See F. auriculata.
F. zeilla'mica (Ceylon). See F. celianica.

FAGUS. The Beech. (From phago, to eat; referring to the edible seeds. Nat. ord. Mastworts [Cupuliferae]. Linn. 21-Monocia, 9-Polyandria.)
By seeds, gathered in autumn, dried in the sun, kept dry during the winter, and sown in light soil, in March. They might be sown in the autumn, only mice, &c., make havoc among them; loamy soil, over chalk, suits them well, as the roots seldom run deep. The different varieties are propagated by grafting in March and April. The male catkins, when swept up, are often used for packing fruit, and filling pillows for the poor man's bed. The morel and the truffle are chiefly found under beeches.

HALF-HARDY EVERGREENS.
F. betulos'is (birch-like). 50. Magellan. 1830. Hardy.
F. digi'fori'os (Ciftoria-like). New Zealand.
F. cunninghamii (Cunningham's). Australia. 1843.
F. fusa (brown). New Zealand.
F. querci'folia (Cypress). New Zealand.
F. Moor' rei (Moore's). Australia.

HARDY DECIDUOUS.
F. anti'ctica (antarctic). 50. Magellan. 1830.
F. castanea' (Castaneum). See Castanea sativa.
F. castan'ceo'lia (Castaneum-leaved). See F. SYL
VATICA HETERO
HYLLA.
F. comptonifo'lia (Comptonia-leaved). See F. SYL
VATICA HETERO
HYLLA.
F. carolinia'na (Carolinian). See F. ferruginea.
F. purpure' (purple). Downy. See F. ferrugine
aUBERGEN.
F. obi'na (oblique). Leaves dark green above, glaucous below. Sout
ern Chilli. 1906.
F. Persia, &c. 1907.
F. furfurace' (milk). Downy. See F. SYLVATICA PURPUREA.
F. american'a (American). 100. May. N. Amer.
F. am'or'gi' (Ansigor's). See F. SYLVATICA HETERO
PHYLLA.

F. atropurpe'a (Spath's golden). "
F. castaneo'lia (Chesnut-leaved). June. N. Amer.
F. cochleata (shell-like).
F. conflu'en'sa (crowded).
F. conflu'ens (pendent). (Bandriller's). 1888.
F. cu'pea (coppper). Leaves copper-coloured.
F. 'Copper Beech.'
F. dickey'a (erect). Branches erect. "Dawbeck Beech.'
F. foliis are argenteus (silver). May.
F. foliis argenteo-marmoreus (marbled silver).
F. foliis aures (golden-leaved). June.
F. foliis siliaceus (leaves striated). ""
F. homodendron (large-toothed).
F. rosea (rose). Leaves with golden lines. 1892.
F. "Fern-leaved Beech.'
F. in'ica (cut-leaved). See F. SYLVATICA HETER
PHYLLA.
F. purpurea (purple). 40 to 50. May. "Purple Beech.'
F. purpurea'e ndula (pendulous). May. Gardens. "Weeping Beech.'
F. purpurea' re (rose-edged-purple). Leaves copper, edged rose. 1883.
F. rotundifolia' (round-leaved). Leaves nearly orbicular. 1894.
F. variagata' (variegated).

FAIRY RINGS. On meadows, pastures, and frequently on garden lawns, dark green circles or broken circles may be observed. They are due to the presence of fungi, which live and feed in the soil, and extend their area radially in ever-widening circles from year to year. The grass inside the circles is usually poorer in character, often, or white-bay. The grass, growing to the fungi have absorbed the nutrient of the grasses. The most common fungus forming these rings is Marasmius oraeides, but some of the Agarics, such as the field and horse mushrooms, which occur, and at their proper season appear above the soil. In the following year they appear in a ring outside the previous one. The injured grass may be restored by means of a good top dressing of soil and well-rotted manure during the winter. Grass seed may be sown upon the bare patches towards the end of March, or the beginning of April. Four soakings of Bordeaux mixture, given at intervals of eight days, will also destroy the fungus.

FALKIA. (Named after Falk, a Swedish botanist. Nat. ord. Bindeeas [Convolvulaceae]. Linn. 5-Pen
tandria, 1-Digenyia.)
Greenhouse evergreen creeper. Cuttings under a hand-glass, in sandy peat, in April or May; plant and loam. Winter temp., 35° to 45°.

FALL OF THE LEAF. Dr. Lindley thus explains this phenomenon: In the course of time a leaf becomes incapable of performing its functions; its passages are choked up by the deposit of sedimentary matter; there is no longer a free communication between its veins and the surrounding air. It changes colour, ceases to decompose carbonic acid, absorbs oxygen instead, gets into a morbid condition, and dies; it is then thrown off. This phenomenon, which we call the fall of the leaf, is going on at this moment. Those trees which lose the whole of their leaves at the approach of winter, and are called deciduous, begin, in fact, to cast their leaves within a few weeks after the commencement of their
FALLOWING

FELL'IA

FELL'IA. (Named after Fauquiers, an Italian botanist of the seventeenth century. Nat. ord. Rosaceae.) A handsome, hardy, or nearly hardy shrub. Seeds; cuttings of half-ripe, leafy shoots in summer in a close frame. Well-drained garden soil.


FAN PALM. Co'yph'a.


FARA'MEA. (The derivation has not been explained; probably a commemorative one. Nat. ord. Cinchonads [Rubiacae]. Linn. 3-Triantriola, 1-Monographia. Allied to the Coffee-tree.) A sweet-scented stove evergreen bush, long known in our gardens as Tetramerium. Cuttings of firm young shoots in May, in sand, under a bell-glass, in bottom-heat; peat and loam, both fibrous, with silver-sand, and lumps of charcoal.


FAR'GHI'UM GI'ATTA'N and F. GRANDE. See SERICO KEMPFFERI AUREO-MACULATUS.

FAR'NIA. a name for the pollen or fertilizing dust produced by the anthers, or male organs, of a flower.

FAR'NAYARD. See DUCO.

FARS'ETIA. (Named after Farseti, an Italian botanist. Nat. ord. Crucifer's [ Cruciferae ]. Linn. 13-Tetradynamia. Allied to Alysomum.) Hardy annuals sow in border, in March or April; hardy perennials, by division and seeds; half-hardy evergreens, by cuttings under a hand-light, in May, in sandy loam; grass; rock-walls and mounds. The half-leaf should have the protection of a pit in winter.

FEL'I'CIA.

F. ch'aranthito'olia (wallflower-leaved). See F. CLYP'ETATA.


HALF-HARDY EVERGREENS.


FASCICLE is the name applied to flowers on small stalks variously subdivided and attached to one flower-stem, and collected into a close bundle, level at the top, as in the Sweet William.

FAT'SIA. (Derived from the Japanese name Fatsi, applied to F. japa'onica. Nat. ord. Araliaceae.) Evergreen shrubs or small trees. F. horrida is hardy, while F. japa'onica is also hardy as far north as London if sheltered from strong winds in winter. Rice-paper is made from the pith of F. papu'yfera by the Chinese. The last two are handsome plants for subtropical gardening. F. japonica makes a good window plant. Seeds; cuttings and occasionally suckers. Well-drained garden soil.


FEA'BERRY. A local name for the Gooseberry.

FEATHERS. See Animal Matters.


rapu'sris (rock). See PATRINIA RUPESRIS.

FEE'A NA'NA. See TRICHOMANES BOTRYOIDES.

FEE'A SPI'CA'TA. See TRICHOMANES SPICATUM.

FELI'OA. (A commemorative name. Nat. ord. Myrtaceae.) An evergreen shrub or small tree, that will live and bloom on a warm wall in the latitude of London; further north it requires the protection of a greenhouse. Fruit guava-like, red. Evergreen. See cuttings of half-ripe wood in sand, in heat. Fibrous loam with some peat and sand.

F. sellow'ia'na (Sellowian). White, outside, blood-red inside. Brazil and Uruguay. 1898.

FELICI'A. (From felix; happy; from their cheerful appearance. Nat. ord. Compositae [Composite]. Linn. 15-Compositina, 1-Pruninesia. Allied to Aster.) Natives of South Africa. Annuals, sown in open border, in April; evergreens require the protection of a cool greenhouse, and may be easily raised by cuttings under a hand-light, in May; soil, chiefly sandy loam.

FELIC'IA. FROM FELIX; HAPPY; FROM THEIR CHEERFUL APPEARANCE. NAT. ORD. COMPOSI'TAE [COMPOSITIVE]. LINN. 15-COMPOSITINA, 1-PRUNINESIA. ALLIED TO ASTER.) NATIVES OF SOUTH AFRICA. ANNUALS, SOWN IN OPEN BORDER, IN APRIL; EVERGREENS REQUIRE THE PROTECTION OF A COOL GREENHOUSE, AND MAY BE EASILY RAISED BY CUTTINGS UNDER A HAND-LIGHT, IN MAY; SOIL, CHIEFLY SANDY LOAM.

FELIC'IA. (From felix; happy; from their cheerful appearance. Nat. ord. Compositae [Composite]. Linn. 15-Compositina, 1-Pruninesia. Allied to Aster.) Natives of South Africa. Annuals, sown in open border, in April; evergreens require the protection of a cool greenhouse, and may be easily raised by cuttings under a hand-light, in May; soil, chiefly sandy loam.

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the pots, and with a sharp knife divide the plants into as many parts as have roots and a small ball; put them into pots only a little larger than the little ball; drain them well, give a gentle watering, and place them in a shady place till they begin to grow again, and send up fine roots.

**By Young Buds on the Fronds.**—Several species produce miniature or embryo plants on the fronds. These should be pegged down in a pot filled with the proper soil, and placed in a warm atmosphere, for the fronds will allow the young plant to remain attached to it. When the buds have made roots into the new soil, and pushed forth some new fronds, they should be detached from the parent, and potted in the same manner as described above. They can be planted in a greenhouse or cold frame. Some few kinds have these buds or knobs so strongly developed, that they may, when in a sufficiently forward state, be cut off and potted at once. Examples of this kind of bud may be observed in *Acer palmatum*.

**Ferns.**

**Acutea.**—This species of *Fern*, when young, is often cut off and sold as paper. It is easy to cultivate. See also *F. brefzi*. It requires a constant cool atmosphere with a moist atmosphere. It may be grown in a greenhouse or cold frame.

**Fernal.**—A (name commemorated of Mr. Ferne), who collected plants in Trinidad. Nat. ord. Saxifragacea. A hardy shrub, with small leaves and small, solitary, showy flowers, with conspicuous stamens. Seeds; cuttings under a hand-light in summer; also by layers. Well-drained garden soil.

**Fenella.** (Fernicum vulgaris) in a dry soil is longest lived. It is propagated both by offsets, partings of the root, and by seed, any time between the beginning of February and the end of April. The best season for sowing is autumn, after the seed is ripe, at which time it may also be planted. Insert the plants a foot apart, and the seed in drills, six or twelve inches asunder, according as it is intended that the plants are to be transplanted or to remain. When advanced to the height of four or five inches, if they are intended for removal, the plants are pricked out eight inches apart, to attain strength for final planting in autumn or spring. Water must be given freely at every removal, and until established, if the weather is at all dry. The stalks of those that are not required to produce seed must be cut down as often as they run up in summer. If this is strictly attended to the plants will last for many years; but those which are allowed to ripen their seed seldom endure for more than five or six.

**Fenella-Flower.** Nigella. *Fenugreek.* Trigonella.

**Feniza.** See Gilia diantzoises.


**Fernella.** (Named after F. Ferne, a French physician. Nat. ord. Cinchonodae (Cinchonaceae). Linn. 4-Tetrandria, 1-Monogynia. Allied to Cordellia.) Stove evergreen shrubs. Cutting of firm young shoots in May, in sand, under a bell-glass, and in bottom heat; peat and loam, lumpy and sandy. Summer temp., 60° to 80°; winter temp., 50° to 55°.


**Ferns. Stove Ferns.**

**Propagation:** by Division.—Any species of Fern that sends out stolons, or creeping stems underground, readily increases by division. This requires considerable care. They should never be divided till the parts to be separated have a portion of roots each. Turn the plants out of the pots, and with a sharp knife divide the plants into as many parts as have roots and a small ball; put them into pots only a little larger than the little ball; drain them well, give a gentle watering, and place them in a shady place till they begin to grow again, and send up fine roots.

**By Young Buds on the Fronds.**—Several species produce miniature or embryo plants on the fronds. These should be pegged down in a pot filled with the proper soil, and placed in a warm atmosphere, for the fronds will allow the young plant to remain attached to it. When the buds have made roots into the new soil, and pushed forth some new fronds, they should be detached from the parent, and potted in the same manner as described above. They can be planted in a greenhouse or cold frame. Some few kinds have these buds or knobs so strongly developed, that they may, when in a sufficiently forward state, be cut off and potted at once. Examples of this kind of bud may be observed in *Acer palmatum*.

**Feru'sa.** Da'rera rhizop'hyllum and Woodward'ia rada'cans.

**By Spores.**—Several of the finest Ferns cannot be increased by division, or, if they can, several years elapse. If right means are followed, they may be raised by spores. This requires a constantly humid, warm atmosphere, and little, if any, sunshine. Procure a wide earthen pan, a hand or bell-glass that will go within it, and rest on the outside of the pan. Fill the pan with water, and put the glass and above the rim of the pan two or three inches. Fill this pot half full of potsherds, and upon them a sufficient number of small pieces of turfy peat, mixed well with sandstone, under the size of a bean, and then fill up to the top. Then take the front of any Fern that is full of spores or seeds, and, with the hand, brush them off upon the prepared pot, set it in the pan, place the glass over the top, and if there is want of moisture, put the glass and above the rim of the pan two or three inches. The small pieces of turf and stone can be easily separated, and the seedlings on each put into small pots, without any danger of destroying them by the process of potting. In the moist atmosphere of the orchid-house, several species of Fern will come up spontaneously in the pots, baskets, and upon the blocks. Transplant the plants in pots of small peat, if the soil is worn, into larger pots, if the soil is not, and in pots of small peat, placed in a shady situation, and they will soon make nice, bushy plants.

Other methods are followed with great success. One plan is to carefully prepare some pots or pans as above advised, half filling them with drainage. Fill up the remainder with a compost of two parts of finely sifted peat to one-half part each of sand and finely broken potsherds, and fill the pot with this and set the plant in, and keep the spores. Another plan is to get some burnt clay and break it up into small particles, filling the pots with the same, and sowing the spores on the top. The burning of the clay seed destroys it and prevent the growth of any moss, which is so destructive to young ferns. Stand the pots or pans in a vessel containing water, so that the compost may be moistened from the bottom upwards. Never water on the top, nor must the water be so deep as to rise to the surface, or the spores will be washed away. Stand the pots on moist ashes in a moderately warm house in a shady situation and cover them with a hand-light.

**Soil.**—Ferns require a light, open soil. A compost of sandy, fibrous peat two parts, turfy loam one part, and leaf-mould one part, with a free admixture of sand, will suit them well. A little chaff or potsherds may be added if required. The compost should be periodically renewed with new soil, and made heavier by adding a small portion of manure or composted buildings. The pots should be well filled with soil and set in the common place, and then the plants set in them and watered in the same manner as described above.

**Summer Culture.**—Temperature, 65° minimum, 75° maximum by day, and 60° by night.

**Time of Potting.** Early in March, drain well, and give a moderate watering. Early in May, the plants may be potted twice, the second time the first week in July.

**Watering.**—Ferns are like Heaths, if they once get thoroughly dry they will perish, therefore keep them constantly well watered, more especially when the pots are full of roots. Should they by any chance appear to be suffering severely from drought, take such and let them stand in a vessel of water, that will cover the top of the pot, for a few hours. This will thoroughly water them, if every part of the ball, and often recover the plant. If such a convenience is at hand, the smaller Ferns, like other stave plants, will be greatly benefited by a few weeks' sojourn in the middle of summer in a deep, cold pit. Here they should be well supplied with water, and

Very dwarf bulbs, from the Cape of Good Hope. Seeds sown when ripe, or kept dry until the following spring, when a sandy loam and a little peat; bulbs to be kept dry after the leaves have withered; fresh sown when they begin to move, and then supplied with moisture. If planted on a warm frame, to be kept at least six inches deep, and the soil and young shoots protected from frost, they may be grown in the open ground.

F. angustifolia (narrow-leaved). See F. Antherosa angustifolia.


F. argentea (Ferrariola). See F. Antherosa.

F. obscura (Pavonia). See Tigridia Pavonia.

F. tigris (Tigris). See Tigridia Pavonia.

F. tricuspidata. See Morinda tricuspidata.


F. viridiflora (green-flowered). See F. Antherosa.

Ferronia Buxifolia. See Maba Buxifolia.


The Giant Fennels, like the Cow Parsnips, are peculiarly well fitted to form striking contrasts near water, on banks, or by the recesses of rock-work in gardens, besides their interest as furnishing asafetida from the milky juice of the roots, which are in demand by those for fistula, &c. Hardy herbaceous perennials, with yellow flowers, except where otherwise specified. Seed in spring; common garden-soil.


F. aurata (golden). See Peucedanum aureum.

F. campsis (field). See F. Ferulago.


F. fumina (fetid). Turkistan. 1777.


F. linnii (Link's). Canary Islands.


F. monticola (mountain-dwelling). Greece.


F. noxia (fetid). Mediterranean region. 1777.

F. nodiflora (node-flowered). Mediterranean region.


F. obscura (blunt-leaved). See Malabaria obtusa.


F. panicuifera (fawn-paired-leaved). See Johorienia Candalma.


F. Polak'si (Polak's). See F. Narthex.

F. pubescent (downy). See Cachrys Odontalgica.

F. sscuta (sacred). See F. Tinugana.

F. sibirica (siberica). See F. Meyeri.


The young leaves, when bruised, are said to be delicously fragrant; the flowers and wood also partake of the same quality, and grow from a root supported by a fibrous rootlet; a leaf of the plant, when bruised, is of a light green. Cuttings of ripe young shoots, in spring or summer, in sandy peat, under a bell-glass, and in bottom heat; lean, peat, rotten dung, and a little sand. Summer temp., 60° to 80°; winter, 48° to 55°. F. elephantinum (elephant-apple). 4. Blush. April. E. Ind. 1804.


F. angustifolia (narrow-leaved). See F. ANTHEROS ANGUSTIFOLIA.


F. argentea (Ferrariola). See F. ANThEROS.

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F. sibirica (siberica). See F. Meyeri.


F. syriaca (Syrian). Origin unknown.


F. vulgaris (shaggy). See Archangelica hisruta.

FERULAGO. See Ferula.

FESTOON. An arching downwardwards, and the most graceful form for training climbers, either out of doors or in the conservatory.

FESTUCA. Fescue Grass. A genus of grasses containing some of the best of our pasture-grasses, such as Sheep’s Fescue (F. ovata) and Hardish Fescue (F. duris), introduced in 1820, is an ornamental grass 2 to 3 in. high.

FEVERFEW. See Chrysanthemum Parthenium.

FEWFOOT. Trissoleum.


F. pedata (Pedata). See Telfariella Pedata.


FICUS. Fig-tree. (The fig-tree has nearly the same name in all the European languages, and is supposed to be derived from the Hebrew name fag. Nat. ord. Morads [Urticaceae]. Linn. 23-Polygama, 2-Dicea.)

Besides the cultivated figs, there are a vast number of wild fighs belonging to Ficus, and common to the tropics, where they arrest the attention of the traveller either by their graceful shade, their enormous growth, or by their manner of sending down roots from their branches to support and extend their distorted arms, as in the Banyan-tree. By layers and cuttings; by the latter mode in the case of greenhouse and stove species. In either case, dry the cut ends before inserting them in sandy soil, but not removing more of the leaves than those at the joint cut through; in each case, place a hand-light over them. For the stove species there should be the addition of a hotbed; peat and loam will suit the wild species better should preponderate when compactness of growth is desirable. F. elista is the India-rubber plant. F. Carica, the cultivated fig, is the only one hardy enough to bear our climate, though a few succeed near the south and west coast. Most of the stove species will do in a warm greenhouse. See Fig.

Hardy in Mild Districts.

F. Carica (Carian), 15. June. Europe; Orient. 1858. deciduous. "Common Fig."

"edulis" (edible). Leaves with red veins. Australia. 1862.

"minima" (smallest). See F. stipulata minima.


"minima" (smallest). Leaves very much smaller. 1875.

GREENHOUSE EVERGREENS.


STOVE EVERGREENS.

F. Abili (Abel’s). See F. pyriflorus.

"acuminata" (long-pointed). See F. rostrata.

"altaissima" (tallest). Trop. Asia.

"angustifolia" (narrow-leaved). 15. Guiana.

"arborea" (arboreal). Brazil. 1825.


"australis" (southern). See F. rubiginosa.

F. barba ta (bearded). See F. villosa.


"benghalenses" (Bengalese). India. “Banzan.”

"Benjamina" (Benjamin-tree). 40. E. Ind. 1757.

"Bonnetii" (Bonnet’s). 1869.

"bomplandi'ana" (Bonplandian). 20. Mexico. 1823.


"Cavo'ri" (Cavern’s). Midrib yellow-white above. Leaves rusty beneath. Brazil. 1869.

"cerasiformis" (cherry-form). See F. parietais.

"cristata'ia" (Ceansum-leaved). Brazil.

"comosa" (long-haired). See F. benjaminiana.

"Coo'pe'ri" (Cooper’s) of gardens. See F. edulis.

"corniflora" (Cornus-leaved). Java. 1846.


"crassina" (thick-nerved). 10. S. Amer. 1823.

"coccinea" (whitened). See Conuspora dealbata.

"Deca'ni" (Decan’s). Peru. 1869.

"diversifolia" (diverse-leaved). Leaves with light brown spots. Malaya. 1851.

"dryndaph'na" (Dryndadian). Leaves brownish-purple beneath. Congo. 1906.

"dumosa" (busby). 6. 1825.

"ebria'na" (ivyory). Leaves veined with white. India. 1906.

"eleuthera'na" (Rivetdian). Congo Free State. 1900.

"el'reta" (elastic-gum). 20. India. 1815. "India Rubber."

"aurea-marginata" (golden-edged). Leaves with broad golden edge. 1882.

"variegata" (variegated). See F. altissima.

"elegans" (elegant). Java. 1871.

"el'tisca" (eliz). 20. S. Amer. 1824.

"eriocladia" (eritrobyrtrelike). Country unknown.

"vulcanica" (Eugenia-like). Australia.


"excis" (choice). Brazil.

"exscapa" (cut-out). Leaves twice cut. South Sea Islands. 1879.

"jorda'na" (sickle-shaped). Leaves very small, sickle shaped. Malaya.

"ferruginea" (rusty). S. Amer.

"fulva" (tawny). Brazil.

"gardeniifo'lia" (Gardenia-leaved). See F. hirsuta. Malaya.

"glomerata" (clustered). India; Burma. 1869.


"hispida" (hairy). Brazil.


"hookeri" (Hooker’s). 6. W. Ind. 1816.

"infectiosa" (staining). Trop. Asia. India and Malaya.

"infectiosa" (staining). Trop. Asia. India and Malaya.

"india-fa'una" (India-fauna). 25. India. 1869.

"macrophylla" (large-leaved). Australia. 1869.

"Australis Banyan."

"macrophylla" (large-leaved) of Roxburgh. See F. Roxburghii.

"microp'era" (small-fruited). Java.

"myrtillo'ia" (myrtle-leaved). 4. 1824.

"Neu'mann" (Neumann’s). Country unknown.

"nuda" (shining). Java.

"nuda" (naked). See F. benjaminiana.


"obtusatiflora" (blunt-leaved). See F. bombalandiana.

"oppositifolia" (opposite-leaved). See F. hispida.

"ovoid" (egg-shaped). Penang.

"palma'na" (hand-shaped). Trop. Africa; Arabia; India.
FIDDLE-WOOD

F. _pandurata_ (fiddle-shaped). Leaves fiddle-shaped, 1 ft. long or more. 1802.


*parietitis* (parietal). Malaya.

*papilles* (papillated). 8. S. Amer. 1780.

*pala* (palm). India and Australia.

*papillifera* (papillary). Arabia.

*papilius* (papiliferous). 12. S. Amer. 1832.


*pandanus* (pandanus). Brazil.

*purpurea* (purplish). Java.

*pyrifera* (pear-shaped). India and China.

*quercifolia* (oak-leaved). India and Malaya.

*rubiginosa* (rusty). E. Ind. 1759.


*variegata* (variegated). Leaves with broad white margin. 1867.

*Rosmarinus officinalis* (Reinwardt's). Burma and Malaya.


*repens* (creeping). See F. _Stilpulata._

*rhoeas* (rooting-fruit). Malaya. 1875.

*redii* (Reinwardt's). Burma and Malaya.


*rubinoides* (rubinean). Brazil. 1824.

*sagittata* (arrow-head-leaved). 6. E. Ind. 1810.

*crepens* (creeping). Arabia.

*sea'bha* (rough). See F. _Hispida._

*scandens* (climbing). Himalaya and Burma.

*setacea* (bristly). Leaves 3-lobed. India. 1835.

*Siobidii* (Siebold's). See F. _Kerria._

*subulata* (somewhat-three-nerved). Leaves large, with ivory-white nerves. Brazil. 1900.

*Scutum* (Suring's). Leaves red-variegated. Angola. 1871.

*Sycomorus* (Mulberry Fig). 30. N. Africa. "Sycomore Fig." "Fig-tree" of Scripture.

*Thunbergii* (Thunberg's). S. Africa.


*Trime'nii* (Trimen's). India and Ceylon.

*Tsakela* (Tsakela). 15. India. 1763.


*vesica* (sweet). See F. _Glomerata._

*vidal* (shaggy). Malaya.

*violacea* (purple). Bolivia.

*virgata* (clammy-leaved). See F. _Diversifolia._

*Vogelli* (Vogeli's). Liberia.

FIDDLE-WOOD. Cithara xylum.

FIDELIA. (Named after Baron Field, once chief judge of New South Wales. Nat. ord. Gesneriata.) Linn. _Didynamia._

FICUS. _Carica._

Varieties.—For forcing, we recommend the Brown Turkey, or Lee's Perpetual, Negro Large, White Ischia, and White Marseilles. The Neri is also well spoken of. To plant on the hillside, take a rich soil, well cultivated, and with plenty of manure. To place them in pots, and plant them in pots in January or February, and plunged in any ordinary bottom-heat, will make good fruit. Rules for forcing the same will be found in the chapter on forcing in pots or boxes must be potted off when rooted, and again plunged in bottom warmth, and the highest course of culture pursued, shifting them when necessary. Those who plant on the open hills should do so in the middle of March; and if the plants are from pots, the roots must be uncoiled and spread nicely out. Many persons who have established trees merely take suckers and place them in boxes, fastening in the soil, and, it may be, a shading when they begin to grow.

Soil.—The fig will thrive in almost any ordinary garden-soil, but it is said to prefer a chalky loam. When planted near the front of doors, care must be taken not to make the soil rich, for the consequence will be that the fig will not be the consequence. A plain "maiden" soil is quite good enough for general purposes.

Culture in Growing Period.—Out-door culture consists in an early disbudding of all superfluous shoots; this is performed when the young shoots are about three inches long, retaining all those which are short- and compact-looking. Care must be taken to reserve shoots for blank places. This disbudding is generally performed twice or thrice during the season; for waste and watering-look spray will continue to spring up until August, especially in moist summers, and when the plants are grown. When the fig begins to ripen, the foliage on almost every leaf of the future year's bearing-wood obtains a free exposure to sunshine, say the middle of August. About the end of this month it is accounted good practice to pinch off the young shoots, so that they may be pinched off at the foot or rather to squeeze them with the thumb and finger. Nothing more is needed as summer culture, except a timely training of all reserved shoots, in order to obtain all the benefit possible.

Culture in Rest Period.—This merely consists in protection from frost, and in pruning. Towards the beginning of December, some protection ought to be given, as mats, straw, fern fronds, or spruce boughs. Before closing the house, the fig, which has become as large as a horse-bean should be pulled away, for such rob the trees, and are sure to perish. The trees must be uncovered again in the end of February, if not, otherwise such furs as fern or straws may remain on a little longer; the spruce, until pruning time. The latter operation should not be performed until the young buds are beginning to swell, when woold or a proper character may be distinguished readily from that which is useless. All the latter must be cut away, unless required for blank spaces; but if summer disbudding has been properly performed, there will be much less for the pruner to do. After this, they must be duly trained.

Forcing.—Some build houses for the fig, but most prefer growing them in tubs or large pots. The general principles applicable to greenhouse work may be applied here, but the vine, that it will be needless to go into details. As to general temperature, although they will bear much heat, yet most cultivators agree that one intermediate between the peachhouse and the forcing winery is the most congenial. It requires, however, a little more attention to bring the fig into leaf than the peach. Under good house culture it will produce two satisfactory crops in one year. A first crop may be obtained as early as May, and after a couple of months so, the second will commence ripening; the latter being those on the wood of the current season. The first crop, or the embryo fruit of the previous year, is very apt to fall prematurely, and must be carefully watched. As the moment they are dry, and an avoidance of atmospheric extremes, are the best precautions. Most good cultivators make a point of pinching the ends of the young shoots as they grow, so that the young shoots may be kept from being confined to the ripe state, as dessert; as for keeping, if such is attempted, it must be on the retarding system, by partial shade, and a lowering of temperature just before ripening.

Insects.—The Red Spider and the Brown Scale alone
cause any alarm to Fig cultivators. The spider must be combated by the syringe, by an occasional dusting of sulphur, and by dressing the shoots all over, before commencing forcing, with soap water and sulphur; three ounces of soft soap to a gallon of warm water, well beat up, adding four handfuls of sulphur, will make a mixture which, brushed into every crevice, will extinguish both scale and spider. Sulphur, however, should be used on the pipes during the growing season.

FIG MARIGOLD.  
Mesembryanthemum.

FIGURE-OF-EIGHT MOTH.  
Diloba caussilecephala.

FIGERT.  
See Co’rylus.

FIMBRIA RIA.  
(From fimbria, fringe; a second name for Schauwnia, a fine shrub with fringed leaves. Nat. ord. Malpighiads [Malpighiaceae].) See Schwaenia.

F. elegans (elegant). See Schwaenia elegans.

FINGERS-AND-TOES.  
See Ambury.

FINOCILIO, or AZOREAN FENNEL (Anthemum azorii), cannot be cultivated successfully in this country.

FIR.  
P’lus.

FIRE.  
See Furnace.

FISCHER RIA.  
(Named after Dr. Fischer, of St. Petersburgh. Nat. ord. Alecrifolia [Asclepiadaceae]. Linn. 5-tenund-Juglii, 2-Cigynia. Allied to Gonolobus.)

Stove evergreen climber. Cuttings of shoots, young or old, in light, open soil, and in heat; heat and loam, with broken bricks and charcoal mixed with the compost, in addition to good drainage. Summer temp., 60° to 70°; winter, 45° to 55°.

F. bi spida (roughly-hairy). See GONOLOBUS HISPIDUS.


F. scabdiu (climbing). Green, yellow. May. S. Amer. 1826.

FISH.  
See Animal Matters.

FITTONIA.  
(Named in honour of two ladies, E. and S. M. Fitton, authors of Conversations on Botany. Nat. ord. Acanthaceae.)

Ornamental foliage stove plants, with beautifully netted evergreen leaves. Cuttings of shoots getting firm in sand, in a close case, with bottom-heat. Light, fibrous loam and peat, with sand.

F. argyroren’vi (silvery-nerved). Leaves bright green, netted with white. Peru. 1867.


F. verschaffel’iti (Verschaffeltii), Yellow, pink. Leaves netted with red. Peru. 1863.

FITZROYA.  
(So called after Capt. R. Fitzroy, R.N., commander of a surveying expedition. Nat. ord. Conifers [Conifera]. Linn. 21-Monesta, 9-Polynandria.)

Evergreen hardy trees. Cultivated like the Ce’drus Deodara.’

F. Arch’ei (Archer’s). Tasmania.


FLAUC’ORTIA.  
(Named after E. Flacourt, a French botanist. Nat. ord. Bisada [Bixaceae]. Linn. 22-Diacra, 1-Polyandra.)

Stove evergreens with white flowers, the fruit of which is wholesome. Cuttings of half-ripened shoots in April, in sand, and in heat, under a bell-glass; heat and loam.

Summer temp., 60° to 70°; winter, 45° to 55°.


Flax.  
See Poly’teris Callo’sa.

FLAT-BODY MOTH.  
Depressaria depressella.

FLAV’ERIA.  
(From flavus, yellow; in allusion to the yellow dye obtained from the plants. Nat. ord. Compositae.)

Annual or perennial herbs, of no great value for garden purposes. Seeds in light, sandy soil.


FLAX.  
Lin’num.

FLAX-LILY.  
Phor’mium.

FLAX-STAR.  
Asteroli non stella’tum.

PILE RYA.  
(Named in compliment to J. F. Plyer, who wrote on Orchids. Nat. ord. Urfticaeae. Allied to the Nettle.)

Stove annual, furnished with stinging hairs. Seeds. Loam, leaf-mould, and sand.


FLINDERS’IA.  

A greenhouse evergreen tree. Cuttings of the ripened shoots in sand, under a bell-glass, in spring; loam and peat. Winter temp., 38° to 45°.


FLORAL DIAGRAMS may aptly be termed the ground-plan of a flower, and are designed to show the number and arrangement of the sepals, petals, stamens, and carpels making up the structure of a flower. They also show whether the parts of each set or whorl are free from one another or joined (connate), whether free from, or joined to, any other whorl (adnate). When the sepals meet only at the edge in bud, they are sepalate; but if they overlap, they are imbricate. The petals are mostly alternate with the sepals, and when joined they are said to be connate, or that the corolla is gamopetalous. They are also said to be free from one another or single (polygamous) or joined (monadepalous), or adnate to the corolla (epipetalous). The pistil may consist of two or more carpels; and if free it is said to be apocarpous; or if united, syncarpous. These various conditions are indicated by the lines and markings of the floral diagram.

FLORESTNA.  
(Derivation not explained. Nat. ord. Composites [Compositae]. Linn. 15-Syngenesia, 1-Equalis. Allied to Bahia.)

Seeds of callus is in the open ground, in April; seeds of pelia’ta (a bolded, in March, and transplanted in May to a sheltered situation, or grown in a cool greenhouse. F. callo’sa (hardened). See POLYPE’TERIS CALLO’SA.


FLORIS.  
The smallest stalkless flowers united on a common receptacle, and enclosed in one common involucre of bracts to form a compound flower or capillum.

FLORIST.  
A dealer in flowers, flowering shrubs, and their seeds.

FLORISTS’ FLOWERS are those which, by their beauty or fragrance, power to produce permanent varieties, and facility for propagation, are so largely in demand as to render them especially worthy of cultivation as an article of commerce.

Mr. Glinny has enumerated the necessary character-
FLORIE See BLOOM.
FLOWER FENCE. Point's na.
FLOWER-GARDEN is that portion of the ground in the vicinity of the residence disposed in parterres and borders, tenanted by flowers and flowering shrubs, and among walks and lawns, so that the occupants of the house may have ready access to what is so beautiful in form, colour, and fragrance. See LANDSCAPE GARDENING, PLANTATION, &c.
FLOWERING ASH. O'rnas.
FLOWER OF JOVE. Lychnis Flo's-fis.
FLOWER-POTS are of various sizes and names:- Thimbles and thumbs; any size under three inches diameter at the top.

<table>
<thead>
<tr>
<th>Width of Top</th>
<th>Depth in Inches</th>
<th>Old Name.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-inch pot</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Five-inch</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Six-inch</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Eight-inch</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Nine-inch</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Eleven-inch</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Twelve-inch</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Thirteen-inch</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Fifteen-inch</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Eighteen-inch</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

In addition to the above, there is a description of flower-pots called uprights, which are used for growing bulbous plants, the roots of which do not spread laterally, but perpendicularly. They are deeper in proportion to their width than common flower-pots, and may be thus particularised:

<table>
<thead>
<tr>
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<th>Depth in Inches</th>
<th>Old Name.</th>
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<td>Upright 15-inch (Old upright 16s).</td>
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<td>Upright 8-inch (Old upright 8s).</td>
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<td>Upright 6-inch (Old upright 6s).</td>
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<td>Upright 5-inch (Old upright 4s).</td>
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The form and material also vary. Mr. Beck makes them very successfully of slate; and the prejudice against glazed pots is now exploded.

It was formerly considered important to have the pots made of clay, and thus impervious. Afterwards it was thought sufficient merely to make them watertight, and a more miserable delusion never was handed down untested from one generation to another. Stoneware and china-ware are infinitely preferable, for they keep the roots moist under any degree of heat, and, if not properly glazed, should be thickly painted. Large pots have been recommended to be employed, and there is no doubt that this is a system much abridging the gardener's labour; but, as it is liable to produce magnificent specimen plants, we cannot recommend an adoption of large pots, insuring as they do such an immense sacrifice of room in the hot and greenhouses. Captain Ainger has shown the great success of growing the Pelargonium, never employed pots larger than twenty-four. It is usual to have saucers in which to place flower-pots when in the house, and so far as preventing stains and the occurrence of dirt, they are deserving adoption; but as to their being used for applying water to plants, they are worse than useless, except to plants almost aquatic.

The great difficulty in pot cultivation is to keep the drainage regular and no water being prevented from this could be devised than keeping a pot in a saucer containing water. No plan for most cultivated plants could be invented more contrary to nature; for we all know that, for the healthy growth of the plant, it must possess the surface of the soil, and allows it to descend, thus supplying the upper roots first. For drawings of various flower-pots, see THE Cottage Gardener, No. 64.

FLOWER STAGES are made for the exhibition of flowers at shows, in the greenhouse, and elsewhere. The following gives some very useful facts which the student will find useful in connection with the subject. The first object in the construction of stages should be to have them so formed and situated as to afford facilities for grouping plants; the second should be to give place plants opportunity to grow as rapidly as possible, to start the flower-borders upon an ample and good foundation. In this case, it is generally the case, that the borders should be placed in groups of stages, thus producing an effect similar to the borders in a well-arranged flower-garden. The spectators in their progress from the front to the back of the house, would be attracted by the separate display in each, instead of having their attention drawn away by a whole blaze of beauty at once. Mr. Ainger also makes these good suggestions: "Stages are frequently formed of an equal or nearly equal series of ascents, in consequence of which the upper plants are by no means so well seen as the lower ones. The proper plan is to commence by small elevations, gradually increasing as the shelves recede from the eye. The lowest shelf to be eighteen inches from the floor, the first rise is six inches, the next nine, twelve, fifteen, eighteen, twenty-one, and so on. The upper shelves should also be broader than the lower for larger pots. The advantage of this arrangement, as commanding a better view of the flowers, is obvious."

FLUED WALL. See WALLS.

FLUES are pipes formed of brick or slate, for conducting heated air through stoves or other buildings where a high artificial temperature is desired. It is a mode of heating much less used than formerly, being superseded by the much more manageable and effectual system of heating by hot water, and, though it has a number of additional disadvantages, that they require frequent sweeping, and that they emit a sulphurous fume that is injurious to plants, and disagreeable to the frequenters of the structures in which they have been obvisely used, as the Valencia slates in the place of bricks; yet flues under few circumstances can compare with either the pipe or tank system of hot-water heating. When flues are employed, they are constructed inside and near the walls of the building; each flue eight or nine inches wide in
the clear, by two or three bricks on edge deep, ranged horizontally one over the other the whole length of the back wall, in three or four returns communicating with each other, continued, also, along the end and front walls in one or two ranges, to be used occasionally; furnished with a regulator to slide open and shut as required, the whole proceeding from the first lowestmost flues, which immediately from the furnace or fireplace behind either the back wall at one end, or in the back part of the end walls; or if very long stoves, of more than forty feet length, two fireplaces are required, a stove shrub. Cuttings in sand in bottom-heat, and not overwatered. Fibrous loam and plenty of sand.


FLY. See Black Flea.

FLYWORT. Mya'nisus, a section or group of Cata'ceae."

See ORPHOPOCON.

FLU'GEEA. 


FLY. See Black Flea.

FLYWORT. Mya'nisus, a section or group of Cata'ceae."

See ORPHOPOCON.
FORMICA. See ANT.

FORSTIA. (Commemorative of P. Forrest, a botanist of the seventeenth century. Nat. ord. Comelinae.)

Stove-merrials with showy flowers. Cuttings of shoots getting firm, in sand, under a bell-glass or in a propagating case, with gentle bottom-heat. Fibrous loam with an equal part of leaf-mould and well-decayed cow manure and sand.


FORSYTHIA. (In honour of Mr. Forsyth, royal gardener at Kew. Nat. ord. Oleaceae; Linn. 1866; transplanted, 15-March-1866. Allied to Fuchsia.)

Hardy deciduous shrubs. Cuttings or layers; common, sandy loam.


" Forsinisi (Fortune’s). See F. suspensa.


FORSYTH’S PLAISTER, for healing the wounds and restoring to vigour decayed trees, was as follows: One bushel of fresh cow-dung; half a bushel of lime-rubbish (that from ceilings of rooms is preferable), or powdered chalk; half a bushel of wood-shavings, and, on the last of a bushel of sand; the last three to be sifted fine. The whole to be mixed and beaten together until they form a fine plaster. There is nothing in this compound sufficient to prevent the discharging of the wood, and even more, to make the woody fibres not to contribute to the union; but the granular and herbaceous substance only which exudes from between the wood and fibre, insinuating itself into the wood, makes it harden. The third was brought into discount in the wood. Splints extending at least a foot above and below the fracture should be bound very firmly all round, and a plastering of clay-grit to exclude wet being placed over as a very precaution adopted to prevent the surfaces of the wound being moved by the force of the wind.

FRACTORIA. The Strawberry. (From fragrans, perfumed; in reference to the flavour of the fruit. Nat. ord. Rosaceae. Linn. 12-Icossandra, 1-Monogynia.)

Hardy evergreens. Seeds, sown early in a slight hot-bed, and planted out early, will in many cases produce fruit in the autumn of the same season. Plants are most easily obtained by detaching the runners. Deep loams suits this shrub very well.


" brevis (Brazilian). See F. collina.


" canadensis (Canadian). See F. virginiana.


" major (Majause of Champa). See F. collina.

" mexicana (Mexican). See F. vesca.

" monophylla (one-leaved). See F. vesca MONOPHYLLA.

" nigerflore (Niglierian). Lavender.


" rosea (rose-flowered). Europe.


FRAMES. See Pterocelastrus.

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back, with bars reaching from it at top to the front, serving both to strengthen the frame and help to support the lights; the two lights to be each three feet six inches wide, made to fit the top of the frame exactly. This is to be elevated four and a half feet high, and from sixteen inches to two feet high in the back, and from nine to twelve or fifteen inches in front—observing that those designed principally for the two first purposes are, on the whole, sixty to sixty-five inches long; and the cucumbers, because they generally require a greater depth of mould or earth on the beds; though frames, eighteen or twenty inches in the back, and from nine to fifteen inches in the front, to be held by the three feet six inches long for cucumbers and melons. Each frame should have two cross-bars ranging from the top of the back to that of the front, at three feet six inches distance, to strengthen the frame, support the lights; and the three lights should be each three feet six inches wide; the whole together being made to fit the top of the frame exactly, every way in length and width.

Sometimes the above sort of frames are made of larger dimensions than before specified; but in respect to this it should be observed, that if larger they are very inconvenient to move to different parts where they may be occasionally wanted, and require more heat to warm them. This is particularly the case if they be but just deep enough to contain a due depth of mould, and for the plants to have moderate room to grow, they will be better than if deeper, as the plants will then have the advantage of constant temperature, and thereby be more effectually supported in a due temperature of warmth; for the deeper the frame, the less in proportion will be the amount of light and heat the plants will receive, according to the length of the glass, the longer distance the plants are from the glass; and the more far from the glasses will be some disadvantage in their early growth. Besides, a too deep frame, both in early and late work, is apt to draw the plants up weakly; for in the spring, when the young leaves are not frozen and covered with thick ice, they are tender, and require the tender young plants, such as cauliflower and lettuce, and for raising early small salads, herbs, radishes, &c.

The woodwork of the back, ends, and front should be of inch or inch and a quarter deal, as before observed, which should be all neatly planed even and smooth on both sides; and the joints, in framing them together, should be so close that no wet or air can enter. The corners or angles in the framing should be dressed, and the edges of the thickness should be about three inches broad and one thick, and neatly dovetailed in at back and front even with both edges, that the lights may shut down close, each having a common face of several inches, well to mould the dirt, and keep the wet falling between the lights. At the end of each frame, at top, should be a thin slip of board, four inches broad, up to the outside of the lights, being necessary to intercept the slopping wind rushing in at that part immediately upon the plants, when the lights are occasionally tilted behind for the necessary admission of fresh air, &c.

With respect to the lights, the woodwork of the frame should be one inch and a half thick and two and a half broad; and the bars for the immediate support of the glass-work should be about an inch broad, and not more than an inch and a half thick; for, if too broad and thick, they would interfere with the lights, and not only just sufficient to support the lights, and be ranged from the back part to the front, nine or twelve inches and a half.

All the woodwork, both of the frames and lights, should be painted, to preserve them from decay. A lead colour will be the most eligible; and if done three times over, outside and in, will preserve the wood exceedingly from being injured by the weather, and from the moisture of the earth and dung.

Mr. Knight has suggested an important improvement in the form of frames. He observes, that the general practice is to make the surface of the bed perfectly horizontal, and to give an inclination to the glass. That side of the frame which is to stand towards the north is made nearly as deep again as its opposite; so that if the mould is placed of an equal depth (as it ought to be) over the whole bed, the plants are too far from the glass at one end of the frame, and too near at the other. To remove this inconvenience, he points out the mode of forming the bed on an inclined plane; and the frame formed with sides of equal depth, and so put together as to continue perpendicular when on the bed, and face the sun.

There are several minor points in the construction of frames that deserve attention. The strips of lead or wood pasted in to prevent the glass from running down the frame, and not lengthwise they then neither obstruct so much the entrance of light, nor the passing off of rain. The inside of the frame should be painted white, as once plants generally suffer in them from reflected light: if the accumulation of heat was required, the colour should be black.

Raising the Frames.—It is a well-known difficulty that the gardener has in raising the frames so as to keep the foliage of the plants within them at a determined and constant distance from the glass. To remedy this, Mr. Nairn, gardener to J. Cresswell, Esq., of Battersea Priory, introduced an ingenious contrivance, consisting of a movable frame, and a brick-built pit, having a separate inner lining, and a nine-inch outer wall. Between these sides of the frame pass, and are lowered or elevated by racks and spindles.

In a manner that might perhaps be adopted, by having frames of the same length and breadth as the original, but only from an inch to three inches, or upwards, deep. These, as necessary, might be put on the top, and once plants generally suffer in them from reflected light, if the accumulation of heat was required, the colour should be black.

Glass-raising.—See Grove.

Shelter for the Glass.—In proportion to the number of lights, matting for shading and sheltering must be at hand. The usual mode of covering at night is by laying the mats, and over these litters, in thickness according to the severity of the season. Some gardeners lay immediately in contact with the glass, and over this the mats. Every person conversant with these modes of shelter is aware of their inconvenience. In rainy weather they are continually obstructed, and when dry, the bolts and nuts might also be easily applied, and the interstices rendered still more impervious to air by being faced with list.

Glass-frames.—See Grove.

FRANCISIA.—See Darwinia.
FRAXINUS

FRAXINUS. (Named after F. Franco, a Spanish botanist. Nat. ord. Francoads [Saxifragaceae]. Linn. 8-Octandra, 4-Tetragynia.)

Hardly herbaceous perennials, natives of Chili, and impatient of wet under cultivation. A few plants should be kept in cold frames, to replace such as die off during severe winters. Seeds in a slighter, in spring; plants harden and bloom; 3-d, dry, sandy loam suits them best. In severe weather, they are worth the labour of sticking a few evergreen boughs round them.


Small plants, found chiefly near the sea, more curious than pretty, though useful for rock-works, or for a collection of alpines. Seeds, cuttings, and dividing the roots; sandy loam, and a little peat.

HALF-HARDY EVERGREEN TRAILERS.

F. corymbosa (corymbose). See F. HIRSUTA.


F. moliss (soft). See CRESSA CRITICA.


FRANKINCENSE. P. trinque lauda.

FRANSE'RIA. (Named after Antoine Franse', a Spanish botanist. Nat. ord. Composita.)

A half-hardy biennial or perennial herb. Seeds. Light, sandy soil.

F. artemisiodes (Artemisia-like). 5-6. Andes of Chili and Peru. 1890.

FRA SERA. (Named after John Fraser, botanical collector in North America. Nat. ord. Gentianwors [Gentianaceae]. Linn. 4-Tetradria, 1-Monogynia. Allied to Chironia.)

Hardy biennial marsh-plants. Seeds in spring, and transplanted; also by division of the roots; sandy peat, with a little loam.


F. speciosa (showy). Yellow. N. Amer.

FRAXINELLA. Dicta'numus.

FRA'XINUS. The Ash. (Fraxinus is the Latin for an ash-tree. Nat. ord. Olivewors [Oleaceae]. Linn. 23-Polygamina, 2-Dicecia.)

Hardy deciduous trees, with green flowers. Seeds ripe in October, then to be collected, and stored in thin layers in the ground, mixed with sandy soil, and turned on once or twice during the winter; the seeds sifted from the soil, and sown in March or April. Most of the species may also be propagated by seeds, and the most distinct of them; as also the varieties by grafting. Dry, deep loam makes them produce the best timber. The Weeping, the Silver, and Golden-barked varieties of F. excelsior are interesting.

* FRAXINASTER.

F. accipitrella (pointed, Green). See F. AMERICANA.

F. alba (white). See F. AMERICANA.

F. amari'ssima (bitterest). See F. EXCELSIOR AMARISIMA.


F. americana (American-white). 1873.

F. foliis argenteo-marginatis (white-edge-leaved). 1825.


F. angustifoliis (narrow-leaved). See F. EXCELSIOR.

F. berlandieri (Berlandieran). Southern Mexico.


F. curvidentis (curve-toothed). See F. CAROLINIANA.


F. eliptica (oval). See F. PENNSYLVANICA.

F. eloniza (Elonza). Origin unknown.

F. epip'tera (wing-upon-wing). See F. AMERICANA.


F. foliis auresis (golden-leaved). Leaves yellow, tinted violet when young. 1878.


F. heterophylla (various-leaved). Leaves mostly of one leaflet.

F. heterophylla (cut-leaved). Leaflet deeply incised.

F. heterophylla pendula (drooping). Various-leaved, weeping.

F. heterophylla variegata (variegated). Ireland. 1836.


F. leucocarpa (white-fruited). Fruits variegated or wholly white. 1807.


F. myrtifolia (myrtle-leaved). April. 1812.


F. pendula Wentwo'rs (Wentworth). "Wentworth Weeping Ash."

F. pensilis pendula (pendulous). See F. EXCELSIOR.


F. versicolor (many-coloured). May. Britain.


F. expansa (expanded). See F. PENNSYLVANICA.


F. glabra (glabrous). Leaves smooth.

F. heterophylla (variegated-leaved). See F. EXCELSIOR.

F. heterophylla variegata. See F. EXCELSIOR.

F. ho'tonii (all-hairy). Leaves, branches, and fruit hairy. Country unknown. 1900.

F. juglandifolia (walnut-leaved). See F. AMERICANA.

F. subinsecta (near-entire). 40. May.

F. laet'ata (lance-leaved). May. N. Amer.

F. lanata (lance-leaved). See F. PENNSYLVANICA.

F. lentisfolia (lentiscus-leaved). See F. PARVIFOLIA.
F. leucotricha pendula (pendulous). See F. parvifolia F. pendula.

longifolia (long-leaved). See F. pennsylvanica.

lu'cida (shining). See F. angustifolia.

caraphylla (large-leaved). See F. americana

mandshurica (Mandshurian). Mandshuria to Sachalin and Japan.

mexica (Mexican). See F. curtipadiata.

mi,xia (mixed). See F. americana.


" Black Ash."

" cri'spa (curled). 30. May.

numi'dica (Numidian). N. Africa.


pa'ta (egg-shaped). See F. pennsylvania.

oxyca'pa (sharp-leaved). See F. angustifolia.

oxyphylla (sharp-leaved). See F. angustifolia.

pa'liula (pale). See F. caroliniana.


" lanceolata (lance-leaved). 30. N. Amer. 1824.

"Green Ash."


polemiont'olia (Greek-Valerian-leaved). See F. excelsior myrtifolia.

polio'mo (river-loving). Turkestan.

pubescens (downy). See F. pennsylvania.


" nervos'a (nerved). 30. May.

"Regel's (Regel's). Turkestan. 1889.

rhynchophylla (beak-leaved). Winter buds globose, 1-3; 4-6 mm. diameters. 1803.


" rust'is (rusty). 30. May. N. Amer. 1824.

" santhhofio (elder-leaved). See F. nigra.

" cri'spa (curled). 30. May.

Sogdia (Sogdian). Leaves 5, coarsely toothed. Turkestan. 1887.

tamara'ndica (tamarisk-leaved). See F. parvifolia.

turke'stana (Turkestan). See F. Sogdiana.

V ethel'mi (V ethelmeis). Leaves 1-3, deeply cut.

" Garden origin. 30. May. N. Amer. 1824.

" spring (spring). Western United States.

" viridis (green). See F. pennsylvania lanceolata.

" xanthoxyl'is (achee-tree-like). N. of India. 1845.

** Ornus. Flowering or Manna Ash.

F. bractea'ta (large-bracted). Central China.


" microphylla (small-leaved).

" daph'tala (two-petaled). California. "Fringeflowered Ash."


" longispis (long-toothed). Japan. 1809.

" Marie' si (Maries'). Flowers small, white. China. 1883.


" angustifo'lia (narrow-leaved).

" latifo'lia (broad-leaved).

" variegat'a (variegated).

" rubocut'pa (crooked-fruiting). Fruit sickle-shaped. Turkestan. 1892.


" sieboldiana (Sieboldian). Japan.

" spath' h a (Spaethian). Leaves large, pinnate, bright green. 1907.


Freesia. (A commemorative name. Nat. ord. Iridaceae.)

Beautiful and highly popular greenhouse bulbs. Seeds and offsets. Fibrous loam with one-fourth part leaf-mould and a little cow-dung, dried and rubbed up finely. May be grown in pots or planted out.


" refract'a (bent-back). Yellow, orange, white. S. Africa. 1893.

" alba (white). Pure white. S. Africa. 1881.


" Leichtlinii (Leichtlini). 11. Yellow and white, with orange blotch. S. Africa. 1875.

" Leichtlinii major (larger). Cream, orange. 1882.

" odorata (scented). White, yellow. S. Africa. 1880.

" xantho'hystila (yellow-blotched). With an orange blotch.

Freez-stone

peaches and nectarines are those with fruit, the flesh of which parts freely from the stone.

Freeling. See Frost.

Fremontia. (Named in compliment to Colonel Fremont of America. Nat. ord. Sterculiaceae.)

A nearly hardy, deciduous shrub, that requires a greenhouse in cold districts. Cuttings in spring or autumn, covered with a hand-light in a cool greenhouse. Loam, leaf-mould, and sand.


French Bean. See Kidney Bean.

French Marigold. Tag'es pa'tula.

Frene-la. See Callitris.

Freycinetia. (Incommenioration of Admiral Freycinet, a French navigator. Nat. ord. Pandanaeae.)

A hardy, shrub-like flowering shrub, that requires a greenhouse and stove evergreen climbers. Offsets or short, lateral branches. Light loam, with a little peat.

F. angustifo'lia (narrow-leaved). Malaya.

" Banksii (Banks'). Green. New Zealand.

" (Haworth). (Crooked-branched). Pink. Norfolk Island.

" Cumingiana (Cumingian). Leaves short, spreading, not arching.

" " insit' gnis (remarkable). Java and Andamans.


A shrub. Cuttings of young shoots getting firm in April and May, in sand, under a bell-glass. Sandy, fibrous loam and sandy, turfy peat. Summer temp., 60° to 85°; winter, 55° to 60°.


" " theo'des (Thea-like). See Clevera theoides.

Friedericia. (Named after Frederick III, King of Bavaria. Nat. ord. Bignoniaceae.)

A shrub. Cuttings of hardy, mature-sided shoots, in sand, in a propagating case. Fibrous loam and peat.


Frisia. (Named after Dr. Fries, of Lund. Nat. ord. Lindenblooms (Tiliaceae). 11: Dodecaneridia, 1: Monogynia. Allied to Elaeocarpus.)

" peduncul'a ris (peduncled). See Aristotelia peduncul'aris.

Fringetree. Chiona nius.

Fritillaria. (From frillis, a chess-board; referring to the chequered flowers of some species. Nat. ord. Liliaces (Liliaceae). Hardy bulbs, in close affinity with the true Lilies. Linna. 6: Hexandria, 1: Monogynia.)


" arm' e na (Armenian). 1. Flower solitary, lirip purple, not chequered. Armenia. 1878.

" fu s' co'sa te' te (fucous-yellow). Copper-brown, inside yellow. Smyrna. 1887.


F. burnetii (Burnet's). See F. delphinensis Burnetii.


F. clivina (slope-leafed). Calceolus, Yellow. 1886.

F. cymbifera (Cymbial). Yellow, chequered with brown inside. S. Europe. 1886.


F. elegans (Dedham). See Liliurn Hookeri.


F. x levis (Levins). Green, with 6 brown blotches outside. Lycia. 1875.

F. scutellata (esculent). See F. lanceolata.

F. gibbsii (bulbous-giant). Flowers 4-12. lilac, with purple veins. Persia; Afghanistan. 1926.

F. gracilis (Greecian). Purplish, not chequered. Greece. 1890.


F. hookeri (Hooker's). See Liliurn Hookeri.

F. racemoas (raced) of Smith. Caucasus. (B. M., t. 924.)

F. racemoa (raced) of Kunth. See F. pyrenaica.

F. racemosan (smaller) of Ker-Gawli. See F. tenella.


F. severew (Sewerzow's). Yellow-green and purple. Turkestan. 1873.

F. sicula (Sicilian). Olive-green, with brown V-shaped mark. each side.


F. sieveei (Sieve). 1. Green, striped red. Asia Minor. 1897.


F. thomsoniana (Thomsonian). See Liliurn roseum.

F. thunbergii (Thunberg's). See F. verticillata.


F. tuberosa (tube-shaped). See F. delphinensis.


F. whitii (Whittall's). Similar to F. Meleagris, but more ornamented. Asia Minor. 1893.

F. wulfenii (Walufen's). See F. Liliurn.

F. x gregis (Gregan). Livid purple, not chequered. Persia. 1893.
pots, three or four bulbs in a pot, or plant them in patches near the front of the terraced flow. Water the above remarks apply only to the smaller kinds of Fritillaria. The noble *F. imperialis*, when the bulbs attain a certain size, produces two flower-stems, and each stem perfects a bulb. They may then be transplanted individually. On account of flowering early, may be planted when divided into beds in the grouped flower-garden, which they will highly ornament, and will die down early enough for the cuttings, which are formed by summer flowers. This species is too large for pots.

**Soil.**—The Crown Imperial, with its varieties, should be planted in a deep, rich soil, well drained. If the soil is not rich, it must be made so by the addition of a good dressing of well-rotted manure. The stems send out, just above the bulbs, a large number of young strong roots. The plants will be benefited in that stage by a top-dressing of very decayed dung placed close to them.

If the smaller species be cultivated in pots, the proper soil for them will be a compost of turfy loam, peat, and vegetable mould, in equal parts.

**Frost.** If a plant be frozen (though some deny the attacks of frost, others are very liable to its fatal influence), death is brought upon them as it is in the animal frame, by a complete breaking down of their tissue; their vessels are ruptured, and putrefaction follows.

**FROST ORCHIS.** *Habenaria viridis.*

**Resting Season.**—As soon as the blooming season is over and the leaves decayed, take the bulbs up, and keep them in a cool, rather moist place, till the season for planting arrives again.

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**FROST DEGREES OF.** When a gardener uses this phrase, he means degrees of cold below 32° Fahrenheit, the freezing-point of water.

**FROST-FLY.** See *Tettigonia.*

**FRUIT-ROOM.** Fruit for storing should be gathered before it is quite mature; for the ripening process, the formation of sugar, with its attendant exhalation of carbonic acid and the growth of the rind, is much hastened and accelerated by exposure to a temperature in the open air at the season when the functions of the leaves have ceased, and the fruit no longer enlarges. In gathering fruit, every care should be adopted to avoid bruising; and, to this end, at least two weeks in advance, let the gathering basket be lined throughout with sacking, and let the contents of each basket be carried at once to a floor covered with sand, and taken out one by one, not plunged out, as is too often the case, and then again from this into a heap; for this systematic mode of infliction small bruises is sure to usher in decay, inasmuch as that it bursts the divisional membranes of the cells containing the juice, and the fruit will then be completely ruined. It is therefore, that the means required to secure the one also effects the other.

The following, we think, will be found safe principles to guide in the management of such fruit.

**Site.**—A somewhat low level, with a sub-soil, perfectly dry, or rendered so. We have said low, because we feel assured that by keeping the floor, if possible, even a little below the ground, more freedom of temperature of the structure will be experienced. Sooner, however, than be liable to much damp, we would go as much above the level as is necessary in order to avoid it. Concrete should be set in the foundation of these structures, and the foundation walls done in cement, to prevent the transmission of damp upwards by capillary attraction. The cement and soil would be kept in a state of tillage; the walls, and foundations, were applied also round the exterior if the locality be damp.

**Aspekt.**—An easterly or northerly one; any point but south or south-west.

**Provision.** This house to be rendered perfectly secure against this. We would never have the general store-room sink below forty or rise above fifty degrees. To create an artificial warmth, and merely to keep out the cold, is not the object, but to store the fruit in the same ambient temperature, as that it will remain in until brought into the house, and that from the cold of winter; but it would be killed if passed at once from the hot-house to the border.

**Thirly.**—The more saline are the juices of a plant, the less liable are they to congelation by frost. Salt preserves vegetables from injury by sudden transitions in the temperature of the atmosphere. That salted soil freezes with more reluctance than before the salt is applied, is well known, and that cabbages, cabbages, &c., are similarly preserved, is equally well established.

**Fourthly.**—Absence of motion enables plants to endure a lower degree of temperature. Water also, is affected by cold, being reduced to below 32° without freezing; but it solidifies the moment it is agitated.

The seeds of some plants are benefited by being frozen, for those of the rose, and the hawthorn never germinate freely as after being subjected to the winter frosts.

Freezing is beneficial to soils, not only by destroying vermin within its bosom, but by aiding the atmosphere to pervade its texture, which texture is also rendered much more friable by the frost. A soil in our climate is rarely frozen to a depth of more than four inches, and in extremely hard winters it does not penetrate more than six inches; and, even then, it is confined to those that contain more clay, or an excess of moisture.

If a plant be frozen, dip it into the coldest water, or syringe it, and put it into a dark, cold cellar, so that it may thaw gradually.
vied with close-fitting shutters, and these should be double, even as the walls. During severe weather, mats encasing hay may be fastened over the exterior.

As to artificial heat, we think every good, showy fruit-store-room should open into a small closet, which should be so fitted up as to produce an artificial warmth when necessary. If adjoining a mushroom-house on the one side, or any place where a surplus of heat was available, such a closet (cylindrical shape) might be fitted with pipes, &c., being as far removed from them as possible, and certainly not immediately beneath them. Such a little closet might possess merely a stand for drawers down the centre; which stand should be an exact counterpart of a stand in the centre of the general store-room; and the best pears, or other tender fruits, being placed in parcels in the general store, might be removed into these partitions to ripen a room, a whole drawer at once, without moving the fruit.

**FUCHSIA.** (Named after Leonard Fuchs, a German botanist. Nat. ord. Onagraceae [Onagraceae]. Linn. 8th Oct. 1788.)

Hardy, half-hardy and greenhouse shrubs of easy culture and great ornamental value. For cultivation, see below.

F. acinophylla (acute-leaved). See F. parviflora.


F. amica (lovely). See F. arborescens.


F. cocci nea (scarlet) of Curtis. See F. macrostemma.

F. corallina (coral-red). See F. macrostemma.


F. d'alba (white). White.

F. Collettina mi (Cottingham's). Gardens.

F. cocoides (coiled). See F. parviflora.


F. di color (two-coloured). See F. macrostemma DIS. COLOR.

F. elegans (elegant). See F. macrostemma GLOBOSE.


F. globosa (globose). See F. macrostemma GLOBOSE.

F. gracilis (slender). See F. macrostemma GRACILIS.

F. guayanae (Guyana). See F. macrostemma GRACILIS MULTIFLORA.

F. Hartwegii (Hartweg's). Colombia.


F. Kirihi (Kikir's). New Zealand.


F. macrophylla (large-leaved).


F. variegata (variegated). Leaves edged with white.

F. multiflora. See F. macrostemma.


F. paniculata (panicled). See F. arborescens.

F. parviflora (small-flowered). Rose, splashed with white.

F. procumbens (prolific). Yellow-green; berries large, red. New Zealand. 1874. Trailer.

F. pulchella (pretty). Gardens.

F. radix (rooting). See F. integripilla.

F. recurvata (recurred). See F. macrostemma.

F. Riccartoni (Riccarton). See F. macrostemma.

F. riccartoni (Riccarton). See F. macrostemma.


F. syringo'rfra (Lilac-flowered). See F. arborescens.

F. tenella (delicate). See F. macrostemma.

F. terricana (turf-fingered-skgma). See F. euclia.


**FUCHSIA CULTURE.—Propagation: by cuttings.**

The best time for this is in February and March. The plants marketed should be large, and produce boldy out from the sepal. It should be round and cup-shaped.

The best kinds of cuttings are the young shoots taken off close to the old wood as soon as they are an inch long. Fill a sufficient number of 5-inch pots with a compost of loam and leaf-mould, in equal parts, to within an inch of the top; fill the remaining space up with silver sand; water it gently to make it firm, then put in the cuttings after trimming off the lower leaves, give another gentle watering, and let them in a mild hoth, or in a propagating house. If in the latter, place hand-glasses over them. The cuttings will soon strike root, and should then be potted off into the smallest pots; shade them from the sun for a time, and then repot them in pots two sizes larger.

By **Seed.**—They are as easily raised from seeds as by cuttings. The object of raising them in this way is not so much to increase the plants as to raise improved varieties, for there are two drawbacks, in regard to colour, that should be aimed at—light and dark varieties, and the colours in each ought to be well defined. The light ones should have the sepal's pure white, and the corolla rich purple. F. 'graci (Rich) is also a necessary quality, and a good form is also indispensable. The sepal's should be stout and broad and well reflexed; that is, turned upwards, to show off the corolla to the greatest advantage. The corolla should be large, and prostrate boldly out from the sepal. It should be round and cup-shaped.
FUCHSIA

The flower-stalk should be not less than three inches long, which will allow the flower to hang down gracefully. The flowers should be produced abundantly, and the following method of propagation (as also the name suggests) should appear in the dark varieties, except the colour of the sepals, which should be of the brightest scarlet or crimson. Though a fine self-coloured flower, with every good feature of a fuchsia, makes a good subject for the conservatory, with the scarlet or dark crimson tube, all other points being present, is the perfection of a good dark Fuchsia.

**Saving the Seed.**—Any variety possessing one or more of the above characteristics (being a pure variety) is easy to save seed from. Supposing a fine-shaped flower, with a tolerably pure white tube, but deficient in a good corolla of the right form and colour; then take the pollen of a variety that has a good tube and apply it to the stigma of the same. With the tube and sepals, and save the seed. The same principle must be followed to improve the dark varieties. When the seed is ripe, gather the berries, crush them with the fingers, and wash the flower-stalk, then spread the seed on a sheet of paper, and expose it to the sun till it is dry. Then put it up in brown paper, and store it away till March; sow it then in shallow pots, potting off the plants as soon as they can be handled, and grow them on till they flower. Seedlings will flower in 4-inch pots, so that a great number of them may be grown in a small space. As soon as they flower, choose such as have good points, and sow them, a good flower being a larger pot.

**Summer Culture.**—Pot the old plants early in the spring. Commence by shaking off the greater part of the old soil, reducing the roots and trimming in the branches, so as to make them of the required dimensions. Place them in a heat of 55° by day, and 50° by night. Water moderately, and syringe overhead frequently. When the plants are freely growing, give weak liquid manure. From this time, in any plants that will have a good shift from 5-inch to 8-inch pots. The tops should be nipped off, to force out the lower branches, the great object being the pyramidal form. One of the upper shoots will be dominant, and the lower ones may have pushed a few inches, and the other tied to a stick, to be again stopped when it has advanced about a foot. Proceed in this way with both old and new plants, till the desired height is attained. The side shoots, if not sufficiently vigorous, should be stopped also, to cause the right number of side branches to be produced. The potting should finish in 12-inch pots, which are sufficiently large to make fine plants fit for the exhibition table.

**Winter Culture.**—As soon as the bloom is over set the young plants out of doors in some open place in the garden. The older plants may either be thrown away, or be planted in their borders, if not being worth while to keep them the third year. When the frost begins to appear the plants under cover, either under the stage of the greenhouse, or in a back shed, or even a cellar, will stand a few frosts; but when the frost cannot reach them; here they may remain without water till the potting time comes round again.

**Soil.**—Mellow, strong, yellow loam one-half, well-decomposed hotted manure one-quarter, and one year old decayed tree leaves one-quarter, all thoroughly mixed, will form a suitable compost.

**Insects.**—The green fly and red spider are very apt to find their way to the young shoots. See Aruus and Acarus.

**Open Border Culture.**—The whole of those having the habit of the old _coccis nea_, _virga ta_, _co nica_, _gra cialis_, _gle os sa_, &c., are suitable for low-ground purposes; requiring but little attention but cutting, and allowing the plant to flower after the first frost, and covering the stools with moss, coal-ashes, or other litter, to exclude the frost, removing it in April, and thinning the shoots in May. When it is desirable to keep _heterophylla_ or _nobilis_ for flower-garden purposes, they can be handled as they can be for ordinary purposes, by raising the plants out of the ground in May, and shaking the soil from them before transplanting them, will be effectual. This, also, furnishes a good means for increasing the stock. Good stout cuttings of the latter, planted at the end of October, in the open ground, will furnish nice little plants in spring, if the ground is covered with moss or litter; for though what is above ground will thaw, that is below is likely to remain safe. Those like _fulgens_ in their habit must be kept dry if left out; it is better to take them up, and house them in a shed where frost will not reach them. Standards of any kinds for the lawn may be thus inserted in dry earth in a shed, and transplanted again in April or May. Most of the hybrids will stand the winter in the open garden, and push strongly in the spring, if, in addition to being kept from frost, they are also kept dry. Though thus able to endure cold, they will, also, stand a high temperature and a moist atmosphere when growing, and, in these circumstanes, grow with great vigour. _F. corymbifera_ must have the wood well ripened, and not be pruned too close. _Spectabilis_ and _serratifolia_ are late bloomers, and must be treated accordingly. All sorts in pots look best trained to a simple stem.

**FUEL.** It is no small item in the annual expenditure of the stately, greenhouse, and conservatory departments, and therefore deserves consideration. The cheapest of all fuel is the _breeze_, or small coke, procurable at gas-works.

The heating qualities of the different coals knowable in Great Britain are in the following proportions:

<table>
<thead>
<tr>
<th>Coal Type</th>
<th>Quotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotch Cannel</td>
<td>199</td>
</tr>
<tr>
<td>Lancashire Wigan</td>
<td>190</td>
</tr>
<tr>
<td>Yorkshire Cannel</td>
<td>188</td>
</tr>
<tr>
<td>Newcastle (best Wallsend)</td>
<td>169</td>
</tr>
<tr>
<td>Gloucestershire (Forest of Dean)</td>
<td>108</td>
</tr>
<tr>
<td>Welsh (common)</td>
<td>25</td>
</tr>
</tbody>
</table>

Hence, if the Scotch Cannel coal cost 19s., when the Gloucestershire coal might be had for 10s. per chaldron, the latter would be cheaper; for the heating powers of the first are as 190 to 100 of the latter. In the following, 108 chaldrons of Scotch coal would afford as much heat as 190 chaldrons of Staffordshire.

The following are the quantities of the fuels named required to heat eight gallons of water, from 52° to 172°:

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Quotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caking coal</td>
<td>1.2</td>
</tr>
<tr>
<td>Split or hard coal</td>
<td>3.15</td>
</tr>
<tr>
<td>Cannel coal</td>
<td>3.10</td>
</tr>
<tr>
<td>Cherry or soft coal</td>
<td>1.5</td>
</tr>
<tr>
<td>Wood 3.16</td>
<td>beech</td>
</tr>
<tr>
<td>3.16</td>
<td>elm</td>
</tr>
<tr>
<td>3.52</td>
<td>oak (chips)</td>
</tr>
<tr>
<td>4.20</td>
<td>ash</td>
</tr>
<tr>
<td>5.00</td>
<td>maple</td>
</tr>
<tr>
<td>3.00</td>
<td>service</td>
</tr>
<tr>
<td>3.20</td>
<td>cherry</td>
</tr>
<tr>
<td>3.80</td>
<td>fir</td>
</tr>
<tr>
<td>3.10</td>
<td>poplar</td>
</tr>
<tr>
<td>3.37</td>
<td>hornbeam</td>
</tr>
<tr>
<td>7.6</td>
<td>Peat (average, not compressed)</td>
</tr>
<tr>
<td>1.52</td>
<td>Charcoal of wood</td>
</tr>
<tr>
<td>3.48</td>
<td>peat</td>
</tr>
</tbody>
</table>

It is essential to good and profitable fuel that it should be free from moisture; for unless it be dry, much of the heat which it generates is consumed in converting that moisture into vapour: hence the superior value of old dense, dry wood, to that which is porous and damp.

A pound of dry will heat thirty-five pounds of water from 32° to 222°; but a pound of the same wood in a moist or fresh state will not similarly heat more than twenty-five pounds. The value, therefore, of different woods for fuel is nearly inversely, as their moisture; and this may be readily ascertained by finding how much a pound weight of the shavings of each loses by drying during two hours, at a temperature of 214°.

**FUGOSIA.** (Named after Bernard Cien-Fuegos, a Spanish botanist. Nat. ord. _Malloweaceae_[Malvaceae]. Linn. 16.-Monadelphia. 8.-Polyandria. Allied to Malvaceae.)

Stove evergreen shrubs. Cuttings of the points of shoots in April or May, in sand, under a bell-glass, and placed in a mild bottom-heat; peat and loam, with a little silver sand. Summer temp., 60° to 75°; winter, 45° to 55°.

_Swan River_. August, 18. 126.  
_F. heterophylla_ (various-leaved). Yellow, red. August. 18. 126.

Australia. 18. 126.  
_F. hakeae_. 5. Lilac, red. August, 18. 126.  
_Swan River_. August, 18. 126.  
_F. heterophylla_ (various-leaved). Yellow, red. August. 18. 126.
FULL-FLOWER.

FUMARIA. Fumitory. (From fumus, smoke, referring to the disagreeable smell of the plant. Nat. ord. Fumariaceae [Papaveraceae]. Linn. 17-Dradaphis, 2-Hexandra. Allied to Corydalis.)

Hardy annuals. If once sown in March or April, on rockeries or in the borders, flower themselves annually, and maintain themselves without care or trouble. F. capracta (tendrilled). 4. Flesh. July. Europe. Climber.

FUMIGATING is employed for the destruction of certain insects; the inhaled vapour or smoke arising from some substances being fatal to them. Tobacco is the usual substance employed; and it may be ignited, and the smoke impelled upon the insect by holes; or the ignited tobacco may be placed under a box, or within a frame, together with the affected plant. The vapour of spirit of turpentine is destructive to the scale and other insects, employed in this mode. Mr. Mills has stated the following as the best mode of fumigating with tobacco. According to the size of the place to be fumigated, one or more pieces of cast iron, one inch thick, and three inches in length (which pieces, when placed in a pot, are used for covering smoke flues, would probably answer equally well); one of these is placed in a twenty-four sized pot, on which is put the quantity of tobacco consisting in an hour together with sufficient structure with smoke sufficient to destroy insect life. To fumigate an ordinary sized eight-light house, use three heaters, and three twenty-four sized pots, which are placed on the front flue or walk; one pound of strong tobacco is put on the three heaters in equal parts, and this is found sufficient to fill the house, so as to destroy all the kinds of insects that perish by fumigation. The system has these advantages: the tobacco is so quickly consumed, that the house is completely filled in a short time, and but little smoke can escape before the insects are destroyed; the pure heat from the iron heaters prevents injury from gas, and as no blowing is required there is no dust into the罂粟's nostrils, and if the pot, put on the heaters and leave the house. A better mode is to soak the tobacco in a strong solution of saltpetre, and when dry to ignite it. The combustion is so complete and instant (as the mass is heated), and leaves smokeless. The best of all instruments for fumigating with tobacco is Brown's Fumigator.

To fumigate with sulphur, paint the hot-water pipes with sulphur. This will be spread along the spot against the side of the flue farthest from the furnace; or put some sulphur on a hot-water plate, and keep the water in this boiling by means of a lamp.

FUMITORY. Fumaria.

FUNGI. The word fungus is applied to a large number of plants belonging to many orders or families, and very varied in size and structure, but all agreeing in consisting of a single cell, various combinations of cells, or simple or branching cells, free or interlacing, and destitute of chlorophyll or leaf green, and seeds. They are reproduced in a great variety of ways, and live upon dead matter (saprophytical fungi) or on living plants or animals (parasitical fungi). Unicellular or one-celled fungi are the most simple and require considerable magnification to be seen. The molds and moulds, consisting of webs or threads, are observable by the naked eye. The Mushroom (Agaricus campestris) is one of the most familiar of fungi to the gardener, and the giant puff Ball (Lycopterum giganum) is many times larger, weighing several pounds. These two are saprophytes. Familiar examples of parasitical fungi are the rust and rust diseases, the club of Apples and Pears, and the Potato disease. When plants are apparently suffering from the effects of some parasitical fungus, unknown to the gardener or grower, he should submit specimens to some expert or competent authority for identification and the best means of destroying the same.

FUNKIA. (After H. Funk; a German botanist. Nat. ord. Liliaceae. Linn. 6-Hexandra, 1-Mono- gynia. Allied to Hemerocallis.)

Hardy herbaceous perennials, from Japan; dividing the roots; sandy loam, and a dry situation.

F. a&bo-margina'ta (white-margined). See F. LAMCI- FOLIA. doubles.

F. carnel'sa (sky-blue). See F. OVA'TA.

F. corda'ta (heart-shaped). See F. SIEBOLDIANA.

F. cucalta (hooded). See F. FORTUNEE.

F. For'doe (Fortune's). 1. White. Leaves glaucous, hooded. 1876.


G. grandifo'ra (large-flowered). See F. SUBCORDATA.


F. lea'ba (White). Lilac August. 1829.


F. lari'difora (late-flowering). 1.5. Lilac. August. 1829.

F. beds'hak'isi (Beddinghaus). 1.5. Lilac. July. 1834.

F. variega'ta (variegated). Leaves much variegated with cream-white. 1834.

F. lip'nipes (long-stalked). Leaves broader than in F. lancifolia, running down petiole. 1836.


F. au'tea (golden). Leaves golden in spring.

F. margi-na'ta (margined). Leaves edged with white. 1836.


F. sin'e nits (Chinese). See F. SIEBOLDIANA.


F. undula'ta (waved). See F. LANCIFOLIA UNDULATA.

F. variega'ta (variegated). See F. LANCIFOLIA VARI- GATA.


F. Bar-il'le (Barillet's). 3. Trop. Amer. 1867.


F. cube' nits (Cuban). 6. Creamy-white, green. Novem-

F. brief'ar'is (bristled). 5. Trop. Amer.


F. Ghi'sbre' ghi'is (Ghi'sbre' ghi's). See F. ELE- GANS.


F. undulata (variegated). Leaves variegated with cream-white.


F. macro' pod'ula (long-leaved). Bahama.


F. tub'o'sio'ra (tube-furred). See F. BESCHORNERIA TUBI- FLORA.


F. watsoni'a (Watsonian). 15-20. Leaves bluish-

F. U'lez. 1846.

FUSTIC. Ma'chu ilin'co'ra. 1893.
GARTNERA. After Dr. Gartner, a celebrated botanist. Nat. ord. Loganiads [Loganiaceae]. Linn. 10-Decorandria, 1-Monogynia.

Al Loganiads are to be suspected, as no order is more venomous. Stove evergreen twiners; cuttings of firm young shoots in April, in sand, under a bell-glass, and in bottom-heat, heat and loam. Summer temp. 60° to 75°; winter, 48° to 55°.


All hardy little yellow-flowering bulbs. They should occupy the front row of a light-soiled border, like Crocuses; offsets in spring or autumn.

G. arctis nis (held). 1. Yellow. S. Europe.


circina'ta (rounded). See G. Reticularis.
cfasciculata'ris (bundle-flowered). See G. Lutea.
gala's (milky-green). See G. Lutea.
lilia'ceae (Liliaceae). May. S. Europe. 1825.


sero'ina (late). See LLOYDIA ALPINA.


stenop'tala (narrow-petaled). See G. Bracteolaris.

Stemhe'rtii (Sterngberg's). See G. Minima.

strids' (streaked). See LLOYDIA ALPINA.

synclasta (wood). See L. Lutea.

uniflora'ra (one-flowered). See TULIPA UNIFLORA.

vislo'sa (shaggy). See G. Stellaria.

GAGNERIA. (Probably the native name of one of the species. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decorandria, 1-Monogynia. Allied to Mimosa.)

Stove evergreen, from Mauritius. Seeds in hotbed, in springtime, being moistened for several hours in warm water; cuttings of half-ripened shoots in sand, in April, under a bell-glass, and in mild bottom-heat; peat and loam, both turfy and fibrous. Summer temp., 60° to 75°; winter, 48° to 55°.

G. axillaris (axillary). See G. TAMARI'SCINA.


GAENIA. (Named after the botanist, Dr. H. Gahn, Nat. ord. Cyperaceae.)

Stove plant of the sedge family, of easy culture. Division. Loam, leaf-mold, and sand.


GAILLADIA. (Named after M. Gaillard, a French patron of botany. Nat. ord. Compositae [Composita]. Linn 19-Syngenesia, 3 Frustranesea.)

This, like many other composite genera, is inclined to sport from seeds, and, therefore, may be expected to yield double flowers some days. Hardy herbaceous plants, with the exception of corona'ta and amblyodos, which require a cold pit in winter. In cold, damp situations, cuttings of bi' color and pi'cta may also be saved in a similar manner. Cuttings under a bell-glass in spring, and division of the root in spring; sandy loam.


G. aristata' s grandiflo'ra (large-flowered). 1884.

bi'color (two-coloured). See G. Fulchella.

co' ctus' (coarse-toothed). See G. Culchella Picta.

Drummo'ndii integre'trime (Drummond's whole-leaved). See G. Fulchella Drummondii integerrima.

laceola'ta (lace-shaped). 1. N. Amer.


lorenzia'na (Lorenzian). Florots tubular, 4-lobed. Colour variable. 1881.


Richardson's (Richardson's). 1.5. Orange. July. N. Amer. 1829.

Richardson's (Richardson's). See G. Pulchella Richardsonii.

GALACTICA. (From gala, milk; in reference to the milky juice of some of the species. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadelphia, 4-Decorandria. Allied to Glycine.)

Deciduous, by division of the plant, and grown in sand or loam, by burying side-shoots in sand, in April, under a bell-glass, and plunged in a hotbed; sand; loam and peat. Summer temp., 60° to 75°; winter, 48° to 55°.

HARDY DECIDUOUS TWINERS.


STOVE EVERGREEN TWINERS.


pi'nula (pinnae). See BARBERRIA POLYPHYLLA.


stra'la (striped). See GYLCINE STRIATA.

GALACTITES. (From gala, milk; referring to the juice and to the milk-white veins on the leaves. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 3 Frustranesea.)

Hardy annuals, requiring to be sown in the flower-borders in March or April.


GALACTODE'NDRON. Cow-tree. (From gala, milk, and dendron, a tree. We introduce this name as being in common use; but the true name of the Cow-tree is Bro'ssimum Galactodes'dron, to which refer.)

GALANGALE. Kamph'eria.

GALANTHEUS. Snowdrop. (From gala, milk, and anthus, a flower. Nat. ord. Amaryllidaceae [Amaryllidaceae]. Linn. 6-Hexandria, 1-Monogynia.)

Hardy bulbs. Offsets; division of masses of bulbs; common garden-soil; should be lifted every four or five years. See ELWES'S."
GALATELLA


G. ramusii (robust). Robust, with large bulbs and thick, glaucous leaves. Asia Minor. 1893.


G. Whitallii (Whittall's). Flowers larger, earlier. Asia Minor. 1893.

G. Fisheri (Foster's). White. Leaves bright green, in wide, Asia Minor. 1889.

G. dracilis (slender). Inner segments with a large green blotch at the base. Bulgaria. 1893.

G. dracilis (Chiov. 1894.

G. dracilis (Chiov. 1894.

G. dracilis (Chiov. 1894.


G. nivula (snowy). White, green. February. Linn. 1837.

G. Alhni (Atkins's). Flowers large. 1891.


G. Castalis (Elisa). Flowers larger; leaves stouter than G. nivalis. November. 1891.

G. flave'scens (yellowish). Markings of inner segments and ovary brighter than var. lutescens. 1906.


G. lutescens (yellowish). Inner segments tipped yellow; ovary yellow. 1872.


G. pociulis's (bowl-shaped). White; segments nearly equal.


G. Scharlok's (Scharlok's). Flowers with two long spathes, and three large green bellies. 1879.


G. O'liga (Olga's). Plain white, without blotches on the inner segments. 1893.


G. Regis' O'liga (Queen Olga's). See G. Olga's. 1893.

G. umb'rich'us (Umbrian). See G. Nivalis Imperati.

GALATELLA. (A diminutive of gala, milk; literally, milky; referring to the colour of the leaves. Nat. ord. Composites [Compositae]. Linn. 19-CNYSXGMA, 3-FRUS-ITRIANTran. referred to Aster.)

G. punista (dotted-leaved). See ASTER ACROS.

GALAX. (From gala, milk; referring to the milk-white flowers. Nat. ord. Wintergreens [Diapensiaceae]. Linn. 5-POZITRIOBA, 6-GENOPHIUS. Little bog-earth plants. Divisions in spring; moist, sandy peat; may be treated as an alpine, as it is subject to casualties in the border.


GALAXIA. (From galaxidio, to abound in milk; referring to the juice. Nat. ord. Iris [Iridaceae]. Linn. 16-MONADITIOBA, 1-TRIANDRIA. Allied to Patersonia.)

Greenhouse bulbs, from the Cape of Good Hope. Offsets; sandy peat, with a little fibrous loam. In a state of rest keep in the greenhouse or cold pit. If planted in a sheltered place, out of doors, the roots must be protected from frost.


G. grandiflo'ra (large-flowered). See G. Ovata.

G. mucronula'ris (hard-pointed). See G. ovata MUCRONULA.


GALEA'NTRA. (From gala, a helmet, and aner, a stamen; referring to the created male organ on the top of the column. Nat. ord. Orchids [Orchidaceae]. Linn. 28-DZIPHAINIA, 5-MANFADIA. Allied to Sulphophila.)

Stove terrestrial orchids. Fibrous peat, and a little turfy loam, with some broken pots, and pieces of charcoal. Summer temp. 60° to 85°, with moisture; winter, 45° to 55°, and rather dry.


G. Col'isi (Clais's). Brown; lip rosy. Brazil. 1896.

G. crist'a'la (crested-anthered). See G. Baueri.

G. Fascinal'iosae'la (Descarnalician), Ochreous-brown, sulphur-white. Para. 1887.


G. Delphi'nae (Delphina). Reddish-white, white. Vegetable. 1872.


G. gratilis (slender). See EULOPHIA ORACILIS.

G. brysey'na (Harvey's). Brown, light yellow. 1883.

G. ful'nea (rush-like). Rose-purple; darker on edge of lip, Guiana; Brazil. 1847.

G. la'god nis (Lagos). Greenish, rose-crimson. Brazil. 1872.

G. 'm'az (projecting). Yellow-copper, white-purple. Colombia. 1874.


GALEUDPAA. See PONGAMIA.

GALEA. Goat's Rue. (From gala, milk; referring to an old idea that the herbage was superior for milk-cows, goats, &c. Nat. ord. Leguminous Plants [Legumino'ceae]. Linn. 16-MONADITIOBA, 6-DECANDRIA. Hardy herbaceous, rather rambling perennials. Seeds sown in spring; division of the plant at the same time; common soil.

G. b'lo'ba (two-lobed). See G. OFFICINALIS.

G. har'lit'a'nis (Hartland's). See G. PAPULI HARTLANDI.


G. har'lit'a'nis (Hartland's). Young leaves variegated. 1903.

G. be'ria (Persian). See G. OFFICINALIS.

G. tri color (three-coloured). See G. OFFICINALIS.

GALEO' EDOLON LUTEUM. See LAMlUM GALEO' EDOLON.

GAELE'OLA. (The diminutive of gala, a helmet. Nat. ord. Orchidaceae.)

Epiphytical stove Orchid. See ORCHIDS FOR TREAT-

MEN'T.


GAELE'0TIA. (Named in compliment to M. H. Gal otti, a Belgian collector. Nat. ord. Orchidaceae. Now referred to Zygodetum.)

G. Beau'mo'ntis (Beaumont's). Green, brown. Brazil. 1874.

G. 'im'oria'la (fringed). See ZYGODETUM FIRMUBRINTUM.

GALISO'GA. (Commemorative of the botanist Don M. de Galiso'ga, a Spanish collector. Nat. ord. Composita.)

Hardy annuals. Seeds.


G. par'sio'ra (small-flowered). 1-2. White, with yellow disc. Autumn and winter. S. Amer. Escapes from Kew and a troublesome weed in N. Surrey, and found in neighbouring counties.

G. trip'o'la (three-lobed). See TRIDAX TRILOBATA.

GALIEPA. (The Indian name in South America. Nat. ord. Rueworts [Rutaceae]. Linn. 2-DIANTRIA, 1-MONOGYNA. Allied to Almeidaea.)

The Angostura bark is that of trip'o'la. Stove evergreen shrubs. Cuttings of ripened shoots in sand, under
be an aid to the warfare against them to ascertain what plants they select for this purpose. The eggs hatch at various times from May to September, but chiefly during July. The caterpillars proceeding from them are green, beset with greenish single hairs; head brownish-green; on the back and sides three or four yellowish-white lines; feet twelve in number, and marked with a yellow stripe. These caterpillars commit great ravages, especially in the south of England, upon our peas and other garden vegetables, the best remedy for which is hand-picking.

GALMOCHIA MYS HETERANDRA. See Spathanthemum heterandrum.

GAMOYE. (From gamos, union, and gyn, the ovary. Nat. ord. Araceae.)

GAMOPILES. (Derived from gamos, marriage or union, and lepis, a scale; in allusion to the scales of the flower-head being united, forming a cup. Nat. ord. Composite.)
Ornamental s à shrub of an ornamental character. Seeds when obtainable; cuttings of shoots about half ripe, in sand, in a close case with a mild heat. Fibrous leaf, a little leaf-mould and sand.


GANGRENE. See CANKER.

Of all the fruits in the East, that of G. Mangostea 'na is the most highly extolled by Europeans; and the Gamboge from Sam is Indicated by G. Cambogia. Stove ever green. Cuttings of ripened shoots in sand, in a close propagating case, with strong bottom-heat; peat and loam. Summer temp., 60° to 75°; with moist atmosphere; winter, 60° to 65°.


cochinchen'si nsis (Cochinchinese). China. 20. Yellow. E. Ind. 1823.


Ko'a (Kola). W. Trop. Africa.

livingsto'nei (Liveshingto's). Trop. Africa.


Mor'ella (Morella). India and Malaya. "Ceylon Gamboge.


punc'ta'ns (punctate). Trop. Africa.

termpophyl'la (pleasing-leaved). Ceylon.

Xanthocy'mus (Xanthochymus). 40. White. India and Ceylon.

zev'a'ns (Zingalese). See G. Cambogia.

GARDEN. Any enclosed piece of ground for the cultivation of flowers, fruits, or vegetables, separately or all together, may be termed a garden. Usually it is near the dwelling-house, but not always, and need not. It may or may not include shrubberies. When grounds are wholly devoted to lawn, ornamental trees, and shrubs, they are usually termed pleasure-grounds. Larger and less well-kept areas, with or without sheep, cattle, or deer, but lying in grass and occupied more or less by weeds with large trees, are termed parks. Flower gardens, flower gardens, and vegetable gardens are more or less wholly devoted to one or other of those subjects, and may be more or less separated from one another. Residential gardens, gardens and lawns, are larger or smaller areas, more or less devoted to those subjects, and may be screened from other parts of the grounds by trees, shrubs, or walls. It is desirable that

GALIUM 370 GARDEN

a bell-glass, in April, and in heat; peat and loam.

Summer temp., 60° to 75°; winter, 45° to 55°.


a bell-glass, in April, and in heat; peat and loam.

their shape is that of a bell-glass, in April, and in heat; peat and loam. Nat. ord. Staphyliaceae. Limn. 4-Tetrada'dris, 1-Monography. Allied to Rubiaia.

Few of these plants are interesting to the gardener, except to cover rock or roof-work. They possess, in a measure, the quality of debasing the cheering qualities of the soil; the following selected species are all herbaceous perennials, except G. suave'o'len's, which is an annual. Annuals merely require to be sown in the common border, in March; and the perennials divided at the same time.

G. campanula'lis (bell-flowered). See ASPERULA GALIUM.

ca'pil'lifiis (hairly-stalked). See G. Sylva'ticum.


fus'ciflora (Persian). G. CORONTUM.


suavo'len's (sweet-scented). 8. See G. triflorum.


tave'rum (Taurian). See G. CORONTUM.


GALL is a tumour formed in consequence of the part being punctured by an insect, the tumor becoming the nidus of the insect brood. The Oak-apple caused by the Cympis queris is a familiar example; as, also, are the branches of leaves, not unlike a rose, of the Rose Willow, and the mossy tufts on the twigs of the Wild Rose, and erroneously called Bedeguar. These tufts are caused by the Cympis rosea, another species of Gall-Bry.

GALPHIA. (An anagram of Malipighia, to which it is nearly allied. Nat. ord. Malpighiaceae [Malpighiaceae]. Limn. 10-Decandraia, 7-Trigynia.)

Steve de Gama of Mexico, with yellow flowers, Cuttings of young shoots, firm but not too old, in sand, under a bell-glass, and in bottom-heat; peat and loam. Summer temp., 60° to 75°; winter, 40° to 55°. G. glandulosa'la (glanded). April. 1824.

'cflora'lis (slender). 8. Yellow. 1848.

[hirsuta (hairy). September. 1824.

GALTON'IA. (Commemorative of Francis Galton, who wrote a Narrative of an Explorer in South Africa. Nat. ord. Liliaceae. Related to Hyacinthus.)

Hardy bulbs of a highly ornamental character, especially G. candida. Seeds, offsets. Light, rich soils in sunny situations.

G. ca'ndicans (white). 3-5. Pure white. S. Africa.

can'da'la (clubbed). Greenish-white, smaller. S. Africa.


GAMMA MOTH. Just after sunset, in summer and autumn, and hovering round flowers, may be seen this moth (Pulissa gamma). It is called the Gamma Moth, because about the middle of the upper wings, but towards their inner border, there is a slivery shining mark, like the upper of the Gamma (Gama). The shape of this mark has acquired to this insect another name, the Y-Moth. The outspread wings are about an inch across; the upper ones grey-coloured, marbled with brown, and shining. The lower wings pale ash, with the head and throat brownish, edged with grey lines; the belly, or abdomen, yellowish-grey, tufted with brown hairs. In October they deposit their eggs; and it would
GARDEN BALSAM. Justicia pectoralis.

GARDEN BEETLE. In June and July, a small, pretty beetle very often may be found among the petals of white roses. It is nearly half an inch long, and rather less than a quarter of an inch broad. It carries its wing-cases, which are reddish-brown, shining, and shorter than the body; the head and body are dark green, and the antennae reddish, having at their ends a dark green club. This is the garden beetle (Phyllonotus horticola and Malodona hortico1 of some). It feeds on the leaves of apples, pears, and grapes, gnawing them full of small holes, and even transferring its attacks to the young fruit of the apple. The females dig holes into the earth for the purpose of there depositing her eggs, from which the grubs are speedily produced, and feed upon the roots of plants. The only mode of reducing the number of these beetles is by searching for them during the evening, when, if detected, they stiffen their outstretched legs, and feign death; but in the day they fly about swiftly, and are captured with great difficulty.

GARDEN PEBBLE-MOTH (Scopula forficulais). The perfect insect, says Mr. Curtis, measures rather more than an inch across when its wings are expanded. The upper pair are hazel-coloured, with longitudinal spotted stripes, two of which are distinct, and the other faint; the under wings as well as the body are whitish; and on the former, near the centre, there is a curved brown streak, and another for a little distance along the edge. The caterpillar occurs in May, and the second in the autumn; and when very numerous they do considerable injury to cabbages and plantations of horse-radish. The caterpillar is eight or ten times long, with the head of a light brown colour, and the body is yellowish-green, with black longitudinal stripes. Like other caterpillars, it may be destroyed by being dusted with white hellebore powder.

GARDENER. The day is gone when the spade and the blue apron were the only appropriate devices for the gardener. He must now not only have a thorough practical knowledge of the business, but a knowledge of botany, and an intimate acquaintance with its sciences. No man can have stored in his mind too much knowledge; but there are always some branches of information of more value than others. It is not for the gardener, more especially, but for the head gardener, to form it. It is not so important as botany and chemistry—botany, physiological as well as systematic—chemistry, especially as applied to the examination of organic nature. The relative duties of the gardener have a great influence on his usefulness and quality. He needs to be hardy, and the open air is their appropriate whereabouts, should have work assigned to them suitable to the climatic or inclemency of the season; for no men are more liable to suffer early in life from rheumatism.

There are two golden sentences which we should always have always in mind by the gardener:—
1. Let all things be done orderly.
2. Be always ready to give an account of your stewardship.

GARDENER'S GARTER. Phal'aris arundinacea varie-ga-la.

GARDENIA. (Named after Dr. Garden, an American. Nat. ord. Cistochonads [Rubiaceae]. Linn. 5-Pendandria, 1-Monogynia.)

Sweet-scented evergreen shrubs. Cuttings of shoots half ripe, in sand, under glass, and in a moist bottom-heat. This moist heat, when growing and when starting into blossom, is the very life of all the strow species. Even the greenhouse kinds do best when pruned after flowering, grown rapidly afterwards; if in a moist atmosphere from decomposing material, such as dung and leaves, all the better; hardened off and ripened by exposure to light and air in autumn, rested in a cool and dryish atmosphere in winter, and started into bloom in a moist heat again, and then removed to the greenhouse; peat and loam. Summer temp. 60° to 85°; winter, 45° to 55°.

GREENHOUSE.


citrifolia (lemon-scented). See Mitrosigma azillare.


varie'ga (variegated). Leaves blotched with crimson.


Maru'ba (Maruba). See G. Jasminderes.

radi'cans (rooting). See G. floride radicans.


spin'0 sa (spiny). See Randia dumetorum.


STOVE.

G. armis' ta (armed). See Randia armata.

cam'pulida'la (bell-flowered). Himalaya and Burma. 1815.


damelo'na thunbergii. See Randia dumetorum.

floribia onda (free-flowering). See Randia dumetorum.

fra'grans (fragrant). See Randia malabarica.


iat|i'o'la (broad-leaved). 7. Pale yellow. E. Ind. 1787.

longiflo'ra (long-flowered). See Randia macrantha,

longa (long-styled). See Macrophylle longi-

STYLA.


mallel fe'ra (clapper-bearing). See Randia mallei-

fera.

montis'na (mountain). See G. Turgida.


octo'ris (eight-parted). See Randia octomera. 

Pav'i'ta (Pavetta-like). See Styloschnge Webera.

Sherbo'rn's (Mrs. Sherborne's). See Sherbournia foliosa.

stanis'laea (Stanley's. Earl of Derby's). See Randia Maculata.

tubiflo'ra (tube-flowered). See Oxyanthus tub-

florus.

GARDENING

GARDENING is the art of cultivating and arranging plants, so as to obtain from them the greatest possible amount of produce and beauty.

GARDEN ROCAMBOLE. *Alhism sativum*. The roots of the auriculae, snowdrops, bear’s-ear, parsnips, lettuces, celery, potatoes, and strawberries, have all been observed destroyed by this larva. The moth, usually, is chalk-yellow, with an orange border and throat. The caterpillar, dark green with yellowish dots, and its upper wings dark, bright brown, with a broad line of white; but sometimes this is absent, and at other times the upper wings are chalky-white. These moths appear about the 2nd of May, and from the middle of August to the first of October, and from the middle of September to the first of November. They deposit their eggs apparently without discrimination, which soon hatch, and the caterpillars produced are cylindrical, and yellowish-white, with black dots and hairs on the upper part and sides of their segments. The caterpillar changes to an ochreous, shining, cylindrical pupa. – *Gard. Chron.*

GARDOQUIA. (Named after Gardner, a Spaniard. Nat. ord. Labiatae, or Lipworths [Labiates]. Linn. 14. Didynamia, 2-Angiospermia. Allied to Melissa.) Of all the Labiatae, there is not a greenhouse liable to *G. Hookeri*, when well grown. Greenhouse evergreens, except *G. betonicoides*, which is herbaceous. Cuttings of half-ruped shoots in June, in sand, under a glass roof and in a fair peat; and its pieces of broken bricks and charcoal. Winter temp., 40° to 48°; a shady place in summer. They should be tried against a wall, with a slight protection in winter. *G. betonicoides* (betony-like). See CEDRONELLA MEXICANA.


*Hookeri* (Hooker’s). See CALAMITRUM COCCINEUM.


GARLAND FLOWER. *Plenura nuda Conoscium.*

GARLICK (*A’lism sativum*). Grows best in a light, rich soil.

Planting.—It is generally propagated by parting the root, but may be raised from the bulbs produced on the smooth part of the *A’lism*, when lifted in February and early in April; but the middle of March is the usual time. A single clove to be placed in each hole, made six inches apart, and one deep, in straight lines, six inches distant from each other, care being taken to set the roots downwards. To do this, it is the best plan to have a plan to thrust the finger and thumb, holding a clove between them, to the requisite depth without any previous hole being made. Keep them frequently hoed, and in June the leaves are to be tied in knots, to prevent the plants running to seed. A few roots may be taken up as required in June and July; but the whole must not be lifted until the leaves wither at the close of July, or in the course of August. It is usual to leave a part of the stalk attached, by which they are tied into bundles, being previously well dried for keeping during the winter.

GARLIC BULB. *Crataeva.*

GAR'RYA. (Named after Mr. Garry, of the Hudson’s Bay Company, who facilitated Douglas’s botanical researches in North-West America. Nat. ord. Garrya [Cornaceae], Linn. 21. Monoea, 4-Tetraneura.)


*Harve*’s *scen* (whispy). Greenish-yellow. Western N. Amer.

*Fremontii* (Fremont’s). West-Northern Amer. 1887.

*Fremontii* (Schrader’s). 1886.

*Garrya* (Garryads). 1846.

*macfadyenii* (MacFadyen’s). See G. Fadyeni.


*pinnata* (leafleted). 50. E. Ind. 1808.

GARU’LEUM. (Derivation not obvious. Nat. ord. Compositæ.)


GAS-HEATING. If the flame is supplied with air by the aid of a small pipe communicating with the outside of the house, is enclosed in a small iron stove, and has the gases produced carried away by a pipe, gas may be employed for protecting greenhouse plants in winter. We have known a small greenhouse, 16 feet by 12, thus protected by a single Argand burner.

GASTER'IA. (From gaster, a belly; alluding to the swollen base of the flowers. Nat. ord. Liliaceae. Linn. 6. Hexandria, 1-Monogynia.)

Greenhouse evergreen succulents, from South Africa, and all with red flowers, except where otherwise specified. This genus is allied to ALOE, which see for culture. *G. acacicefolia* (climacter-leafed). 3. Orange. July 1819.


*angula’s* (angled). See G. DISTICHA ANGULATA.

*angustifo’lia* (narrow-leafed). See G. DISTICHA ANGUSTIFOLIA.


*Yayfeldi’s* (Byfield’s). 1. S. Africa.

*bc’color* (two-coloured). 1. 1824.


*crassifo’lia* (thick-leaved). See G. NIGRICANS.


*angula’s* (angled). 1. August. 1820.


*fadi’la’* (Natal). Natal. 1879.

*angula’s* (angled). 1. August. 1820.


*angulan*’s (angled). 2. S. Africa. 1860.


*gra’olis* (slender). S. Africa. 1860.


*intermedia* (middle-leaved). See G. VERRUCOSA and varieties.
GASTROCHILUS. (From.gaater, belly, and skelos, lip; in reference to the hollow lip. Nat. ord. Ginger- 
worsts [Scitaminaceae]. Linn. 1-Monandra, 1-Monogynia. 
Allied to Alpinia.)

Must not be confounded with Don's Gastrochilus, a synonym of Gastrochilus. Both herbaceous perennials. 
Divisions of the plant as fresh growth is commending; 
sandy loam. Summer temp., 60° to 80°; winter, 90° to 55°.


G. bi'lo'a (two-lobed). Malaya.

G. Curti's (Curts'). White; lip yellow, with red margin.

G. Pulch. Peninsula.

G. Jonk. (Jonk's). See G. LONGIFLORA.


Indian, Malaya, 1843.


Rangoon. 1828.

GASTROGLO'ITIS. See Liparis.

GASTROLO'BIUM. (From gastro, belly, and lobos, a 
pool; fertilized seed-pod. Nat. ord. Leguminous Plants 
[Leguminosae]. Linn. 10-Decandria, 1-Monogynia. 
Allied to Eutaxia.)

Greenhouse evergreens, from Swan River, and all with 
yellow flowers, except where otherwise mentioned. 
Seeds sown in the spring, after being soaked in warm 
water; cuttings of half-ripened shoots in May, in sand, 
under a bell-glass; and loam, both fibrous, with a 
portion of soil, and small pieces of charcoal; im-
patient; G. Autumn, 1759.

G. Autumn (sharp-pointed). See OXYLOBUM ACUTUM.


G. calyc. num (large-calyzed). April.

G. cordis num (heart-shaped-seed). See OXYLOBUM 
SPECIES.

G. epacridi'os (Epacris-like). 1847.


G. ovalifo'lium (ovate-leaved). Australia.

G. oxyl'obium (Oxylobium-like). April, 1848.

G. pyram'id'a (pyramidal). 2. Yellow. Australia.

G. retu'sum (blunt-leaved). See OXYLOBUM RUTBUS.

G. spatul'a'rum (spatulate-leaved). April 1840.

G. spectula'ble (showy). Crimson. August.

G. spin'a'rum (spined). 3. April, 1840.


G. velut'i'num (velvety). Orange. April.


GASTRONE'RA. (From gastro, belly, and nema, a 
filament). Dr. Burchell discovered the pretty bulb, clav'dum, 
and thus named it in an article along with other Cam-
toularis; its native place at the Cape is in "fields beyond 
Camtours river." Offsets; sandy loam, fibrous peat, and 
dried leaf-mould; plenty of water when growing, 
and dry when at rest. Winter temp., from 35° to 45°; or 
in border, protected in winter.

G. claus'um (club-leaved). See CYRTANTHUS UNIFLORUS.

G. sangui'neum (blood-red). See CYRTANTHUS 
SAN-GUINEUS.

GATEN or GATER-TREE. Cor'mus sangui'nea.

GATHERER. The hand is the best instrument for 
collecting fruit into the basket; but to avoid the danger 
and breakage of branches incidentally to using long ladders, 
certain instruments have been designed. One of them is 
for apples and other single fruit; another for grapes, 
the stalk of which it severs and retains in its grasp.

GATHERING. See Fruit-room.

GAUDICHAUDIA. (Named after G. Gauchard, a 
Linn. 5-Pentandria, 1-Monogynia.)

Stove evergreen. Cuttings of ripe shoots in summer, 
in sand, or bell-glass, and loam, and then, after 
peat and loam, with sand, and pieces of charcoal to keep it 
open. Summer temp., 60° to 75°; winter, 50° to 55°.


1824.

GAULTHER'RIA. (Named after Dr. Gault, a Canadian. Nat. ord. Heathworts [Ericaceae]. Linn. 10-Decandria, 1-Monogynia. Allied to Pernettya.)

The New-Wintergreens used to flavour drugs, and also by perfumers, is obtained from the berries of G. procumbens, Chiefly in Afd (Lindheimer's). August. treatment similar so superb temperature also be suits $.

GAULTHERIA (Named after Dr. Gaulther, a Canadian. Nat. ord. Heathworts [Ericaceae]. Linn. i-Didynaniia, 2-Angiospermia. Allied to Barleria.)

Stove evergreen shrubs. Cuttings of shoots getting in winter...


Cranberry-like half-hardy evergreen. Seed and layers; sandy peat, a little loam, and leaf-mould; require the protection of a pit or the greenhouse in winter.


G. ursina (bear). Mountains of North and South Carolina.

GAZANIA. (From gaza, richness; in reference to the large, gaudy flowers. Nat. ord. Composities [Compositae]. Linn. 19-Syngeoeca, 3-Frustanea, Allied to Gerteria.)

Native of South Africa. Cuttings of side-shoots, produced in abundance near the base of the plant, in August; more sparingly in spring, in sandy soil, under a hand-light; peat and loam, with a portion of sand. Winter temperature according to case.


G. myrtifolia (snowy). White, S. Africa.

"latifolia (broad-flowered). Flowers large, white or cream. 1807.


G. pinna (entire-bracted). Yellow. 1881.

G. pygmaea (pimyg). Yellow. S. Africa.

"ulacea (yellow). Chrome-yellow, with light yellow zone. 1904.


GAZANIOPSIS. (Gazania, and opsia, resemblance; the plant resembles a Gazania. Nat. ord. Composita.) A hardy hybrid requiring similar treatment to Gazania.

G. stenophylla (narrow-bracted). Leaves varying from bronze to golden-yellow. 1882.

GEIGERA. (A commemorative name. Nat. ord. Rutaceae.)

A stove shrub. Cuttings of nearly ripe wood in sand, in a moist, warm case. Fibrous loam and a little peat, with sand.


GEISSOIS. (From geisson, a tile; in allusion to the flattened, winged, overlapping seeds. Nat. ord. Saxifragaceae.)

A handsome stove shrub, producing its crimson flowers on old branches. Cuttings of ripe wood in sand, in a close case, with bottom-heat. Fibrous loam and peat.


GEISSOMERIA. (From geisson, a tile, and meris, a part; to referring the bracts the bracteates are inclosed, or fall off whose disks lie on a roof. Nat. ord. Acauleas [Acanthaceae]. Linn. 14-Didynamia, 2-Angiospermae. Allied to Barleria.)

Stove evergreens. Cuttings of shoots getting in winter...
firm, any time in summer, in sand, under a bell-glass, and a sweet bottom-heat; loam and sand, with a little old cow-dung.


GEISSORHIZA. Tile Root. (From geissor, a tile, and rhiza, a root; referring to the dry cloths which cover the fleshy roots like tiles on a roof. Nat. ord. Irisae [Iridaceae]. Linn. 3-Triandria, 1-Monogynia. Allied to Romulea.)

Half-hardy bulbs, from South Africa. Except when planted out on a border, in front of a greenhouse, the roots should be planted in a handful of white sand; offsets; sandy peat, with a little loam; must be kept from the frost in winter.

G. Bellendénii (Bellenden's). S. Africa.
G. ciliaris (hair-fringed). 1. May.
G. humilis (humble). Yellow, rose. May. 1822.
G. subfusca (yellowish). See Romulea SUBLUTEA.
G. saginata (sheathed). See G. INFLEXA.

GEITONOPLEIS. (Derived from geiton, a neighbour, and phleum, to bear; not very widely distinct from Luzuriaga and Eustrephus. Nat. ord. Lilacæae.)

Greenhouse climber. Cuttings of nearly ripe wood in late summer in sand, in a close case. Peat and sand with a little leaf-mould.


GELIA. (From gala, to shine; referring to the surface of the leaves. Nat. ord. Ruscæs [Rutaceae]. Linn. 8-Octandria, 1-Monogynia.)

Greenhouse evergreen shrubs. Cuttings of half-ripened shoots in May, under a hand-light, in sandy soil; sandy peat. Winter temp., 38° to 45°.

G. lanceolata (spurthead-leaved). See ACRONYCHIA LAFRIOPIA.
G. oblongifolia (oblong-leaved). See XENIA OBONGFOLIA.

GELASINE. (From gelsinos, a smiling dimple; referring to the flowers of these pretty bulbs. Nat. ord. Irisae [Iridaceae]. Linn. 3-Triandria, 1-Monogynia. Allied to Tripala.)

A bulb, from the Rio Grande in South America, almost, if not altogether, hardy; but we fear it has been lost at the dispersion of Dr. Herbert's collection, who had dry specimens of five more species of Gealias. Nuttall's Nemostylis is the nearest genius to it; but Romulea, so well known, will give a good idea of it; light, sandy soil suits them best; they seed freely, and seedlings flourish freely from the starchy tuber, and, like most Irídes, they increase by offset-bulbs.


GELEUM. (From gelemius, an Italian name for Jasmine. Nat. ord. Loganiaceae.)

A hardy, or nearly hardy, woody climber, often called "False Jessamine" in N. America. Cuttings in a cold frame in early autumn. Well-drained soil.


GENETYLUS. (From genylius, protective of birth; alluding to the form and position of the flowers. Nat. ord. Myrtíblooms [Myrtaceae]. Linn. 12-Tossandria, 1-Monogynia. Allied to Greenhouse evergreens. Cultivated like the Myrtle.)

G. fimbría (fringed). See DARWINIA FIMBRIATA.
G. fuchsioides (Fuchsia-like). See D. HOKKERIANA.
G. macrolesi'a (large-involute). See D. MACROLESTIA.
G. multi'pore (tulip-bearing). See DARWINIA MACROSTEGIA.

GENISOPORUM. (From genos, genos, a race, and sporos, a seed. Nat. ord. Labiate.)


GENIPA. Genip-tree. (From Genipa, the native name. Nat. ord. Cinchonæs [Rubiacæae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Gardenia.)

The Genipap, a South American fruit, is produced by G. americana; it is as large as an orange, and much esteemed in certain parts of the West-Indies. Cuttings of shoots just getting a little firm, in May, in sand, under a bell-glass, and in bottom-heat; loam and peat, and a sweet bottom-heat; loam and peat, under a bell-glass, 2. May. Portugal. 1823.


GENISTA. (From genos, genos, a race, and sporos, a seed. Nat. ord. Labiate.)

GENTIANA

HARDY DECIDUOUS.

G. aphyl'la (leafless). See EREMOPARTON APHYLLUM.


Trailer.


HARDY EVERGREENS.


amsa'ntica (Amsaantic). See G. ANXANTICA.

andro'ea (Andean). See CYTISUS SCOPARIUS ANDREANUS.


angula'ta (angled). See G. PARVIFLOR.


aspa'lath'o'des (Aspalathus-like). S.W. Europe.

ca'nicans (whitish). See CYTISUS CANDICANS.

capita'sa (beaded). See G. CLAVATA.


dec'umbers (decumbent). See CYTISUS PROCUMBENS.

dif'u'sa (spreading). See CYTISUS DECUMBENS.

t'ros (fierce). N. Africa.


germ'a (German). 2. July. Sweden. 1773.


kumifu'sa (trailing). Near Lyons. 1821.


ma'ntics (Mantique). See G. TINCTORIA MANTICA.


pat'en (spreading). See CYTISUS FURGANS.

pu'rgans (purging). See CYTISUS FURGANS.

radia'ta (rayed). ♀. July. Italy. 1758.


sagita'tis (arrow-joined). ♀. May. Trailer.

scario'sa (membranous). See G. TRIANGULARIS.


al'd'hor (taller). 51. July. 0. G. HOHORNS.


prate'sis (meadow). 2. July. Italy.


tri'gira (three-cornered-stemmed). 3. June. Cor-

ver'issima (clamy). See ADENOCARPUS ANGYRUS.

GEN TIANA.

Gentian. (Named after Gen'ius, king of Illyria, who first experienced the virtue of Gentian. Nat. ord. Gentianae.) Linn. 3-PENTAN-

tris, Di-ymnes. The root of G. hu'tea is the true Gentian of the druggists, an intense bitter, only exceeded by that of Al'ce'ris far'inosa's, a little North American Bloodroot, the most intense bitter known, and by Qu'a'sa am'a'ta. The smaller kinds may be treated as alpines; and whether grown in pots or not, a little heat and sandy leaf-mould should be given them. All may be propagated by seed sown as soon as ripe; the perennials, also, by division in spring. Some of the creeping, low-growing kinds, as acau'lis, make nice edgings to walkways and borders.

HARDY ANNUALS.


b'lu'tea (yellow). ♀. Yellow. August.


carin'thia'a (Carinthian). See FLEUROGUNE CAR-

TICHA.

germ'a (German). ♀. Blue. August. Germany.


prat'e'sis (meadow). See G. AMARELLA.


HARDY BIENNIALS.

G. barba'ta (bearded). See G. DETONSA.


co'las (dipped). ♀. Blue. August. Northern Regions. 1764.

ul'gina'sa (marshy). See G. AMARELLA.

uni'flora (one-flowered). See G. GERMANICA.

HARDY HERBACEOUS PERNENNIALS.


Wals., a'gida (white). Creamy-white.


Alps. 1849.

" coh'i'na (Kochian). Dark blue, with five black-green spots. Alps. 1888.

adsc'entia (ascending). See G. DECUMBENS.

as'is (summer). See G. VERNIA.

affij'nis (allied). See G. BIGELOVII.

a'ngula'sa (angled). See G. VERNIA.

a'ngul'o'ria (Arvernan). ♀. Dark blue. Country

" a'ngula'sa (angled). See G. VERNIA.


Austria. 1629.

" a'iba (white). White.

" a'iba (white). White.


bigel'o'vs (Bigelow's). 1. Violet. New Mexico.


" brachyphy'l/a (short-leaved). Europe.

" bre'siens (short-toothed). Japan.


" calico'sa (large-calyzed). ♀. Deep blue, dotted

" cha'tas (Catesby's). See G. ANDREW.

" co'rans (nodding). Ecuador.

" charpen'terica (Charpentier's). ♀. Yellow, dotted red.

Switzerland. 1888.


" cla'sa (clubbed). See G. OCHROLEICA.

" chl'is (Chlysis). ♀. Deep blue. Switzerland. 1819.


dina (Dinaric). See G. EXCELSA.

easta (cut-out). Europe.


fimbria (fringed). See G. CRINITA.

frima (firm). See G. ACULUS.

forida (flowery). Yellow. Argentina.

eola (small). Lilac. Andes of Peru.

Fortuni (Mr. Fortune's). See G. SCABA.


G. Kochiana (Kochian). See G. DECUMBENS.


incarna (flesh-coloured). See G. OCHROLEUCA.

inflata (intermediate). See G. OCHROLEUCA.

Kessleri (Kessleringa's). 1. Whitish, with dotted violet lines. Turkistan. 1882.

kochnia (Kochian). See G. ACULUS KOCHIANA.

kronemna (Krummerian). Purple, yellow. N. Siberia. 1888.


olive (Oliver's). See G. DECUMBENS.


Parry (Parry's). N. Amer.

Pilosaria (Pilosa). Transylvania.

pilosa (vulgar). See G. AMARELLA.


Praesidispits (Przewalsky's). China.

Psedopneumonacnime (bastard-wind-flowed). See G. LEUCANEA.


quadriflora (four-leaved). See CHLORA QUADRIFOLIA.


rubra (red). Yellow, purplish outside. Switzerland. 1888.


cordifolia (heart-leaved). Blue. Leaves heart-shaped. See OCHROLEUCA.

sphironica (tube-flowed). China.

straminea ( straw-coloured). China.

stylophora (style-bearing). Sikkim.

Thunbergi (Thunberg's). See G. RUBENS.

fianosha (Tianschanic). Central Asia.

flicereta (clustered).

fibretea (Tibetian). Himalaya.


umbellata (umbelled). See G. AUREA.


Weischnakowskia (Weischnakow's). Turkistan.

GEODEUM. (From ge, the earth, and dor, a spear; the flower-spikes arise from rhizomes in the soil. Nat. ord. Orchidaceae.)

Terrestrial Orchids requiring the warmth and moisture of a stone wall.


cilium (cirt-on-scented), 1. Yellow. Autumn. E. Ind. 1800.


GEOFREY. Bastard Cabbage-tree. (Named after Dr. Geoffrey, of Paris, author of Materia Medica. Nat. ord. Leguminosae.)

Linn. 17-Dia.

G. Bredemeyeri (Bredemeyer's). See G. SUPERBA.

ine (unarmed). See ANDRA INERIS.

racemosa (racemened). See ANDRA EXCELSA.

spicata (Spicata). Yel. W. Ind. 1815.


GEOFROY. See GEOFREY.

GEOMETRA. The Amphilasis and Hybernia of some entomologists is a genus of moths including G. Pilosaria, Pale Brindled Beauty-Moth, which appears in March; eggs deposited in bands round a twig, as done by the Lackey-Moth. Caterpillars appear with the opening leaves of the elm, lime, lilac, and apple-tree. They are, at first, a light green.

Hybernia defoliaria, Lime-Looper, or Mottled Umbre-Moth, feeds on the leaves of the lime and apple. Moth appears in November. Caterpillar reddish, with a bright yellow stripe on each side. Female moth has no wings, so that a piece of stiff brown paper smeared over with eart grease, and bound round a tree's stem, prevents its ascent, as in the case of the Winter Moth.

Fodiani pinaria attacks the pine and fir tribe.

GEO NAMA. (From geonomos, skilled in agriculture; as much as to say that only a skilful planter could increase these palms. Nat. ord. Palms [Palmaeae]. Linn. 22-

Borassia, Allied to Cocos.)

Stove palms. Seed; rich, sandy loam. Summer temp., 60° to 80°; winter, 55° to 60°.

G. acutifolius (stemless). 5. Brazil. 1823.

acutiflorus (acute-flowed). See G. BACULIFERA.


*Card'e* (Carder's). See PRESTOCA CARDERI.

corall'era (coral-bearing). See CHAKDEOKA ER'-

**N.**

deco'ra (handsome). Dwarf, with pinnate leaves and red-fruit-bearing stalks. 1894.


fenestra'na (windowed). See MALORTIEA GRACILIS.

fra'gilis (fragile). Guiana. 1849.

*Ghes'beighnta'na* (Ghesbeighntan). See CAYLYPTRYGE

**G.**


*Herb'r齿s* (Herb's). Leaf segments broader than in *G. gracilis*. 1859.

*imperia* (imperial). Colombia. 1868.

*intermedia* (intermediate). Leaves pinnate; petioles red-fruit-bearing. 1882.


*lae'cera* (lacerated). Central Amer. 1869.

*macro'stachya* (large-spike). 5. Brazil. 1823.

*magn'is (magnificat). Mexico. 1856.

*mar'tia* (Martian). Brazil.

*Seema'nni* (Seeaman's). 1823.

*mod' simus* (small). Guiana. 1840.


*pol'hia* (Pohl's). Brazil.

*por'e* (Port's). Brazil. 1853.

*pul'chella* (chick). Colombia.

*pul'chila* (pretty). Colombia. 1853.

*quad'nila* (dwarf). Colombia.

*pynor'ta* (Pynefran's). See IGUANURA DIFFUSA.

*rosec'sima* (Vulcan). Colombia.

*Seema'nni* (Seeaman's). Nicaragua. 1873.

*sies'myari'na* (Siessmyarian). Leaves tinged with red when young. 1896.

*simp'lefrons* (simple-leaved). 5. Trinidad. 1818.

*spe'ra* (Spék's). 11. Brazil. 1824.

*Swa'rtz's* (Swartz's). 50. Cuba. 1878.

*tenuof'olia* (slender-leaved). Leaves glaucous, tinged rose when young. Eastern Peru. 1893.

underla'na (underla). Colombia. 1850.

*Verschaf'fetti* (Verschaffelt's). See CAYLYPTRYPNE

**G.**

*zamore'nse* (Zamoran). Ecuador. 1869.

**G.**

GEOGRUS. See GOODRYA.

**G.**

GEOGRAHNIA. Attempts were made some years since to substitute this name for that of Dahlia; but the law of priority settles the question. Dahlia was named by the Spanish botanist Cavanales in 1791; and neither Wildenow nor Sprengel's Georginia appeared for more than eighty years subsequently.

**G.**

GERANIUM. A popular name for Pelargonium, but liable to cause ambiguity, because many of those who use the name are referring to Pelargonium, without knowing the difference. The principal differences are as follows:—

*Gera'mium.*— Flowers regular, without a tubular nectary. *Stamens* ten. Plants mostly quite hardy. *Pelarg'o'num.*— Flowers irregular, the upper two petals being different from the three lower. The posterior sepal has a spur or nectary running down the stalk of the flower. *Stamens* ten, but three, four, or eight of them may be without anthers. All require greenhouse protection except a few, which are half-hardy.

**G.**

GERANIUM. Crane's Bill. (From geranos, a crane; referring to the beak-like form, or projection beyond the seeds. Nat. ord. Cranesbills (Geraniaceae). Linn. 16-Monadelphia, 6-Disandria.)

A very few require the pit or greenhouse in winter, and these have small portions of peat, loam, kath-

mould, and sand. Almost all are hardy, and flourish in common ground; many grow under the shade of trees and hedges, and thus secure a portion of vegetable earth. Better than the common weed, *rober'tia* for turning itself round the sides of a rustic basket, or crawling over a rock-work. The following are a few of the best for gardens:—*arm'ne*,-*sium,* *STRU'BY,-SYD,* *ca'ffrum,* *colli'num,* *lanca'estrine,* *sangui'neum,* *lanca'stre'se,* *wallach'ina,* *praet'nae,* *praet'nae* *flo're'nae,* *dahu'ricum,* *pio'li'um,* and *cris'ti'um.*

**G.**

GERANIUM. A good genus of the Asphodel family, and a very ornamental one, in full flower in the early part of June. It is suitable for outdoor culture, and has the advantage of not requiring much room in the greenhouse, in which it is usually kept. The name refers to the south of France, and signifies the reddish colour.

**G.**


*ca'brum* (Caffarian). 4. Lilac. S. Africa. 1862.


*or'na'tu'rum* (bird's-foot). White.

**H.**

**H.**

HARDY ANNUALS.


*alo'bo'rum* (white-flowered). See G. RICHARDSONI.


*bah'a* (Balkan). See G. MACRORHIZUM.

*bair'ach'os* (Datrachium-like). See G. SYVATICUM.

*baptista* (baptist). (Baptist). Bohemia. 1850.

*car'ni* (blue). See G. PRATENSIS.


*di'lum* (white). White.


*cris'ti'um* (crested). See G. ALBANUM.


*En'drei'zi (Endress'). 12-1. Dark. Rock.


*fo'rem'nis* (Fremont's). 14-1. Purple-lilac, with dark carmine. Asia Minor. 1859.

*fus'ca'mum* (brown). See G. PHAEUM.


*granid'fo'rum* (large-flowered). Dwarf, with larger flowers than G. pratensis. Himalaya. 1902.


*gymnocau'lon* (naked-stemmed). See G. IBERICUM.


*lanca'estrine* (Lancaster). See G. SANGUINEUM LAN-

*castrie'nsis.*


*lo'nugipes* (long-stalked). See G. COLLINUM.

*lo'e'vi* (Lowe's) See G. ANEMONEFOLIUM.


**n.**

*ne'palense* (Green). See G. ASPHODELOIDES.


Belblica strum (Belblica strum). See G. ANANDRIA.

crenata (Siberian). Linn. S. MIRIAM CRENATA.

Elae (Mrs. Elisa's). See G. AURANTICA.


transvaalensis (Transvaal). Flowers larger and lighter. S. Africa. 1901.

kunzeana (Kunzean). 1. Himalaya.


GERMAN CATCHFLY. Lychnis Visca'ria.

GERMANDER. Teu-'cium.

GERMINATION is the sprouting or first step in a vegetative process. To enable it to germinate it must have a perfectly developed embryo, and be ripe, or nearly ripe. It must not be too old, and there must be present a certain degree of heat, moisture, and oxygen gas, the latter being furnished by the air.

GEROPOMON. Old Man's Beard. (From geron, old man, and pomen, a beard; referring to the hair-like pappus which crowns the calyx in this order. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia i-Equalis. See TRAGOPOGON.)

G. calycula tus (large-calyxed). See SCROZONERA HIRSUTA.

G. filifera (smooth). See TRAGOPOGON CROCIFOLIUS.

hirsi tus (hairy). See TRAGOPOGON CROCIFOLIUS.

GERBARDANTHUS. (Commemorative of Gerard, a botanical collector, and anthus, a flower. Nat. ord. Cucurbitaceae.)

Stove climber. Seeds. Fibrous loam and plenty of sand.


G. most interesting family of plants that, by regulating their rest period, may be brought into bloom at almost any time. All scarlet-flowered, except where otherwise stated.

G. acow'is (stemless). See PENTAPHARAPHA SLOANEI.


barba'ta (bearded). See LIGERIA BARBATA.

Blas'si (Blass'). 1. Brazil.

breviflora' (short-flowered). See ISOLOMO BREVIFLORIUS.


caly'cius (large-calyxed). See PENTAPHRAPA CALY'CINA.

caran'cas na (Caran'cas). July. Caracas. 1842.


chelyono'des (Chelone-like). Colombia.

cinnabar'is (cinnabar). See NEEQUILLA CINNABARINA.

cochlefer'is (shell-like). See SCARLET, May. Brazil.

Cooper'is (Mr. Cooper's). 2. May. Brazil. 1829.


to the seed. See Amaryllis. 1836. 2. Rejected. 1838. 1 Yellow. November. 1839. to the seed. See Amaryllis. 1836. 2. Rejected. }

Propagation:—They may be propagated by cuttings, of the few kinds of plants, as soon as they are three inches long, comprising from the old tubers (these are the best); and, leaves taken off with a bud at the base; and, 3rd, by the leaves only, 

See Horton. 1835. to the seed. See Amaryllis. 1836. 2. Rejected. 

These, with the splendour of the flowers, and the variety of the leaves, are perfectly beautiful. The plant should be raised when it is in summer, that is, when the season is more agreeable. It requires a warm atmosphere, and as soon as the season is over, to keep it in a frost-proof place, giving it a little water. As soon as life appears again in the spring, put them off singly into small pots, watering and re-potting the same as the cuttings; but it is more than probable they will not flower the first season, as they require several months in pots, according to the size of the tubers; keep them regularly watered, but never very wet. They may be syringed occasionally. They can then be re-potted for the last season, and are so woolly that they hold moisture too long if syringed severely. The bulbs, if not cold enough, will be apt to rot; and if higher, to start into growth. Winter Culture.—All that they require is to be kept in their pots in a place where neither frost nor wet can reach them; yet the place should never be below 45°, nor above 60°. Now referred to the Cactaceae. See Stove evergreen climber. Cuttings of ripened shoots.
in sand, under a glass, in bottom-heat; sandy peat and fibrous loam. Summer temp., 60° to 80°; winter, 50°

G. floribunda (bundle-flowered). See CALYCOPTERIS FLORIBUNDA.

n. lans (nodding). See CALYCOPTERIS FLORIBUNDA.

GILIA. Aven. (From geys, to stimulate; the roots of some of them, and of allied species, have the same properties as数码在左。Nat. Ord. Rosaceae [Roses]. Linn. t2-Icossandria, 3-Polygynia. Allied to Potentilla.)

Hardy herbaceous perennials. G. chiloensis grandiflora is very showy. Seeds, and dividing the plants in spring; sandy loam, with a little leaf-mould.


1830. a’-plicum (Aplean). See G. STRICUM.


atlâ’nicum (Atlantic). See G. SYLVATICUM.


Arctic America. 1830.


1820. a’-bro-angu’s neu’m (dark-blood-coloured). 2. Dark scarlet.

flor’-plé’no (double-flowered). Bright scarlet.


1824. f’luma’num (hair-fringed). See G. TRIFLORUM.


Asia Minor.

coc’s neu’m (scarlet) of Lindley. See G. CHILONE.


Gardens. 1896.


hetero’phy’llum (various-leaved). See G. VIRGINIANUM.

hi’spium (roughly-bark). Spain.


Europe (Britain). 1794.


1897. ko’bi’num (Kolbian). See G. RHETTICUM.


1820. mac’o’num (Mackleans). See G. COCCYNUM.

1826. macrophy’lum (large-leaved). See G. JAPONICUM.

1826. mag’da’licum (Megellan). See G. PARVISFLORUM.

mo’l’le (soft). Servia.


1597. grandif’lum (large-flowered). Yellow, larger.


1826. parrophi’lum (small-flowered). Antarctic regions.

1826. Pe’ckii (Peck’s). See G. RADIATUM.


Pyrenees. 1804.

1857. Que’lyon (Quellion). See G. CHILONE.


1815. ranunculu’lous (Ranunculus-like). See G. STRICUM.


1798. the’l’bium (Rheticum). 1-1. Bright yellow. Engadine, Switzerland.


1826. Rutil’os’rosa (N. Amer.)

1815. rotund’flo’lum (round-leaved). See G. CALTHIFOULUM.

1831. Roy’leii (Royle’s). Himalaya.


1810. Tournefor’tii (Tournefort’s). See G. PYRENAICUM.


1818. tyrol’ne’se (Tyrolean). Tyrol.


GIANT FENNEL. Fruila.

GIBRALTAR MINT. M. nika Pale’g’ium gibrata’ricum.

GIGANTOCHELIO’A. (From gigg, giant, and chlo, young grass; in reference to the fresh green colour.

1825. biennials, G. potted, See Spanish MICRANTHA specio’sum N.

1831. to the Quellyon. See except i.

1832. From Orange-scarlet. When same;

1820. Dark very See biennials, G. potted, See Spanish MICRANTHA specio’sum N.


1814. Very Dark very See biennials, G. potted, See Spanish MICRANTHA specio’sum N.

1830. Dark very See biennials, G. potted, See Spanish MICRANTHA specio’sum N.


Stove evergreen shrubs. Cuttings of the young shoots in sand, under a bell-glass, and in heat; sandy peat and fibrous loam. Summer temp., 60° to 80°; winter, 48° to 55°.


GILLENIA (Named after one Gillenius. Nat. ord. Roseworts [Rosaceae]. Linn 12-Icosandria, 2-Pentagynia. Allied to Spirea.)

Hardy herbaceous perennials, with red and white flowers, from North America. Division of the plant; common soil.


GILLIE'SIA (Commemorative of Dr. Gillies of Mendocia. Nat. ord. Lillacae.)

Greenhouse or half-hardy bulb. in pots. Fibrous loam, a little peat, and a sufficient quantity of sand.


GILLIFLOWER. By some supposed to be a corruption of July flower, because the carnation (Dianthus Caryophyllus) flowers in July. Other spellings are Garyophyllis, Gelowers, Geloours, Gelyflours, Gillyfloure, Gillyfolls, and Gillyflower. The French form of the word is Girofée. These names are evidently all corruptions of Caryophyllus, the specific name of the Carnation, and that is derived from the Greek karum, a nut, and phyllon, leaf, applied by the old Dutch to Caryphyllus, Garryo, or Garryo.

In this country Gilliflower means the Carnation only.

GINGER. (Z'I ngibeb officinall'). Green ginger may be easily cultivated two ways, either in pots, or in a deep pit. If in pots, take the plants, shake them out of the pots when at rest in February, divide them, and pot each piece into a pot six inches across; plunged them, as soon as the heat is temperate, in a bark-pit, or a frame heated with dung like a cucumber-bed, the surface being covered with tan deep enough for the pots. As soon as the plants come up give a small supply of water, gradually increasing the quantity as the plants advance in growth. By August they will be fit to take up and preserve. If a large quantity is required, a deep pit of two or three lights wide, not necessary, the bottom to be filled with rich soil, to the depth of a foot; plant the roots in this soil, and line the pit with hot dung, renewing it as the heat declines. The time for planting in the pit is February or March. After a few weeks, the plants will be fit for setting in pots, or for growing in the open air. See S. Tropica, 1879. They will have a large supply of fine ginger-roots, equal to foreign.

GINGER BEER PLANT. A minute fungus capable of setting up alcoholic fermentation, and in different forms known as Saccharomyces cerevisiae and S. mycode'ma.

GINGER BREAD PALM. Hyphaene thebaica.

GINGER BREAD PLUM. Parina rium macrophyllum.

GINGER DUTY. See Achyrella.

GINNKO. (The Japanese name of the Maidenhair Tree. Nat. ord. Conifera.)

G. biloba, a tree suitable for town as well as country. Seeds, Ordinary, well-drained soil.


G. lactina (cut.) See G. Biloba Macrophylla taking AGNUS CASTUS.

G. macrophylla lactina (large cut-leaved). p'e'nuda (drooping). A weeping variety.

G. pyramidatis (pyramidal). See G. Biloba Fastigiate.

G. tri'toba (three-lobed). Leaves three-lobed.

G. variagata (variegated). Leaves variegated with yellow.

GIPSY MOTH. Hypopy'ma dis'par.

GITCHAGO SE'GETUM. See LYCHNIS GITHAGO.

GITHOPSIS (From Githago, and opsis, resemblance; the plant resembling Githago or Lychnis Githago. Nat. ord. Campanulaceae.)


GLADIOLUS. Corn Flag. (From gladius, a sword; referring to the shape of the leaves. Nat. ord. Irisaceae. Linn. 3-Triandria, 1-Monogynia.)

Bulbs, from the Cape of Good Hope, except where otherwise mentioned. The hardest merely requiring border-room, and are propagated by seeds, and by taking offsets (dividing the bulbs before growth has commenced). Those generally designated frame and greenhouse species will thrive very well in dry, sandy loam and peat out of doors, if planted from six to ten inches deep, according to the strength of the bulbs. The earliest-flowering, such as bian'dus, &c., may be planted in the end of October; ramosus, formosissimus, &c., in December; and gandan'isis, floribundus, pasticosus, &c., and spal'denos from February to March, when they will keep blooming all the autumn. The whole make fine pot-plants, potted in autumn and spring, and kept in a cool pit until they show flower. They may also be forced for the greenhouse after the roots have filled the pots.

G. abbreviat'a (shortened). See ANTHOLOYZA QUADRANGULARIS.


G. argyrophyllus (equinoctial). See ACDANTHERA EQUINOCTIALIS.


G. d'ibidus (whitish). See G. BLANDUS ALBIDUS.


G. BLANDUS PICTUS.

G. La'ran'ta (Ceratostigma). See ATROVIOLEACE.

G. angustifol'ius (narrow-leaved). See BARIANA TUBIFLORA.


G. am'yras (sand). S. Africa.


G. ri bro-ti'ntus (red-tinted). Orange-yellow, dotted red. 1894.

G. bibio'rus (two-flowered). S. Africa.


GLADIOLUS 383


campanula'tus (bell-flowered). See G. Blandus Cam-
panulatus.
carni'min (carmine). 14. White, carmine, with two
blotches. 1806.
canina sicus (Caucasian). See G. Secutum.
1832.
Colvi'llfi (Colville’s). 14. Bright red, with three
purple blotches. Gardens. 1832.
1596.
a'lius (white-flowered). 2. White. June. S.
1896.
co'mcolor (one-coloured). See G. Tristis Concolor.
densely streaked (darkened). S. Africa.
cri'siplo'rus (curled-flowered). See G. Imbricatus.
cri'sip'sus (crisped). See Tritonia Crispa.
1868.
1795.
decora'tus (decorated). 3. Bright scarlet, with three
yellow blotches. E. Africa. 1890.
dracooce'phalus (dragon’s head). 14. Greenish-yellow,
Echło'ni (Ecklon’s). Densely spotted purple-red on
pale ground. Autumn. 1862.
El'tis sen'sus (tall). White, tipped purple. 1800.
1829.
el'onga'tus (elongated). See Babiana Tubiflora.
jes'i'sus (festive). See G. Brevifolius.
fal'a'ria (sulphur). See Watsonia Spicata.
fla'mens (rigged). See Agapanthera Tubiflora.
1788.
fru'grus (fragrant). See Babiana Pilcata.
for'co'-ri'o'neus (of S. Africain). 2. Greenish, finely
sifted claret-brown. 1897.
ganad'usis (Ghent). Garden race (psittacinus X
cardinalis).
gla'clockus (green). 1. Blush-red, striped white
and red. Greece. 1906.
1822.
1832.
1832.
has'ta'ls (halsbert-shaped). 1. Flesh. May. 1816.
hiru'tus (hairy). White, reddish, red. June. 1825.
1830.
inscri'inus (inchlined). See Babiana Tubiflora.
1829.
irri'fus'us (iris-leaved). See Watsonia Meriana.
tis'cio'nsis (of Italy). See G. Segetum.
Kris'shi (Kotcheyan). 1. Light violet, with three
dark lines. Afghanistan.
Lesch'ilinii (Leichtlin’s). Scarlet. yellow. Transvaal.
1889.
Lemoni'nsis (Lemoine’s). Garden race (gandacensis X
purpureo-aurus).
lined'us (lined). See Tritonia Lineata.
longi'filus (long-flowered). See Babiana Tubiflora.
Lys'i'aeus (Lucidor). S. Africa.
macowanna'mum (Macowan’s). See G. Augustus.
Mackin'deri (Mackinder’s). 2. Yellow, scarlet.
British E. Africa. 1902.
Meric'cius (Mericic). S. Africa.
1793.
Morii'nsis (Morton’s). See G. Blandus Albidus.
mucrona'tus (hard-pointed). See Babiana Mucronata.
nana'nsis (Nancy). Garden race (Saundersii X
Lemoinei).
nana'nsis (dwarf). See Babiana Nana.
ochroleu'sus (yellow-white). 3. Pale yellow. Trans-
vaal.
oppositiflorus (opposite-flowered). April. 1843.
orchideus (Orchid-flowered). 1. Green, white.
May. 1877.
1889.
artu'rus (darkened). Dark purple. 1885.
platyphyllus (broad-leaved). 3. Deep yellow,
pli'catus (plaited). See Babiana Stricta.
Po'tusii (Potz’s). See Tritonia Pottsi.
pilosus (pilose). See G. Watsonianus.
E. Africa. 1900.
1888.
1890.
psittaci'nsus (parrot-like). 32. Scarlet, yellow. S.
Africa.
pulchra'nsus (spotted). Greenish-yellow, spotted purple.
1888.
purpu'reo-aurus (purple-golden). 3-4. yellow,
with large purple blotches. Natal. 1872.
quadrangularis (lour-angled). See Antholyza Quad-
ranthera.

tivria'ns (Quartinan). 3-4. yellow, spotted
sup'erbus (superb). Larger, yellow, flushed
 crimson. 1889.
1889.
ro'na'sus (branching). See Melasphaeria Graminea.
1890.
re'fractus (broken-back). See Freesia Refracta.
r'i'gens (gaping). See G. Recurvus.
See Tritonia Rosea.
sambu'cinaus (elder-scented). See Babiana Sambucina.
Saund'risi (Saunders’s). 3. Scarlet, white, speckled.
August. 1877.
1906.
ser'i co'o'vo'lo'tus (silky-woolly). 3. yellow.
1864.
stru'ius (striped). 1. White, streaked red and
white. 1888.
stri'itus (upright). See Babiana Stricta.
sulph'u'reus (sulphur). See Babiana Stricta Sul-
phurea.
1829.
tenui'fu'o'rus (slender-flowered). See G. Segetum.
1822.
tene'nsis (slender). See G. Imbricatus.
June. 1794.
1890.
trimacul'us (three-spotted). See G. Augustus.
trip'hyi'us (three-leaved). Cyprus.
1889.
1822.
1832.
tubo'rus (tubed). See Babiana Tubata.
tubifo'rus (tube-flowered). See Babiana Tubiflora.
Tyso'ni (Tyson’s). S. Africa.
1888.
nuda'nsis (white). See G. Cypsidatus.
1822.
p'a'lidus (pale). See G. Cypsidatus Pallidus.
versi'color (various-coloured). See G. Grandis
and varieties.
vi'lo'sus (woolly). S. Africa.
1888.
vi'lo'sus (woolly). See G. Vittatus.
1822.
vi'la'rus (viper-like). See G. Orchidiflorus.
vi'la'tus (striped). 1. Creamy-white, feathered
crimson. 1888.
Mount Killimanjaro. 1887.
Watson'i'us (Watson’s). 1. Red. March. 1791.
1822.
1826.
1826.
xantho'sip'hus (yellow-blotched). See Freesia Re-
fracta.

Propagatio:—by offsets. — The offsets are produced
plentifully round the base of each bulb. When the bulbs
are taken up, separate the flowering bulbs from the
offsets, and then again divide the latter into two lots,
one of the larger roots and one of the smaller. Towards
the end of August prepare a bed for them in an open

situation, and drain the ground well if damp. Place a layer of brick-rubbish under the beds, and then a deep layer of horse manure, fifteen inches; upon the drainage place a layer of stable-litter, then throw in the soil, mixing it freely with well-decomposed manure; let it settle about a fortnight, then plant the larger offsets in one bed, the medium sized in another, and the smallest, which can only carry the bulbs, in four parts apart in the row, six inches from row to row, and three inches deep. Plant by drawing drills across the beds with a triangular-shaped hoe, and put in the bulbs carefully. If the soil is not light enough, it can be brought into the soil. When all are planted, level the soil with a rake. The small-sized offsets may be planted much thicker, but in every other respect the same as the larger sizes. The planting should be done while the soil is only slightly wet, because the larger sized produce such large leaves as another the smaller ones; besides, the larger sized will produce, after one year's growth, flowering bulbs, which, when taken up after the growth is perfected, may be sorted to plant with the older flowering ones. The smaller size had better remain in the bed for two years, then be taken up, sorted, and replanted in two sizes again, till the size are large enough to flower.

By Seed new varieties are obtained. All that is wanted are a few square yards of ground, a few roots of the best kinds, but as dissimilar in habit as possible, and then, when in bloom, to exercise a little taste and discernment in selecting the best. For planting with the seed of a breeder of seed, with the pollen of the highest and most distinct coloured male parent, removing the pollen of the breeder before it bursts, and applying the pollen of the male parent, as described. The seed of the bulbs, until the seed is ripe gather it, and keep it dry till spring; then sow it in shallow pots or boxes; place them in a gentle heat, and when the seedlings are up give plenty of air, and very moderate heat. When the seeds are two inches long, and the weather will permit, set them in the open air, and as the leaves advance in size give more water, and allow gentle showers to fall upon them, but shelter them from heavy rain. When the bulbs are full formed, and buried, water them sufficiently through a fine sieve, picking out every bulb, however small. Prepare a bed in the same manner, and of the same materials, as is described above for offsets. Plant the seedlings near the edges of the glass, the same in the way as the small offsets. Let them remain in this bed for two years; then take them and replant them in a bed fresh prepared. It is likely that some of the seed will not flower, and the very worst will be worth planting in the borders.

Summer Culture.—The bulbs want very little attention during summer. Keep them clear of weeds, and when the flower-stems are a foot high place a stick to support them, to keep them from falling into the bed. As the bulbs spread the bulbs and the earth becomes dry, the bulbs will become dry. When the bulb is over, and the leaves turn yellow, take them up dry, and sort them, separating the bulbs that are large enough to flower from the offsets; put the bulbs in a box, and mix them with the name of each variety, keeping them dry and cool till the planting season arrives again.

Winter Culture.—In September prepare the beds by throwing out all the soil to the depth of fifteen inches; if in the same situation as beds were before, examine the drainage. If it is open and ready to work well, it will need nothing doing to it, but if it be choked up, remove it entirely; sift it, throwing in the rough, and removing the fine earthy part; add some fresh rubble, and then cover it with litter; mix a goodly portion of thoroughly decayed dung with the soil, or, which is better, renew it entirely, and then give the bulbs a good watering. Plant the first week in October, three inches deep, giving each of the bulbs six inches square to grow in. Place a thin layer of half-rotten dung upon the bed, to protect the bulbs in severe frost. They will require no other care during this season.

Vermin.—Mice, wireworms, and the red spider prey upon them. Wireworms may be caught with slices of potato, laid in the soil, and taken up occasionally. The red spider, happily, only appears when there is a long continuance of dry weather. Watch for its first appearance, and as soon as it is perceived, causing the leaves to appear spotted, let every leaf be sparged over with water, or sprayed with flowers of sulphur. If the weather prevails much, syringe the plants every evening severely.

Diseases.—The bulbs sometimes are attacked by a kind of dry rot, which turns them into a powdery substance, and if they have manure, turn yellow, and the whole plants perish. There is no known remedy. To prevent its spreading, remove the infected bulbs, and a portion of the soil near them.

GLASS is the best agent employed by the gardener to exclude the cold, whilst the light is admitted to his plants which are natives of hotter climates than that in which Botanic Gardens are usually situated. Besides, the glass for both houses, &c., is every way laudable; but the benefit sought is frustrated if it be not constantly well cleansed. The best glass, if dirty, allows fewer rays of light to pass through than inferior glass kept bright. A thorough-cleaning should be given both to the outside and inside twice annually, during the first weeks of February and of October, and a third cleansing, on the outside only, at the end of June. In proportion to the deficiency of light, the plant under glass become, in the gardener's phraseology, drawn; that is, its surface of leaves become unnaturally extended, in the vain effort to have a sufficient elaboration of the sap effects by means of the reflected and diffused light, for which a less surface would have been sufficient if the light were more intense. Taking into consideration the consequences of breakage, and other contingencies to be adverted to, the glass selected, we consider glass of 20 ounces to the square foot, and in panes of 18 inches by 12 inches, the substance and size most desirable. Rough plate-glass is desirable, because, without diminishing the light, it reduces the danger of scorching the leaves.

GLASS CASES are of various kinds. One is formed of glazed wooden frames, fitting together, to protect everything in flowers, or shrubs too large to be covered with a hand-glass.

Another glass case is made for protecting a single branch. It is thus described by Mr. Maund, the author of "The Gardener's Work," September 4th, 1818: "Grapes grown on open walls in the midland counties are rarely well ripened; therefore I provide a small glazed frame, a sort of narrow hand-glass, of the shape of a house-top) in miniature, to fix against the wall, and enclose one branch of the vine, with its fruit and foliage. The open part, which rests against the wall, is thirteen inches wide, and may be of any length required to take in the fruit. The sides are formed of single glass, separated in their lower part by a small groove which may represent the ridge of a roof, the ends enclosed by triangular boards, and having a notch to admit the branch. This is fixed on the branch a month before the grapes are ripe, which is early enough in the month of September, so as to prevent any injury from the outside, and at the same time it is not required to be closed closely against the wall, but in some places may be a quarter of an inch from it. The lateral branches being shortened before it is fixed, it does not require removal even for pruning, because you adopt the long-rod mode of training, which is peculiarly adapted to my partial protection system. The temperature within the frame is always higher than without, sometimes at midday even from 20 to 30°. By this simple protection I find grapes may be ripened from three weeks to a month earlier than when wholly exposed, and this saving of time will, I believe, not only secure the earliest season of grapes, but to the largest profit, but also that such advantage will be available in the north of England, where grapes never ripen on the open walls."

Lastly, there is the Wardian-case, to cover plants growing in rooms, preserving them to uniform moisture, and excluding dust. To prevent the dew which is occasionally deposited inside the glass, it is only necessary to open the case frequently, for a few minutes, to render the temperature within similar to that outside. They are not intended to exclude the air, and are now made very ornamental.

GLASSWORT. Salicornia. GLASTONBURY THORN. See CRATAEGUS OXYCANTHA PRECOX.
GLECHOMA. Horrid Poppy. (From glaukos, greyish-green; referring to the colour of the leaves. Nat. ord. Poppypots [Papaveraceae]. Linn. 13-Polyandria, 1-Monogynia. Allied to Eschscholtzia.) Seeds in common borders, in March or April.

HARDY BIENNIALS.
" " lucidum (yellow). See G. flavidum.

HARDY ANNUALS.
" " fuscum (tawny). G. flavidum fulvum.
" " lactucales (lettuce-like). See Chelidonium franketianum.
" " leucopelum (smooth-fruited). 1-4. Orange-scarlet, with four black blotches. Asia Minor. 1907.
" " leptispodum (stinker-stalked). See Chelidonium franketianum.
" " franguchianum.
" " phanecicum (purple). See G. corniculatum and varieties.
" " ruberum. See G. corniculatum rubrum.
" " Serperti (Serpert's). Yellow. Greece. 1873.
" " flore-pleno (double-flowered). Yellow. Greece. 1873.
" " aquosum gamus (scale-bearing). Yellow. Altai Mountains. 1879.
" " tricolor (three-coloured). See G. flavidum tricolor.

GLAUCOUS. Greyish, milky-green, or sea-green.

GLAUX. (From glaukos, greyish-green. Nat. ord. Primeworts [Primulaceae]. Linn. 3-Pentandria, 1-Mono
gynia. Allied to Anagallis.) Hardy British perennial trailers, found in marshes near the sea. Sandy, moist soil; seeds.

GLAZING. See Greenhouse and Stove.

GLECHOMA. See Nepeta Glechoma.

GLEDA'TSCHIA. (Named after Gleditsch, a German botanist. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 23-Polygama, 2-Dicuc. Allied to Ceratonia.) Ornamental hardy shrubs. Seed imported from America and the South of France, where tri-
ac'ni'hos, &c., ripen their seeds. Sin'nis nas'a, &c., are generally grafted on the other. The seed should be sown in March, after being soaked twelve hours in warm water. Common soil.
" " eleganti'ssima (most-elegant). Spinless, with filiform leaves. 10. 1905.
" " australis (southern). S. China.
" " Delavoyi (Delavoy's). Yunnan.
" " ha'ra (yellow). See G. triacanthos.
" " bo'rida (horrid). See G. senisnus.
" " in'/cms eleganti'ssima (most-elegant). See G. aqua-
tica eleganti'ssima.
" " avis (smooth). See G. triacanthos in'eris.
" " monospe'rna (one-seeded). See G. aquatica.
" " in'eris (unarmed). See G. senisnus nana.
" " pe'ndula (weeping). Green. June.

" " teta'na (Texas). Texas. 1901.

GLECHENIA. (Named after Gleich, a German botanist. Nat. ord. Ferns [Filicaceae]. Linn. 24-Crypto
gamia, 1-Filic. Allied to Cibotium.) Stove Ferns, with brown spores. Division of the plant; peat and loam. Winter temp., 45° to 65°.
G. bifur'ca (two-forked). See G. flagellaris.
" " dic'a (two-fruited). Australia, Tasmania. 1826.
" " alpin'a (alpine). Smaller, more compact. Tasmania, 1824. 25. New Zealand.
" " longin'pinna (long-pinned). Pinna 4-5 in. long. Australia. 1879.
" " disco'la (twice-forked). Tropical and subtropical regions. 1839.
" " exci'sa (lofty). See G. longissima.
" " flabiella (fan-leaved). July. N. Holland. 1823.
" " flagellaris (whip-like). Mauritius, Madagascar, &c.
" " furca (forked). See G. pubescens.
" " gi'gante (gigantic). See G. longissima.
" " hecstorphylla (least-leaved). See G. dicarpa alpina.
" " Hermanni (Hermann's). See G. dichotoma.
" " longissima (longest). N.W. Australia, Malay Islands.
" " Mendesi (Mendel's). Fronds bluish-green, metallic above. Australia. 1879.
" " microphyll'a (small-leaved). See G. circinata.
" " mucrona la (sharp-pointed). Mindoro.
" " rupi'nt (rocky). N.W. Australia, 1860.
" " semivestita (half-clothed). See G. circinata.
" " Spec'iris (cavern). See G. circinata.

G. a'iba (white). See G. a'iba-bacte'tal.
" " brachycy'a (short-fruited). Perak.
" " bacte'tal (large-bracted). See G. bullifera.
" " care'na (Dr. Carey's). See G. sessiliflora.
" " cocc'i'neas (scarlet). See G. atroanguinea.
" " er'ta (upright). See Alpinia calcarata.
" " pala'diflora (pale-flowered). Malay.
" " pe'nuda (weeping). 1-2. Yellow. E. Ind. 1819.
" " strobilus fera (cone-bearing). See G. bullifera.
" " var'ia (variable). Malay.
" " e're'et (changing-coloured). Malay.
" " Walli'chii (Wallich's). Penang.

GLOBE AMARANTH. Gomphre'na.

GLOBE FLOWER. Tro'lius.

GLOBE MALLOW. Sphar'a-leua.

GLOBE THISTLE. Echi'ops.
GLOBULARIA. (From globulus, a small round head; referring to the flower-heads. Nat. ord. Salagáes [Salaginae]. Linn. 4-Tetradnria, 1-Monogynia. Allied to Selago.) Seeds in spring; cuttings of young shoots in summer, in sandy soil, under a hand-light; sandy loam and peat. The greenhouse species require a similar treatment; longi-folia with a cold, conservatory wall; and Aly's pum should be tried in a dry, sheltered place, on a rock-work, with a spruce-branch over it in winter.

GREENHOUSE HERBACEOUS.

  \" longi-fó'lia (long-leaved). Carson's.
  \" obvalla'ta with small pallidifó'ra old always lip, seeds proceeds. Done 1903.

HARDY HERBACEOUS.

  \" limísfo'lia (flax-leaved). See G. vulgaris.
  \" " Blue Daisy."

GLOBULÉA. (From globulos, a small globe; referring to glands on the petals. Nat. ord. Houseleeks [Crassulaceae]. Linn. 5-Pentándria, 5-Pentangyonia. United to Crassula.)

G. a'ro-þur'pea (dark purple). See Crassula portu-laceá.
  \" capítá 'ta (flower-headed). See Crassula capitáta.
  \" cultí-íá (sharpened). See Crassula cultírta.
  \" hí-sípída (bristly-flat-leaved). See Crassula hispída.
  \" impre'ííá (flattened). See Crassula impressá.
  \" mo'lis (soft). See Crassula mollís.
  \" nudícau'lís (naked-stalked). See Crassula nudí-cau'lís.
  \" obválííá (guardian-leaved). See Crassula obvállata.
  \" pani'culá'ta (panicled). See Crassula pani'culáta.
  \" sulá'ca (furrowed). See Crassula sulá'ca.

GLONEIRA JASMINIFLÓ'RA. See Psychotria jas-minifló'ra.

GLORÍÓSA. (From gloriosus, glorious; referring to the flowers. Nat. ord. Lilyworts [Liláceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to the Lily.)

Stove bulbs, except nepális nass. Divisions of the roots and seeds; if by the former, take a pot that has been kept dry all the winter, say in March, turn it out, and separate the bulbs carefully, without bruising them. Place each bulb, with the end farthest from the old tuber, uppermost in the centre of a clean pot, covering with an inch or two of soil, the pot being five or ten inches, or any intermediate size, in diameter, according to the size of the bulb; peat, loam, leaf-mould, old cow-dung, and sand in equal proportions, with good drainage. Give no water until the bud appears above ground, then water and place in a strong, moist heat, growing vigorously, and training as the plant proceeds. When done flowering, and the leaves turn yellow, refrain from watering, and shortly after turn the plants on their broadsides in a dry place, and allow them to rest until next season.

G. abyssí'nicas (Abysynian). Segments twice as broad as those of G. supärba. Abyssinia. 1834.
  \" " lea (yellow). Wholly yellow. 1901.
  \" nಪ và'ra (Nepali). See G. superpá Nepáliesis.
  \" Plót'núi (Plant's). See G. virescens.
  \" ro'thchílda'na (Rothschildian). Bright crimson, with purple mark at base. Uganda. 1903.

  \" " grandífló'ra (large-flowered). Orange. Tropical Africa.
  \" " " (large-flowered). Yellow. Natal. 1905.

GLORY PEÁ. Cha'níthus.

GLOSSA'NTHS MALABARICUS and G. NOTONI'AUS. See Klugia notoniana.

GLOSSA'NTHS ZEYLA'NICUS. See Klugia zeylaníca.

GLOSSOC'MIA CLEMATIDEA and G. OVATA. See Codonopsis ováta.

GLOSSOC'MIA L'URIDA. See Codonopsis rotundífula.

GLOSSO'DIA. (From glossa, a tongue, and eidos, like; referring to the lip, or labellum. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, 1-Monogynia. Allied to Limodorum.)

  \" " (smaller). Blue. June. 1810.

GLOSSO'GYNE. (From glossa, a tongue, and gyné, a female; the rays, when present, are always female. Nat. ord. Compositae. Allied to Bidens.)

Stove perennial herb. Seeds; divisions; cuttings in sand in a close frame, with bottom-heat. Fibrous loam, leaf-mould, and sand.


GLOSSO'PETÁLON. (From glossa, a tongue, and péta/on, a petal. Nat. ord. Celastraceae.)


GLOTTIDU'M FLÓRIDA' NUM. See Sesbania platy-carpa.


Stove herbaceous perennials. For culture see Gesner'a.

  \" fimbriá'ta (fringed). See G. glábrata.
  \" hypocó'ryffírá (curved-under-flowered). Argentina.
  \" " rugó'ris (rugose). See Sinningia specíosa.
  \" macro téríá (large-leaved). Violet. September.
  \" montésis'ta (Menziesian). See Sinningia specíosa.
  \" Me'rhi (Merk's). See Sinningia specíosa.
  \" " (stemmed). Colombia. 1845.
  \" Passin'ham'is (Passingham's). See Sinningia specíosa.
  \" p'cita (painted-leaved). See Ty'drá picta.
  \" ru'ra (red). See Sinningia specíosa.
  \" " (showy). See Sinningia specíosa.
  \" tubóbí'ra (tube-flowered). See Achiménes tūbóbí'ra.
  \" varía'bilis (variable). White, spotted with violet-purple. 1877.
Glyce Maritima. See Alyssum Maritimum.

Glycine. (From glukas, sweet; referring to the taste of the roots of some Nat. ord. Leguminosæ Plants [Leguminoseae]. Linn. 17-Didadelphie, 4-Decandria.) The well-known Chinese twiner, popularly called Glycine sinensis, belongs to Wisteria. Seeds in a hotbed; red, in pots, in spring, in sand, under a bell-glass; and loam, with silver sand.

Stove Evergreen Twinters.


G. bimaculata (streaked). 1827. See Pagelia bituminosa. Piedmont, Italy. See roots; 4-Decandria.


Glycerrhiza. Liquorice. (From glukos, sweet, and rhiza, a root; referring to the sweet juice of the roots of the liquorice. Nat. ord. Leguminosæ Plants [Leguminoseae]. Linn. 17-Didadelphie, 4-Decandria.) Close allyed to Asparagus. Hardy herbaceous perennials. The true liquorice is the root of G. glabra; but those of echina and glandula are equally esteemed as a pectoral. Dividing the roots, taking care that there is one or several buds on each piece; deep, sandy loam.


Glycerrhiza Glabra Cultura. Common Liquorice or Spanish Liquorice. Soil and Situation.—It thrives best in a rich, light soil, two or three feet deep, which should be trenched completely to the bottom before planting, and a little well-decomposed manure turned in with the bottom soil. In shallow or poor ground it will not succeed; the situation cannot be too open.

Planting.—It is propagated by cuttings of the side-roots, which spring from the crown of the plants, and run horizontally just beneath the surface. Plant in January, February, or early in March. Each set, having two or three, should be about two inches beneath the surface. The only cultivation they require is to be frequently hoed, and in autumn the decayed stalks to be cut down, and the earth stirred between the rows. The roots will not fit for use until the size of three or four years' growth. The season for taking them up is December, January, or February. A trench must be dug up regularly along each row, quite down to the extremity of the principal roots, which descend two feet and more.


Glycyphosperma. (From glukos, sculpture, and sperma, a seed; in allusion to the markings on the seed. Nat. ord. Liliaceae.) Half-hardy or nearly hardy herb. Seeds and divisions. Light, rich soil.


Glyptostrobus Columbaris. See Taxodium Distichum Pasticciatum.


Gnaphalium. Cultwort or Everlasting. (From napakolos, soft down, in reference to the woolly covering of the leaves. Nat. ord. Compositae [Composita]. Linn. 19-Synogonia, 2-Superflua. Allied to Helichrysum.) Seeds of the hardy and tender annuals and biennials in the open ground, and in heat respectively; shrubs, by cuttings under a hand-light; and perennials, by divisions; sandy loam and leaf-mould. Abies seeds require a cool stove, and the addition of a little peat.


G. sangui'sneum (bloody). See Helichrysum sangui-


GNIDIA. (An ancient name for laurel. Nat. ord. Daphnids [Thymelaeaceae]. Linn. 8-Octoberia, 1-Mono-
gyna. Allied to Pimelea.)

Greenhouse evergreens, with pale yellow flowers, from South Africa. Young shoots, when two or three inches long, in sand, above sandy peat, well drained, under a bell-glass; stagnant water quickly destroys them. Water-temperature, 40° to 48°; rather shaded in summer.


capi'ta (round-headed). See Lasiophyton lin-

follus.


demuda'ta (denuded). 15. Pale yellow. 1820.


symbria'ta (imbriated). 2. June.


laves'ta (polished). See G. oppositifolia.


penicul'is (pinn-leaved). 2. June. 1768.


st'i'mplex (simple). See G. carinata.


GOAT MOTH. See Cossus linifer'a.

GOAT'S BEARD. Spir'a Ar'num.'s.

GOAT'S FOOT. O'xi'alis capri'ta.'s.

GOAT'S RUE. Gale 'ga.

GOAT'S THORN. Astra'galus Tragac'a'ntha.

GORE. See Artichoke.

GODE'TIA. (Named after M. Godet, a foreigner. Nat.

ord. Onagradus [Onagraceae]. Linn. 8-Octoberia, 1-Mono-
gyna. United to G. neotropa.)

G. albe'scens (whitish). See G. neotropa albe'scens.

deci'mbus (leaning-down). See G. neotropa deci-
mens.

grandiflo'ra (large-flowered). See G. neotropa grandiflo-

ra.

lé'pida (pretty). See G. neotropa lê'pida.

linde'syi (Lindley's). See G. neotropa aména.

pin'cédula (pinedew). See G. neotropa pumila.

purpú'rea (purple-flowered). See G. neotropa púr-

pú'rea.

quadri'vina (four-spotted-petaled). See G. neotropa quadri-

vulnula.

Romanzo'vi (Romanzo's). See G. neotropa Roman-

zovi.


Nepal. 1827.

rubí'cis n'da (rudy). See G. neotropa aména.

scham'minis flo're ple'no (Schammin's double-flowered).

2. Pink, double. 1906.

ten'e'la (delicate). See G. neotropa ten'e'la.

tenuifio'lo (fine-leaved). See G. neotropa tenuifo-

lia.

vim'i'na (twigg). See G. neotropa vime'na.

vino'sa (wine-colored-flowered). See G. neotropa amé-

na.

Whitney's (Whitney's). See G. neotropa Whitney.

GODOYA. (Named after E. Godoy, whose Spanish title was the Prince of Peace. Nat. ord. Ochnaceae.

Linn. 10-Decandria, 1-Monogynia.)

Stove evergreen shrubs, with yellow flowers. Cuttings of young shoots in a frame, in sand, under a bell-glass, and in heat; sandy loam and a little peat. Summer-temperature, 60° to 85°; winter, 50° to 55°.

G. angushi'to'sa (narrow-leaved). 4. India and Malay. 1823.


1803.


la've'si'ta (smooth-leaved). See G. obtusi-foli'a.

lar'ifi'o'sa (lauré-leaved). 1813.

nig'ritta (glossy-leaved). See G. Guyan'ne'si.


oli'vafo'rmis (olive-shaped). Yellow. Brazil. 1861.


1893.

ze'yla'nicas (Ceylon). See G. angustifolia.

GOMPHOCA'RPUS. (From gomphos, a club, and rapus, a fruit; shape of the seed-pods. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. 5-Pentandria, 2-Di-
gynia. Allied to Asclepias.)

Greenhouse evergreens, from South Africa. Seeds sown in a hotbed in spring. Cuttings of the points of shoots, and better still, small side-shoots, when growth is commencing, in sand, under a bell-glass. Sandy loam and fibrous peat. Summer-temperature, 75° to 85°; winter, 40° to 48°.
pad'o'lius (Paduschale). S. Africa.
phys'o'cramus (buckler-flowered). S. Africa.
sinu'o'sus (Sinal). See G. fruticosus (bristly).

gom'phobium (From gomphos, a club, and lobos, a pod; shape of seed-vessels. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decandria, 1-Monography.) Greenhouse evergreens, from Australia. Cuttings of young shoots, about two inches in length, in sand, under a bell-glass, in April and May; peat and loam in little fibrous pieces, with rubbly charcoal, potsherds, and silver sand; drainage must be well attended to, as saturated soil is their ruin. Winter temp., 40° to 45°. All have yellow flowers, except where otherwise mentioned.

G. adu'num (hooked). May. 1837.
anguis'to'lium (narrow-leaved). May. 1825.
aris'ti'tum (awned). May. 1837.
bar'bi'gerum (bearded-tailed). See G. latifolium.
Drummo'ndi (Drummond's). See G. aristatum.

gau's'cens (milky-green). See G. grandiflorum.
gran'diflor'um (large-flowered). 2. June. 1803.
Hendersonii (Henderson's). August. 1840. This is Burkea Hendersonii.
" Huegelii (Huegel's). 1. May. 1824.
" knight's num (Knight's). 1. August. 1830.
" lana'tum (woolly). See G. tomentosum.
" la'ti'lium (broad-leaved). 2. May. 1803.
" mis'us (less). 11. May. 1824.
" macle'an'um (Maclean's). May. 1823.
" pen'cul'a're (long-flower-stalked). See G. Huegelii.
" pinna'tum (leafed). 1. May. 1820.
" poly'mor'phum (many-formed). 1-14. Purple, red, or yellow. 1803.
" splen'dens (shining). June. 1843.
" ten'de'lium (spurred). See G. pemphroides.
" tetrahe'cotis (Tetrahectis-like). See G. minus.
" tomen'to'sum (flabby). 3. May. 1803.
" ven'u'sum (velvety-leaved). See G. poly'mor'phum.

GOMPHO'RIA. See Gomphos, a club, and lobos, a pod; shape of seed-vessels. Nat. ord. Amaranth [Amaranthaceae]. Linn. 5-Pentandria, 1-Monomogy.) Stove plants. Perennials, by seed and divisions; the shrubby, by seed and cuttings; the annuals and biennials, by seed in a hotbed. The Globe varieties are very useful for ornamental purposes, and have equal care, potting, soil, heat, &c., as the Cockswells.

G. brasili'ens (Brazilian). See Mogophanes strammea. coci's'ne (scarlet). Orange-red. Mexico. 1853.

" obvo's'a (obovate). Rose.

" seri's'e (silky). White. Ecuador. 1820.

GOM'PU'TUS SACCA'RIFER. See Arenga saccharifera.

GONATA'NEUS. (From gona, a knee, and anhos, a flower; the flower spathe is bent. Nat. ord. Araceae.) Fine foliage stove plant. Offsets are freely produced. Fibrous root and loam, with some sharp sand. G. sarma'ne's (trailing). Yellow. Himalayas.

GON'TUS BOVIT'NI. See Zamioxus bovi.nii.


British Guiana. May.
" brava (halted). Yellow, purple. May. Demerara. 1836.
" beyrond'ia (Beyronditian). Pale yellow, purple. spotted. Colombia. 1906.
" ma'ja (larger). Purple, white. May. Brazil. 1842.
\" leucoc'ha (leucoc'ma) (white-lipped). Yellow, white. May. Brazil. 1842.
la'vonia (lavonite). Yellow. June.
" sinea'icus (Sinal). See G. fruticosus (bristly).
" vici'lia (yolk-of-egg). Yellow. May.
" cassia'na (helmeted). Yellow, purple. Guatemala. 1874.
" charles'worthii (Charlesworth's). White, barred with brown-purple. May.
Chorizone (Charizone). Yellow; lip white, spotted with crimson. Colombia. 1877.
flav'o (yellowish). Light ochre-yellow, spotted with brown. 1886.
" galeotta'nia (Galeottian). 1. Yellow, spotted with brown. Mexico. 1866.
" gratulab'unda (congratulating). Yellow, spotted yellow. 1879.
" ro'sea (large). Yellowish, with blackish-purple spots. Ecuador. 1877.
leu'cocha (white-lipped). See G. butonia leucoc'hia.
" fu'igen's (blazing). Guiana. 1837.
" fu'sco (dark brown). Guiana. 1836.
" gr'a'vus (slender). Guiana. 1839.
" gr'e (grey). Demerara. 1836.
" la'eya (yelllow). Guiana. 1835.
" sangu'nes (blood-coloured). Demerara. 1836.
" squa'leus (mean). Guiana. 1837.
" por'tenio'sa (monstrous). Yellow, violet, purple. Ecuador. 1869.
" ro'sea (rosy). Rose-purple; lip citron-yellow. Colombia.
" quirun'que reis (five-nerved). Yellow. Purple. May. 1835.
" sander'ina (Sanderian). Yellow, with rosy spots. Peru.
" so'ch'phorus (skiff-bearing). May.
" si'mi'tis (like). Colombia (?). 1883.
" spec'iosa (Special). See Conananthes specialia.
Mexico. 1842.
" tr'ivis-purp'ura (green-purple). See Circelia lod-i-gesis.
GONIOPHLEBIUM. (From gonia, an angle, and phlebion, a vein; alluding to the veins of the fronds. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. All belong to Polypodium, and will be found under that genus.

Stove Ferns. Division in the spring, as fresh growth is commencing; peat and loam. Summer temp. 60° to 85°; winter, 50° to 55°. *Attenuatum* will do with greenhouse treatment.


di*stans* (distant). N. India, Ceylon, and Java.

*fraxinoisium* (ash-leaved). Colombia, Brazil, and Peru.

glaucophyl*ium* (glaucous-leaved). W. Ind., Colombia, Ecuador.

glauc*um* (glaucous). Philippines.


*harpe*des (scimitar-like). See G. *loricum*.

*inc*um* (hoary). W. Ind. 1840.

*lac*nepas (woolly-footed). N. India. 1879.


*lori* cum (thong-like). Mexico and W. Ind. to Brazil and Chili.

*menis*cotium (Meniscium-leaved). Brazil. 1840.


*philosel*os (Philoselos-like).


*subauri*culatum (subauricled). N. India, Malacass, Philippines.

*triloba*um (three-lebed). Front three-lebed. Florida and Mexico to Brazil.

*vac*inio*sum (billyberry-leaved). Brazil. 1841.

*va*culina*na* (waving). See G. *loricu*um.

*verri*co*sum* (warty). Philippines and Malacass.

GONIOPTERIS. (From gonia, an angle, and pteris, a fern; referring to the leaves. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)

Stove Ferns. Treatment as for Goniophlebiun. The New Zealand and New Holland species will thrive in the greenhouse.


*crena*la (scopod.) 2. Brown, August. Brazil. 1841.


*teitra*go*na* (four-leaved). Brown. W. Ind. 1843.


GONIOSCYPHA. (Derived from gonia, an angle or knot, and skelos, a cup. Nat. ord. Liliaceae.)


GONO CALYX. (From gona, a knee, or angle, and cylyx: in allusion to the angles on the calyx tube. Nat.
**GOODIA**

(Goodia) obtained. Won-
draw; in size (naked).
Nevertheless, Goodyer, some
course (downy).

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GORDONIA

(Gordonia) (N. Amer. “Rattlesnake

Plantain.”

“pubes” (downy).

1820. “Adder’s Violet.”

re’fens (creeping).


seed.” (chequered).

Stove.


Himalaya. 1870.
dawsoni’ana (Dawsonian), See HEMARIAC Dawsoniana.
di’color (two-coloured). See HEMARIAC Discolor.
macer’a nha (large-flowered). Pink. Leaves edged
yellow. Japan. 1867.
macrophyll’a (large-leaved). White. August.

Madeira. 1880.

mu’d’a (naked). Whitish, light brown. Mascarene.

Islands. 1902.

orla’sa (Orlean). Leaves with arching veins.

Philippines.


182.

reticul’a (netted). Java.

rodigias’a na (Rodigasian). Leaves velvety, with


rubicu’nda (red-flowered).

Cinnamon. July.

Manilla. 1856.

vul’ta (velvety).

Pink. Leaves with white midrib.

Japan. 1867.

GOOSEBERRY. Riche Goose-Grassia。

VARIETIES.—General Deserts Kinds.—Champagne, r.

and y: Early Green Hairy, g.; Golden Drop, y.;

Golden Gem, y.; Pitmaston Greengage, g.; Warrington, or

York; Champion, r.; Masterly, y.; Whitewash, w.;

Glenent Green, g.; Whitewash, g.; Early Sulphur, y.;

Green Walnut, g.; Langley Gage, w.; Rumbullion, y.;

Whinham’s Industry, r. Late Dessert Kinds (for Retarding on Trellises) —

Warrington, r.; Pitmaston Greengage, g.; Cole’s Late

Red, r.; the Champions, r. and y. Bottling.—Rumbullion, y.

Preserving.—Rough Red, Warrington, Champagne. Champagne

Kinds (Vegetable),—Prince Regent, r.; Wonderful, r.;

Roaring Lion, r.; Top Sawyer, r.; Rock-

wood, y.; No Bribery, y.; Sovereign, y.; Wellington’s

Glory, y.; Queen Charlotte, w.; Greenwood, g.;

Glenent Green, g.;

Large Kinds for Exhibition.—Conquering Hero, r.

Dan’s Mistake, r.; London, r.; Speedwell, r.; Diamond,

y.; Candidate, y.; Leveiller, y.; Leviathan, y.;

Telegraph, g.; Matchless, g.; Thumper, g.; General,

g.; Antagonist, w.; Snowdrop, w.; Freedom, w.;

King of Trumps, w.

The letters r., g., w., refer to the colours, red,
yellow, and white. 

Propagation: by Cuttings.—Large, straight, and healthy young
shoots should be procured at the end of autumn, and
these may be shortened to about fifteen inches in length.

Juncus and sedges, if the shoots are cut off before the first
quarter of August, may be used for this purpose.

All the eyes or buds must be cut out, except the four top
ones, in order to prevent the plant from
toppling and producing suckers. These should be planted in
any ordinary garden-soil, in a light situation, but not too
sunny. Plant about four inches deep, and keep them
tolerably moist during spring and early summer, but
waterings of young growing shoots, also, strike readily under

Layering is performed as with other deciduous shrubs; if in
the autumn, after the leaves have fallen, then the shoots
for the same reasons; if in the young shoots, when
they have acquired some strength, about the beginning of

July.

Seed.—This is the source whence new varieties may
be obtained. The seed being washed out of the pulp
when ripe, may be sown immediately; and in the
ensuing spring, if the plants can be early subjected to a
slight degree of frost, the seedlings should be thinned
in the first summer, and may, with good management,
be brought to bear, some in the second year, and all in
the third.

Soil.—A deep, sandy loam is best adapted to the
gooseberry. Any free garden-soil, of average quality,
will produce them in tolerable perfection, if well manured,
and, above all things, freed from excess of moisture.
Gooseberries will never thrive in a stony soil; they
will become hide-bound speedily, and their stems covered
with moss. Nevertheless, they are very partial to a
permanency of surface moisture in the growing season,
and for that purpose top-dressings are had recourse to.
When gooseberries are required, the soil must be
thoroughly moist; the soil must be quite weak; and the
in the beginning of May; and just before the fruit
has completed its last swelling, the points of all the longest
straggling shoots may be pinched or rubbed. It is well
to go over the bushes in the early part of June, and
remove much of the waste spray which chokes the
interior of the bush. Some of the grosser shoots may
be entirely removed, and all others of a doubtful character
may have the points pinched. This will throw both size
and flavour into the berry, and add to the value of the
remaining wood for the ensuing crop.

Culture in the Rest Period.—Pruning is the first point;
and the sooner this is performed after the fall of the leaf
the better. The young wood, mainly to thinning out.

If a bush is well thinned, no two shoots will touch; indeed,
they should be, on an average, three inches apart all
over the bush. Most good cultivators keep the middle
of the bush open, or free from vegetation, thus giving
the bush a chance to get out of the first three years from striking the cutting;
and the principle should be attended to, less or more,
at every annual pruning afterwards. In selecting wood
to remain, choose that which is strong, but not over
luxuriant; the latter, with all weakly and inferior wood,
may be cut clear away; cutting away also, all coarse
snags in the interior of the branches. Lastly, shorten
every point which appears weakly or incomplete in char-
acter, but also leave such points which are vigorous.
The root must now receive attention. Some of our show
gooseberry growers open a trench around their bushes
annually, at about the distance the branches extend,
cutting away all coarse roots beyond that line. These
then fill in the trench with good fresh loam and cow-dung
blended. Whether this be done or not, a top-dressing
of half-decayed manure should be annually applied, scraping
away the surface of the ground at the same time, and
placing the manure next the top fibres, and then soiling the whole over.

Insects.—See ARBAXUS, APHIS, and NEMATUS.

GORDONIA. (Named after Mr. Gordon, a London
16-Monadelphus, 8-Polyandria. Allied to Sturtia.)

Hardy deciduous shrubs, except Hamato’sylon, which is a
soft-leaved species, and Hamato’sylvester, which
young shoots in sand, under a bell-glass, in heat.
The others, though hardy, flowering late, are ornamentals
for
the greenhouse; layers in autumn, seeds in spring, and cuttings in sandy peat, under a hand-light, in summer, in a shady place. Pubescent and Franklinii are the hardest; but lasia nihus is the most beautiful, and blooms chiefly in spring and autumn. Peat, leaf-mould, and sand, with a trifle of loam, deep, and on a retentive sub-soil; if not naturally so, puddle with clay, so that the plant may obtain something of its natural parent soil.


GORTERIA. (Named after D. Gorter, a Dutch botanist. Nat. ord. Compositae [Compositae]. Linn. 16-Syngegnesia, 3-Frustranias. Allied to GAZANIA.)

Greenhouse annual. Seed in light soil in the greenhouse, in March; or in the open border at the beginning of May.

G. acutis (stemless). See HAPLOCARPHA LEXILITINIA. "asteroides (Aster-like). See BERKHEYA FRUITCOSA.


GOSSY PIUM. Cotton-tree. (From goss, Arabic for a soft substance. Nat. ord. Malvaceae [Malvaceae]. Linn. 16-Monadelphus, 4-Polyandria.)

The commerce of commerce is the hairy covering of the seeds of this genus. Barbadésine and herba ceum, especially the former, furnish the best cotton. Stove plants. Annuals and biennials, by seed in moist heat, in spring; perennial herbaceous, by seed and divisions, in similar circumstances; shrubs, by cuttings of young shoots, just getting firm, in sandy soil, under a bell-glass, and in bottom-heat; rich, sandy loam. Summer temp., 60° to 85°; winter, 50° to 60°.


Come sii (Comes's). Yellow, blood-red blooth. 1887.

Davidsonii (Davidson's). Yellow. S. United States. 1900.


indicium (Indian). See G. HERBACEUM.


mari-temum (maritime). See G. BARBADENSE.


GOUANIA. (Named after A. Gouan, once professor of botany at Montpellier. Nat. ord. Rhamnae [Rhamnae]. Linn. 25-Polygama, 2-Didacia. Allied to Trymalmum.)

Evergreen stow climbers. Cuttings of half-ripened shoots in sand, under a bell-glass, in bottom-heat; fibrous peat and sandy loam. Summer temp., 60° to 80°; winter, 50° to 60°.

G. cordifolia (heart-leaved). See RESSIECKA SMILACINA.


GOURD. Cucurbita.


Stove terrestrial orchids. Divisions of the plant; peat and loam, with a little charcoal and silver sand. Summer temp., 60° to 85°; winter, 50° to 55°.

G. andreux (Andrieux's). Yellow, white. Mexico. 1853.

delicio sa (delicious). White, purple. Mexico. 1884.


GRABOWSKA. (Commemorative of H. Grabowski, a botanist of Silesia. Nat. ord. Solanaceae.)


GRADE'RIA. (Nat. ord. Scrophulariaceae.)


GRÆLISIA. (A commemorative name. Nat. ord. Cruciferae [Cruciferae]. Linn. 15-Tetradynamia. Allied to Cochlearia.)

Hardy herbaceous plant, suited for rock-work; common, sandy soil; division, and cuttings under a hand-light. Hardy shrubs in sun and autumn. Garden shrub.


GRAFF, or GRAFT. This, also called the scion, is the portion of a branch selected to be inserted or grafted upon a stock or rooted stem, to form the head of the future plant. See GRAFTING and STOCK.

GRAFTING is uniting a scion of one plant to the root, branch, or stem of another. The scion and stock must be of nearly related species.

The objects of grafting are — (1) To increase choice kinds. (2) To increase the vigour of delicate kinds. (3) To reduce the vigour of those which are too gross. (4) To increase the period of fruiting. (5) To adapt kinds to soils for which they would be unfitted on their own roots. (6) To renovate old kinds.

We now proceed to give descriptions, illustrative of all the modes which are usual in general horticulture: —

1. Whip Grafting, called also Spices and Tongue Grafting.—This is the most common mode, and is that almost universally adopted in our nurseries; and when the stock and scion are equal in size, is perhaps the handiest. The head of the scion is pruned off at the desired height, and then a slip of bark and wood removed at the upper portion of the stock, with a very clean cut, to fit exactly with a corresponding cut which must be made in the scion. A very small amount of wood must be cut away, and the surface made quite smooth. Care must be taken that no dirt be upon the cuts in this, and, indeed, in all the other modes. The scion must now be prepared. This should have at least three or
four buds, one of which should, where possible, be at the lower end, to assist in uniting it to the stock. A sloping cut must now be made in the scion; this cut must correspond with that on the stock, and a slit should be taken back from the stock when heading it. This slit serves to maintain the scion steadily in its place until properly fastened, and is more a matter of convenience than anything else. Care must be taken that the stock is not cut too far back, for it is not the old or existing portion of wood that forms the union, but a tissue which has been produced, just as when the sides of a wound have to be reunited. This process is adapted for closing the bottom of the scion, and the inner bark; and the substance which forms the union, and which is secreted by the returning sap, is termed cambium. Where the stock and scion disagree in point of size, the smaller cut should be made. The cleft or slit should be taken in this part of the operation; and, in the case of a young scion on an old tree, some allowance must be made for the ruggedness of the bark. The scion being thus adjusted, the whole bark is bound closely, but not too tightly, with a shred of bass mat, care being taken that the inner barks coincide. The clay is now applied. In order to keep the parts moist, and some practitioners moisten over for a graft, after grafting ensure that the ground. In all the modes of grafting it may here be observed, that the chief ground of success lies in nicely fitting together some corresponding portions of the inner bark.

2. Crown, called also Cleft or Wedge Grafting.—This is applied to various plants as well as fruits, as, for instance, the rose, cactuses, &c. Vines, also, are frequently grafted by this mode. As in whip grafting, it is made at the top, on one side only at least; for it is not the old or existing portion of wood that forms the union, but a tissue which has been produced, just as when the sides of a wound have to be reunited. This process is adapted for closing the bottom of the scion, and the inner bark; and the substance which forms the union, and which is secreted by the returning sap, is termed cambium. Where the stock and scion disagree in point of size, the smaller cut should be made. The cleft or slit should be taken in this part of the operation; and, in the case of a young scion on an old tree, some allowance must be made for the ruggedness of the bark. The scion being thus adjusted, the whole bark is bound closely, but not too tightly, with a shred of bass mat, care being taken that the inner barks coincide. The clay is now applied. In order to keep the parts moist, and some practitioners moisten over for a graft, after grafting ensure that the ground. In all the modes of grafting it may here be observed, that the chief ground of success lies in nicely fitting together some corresponding portions of the inner bark.

3. Side Grafting.—This, in general, is performed on trees on which the top is required to remain, and is best adapted for the insertion of new kinds of pears, or other fruits, on established trees. The scion has only to be inserted in a slight cleft in the stock, and a scion made to fit it. A slit is then made at the top of the cut, with a tongue on the scion to insert in the slit, and the graft is bound in the usual way.

5. Root Grafting.—So as to save the added expense of the scion, it is sometimes grafted on the roots at the same time. Another mode of grafting, indeed, is to form a greater expansion of cambium at the junction. It is also adapted to furnish naked portions of old shoots. It is, however, not so safe a mode as some of the others. Little description is necessary for this operation: a scion is taken, a cleft is cut in the stock, and a scion made to fit it. The scion must be of the exact size of the stock; bore a hole into the centre of the stock, one and a half inch deep, and the scion must be of the size to fit it; the edges of the barks must be very smooth and fit exactly.

General Observations.—For ordinary garden purposes, we think the whip, the cleft, the saddle, and the crown, the most eligible, and the others mainly for large trees, for which we shall only make this extract relative to it: "The scion must be of the exact size of the stock; bore a hole into the centre of the stock, one and a half inch deep, and introduce the scion so as to fit; the edges of the barks must be very smooth and fit exactly.

1. The scions of deciduous trees should be taken from the parent tree some weeks before the grafting season, and "heeled" (the lower ends put into the soil) in a garden or a shady place. This causes the scion to thrive, and to be a little in advance of the graft, as to the rising of the sap, a condition admitted on all hands to be essential.

2. Let all the processes be performed with a very clean, keenly sharp knife, taking care that nothing, such as dirt or chips, gets between the scion and the stock.

3. The bud of the scion must be cut off at the stem end. When they are cut off, they should be made to fit close together, and to be bound with cotton; the twigs should be kept moist. In selecting grafts be careful in choosing the wood, avoiding, on the one hand, exhausted or bad-barkecl scions, and, on the other, the immature, watery spray which frequently springs from the old trunks of exhausted or diseased trees.

Grafting Clay, to make.—Take some strong and adhesive loam, approaching to a clayey character, and beat and mix it with clay, and a little lime, and he single the clay in a little water, and mix with it some horse-droppings, and rub them through a riddle, of half-inch mesh, until thoroughly divided. Get some cow-manure (the fresher the better), and mix about equal parts of the three, kneading and mixing them until perfectly well done; then add a little road-scarpings to the mass. A vessel with very finely riddled ashes must be kept by the side of the grafted, and after the clay is closed round the scion the ashes are thrown into the vessel, which is always kept at hand in case of eruption. A person who applies the clay to close the hole with a perfect finish. It must be so closed as that no air can possibly enter; and it is well to go over the whole in the case of trees, when open on the soil, and, when, if any have rife or cracked, they may be closed.

Grafting Wax.—The following recipe has been recommended by a first-rate authority:—Take common sealing-wax, any colour but green, one part; mutton fat, one part; white wax, one part; and honey, one-eighth part.

The stock, and down the opposite side, a slight cutting having been made to receive it, on the principle of making corresponding parts meet. This, though tedious, is the most sure, and the best mode of grafting, indeed, causes a greater expansion of cambium at the junction.
The white wax and the fat are to be first melted, and then the sealing-wax is to be added gradually, in small pieces, the mixture being kept constantly stirred; and, lastly, the money must be put in just before taking it off the fire. It should be poured hot into paper or tin moulds, to preserve for use as wanted, and be kept slightly stirred till it begins to harden.

GRAINS OF PARADISE. The pungent seeds of *Amo num Malagui la*.

**GRAMMA'NGIS.** (From *gramma*, a letter or writing; *anhos*, a flower; *markings* like *V* being on the corolla. Nat. ord. Orchidaceae.)

Stove Orchids allied to Grammatophyllum. Divisions. Pots or baskets, well drained and filled with fibrous peat and sphagnum, or more rarely, in the case of *G. edulis* (Ellis's) 1. Sepals yellow, blotched brown; petals and lip nearly white. Madagascar.

" *daya-num* (Dayan). Yellow, without markings. 1850.

*Huitii ni* (Hutton's). See *Cymbidiunm Huttonii*.

**GRAMMATOPHYLLUM.** (From *grammate*, a letter, and *carpos*, a fruit; the fruits being marked. Nat. ord. Loasaceae.)

Half-hardy, twining annual. Seeds in a gentle heat in March, planting out the seedlings in May.


**GRAMMATOPHYLLUM.** (From *grammate*, letters, and *phullon*, a leaf; referring to the markings on the leaves. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gyndanria, 1-Monandria. Allied to Brassia.)

Stove orchids. Divisions; basket well raised in it, and packed with sphagnum and fibrous peat. Summer temp., 65° to 90°; winter, 50° to 55°.


*Ettisia* (Ellis). See *Grammangis Ellishius*.


*Guttii'lei II* (William II). See *G. rumphianum*.

*measuresia'num* (Measuresian). See *G. rumphianum*.


*rumpn'ia num* (Rumphian). 4-5. Yellow, blotched with brown. Moluccas.

*scrip'tum* (written). Yellow, marked with brown. Moluccas.

*seegeri-num* (Seegerian). See *G. rumphianum*.


**GRAMMATIS.** (From *gramme*, lettering; in reference to the space-cases, or seed apparatus. Nat. ord. Farns [Filices]. Linn. 24-Cryptogamia, 1-Filices. Some are referred to Polypondium, others to Gymnogamme.)

ClassNotFoundExceptions of Farns, with brownish-yellow spores. Division; petal and loam. Summer temp., 60° to 80°; winter, 50° to 58°.


*dongi'al* (elongated). July. W. India. 1824.


**GRANDILLA.** This is a name sometimes given to several species of the Passiøflora; but one only is the *Passiøflora edulis*. This unhappy plant, or *P. edulis* also produces edible fruit, and may be similarly cultivated. We are aware that there are other species of Passiflora, the fruits of which are eatable, such as the *P. maliformis*, or sweet calabash; *P. lapi'综艺节目*, the laurel-leaved or water-lemon; and *P. inoa'na*, or the flesh-coloured, &c.

**Propagation.** They are nearly all readily propagated by seeds; but most cultivators who grow them for table purposes prefer first taking cuttings from the shoots, like most of the Cucurbitaceous group, to which they approximate, they are apt to run much to bine if raised from seed. Plants from cuttings grow more moderately, especially in the heat of the greenhouse. See *Seegarian* (yellow-flowered). Two years old; but cuttings struck very early in the spring, and highly cultivated, will fruit the same autumn, but not produce a full crop.

**Culture in Green House.** A *P. quadrangula* requires a greater heat than *P. edulis*; in fact, a heat equal or higher than the Pine stove; whilst *P. edulis* will succeed well in any ordinary vineyard. Bottom-heat is most essential, especially in the male flowers of this, and a generous soil, consists the chief secret of successful culture. No place can exceed the corner of the bed for the culture of either, provided they can ramble freely overhead, unobstructed by vines or other plants. The shade of the *P. quadrangula* does not so soon crowd itself with spray; nevertheless, it will at times require thinning out. Liberal waterings must be given, and it must be remembered that the roots will extend through the pigeons' holes into the bed, and will principally follow the sides of the pit walls. The most important matter, however, is the artificial impregnation of the blossoms; for they seldom self-fertilise. *P. quadrangula* is Mr. Apleby's idea of *P. quadrangula*—The whole of the calyx, corolla, and crown must be cut off with a sharp pair of pointed scissors; and this must be done without injuring the flower-stem. When all these are done, they may only look as if the blossom is about to burst; the anthers, which extends from the flower; the stamens, live in number, and the three stigmas. Then cut off one or more of the stamens bearing the anthers; and do this without shaving the dust from them. If all three stamens is cut off, and with the anther, covering them with the fertilising powder. Take an opportunity of performing this operation early in the morning, at the very time when the anthers are observed to be in bud. So far Mr. Appleby is, doubtless, right as concerns the *P. quadrangula*, which has an exceedingly succulent calyx, and other appendages; but we never took any further pains with the flowers, but to look over the plants every day about noon; and whatever blossoms might be out, to pluck one of the anthers from it, and touch the face of the stigmas with it. By these means they generally become fertilised.

**Culture in Rest Period.** As soon as the bearing season is over, towards October, the plants will sink to rest, and this may be facilitated by withholding water entirely. They will now become partially deciduous, and this will continue until the beginning of February. In February they may be pruned, cutting back all spongy and immature growths.

**Fruit.** It is used in the dessert, and is capable of being preserved for a fortnight or so in a fruit-room, or other place, if perfectly dry.

**Insects.** We have known the Red Spider to attack the *P. quadrangula*. For remedy, see *Acarus*.

**GRANGERIA.** (Named from N. Granger, a traveller in Egypt and Persia. Nat. ord. Caryaobulans (Rosaceae). Linn. 11-Dodecanadia, 1-Monogynia.)
Stove evergreen tree. Cuttings of ripe shoots in sandy soil, in heat, under a glass, in loam. Summer temp. of 55° to 60°.


GRAPE HYACINTH. Muso'ri.

GRAPE PEAR. Melo'me'nier canad'ais.

GRAPE VINE. Vi's i vin' i era.


As superior kinds for a pretty good climate and aspect, we recommend Nos. 2, 4, 6, 8, 10, 11; as kinds for inferior aspects, Nos. 2, 6, 10, 14.

For Greenhouse.—1. Black Hamburg. 2. Foster's Seedling. 3. Black Prince. 4. West's St. Peter's. 5. Royal Muscadine. 6. Dutch Sweet Water. 7. Chasselas Musqué. 8. Esperione. Of these, Nos. 1, 2, 3, 5, 6 are the most to be relied on.

For Stone.—1. Muscat of Alexandria. 2. Cannon Hall Muscat. 3. White Frontignan. 4. Black Frontignan. 5. Lady Downe's. 6. Riesling. 7. Black Prince. 8. Clove. 9. Muscadine. 10. Foster's Seedling. 11. Madresfield Court. 12. Royal Muscadine. Of these, Nos. 1 to 8 inclusive are varieties of ordinary excellence. N°. 9 is a native, hardy, heat, Nos. 1, 2, 3, 5, 6, 7, 8 are late grapes that hang long and keep well. Nos. 9, 10, 11, 12 are early grapes, and well adapted for forcing.

Propagation.—Layering has almost fallen into disuse; it may be preferable to cut from eyes or single buds having superseded it. Layers will root either from the growing shoot, or from young wood layered in a state of rest. The latter operation is performed any time from November to the beginning of March, the layering being generally above ground. Most of the Vines, in former days, were raised in this way; the nurserymen having old plants, or stocks for the purpose, around which the shoots were layered in pots or boxes. The cambium, which is the tissue the plants between the annual layers at the bottom. Layering of the growing shoot is a more delicate procedure, and it is well to introduce a portion of the previous year's wood where possible.

Cuttings are best made from shoots in the rest state, and may either be made short or long. Speciely recommends two inches of the two year old, and one bud or eye of the new. These were inserted perpendicularly in moistened peat or peat and loam. The plants, however, strike root from thick shoots, of three or four years old, of a greater length, and these may, if necessary, be planted at once in the border; or if in pots, deep otherwise, the shoots may be sown bent. In all these cases, the cutting must be buried nearly their whole length beneath the surface. Bottom-heat will facilitate speedy rooting.

Eyes.—This is the most approved plan, for the plant thus approaches nearest to a seedling state. These are generally planted in pots, a single eye in each, at the end of January, and plunged in a bottom-heat of from 70° to 80°. Prunings are reserved for this purpose in the autumn, and these being cut in convenient lengths, are imbedded in moist soil until winter. About half an inch of wood may be reserved above the eye, cutting it sloping away from the bud, and about an inch or so below that, cut quite straight. This must be carried out, opened singly in five-inch pots, may be plunged in a bottom-heat of from 70° to 80°, and care must be taken that the worms do not get into the soil. When grown only a foot in height, they should be re-potted into pots of about seven inches diameter, using a rich, turfy soil, and draining thoroughly. Many good gardeners practice a portion of the two year old wood at the base of the eye, and there can be little doubt that it is good practice.

Coils.—Obtain prunings from healthy and fruitful vines on the rod system; these prunings should be from twenty to twenty-five feet. Such being plunged in a bottom-heat of from 70° to 80° on the surface, and covering them with a couple of inches of peat, ranging from 50° to 60°, have a tendency to produce roots before shoots; and this is the object sought. Fruit-pots of fifteen to twenty inches in diameter should be used, and a compost of turfy loam and half-rotten manure, lime-rubbish, or sand; and any of all these added in the proportion of a sixth of the mass, in order to insure the free passage of moisture. Thorough drainage being secured, the entire pot is pushed down against the bottom of the pot, and the roots immediately driven through a layer of gravel as the bottom of the bed, and the pot filled with the compost, and careful watering, a judicious control of temperature, and the amount of atmospheric warmth as the leaves unfold, together with the usual routine of stopping, thinning the branches, &c., as applied to established vines, must be carried out. The turfy compost is used in as the coiling proceeds.

Grafting is not often practised. As in most other cases of grafting, the stock should be slightly in advance of the scion in height, and the cutting or shoot be inserted in a few large leaves before the operation is practised. Then the usual whip grafting is the best plan. A couple of eyes on the graft are sufficient. It is good practice to bind moss round the whole shoots at last, and then shading the buds of the scion for awhile. The moss may be moistened daily.

Inarching.—This may be performed with either the growing shoot or shoot the following season, by establishing in a pot the kind to be introduced must be procured. With regard to inarching in a rest state, it is proper that the sap should be in motion at the period of operation. The sap, however, not being in motion in grading, be slightly in advance of the scion. Vines which are breaking are in an eligible state, and the kind to be inarched may be just emerging from a rest state. Without previous arching, the pot must be so fixed as that no slipping can occur and that the shoot may be readily bent to meet the parent plant. Nothing is necessary but to pare a thin slice of bark with a little of the wood from the facings of the scion and stock, and bringing them together, they may be tied with a mossy or tarlatan r.Abs, but it is an operation that requires nice handling. The shoot of the stock is best at about the middle of its annual growth, when it has begun to acquire some solidity and round the whole shoots at last, and then shading the buds of the scion for awhile. The moss may be moistened daily.

Seed.—Perfectly ripe grapes of the kinds intended to be propagated from should be pressed, the seeds washed and thoroughly dried, and then secured, like other seeds, until the following February. They may then be sown in well-drained pots, in a light, rich soil, rather sandy, and plunged in a bottom-heat of from 70° to 80°. In about a month they will vegetate; the seedlings may be struck and transferred to pots of the size of plants from eyes, continuing bottom-warmth until Midsummer. Then, prunings (unstopped) fully to the light in a warm situation. They may in, the autumn, be cut back to three buds, and grown through the following summer as before, when once prunings back in the autumn. In about four years they will fruit on their own roots; but, perhaps, a year will be gained by inarching them near the extremity of a sound and fruitful old vine.

Vine.—A perfect vineyard is a mass of vines, and thoroughly drained soil. An ordinary sandy loam is the best staple; but almost any common garden-soil will suit, if it is capable of receiving and transmitting moisture with facility, and has been well manured. Whether the soil be mellow, or, but we would rather grant them extra width, especially if the situation is not particularly favourable. Whether borders, or, what are
...and they are the be little may be submitted. GRAPE VINE. 396 GRAPE VINE...much more economical, stations, are made, we would first thoroughly drain the site, and then place some imperishable material, as stone, brick, or clinkers rammed close beneath them, leaving only half a yard of soil in depth, unless the roots are securely limited in width. This done, the long, long rows, will greatly depend on practical accuracy, and accordingly, as sand or clay predominate, so must be the amount and character of the correcting material. If destitute of organic matter or turf, it is well to use good clean ashes, or the remains of a wood fire, such as fresh manure, and abundance of rotten weeds, leaves, &c., indeed anything of a decaying vegetable kind; remembering that a good portion must be such as can be used, or, if not, grown and used with profit. Some coarse bone-manure and rubble charcoal will be a capital addition; and a good deal of charcoal rubbish or brush-wood. If the situation is cool and damp, place half the volume of this material above the ordinary ground level.

Planting.—The end of March is the most eligible time; and strong plants being at hand, if in pots, let the soil be shaken away gently, and every root be carefully uncoiled, and spread out, like a tree fan-trained, and place a little superior compost about the roots, covering the surface with three inches of coarse charred charcoal. This will absorb a great amount of heat from the sun, and keep the surface cool. When the plants have grown, they must be carefully trained, and no stopping practised the first season. In the autumn, however, they must be pruned back to three or four eyes; and in the spring to either eight or ten inches, exactly as the character of the space they are to occupy, whether on a building or a wall.

Vine Culture during the Rest Period.—Pruning is a first consideration, and this is done soon after the fall of the leaf. Many conflicting practices as to out-door culture have competed for the palm of victory here, even as with indoor vines; but it is probably best not to embrace the extremes. It is certain that it is done by too severe rules. One safe maxim is, that no two of the principal leaves should so overlap each other as to obstruct the solar light. From about eight to ten inches, therefore, at least may be given between each of the growing shoots. This, then, will be a guide as to the distance at which the shoots should be trained. As for root culture at this period, nothing will be needed but to preserve the surface free from the spades, which but too apt to approach too close to those on kitchen-garden walls. When vines become somewhat exhausted with much bearing, top-dressings of good soil and manure become requisite.

Out-door Culture during Growth.—We must here be brief, for the main principles will be found somewhat identical with those connected with indoor culture. All surplus shooty young spray must be thinned away, and the bearing shoots must be trained. This is done in the spring. Where, however, there is wailing to be filled, the dresser may leave several eyes or buds beyond the bunch. In due time the bunches must be thinned; one to a square foot of wall will, in general, suffice. The berries, too, must be thinned out at the proper period, and a frequent stopping of the lateral shoots practised, never suffering them to shade the principal leaves. Towards the beginning of September, all the stopped laterals may be entirely removed, in order to permit a free circulation of air, and allow the sun to heat the wall; protection, also, must be afforded to the bunches against wasps, flies, &c. Therefore, at least, must be given between each of the shoots of the soil requisite for the vine, we have little to report on the subject of border-making, which must, however, be at all times considered the most important point in the subject. If the walls are of stone or brick, it is most necessary for indoor vines, inasmuch as a greater demand exists at times on their vital powers through the powerful effects of solar light beneath glass; as also owing to a greater asphyxiation of the atmosphere. The first point is to elevate the border above the fruit level in proportion to the lowness, coldness, or dampness of the situation. Thorough drainage we have before pointed out; but never too much if the soil be of proper texture. As to soil, it is hard to say; but as to sand, should form nearly one-half the volume of soil. This may be added one quarter part of coarse manure, leaf-mould, &c., rather raw than otherwise; and the other quarters, part of rubble and imperishable materials, such as lump charcoal, old plaster, or the rubble of old buildings, coarse bone-manure, &c. All these well blended, and filled in when dry, will produce a first-rate compost, taking care to place a layer of turf at the bottom.

Course of Culture.—Whatever combination exists as to a greenhouse vineyard, whether it be for vines alone or used in conjunction for pot-plants, an uniform system should be pursued as to the vines, both during the growing and the resting period. During the growing period, the practice of stopping, or the removal of the suckers, must be made, as in the regular pruning, dressing of the wood, in order to the extirpation of all insects, and the usual vine-dressing, during the growing period, the latter being, disbudding, stopping, thinning the berry, and training—principles applicable, of course, to the individual situations, &c., &c., &c.

Stove Culture.—Vines in stoves are generally combined with pine culture, and the excitement by heat is therefore at times considerable. In former days it was supposed that vines must be turned outside the border, or frozen, in order to restore their energies; but abundant proofs exist that from 50° to 55° may be submitted to, in extreme cases, during the rest season. Whatever culture is combined with that of the vines, it is best to confine these to the rafters on the spurting system. For early forcing, and where the house is specially devoted to vines, it is another affair: here either the long-corded system in a single row, or the double Genius, are the best. The advice is to repeat advice as to border-making, and the usual routine of disbudding, stopping, thinning the berry, and the frequent pinching of the laterals. One remark may be made, that the interior arrangement in this system, and the interior arrangement will permit, and the front wall on arches. When at rest, we would not allow the thermometer to sink below 35°.

Vine Pot is a mode of culture only to be recommended as to late vineries, and where the possessor, not desiring to build a house for early forcing, yet desires to have a few early grapes. The plants should be reared from eyes, and receive very high culture, and the loam and sand soil should be made of as fine a proportion, as possible, can be obtained, and made up of sandy loam, and in high perfection for forcing. They must receive liberal shifts when they need re-potting, and their shoots be constantly trained in a very light situation. The young shoots, at the end of the first season, will require pruning back to two buds, from which one may, during their progress, be carefully trained, and the other removed. When the cane has grown about five feet in length, during the second season, it is wise to stop it, in order to strengthen the lower leaves, on the healthy action of which the future crop depends. The leader, however, which succeeds, may be laid in full length, the top, not the light; but the laterals which spring from the sides must all be cut back, leaving but only, and this pinching must be continued all through the season, when necessary. In the second autumn they will be strong canes, with remarkably plump buds; and these, in the manner here described, will be permitted back to some five or six eyes, according to the wish of the cultivator. Having received their final shift into pots of about fifteen inches in diameter in the preceding June, they will require nothing but a rich top-dressing. They enjoy a bottom-heat of 70° to 80°; but they may be made to succeed on the kerb-stones or back shelves of the stove, away from cold draughts, and near the flues or piping. Liquid manure must be liberally supplied, and the same course of culture as to disbudding, stopping, thinning the berry, and training, pursued as with the rafter vines. A rich, turfy loam must be used, and this compost is made of the material in the garden, decomposed manure, will be found excellent, adding some charcoal and a little lime-rubbish. The turfy loam should be nearly a year old, and must be well chopp'd with the spade, not sifted. The pots must be most carefully filled, so as to allow no air to be admitted, and the rooting over the top of the pot. The roots must be placed in a cold soil, or are vegetating in an outside border, the temperature of which is too low compared with that of the stove. In the first case, thorough
draining and the incorporation of calcareous rubbish, and in the second case, protection to the border and stem, will remove the evil. If the sap be not duly elaborated, it must arise, either separately or conjointly, from the leaves vegetating in an aqueous atmosphere, or from their being too reduced in number.

If the roots of the vines are found to have penetrated the soil deeply, they should be lifted very carefully, because they may be broken into two or three pieces about nine inches beneath the surface. If drainage of the border has been neglected, let it be put right at the same time. If the loss of the crop which would be occasioned by the lifting of the vines would be inconvenient, only one or two can so be treated in successive autumns. The most injurious time for an unnatural disparity of temperature in the air and soil to occur is at night; for, as was just said, the last of high temperature during the night, is that it exhausts the excitability of the tree much more rapidly than it promotes the growth or accelerates the ripening of the fruit, which is, in consequence, ill supplied with the soil and ripening of its ripening, when most nutrition is probably wanted. The Muscat of Alexandria, and other late grapes, are, owing to this cause, often seen to wither upon the bunch in a very imperfect manner. A beneficial and in proportion, and flavour in other forced fruit is often attributable to the same cause. The Frontignans are among the varieties apt to shrivel under great disparity of temperature between day and night.

Somewhat allied in its causes to shrivelling is that unsightly imperfection where the berries do not come to maturity at the point of the bunches, leaving from five to ten per cent. of berries on the vine not ripe enough, or of such bunch are fine and large. In such case the remedies are to give more heat and air, keeping the border warmer than before, and to avoid cold damps in the house or on the vine. This is also attended to when the leaves removed must be by little at a time. In thinning, clip off a few berries at the lower extremity of the bunch; the rest will swell better.

Shanking is an ulceration, or gangrene, occurring in the footstalks and branches of the bunches, and sometimes is appointed to occur, like shrivelling, by the temperature of the soil being too much below that in which the branches are vegetating; and, consequently, the supply of sap to the grapes is much diminished. The causes which thus fail of support immediately begin to decay. This is an effect always the consequence of a diminished supply of sap, apparent either in the leaves, flower, or fruit. The disease, like every other putrefaction, does not advance rapidly unless there be much moisture in the atmosphere.

The coldness of the soil causes the congestion in the action of the leaf, producing the appearance of a cold temperature when the greatest demand is made upon it to sustain the excessive transpiration which is going on in the leaf, and to furnish fresh material for elaboration, to both which it is quite inadequate, owing to the drenching rains. If the young fibre be examined at such inclement periods, it will be found somewhat discoloured, and, in some cases, quite rotten. Shanking, we conceive, is generally caused by a disagreement in temperature between the root and top, independent, in the main, of the question of moisture. It generally occurs with vines which have been somewhat forced; seldom on open walls—seldom with vines forced in pots or tubs, especially when placed in the sun, or in a congenital relative temperature to the roots and foliage.

Rust comes upon the berries in the form of a rough, rusty appearance of their skins, which have, in fact, become vitiated in an unreadable state. The cause is a congenital relative temperature to the roots and foliage. Sometimes, that the cold nights of autumn hasten maturity in many crops; and this is undoubtedly a fact, and traceable, we presume, to a cessation of the growing principle, causing thereby a concentration of the organ of the plant. We would say, therefore, beware of too high a temperature during the colouring process, unless accompanied with much solar light, and even then avoid extremes. We would more especially avoid night heat at this period, and would promote a circulation of air night and day.

Bleeding.—This only occurs to the vines from the unhealed surfaces of cuts made after the sap has commenced its movement; and of the most fatal injury which can be done. A red-hot iron, applied to the bleeding surface until it be charred, will stop the effusion of sap for a time, if not permanently; and to effect a complete stoppage at once, coat the charred surface with a mixture of a large paste made of lime newly burnt and grease. This hardens and forms an effectual plaster.

Mr. Knight’s plaster we know to be effectual, and is this of all cases the best to be employed.

One-fourth of calcined oyster-shells, beaten to fine powder in a mortar, and three-fourths of cheese, ground together until they form a sort of paste. This mixture, pressed into the pores of the wood, either with the thumb or any other means, will effectually stop the flow of the sap; sometimes a repetition may be necessary, if it is not well forced into the pores. See MILDews.

Insects.—See ACARUS, APHIS, COCCUS, CURCULIO, and THRIPS.
GRAPES

**Phylloxera**

All of the insect enemies that from time to time infest the vine none is more to be dreaded than Phylloxera, intermediate between the Cocicidae and the Aphididae, but as the winged stage most resembles the members of the latter family it is retained in that group.

Numerous instances of it have been found in vineries in this country, but as they were mostly confined to the late stage and wingless females, their mode of distribution is limited by comparison with their kind in France and America, where the winged forms serve to scatter the pest far and wide.

**Peruvian**

A wingless form lives on the roots, and is characterized by being fleshy, yellow-brown, with tubercles on the back. During the larval stage it moults three times, and the female attains the adult stage in twenty days and lays about thirty eggs. About eight generations are produced in the course of a year.

Another wingless form produces galls upon the leaves, and is somewhat like the root form, but is almost without tubercles on the back, and is fat-looking, with very short legs. The galls formed by this female, and lays her eggs in the gall she herself forms.

**Light**

During July, August, and September, winged male and female forms are developed from the root form, and these are most to be dreaded, because they are concerned in perpetuating and disseminating the pest far and wide. The wingless root forms are the most destructive to the vine in proportion to the number of individuals, because they lay large, filled galls, and the vine succumbs in the course of three or four years.

### Remedies

An immense number of remedies have been tried with very little success in eradicating the pest, without also destroying the vine. Firing the borders with gravel, at intervals during the autumn and winter months, for five or six weeks each time, is perhaps the most efficacious method of destroying the root form or hybernating stage. In most, if not all, cases of the pest in this country, only dry and warm inside borders were affected, the outside borders being relatively or entirely free from it. Bisulphide of carbon has been employed with success, but found to be expensive. Several methods of a very whole of the vines, together with the soil of the borders, and after thoroughly cleaning the interior, introduced fresh soil and planted young vines, with successful results. Granting however the root form, the roots of American vines has proven beneficial in the vineyards of France, because they can then make fairly satisfactory growth in spite of the louse.

**Graptophyllum**

From grapho, to write, and phyllon, a leaf; referring to the markings on the leaves. **N.** Linn. 2-Dianthia, 1-Monogynia. Allied to Beloperone.


**Species tatum** (painted). Leaves larger than the type. 1835.

**Life-image** (lurid-red). Leaves with blood-red veins.

**Medicinal Lum** (golden-centred). See Aphelandra Madatia.

**Stem** (painted). See G. Hortense.

**Veins** (colour-changing), leaves with rose and white blotches. India. 1861.

### Grasses for Lawns

**Gratiola**

Hedge Hyssop. (From graci, grace; referring to its medicinal virtues. Nat. Ord. Fagiornis (Saxifragaceae). Linn. 2-Dianthia, 1-Monogynia. Allied to Mimulus.)

**Hardy herbaceous plants. Division of the plants in spring; rich, moist soil. Latifolia and tetrugina require the protection of a glass house.**


**G. carolinensis (Carolinarum).** See G. Virginiana.

**G. latifolia (broad-leaved).** See G. Peruviana.

**G. megalaloupa (large-fruited).** Pale yellow. July. N. Amer. 1838.


**G. tetrugina (four-toothed).** See G. Rossa.


**Tetragia** (square-stemmed). See Stemodia Lobelii.

**Veronicafoolia** (Veronica-leaved). See Bonnaya

**V. virginsa (Virginian).** N. Amer.

**Virgo nica** (Virginian). See G. S.pherocarpa.

### Gravel Walks

like all other walks, require a good substratum of drainage, and the facing about five inches deep of gravel. It must have no stones mixed with it, but the gravel spread and dry. it is the fourth of it must be much finer to fill the interstices. Pit-gravel, with a slight admixture of clay, and the more rubble the better, is the best for binding and forming a solid walk. The gravel is laid down after digging from the pit, the more firmly will it bind.

The following is an excellent plan to make or turn gravel walks in dry weather: if of a sandy or gravelly nature, take a portion of the gravel, and the vine succumbs as it passes over the gravel; twigs forty-four hours after, if the weather is dry, it will be as solid as a stone-floor.

The best method of extirpating grass from a gravel walk, is to spread salt in considerable quantities over its whole surface; and if, after the first application, it is found that portions of the grass still exist, let another coating of salt be applied, which will effectually destroy it. Care must be taken, however, if the walk is edged near the borders, not to come in contact with it, otherwise it will destroy the edging also.

In the early part of April, gravel walks are usually turned. After the walk has been broken up and levelled, and the grass near the gravel spread, and dry. It is thought to be left for three or four days, and until a shower of rain has fallen, before the roller is used. This bleaches the gravel, and washes down the fine particles, so that, immediately after rolling, the walk is solid, and has a clean, bright surface.

The above directions relate to the old system of gravel-walk making; but we strongly recommend the general adoption of Concrete Walks, which see. They are far more durable and free from weeds.

**Gravesia**

Commemorative of Mr. Graves, a plant collector in Madagascar, 1871.

Fine foliaged stover herbs allied to Bertolonia. Seeds; cuttings in sand in a close case, with bottom heat. Plant and leaf-mould in equal proportions, with sand. A humid atmosphere must be maintained.


**G. alo-punchilla** (white-speckled). Madagascar. 1864.

**G. margarita** (pearly). Leaves thickly spotted Madagascar. 1863.


**Graya**

(Commemorative of Asa Gray, an American botanist. Nat. ord. Chenopodiaceae.)

The more speedily it is laid down, the more is taken, and the weather that is most disadvantageous to the growth, the more is it required.


**Great Burnet**

Poterium officinale.

**G. Centaurea**

Centaurea Centauri. 1895.

**Green Dragon**

Aria ma Dracuncia.
GREENERIA FULIGinea

A fungus causing "litter-rot" on grapes.

GREEN FLY. See Aphides.

GREEN ENGAGE. A dessert plum.

GREENHEARTH. Nectandra Rodius's.

GREENHOUSE. This is a light, airy structure designed for plants which can sustain a lowish temperature, but cannot withstand the vicissitudes from frost to sunshine, and from damp to dry, of our common winters. It is distinguished from a plant shade by the object. If it is a light place, having a sloping roof from a back wall, it should always have a considerable amount of upright glass in front to receive the oblique rays of the sun in winter. By these means, the plants on the front of the house may thus partake of the same style of architecture, while the shed-like, sloping roof may be exchanged for a ridge-and-furrow one, and that concealed from external observation, or frills or fragments of a detached structure it should stand, less or more, north and south, have a ridge-and-furrow roof, and means for breaking the sun's rays in the morning and afternoon. We are supposing it to be glass all round. When in country houses where a greenhouse is formed, having the front and ends of glass, a hipped roof, and an opaque back wall. Here, likewise, by an ornamental entablature, the roof, if desirable, may be two-tilted, or flat, or flat, or flat, or fiat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat, or flat.

Stages.—These are generally shelves, arranged in stair-like fashion, partaking less or more of the character of the roof. For a general collection, the stage may be from five to six feet from the glass roof; for insuring dwarf, compact, bushy plants, the distance should be from three to four feet. The lowest shelf of the stage should be a little higher than the shelf that surrounds the house next the front glass. Where the roof is hipped, even though the back wall be opaque, if the house faces the south the stage should be hipped too, terminating in a single shelf, broad or narrow in the centre. The north part would be admirable for keeping many plants in winter, and exhibiting in summer those that were in full bloom. In a wide house it is always preferable to have several stages, in the shape of circles, ovals, or triangles, which will make the plant display more beautiful. The expense, and the room apparently lost, are more than compensated by the ease with which all the plants may be examined, and the greater thickness with which they may be shaded by day and night. Greenhouses are kept in the two great moist zones, (See Flower Stages.) For low-hipped, roofed, and ridge-and-furrow roofed houses, flat, table-like, trellised stages will be the best; the highest plants being set in the centre, or, if necessary, one being placed now and then on a pot. As an improvement on this, where extreme economy was the object, we would dispense with the wooden trellis, and substitute a bed of earth, kept in its place by brick walls, the earth being first covered with cinders, and then with pure sand, on which the plants are set. The dapping of this sand from watering in summer would rescue the plants, and save them from many visitations. Small enclosures in such an earth-pit, if suitable compost were used, would be a content for the less hardy creepers, which would be likely to maintain a limited distance if planted, as they sometimes are, in a border close to the front wall.

ToProspect. If merely preserving the plants is the object, then artificial heat may only be applied to maintain a temperature of from 35° to 40°. This low temperature must not, however, be long continued in a stagnant atmosphere. It will, therefore, be necessary to raise the temperature, and thus the atmosphere with a light draught, and desired slowly to grow the shoots, and to keep a winter display of plants in bloom, the temperature must not sink below 45°. In either case a rise of 10° or 15° may be allowed for, as the least of sun, or, with a perfectly closed situation, the chief difficulty will be to keep the house cool by admitting all the air possible, and having it on night and day. If the plants are turned out into pits and shady places, and exposed to the sun and frost, we may say 14° or 15°, and their place is supplied with tender annuals, &c., then more closeness and moisture must be obtained—a limitation of air and plenty of moisture giving all the essential results.

Artificial Heat. The best, because the most equal and the deanliest, is hot water; and the simplest of all contrivances is the best; a compact little boiler, well set, and a suitable radiator is the simplest of principles. A small boiler and two or three tubes, which are most suitable for a greenhouse where only quick and occasional fires are wanted. Fires are far from being desirable conveniences. In some respects, in small houses where a high temperature is required, it is possible to have a supply of moist air by using such contrivances as they answer better than hot water. When neatly built they are no eyesore in a house. To ensure draught the flue should be at least a third deeper than it is wide, and the air so disposed as to enter at the top, and pass above the bottom of the surface. For greenhouses, one foot of four-inch pipe will be necessary for every forty cubic feet of air, making allowance, less or more, according to the surface of glass, or the presence of summer walls; or, in other words, taking the square foot of glass, it would require a foot of four-inch pipe for every six feet of glass; or a foot of a common flue above the ground for about two hundred square feet of glass.

Ventilation. Means should be secured for a thorough circulation of air from the sashes in the front, and the highest point in the roof, as there the heat will generally be the greatest. With the aid of stages, and there are means for heating the air before it enters the little gallery should be at the top of the house, as thus the cold, dry air would be heated and absorb the moisture before reaching the bulk of the plants. When the air is very dry, and the weather very cold, the less air that is admitted the better. In such circumstances, the heating medium should be cool before the sun strikes upon the house, and then the sun-heat will raise the house the less; and 10° or 20° for a short time, from sun-heat, is a very different affair from having that increase from artificial means. For greenhouse plants, generally, in favourable weather, too much air cannot be given, night or day, from the top to the bottom sashes. The following months preceding May, and subsequent to September, air should be given early in the morning, even if it should be withdrawn or reduced soon afterwards, or even to set the thermometer at 70°. In winter, unless the air is very mild, it will be time enough to give air by ten o'clock, and shut up between two and three. When the weather is very severe, one hour, or even less, in the middle of the day, will be enough. In a house, where the weather, air should be given, though a brisk fire should be put on during the day on purpose. When, however, the greenhouse is changed into a vineyard, a place for growing plants, or such plants, if their nature requires it, the growth of Camellias, Epacris, Azaleas, &c., then the temperature in spring and summer must be higher, and the atmosphere closer and moister. By means of divisons, you may have almost as many temperatures and atmospheres in one house as you please, by regulating
to be kept; and the cuttings for seed from its stems, it is desirable it should be at the maximum. The roots are therefore exposed fully to the sun; not a drop more water is given than just to keep the leaves from flagging; and the stems, instead of being soft and green, become hard and brown, because the water evaporations, and assimilating fresh solid material. Many other close-headed plants, such as the Azalea, merely require, in general, the stopping of a few of the strongest shoots.

**Time of Potting.**—This should generally be done after pruning, and when fresh growth has taken place, because it is advisable never to give more checks to a plant at once than can be avoided. When cut down, or pruned, the ensuing new growth is a mere oracular root; and as the roots, are at once put forth in the production of fresh shoots. When these are formed and forming, and the plant is kept close for a time after shifting, fresh roots will soon be formed through their agency, upon the principle that roots are protruded from a cutting of half-ripened wood under a hand-glass.

**Time for Cuttings.**—Now we speak merely in general terms. Other things being equal, the older and harder the wood of the cutting, the longer will it be in stirring. The longer the wood is, provided it is just hard enough at the base to possess a sufficiency of organisable material, the sooner it will be rooted. The minimum is 3 inches, and, in many cases, 6 inches, to which may be added 6 inches rotted and damp off. Hence the general time for propagating is regulated by the general time of pruning and fresh growth taking place. Small side-shoots, from ½ to 1 inch long, just growing out from the main shoot at a point with a sharp knife, or taken off close to the older branch, and a few of the lower leaves removed, will succeed in the great majority of cases. It is desirable to get them in in April or May, in the case of slow-growing plants, and in May and June, in the case of those that merely add a few requisites: (1) clean pots; (2) secure drainage by an inverted small pot inside a larger one, or by crooks, so as to fill it three-quarters full; (3) place rough wood ashes, to keep the heat in at the roots, and in the finer soil washing through it; (4) cover it with an inch or so of sandy soil, similar to what the plants delight in, if a little charcoal is added all the better, finishing with a slice of turf or a flower pot, and then allowing it to drain before inserting the cuttings; (5) insert the cuttings firmly, fill the small holes made by the dibber with sand, drop all over with the fine rose of a water-jet, allow the foliage to become dry, place each pot under a bell-glass, or a number under a hand-light, and shade from the sun, either in a corner of the greenhouse, or, better still, in a close frame or pit without any artificial heat being applied, at least none before the cutting is made. Cuttings that are allowed to taint on the warmer may have bottom-heat at once, especially those that have been a little forced previously. Though shade be indispensable, yet as much light as the cuttings will endure, and as little shade as possible, are to be encouraged.

**Sowing Seeds.**—This may be done at any time when the seeds are thoroughly ripe. As it is of importance to have the seedlings potted off and established before winter, April and May are the best periods in several circumstances. Where there is no hotbed the latter period will be the best, and even then, for confining heat and moisture, the pot should be covered with a bell-glass, or a square of glass laid over it. Where there is a hothot, such as a cucumber frame, the seeds may be sown a month or six weeks earlier, and hardened off as soon as they are fairly up and potted. In sowing, any light, sandy soil is best; and all well-rooted plants sandy potting soil is the best. The pots should be as nearly as well drained as for cuttings, watered, and allowed to drain before sowing, as the less water they have afterwards until they are up the better. Hard seeds that have been left a long time in the frame, or soil, should be steeped several hours in warm water, say from 13° to 14°. In covering the seeds the thickness should be regulated by the size of the seeds. Hence, for very small seeds, a covering of sifted dust should be made smooth, the seeds evenly scattered over it and slightly pressed in, and then just dusted with a little fine sand; but in unpractised hands it is safer to be slightly thickly sown, and give a very thin cover of round board, having a nail in the centre to hold by, and then place a square of glass over the pot, with moss or paper above, to shade until vegetation has taken place.
GREEN MANURE

After-treatment of Cuttings and Seedlings.—This is almost identical. Neither cuttings nor seedings, if at all thick, will thrive long in the cutting and seedling pot. The sooner they are potted off the better they will thrive. Be sure that their must be given to prevent the damping; first at night; next, night, morning, and evening; and lastly, when roots are well formed, during the day, removing the glasses altogether from the cuttings. The little moisture necessary must be carefully given. The less it touches either the stems or leaves, the better. When a little advanced, dust them overhand with a fine rose watering-pot, or a syringe, but be careful to have the foliage dry before shutting up for the night. In potting off tender plants that are very small, three or four may be put round the sides of a four-inch pot; a strong-growing one into such a pot at once. In every such potting, and every time that re-shifting is necessary, a moist, close attire is of importance for a short time afterwards; thus lessening, by means of shading and syringing, the evaporating processes until the roots have begun to work in the new soil, when air must be given, first gradually, and ultimately plentifully.

GREEN MANURE is a mass of recently growing plants dug whilst green and fresh into the soil, for the purpose of enriching it; and it is a rule without any exception that all fresh vegetable matters so turned into the earth do render it more fertile; and if plants are grown upon the surface, the greater the proportion of the surface of leaves in proportion to that of roots the better, because such plants obtain a large proportion of their chief constituent—the chief constituent of all plants, carbon—from the atmosphere. Thus there is a return to the soil more decomposing matter than they have taken from it.

The putrefaction of the vegetable and the gases in that case taking place, says Mr. Cuthbert Johnson, appear to be on all occasions highly invigorating and nourishing to the succeeding crop. During this operation, the presence of water is essentially necessary, and is most probably decomposed, gases in different plants; those which contain gluten emit ammonia; onions and a few others evolve phosphorus; hydrogen, carbonic acid gas and carbonated hydrogen gas, with various vegetable matters, are always almost abundantly formed. All these gases, when mixed with the soil, are very nourishing to the plants growing upon it. The observations of the farmer assure us that they are so. He tells us that all green manures cannot be employed in too fresh a state.

Sea Weed is a species of green manure, for it ought to be employed whilst quite fresh. There are many species, and they differ very essentially in their components. The seaweed is long, tawny or ribbon-like alge, so common on our coasts, contain, besides vegetable matter, a large proportion of the salts of potash in addition to those of soda; whereas the FW's contain none of the said, but water, gas, the little moisture necessary, and we know a garden, near Southampton, very productive, that for some years had no other manure. It is particularly good as a manure for potatoes. The FW's never become distinguishable by the bladders full of air embedded in its stems, is a very excellent manure. It contains, when dry, about eighty-four parts vegetable matter, thirteen parts sulphate of lime and magnesia, with a little phosphoric of lime, and three parts sulphate and muriate of soda.

GREENWEEK. Gemi'sta pilo'sa and inicb'o ria.

GREGLA. (Commemorative of Major-General Greig, a patron of horticulture in Russia. Nat. ord. Bromeliaceae.)

Stove evergreen herb. Offsets or suckers. Fibrous loam, peat, some pieces of charcoal and sand.


GREVILLEA CONSPI'CA. This is Pelargonium conspic'u'm

GREVILLEA. (Named after C. F. Greville, a patron of botany. Nat. ord. Proteaceae. Linn. 4- Tetrandra, 1-Monogynia. Allied to Hakea.)

Greenhouse evergreen shrubs, from Australia. Seeds sown in a slight hotbed, in spring, or in the greenhouse, as soon as ripe; cuttings of the young shoots when ripened, in sand, under a bell-glass, and when calloused, at the base to have a slight bottom-heat; peat and loam, with silver sand and bits of charcoal, to keep the open. Winter temp. 35 to 45. Room marmo'fia and acumin'a have stood out in sheltered places, with little or no protection.

3. aquile'gia (blue). 1820.

bipinnati'fa (doubly-leaflet). 1857.
bra'chy'nia (short-leaved). See G. quercifolia.
se'can sens (hoary-leaved). See G. a'renaria.
cerato'lia (horn-leaved). See G. refra'cta CERATO-
PHYLLA.
chrysode'num (yellow-tree). Yellow.
coll'is (collar). See G. l'argento'nia. 6. Pink. May. 1832.
June 1859.
du'ba (dubious). See G. serice'a.
el'e'gans (elegant). Red. Yellow. 1859.
enci'o'lia (heath-leaved). Red. green.
eri'o'sa chya (woolly-spiked). Orange.
Fal'ci'a (Falster's). Green. 1836.
facsi'cula'la (fasciated). Pale red.
farru'qui'na (rusty). See G. floribunda.
Forste'ri (Forster's). Scarlet. 1873.
gib'o'la (swollen-stemmed). 1821.
gla'bra'la (glabrous). 3-5. White or yellow. April. May. 1836.
heterophy'lia (variable-leaved). See G. refracta.'
hil'la'ris (Hilliam). 1865.
hooker'i'na (Hookerian). Yellow. crimson.
tici'olia (holly-leaved). Australia.
laurence'na (Mrs. Lawrence's). White. 1829.
longifo'lia (long-leaved). See G. asplenifolia.
April. 1868.
mange's'i (Mangles'). See G. glabrata.
occiden'ta'lis (western). Australia.
plan'fio'lia (flat-leaved). See G. serice'a.
pre'i'ss (Preiss's). See G. thele'manniana.
pu'ch'e'lla (pretty). 2. White or yellow. Australia.
quercifo'lia (oak-leaved). Purple.
sil'pho'phylla (horn-leaved). 1839.
G. ro'sea (rosy). See G. LAVANDULACEA.
sic'cia (e erect). See G. LINARIS.
sul'pha rea (sulphur-coloured). See G. JUNIPERINA.
tha'lemannina'na (Thelemann's). Crimson. 1838.
'sple'n'dens (splendid). Flowers larger. 1882.

GREWIA. (Commemorative of Dr. Grce, who studied the histology of plants. Nat. ord. Tiliaceae.)

Trees and shrubs requiring stove or greenhouse culture according to their native country. Cuttings in sand in a close case with bottom-heat. Loam, leaf-mould, and sand.


'fl'a'va (yellow). Yellow. S. Africa.
sa'pida (savoury). Yellow. Warm parts of Himalayas.

GREokia. (Commemorative of Sir George Grey, Governor-General of Cape Colony. Nat. ord. Sapindaceae.)

Large greenhouse shrub. Seeds. Cuttings in sand in a close case, with gentle bottom-heat. To make it flower it should be kept dry on all sides at all times, and quite dry for a period after the completion of young growth. Fibrous loam and sand.

G. Sutherla'ndi (Sutherland's). Crimson-scarlet. S. Africa. 1859.

GRAS. Anchovy Pear. (From grao, to eat; the fruit being eatable. Nat. ord. Myrtul'isooms [Myrtaceae]. Linn. 17-Prun'entia, 1-Monogynia. Allied to Gustavia.)

Stove evergreen tree. Cuttings of ripe shoots in sand, under a bell-glass, in heat; rich, sandy loam. Summer temp., 60° to 70°; winter, 50° to 55°.


'xamoro'nis (Zamoran). Peru. 1879.

GRIE'LUM. (From grielum, old-looking; referring to the grey, hoary aspect of the plants. Nat. ord. Rose'wo'ris [Rosaceae]. Linn. 13-Poly'anthera, 4-Tetragynia. Allied to Neurad.)

Greenhouse herbaceous perennials, from South Africa, all having yellow flowers. Division of the roots in spring; rough, sandy soil, well drained. Winter temp., 40° to 45°.

humi'fusum (trailing). 1. May. 1825.

'tenui'sum (llegged). See G. HUMIFUSUM.

GRIFI'NIA. (Named after W. Griris, Esq., a patron of botany. Nat. ord. Amaryll'id [Amaryllilaceae]. Linn. 6-Hexan'aria, 1-Monogynia. Allied to Eucrosia in leaf and to Lycor'is in the flower.)

Stove bulbs, from Brazil. Seeds in a hotbed, either when ripe or early in spring, and young offset-bulbs; peat and loam, with plenty of sand, and a little dried leaf-mould in Tefl, when growing, 50°, plenty of moisture; when at rest, 40° to 50°, and dry.

G. Blumen'evia (Blumenavieia). 1. White, pink. 1866.
dry's (drydys). 1. Lilac-blue. 1868.
iride'o'ria (iridescent). Smaller. 1885.

orn'a (adorned). 1. Purplish-lilac. 1870.

GRINDELIA. (Named after H. Grindel, a German botanist. Nat. ord. Composites [Compositae]. Linn. 19-Synengesia, 2-Supersponia.)

Half-hardy plants, all with yellow flowers, and from Mexico, are otherwise much alike. C. la is a hardy biennial, by seeds sown in spring, or early in spring, under protection; herbaceous species by division and cuttings; evergreens, cuttings in April of half-ripened shoots, in sand, under a bell-glass; peat and loam. Winter temp., 40° to 45°.

HERBACEOUS.


S. Pacific. 1865.

G. augus'tif'olia. See G. AUGUSTIFOLIA.


lance'o'la (lanceolate). Yellow. N. Amer.


EVERGREEN.

G. coronopif'olia (coronopus-leaved). See XANTHOCE-

G. plu'tina (plummy). 2. 1803.

G. ro'sea (rosy). See G. LAVANDULACEA.


GROUND IVY. Ne'peta Glecho'ma.

GROUND NUT. A'pios tubero'sa,.

GROUND IVY. Ne'peta Glecho'ma.
GROUND SENA. Ca'ssia Chamaca'ria.

GROUND-SEEL-TREE. Ba'ccharis halimi'fia.

GROVE is a moderately extensive association of trees without underwood. The most fitting character of a grove is beauty; for fine trees are lovely objects, and a grove is an assemblage of them, in which every individual retains much of its own peculiar elegance, and whatever it loses is transferred to the superior beauty of the whole. To a grove, therefore, which admits of endless variety in the disposition of the trees, different in their shape and their greens are seldom very important, and sometimes they are detrimental. Strong contras is scatter trees which are thinly planted, and which have not the connectedness which they no longer undergo plantation; they are a number of single trees. A thick grove is not, indeed, exposed to this mischief; and certain situations may recommend different shapes and different greens for their effects upon the surface. The eye, attracted into the depth of the grove, passes by little circumstances at the entrance; even varieties in the form of the line do not always engage the attention: they are not so apparent as in a continued thicket, and are scarcely seen if they are not considerable.

GRYLLOT'APA. See Mole Cricket.

GUAIACUM. Lignum Vite Tree. (The aboriginal name in South America. Nat. ord. Beaucapers [Zygophyllaceae]. Linn. 10-1826, 1-Decandria, 1-Monogynia.)

The Guaiacum bark of G. officinale is well known for its medicinal properties. Stove evergreen trees. Cuttings of April or June, in a hothouse, in bell-glass, in brisk bottom-heat; rich, sandy, fibrous loam. Summer temp, 60° to 85°; winter, 50° to 60°.


GUANO. See Dungos.

GUARA. (The native name. Nat. ord. Meliads [Melianthus Linn. 8-1826, 1-Decandria, 1-Monogynia. Allied to Carapa].

Stove evergreen trees. Same culture as for Guaiacum. G. coffee'lia (Coffee-leaved),

" grandif'ra (large-flowered). See G. grando'fia,


" S. riz'la (M. Sama's). See G. trichilo'dae,


The Guatteria is exceedingly sweet. Evergreen evergreen trees and shrubs. Cuttings of half-ripened shoots in April, as for Guaiacum. G. ceraso'des (cherry-like). See POLYALT'IA CERASOIDEAE,

" Kori'nti (Korinti). See POLYALT'IA KORINTI,


" Ou'grou (Ougrou). Rusty-velvety. Guiana.

" ris'a (reddish). See UVARIA MI'CORCARA,

" subero'sa (cork-barked). See POLYALT'IA SUBEROA,


" Lanc'woodl.

GUAVA. (Psid'iun cattie'a-num.) This evergreen shrub is not generally cultivated for the sake of its fruit; but it is deserving of some encouragement where hothouse room is plentiful. Its fruit, in size and appearance, somewhat resembles a small Orleans plum, and is of a dull purple colour; it is juicy, and in flavour somewhat resembles a strawberry. The common Guava is P. Guaj'ia, of which there are two forms, namely, the White Guava and the Black Guava (P. G. pom'i feraum), cultivated and naturalised in most tropical countries, for the sake of their fruits, which are eaten as dessert.

Propagation is effected by cuttings, layers, and seeds.

Soil.—Two parts of loam and one part peat.

Culture.—It requires the ordinary culture given to evergreen shrubs in our stoves. As soon as the plants attain a little age they bear abundantly and in a long succession, often producing fruit through the winter. They will succeed very well in a comfortable conservatory, but a climate of an intermediate character will suit them best, as they enjoy a moderate amount of heat. They occasionally require the pruner's assistance in thinning out crowded or cross shoots, when such occur, and in pinching the tops from those which become over-luxuriant.

Guayusa.—It is used for the dessert, and making jelly.


The fruit of G. ulmi'fia is full of a sweet, agreeable pulp. Stove evergreen trees. Cuttings of half-ripened shoots, and general treatment as for Guaiacum.


GUELDER ROSE. Viburnum O'pulus.

GUERNSEY LILY. Ner'i no' sarni' nais.

GUETTA'RA. (Named after E. Guettard, a French botanist. Nat. ord. Cichonad'as [Rubieacea]. Linn. 21-1820, 1-Decandria, 1-Hexandria.)

Stove evergreen trees. General treatment as for Guaiacum.

G. cocc'ria (scarlet). See IERTIA COCCINEA,


" l'i'ctia (shining). See ANTIIRRECA LUCIDA,


" kome'ta'sa (woolly). See STE'PTOMON'TO'MENTSOREM,


GUEVINA. (The name given by the natives. Nat. ord. Proteaceae.)

A greenhouse tree in most parts of the country, but hardly in such parts as Devon and Cornwall. Cuttings in sand in a cold frame or greenhouse covered with a hand-light. Fibrous loam and peat.


GUICHERENO'TIA. (Commemorative of Antoine Guiche-rotol, a French gardener. Nat. ord. Sterculiaceae.)

Greenhouse shrubs from the cooler parts of Australia. Cuttings in sand in a close case, with moderate heat. Peat and loam, with sand.

G. ida'to (Gedan-leaved). 3. White. 1868.


Stove evergreen shrubs. Seeds in a hothed, in spring; cuttings, &c, as for Guaiacum.

G. Bo'o'nu'de (Bonduc). See CESALPINIA BONDO'UC.

" Bonduc'le'a (small Bonduc). See CESALPINIA BONDO'ULE-A.

" microphy'la (small-leaved). E. Ind.

" Mor'ina (Moringa). See MORINGA PTERYGO'CRISMA.

GUEINA PECHEL. Sarac'oe phalus.

GUEINA PLUM. Parina'rium excium.

GUIZOT'I. (Commemorative of M. Guizot. Nat. ord. Composita.)


" ole's feer (oil-bearing). See G. abyssi'nis'ca.

GUM AMMONIAC. Dor'ma ammoni' acum.

GUM ARABIC. Tree. Aec'dia Ara' bica.

GUM CISTUS. Ci'stus ladin'i'ferus.

GUM ELEMI TREE. A'myris Plam' iri.

GUM LAC TREE. Bu'tea frondo'sa.
GUMMING. See EXTRAVASATED SAP.

GUM SENEVAL TREE. Acacia Senegal.

GUM-TREE. Eucalyptus robustu.

GUNDIELIA. (Commemorative of A. Gundelheimer, a German botanist. Nat. ord. Composite.)

Half-hardy, perennial, thistle-like plant, with spiny leaves and white veins. Seeds and division. Leaf and peat, with sand.

G. glabra (smooth). See G. Tournefortii.

" Tournefortii (Tournefort’s), 13. Chocolate and yellow. Syria, Asia Minor, Persia.

GUNNERA. (Commemorative of J. E. Gummer, a bishop and botanist of Sweden. Nat. ord. Helagareae.)

Hardy herbs, the larger of which are admired for the sake of their bold and striking foliage. The crowns are the better for the protection of some dry leaves than in winter. Division. Rich, rather deep and moist soil.


" tristis (tristis). Green. 1849.

" brepho’nea (earth-born). Green, Colombia. 1872.


" falklandica (Falklandian). See G. Magellanica.

" macel’igera (Macellara). Green. Chile. 1868.

" magell’a’nica (Magellan). Green, Southern Chili. 1867. Leaves very large.

" manica’ta (sleeved). Green, Brazil. 1867. Leaves very large.

" mosa’ica (mosaic). New Zealand.


" scabra (scabrous). See G. Chilensis.

GUNNIA. Of Lindley. See SARCOCOBUIS.

GURA NIA. (Nat. ord. Cucurbitaceae.)

Stove climber. Seeds and cuttings. Fibrous loam, leaf-mould, and sand.

G. eri’a’ntica (woolly-flowered). See G. MALACOPHILLA.

" maha’ya’ (Makoyan). Guatemala. 1847.

" malacophil’la (soft-leaved). Rose-scarlet. Peru. 1904.


There are several these of these fine stove evergreens not yet in cultivation. Cuttings of ripe shoots in sandy soil, under a bell-glass, and in bottom-heat; rich, loamy soil.

Summer: 55° to 65°. Winter: 35° to 40°.


" brasile’nsis (Brazilian). Rosy-white. Brazil. 1866.


" gracie’lima (very-senever). Rose. Colombia. 1874.

" insin’ius (remarkable of Willdenow. See G. Augusta.

" leopoldii (Leopold’s). See G. PTEROCARPUS.

" manica’ta (sleeved). Green, Guiana. 1867.

" Theophrasta’ (Theophrasta). White. S. Amer. 1873.

GUTIERREZIA. (Apparently a commemorative name. Nat. ord. Composite.)

Hardy shrubby plant. Cuttings in sandy soil in a cold frame. Well-drained soil.


" gynosperm’asis (Gynospermia-like). See XANTH-OCEPHALUM GYNOSPERMOIDES.


Stove herbaceous perennials. Suckers; rich soil. Stove temp., 60° to 80°; winter, 55° to 60°.

G. bullia’na (Bullian). See CARAGUTA ANGUSTIPILIA.

" deansyana’na (Devansyan). See CARAGUTA DEVAN-
TUI-TU (Flowers) (Bracted).

G. erythrole’pha (red-headed). Chile. 1883.

G. erythrophy’lis (red-scaled). Cuba.

" fra’grans (fragrant). See AERMEA.

" furesenber’giana (Furesenbergian). White; bracts red-capped. 1888.

" Melino’ki (Melinok’s). See CARAGUTA MELINONIS.

" Melinon’is (Melinon’s). See CARAGUTA MELINONIS.

" Saltii’ri (Sallier’s). See ECHMEA CYCLOTHYMOS.


GYMNADIA. (Derived from gymnus, naked, and nema, a filament; in reference to the stamens. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. 5-PEN TA DRIA, 2-Digynia. Allied to Stephanotis.)

G. lack’ferum is the Cow Plant of Ceylon, the milk of which is used as food by the natives. Stove evergreen winthers, with yellow flowers. Cuttings of stiff, young side-shoots in May, in sand, and under a bell-glass, in heat; fibrous loam and sandy peat, well drained. Summer temp., 70°; winter, 50° to 58°.

G. sylvo’sis (wood). Tropics.

" tenac’isimum (most tenacious). See MARS DENIA TENACISSIMA.


GYMNOCADUS. Kentucky Coffee - tree. (From gymnus, naked, and discur, a disc; referring to the naked disc of the achenes or fruits. Nat. ord. Composita.)

Half-hardy annual. Seeds at the beginning of April in the open border.


GYMNOMORPRHEA. (From gymnus, naked, and gramm, a line; in reference to the spore-cases. Nat. ord. Ferns [Filices]. Linn. 24-CRYPTOPHYIGAIA, 1-Phlyceae.)

Beautiful stove Ferns, with brown spores, except where otherwise stated. Division of the plant, and spore-cases from the fronds scattered freely on rough peat, in a pot, and covered with a square of glass, before being placed in a damp, warm, shady place; peat and loam, most of the former, with a little silver sand. Summer temp., 60° to 85°; a little shade; winter, 50° to 60°, and rather dry.

G. asplenio’des (Asplenium-like). 1–2. Panama to S. Brazil.


" ptycho’calyx (tall-formed). 1–11. Burma; Malaya.


" strobilales (compound). S. Amer. 1873.

" strobiloides (Diplazium-like). 11–21. Mexico to Peru and S. Brazil.

" elegantissima (very elegant). See G. DECOMPOSITA.

*farinis* fera (farina-bearing). See G. schizophylla

FARINIPERA.

* ferrug'na (rusty). Clothed with rusty felt. Peru and Panama.

* flavo'sa (flexuous). Nicaragua to Peru. 1865.


* hamil'nonia (Hamiltonian). 1–5. Warm East Himalaya.


* hy'brida (hybrid). May. S. Amer.

* iapo'sica (Japanese). Japan. 1853.

* * variega'ta* (variegated). Japan. 1875.

* junci (Juncus), May. Java.

* lauchae'na* (poorly-worked). Golden, with tasselled apex. 1882.


* macrophy'tilla (large-leaved). 1–2. Malaya; Philippines.


* * dobroides* (Dobrodyan). Fronds covered with golden powder. 1877.

* trachyphy'tilla* (large-leaved). I. Brazil. 1824.


* Pe'a rai's (Pearce's). 5. Peru. 1864.


* * polypodis* (Polypodium-like). 1–4. Brazil.


* * wettenhallia*na (Wettenhallian). Powder pale sulphur.


* * rutefo'lia* (rue-leaved). 1. Australia and New Zealand.


* * farinis* fera (farina-bearing). Fronds powdered on both sides with white. 1886.

* * gloriosa* (glorious). Leaves larger and longer. 1884.


* * tart'a* rea (infernals). 1. August. W. Ind. 1817.

* * aura* rea (golden). 2. Peru. 1870.

* * irocyph'yd* (downy). Brazil. 1837.

* * tu'itia* (Totta). 1–2. Africa; Asia, &c.

* * triangula* u ris (triangular). 1–2. Powder varying from orange to white. Oregon. 1874.


* * vil'o* sa (shaggy). 1 to 2. June. Brazil. 1836.

GYNOMOLIA. (From *gunnus*, naked, and *loma*, a margin; the edge of the achen or fruit is naked. Nat. ord. Composita.)

Perennials, of which G. *multiflora* is hardy, the rest requiring a greenhouse. Seeds and division. Loam, leaf-mould, and sand for the tender ones.


GYNOPSIS CONNATA. See Gynomolia Connata.

GYNOPSIS TRIPLINE RVIA. See Gynomolia Triplinerquia.

GYNOPSIS UNSERIALLIS. See Clcrocarpus Uniserialis.

GYNOSTERIS. (From *gunnus*, naked, and *pteris*, a fern. Nat. ord. Ferae [Filicae]. Linn. 24-Cryptogamia, 1-Filicae. Often united with Acrostichum.)

Stove Ferns. Treatment similar to Gymnogramme.


G. alle'na (alien). Cuba, Mexico to N. Peru.


GYMNOSPERMAE SQUAMULATA. See Alsophila Squamulata.

GYMNOSPERMIA. (From *gunnus*, naked, and *spera*, a seed; the seeds in some of the species are without an aril. Nat. ord. Gelastraceae.)

Stove or greenhouse shrubs. Cuttings in sand in gentle heat and covered with a bell-glass, or in a warm, close case for the stove species.


GYMNOSTACHYS. (From *gunnus*, naked, and *stachus*, a spike. Nat. ord. Oroniidae [Oroceae]. Linn. 4-Tetran- tim. 1827.)

Greenhouse herbaceous perennial. Suckers and divisions; peat and loam. Summer temp., 55° to 75°; winter, 40° to 50°.


GYMONOSTACHYUM. (Derived from *gunnus*, naked, and *stachus*, a spike. Nat. ord. Acanthaceae.)

Stove plants with beautifully marked leaves. Cuttings in a close case, with bottom-heat. Loam, peat, and sand.

G. *ceyl'a'nicum* (Cimacelese), Yellow, white. Ceylon.


Malay Peninsula. 1894.


* Verschaffel'litis* (Verschaffelt's). See Fittonia Verschaffelti.

GYMONOSTEMUM. (From *gunnus*, naked, and *stemos*, a ray. The ray fleeces have no pappus. Nat. ord. Composita.)

Greenhouse sub-shrub. Cuttings in sand under a bell-glass. Fibrous loam, peat, and sand.

G. *cal'le*re (eyelashed). 1–2. Rays blue; disc yellow.

S. Africa.

GYNOBOSECA RADDIANA. See Marattia Cicatricialis.

GYMNOTRIX CAUDA TA. See Pennisetum Macrourum.

GYANDROPSIS. (From *gynus*, female, *androos*, a male, and *opsis*, like; referring to the appearance of the stamens as if borne on the style. Nat. ord. Capparidaceae. Linn. 15-Tetradynamia. Allied to Cereus.)

Hardy annuals, seed in the open border, in April, or in a slight hotbed, in March, and transplanted; tender annual and biennial in a hotbed in March, potted and flowered in the greenhouse, or planted in the open border; rich, sandy, loamy soil.

STOVE.


HARDY ANNUALS.


Gyneium. (From genu, the ovary, and erion, wool; the stigmas are covered with long silky hairs.) Nat. ord. Graminaceae.


Gynoleura. (From genu, the ovary, and pleura, a rib; the ovary being ribbed. Nat. ord. Passifloracese.)

Hardy, branching, slender annuals. Seeds in heat in March, or in the open border in April. Ordinary, well-drained soil.


Gynoxys. (From genu, the ovary, and oxus, sharp; the style is pointed.) Nat. ord. Compositae.

Stove to green. Cuttings in sand in a close case, with bottom-heat. Fibrous loam, with a little peat and sand.


Gynura. (From genu, the ovary, and oura, a tail; the stigmas being long and hairy.) Nat. ord. Compositae.

Stove perennial herbs. Cuttings in sand in a close case. Loam, leaf-mould, or peat, with some sharp sand.


ovis'is (ovate). See G. auriculata.


Gypsophila. (From gypos, chalk, and philos, to love; in reference to the soil most suitable for them.) Nat. ord. Clowervales [Caryophyllaceae]. Linn. 10-De-candaria, 2-Digynia. Allied to Saponaria.

Both annuals and perennials by seed, and the latter also by division; common garden-soil.

Hardy Annuals.


Hardy Perennials.


Arro'sis (Arrost's). White. S. Europe, Asia Minor.


glau'a (milky-green). $1. White. August. Cau-

casus. 1822.


il'y'rica (Iliyitan). See Tunicia illyrica.


fo're-no'le (double-flowered). 2. White. Double by proliferation. 1902.


ri'gida (stiff). See Tuncia S Arlingtonare.

kemerbo'vea (Rokejeva). White, Eryt. sabu'lo'sa (sandy). See G. trichotoma.


Saxi-fraga (saxifrage). See Tuncia S Arlingtonare.


teno'men'sa (felted). See G. perfoliata.


Tauria. 1817.

Gypsium, or Plaster of Paris, is a sulphate of lime, composed of—Sulphuric acid, 43; lime, 33; water, 24. It has been employed advantageously as a manure to clover, the turnip, and potato, at the rate of 3 cwt. per acre. For to sets are frequently rolled in it when pulvurised. It has been recommended to be sprinkled in stables, and to be mixed with dunghills, "to fix the ammonia," as it is popularly termed. All the ammonia lost in fumes from a dunghill might be more readily and as cheaply restored to it by mixing with it, when dug into the soil, a little of the ammoniacal liquor from the gasworks.

Gyromia Virginita. See Mede'o'la virginita.

H

Habena'ria. (From habena, a rein; referring to the long, strap-shaped spur. Nat. ord. Orchidaceae. Linn. 20-Gymnandria, 1-Monandria. Allied to Gynadenia.)

Seldom grown.

Summer temp. 60° to 80°; rest period, in winter, 30°; and when starting into flower, 70°.

HARDY.


brassEO'ne (large-bracted). See H. viridia' bracteata.

chlo'ra'ntia (green-flowered). See H. bifolia chlor' antia.


habe'naria (Habena's). Green. June. Europe and N. Amer. 1805.

HABENARIA 407  HABROTHAMNUS

  'mi'gra (black). Europe.
  odorali'ssima (most fragrant). Europe.
  petio'lis (butter-fly). 1-1. Rose to crimson.
  N. Amer. 1826.
  roundif'olia (round-leaved). 2. Rose-purple; lip white. N. Amer.
  'ridens'na (three-toothed). N. Amer.
  vires'cens (greenish). See H. rifia CHLORANTHA.

Stove.

  Bolto'ni (Bolton's). S. Africa.
  ca'ceda (white-flowered). See H. subpul'serus.
  'fio'sa (snowy). White. Leaves not spotted. 1894.
  'psis'piena (deceiving). 2. White. S. India.
  'es' (rich). S. Africa.
  gua'cira'na (anther-helmed). N. India and China.
  Hellebor'ina (Helleborine). Green, flesh. September.
  W. Trop. Africa. 1870.
  heyney'na (Heynean). S. India.
  1879.
  Octorber. Brazil. 1882.
  1830.
  longicara'la (long-spurred). See H. deci'piens.
  longica'ra (long-spurred). S. India.
  macra'nia (large-flowered). Abyssinia.
  macro'cera (large-horned). See H. macrocer'atilles.
  Costa Rica. 1823.
  macowan'a'na (Macowanian). Green, small. S. Africa. 1889.
  margarita'na (pearly). Colombia. 1882.
  1830.
  Medu'sa (Medusa). White; lip cut into about forty fringes. Java. 1902.
  membrana'ca (skinny). July. Sierra Leone. 1826.
  militari's (military). See H. Fusi'la.
  momi'ná (mountain). See H. longicon'rus.
  Australia. 1824.
  1822.
  1886.
  radis'ta (tayed). Pale green; petals and lip white.
  Japan. 1837.
  richardi'na (Richardian). S. India.
  spiralis (spiral). Mascarenne Islands.
  W. Trop. Africa. 1864.
  Susa'na (Susa's). 2. Green. white. India and China. 1834.
  sumitra'na (Sumatran). Flowers large, white.
  Sumatra. 1893.

H. tetrap'talis (four-petaled). S. Africa.
  'brae'sa'la (large-bracted). Green, pink, white.

HABERLEA. (Named after Karl Konstantin Haberle, a botanist from Prussia. Nat. ord. Gentianaceae.)

A hardy perennial, allied to Parnassia, and a choice subject for the shady part of a rockery. Seeds and divisions. Sandy loam and a little peat or leaf-mould in a cool, moist position.

  'virgin'alis (virginal). Pure white. 1907.

HABIT is the appearance or mode of growth. Thus a Verbena may be of straggling or shrubby, compact habit.

This habit is much influenced by soil and cultivation. Thus Buis 'sem ber o r t en s in a poor soil is dwarfish, but in a rich soil becomes tree-like. The term habit is applied to the power a plant possesses of vegetating earlier or later, when once accustomed to do so. Thus, a vine once forced to break early will retain the habit of doing so the following year, though not forced.

HABITAT. The native place of a plant.

HABITZIA. (Named after C. von Habitz, a traveller from Prussia. Nat. ord. Cheno podiaceae.)

A hardy, climbing herb. Seeds; division. Ordinary soil.


HABRANTHUS. (From habroes, delicate, and anthos, a flower. Linn. Amaryllidaceae.) Linn. 5-HABRAntHUs.

Thus, Anther-hekneted.

H. Anderso'ni (Anderson's). See ZEPHYRANTHES ANDERSONI.

ang'ius (narrow). See HIPPEASTRUM BIFIDUM.
  Bagnol'la (Bagnol's). See HIPPEASTRUM BAGNOLI.
  bi'fulus (two-cleft). See HIPPEASTRUM BIFIDUM.
  co'color (one-coloured-flowered). See ZEPHYRANTHES BIGEONII.
  fulls'ena (shining). Country unknown.
  gracilis'fius (slender-leaved). See ZEPHYRANTHES GRACILIFLORA and variety.
  hesper'isus (western). See HIPPEASTRUM ADVENUM.
  in'corrn (intermediate). See HIPPEASTRUM BIFIDUM.
  kermes'is (crimson). See HIPPEASTRUM BIFIDUM.
  minia'tus (red-flowered). See HIPPEASTRUM ADVENUM MINIATUM.
  nemo'ris (grove). See HIPPEASTRUM BIFIDUM.
  nolu'sus (Gone). See HIPPEASTRUM BIFIDUM.
  pedanum'clus (long-stalked). See HIPPEASTRUM BIFIDUM.
  physaloc'ales (Phyella-like). See HIPPEASTRUM BIFIDUM.
  prate'nis (meadow). See HIPPEASTRUM FRATENSE.
  pus'lar'is (fair). See HIPPEASTRUM BIFIDUM.
  pus'le'rus (pustule). See HIPPEASTRUM BIFIDUM.
  punctus'us (dotted). See HIPPEASTRUM BAGNOLI.
  ros'ens (rosy). See HIPPEASTRUM ROSEM.
  spath'cesus (large-spattered). See HIPPEASTRUM BIFIDUM.
  specio'sus (showy). See HIPPEASTRUM FRATENSE.
  versicolor (multicoloured). See ZEPHYRANTHES VERSICOLOR.

HABROTHAMNUS. (From habroes, gay, and thamos, a flower. Linn. 5-PENTANDRIA, 1-MONOGYNIA. Linn. United to Ceastrum, which see.)

Greenhouse evergreen shrubs, from Mexico. H. fasci'cula'ris grown as a conservatory wall, on an east or west aspect, is not surpassed by any in the Mexican flora. The sun is too powerful for the flowers on a south aspect; it flowers on last year's wood, and should not
be pruned till after the flowers fade. They may be grown as specimens, or against pillars. Cuttings of firm side-shoots, taken off when the plant is growing, in sand, under a bell-glass, and placed in a mild bottom-heat; loam and peat, lightened with sand and charcoal. Winter temp., 60° to 65°.


**HACKBERRY.** See Celtis occidentalis.

**HACQUETIA.** (In honour of M. Hacquet, a German botanist. Nat. ord. Umbelliferae [Umbellifera]. Linn. = Pantanaria, 2-Digynia.) Hardy herbaceous perennial. Division; plant and loam. Does best in a pot among alpines, or on the rockery.


**HEDADON CYTON.** (From haima, blood, and dikyon, a net; referring to the veins in the leaves. Nat. ord. Dogbanes [Apocynaceae]. Linn. = Pantanaria, 1-Monogynia. This should be united to Prestonia.) Elliptic leaves, and quinquefoliate flowers, from the West Indies. Cuttings of half-risen shoots in sand, under a bell-glass, and in bottom-heat; loam and peat, both fibrous and sandy. Summer temp., 60° to 65°; winter, 50° to 55°.


**HEMNANTHUS.** Blood Flower. (From haima, blood, and andros, a flower; referring to the colour of the spathe and filaments of some species. Nat. ord. Amaryllidaceae [Amaryllidaceae]. Linn. = Hexandria, 1-Monogynia.) Bulbs from South Africa, except where otherwise mentioned. Chiefly valued for their leaves, and the markings on the flower-scape. The South African species will all live in a border, with a glass covering in winter, protected from frost. Under such treatment they rest in summer, with a loam. Offsets; sandy loam, fibrous peat, and a little dried cow-dung.


**HEMAREA.** (From haima, blood; in allusion to the red under surface of the leaves. Nat. ord. Orchidaceae.) Terrestrial Orchids allied to Anoectochilus, and requiring similar treatment. 1848. **H. dawsonia** (Dawsonian). India. **di sodo'c** (two-coloured). 1. White, with crimson spots.

**HEMAYOXYL.** Logwood. (From haima, blood, and xylon, wood. Nat. ord. Leguminous Plants [Leguminoseae]. Linn. = Decandria, 1-Monogynia.) Small evergreen tree. Cuttings of young shoots getting firm, in sand, under a bell-glass, in heat; and seeds steeped before sowing, and then placed in a hotbed, in spring; peat and loam. Summer temp., 60° to 85°; winter, 45° to 55°.


**HEMBO'DUM.** Bloodroot. (From haima, blood, and doron, a gift; referring to the roots being eaten by the natives of Australia. Nat. ord. Bloodroots [Hemodoraceae]. Linn. = Triandria, 2-Digynia.) Greenhouse herbaceous plants, from Australia, with orange flowers. Division of the roots, as growth commences, in spring; peat and loam. Winter temp., 35° to 40°.


**HA-** A sunken fence, being placed at the bottom of a deep and spreading ditch, either to avoid any interruption to the surface of the ground, or as a desired prospect. As all defences are unsatisfactory to good taste, and as, when viewed lengthwise, these fences are formal and displeasing, they ought never to be adopted except in extreme cases.

**HAIR.** See Animal Matters.
HAKEA. (Named after Baron Hake, a German patron of botany. Nat. ord. Proteads [Proteaceae]. Linn. 4-Tetrandria, 1-Monogynia.)

Greenhouse evergreen, Australian shrubs, all with white flowers, except where otherwise mentioned. Cuttings of young shoots well ripened, in sand, over peat, and under a bell-glass, keep cool until a callus is formed, and then placed in a mild bottom-heat; beat two parts, and one of loam, with sufficiency of sand and broken freestone, in a frame, and keep the compost open. Winter temp., 35° to 45°. A shady place out of doors in the very height of summer.


H. amplexica'ulis (clasping-leaved). Australia.

H. Baxter'ii (Baxter's). 1830.

H. bipinnati'fa (bipinnatifid). Australia.

H. blume'rii. (three-form). The Australia.


H. crassifolia (thick-leaved). Australia.

H. Crista'creta (crested). 1837.


H. cymo'ptera (orb-winged). Australia.

H. denicul'a (small-toothed). See H. GLABELLA.


H. filica'ulis (spreading-branching). See H. LAURINA.


H. fri'xii (plant). 4. 1824.

H. frit'ida (flowery). 5. 1803.


H. Glabell'a (smoothish). 1837.

H. ilici'o'lia (holly-leaved). See H. VARIA.

H. Lam'berthi (Lambert's). 4. 1825.

H. lana'gosa (woolly). See H. GIROTTII.

H. latis'tera (broad-seeded). 1819.

H. lauri'na (laurel-like). Rosy-lilac. 1885.

H. leuco'ptera (white-winged). Australia.


H. micro crus'pa (small-fruited). Australia.

H. mi'sia (mixed). See H. TRIFURCATA.

H. repa'ra (in-cleft). See H. FERRUGINEA.

H. rostr'a (beaked). Australia.


H. scop'a (broom-like). See H. SULCATA.


H. trifo'rmis (three-form). See H. AMPLEXICULUS.

H. tubercula'ta (knotted). See H. VARIA.


H. uligono'na (marsh). Australia.


H. victoriae (Queen Victoria's). See H. CUCULATA.

HALE'SIA. Snowdrop-tree. (Named after Dr. Hales, author of Vegetable Statics. Nat. ord. Storaxwoots [Styracaceae]. Linn. 11-Dodecandra, 1-Monogynia.)

Hardy deciduous shrubs; by seed in spring, by layers, and cuttings of the roots in spring and autumn; require a deep, sandy, moist soil to grow to a large and healthy size.


H. di'sympy'tala (tree-petaled). Corolla cut into four petals. 1907.

H. Mecha'ni (Meehan's). Flowers smaller. 1824.

HALF-HARDY PLANTS are those which require partial shelter, as in a cold pot or frame, during the winter. Here some attention is required to exclude from them dampness and frost, but especially the first.

HALIOMODE HEDRON. Salt-tree. (From halimos, sea- coast, and hedron, a base, referring to its native habitat. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadelphus, 4-Decandra. Allied to Colutea.)

Hardy deciduous shrubs, natives of Siberia. Grafted standard trees high on the Laburnum. It forms one of the most graceful drooping trees that can adorn a lawn. Seeds, cuttings, and layers of the roots; common soil; if sandy and open all the better.


H. flo're purpe'ruo (purple-flowered). Purple.

H. specio'sum (showy). Flowers dark. Leaves larger.


HALLEA. (Named after Dr. Haller, a botanist. Nat. ord. Scrophulariaceae. Linn. 14-Dipsod'ama, 2-Ange'spermia. Allied to Collinsia.)

Greenhouse evergreen shrubs, from South Africa. Cuttings of half-ripened shoots in sand, under a bell-glass; rich, sandy loam. Summer temp., 60° to 70°; winter, 35° to 45°, with plenty of ventilation at both seasons.


HALTIA. (Named in compliment to Bergen Marin Haltia, an American botanist. Nat. ord. Leguminosae. Linn. 35-Halternia, 1-Monogynia.)

Greenhouse perennial herbs. Seeds, divisions, or cuttings. Light loam and leaf-soil.


HALOXYLON. (From halo, halos, salt, and xylon, wood; the plant grows in brackish sand. Nat. ord. Chenopodiaceae.)

Hardy, shrubby evergreen. Cuttings in sandy soil. Well-drained, light soil.


HALTIC. See BLACK FLEA.

HAMAMELIS. Witch Hazel. (From hama, together with, and mala, fruit; referring to the flowers and fruit being on this tree at the same time. Nat. ord. Witch Hazels [Hamamelidaceae]. Linn. 4-Tetrandria, 2-Digynia.)

Hardy deciduous shrubs which produce their yellow flowers during the winter, after the leaves have fallen. Cutting the plants, keeping the latter generally requiring two years to vegetate; soil sandy and moist; male and female flowers generally on separate plants; the female flowers are the most attractive.


H. macrophy'illa (large-leaved). See H. VIRGINICA.

HAMBURGH PARSLEY. Petroselium sativum, var. lathyrum. Use.—This, known also by the name broad-leaved and large-rooted Parsley, is cultivated for its root, which attains a size of 3-6 in. in diameter, and is exceedingly tender and palatable. It is eaten both as a sauce to flesh meat, and in soups, &c.

Sowing.—Sow at monthly intervals, from February until the middle of June, thinly in drills nine inches apart. The plants appear in about a month after sowing, and require to be thinned to nine inches asunder. Frequent hoeing is the only cultivation required. By the end of July, or during August, the earliest sowings will have acquired a sufficient size for occasional use, but the roots seldom attain their full growth until Michaelmas; and the latest crops not until the following year. On the arrival of frost, some of them must be taken up, and buried in sand, in a dry situation under cover.

To save seed.—Some plants must be left where grown, and allowed to run in May. Their produce will ripen in July or August. Then to be cut, dried, beat out, and stored.

HAMILTONIA. (Named after the celebrated botanist, Du Hamel, Nat. ord. Cinchomads [Rubiaceae]. Linn. 5—Pentandria, 7 Monogyonia.)

Stove evergreen shrubs. Cuttings of half-ripened shoots in the beginning of summer, in sand, under a bell-glass with bottom heat. The young shoots are also very serviceable for ornament. Summer temp., 60° to 85°; winter, 50° to 55°.


" chrys'i'na (yellow-flowered) of Jacquin. See H. LUTKE.

" la'fio'lia (broad-leaved). See H. PATENS.


" suave'olens (sweet-scented). Yellow. S. Amer. 1796.


HAMITO'NIA. (Name after Mr. Hamilton, an American botanist, Nat. ord. Cinchomads [Rubiaceae]. Linn. 22—Diacia, 5—Pentandria. Alleged to Guettarda.)

Stove evergreen shrubs, with sweet-scented flowers. Cuttings of half-ripened shoots in sand, under glass, and in a bell-glass with bottom heat. Summer temp., when growing, 60° to 80°; in winter, when at rest, 40° to 55°; when in bloom, 55°.

H. fruc'tio'sa (shrubby). See LEP'TODERMS LANCEOLATA.

" sco'ra (scaly). See H. suave'olens.


" suave'olens (sweet-scented) of Don. See LEP'TODERMS LANCEOLATA.

HAMMAD'OPHORA BUCHEPHA or BIFF-TIP MOTH. See PYGERA BUCHEPHA.

HAMMERS. For gardening purposes are made with a clawed head, for drawing as well as driving in nails. They are made of five different sizes, No. 5 being the largest. These are best with a stunt in the centre of the head, as this acts as a fulcrum in driving nails, and prevents bruising any branch beneath the hammer during the operation.

HANBURY. See AMBURY.

HANDBARROW. The most useful and most generally used hand-barrow is like a shallow tray, built on two long shafts, with two handles at either end, so that two men or boys can carry it when loaded. It has legs at the front to keep it from sinking in the soil, and one at the back for support, and another for turning and unloading. The most common use to which it is put is carrying pot plants to and from the potting benches, from one house to another, or carrying flowering plants to the conservatory. Plants and pots are liable to damage when carried in a barrow, unless a barrow is built with a cage below, and this form with a cage below is useful for carrying leaves and other litter; and when the close, movable cover is on, it serves as a conveyance for plants in large pots or tubs, which, when in flower or bearing fruit, might be too violently shaken in a wheel-barrow.

HAND-GLASS is a portable glass-case used for sheltering cauliflowers and other plants in winter, and during early spring, or to retain a regular supply of moisture to cuttings, or until they are rooted. The most durable and serviceable are made with cast-iron framing of rectangular form.

They are sometimes made with movable tops, fitted with a handle; but the only advantage it affords is, that several of the latter portions may be placed one each to protect any tall-growing shrub in severe weather, otherwise they are more troublesome to move, and more liable to breakage than if made entire.

HAND PLANT. Cheer'osté' mon.

HAND-WEEDING might be banished almost from the garden, if in the kitchen department all crops were inserted in drills. This is most desirable; for the stirring of the germinating seeds is much more beneficial to the crops, and cannot be replaced to too great an extent.

HANDLING is when a plant is so badly injured by the dibble, that the lower parts of the roots are in an unfilled hole, while the earth is pressed round their collar, so as to keep them suspended upright in their place.

HAPALINE. (From hapalos, tender or soft; in allusion to the softness of the spathe. Nat. ord. Araceae.)

A stave herb, allied to Spaticharpa, from which its name derives. The spathe is free from the spathe. Divisions in spring. Loam and peat, in equal parts, both fibrous, sand, and some lumps of charcoal.


HAPLAN'THUS. (From haploos, simple, and anthos, a flower. Nat. ord. Acanthaceae.)

Stove perennial herb. Seeds; and cuttings in sand in a close case, with bottom heat. Loam, leaf-mold, and sand.


HAPLO'CA'PHA. (From haploos, simple, and karpathos, a flower, in allusion to the simplicity of the plant. Nat. ord. Compositae.)


HAPLOPA'PPUS. (From haploos, simple, and pappos, down; the pappus is in one ring. Nat. ord. Compositae.)


HARDEE'RIA. (Named after the Countess of Hardenberg, in Germany, sister to Baron Hugel. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17—Dia'philia, 4—Decandria. Alleged to Kentucky.)

A greenhouse evergreen climber, from Australia, with purple flowers, except where otherwise mentioned. Cuttings of the young side-shoots, a little firm at their base, taken off in April, in sand, under a bell-glass, and placed in a close frame or pit without bottom heat. Cut peat two parts, loam one part, with sand and a little charcoal, to keep the compost open. They like a little shade in the middle of summer, and a temperature of 40° to 60° in winter. 1-2. H. comptonia'na (Compton's). 3-5. Lilac. March. 1803.

" cor'da'la (heart-leaved). See H. MONOPHYLLA.

" digi'ta la (finger-leaved). See H. COMPTONIANA.

" macrop'hyll'a (large-leaved). See H. COMPTONIANA.

" maboy'na (Makoyan). See H. COMPTONIANA.
, , monophylla (Audomarian). Rose-Red. 1901.
, , ro'sea (rosy). Rose.
, , ovata (egg-shaped). See H. monophylla.

HARDENING-OFF. By this term gardeners intend the gradual preparation of plants to endure exposure to a colder and more airy situation. Thus, before bed-down operations, the plants that have been nursed under glass are, by degrees, exposed to more air and less warmth, by opening the lights wider, and for a greater length of time, not only by day, but by night, until they become imbued to so low a temperature as to need no check by being placed in the open ground.

HARDWIT'OKIA. (Named after General Hardwicke, of the East Indian Company. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decandria, x-Monogynia. Allied to Cymocera.) Stove evergreen trees, with yellow flowers, from India. Cuttings of ripe young shoots in sandy soil, and in a brisk heat; rich, sandy loam. Summer temp., 60° to 75°; winter, 50°.
, , pinna (leafletted). 40. April. 1818.

HARDY PLANTS are those which endure unjured our seasons without protection.

HAREBEL. Camp'ula rotundifo'lia.

HARES and RABBITS are deterred from injuring trees and shrubs, by mixing night-soil and clay in water, and daubing it over the stems, with a brush, in November; and if the winter proves very wet, in February. The November dressing is, however, generally sufficient. This mixture has stopped their depredations entirely, even when they had commenced operations.

HARE'S-EAR. Buple'rum.

HARE'S-FERN. Dav'illa canariei'na.

HARE'S-FOOT. Ochro'ma Lago'pus.

HARICOT. See Kidney Bean.

HARI'NA. An Indian name. See Wallachia.

HAR'OYNGA. (From rongia, the name in Madagascar. Nat. ord. Tuzians [Hypercaceae]. Linn. 18-Polypodaphia, 2-Polyandra.) Evergreen stove shrub. Cuttings of young shoots getting a little firm, in sandy peat, under a bell-glass, in heat; sandy loam, and peat. Summer temp., 60° to 70°; winter, 40° to 50°.

HARPA'LIUM RIGIDUM. See Helianthus rigidus.

HARR'JA CHIA SPECI'O'SA. See Crossandra undulfolia.

HARRISON'IA. (In honour of Mrs. Harrison, of Liverpool, its introducer. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. 5-Pentandria, 2-Digynia.) H. lonicero'ntes (Lonicera-like). See Marnedia lonicero'ides.

HART'GO'IA. (Named after J. Hartog, a Dutch naturalist. Nat. ord. Spindle-trees [Celastraceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Elaeodendron.) Evergreen shrub, from South Africa. Cuttings of the ripe shoots, in a bell-glass, or under a hard-light, and protected; sandy loam and peat. Usually grown in the greenhouse, but will stand out of doors in elevated, and yet sheltered places.

HART'S TONGUE. Scopo'lepindrum.

HAWTE'GLIA. (Named after M. Hartweg, court gardener to the Emperor of Australia, once a botanical collector for the Horticultural Society. Nat. ord. Orchids [Cymbidae]. Linn. 30-Cymbidium, 1-Monanadia.) Stove orchids. Division of the plant in spring; very fibrous peat, potsherds, and charcoal. Summer temp., 60° to 85°; winter, 50° to 55°.

H. Ge'yma (Gemma). Amethyst-purple. Central Amer. 1837.

HASSAGAY-TREE. Cylindrica.

HAST'NGIA. See Holmskioldia.

HATCHET-VETCH. Bine'rua.

HAU'BOY or HAUTOUS. See Strawberry.

HAW-FLY. See Scye'a.

HAWKWEED. Hi'era cium.

HAW'ORTIIA. (Named in honour of A. H. Haworth, Esq., a distinguished English botanist.) For culture, &c., to which it is allied. They are all natives of South America, and all have grey flowers.
H. affinis (allied). 1875.
, , 6-Thi'cans (white-edged). i. July. 1795.
, , mi'nor (smaller). §. August. 1819.
, , vir'e'sens (greenish). i. August. 1819.
, , distis'nea (ridged-lined). §. August. 1824.
, , angu'shifer'a (harrow-leaved). i. June. 1824.
, , arachnoides (cobweb-like). i. August. 1727.
, , mi'nor (smaller). §. August. 1819.
, , aristis'ta (awned). See H. Altiline'a.
, , as'per'ula (asperule). §. July. 1818.
, , a'tro-viso'rens (dark green). i. May. 1823.
, , attenua'ta (attenuated). i. July. 1790.
, , bina'a (clear-pearl). i. June. 1824.
, , bina'a (two-lined). White. red. 1875.
, , Bolus'i (Bolus's). Grey-white. 1873.
, , brevis (short). See H. Marga'tiftera.
, , chorac'na (green-spined). §. August. 1820.
, , clarit'iaria (clear-pearled). See H. A'tennu'a clari'fera.
, , coueris'ta (compressed). §. August. 1821.
, , co'lumna'ris (columnar). §. Africa.
, , cor'pora (necat). See H. Viscosa.
, , Cooper's (Cooper's). §. Grey. red. 1862.
, , cordifo'lia (heart-leaved). §. June. 1817.
, , cul'ria (short-bristled). See H. Tortuosa curta.
, , cup'pidi'na (spine-pointed). §. August. 1819.
, , cyn'bofor'mis (boat-formed). §. June. 1795.
, , obu'sa (oblate). §. June. 1824.
, , planifo'lia (flat-leaved). §. April. 1824.
, , densi'flora (thick-tubed). §. May. 1824.
, , disti'ncta (distinct). See H. Venosa.
, , eri'ca ( erect-petal). See H. Marga'tiftera.
, , expla'sa (expanded). See H. Rigida.
, , fasci'ata (cable-tied). §. July. 1818.
, , ma'jor (larger). §. July. 1820.
, , gibra'ta (smooth). White, pale red. 1834.
, , po'cyl'or (one-coloured).
, , peror'i'dora (very-green).
, , plan'ia (pea-green). 1879.
, , gran'a (grained). See H. Marga'tiftera granata.
, , grer'nis (Green's). 1879.
, , hy'brida (hybrid). §. June. 1821.
, , conspi'cua (twenty-leaved). 1872.
, , indura'ta (hard-branchy). See H. Viscosa.
, , la'to-viso'rens (lively-green). §. August. 1819.
, , la'tis (smooth-white-edged). See H. Albican's.
, , le's'peta (slightly-rough). §. July. 1817.
, , coralli'na (coral-red).
, , gra'nata (grained). §. July. 1735.
, , ma'jor (larger). §. April. 1819.
, , me'dia (medium).
, , mi'nor (lesser). §. June. 1819.
, , multi'fer'a (many-peared). §. April. 1819.
, , semimargarit'fera (half-pearl-bearing). §. April. 1819.
, , mi'mina (smallest). 1872.
, , mi'nor (lesser-pellicled). See H. Marga'tiftera minor
, , multi'fri'a (many-sided). See H. Marga'tiftera minor
, , mucrona'ta (sharp-pointed). See H. Altiline'a.
, , multi'fria (many-sided). See H. Marga'tiftera minor
, , mu'cula (blunt-cushion). See H. Retusa.
HEATH, or as it is also termed, Bushing or Leaering, is an aptitude to unfold the central leaves, characterizing the various members of the Cabbage tribe. They have their centre or bud composed of a larger number of leaves than usual, and these, in some instances, are so compacted that the plant has not sufficient power to force them open to permit the protrusion of the seed-stem. The closeness of the heading is regulated by the exposure to the light. In a shady situation all the leaves are pressed to elude the sap, on account of the deficient light rendering each less active; therefore they open as they are formed. In a free exposure a few leaves are able to effect the requisite assimilation; and hence the reason why cabbages always have a "harrow head" in summer than in spring or autumn, when the light is less intense.

HEADING-DOWN, is cutting off entirely, or to a considerable extent, the branches of a tree or shrub—a process not rashly to be resorted to, and adopted only to reduce them when the plant seems declining in vigour, or has attained an undesirable size.

HEART'S-EASE. See PANSY.

HEAT is the prime agent in developing all vegetable life and vegetable form, in effecting all vegetable changes, and in ripening all vegetable produce. All these effects are ascribed to the agency of heat; for there is a specific temperature at which every plan is best adapted, at some different temperature or degree of heat; and he who ascertains most correctly those heates has taken a gigantic step towards excellence as a gardener. An uncontrolled fire, too, may be injurious to vegetables as well as animals. Every plant has a particular temperature, without which its functions become more feeble, or cease, but the majority of them luxuriate most in a climate of which the extreme temperature is never above 80°, and not exceeding 75°, and at all vegetables, no sap will circulate, in a temperature at or below the freezing-point of water. No cultivation will render plants, natives of the torrid zone, capable of bearing the rigours of our winters, although such a scheme may be recommended to the attention of those who may have in their stoves very dry heat: this effect being now produced by the plant's torpitude, or want of excitement to perform the requisite elaboration of the sap, and sensitive tissues are not made to vegetate in a temperature which is too elevated.

If blossoms are produced at all, they are unfertile, and the entire aspect of the plant betrays that its secrets are not healthy, and its functions are deadened. Mr. Day has shown that many plants grown in a temperature too low, produce an excess of female blossoms; but if the temperature be too high, blossoms of the opposite sex are far too profuse. The drier the air the greater is the amount of moisture transpired; and this becomes so excessive, if it be also promoted by a high temperature, that plants in hothouses, where it has occurred often, dry up as if burned. The journey in the winter of Mr. Daniel's handkerchief, by showing, that if the temperature of a hothouse be raised only five degrees, viz. from 75° to 80°, whilst the air within it remains the same degree of moisture, a plant in perfect health. The temperature of the exterior moisture, would, in the higher temperature, exhale one hundred and twenty grains in the same space of time. Plants, however, like animals, can bear a higher temperature than we think they can in air charged with moisture; and this becomes so excessive, if it be also promoted by a high temperature, that plants in hothouses, where it has occurred often, dry up as if burned. The journey in the winter of Mr. Daniel's handkerchief, by showing, that if the temperature of a hothouse be raised only five degrees, viz. from 75° to 80°, whilst the air within it remains the same degree of moisture, a plant in perfect health.
Certain plants flourish in hot-water springs, of which the temperature varies between the scalding heats of from 150° to 180° of Fahrenheit's thermometer; and others have been found growing freely on the edges of volcanoes, in an atmosphere heated above the boiling-point of water. Indeed, it is quite certain that most plants will better bear, for a short time, an elevated temperature, which, if long continued, would destroy them; than a much lower temperature. Thus, temperature a little above the freezing-point of water, to orchidaceous and other tropical plants, is generally fatal if endured by them for only a few minutes; whereas a considerable elevation above it is quite withstanding. But this is not universally the case; for the elegant Pri'tcula mar'ginata is so impatience of heat, that, although just about to bloom, it never opens a bud if brought into a room in which there is as much heat. The temperature should always be regulated, in our hothouses, with a due regard to the light. At night it should be so low as to put the circulation of the sap into a comparative state of rest. Lastly, a sufficient quantity of pure air, and full days the temperature should be full ro° lower than in those of bright sunshine.

HEATHS. See Eri'ca.

Propagation: by Cuttings.—In order to be successful in striking the hard-wooded heaths, it is necessary to put a plant of each kind in gentle heat, to cause them to proceed in their natural manner, and for materials for the operation of propagation should be prepared: these are the requisite number of clear bell-glasses. It will be advantageous to have of them different sizes. Place at the bottom of each glass, and fill the remaining portion of the glass with a drainagé by breaking a quantity of potsherds. These should be in three sizes, the largest about an inch across, the next half an inch, and the smallest the size of marble-faces. To these add or sift over, if necessary, a layer of sand, with two sizes between. Also prepare the soil ready. The best is to be had from some dry moorland where the heather grows wild. Break the turves into a fine state, and pass it through a fine sieve; fit may be sifted finely through a sieve with the smallest pores. The next things to look after are the pots. If new, they must be placed in a tub of water for a few hours; if old, they must be well scoured and made perfectly clean. Lastly, procure a sufficient quantity of pure silver sand, a pair of propagating scissors, and a small ivory-handled knife of the very best material. All these being in readiness, see that the cuttings are in a fit state to take off the plants. If they have not been freshly cut, an inch long, they are ready for use. Then take a small clean pot, invert it, and place it over the hole at the bottom of the pot for the cuttings, then fill in a round a foot of fine sand, and then add, as the second size, and then, lastly, with a considerable quantity of the smallest size, cover these with a layer of the rough siftings. The whole of these should fill the pot to within about one half inches of the rim of the pot. Upon this place an inch and a half of the heath mould, with a large admixture of the silver sand; level this last layer with a circular piece of wood, with a nail driven into the centre, to form a handle. Finish with a layer of the pure white sand quite level with the rim of the pot. Give a good watering with a fine rose pot, to settle the sand. Then take off the cuttings with the scissors, and dress them with the knife; cut the bottom of each cutting off as near as possible to the root of the plant. Take the sand, till a sufficient number are made to fill the pot. Make a mark in the sand to show the size of the glass, and then proceed to put in the cuttings in regular rows around the edge of the pot. If they have been made fresh choose a pinch of sand, and as they are placed, add some heath mould to keep up a gentle heat of 55°, as near as possible. Wipe the glasses dry every morning, and as soon as the cuttings are rooted, remove them into a cooler house, and give a little air by placing three short pieces of wood, a quarter of an inch thick and two inches long, so as to form a triangle, and let the bell-glass rest upon them. In this house it will still be necessary to shade them from the blazing sun. This is easily done by spreading some sheets of paper over them; but remove this shade instantaneously when the sun is overclouded. When they have been in this situation for a month, remove the glasses entirely, and a month afterwards commence potting them off in 3-inch pots, four in a pot, stopping them at the top with rosemary or laurel. Place them the first month in a cold frame, upon a layer of river-sand on coalashes; shade again for a time, and give air moderately. When they have made fresh roots expose them occasionally to gentle drafts of warm air, and water just enough to keep the compost from becoming dry. When they have been brought into the same sized pots, according to the size of the pot, fill the rest of the pot with sandy soil, and place the pots in a cool greenhouse. If the sun is so strong, and the light so free, that the greenhouses cannot be inhabited, they will remain till fresh roots are formed. They are then ready for the usual routine of culture. Heaths, with soft wood and free growth, are more easy to propagate, and do not require the same care and protection; but in other respects the management is the same. By Seed.—Several kinds of heaths produce plenty of a very good seed; even some that are extremely difficult to propagate. Even those of the hard-wooded class, as E. odo'ra ro'sea, E. hali'acea'ta, E. triw'mphans, and some others of similar habit. Fill the pots in the same way as for cuttings, only mix the top layer of sand with as much heath mould as possible, and cover it with a layer of heath mould; sown in spring on the surface, covering it as slightly as possible; with the finest syringes, so that it may fall upon the seed like the finest dew; place the pots near the glass or bell-glass, about 12 inches from the surface just moist. The seedlings will soon come up, and require great care, or they will fog off. To prevent this give air daily. As soon as they can be handled easily, turn them into a cold frame, with the glass just opening, and stand clear of each other. In this state they may remain for six or eight months, and then pot them off into 3-inch pots, four in a pot, and manage them afterwards in the same way as the cuttings. Soil.—Heaths are most generally described above, in writing of the soil proper for the cuttings to root into; but for larger plants it must not be sifted so fine. For very large plants do not sift it at all; for such, a few pieces of coarse sand are mixed in proportion; but in other respects the management is the same. Potting.—Heaths thrive best if the mould is left below the rim of the pot, and for small plants an inch deep; 6-inch pots, to two inches in large ones. This space holds a supply of water which gradually sinks through, and effectually moistens the ball to the centre. Drain thoroughly, and water freely, as the heaths require very little. For them through winter and spring, when they are too large for the frames. In summer they should be set out of doors upon a thick bed of coal-ashes, behind a low wall or hedge. Whilst in this position they must have an abundant and constant supply of water. If the ball ever becomes thoroughly dry, the plants will certainly die; therefore, attend this point of watering most rigidly and perseveringly. In winter they do not require so much water; but even in that season, they must be kept moderately, but constantly and thoroughly, moistened.

Diseases.—Heaths are subject to go off at the point where the buds are, and to be killed by scorching at the lower ends, and the points injured. This can almost be cured by an irregular supply of water, and cannot be cured when it once takes place. The plant may appear green and flourishing, and the roots fresh, and the ends are alive; but when put through the frame, if that is not dried by a little heat, with abundance of air, the disease will spread rapidly, and soon destroy the plants. If only one or two are infected, they had better be sulphured, and placed by themselves till the mildew fungus is killed.
Insects.—See Aphid for cure, when the Green Fly attacks them.

HEATH-MOULD. See Bog-earth.

HEATHER. See Calluna vulgaris.

HEBE CLADUS. (From hele, downiness, and klados, a branch; the young shoots being downy. Nat. ord. Solanaceae.)


HERECLINIUM. See Eupatorium.

HEBENSTRETTIA. (Named after Professor Hebdenstreit, of Leipzig. Nat. ord. Selagins [Selaginaceae]. Linn. 14-Didynamia, 2-Angiosperma. Allied to Selago.)

Most of the Cape Selagids are well adapted for planting out in summer, in mixed borders. Greenhouse evergreen shrubs or annuals; all from South Africa, and all white-flowered. Short young shoots in sandy peat, in spring, under a bell-glass; sandy, fibrous loam, and a little peat. Summer temp., 50° to 73°; winter, 36° to 45°. Denuda by seed in early spring.


HE CHITA. (Commemorative of M. Heck. Nat. ord. Bromeliaceae.)

Warm and dry greenhouse plants. Offsets and seeds. Fibrous root, with some finely broken bricks.


HEDE'OMA. (From he'doma, the Greek name of mint. Nat. ord. Labiates or Lipworts [Labiate]. Linn. 2-Diantra, 3-Monogyne. Allied to Myrtilloides.)

Hardy annuals. Seed in early spring; light, rich garden-soil.


HE DERA. The Ivy. (Hedra is the Celtic word for earth, alluding to the Ivy's stems. Nat. ord. Ivyworts [Araliaceae]. Linn. 5-Pentandra, 1-Monogyne.)

The common ivy (H. Helix) may be propagated by seeds, but in all its varieties is quickest propagated by slips, inserted in its native soil, in sandy soil, kept moist in the autumn. This is a far better plan than inserting it at once where it is intended to remain.

Deep, rich soil suits the common ivy; the tender kinds should have light soil. For clothing dead trees, covering open fences, giving an air of antiquity, security, and warmth and dryness to buildings, and even producing architectural effects, and covering the ground in shady places with a green carpet, where scarcely anything else would grow, the ivy is invaluable.

GREENHOUSE EVERGREEN SHRUBS.


STOVE EVERGREEN SHRUBS.


HARDY EVERGREEN CLIMBERS.

HEDGE properly includes every kind of fence; but the present details apply, for the most part, to growing fences. Abercrombie says, that all outward fences designed as fences should have a ditch on the outside, through which it divide five sides of the field, and into the ditch, along the inner edge lay a row of square spit about five or six inches wide at bottom, raising a low bank on the inside on which to plant the hedge. Having lined out the width of the ditch, then along the inner edge lay a row of square spit two or three feet wide at bottom, and trim up all remaining long narrow, placing each set against the spaces of those of the first row, so covering them with more earth from the ditch to the depth of three feet, sloping each side to one foot width at bottom, and trim up all remaining low, being a foot higher than the middle of the trench, and then levelling the top, forming a foot of border all along a yard wide; plant the sets along its middle upright, in two rows a foot asunder, and six inches distant in each row, making, for four or five feet from the line of the ridge, once at seed sowed where you design the hedge to be, sowing them along the top in drills a foot asunder. Sometimes, when hedges are designed for middle fences to be raised at any height, the bank is raised a yard high, and as broad at top, having a slight ditch on each side; and each side of the bank is formed with square spit turves from the adjoining ground, and the middle filled up with setts; when finished, it forms a yard-wide border all the way along the top, and along the middle of which plant two rows of hedge-sets or seed, in drills, as before observed. But in places where to dig nor raise a bank is required, as may be the case for middle hedges in the interior parts of grounds, especially in gardens, then the place for the hedge being marked out on the level ground two or three feet broad, dig it along one good spade deep at least, and then grade it to half the depth, the same along the middle; or, if you design to sow seed, &c., of any sort at once, where you intend to have the hedge, sow them in two drills a foot asunder the whole length. For the planting, the sets are planted by the six inches high, and the Elms to double that height if required. Privet is also sometimes used for moderately high hedges; and for low hedges, the Rose, Sweet-briar, Syringa, and Bay, are used.

All full-trained hedges, in order to preserve them in proper form, must be clipped, both on the sides and tops, once or twice a year, but never less than once; and the best time for this work is summer, from about the middle or latter end of June to the end of August; for then the hedges will have made their summer shoots, which should always, if possible, be clipped the same season while in leaf, and before the shoots become hard, whereby you will be able to perform the work more expeditiously and with greater exactness, for regular hedges should be cut as even as a wall on the sides, and the top as straight as a line; observing, after the hedge is formed to its proper height and width, always to cut each year's clipping near to that of the former year, giving much attention to the top, when clipped, to raise it to a height about a foot or two wide, nor suffer them to advance upon you too much at top, where it is designed or necessary to keep them to a moderate height. But when these fine hedges are turned into thick hedges, it is necessary to clip them twice every summer; the first clipping to be about Midsummer, or soon after, when they will have made their summer shoots; and as they will shoot much more freely, and make it necessary to clip them again at the beginning of August; and, if cut sooner, they will shoot again, and appear almost as rough the remainder of the summer and all winter as if they had not been clipped. Very high hedges are both troublesome and expensive to cut. The clipping is sometimes performed by the assistance of a high machine, scaffolding, or stage, twenty or thirty feet high or more, having platforms at different heights for the men to stand upon, the whole made to move along upon wheels. It is the work of a dozen men on long poles for uprights, well framed together, eight or ten feet wide at bottom, narrowing gradually to four or five at top, having a platform or stage at every seven or eight feet, for four or five men to stand upon, till the hedges are cut. When this work is attended to expeditiously, the man stands to work, each platform having a rail, waist high, to keep the man from falling, and a sort of ladder formed on one side for the man to ascend, and descend the hedges. In some places the platform is a machine a man may be employed on each stage or platform, trimming the hedge with shears, and sometimes with a garden hedge-bill fixed on a handle five or six feet long, which is more expeditious. Many kinds of hedges will not make so neat work as cutting with the shears.

A hedge is not only an imperfect screen, but in other respects is worse than useless, since nothing can be seen of what is planted behind it. A hedge may close off the neighbourhood very considerably. As the south fence of a garden, it may be employed; and, hawthorn, in some respects, is the worst shrub that could be made use of. It is the nursery of the same aphides, beetles, and caterpillars, that feed upon the foliage of the apple and pear, from whence they often spread to the whole garden. Evergreen are better than deciduous hedges, and more especially those of the holly, which is not so strong a hedgerow as the others.

In a cloudy day, in April or May, the wind seems to be actually refrigerated in passing through a thick hawthorn hedge; and this may be accounted for on the supposition of the hawthorn releasing a particular kind of moisture into the air, in consequence of which the leaves of trees round them remain green in the early spring, while the wind is not so much affected in the same manner in a cloudless day; and, in the latter part of May, it is observed that the north wind is often cooled by passing through such hedges; and in the latter part of July, it is observed that the south wind is often cooled by passing through such hedges. Thus, as I have described, a hedge or set of hedges both expeditiously and with greater exactness, for regular.

Hedges should be kept in a conical form, as the diminution of the branches towards the top increases their development at the bottom. Furze makes one of the best and handsomest of hedges if kept regularly clipped. Upon the formation of this hedge, Mr. Mcl., of Hillsborough—The most ancient, and perhaps the most simple of all fences, are walls made of turf. These walls, however, are much injured by the atmosphere, and the rubbing and battering of the cattle. To guard against this they should be planted or sown with the Ulex europaeus, or Furze. The roots of this plant will soon penetrate the turf, and tend to bind the wall. The plants not only afford shelter as well as food for the cattle, but add to the height of the wall, and give it a formidable.
appearance. When walls are made for this, the foundation should be three feet wide, and tapering to fifteen inches at top. As the plants advance in growth, they should be regularly trimmed with the shears; by proper attention to this they will be prevented from growing too tall and thin at the bottom. If this is annually repeated, the plants will be longer preserved in a healthy and vigorous state: clipping has also a good effect in checking the hurse from spreading over the field. A good and substantial fence may thus be quickly formed on a soil that will not produce a biding fence of any other kind.

Sweet-briar (Ros's rubiginosa) makes a good hedge. Its heps may be sown in the autumn, as soon as ripe, or, when necessary, in the month of March, having kept them, in the meantime, mixed with sand. But it is far more convenient to buy young plants, and to plant them a foot apart early in the month of November. Let them grow as they like for the first year, and cut them down to the ground the second; they will then spring up and require no more care than occasionally trimming with the pruning-knife or shears to keep the hedge in shape. When it gets naked to the bottom, it must be again cut down.—Gard. Chron.

HEDGE-HOG THISTLE. Echinocclus. HEDGE HYSSOP. Grati'ola. HEDGE MUSTARD. Ery'simum. HEDGE NETTLE. Silet's. HEDRANIUS NIVEUS. See Wahlenbergia nivea.

HEDYGIA, of Swartz. (Named after John Hedwig, a botanist. Nat. ord. Burseras [Burseraceae]. Linn. 6-Quimper, 379 (Zingiber.) Customarily called to the Orange tribe. Became a suculent, a substitute for Copaliva, is obtained from this Hedwigia. Stove evergreen tree. Cutting of ripe shoots in sandy soil, and give them a little heat. Summer temp., 60° to 85°; winter, 50° to 65°.


HEDY CHIUM. (From hedus, sweet, and chion, snow; in reference to the sweet-scented, snow-white flowers of H. ma'siumum and corona rum, the best two garden plants of the genus. Nat. ord. Geraniaceae. Linn. 4-Poitiers, 199.) Close allied to the Orange tribe. Became a suculent, a substitute for Copaliva, is obtained from this Hedwigia. Stove evergreen tree. Cutting of ripe shoots in sandy soil, and give them a little heat. Summer temp., 60° to 85°; with moist atmosphere when growing, and in August. W. Ind.

H. acuminatum (long-pointed). See H. spicatum.

angustifolium (narrow-leaved). See H. coccinum

angustifolium.

aurantiacum (orange-coloured). See H. coccinum.


chrysoleucum (golden-white). See H. coronarium.


corr'on'arium (garland). 5. White. E. Ind. 1791.


cus't'um (tall). 5. Pale red. E. Ind. 1818.


Himalaya. 1894.
HEDYSCEPE


Macke nii (Mackenzie's). Rose-purple. N. Amer. 1870.
apiceatum (hard-pointed). Leaves with fewer leaflets.

murica tum (warted). See Adesmia muricata.


picatum (painted). See Uraria picta.


to'carn (roseate). See H. Tauricum.

rutidocarpum (wrinkled-podded). See H. Poly-morphum.


umbellatum (umbellled). This is Desmodium umbellatum.

uncinatum (hooked). This is Desmodium uncinatum.


varium (lovely). See H. Polymorphum.

vespertilionis (bat's). See Lourea vespertilionis.

HEDY'SCEPE. (Derived from hedus, sweet, and skope, a wrapper. Nat. ord. Palmacem.)


Lord Howe's Island.

HEEL. When a cutting is taken off with a small portion of the older wood from which it sprang, that older portion is called the heel.

HEELING-IN. Trees and shrubs that cannot be planted immediately, cuttings that cannot be inserted, and grafts to be kept till grafting time, are heel-ed, or laid temporary, in a trench, and the roots or base covered with soil. Kitchen-garden crops are sometimes treated in a similar way in a cool or shady situation to prolong the supply.

HEERIA. (In compliment to Oswald Heer, a Swiss botanist. Nat. ord. Melastomaceae.)


HEINANIA. (Named after M. Heinianus. Nat. ord. Circo-nacnos [Rubiacceae]. Linn. 5-Pentandria, 1-Monandria. This all to Gardenia.)


HEITZIA. (Complimentary to M. Heitz, a Swiss, Nat. ord. Gesneracem.)

H. fcr nna (tiger-spotted). See Alloplectus tigrinus.


This is the source of the Partridge-pee of Martineau, but not of the Partridge-wood, as has been erroneously asserted. Stove evergreen tree. Cuttings of firm young shoots in a brisk heat; sandy loam and a dash of peat. Summer temp., 60° to 85°; winter, 50° to 55°. H. coc'i nea (scarlet). 20. Scarlet. Martineau. 1822.

HELCIA. (From helicum, a horse-collar; in reference to the curious formation of the flowers. Nat. ord. Orchis [Orchidaceae]. Linn. 20-Gynandra, r-Monogynia.)


HELE'NIUM. (Named after the beautiful Helena, cause of the Trojan war. Nat. ord. Composites [Composite]. Linn. 19-Syngenesia, 2-Superbula.)

Hardy herbaceous plants, with yellow flowers. By division of the plant in spring; common garden-soil. There are some annuals and biennials, but not deserving cultivation.

H. atropurpureum (dark purple). See H. nudiflorum.


atropurpureum (dark purple). Almost crimson. 1902.

cupreum (copper). 5. Copper-red.

pu' milum (dwarf). 1. Flowers larger, yellow. 1818.

ricrugineum (red). Crimson and orange. 1912.

stria'rum (striped). Striped copper-red.

tiger'gloss (Tiger) Yelow. California. 1897.

Boland'eri (Bolander's). 2. Yellow, with dark brown disc, California. 1891.

california'num (California). See H. Ruberulum.

canalis'cum (channelled). See H. AUTUMNALLA parvif'orum (small-leaved). See H. AUTUMNALLA STRIATUM.


nudiflor'um (naked-flowered) of gardens. See H. AUTUMNALLA striata.

puberulum (finely-downy). Yellow. California.

pubescens (downy). See H. AUTUMNALLA.

pu' milum (dwarf). See H. AUTUMNALLA PUMIUM.

quadridi'num (four-toothed). Yellow. May. N. Amer. 1790.

setigerum (bristle-bearing). Yellow. Texas.

tenuiflor'um (slender-flowered). 1. Yellow. 1889.


undulata'num (waved-leaved). 3. September. Cali-

Helia M'PHORA. (Derived from helios, the sun, and amphora, a pitcher. Nat. ord. Sarraceniacae.)

Greenish-yellow to crimson. See H. orichalca. Seeds; divisions in spring. Fibrous peat, sphagnum, and broken potsherds.

H. ml'ians (nodding). 2. White; stamens yellow.

British Guiana. 1885.

Helia N'THEMUM. Sun Rose. (From helios, the sun, and anthemus, a flower. Nat. ord. Rock-roses (Cistaceae). Linn. 13-Polyandria, 1-Monogynia.)

If gardeners would turn their attention to these Rock-roses, and cross them judiciously, they might expect in time to produce a race which would rival the Verbenas. Annually, by seeds in the open border, in April. A few of the best shrubby ones are rather tender, and young plants might be saved in a cold pit. Shrubby ever-greens, by inserting little pieces of ripened and half-ripened leaves attached in June, in sandy soil, in a shady place, under a hand-light. Few things can surpass the beauty of these plants when trailing over stones, and banks, and rock-works, in spring and summer. In such positions the tenderest merely require, at times, an evergreen branch placed over them in winter; sandy loam, with a little peat, suits them well.

ANNUALS.


eriocaulon (woolly-stemmed). See H. Guttatum.
H. stramineum (straw-coloured). See H. VULGARE STRAINNEUM.
H. multiceps (double-flowered). See H. VULGARE STRAINNEUM MULTICEPS.
H. sulphureum (sulphur-coloured). See H. VULGARE STRAINHEUM.
H. surrejaeum (Surrey). See H. VULGARE SURREJEUM.
H. tomentosum (white-downed). See H. VULGARE TOTMENTOSUM.
H. variabile (variable). 1. Yellow. June. Mediter-
ranean region. 1820.
H. vernus stium (beautiful). See H. VULGARE VERNUSUM.
H. flo're-pel'no (double-flowered). See H. VULGARE VERNUSUM FLO'RE-PLE'NO.
H. diversifolium multiceps (divers-leaved double). 1. Yellow.
H. strami'neum (changeable). 1. Red. roundish or oval, white beneath.
H. surrejaeum (Surrey). 1. Yellow petals lance-
H. tumens'um (telted). 1. Yellow. July. Scot-
land.

EVERGREEN SHRUBS.
H. algarv'ns (Algarve). See H. OCYMIDIES.
western Europe. 1775.
H. cheiroth'as des (wallflower-like). 3. Yellow. June. Port-
ugal. 1815.
H. ambit'gus (doubtful). Algeria.
H. apenni'ns (Apennine). See H. POLIFOLIUM.
June. Spain. 1859.
H. barrel'eri (Barrellier). 1. See H. THYMIFOLIUM.
1790.
HELIANTHUS. Sunflower. (From helios, the sun, and anthos, a flower; in reference to the opinion that the flowers turn round after the sun. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 2-Superbus.) Hardy herbaceous plants, all yellow-flowered; well fitted for the back of flower-borders and the front of shrubberies, where such modes of planting prevail. The annuals, and some of the common Sunflower, should be sown in a slight hotbed, and afterwards transplanted; the perennials must be divided in the spring; common, good soil; a few of the tenderest must have a little protection in very cold and wet winters.

ANNUALS.


H. N. Amer. 1827.


H. cucumerifolius (cucumber-leaved). See H. debilis.


H. xanthophyllus (tub-shaped disc florets). 1808.


H. indicus (daur-Indian). See H. annuus.

H. lenticularis (lenticular). See H. annuus lenticularis.

H. ova (egg-leaved). See H. annuus.


H. speciosus (showy). See Tithonia speciosa.


PERENNIALS.

H. altissimus (tallest). See H. giganteus.


H. aterubens (dark-red-eyed) of Lamarck. See H. LETIFLORUS.

H. aterubens (dark-red) of Michaux. See H. rigidus.


H. multiflorus (many-flowered). See H. MULTIPLUS.

H. diffusus (spreading). See H. rigidus.


H. excentus (lofty). See Viguierea excelsa.


H. hookeri (Hooker's). See H. doronicoides.

H. hookeri (Hookerian). See Wethia ANNUOFLOR.

H. ligno (woody). See H. TURBAGA.

H. lineata (straight-stemmed). See H. HERBAL LINEAR.


H. majorana (majorana-leaved). See H. HIRUM.

H. microphyllus (small-leaved). See H. OXYDINOMA.


H. mutabilis (rapidly-changing). See H. Glaucifolia.


H. origanifolium (marjoram-leaved). Europe.


H. racemosum (racemed). See H. VIRGATUM.

H. rubellum (pale-red). Light red. Western Mediterranean region.

H. rugosum (wrinkled). See H. ALYSSOIDES.

H. scabrum (rough). See H. ALYSSOIDES.


H. striatum (upright). See H. VIRGATUM.


H. versicolor (party-coloured). See H. VARIABILIS.


HELLA TITUS. Sunflower. (From helios, the sun, and anthos, a flower; in reference to the opinion that the flowers turn round after the sun. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 2-Superbus.) Hardy herbaceous plants, all yellow-flowered; well fitted for the back of flower-borders and the front of


N. Amer. "Prairie Sunflower."

*strobus* (swollen). 8. N. Amer. 1710.

*satis* (cultivated). Larger than the type.


N. Amer. 1830.


* sill'o'sus* (shaggy). 3. August. N. Amer. 1820.

See JERUSALEM ARTICHoke and SUNFLOWER.

HELIChRYSUM. (From *helios*, the sun, and *chrusos*, gold; referring to the beauty of the flowers. Nat. ord. Composites (Compositae). Linn. 19-Syngenia, 2-Superflu. It includes Aphelescis.)

Many may be raised from seed; others, such as hardy and greenhouse herbaceous, by division and cuttings in spring, in sandy soil, under a hand-glass; evergreen shrubs from cuttings. Small side-shoots are taken off when getting firm at their base, will strike freely in sandy, peaty soil, under a bell-glass; peat and loam, three of the former to one of the latter. Temp. for greenhouse kinds, 60-65. *Stec'has* is the hardest shrubby kind, flourishing in a sheltered place in dry, calcareous soil. Angusti'fio'sus, *feli'num*, and *frut'i'cans* are the next in point of hardiness, and probably would do on a south aspect wall.

HARDY Annuals.


" *au'ri'mum* (golden-yellow) Golden-yellow.


HARDY HERBACEOUS PERENNIALS.


" ser'pylli'sum* (late). S.W. Europe.


HARDY EVERGREEN SHRUBS.


" *co'mic'un* (conical). See GNAPHALIUM CONICUM.


" *Stec'has* (Stechas). 2. Yellow. August. Western Mediterranean region. 1839.

GREENHOUSE HERBACEOUS PERENNIALS.


S. Africa. 1820.

*fo'lium* (frond). 2. Light yellow. S. Africa. 1629.


Half-hardy.

*grae've'ca'na* (strong-smelling). Yellow. Tauria. 1877.

Half-hardy.

*Gul'is* (William's). White or rose-red. Eastern Trop. 1901.

*Hy'evi* (Meyer's). Flower-heads more loosely arranged. 1902.

*lanu'sum* (woolly). Asia Minor.


Cape of Good Hope. 1691.


Cape of Good Hope. 1731.


GREENHOUSE EVERGREEN SHRUBS.

H. *acumin'a'tum* (sharp-pointed). See GNAPHALIUM ACUMINATUM.

" *alexandri*a* (Alexandria). See GNAPHALIUM LUTEO-ALBUM.


" arbo'rea* (tree-like). See ANAXETON ARBOREUM.

*Ca'cep'ti* (Cape-like). See METALASIA CEPA'IOTES.


*con'gi'sum* (closed-head). See H. FELINUM.


*crassi'o'dium* (thick-flowered). 1. Yellow. Cape of Good Hope. 1774.


*dis'car'ic'um* (spreading). See H. CRISPUM.

*eric'a'to'sum* (Erica-leaved). S. Africa.


*fusc'o*mum* (bundled). See H. SEDSONIDAE.


*heliantho'si'sium* (Helenium-leaved). See H. SERPULLIUM.


HELICODIA ZEBRINA. See BILLBERGIA ZEBRINA.

HELICODI CEROS. (From helix, a spiral, Δ, duplication, and keras, a horn; in reference to the twisted, erect, and horn-like lateral segments of the leaf. Nat. ord. Araceae.)

Tubercular perennial, which succeeds best in a cool greenhouse, though it may be grown outside in light sandy loam with protection from frost. In pots. Loam, leaf-mould, and plenty of sand.


HELIGIA NIA. (From helicon, a hill, consecrated to the Muses; in reference to the affinity of this genus to Musa. Nat. ord. Musaceae [Settaminaceae]. Linn. 5° Pentlandaria [Monogynia].)

The flabby roots of H. psilocarum are eatable. Stout herbaceous perennials. Division of the roots; strong, rich, loamy soil. Summer temp. 60° to 90° with plenty of moisture; winter, 50° to 60°.


illicis pseudocarnea. Leaves rose-red, with rose-pink veins. South Sea Islands, 1893.

rubrose'ris (red-stemmed). Leaf-stalks vermilion-red. 1869.

schep'icola (Indian). See H. Bihai. 1883.


Sanderi (Sander's). Leaves marbled rose-red. New Zealand. 1893.

spectabilis (showy). Leaves with red midrib, purple beneath. Trop. Amer. 1892.

H. swartzii'na (Swartz's). See H. BIRUTA.

triumphans (triumphant). Leaves with dark brown primary veins. Sumatra. 1852.

viro'sa (violet-colored). Colombia. 1871.

vri'dis (green). Polyneuris. 1875.

HELICOPHYLLUM. (Derived from helix, a spiral, and phallon, a leaf. Nat. ord. Araceae.)

Hardy perennials.Offsets. Light soil in a little shade.


Auchur'ri (Auchur's). Rauwolffii. See H. RAUWOLFFII.

F. R. Vol. 1801.

HELICOTE RES. (Derived from helikter, anything wound round or coiled; the fruits being twisted. Nat. ord. Sterculiaceae.)

Trees or shrubs for the stover. Cuttings with a heel, inserted in sand, in a close case, with bottom-heat. Fibrous loam and peat, with sand.


jamaica'nsis (Jamaican). White. September. W Ind. 1757.

HELINUS. (Derived from helinos, a bough or tendril. Nat. ord. Rhamnaceae.)

Woody, stave and greenhouse climbers. Seeds; cuttings being firm at the base in sand, kept close, with gentle heat. Fibrous loam and sand.


scandens (climbing). See H. MYS'ATINUS. 1883.

HELIOCARUS. (From helios, the sun, and karpos, a fruit; in reference to the fringes on the cells, or carpels, of the fruit. Nat. ord. Lindebladia [Tiliaeae]. Linn. 11° Dodecandra, 1-Monogynia. Allied to Sparmannia.)

Stove evergreen shrub. Cuttings of half-ripened shoots in summer, in sand, under a bell-glass, and in heat; sandy loam and fibrous peat. Summer temp., 60° to 80°; winter, 50° to 55°.


HELIOCERIS. See GYMNONOMIA.

HELIO PHILA. "Cape Stock." (From helios, the sun, and philo, to love; referring to the sunny aspect where the shrub delights to grow. Nat. ord. Cruciferae [Cruci-fere]. Linn. 15° Terebrygium.)

All from South Africa. Annuals, by seed in a warm, dry border, in April, or, better still, in a slight hotbed, under a glass, in March, and transplant in May. The under-shrubs require the greenhouse, or cold, dry pit, to winter them in, and are propagated by cuttings of young shoots in sandy soil, under a band-glass.

GREENHOUSE EVERGREENS.


chlo'modes (Chloe-like). See H. CALLORA.


scandens (climbing). White, or tinted with rose. 1811.


succulentia (succulent). See H. PLATYSILQUA.

HARDY ANNUALS.


arabô'sis (Arabis-like). See H. PILOSA.


digitalis (finger-leaved). See H. PILOSA.


HELIOPSIS. (From helios, the sun, and opsis, like; the appearance of the flowers. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 2-Superflua. Allied to Zinnia.) Hardy herbaceous perennials, with yellow flowers. By seed and division; common soil; treatment similar to that for Helianthus.

H. cane'scens (hoary). See H. scabria.


HELIOTROPIUM. Turnsole. (From helios, the sun, and trope, twining; in reference to the curled or twining of the flower-bracts. Nat. ord. Boraginaceae [Boragineae]. Linn. 3-Triandria, 1-Monogonya.) Hardy annuals, sown in open border, in April; tender annuals and biennials, in hotbeds, and transplanted; biennials to be kept on by cuttings; shrubs, by cuttings at any time, but best in spring and autumn: at the first period give a little bottom-heat, at the latter period place them under glass, and shade; rich, light soil.

STOVE ANNUALS AND BIENNIALS.

H. brevifo'sium (short-leaved). See H. strigosum.
H. coro'mandel'icum (Coromandel). See H. su'num.

HARDY ANNUALS.

H. aegy'ptiacum (Egyptian). See H. Pallens.
H. commul'tum (changed). See H. Europa'eum.
H. oblongifo'sium (oblong-leaved). See H. Europa'eum.
H. obso'leum (reversed-egg-leaved). See H. Ovata'lio'num.
H. subcam'ceans (slightly-hoary). See H. Europa'eum.
H. violo'sum (shaggy). Greece.

GREENHOUSE AND STOVE EVERGREEN SHRUBS.


H. undu'sa'num (waved-leaved). See H. Arra'finense.

GREENHOUSE DECIDUOUS SHRUB.


HELIPFERUM. (Derived from helios, the sun, and piron, a wing. Nat. ord. Composita.) Half-hardy annuals and perennials, which may be cut and dried as "Immortelles." Annuals in the open ground in April, or raised in heat and planted out in May. Perennials by seeds and cuttings. Light, sandy soil.

H. Cotula (Cotula). Yellow, white. Australia. 1866.
H. fru'gus (fragrant). See Helichrysum fragrans.
H. helio'psis (splendid). See Helichrysum humile.
H. im'brica'tum (overlapping). See Helichrysum im'bricatum.
H. o'lum (white). 1. Bracts white.
H. sangu'i'num (blood-red). Violet-red. 1897.
H. sesa'm'os (Sesamum-like). See Helichrysum sesa'moides.
H. virg'i'num (twiggly). Yellow. S. Africa.

HELLEBORUS. Hellebore. (From helaein, to kill, and bora, food; referring to its poisonous quality. Nat. ord. Crowfoot [Ranunculaceae]. Linn. 13-Polyandria, 6-Polygynia. Allied to Eranthis.) Hardy herbaceous perennials; by seeds, and by division of the plant in spring; common soil, in a shady place.

H. co'licheus (Colchic). See H. colchicus.
H. col'chicus (Colchicum). See H. colchicus.
H. cornell'i'num (Cornell's). See H. quinque'tus.
H. cu'licus (black). 1. Large, bluish-black. 1866.
H. da'lidus (pale). See H. viridis pallasii.
H. du'ncta'num (finely spotted). See H. guttatus sub-

PUNCTATUS.

H. colchicus, or copper-coloured-flowered. See H. odoratus.


dulenu'rum (thicket). See H. viridus dumetorum.


grau'sus (strong-scented). See H. odoratus.


inter'dius (intermediate). See H. viridis inter-

medius.

i'ri'dis (livid three-leaved). 1. Purple. March. subtruncata.


1710.

mali'us (much cut). See H. viridus Bocconii.


1796.

ala'sio'ius (tall-leaved). 1. White, pink.


Austria. 1856.

pra'cox (early). Flowers small. September to February.

River'o'ti ni (Riverston’s). 1. White.


Hungary. 1817.

officina'lis (official). See H. orientalis.


Buryen. 1840.


1839.

ro'seus (rosy). Rosy-pink.

orienta'lis (eastern) of Lindsay. See H. Antigocorum.

bo'nticus (Pontic). See H. orientalis.

purpura'riscus (purplish). See H. viridus FURPU-

IRUM SCENS.


Europe (England).

Bocco'ni (Boccon’s). Italy.


pol lidus (Pale). Pale green.


Hungary. 1817.

HELLENA. (Named after C. N. Helleis, professor at Abo. Nat. ord. Gingerwoots [Scolitamaceae].) Linn. 1-Mono'gyoia. United to Alpinia.)


Appears to be Alpinia chinensis.

corona'lis (blue-burred). See Alpina ceraulea.

chon'sis (Chinese). See Alpinia chinensis.

HELMET FLOWER. Cory's'is, Acon'tum and Scutel-

la'ria.

HELMOLTZIA. (Commemorative of Hermann Hel'mo-

lotz, a Prussian professor. Nat. ord. Philydraceae.)

Greenhouse perennial herb of tufted habit, like an Iris in foliage. Seeds; divisions in spring. Fibrous, leafy; peat, and plenty of sand to ensure porosity. Water liberally in summer.


HELMIA. (Commemorative of Dr. C. C. Hel'm. Nat. ord. Dioscoreaceae. Should be united with Dioscorea.)

A woody stove climber, with a tuberous rootstock. Offsets. Pale greenish. With only a little peat and sand.


HELMINTHO STACHYS. (From helmin, helminthos.

a worm, and stachus, a spike; the clustered roots of sori resembling small worms. Nat. ord. Ferns [Filicées].)

Stove Fern allied to Botrychium, with a creeping rootstock. Divisions. Peat, loam, and sand.


HELO NIAS. (A diminutive of helos, a marsh; small marsh-plants. Nat. ord. Liliworts [Liliaceae].) Linn. 6-Helianthus. 3-Trigynia. Allied to Veratrnum.)

Hardy herbaceous perennials, from North America. By seeds, and dividing the roots in spring; sandy, fibrous loam or peat, and requiring a moist, somewhat shaded situation.

H. angustifo'lia (narrow-leaved). See Zygadenus AN-

GUSTIFOLIUS.

H. angustifo'lia (asphodel-like). See Xero phil-HYLLUM

Sempervirens.

bractea'ta (large-bracted). See Zygadenus BRAC-

TEUS.


purpure'a (red-seeded). See Zygadenus Musci-

TOXICUM.

glabre'rima (smoothest). See Zygadenus FREMONTI.

gram'ne'a (grass-like). See Sternanthus ANGUSTI-

FOLIUS.

la'ta (bright green). See Zygadenus Muscitoxicum.

latifolii'la (broad-leaved). See H. BULLATA.

la'tea (yellow). See Chameliu'rias carolinianum.

corri'atica (virginian). See Melanthium VIRGINICUM.

HELONIO PSIS. (From Helonias, and ophis, resemblance; the plant being similar and closely allied to Helonias. Nat. ord. Liliaceae.)

A hardy perennial herb suitable for a peaty bed on the coast; its flowering season shaded from the sun from noon onwards. Suits ordinary soil, with the shelter of a wall.


HELXINE. (Helix, a plant, or Pellitory of the wall; in allusion to the habit of the plant of growing over damp stones. Nat. ord. Urticaee.)

A hardy herbaceous perennial, valued for the dainty character of the dense carpet of small leaves on slender, creeping stems; suitable for the rockery or for pots. Divisions. Moist soil, but well drained in a half shady (grassy). See VERATREME VERIDE.


HEMEROCALLIS. Day Lily. (From hemero, a day, and kallos, beauty. Nat. ord. Alilworts [Liliaceae].) Linn. 6-Hemerocallis, 1-Monogynia.)

Hardy herbaceous perennials. Division in spring; common garden-soil.

H. a'da (white). See Funkia SUBCORDATA.

auranti'aca (orange). 12—4. Orange. Japan (?)


corona'ea (blue). See Funkia OVATA.


sub'o'lis (heart-shaped). See Funkia SUBCORDATA.

di'atica (two-crowned). See H. Fulva.

Dumort'eri (Dumortier’s). 14. Orange-yellow.

Japan. 1839.

Sub'o'lis (Siebold’s). Japan.


angustifo'lia (narrow-leaved). Orange-yellow.

Cypris'ta (Cyprian). Copperyred, with yellow throat. Central China. 1906.

'as'calno (Kwanei). 1866.

longin'ba (long-tubed). See H. Fulva AUGUSTI-

FOLIA.

macula'ta (blotted). Flowers with a reddish-

purple blotch inside, N.W. China. 1857.


dra'cia’ (slender). Japan. 1871.

gram'ne'a (grassly-leaved). See H. MINOR.

spina'ta (spined). See Funkia SUBORDINATA.


July. Amurland.
HEMIANDRA. (From hemi, half, and aner, a man; in reference to the absence of the two upper stamens, being half their number. Nat. ord. Labiatae or Lippuriae (Labiatae). Linn. 14-Didynamia, 2-Gynospermia. Allied to Prostanthera.)

Greenhouse evergreen shrub, from Australia. Cuttings of half-ripened shoots in sand, under a bell-glass, in April. Heat and light, with sand and pieces of charcoal. Summer temp., 55° to 75°; winter, 38° to 45°.


H. emarginata (notched-ended). See H. Fungens.

H. hirsuta (hairy). See H. Fungens.

H. pu'ngens (sharp-pointed). White, purple. May. 1837.

H. rup'e stris (rock). See H. Fungens.

HEMICH'ENAE. (Derived from hemi, half, and chasion, to gaps, to open; in allusion to the form of the flowers. Nat. ord. Scrophulariaceae.)

A showy, stave shrub, with two-lipped, gaping flowers. Cuttings of half-ripened wood in sand, and placed in a close case, with bottom-heat. Fibrous loam and peat, with sand.


HEMID'ICIA BAXTERI. See DRYANDRA FALCATA.

HEMID'ICYON. (From hemi, half, and dikthun, a net. Nat. ord. Polypos (Polyphoeiaceae). Linn. 24-Cryptogamia, 1-Filices. United to Aspleniaceae.)

A stunted, Evergreen Division in spring; peat and loam. Summer temp., 60° to 80°; winter, 50° to 55°. H. margina'tum (bordered). See ASPLENIUM MARGINA'TUM.

HEMIGEN'IA. (From hemi, half, and gena, generation; referring to the absence of the two upper stamens, being half their number. Nat. ord. Labiatae (Labiatae). Linn. 14-Didynamia, 2-Gynospermia. Allied to Hemiandra.)


HEMIGNOM'IO. (From hemi, half, and gonos, angle. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)


HEMIGRAP'AHIS. (Derived from hemi, half, and grapho, to write. Nat. ord. Acanthaceae.)


H. australis (southern). See RUELLIA AUSTRALIS.


H. hair'ia (hairy). E. Ind.

H. repi'nda (scollopied). Java.

H. stenophyll'a (narrow-leaved). Java.

HEMIGYRO'SA. (From hemi, half, and guros, twisted or curved; in allusion to the one-sided character of all parts of the plant, flowering, and fruit. Nat. ord. Sapindaceae.)


HEMIL'ERICA. (From hemi, half, and meris, a part; referring to the appearance of the flowers as if in two halves. Nat. ord. Figworts [Scrophulariaceae]. Linn. 2-Dianthria, 3-Monogonye. Allied to Alonsoa.)

Stove herbaceous. Cuttings of young shoots in sandy soil, and in bottom-heat; sandy loam and a little peat. Summer temp., 60° to 80°; winter, 45° to 55°.


HEMIONI'TIS. (From hemionos, a mule; supposed to be barren. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)

Stove herbaceous perennial. Dividing the roots; sandy loam and peat. Summer temp., 60° to 85°; winter, 45° to 55°.


H. peda'ta (pedate). See PERI'ERI PEDATA.


HEMIRC'ORIS. (From hemi, half, and Orchis; the flowers resemble those of an Orchid. Nat. ord. Scitaminaceae.)

A fast-growing perennial herb for the stove. Divisions of the rhizomes. Fibrous loam and peat, with plenty of sand to ensure porosity.


HEMIPH'RA GMA. (From hemi, half, and phragma, the wall of an enclosure; in allusion to the dividing wall of the seed-vessel. Nat. ord. Scrophulariaceae.)

A half-hardy perennial herb. Divisions or cuttings in sand under a bell-glass in summer. Light soil.


HEMIP'ILA. (From hemi, half, and pilos, a cap. Nat. ord. Orchideae.)

Terrestrial Orchid for the East Indian house. See ORCHIDS FOR CULTURE.


H. calophy'lla (beautiful-leaved). White, green, rich purple. Burma. 1897.

HEMIPTELE'A DAVID'DI. See ZELKIOVA DAYDI'I.

HEMISTE MMA. See HIBERTIA.

HEMITE'LIA. (From hemi, half, and mitalla, a mitre; shape of root-stock. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)


H. capen'sis (Cape). Fronds twice or thrice pinnate. S. Africa, Brazil, &c.


H. gusane'nsis Parda (Parada). More robust than the type, arborescent. Colombia. 1877.


H. karsteni'na (Karstenian). Frond ample, pinnate. Colombia. 1843.

H. Lind'u ni (Linden's). 2. Fronds large. Brazil (?). 1844.

H. multifo'ra (many-leaved). Brown, yellow. W. Ind. 1854.


HEMIZ'OMIA. (From hemi, half, and sone, a zone, in allusion to the shape of the flowers. Nat. ord. Composite.)

One is a fast-growing shrub, with white branches and spiny leaves, the other an annual herb. Seeds; cuttings of young wood in a gentle heat. Loam, leaf-mould, and sand.
HEMLOCK


HEMLOCK. Cont. macula'rum. Zone 3a. 3-4 ft. 3-4 ft.

HEMLOCK SPRUCE. Tsu'gâ canad'nis. Zone 2. 3-5 ft. 6-10 ft.

HEMOPHYLLUM. Euca'riotum canabi'num. Zone 2. 3-5 ft. 6-10 ft.

HEN-AND-CHICKENS. Bél'lis pré'mnis pôl'éria. See Daisy.

HENRANE. Hysoc'amus.

HENFRE'YA. (Named after Arthur Henfrey, Esq., a distinguished botanist. Nat. ord. Acanthaceae [Acantho'la]. Linn. 2-Diandria, 1-Monogynia.) The stems are divided. The leaves are divided. The flowers are divided. 2-3 ft. 8-10 ft.

HENCKEL'IA CRINITA. See Didymocarphus crinita.

HENNA-PLANT. Lawn'ia iner'mis. Zone 5a. 8-10 ft.


HEPATICA. (From hepaticos, relating to the liver; referring to the lobed leaves. Nat. ord. Cruciferae [Ranunculaceae]. Linn. 13-Polyandra, 6-Polygyna. See ANEMONE.)

H. acuti'loba (acute-lobed). See ANEMONE Hepatic'ia.

H. amara'ssa (common. American). See ANEMONE Hepatic'ia.

H. angulo'sa (angled). See ANEMONE angulosa.

H. triloba (common-three-lobed). See ANEMONE Hepatic'ia.

HEPTALUS HU'MULL. See Otier Moot.

HEPTAPLUM. (Derived from hepta, seven, and pleuro's, a rib; in reference to the ridges on the fruit. Nat. ord. Araliaceae.) Evergreen shrub or trees. Seeds; grafting. Fibrous loam, leaf-mould, and sand.


HERACA'NTHA TAU'RICA. See Carchamus lanatus.

HERA'CLEUM. Cow Parsnip. (From heracle, a plant consecrated to Hercules. Nat. ord. Umbelliferae [Umbelliferae]. Linn. 5-7-Arundina 2-Digyna.) Stone, or rugged, plants, adapted for rough ground, banks of lakes, rivers, and waterfalls.

H. wil'sum is the best for these purposes. All the species are hardy biennials or herbaceous perennials, and white flowered.

H. abrinthiifo'lium (wormwood-leaved). See ZOSIMA orientalis.


H. em'inisens (eminent). See H. platytan'um.


H. gigant'um (giant). See H. villosum.

H. gunnii'ferum (gum-bearing). Europe.

H. lan'tum (woolly). N. Amer.

H. lehmanniana (Lehmannian). Turkestan.


H. nepal'us (Nepalese). Sikkim Himalayas.

H. palma'tum (palmaintr). Orange.

H. pan'a'ces (Panaces). S. Europe. "Hercules All-beat."


H. platytan'um (broad-banded). Asia Minor. 1871.

H. pyro'nica'rum (Pyrenean). Pyrenees.

H. scio'tum (bristly). S. Europe.


H. Sphondyl'iun (Sphondylum). 4-6. White or pink. Europe (Britain). "Hog-weed."


H. Wall-chi't (Wallitch's). 4-5. Himalayas.

HERBOUS PLANTS are those perennials which lose their stems annually, whilst the roots continue alive in the earth. The root leaves may die away, or they may remain green through the winter, and be termed evergreen or herbaceous perennials. In a botanical sense, all plants not woody are herbaceous, and include annuals and bulbs.

HERBA RUM. A collection of plants, dried and preserved for botanical purposes.

HERBARY was a department of the garden formerly much more cultivated than at present, when the more potent medicinal plants of hotter climates are so easily procurable. The following is a list of the tenants of the herbary, the appropriate cultivation of which will be found under their particular titles: Angelica, Balm, Blessed Thistle, Borage, Burnet, Caraway, Chamoille, Chervil, Coriander, Dill, Hysop, Lavender, Liquorice, Marigold, Marjoram, Mint, Pennyroyal, Peppermint, Purslane, Rue, Sage, Savory, Scurry Grass, Tansy, Tarragon, Thyme, Wormwood.

HERB-BENNEN. Ge'um.

HERBERT'IA. (Named after Dr. Herbert, Dean of Manchester, a distinguished investigator of bulbous plants. Nat. ord. Iridaceae [Iridaceae]. Linn. 16-Monand'phia, 1-Triandria. Allied to Cyperella.)

Pretty little half-hardy bulbs. Seeds and offsets in spring; sandy loam and a little peat; should be kept in a cold pit in winter, or protected in a dry border.

H. Amalo'rum (lovers'). 1. Violet, white, brown.

Uruguay. 1907.

H. caru'lea (sky-blue). See H. DRUMMONDIANA.


HERB-GRACE. See Rue.

HERB PARIS. Pa'ris.

HERB ROBERT. Gerai'nium Roberti'num.

HERCULES' CLUB. Zan'tha xylum Cia'na He'rculi's.


Stout root, green trees; cuttings of ripe young shoots in sand, under a glass, and in brisk bottom-heat; sandy, rich loam and a little peat; summer temp., 60° to 85°; winter, 50° to 60°.

H. Fo'mes (Fomes). India and Malaya.


H. macropb'y'la (large-leaved). Whistia. India. 1880.

H. Look'ing-Glass Tree."


HERMANNIA. (Named after Paul Hermann, a botanist. Nat. ord. Sterculiaceae [Sterculiaceae]. Linn. 16-Monand'philia, 2-Fanand'ria. Allied to Mahernia.)

Green, or evergreen shrubs, from South Africa, with yellow flowers, except where otherwise mentioned. Cuttings of young shoots in sandy soil, in spring, under a glass; sandy loam and a little fibrous peat. Winter temp., 40° to 45°.


H. ca'nidas (white). 5. White. (Named 1899.)

H. conglom'erata (clustered). Yellow. 1872.


H. eugent'ispina (Eugent'spine). Aug. 1885.

H. dispermofilia (hedgehog-leaved). April. 1794.
H. fascicula ta (bundled). See H. LINARIIFOLIA.
H. fra'grans (fragrant). See H. ALTHAEFOLIA.
H. glandul'osa (glandular). See H. LINARIIFOLIA.
H. grandif'o'ria (large-flowered). See MAHERNIA GRAN'-DI-
FLORA.
H. his'ris ta (hairy). April. 1879.
H. involu'cra ta (involuted). See H. SALVIFOLIA.
H. latifo'lia (broad-leaved). See H. SALVIFOLIA.
H. mi'cans (glittering). See H. SALVIFOLIA.
H. multifo'ra (many-flowered). See H. CUNEFOLIA.
H. odor'a ta (scent-sweetened). See H. ALTREHIFOLIA.
H. pica ta (plated-leaved). See H. ALTREHIFOLIA.
H. salvi'o'lia (Salvia-leaved). See H. ALTHAEFOLIA.
H. scop'a'ria (broom). Creamy-white. 1870.
H. trif'o'lia (three-leaved). See H. ALTREHIFOLIA.
H. trif'o'lia (three-leaved). See H. ALTREHIFOLIA.
H. triphy'lla (three-leaved). May. 1792.

HEMARIPODITE. Flowers containing both stamens and pistil, that is, both sexes.

HERMINE'RA. (From her'min or her'mis, herminos, the foot of a bed; in allusion to the shape of the stem. Nat. ord. Leguminosae.)
A fast-growing shrub requiring moist stovle treatment, with the base of the pot immersed in the water of a tub or vase. Requires a light soil.

Terrestrial orchids, inhabiting dry, chalky banks. Divisions of the roots; chalky loam and fibrous peat; some hardy enough for a shady border, and others requiring the greenhouse.
H. alpin'a (alpine). White. May. Switzerland. 1824.
H. corda'tum (heart-leaved). See HABENARIA CODATA.
Madeira.

HERMODA'CYLUS. (From her'mos, solitary, and dakhilos, ainger; in allusion to the tuberous root. Nat. ord. Iridaceae.)
Hardy, tuberous-rooted plant, closely allied to Iris and often named i. tuberosa. Seeds and offsets. Light, sandy, but rich soil.
H. tuber'o'sus (tuberous). 1. Green, black. Spring.
Mediterranean region. 1597.

Stove evergreen trees. Cuttings of ripe shoots in sand, under a bell-glass, and in brick bottom-heat; pot and soil. Summer temp., 60° to 85°; winter, 50° to 60°.
H. gui'a'nensis (Guiana). 50. Guiana. 1820.
H. mor'en'houti'a na (Morenhooutian). Pale yellow.
Tahiti Islands, 1869.
H. ole'a (egg-bearing). 50. W. Ind.
H. pel'tis ta (pealtate). Tropics.
H. son'a ra (sounding). 50. E. Ind. 1893.

HERNIA'RIA. (From her'nia, rupture, which, on one time, it was supposed to cure. Nat. ord. Illecebraceae.)
Creeping, evergreen herbs, valued chiefly for groundwork in carpet bedding. Division. Any good garden soil.

HERON'S BILL. Erodium.

HERPESTIS. (From herpestes, a creeping thing; in reference to the creeping stems. Nat. ord. Figwort [Scrophulariaceae]. Linn. 11-Didyamia, 2-Angiosperma. Allied to Gratolita.)
Aquatic perennials. Seeds and divisions; rich, loamy soil. H. monnie'ria is hardy; the other one requires pans or tubs of water in a stoe.
H. cune'o'fia (wedge-leaved). See H. MONNIERIA.
H. monnier'a (Monnier's). 1/2. Light blue. August.
H. am'era (Am. 1772.)
H. pol'a'na (poly'a-na). See H. STRICTA.
H. re'ttfa ta (reflexed). See MYRIOPHIUM PROSERPI-
NOCIDES.

HERPETOSPERMUM. (From herpetos, creeping, and sperea, a seed; the compressed, three-lobed seeds being like small sows or suckers. Nat. ord. Cucurbitaceae.)
Climbing, annual herb for open-air culture. Seeds. Ordinat soil.
H. grandifo'lia (large-flowered). Yellow. Fruit greenish, 7 to 8 ribbed. Central China. 1906.

HERRE'RIA. (Named in compliment to General Herran, some time president of Colombia. Nat. ord. Sterculiaceae.)
Evergreen tree requiring stonst treatment. Seeds, cuttings of half-ripe wood in sand, with bottom-heat, in a close case. Loam, with a little peat and sand.
H. palma'ta (hand-shaped). Australia. 1866. This is a species of Dendropanax.

HERR'RIA. (Commemorative of Gabriel de Herrera, a Spaniard. Nat. ord. Liliaceae.)
Warm greenhouse climber. Seeds, layers. Fibrous loam and peat (many-flowered).
Brazil. 1824.

HESPERA'LOE. (From hespera, the west, and Aloe. Nat. ord. Liliaceae.)
Greenhouse plants, having a striking resemblance to a Yucca, with channeled, dry leaves, thready at the margins and stipples. Fibrous loam, heat-mould, and a free admixture of finely broken bricks.

HESPERA'NTHA. Evening Flower. (From hespera, the evening, and anistro, a flower. Nat. ord. Iris (Iridaceae). Linn. 3-Triandria, 1-Monogynia. Allied to Ixia.)
Small bulbs, from South Africa. Offset; sandy loam and peat; requiring the protection of a cold pot in winter.
" cinnamo'nes (cinnamon). 1/2. Violet. April. 1877.
" er'e'sta (ectet). See GEISSBOER'ZIA ER'ECTA.
" gra'ma'nisfo'lia (grass-leaved). 1/2. Greenish-white. August. 1808.
" pil'o'sa (thindily hairy). White. Spotted with red on the back. 1811.
" mi'da (naked). See H. GRAMMINIFOLIA.

HESPERIS. Rocket. (From hesperis, the evening star; rockets being sweeter towards the evening. Nat. ord. Cruciferae [Cauciferae]. Linn. 15-Tetradynamia.)
Annuals and biennials, sow in open border, in March and April; perennialis, division of the root, and giving
them fresh soil; the best time for this is after they have finished flowering and fresh growth has commenced; light, rich soil.

**Hardy Annuals.**


**Hardy Biennials.**

*H. alcea* (tall). See *H. matronalis.*


*helophyllum* (various-leaved). See *H. matronalis.*


*runcinata* (irregular-lobed). See *H. matronalis.*


**Hardy Herbaceous Perennials.**


*impotent (scentless).* See *H. matronalis sylvestris.*


*repanda* (wavy-edged). See *Erysimum linifolium.*

*speciosa* (showy). See *Perrya intermedia.*


**Hesperocallis.** (From *hespera,* the west, and *kalos,* beautiful; literally, beauty of the west. Nat. Ord. Liliaceae.)

A greenhouse or half-hardy perennial herb. Seeds, divisions. Light, fibrous loam and leaf-mould.


**Hesperocoron.** (Meaning not explained. Nat. Ord. Hydrophyllaceae.)

*H. californicus* is a half-hardy annual, but the other is a hardy alpine perennial. Seeds; and the perennial by division or cuttings under a hand-glass. Ordinary soil.


**Hesperosorum.** (Literally, the onion of the west; from *hesperos,* the evening, and *sordon,* garlic. Nat. Ord. Liliaceae. Linn. 6-Hexandra, 1-Monogynia. Now referred to *Beuda.*)

*H. hyacinthum* (hyacinth-like). See *Brodkea hyacinthina.*

*laevis* (milk-white). See *Brodkea hyacinthina lactea.*

**Hesperoza.** (Named after P. Hesse, a botanical collector. Nat. Ord. Amaryllidaceae.)


*H. crispa* (crispad). *Pink*; segments wavy. Summer. 1790.


*stella* (starry). *Pink.* October. 1794.

**Hessian Fly.** Coccidyma destructor.

**Heteranthra.** (From *hetera,* variable, and *anthos,* anther. Nat. Ord. Pontederiaceae. Linn. 3-Triandra, 1-Monogynia.)

Hardy perennials, allied to Pontederia. *H. limosa* will thrive in a pond or stream; the other requires tubs in the greenhouse and stove; division; rich loam.

*H. acuta* (acute). See *H. reniformis acuta.*


**Heteroctrone** (From *hetera,* variable, and *roaa,* a rock. See *Herria rosea.*

**Heterocheta PubeScens.** See *Egeron pubescent.*

**Hetero Meles.** (From *hetera,* variable, and *melon,* an apple; in allusion to the variable character of the fruiter. Nat. Ord. Rosaceae.)

Hardy or half-hardy evergreen shrub or small tree. Seeds; and by budding on the hawthorn. Well-drained soil.


**Heterolirra.** (From *hetera,* variable, and *lirra,* form; referring to the leaves. Nat. Ord. Umbelliferarum. Linn. 5-Pennantria, 2-Digynia.)

Greenhouse evergreen shrub. Cuttings of young shoots under a bell-glass, in sand; sandy loam. Winter temp. 35° to 45°.


**Hetero Noma** Diversifolium. See *Arthrostemma fragile.*

**Hetero Noma** Subtriplinervium. See *Herria subtriplinervia.*

**Heterofa Nas.** (From *hetera,* variable, and *pappa,* down; in allusion to the two forms of pappus in the flower-head. Nat. Ord. Compositae.)


*H. decipiens* (deceiving). See *H. hispida.*


**Heterophra Gaia.** (From *hetera,* variable, and *phragma,* an enclosure; in allusion to the irregular-sized lobes of the calyx enclosing the rest of the flower. Nat. Ord. Bignoniaceae.)

Very showy stove trees, with rosy-white or orange flowers. Seeds; cuttings of half-ripe wood in sand, with strong bottom-heat in a close case. Fibrous loam, with sand.


**Hetero Pteris.** (From *hetera,* various, and *pteran,* a wing; referring to the wings of the seed-vessels being of different forms. Nat. Ord. Malpighiaceae. Linn. 3-Flora, 3-Frigiosa. Allied to Banisteria.)

Stove climbers, except *m. tida,* which is a shrub. Cuttings of firm young shoots in silver sand, over sandy peat, and plunged in bottom-heat, in April; sandy peat and loam, with pieces of charcoal, and thorough drainage. Summer temp. 60° to 85°; winter, 50° to 55°.


*grata* (smooth). See *H. umbellata.*

*hirsuta* (laurel-leaved). See *H. venosa.*
HEU-CHERA. Alum Root. (Named after Professor Heucher, a German botanist. Nat. ord. Saxifragae [Saxifragacese]. Linn. 5-Pentandria, 2-Digynia.)

HEXACENTRIS. (From hex, six, and centron, a spur; alluding to two of its stamens having one spur each, and two of them two spurs each. Nat. ord. Acanthaceae [Acanthacese]. Linn. 1x-Didynamia, 2-Angiospermia. United to Thurnbergia.)

H. mysorensis (Mysore). See THURNBERGIA MYSORENSIS.

HEXADESMIA. (Derived from hex, six, and desma, a bond; there being six united pollen masses. Nat. ord. Orchidaceae.)

Stove ephiphyllous Orchids. Divisions. Pot-culture, with fibrous root and spongy sapnum.


H. reedi (Reed's). ½. Yellow-green. Brazil. 1868.

HEXAGOLOTTIS. (From hex, six, and glottis, a tongue; with six lobes on the style. Nat. ord. Iridaceae.)

Greenhouse bulbs from South Africa. Seeds, offsets.

Rich, light, sandy soil.


HEXIESEA. (From exis, in like parts; the segments being all alike. Nat. ord. Orchidaceae.)

An epiphyllous stove Orchid. Divisions. Fibrous peat and sphenium.

H. bidlandii (two-toothed). Scarlet. Panama. 1887. A. 1890.

HEYNEA. (Named after Dr. Heyne, a German botanist. Nat. ord. Meliaceae [Meliaceae]. Linn. 5-Recentria, 1-Monogyne. Allied to Trichilia.)

Stove evergreen, white-flowered trees. Cuttings of well-grown young shoots in sand, under a bell-glass, in bottom-heat; sandy, rich loam and a little peat. Summer temp., 60° to 85°; winter, 55°.


HIBBERTIA. (Named by G. Hibbert, a distinguished promoter of botany. Nat. ord. Dilleniads [Dilleniaceae]. Linn. 13-Polyandria, 3-Trigynia. Allied to Candollea.)

Greenhouse evergreen shrubs, with yellow flowers, from Australia, except where otherwise mentioned. Cuttings of half-ripened shoots in sandy soil, under a bell-glass, in spring; sandy loam and a little peat. Winter temp., 40° to 45° F. (a) Propagated by elegant twining, and grown, hardy shrubs make either a cress or a creeper; it has a fine effect suspended from a basket; does beautifully for hanging down the sides of a rock-work in summer.


H. Baudouin'ii (Baudouin’s). New Caledonia.

H. Bi'llardi'ae (Billardière’s). 2. May. Australia. 1824.


H. cori'ofoia (Coris-leaved). See H. PEDUNCULATA.


H. Red di (Read’s). Yellow. Australia (1).


H. virgi'ta (twiggly). See H. FASCICULATA.


Twiner.

HIBI SCUS. (Virgil’s name for the Marsh Mallow. Nat. ord. Malwaceae [Malvaceae]. Linn. 16-Monadelphis, 8-Polyandria.)

Hardy annuals, sow in open border in the beginning of April; tender annuals, sow in hotbed—seeds have to out-door or greenhouse treatment; hardy herbaceous require dividing in spring, and a moist situation to grow in; hardy shrubs require an open situation fully exposed to the sun, by seeds, and double ones by layers, by cuttings of ripe shoots under a hand-light, in autumn, and kept on all the winter, and also by grafting. Greenhouse and stovce species are propagated by young shoots in sandy soil, under a bell-glass, the stovce kinds also requiring bottom-heat, and the greenhouse kinds liking a little too much, after they have stood a week in the cutting-pots; peat and loam; usual greenhouse and stove temperatures.

HARDY ANNUALS.

H. a fri ca' nus (African). See H. TRIONUM.


STOVE ANNUALS.


HARDY HERBACEOUS PERENNIALS.


H. palu'lis ris (marsh). See H. Moschuetos.

H. Pru'pus (five-fruited). See KOSTELETZKYA PENTAPA.


H. Spre'ckesi (rough). See H. ACULEATUS.

H. specio sus (showy). See H. COCCINETS.

H. virgi nius (Virginian). See KOSTELETZKYA VIRGINICA.

H. Wra'ye (Mrs. Wray’s). See H. HUEGELI.

HAR DY DECIDUOUS SHRUBS.


H. ab'o us (white-flowered). 8. White.


GREENHOUSE EVERGREEN SHRUBS.


H. grossulario'fioa (gooseberry-leaved). See H. HUEGELI.


H. quinque'u nerus (five-spotted). Deep rose, with five maroon blotches at the base. Swan River. 1853.


H. multi'ficus (many- parted-leaved). See FUGOSIA.


H. Richard'soni (Richardson’s). See H. TRIONUM.

STOVE EVERGREEN SHRUBS, &c.


H. angul'a'tus (angled). India.


H. bancroftia'nus (Bancroftian). Yellow. August. West. Ind. 1827.


H. borbo'nicus (Bourbon). See H. CALYCNUS.


H. cannabi'nis (hemp-like). Tropics.
HIBISCUS 430


H. Ro'sa'sin'en'sis magni'ficus (magnificent). Magenta, crimson, maroon blotch.

H. meta'licus (metallic). Leaves metallic purple.

H. minu'tus se'mi-plu'eus (semi-double vermillion).


H. va'licingus (lively). Crimson-scarlet.

H. zeb'rus (zebra-stripe). Double, creamy-yellow, flaked scarlet. 1879.

Sabad'ria fia (Sabadriaria). Tropics.


H. tihla'ceus (Tihla-like). Hong Kong.

H. tri'color (three-coloured). Australia.


H. tubo'lus (tubular). See H. pan'du'reformis.

H. velu'itus (velvet). See H. pan'du'reformis.


HICKORY. See CARYA.

HICORIA and HICO'RUS. See CARYA.

HIVALGOA. (Probably commemorative, from the Spanish hijo de algo, the son of something. Nat. ord. Compositae.) Greenhouse plants climbing by their leaf-stalks, with slender branches, but otherwise closely allied to Dahlia and Coreopsis. Cuttings of short side-shoots getting firm at the base, under a bell-glass, with gentle heat. Loam, leaf-mould, and sand. Best planted out in a sunny greenhouse.


HIDE-BOUND. See BARK-BOUND.

HIERACIUM. Hawkweed. (A name from Pliny for eye-salve; referring to the ancient employment of the juice. Nat. ord. Compositae [Compositae]. Linn. 19-Symgen. (1777.)) Hardy herbaceous perennials, with one exception, and all yellow-flowered, except where otherwise mentioned. The dwarf ones fitted for the front of borders, rock-walls, and alpine grounds. Seeds and divisions of the plant in spring; light, rich loam.

H. alpe'siri (alpine). See Crepis Alpestris.

H. alp'i num (mountain). §. July. Britain.


H. angu'listi'num (narrow-leaved). §. May. Switzerland. 1823.


H. 'flu'i'num (yellow). §. July. Switzerland. 1819.


H. calcar'ea'num (chalyck). See H. Rupestris.


H. cit'a'tum (hair-fringed). See Picris Sprangeriana.

H. colli'num (hill). §. July. Switzerland. 1819.

H. corn'um (yellow). §. July. N. Europe. 1877.


H. cre'o'tum (safron). See Crepis Falsasti.
HIPPEASTRUM


denz'um (half-toothed). See H. STRIC'TUM.


dl6ng'um (lentencharged). See H. VILLOSUM.


fasci'um (bundled). See H. CA'DANSE.

Flage'la (Handel). 1. May. Tuscany. 1823.

Florenti'num (Florentine). 2. July. Germany. 1791.


Fructi'um (shrubby). See TOLPIS FRUITICOS.


tubul'u'm (tubulous). 1. July. Switzerland. 1819.

Gmelin'i (Gmelin's). See CREPIS GMELENI.

coonch'a (Gooncho's). See H. RA'DAN.


Halle'ri (Hallier's). See H. ANGULICUM.


brachi'u'm (brachiate). 1. June. Switzerland. 1819.


incarnatu'm (flesh-coloured). See CREPIS INCARNATA.


inu'los (inula-like). See H. BOREALE AND H. BOREALE.


bilioc'losum (hairy-leaved). See H. BILIO LEPTUM.


brachi'u'm (bitter-leaved). See CREPIS FRAMOUSA.


prunelai'foum (self-heal-leaved). See CREPIS PYLEGA.


pu'marionu'm (lungwort). See H. SAXATILE.

pus'i'llum (small). See ERIGERON UNIFLORUS.


re'pens (creeping). See H. AU RANTICUM.


Schid'ni (Schmidt's). See H. SCHIDNI.

Schrad'di (Schrader's). See H. VILLOSUM.

specio'sissu'm (showiest). See H. DENTATUM.


Stenb'rii (Sternberg's). See H. PALLIDUM.

stoboni'sum (runner-growing). 2. May. Switzerland. 1820.


successto'foum (lopped-leaved). See CREPIS SUCCES.


lomen'to'sum (felted). 1. May. Europe. 1732.

tri'choce pha'num (hairy-headed). See H. GLABRATUM.
HIPPEASTRUM


H. Roa’z (Raz’s). Pale orange-red. Bolivia. 1874.


H. simissimum (Simian). See H. Rutilum fulgidum.


H. viria (streaked-flowered). Green, white.

H. spatheum (large-spattered). See H. Equestre.


H. viola (striped-flowered). White, red. Peru. 1769.

H. albium (White). White. 1904.


H. bucanensis (Buckian). Brazil. 1821.

H. latifolium (broad-leaved). White, red, green.

HIPPIUM HYSSOPIFOLIUM and H. VERTICIL-LA TUM. See ENICOSTEMA LITTORALE.

HIPPIUM VISCO SUM. See IXANTHUS VISCOUS.

HIPPOBO/Ma. See ISOTOMA.

HIPPOBRO/MUS. (Derived from Hippus, a horse, and bromus, food. Nat. ord. Sapindaceae.)

Greenhouse tree. Cuttings in sand, in a close case, with gentle heat. Fibrous loam, with a little peat and sand.

H. altae’na (winged). Flowers in panicles, white or tawny. S. Africa.

HippoPOESIS. Horse-shoe Vetch. (From Hippus, a horse, and crepis, a shoe; referring to the form of the seed-pod. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadophila, 4-Desandria.)

Hardy pea-blossomed, yellow-dowered plants. The annuals merely require sowing in the open border, in March or April; the herbaceous trailers require dividing at a similar period. H. bale’rica is the only shrub; it resembles, and requires similar treatment to the Coronilla, needing a cold pit or a greenhouse in winter.


H. helveticus (Swiss). 1. May. Switzerland. 1819.


Perennial trailer.

H. helve’ticus. See H. COMOSA HELVETICA.


Annual.


HIPPO MAME. (From Hippomane, a name borrowed from Theophrastus. Nat. ord. Euphorbiaceae.)

This tree is Manchilla tree, with a poisonous milky juice, but greatly exaggerated as to its virulent nature. Cuttings in sand, in a close case, with bottom heat. Fibrous loam, peat and plenty of sand.

HIPPOPHÆ 433  

HIPPOPHÆ. Sea Buckthorn. (From hippos, a horse, and phao, to kill. Nat. ord. Oleaeeæ [Elagaceæ]. Linn. 22-Diospyro, 4-Tetrandra. Allied to Shepherdia.)

Hardy deciduous shrubs. Layers, suckers, cuttings of the branches, common in the wild. These are first-rate shrubs for the sea-coast, for fixing sands along with cærex and other grasses.

H. argentea (silvery). See SHEPHERDIA ARGENTEA.

H. canadensis (Canadian). See SHEPHERDIA CANADENSIS.

H. viscosa H. M. HEMPELD, in PHIL. MAG. 4: 23; 1877.


HTPAGE. (Derived from hiptamai, to fly; in reference to the hairy seed carried by the wind. Nat. ord. Malphigiaeæ.)

Stove twining, evergreen plants. Cuttings of half-ripened shoots in sand, in a close case, with bottom-heat. Fibrous loam, peat, and sand.


HIRÉA. (Named after De La Hire, a French botanist. Nat. ord. Malphigiææ [Malphigiales]. Linn. 10-Decandra, 3-Trigna.)

Stove climbers. Cuttings of firm young shoots in sand, bottom-heat, with loam, fibrous loam, and fibrous peat, with a little freestone or charcoal. Summer temp., 60° to 90°; winter, 50° to 60°.


" indica (Indian). See ASPIDOPHYRES RUSKHOHERIANA.

" undulata (nodding). See ASPIDOPHYRES MUTANS.

" odorata (sweet-scented). See TRIASIS ODORATA.


HOAREA. A group of species now referred to Felarionium.

HODGSO'NIA. (Commemoratory of B. H. Hodgson. Nat. ord. Cucurbitacææ.)

A rampant stove climber that requires planting out and training to the rafters. Seeds. Good loam, with an admixture of peat, sand, and leaf-mould.


HOE. This is the implement which should be most frequently in the gardener’s hand, for the surface of the soil scarcely can be too frequently stirred. The handles should never be made of heavy wood, for this wearsies the hand, and is altogether a useless weight thrown upon the workman. It is merely the lever, and every ounce needlessly given to this diminishes, without any necessity, the available moving power. The best woods for handles shire, or dry leaf of iron.

For earthing-up plants, broad blades to hoes are very admissible, and they may, without objection, have a breadth of nine inches; but for loosening the soil and destroying weeds, they should never extend to beyond a breadth of six inches, and the work will be done best by one two inches narrower. The iron plate of which they are formed should be well steel’d, and not more than the sixteenth of an inch thick. The iron edge should be thrown by the workman’s arm and body upon the handle; and the thicker the blade, the greater is the pressure required to make it penetrate the soil. I should therefore recommend a handle a sea angel, brings its edge at a good cutting angle with the surface of the soil, and the workman soon learns at what point most effectively to throw his weight, and holds the handle further from, or nearer to, the blade, accordingly as he is a tall or short man. Mr. Barnes, of Bicton Gardens, employs nine sized hoes, the smallest having a blade not more than one-fourth of an inch broad, and the largest ten inches. The smallest are used for potted plants and seed-beds, and those from two inches and a half to four inches, are used for thinning and hoeing among crops generally. These all have handles varying in length from eight inches and a half to eighteen inches, all the neck or upper part formed of iron, for the smaller sizes not hardened, or botanist, and the thick has to be grasped by the workman is only six inches long, and formed either of willow or some other soft, light wood, which is best to the feel of the hand. Each labourer works with one, or two, as right and left. The blade is made thin, and with a little foresight and activity it is astonishing how much ground can be got over in a short time.

Mr. Birds has all his hoes made with a crane neck. The blades broader than four inches he has made like a Dutch hoe.

The crane neck allows the blade to pass freely under the foliage of any crop where earth requires loosening; and the blade works itself clean, allowing the earth to pass through, as there is no place for it to lodge and clog up as in the old-fashioned hoe, to clean which, when used of a dewy morning, causes the loss of much time.

The thickness of the blade and the neck of iron, attached somewhat obliquely to the end of a handle by a bow, used only for killing weeds or loosening ground which is to be afterwards raked. As a man can draw more than one man, most heavy work will be easiest done by the draw-hoe.

In the island of Guernsey a very effective working-prong is used, something in the shape of a hammer, the head flat, the iron backed in a chisel like a wide, and the handle short. The whole length of this prong is nine inches, and it is attached to a staff five feet long. Such an implement is light and easy to use, it requires no steeled, and will tear up the deepest-rooted weeds.

HOFMANNIA. (Commemoratory of Professor Hofmann, a German botanist. Nat. ord. Rubiaceæ.)

Stove evergreen shrubs. Cuttings of half-mature shoots in sand, in a close case, with bottom-heat. Fibrous loam, one-third peat, and sand.


" Ghesikrghii (Ghesikrghii). 2^-5. Yellow, red. Mexico. 1861.


" phanico poda (purple-footed). Flowers inconspicuous. Leaves violet-red beneath. Central Amer. 1890.


" porphyrophyllum (purple-leaved). Leaves heavily sparing with purple.


HOFMANNSEGGIA. (Named after J. C. Hofmannsegg. Nat. ord. Leguminosæ (Leguminosae). Linn. 10-Decandra, t-Monogynia.)

Stove, yellow, pea-blossomed evergreens. Cuttings of young shoots in sand, in bottom-heat; also division of the plant in spring; peat and loam. Summer temp., 60° to 80°; winter, 50° to 55°.


HOG-NUT. Ca'rya porsca.

HOG PLUM. Spandias.

HOHENBERGIA. (Named after M. Hohenberg, a German botanist. Nat. ord. Bromeliaceæ [Bromeliaceæ]. Linn. 6-Hedaria, t-Monogyna. See ÄCHMEÆ.)

H. captiva (beaded). See ÄCHMEÆ EXSUÐANS.

" ferruginea (rusty). See ÄCHMEÆ AUGUSTA.

" sylvatica (centaury). See AGASTACHE STROBALACEÆ.

Others under ÄCHMEÆ, with their respective names.

HOHERIA. (Probably commemorative. Nat. ord. Malvaceæ.)

Greenhouse trees or shrubs. The bark of H. populnea is used for making a demulcent drink and for corriage.
HOITZIA
**HOITZIA MEXICA** **N**. See **LESIELLA COCCINEA**.

**HOLARRHENH.** (From *holos*, entire, and *arrenh*, a male; referring to the anthers. Nat. ord. Dogbanes [Apocynaceae]. Linn. 5.-Fentandaria, 1.-Monogony. Allied to Alstonia.)

Stove evergreen. Cuttings of young shoots, fresh, grown in compost, in sand, under a bell-glass, and in bottom-heat; peat and loam. Summer temp., 60° to 80°; winter, 48° to 55°.


Trop. Asia. 1775.

*ville's* (shaggy). E. Ind. 1820.


Greenhouse climber, from Himalaya, valued for the fragrant racemes of bell flowers. Their fruit is eaten in China. Cuttings of half-ripened young shoots, in sandy soil, under a glass; open, sandy loam, with a little peat; will stand in a cool greenhouse, in winter, and would twine up the wires of a wall, from the latitude of London, southwards. Transplant in March or April, when in leaf. See *H. acuminata* (pointed-leaved). See H. LATIFOLIA.

1845.

**HOLCUS.** (Holos, from the Greek name applied to some grass. Nat. ord. Gramineae.) A small sectional British grass, valued only in the variegated form.


*Yorkshire Fog*.

**HOLLY.** (Flex Agufo/lum.) Of this hardy evergreen shrub there are many varieties, including the following distinguished ones:—


The holly will not thrive in any poor, light, sandy soil, or in a position where danger is likely, such as against a building, or near a swampy place. If grown as single ornamental shrubs they should not be overshadowed by other trees; and if the land is manured, so much the better. As to pruning it, with a view of the existence of thorns, you do that for the better. All that is necessary is to encourage the leader, by stopping any laterals that try to interfere with it.

The most expeditious way of making holly-heages is to procure large plants from some nursery; but, with the smallest expense and more time, the following may be recommended:—

Gather a sufficient quantity of berries when ripe; then dig a hole three or four feet deep, and throw the berries in, crushing and mixing them with some fine leaf mould, and then add the soil taken out, and throw some litter, or other covering, over the whole, to prevent the wet or frost penetrating. Take them up and sow them in March. They will make nice little plants the first season; and, by transplanting the stronger ones, you will have fine plants in about three years.

Large hollies are best moved about the third week in August. Take them up at the base, with the roots and as much soil as possible, and tie them with a stout rope eight or nine feet long; then lower the tree gently down, and let as many men as are necessary to carry it take hold of the pole, and remove the tree to its place, letting it down gently into the hole amongst the puddle, taking care that it is not below, but rather above, the general level; fill in good soil round the ball after the tree is set upright, and the mats, ties, &c., removed; good well composted earth well put upon the bottom of the soil; secure the tree with props, to prevent the winds from shaking it.

The best time for cutting hollies is early in the spring, about the end of February, before they have begun to shoot. Never clip them with shears, but cut them in with a sharp knife.

**HOLLYHOCK.** (*Althia* a'r o'sea). By Cuttings.—These are made from the young shoots that rise from the base of the strong flower-stems. They may be formed of the tops only, or, if the young shoots are long, they may be cut into lengths of two joints each, removing the lower leaf, and shortening in the upper one. To cause them to send forth roots, a gentle hothot should be made either of well-fermented dung, tanner's old bark, or fresh-fallen leaves. As soon as the heat is moderated, place the shoots on the soil, and cover them over with earth to a depth of about two inches; this will give them a little more soil. Then plunge them nearly up to the rim in the sawdust, but give no water, because they are very full of sap, and would damp off immediately. Shade closely and give no air, excepting a little at the back to let in the sunlight, an hour in the morning. In six weeks they will begin to show signs of growth, and should then have a little water given without wetting the leaves. When roots are formed, pot them off into small pots, plant them out in a cold frame kept close, and shaded for a week or two. Then gradually insure them to bear the full sun, and give plenty of air, and moderate but constant supplies of water. They are then ready for planting out. The best time to perform this is in early spring, but it may be done also in August, so as to have them rooted before the winter sets in.

By Division.—Large, strong plants, with numerous shoots, may be taken up as soon as they have done flowering, for division may be done at any time in the year. A plant must be taken that each division has a good share of roots, and at least one shoot to it. Plant these divisions in a bed in a shady part of the garden, but not under the trees; plant them not more than six inches deep, and then are ready to plant out in the place where they are to grow.

By Seed.—Save seed from the most double and best-coloured flowers. Cultivate it in a dry, warm place, and keep it in a dry drawer, or in a bag hung up in a dry room. Sow early in March in shallow, wide pans, in a gentle heat. When the seedlings are so large as to be readily handled, transplant them either into boxes three inches apart, or prepare a bed of rich earth in a frame without heat, and plant them out in it at the same distance from each other. As soon as the weather will permit, make a sufficiently large piece of ground very rich with well-decayed manure; raise a dry frame, and plant the seedlings in the garden. Take the plants up carefully with a garden trowel, keeping as much earth as possible to each. Carry them, a few at a time, in a basket, to the prepared ground, and plant them either into boxes three inches apart, and one foot between each plant. There they may remain till they flower. Then mark such as are well shaped and bright coloured; cut them down, and plant them in the place given to each other. Then write in the name of each plant, and give to each a description of each, both of shape and colour. Single and badly-shaped flowers throw away at once.

Some species are grown in frames, and enriched with plenty of manure. If the situation is damp, they will die off in the winter, unless well drained, and the bed elevated above the natural level.

**Summer Hollyhock.**—These are covered with plenty of manure. If the situation is damp, they will die off in the winter, unless well drained, and the bed elevated above the natural level.
**HOLLYHOCK DISEASE**

roots from the drying winds, and strengthen the flower-shoots. Place thin, strong stakes to them in good time, and see that they are kept in growth, tie the shoots separately to the stakes regularly, but not too tightly, and leave room for the stems to swell. During dry weather, give, once a week, a thorough good watering. If the flowers are infected before the fruit is fully formed, cut off the ends. This will cause the flowers to form a fine pyramid of bloom, and make them open more equally and much larger.

**Winter Culture.**—Cut down the flower-stem as early as possible after the bloom is over, and the seed is ripened. Dig the ground between the plants, leaving it moderately rough to mellow with the weather, adding a dressing of well-decomposing manure before the soil is likely to set in, give a mulching of light, half-decayed dung, closing it round the plants. This will keep the roots warm through the frosty weather, and will enrich the ground with a clear lime-water occasionally. In new ground, a brown grub is sometimes very destructive by eating off the young shoots just level with the ground. To prevent these, the plants must be well bedded and kept firm, so that the soil must be stirred with the hand, and the insects found and destroyed.

**Diseases.**—Sometimes they die off suddenly, the consequence of a too rich or too dry soil. One thing is certain, the plant is strong before the disease, it should be instantly removed. If it has any young, healthy shoots, they may be taken off and put in as cuttings. The place must have the soil removed for a foot square, fresh soil put in, and a new healthy plant inserted.

**HOLLYHOCK DISEASE.** (Puccinia malvaeeum.) For the last thirty-seven years or more the Hollyhock, especially the fine-named double forms, has been decimated by the above fungus, which is believed to have been brought to Europe from Chili. It attacks various species of the wild state, and various garden plants belonging to the Mallow family. It is known only in the Fuccinia stage, and the spores quickly germinate, hence the reason for its rapid spread. The disease was very virulent between 1873 and 1890, but since then has decreased in vigour, like many other introduced diseases, like that which destroyed Verbenas and latterly the Chrysanthemum. The disease makes its appearance, chiefly on the under-side of the leaves, first in the form of small spots on the fresh leaf, then through the skin of the leaf, and then look red-brown, becoming darker as the spores mature. The spores are two-celled, and supported by a slender, colourless stalk, and the growth roots thus formed are easily removed, from grains of spores in the soil. If these leaves should be removed and burnt to prevent the spread of the disease. The rest of the foliage should be well sprayed at intervals of ten days, with a solution of sulphide of potassium, at the rate of 1 oz. to 2 or 3 gallons of water. This will not kill the fungus already inside the leaves, but may prevent the spores from germinating in the leaves.

**HOLLY-LEAF FLY.** (Phytomyza Ilicis.) In sheltered places more particularly, the leaves of the Holly are very liable to be disfigured by the grub of the small black fly above named. The blotches on the upper surface of the leaf are at first dirty white, but gradually become brown as the tissue of the leaf within decays. The grub is of a pale, dirty white lue, one line long and without legs. Two or three blotches, each containing a grub, may occur on a leaf. As the grub pupates or passes through its various stages to the perfect fly, within the leaf, and makes its appearance early in the following summer, all valuable trees should have the blistered leaves picked off and burnt to prevent a fresh attack in the following year.

**HOLMISKIO LIDIA.** (Named after T. Holmshiod, a Danish botanist, Nat. Verenbds [Verbenaceae]. Linn. 14-Didynamia, 2-Angiospermes.)

Stove evergreens, with scarlet flowers, from the East Indies. Cultivation of young shoots just getting firm at the base, in sandy soil, under glass, and in heat; sandy

**HOMALOTALUM.** (From homalos, like, and...
petalon, a petal; the lip is like the petals, so that all three are alike. Nat. ord. Orchidaceae. Allied to Tetracamara.

A diminutive stove, epiphytical Orchid. Divisions. Fibrous peat and sphagnum.


HOMERIA. (From homer'eo, to join; the filaments are united in a tube surrounding the style. Nat. ord. Irیدaceae.)

Interesting and beautiful bulbous plants, requiring cool greenhouse or frame treatment, either in pots or planted out in well-lighted and sunny structures. Offsets and seeds. Light, sandy, rich soil.

H. aurantiaca (orange). See H. COLLINA AURANTIACA.


H. minuta (vermilion). See H. MINIATA.


H. floxoa (Buxeous). See HEXAGLOTTIS LONGIFOLIA.


HOMOYNE. (From homo, like, and gynia, female; the female flowers are similar to the rest. Nat. ord. Compositae.)

Hardy perennial herbs of dwarf habit for the rockery. Divisions. Ordinary soil.


HOMOYNE NTHUS VISCO'SUS. See Perea'zia viscosa.

HONC'E'NYA, of Wildenow. (A commemorative name. Nat. ord. Tillaceae.)

Stove shrub with the habit of Sparmannia. Cuttings or half-ripe wood in sand, with bottom-heat. Fibrous peat, with a little peat and sand.


HONESTY. Lun'a'ria.

HONEY BEE. A'pis mellif'ica.

HONEY-BERRY. Meis'co'ca.

HONEY-DEW. See EXTRAVASA TED SAP.

HONEY-FLOWER. Meis'i'na'sus.

HONEY-GARLIC. Nectarosco'rum.

HONEY-LOCUST. Gladi'tschia trica'ni'sus.

HONEY-SUCKLE. Lonice'ra.

HONEYWORT. Ceri'nike.

HOO'DIA. (A commemorative name. Nat. ord. Asclepiadaceae. Allied to Boutescora.)

Warm greenhouse succulent and dwarf shrubs, like Stapelia, producing large flowers on the top of the tubercled and spiny stems and branches. Cuttings with a slight heel of the old wood, prepared and laid on a Sunny shelf for a week or ten days till the cut dries over. Make up a compost of loam, sand, and finely broken bricks in equal parts. Insert the cuttings, water them in with a rose watering-can, stand the pots in a sunny position, and wait till the soil gets fairly dry, then give sufficient to moisten the soil. When rooted, give a fair allowance of water during summer and very little during winter. Winter: Costa Rica. 1930.

H. bicornu'tum (two-horned). See DIACRUM BICOR'NUTUM.

H. pseudopygm'a'um (false-pigmy). White, with red dots. Curror's. 1871.

H. pygm'a'um (pigmy). See H. UNIFLORUM.

H. Sophronitis (Sophronitis). Yellow, red, green. Colombia. 1867.

H. unifl'o'rum (one-flowered). Green; lip white, rose. 1820.

HORMI'NUNG. (From hormos, to excite; its medicinal qualities. Nat. ord. Lipworth[Labiatae]. Linn. T4. Didynamia, 1-Gymnosperma. Allied to Monarda.)

Hardy herbaceous perennial. Division of the plant and seeds in spring; requires a dry situation, or a damp winter will injure it.

H. cul'd'scan's (stemmed). See LEFECHNIA SPI' cata.


HORN. See ANIMAL MATTERS.

HORNE'BEA'M. Carpis'rus.


HORNE'MAE'NNIA O'VA'TA, of Link. See Vandella' reus.

HORNE'MAE'NNIA VISCO'SA, of Wildenow. See Van' dellia hirsuta.

HORNE'MAE'NNIA or'HENTH. See Vandella' reus.


HORN-POPPY. Glau'cium.

HORSE-CHESTNUT. &cscul'us.
HORSE-RADISH. 
(Cochlearia Armoracia.) Delights in a deep, rich soil, banks of a ditch, &c. Should the ground require manure, it should be dug in at the depth at which the sets are intended to be planted. It is generally propagated by cutting the main root and offsets into lengths of two inches. The tops, or crowns of the roots, form the best, those taken from the centre never becoming so soon fit for use, or of so fine a quality as those from the sides. It may be raised for several successive years with little more trouble than keeping them clear of weeds; but the times for planting are in October and February. Insert three sets in rows eighteen inches apart each way. The ground trencbed between two and three feet deep, the cuttings being placed along the bottom of the trench, and the soil turned from the next one over them. The earth ought to lie lightly over the sets; therefore treading on the beds should be carefully avoided. The shoots make their appearance in May or June, or earlier if the sets were planted in autumn. Remove the leaves as they decay in autumn, the ground being also hoed and raked over at the same season, which may be repeated in the following spring.

In the succeeding autumn they merely require to be hoed as before, and may be taken up as wanted, by cutting off at least two eyes; for without one they sometimes refuse to vegetate at all. For a supply of the crowns, any inferior piece of ground, planted with sets six inches apart and six deep, will furnish from one to five tops each, and may be collected for several successive years with little more trouble than keeping them clear of weeds; but the times for planting are in October and February.

HORSE-RADISH TREE. Morinnga pterygosperma.
HORSE-SHOE VETCH. Hippocrepis.
HORSE-THISTLE. Cirsium.

HORSFIE LIA. (Commemorative of Dr. Horsfield, a botanist collector. Nat. ord. Araliaceae.)
Stove, evergreen, spiny shrub allied to Aralia, and requiring similar treatment.

HORT. A contraction of hort'esis, belonging to a garden. When placed after the names of plants it is a contractions for hor'torum, of gardens, and means that the plant or the name originated in gardens.

HORTENSIA JAPONICA and H. OPULIOI DES. See Hydrangea Hortensia.

HOSTA CRIA. (Named after Dr. Hosack, an American botanist. Nat. ord. Leguminous Plants [Leguminose]. Linn. 17-Diadelphica, 4-Desidensis. Allied to Ononis.)
Hardy plants, with yellow flowers, except where otherwise stated. Suitable for front of borders and rockworks; seeds and division of the plants in spring; cuttings of perennials in summer, under a hand-light.

ANNUALS.
" wrang'eliana (Wrangel's). See H. subpinnata.

HERBACEOUS PERENNIALS.

" parvifo'la (small-flowered). ½. August. N. Amer. 1827.
" stoloni'fera (creeping-rooted). See H. Crassifolia.

HORSE IN HORSE is a form of double flowers when one corolla is inserted within the other, as is frequently the case with the primrose.

HOTSTA. (Named after N. T. Host, a German botanist. Nat. ord. Verbenas [Verbenacea]. Linn. 2-Diandra, 7-Monogynia.)
" lati'fia (broad-leaved). See Cornutia Pyramidata.
" longi'fia (long-leaved). See Cornutia Longifolia.

HOTBED is a bed of earth, or other material, usually covered by a glazed frame, and heated artificially, and employed either for forcing certain vegetables, for raising seedlings, or for striking cuttings. It is heated either by dung, or leaves, or tan in a state of fermentation, or by hot water.

Hothbed of Stable Dung: Preparation of Dung.—We will commence with 1/4 for dung at the standard door; the first thing is to throw it into a close body to "sweat." Those amateurs who have plenty, and to spare, will do well to shake it over loosely, and reject a portion of the mere droppings; and theia taken out, moreover, under an over-powerful and sometimes unmanageable heat, which, in unpractised hands, is capable of much mischief. The main bulk of the material thus thrown together will, in a week or two become exceedingly hot, and must then turn inside completely out; and, in so doing, every lock or patch which adheres together must be divided. Water will now be requisite, and must be regularly applied as the work proceeds, rendering every portion of the inside absolutely dry. After the mass has lain for about four days longer, it is well to administer a liberal amount of water on the top; this will wash out at the bottom of the heap much of its gross impurities: and, after the mass gives the appearance of being well, turn the earth, if dry in any portion, and after lying nearly a week it should be almost fit for use; but it is well to give it even another turn. If any tree-leaves, straw, manure, &c., or any simple vegetable matter is to be added to the mass, it may be added at the last turning but one. The heap ought now to be "sweet," and such may be readily ascertained even by unpractised eyes, by the appearance of the heap, the very interior, and applied to the nostrils, will not only be devoid of impure smell, but actually possess a somewhat agreeable scent, similar to the smell of mushrooms.

Bed.—All things will need some attention in considering the bed. The event is to select a spot perfectly dry beneath, or rendered so. It must, moreover, be thoroughly exposed to a whole day's sun; but the more it is sheltered sideways the better, as starving winds, by operating too suddenly in low weather, or one of the kind, may cause a great waste of material as well as labour. The ground-plan of the bed, or ground surface, should be nearly level. A good builder, however, will be able to rear a substantial bed on an incline; and such is not a bad plan, so forming the slope as to have the front, or south side, several inches below the back; the front being with the ground level, the back raised above it. By which means there will be as great a depth of dung at front as back, which is not the case when the base is level; for then, unluckily, through the incline necessary for the surface of the glass, the dung at back becomes more than the ordinary, by the hot wind from the top most heat is wanted. Good gardeners not infrequently use a portion of weaker material at the back, such as littery stuff, containing little power as to heat. It is well, also, to fill most of the depth of the bed, after building to the height, with any half-decayed materials, such as half-worn linings, fresh leaves, &c. This will, in general, secure it from the danger of burning, whilst it will also add to the permanence of the bed.

For winter-forcing a bed should be at least four feet high at the back—if five feet, all the better; and as soon as built let some littery manure be placed round the sides, in order to prevent the wind searching it. As soon as the heat is well up, or in about four days from
the building of it, the whole bed should have a thorough watering. It is now the time to do this, for if a second and lighter watering may be applied; and now it will be ready for the hills of soil any time.

In making the hills of soil for the plants, in forcing melons or cucumbers, make a hollow in the centre of each light, and the bottom of the bed. In the bottom of this place nearly a barrowful of brick-bats, on this some half-rotted dung, and finally a flat square of turf, on well up the sides of the bed, and then the rest of the soil, in the roots of the plants to " scour " with this precaution.

As the heat declines, linings, or, as they might be more properly called, coatings, are made use of, which consist of half a way dung laid from eighteen to twenty inches, in proportion to the coldness of the season, &c., all round the bed to the whole of its height; and if founded in a trench, one equally deep must be dug for the coating, it being of importance to renew the heat as much as possible throughout its whole mass. If, after a while, the temperature again declines, the old coating must be taken away, and a similar one of hot dung applied in its place. As the spring advances, the warmth of the sun will compensate for the decline of that of the bed; but as the nights are generally yet cold, either a moderate coating, about nine or ten inches thick, is required, or the mowings of grass, or even litter, may be laid round the sides with advantage.

Various structures have been suggested, whereby the heat only of fermenting dung is employed, and its steam is prevented from penetrating within the frame. One of the best of these structures is the following, proposed by Mr. West:-

Beneath the floor of the intended hotbed there is a chamber in which the dung is placed, three and a half feet below the ground-covered by nine-inch bricks. One-half of this is filled longitudinally with dung at the commencement, which, if kept close shut up, will last twelve or eighteen days, according to the quality of the dung. As the heat declines, the other side is filled, and the temperature is further sustained by additions to the top of both as the mass settles. When this united heat becomes insufficient, the side first filled being cleared, the old manure must be mixed with some fresh, and replaced, this being repeated alternately to either heap as often as necessary. Four doors are provided, two on each side for the admission of the dung. They are two and a half feet square, fitted into groves at the bottom, and fastened down by a pin and staple at the top. These are small areas sunk in front, surrounded by a curb of wood; three bars are passed longitudinally as a guide and support in packing the dung; below the bars is a space in which are placed, and are alternately quartered in an inch thick, placed on the edge of which there is a row, a foot asunder, across the chamber, to support a layer of small wood branches and leaves, for the purpose of sustaining the soil in the upper chamber; a number of bricks are laid on a shelf as a quartered foundation. All round the pit, communicate with the flue, which surrounds the beds; the exterior wall of this flue is built with bricks laid flat, the inner one of bricks set on edge. The flue is two inches wide, and, for the sake of strength, bricks are passed occasionally from side to side as ties. The top of the flue, and the internal part of the wall, which rises at the back and front to the level of the earth, are covered with tiles; the stones of which slips of slate, bedded in mortar, are laid, to prevent the escape of the steam of the dung; two plugs are provided, which stop holes left to regulate the heat. The exterior wall now constructed supports the lights. For the convenience of fixing the dung, it is best to have it half of the chamber at the commencement, before the frames, mould, &c., are put in.

Hot-water Beds.—If hot water be the source of heat, the following description of the bed and frame employed by Mr. Mitchell, at Worsley, is about the best that can be employed. The frame was composed of iron, and was constructed were— 1st. A circulation of air without loss of heat. 2nd. A supply of moisture at command, proportional to the temperature. 3rd. A desirable amount of bottom heat. 4th. A supply of external air (when necessary) without producing a current of draught.

The method by which the first of these is accomplished will be understood by referring to the action of flow-pipes above, and return-pipes in a heated chamber below. It is evident that, as the air in the chamber becomes heated, it will escape by the opening provided, and the air from the cold passage will rush in to supply its place; but the ascending current of heated air, coming in contact with the glass, is cooled, descends, and enters the cold passage, passes into the chamber, where it is again heated; and thus a constant circulation is produced. In order to obtain the second object, to some extent are combined the tank-and-pipe systems. The hot water is passed into a heated chamber, to which, when filled with water (or so far as is necessary), gives off a vapour, exactly proportional to the heat of the pipe and pit.

Combination is produced by the surrounding atmosphere and heating materials. The fourth is accomplished simply by lowering the upper sash; the cold air thus entering at the top only, falls directly into the cold part in a slant passes through the hot chamber before coming in contact with the plants. When the heat in the chamber is 95°, in the open space over the bed it is 71°; in the bottom of the passage only 60°; and in the mould in the bed it is 80°. The amount of vapour is regulated with the greatest facility, even from the smallest quantity to the greatest density.—Gard. Chron.

HOTELIA BARBATA. See Astilbe japonica.

Hothouse. See Stove.

Hottentot Bread. Dioscorea.

HOTTENTOT CHERRY. Cassia ne Maurecios niia.

HOTTENTOT FIG. Mesembryanthemum dulce le.

HOTTONIA. Water Violet. (Named after P. Hotton, a Dutch botanist. Nat. ord. Primulaceae. Primulaeus, Linn. s-Pentandra, t-Monogynia.)

A hardy aquatic or marsh plant. Divisions in spring; ponds or ditches.


HOT ZOLL is a hollow wall, the interior air being so heated by fluxes or hot water as to keep the bricks of which its faces are composed so warm as to promote the ripening of the wood and fruit trained against them. See Wall (Fluted).

HOT WATER, as a source of heat for gardening purposes, is preferable to any other for large structures. In these it is less expensive, and in all it is more manageable than any other. See Greenhouse, Hotbed, and Stove.


Stove orchids. Division of the plant; peat, broken pots, charcoal, and rotten wood; plants elevated above the cold in a slant passes through the hot chamber. Summer temp., 60° to 90°; winter, 50° to 60°.


H. chrysia n/a (golden-flowered). Yellow, purple. Colombia. 1897.


H. louia'na (Lowian). White, yellow. Colombia. 1874.


H. orange'na (orange). Orange; lip sulphur, white. 1884.


H. tiger stri'ped). See Polyvcynis vittata.

H. Walli'isi (Wallis's). Colombia. 1868.

HOUND'S TONGUE. Cynoglossum.

Houseleek. Semperovi'num.
HOUSTONIA. (Named in honour of Dr. W. Houston, an English botanist. Nat. ord. Cinchonads [Rubiaceae]. Linn. 4-Tetrandra, 1-Monogynia.)

Hardy herbaceous perennial, from North America. Division: spring sprouting; sandy loam and peat; beautiful for small beds and rock-work.

H. albiflora (white-flowered). See H. CERULEA ALBA.


coral's (variegated). See H. CERULEA CILOLATA.

cocci'na (scarlet). See BOUARDIA TRIFENYLLA.


longiflora (long-flowered). See H. PURPUREA LONGIFI-


tenell'a (slender). See H. SERPILLYFOLIA.

v'tians (varying). See H. PURPUREA.

HOUTTEA. (Commemorative of Louis Van Houtte, of Ghent, a noted Belgian nurseryman. Nat. ord. Gesneraceae.)

Evergreen stove plants. Division of tubers; in cutting in sandy soil and compost, with bottom heat. Fibrous root, leaf-mould, and sand.


L'ep'topus (Leptopus). See H. Gardeneri.


HOUTTUYNIA. (Named after Dr. Houttuy, of Amsterdam. Nat. ord. Saururads [Piperaceae]. Linn. 3-Triandra, 3-Trigynia.)

Herbaceous greenhouse or hardy marsh-plants. Seeds or dividing the plants, in spring; heat and loam, kept moist, and the plant a little shaded. Winter, temp., 40° to 50°.


cord'a (fasciata). See H. CORDATA.

HOVEA. (Named after A. P. Hove, a Polish botanist. Nat. ord. Leguminosae [Leguminosae]. Linn. 16-Monadelphia, 6-Decandria. Allied to Legamce.)

Greenhouse evergreen shrubs, from Australia, with purple flowers, except where otherwise mentioned. Seeds, which are sown in a hotbed, and moistened in warm water before sowing; cuttings of young side-shoots in April or May, in sand, under a bell-glass, and kept in a close frame; sandey peat with a very little fibrous loam, and pieces of charcoal and freestones, or small pieces of pounded bricks. Winter temp., 40° to 45°, with plenty of air; in summer they should be a little shaded from bright sunshine.


bo'trio'philla (three-leaved). See H. TRISTRAM.

cord'ta (fasciata). See H. CORDATA.

Hoya. (Named after D. Hoven, a Dutch senator.


shining). See H. TRISTRAM.

H. du'licos (narrow-leaved). See H. LIGNIOPIA.


Dulcis. See Ho'utaniana.

austr'alis (southern). White. Australia. 1802.


sikkime'nsis (Sikkim). Waxy-white. Sikkim. 1883.

Purpurea. See H. PURPUREA.

TRISPERMA. 1. Scarlet.

Brownish-red. 1882.

H. Purpurea. See H. PURPUREA.

Brownish-red. 1883.


Leptopus (Leptopus). See H. Gardeni.


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chlorosema (Chlorosema-leaved). 3. April. 1824.

crispa (curled). See H. TRISTRAM.

dilici'ca (oval-leaved). See H. CELSI.

thiol'ica (holly-leaved). See H. CHORIZEMA-FOlia.

tina'clata (spear-head-leaved). See H. LONGIFOLIA.

lasi'o'lia (broad-leaved). See H. CELSI.


Magni'lique (Captain Mantle's). See H. TRISTRAM.

microp'osus (chamomile-leaved). See H. L. MEGARGIL.

panno'sa (ragged). See H. LIGNIOPIA.

pu'nungens (pungent). Blue. 1837.

majo'ris (major). Blue. May. 1841.

purpur'a (purple). See H. LIGNIOPIA.

racemo'lo'sa (spikeleted). See H. LIGNIOPIA.

rosmarinifo'lia (rosemary-leaved). See H. LIGNIOPIA.

s*p'indens (shining). See H. TRISTRAM.

trispe'rma (three-seeded). May. 1837.

cilla'osa (shaggy). See H. LIGNIOPIA.

HOVENIA. (Named after D. Hoven, a Dutch senator.


shining). See H. TRISTRAM.

H. du'licos (narrow-leaved). See H. LIGNIOPIA.


Dulcis. See Ho'utaniana.

austr'alis (southern). White. Australia. 1802.


sikkime'nsis (Sikkim). Waxy-white. Sikkim. 1883.

Purpurea. See H. PURPUREA.

TRISPERMA. 1. Scarlet.

Brownish-red. 1882.

H. Purpurea. See H. PURPUREA.

Brownish-red. 1883.


Leptopus (Leptopus). See H. Gardeni.

H. longifolia 'Shepherd's' (Shepherd's). Pale flesh.


of H. Malaya. 1857.

obstafiola (blunt-leafed). India and Malaya. 1856.

oribacila (obicular). See H. diversifolia.


Panicles (Pillans's). See H. PARASITICA.


M. Malaya. 1815.

Patxion's (Paxton's). See H. BELLA.

pia (painted). See H. carnea.

Piruxon's (Prigo), to. Yellow. China. 1842.

psii reo-ho'sca (purple-brown). Brown and purple.

September. Java. 1840.

Shepherd's (Shepherd's). See H. LONGIFOLIA SHEP-


frin'e'sis (three-nerved). See H. POTTSII.

vieri ga (variegated). See H. CARNOSA POLIS VARIAGATIS.


heterophylla (various-leaved). April. Samar.ia.

bea (bea). June. 1804.

Nattalii (Nuttall's). See H. EPICODES.


HUEGELIA DENSIFOLIA and H. ELONGATA are Gilia densifolia.

HUEGELIA LU' TEA is Gilia luteascens.

HUEGELIA VIRGA. See GLIA VIRGATA.


e'ora (rough). J. Zanzibar.

barba' a (bearded). White-striped. August 1795.

breviro'stris (short-beaked). Pale yellow, with black-spotted. 1871.

clavi'g.era (club-bearing). Yellow-striped. September.


H. virgata (curled). S. Africa.

humi'lis (humble). Yellow-striped. September. 1795.

H. virgata (curled). June to September. 1868.

letris'no'sa (suckled). Yellow-striped. 1795.

macroc'apa (large-fruited) of Damman. See H. PEnzii.

macroca' pa (large-fruited) of Gartenflora, t. 1416.

See H. CONCINNA.

oclin'la (eye). Yellow-striped. September.

occipit'o'sa. Blackish-purple, with basal eye-

spot. Damaraled.


Pilans'is (Pillans's). Pale yellow, with crimson specks. 1904.

primul'i'na (primrose-coloured). Pale primrose. S. Africa.


H. somatica (Somalland). Brown-purple, with yellow spots. Somalland. 1898.

Sprengi's (Sprengier's). See CARALLUMA SPRENGERI.

hubb'a (tubbed). Flesh, spotted with plunk.


HUERNIOPISTIS. (From Huernia, and opsis, resemblance. Syn. of Asclepiadaceae.)

A dry stove or warm greenhouse succulent. Cuttings laid on a dry, warm shelf for ten days or so to dry, and inserted in sand on a sunny bench. Loam, finely broken bricks and sand in equal proportions.


HUMATA. (Probably from humatus, esteemed; the stems being deep in the earth.) Nat. ord. Ferns [Fulices]. Linn. 24-Cryptogamia, 1-Fulices. A section of Davallia, to which they are now referred.

Stove Ferns, with brownish-yellow spores. Division: peat and loam. See Ferns.


heterophylla (various-leaved). April. Samar.ia.

bea (bea). June. 1804.

Nattalii (Nuttall's). See H. EPICODES.


Half-hardy evergreens, from North America, with yellow flowers. Generally by layers in spring and autumn, and cuttings in sand, during summer, under a hand shade. A hardy peat, and a moist situation. They require a little protection in winter, and may be placed in a pit. Unlike any other group of the order, the foliage more resembles a Heath than a Cactus.


Nattalii (Nuttall's). See H. EPICODES.


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portion of vegetable manures is their carbon converted into carbonic acid, and acting as an outdoor servant, by dissolving various ingredients of plant food, that are insoluble in water. The mineral elements and various acids are also serviceable.

**HUNGARIAN LOTUS.** *Nymphaea thermalis.*


Hyacinths are herbaceous perennial. Seeds in spring; rich soil; will bloom the second year in greenhouse treatment, or may be kept over the winter in a dry, cold pit, and planted in the garden.


**HUNTER RIA.** (Commemorative name. Nat. ord. Apocynaceae.)

A stave evergreen shrub with large leaves and small flowers in axillary clusters. Cuttings of firm wood in sand, with bottom heat. Fibrous loam, peat or leaf-mould, and sand.


Stove orchids. Slips of shoots, and dividing the plant; fibrous peat, &c.; grown in a high, moist temperature. Summer temp., 60° to 90°; winter, 55° to 60°.

H. *Meleagris* (Guinea-hen). See Zygopteralum Meleagris.

**HYACINTHUS.**

(azure-blue). March. 1596.

(Musca'ri) (short-styled). 1823.


Stove evergreen trees, with whitish-yellow flowers. Seeds, and cuttings of ripe young shoots under a bell-glass, in sandy soil, and in heat; rich loam and peat. Summer temp., 60° to 80°; winter, 50° to 55°.


**HURDLES of iron are the most eligible modes of fencing.** Fragile. For honey-catchers or temporary purposes. They are invisible at a short distance, elegant, and durable. See Railing.

**HURT and HURLEBERRY.** The fruit of *Vaccinium Myrtillus.*

**HUSKY.** The dung for a hotbed, when too dry, is said to be husky.

**HUTCHINIA.** (Named after Miss Hutchins, an accomplished Irish cryptogamist. Nat. ord. Crucifers [Cruciferae]. Linn. 15-Tetradynamia. Allied to Iberis.)

Annuals, by seeds in April, in dry situations. Herbaceous perennials, by seed and divisions in spring, and cuttings under a hand-light, in summer; sandy loam, with a little peat or leaf-mould, and dry situations, such as banks or rock-work.

**HARDY ANNUALS.**


**HARLY HEEABCEOUS.**

H. *alp'na* (alpine). See Noccea alpina.


*calycin* (large-calyced). See Smelowska Calycina.

*ceas'ulis* (Cepa-leaved). See Thalphi Cepel.

*pa'uma* (dwarf). See Thalphi Pumilum.

*rotundifolia* (round-leaved). See Thalphi Rotundi-folium.

*style*a* (long-styled). See Noccea stylosa.

**HYACINTHUS.** The Hyacinth. (In mythology, a beautiful flower, who, after being killed, was transformed into this flower.) Nat. ord. Liliaceae (Liliaceae). Linn. 6-oxantra, 1-Monogyna.)

Offsets from the bulbs, after the foliage has died down in summer; light, rich, sandy loam, with a little leaf-mould. A few flower bulbs for the pot; bulbs grown out of doors should be taken up after the foliage is withered, kept in shelves and drawers until the end of autumn, and then planted and protected from severe frost and heavy rains in spring, by an awning. For a brilliant outdoor display, where the kinds are not so valuable, the roots may remain in the ground many years if top-dressed, and the bulbs are not turned with each other. When grown in pots, these should be deeper than usual, in proportion to the diameter—nine inches are not too much. The compost we have found most suitable for them in pots is a good loam, three-fourths, and decayed cow-dung, two years old, one-fourth. In October they ought to be potted, and immediately plunged in tan or ashes, quite overhead, at least two inches. In potting, make the soil very firm under the bulb, to prevent the roots going directly down too soon. In six weeks after potting and plunging, a few may be brought into heat, and forced to flower about Christmas; and others may be brought in, month after month, to supply flowers till May. To grow them in water, put a hollow glass bulb, with only just touch the base of the bulbs, and the glasses should be kept in a dark closet until the roots have attained the length of an inch. Two drops of spirit of hartshorn may be added to the water in each glass when the flowers are blooming. Half-hardy glass is always to be preferred, as the absence of light is natural to all roots. By keeping the glasses in a dark closet until the roots are fully an inch long, they will not get too long before the roots being in advance of the leaves, will preserve the plant balanced erect. The bloom will also be finer, as the roots will be in a state to nourish the leaves before these are grown. A piece of charcoal put in each glass feeds the plant, and prevents putridity in the water.


" *lous* (white). White.


*rob'i'sus* (robust). Flowers half as large again as H. aureus. 1903.


*car'icans* (white). See Galtontia Candicans.

*cilius* (eye-lashed). 7. Europe; N. Africa.


*fest'iglial* (upright). Bright purple. Corseca; Sardinia.

*Sarcina* (leaves of several kinds). Syria.


*his'pis* (Spanish). See H. AMETHYSTINUS.

*hi'spidus* (hairy). Ciliax.

*leu'comelas* (white-dusky). S. Russia.


*macro'botrys* (large-bunched). Palestine.

*Muscari* nostr. See Mostari momontatum.


" Roman Hyacinth."


*provincialis* (provincial). Blue, slender stemmed. France; Italy.

HYBANTHERA. (From hubus, convex, and anthem, an anther; in allusion to the convex or gibbous anther. Nat. Fed. 1826.)

Warm greenhouse twine. Cuttings in sand not over-watered. Loam, old mortar in small pieces, and sand. Summer temp., 60° to 85°; winter, 50° to 55°.


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downy pile when mature; other stigmas, when full grown, become moist or clammy, and when these states are reached the pollen may be applied with a camel's-hair brush or pencil. The forenoon or middle of the day is the best time to conduct the operation, because the atmosphere is usually dry and the pollen in the most powdery and workable condition, though it may be done at any other time while similar conditions prevail.

**HYDROPHYTUM.** From *huduo,* to nourish, to nurse, and *phuon,* a plant; in allusion to the habit the plants have of giving shelter to ants. Nat. ord. Rubiaceae.

Remarkable stoneware plants that harbour ants in the swollen, gathered base of their stems. Cuttings in sand in a close case, with bottom-heat. Loam, peat, and sand.


*H. Liindleyi* (Benth.). Fruit red. New Guinea. (B. M., t. 7228.)

*forma+rum* (ants). Malaya.

*longiforum* (long-flowered). White. Fiji. (B. M., t. 7343.)

**HYDRANGEA.** From *hudor,* water, and *ageion,* a vessel; referring to the cup-form of the capsule, or seed-vessel. Nat. ord. Hydrangeaceae. Linn. 10-Decandra, 2-Digynia.

Deciduous shrubs. Propagated by division of the roots, cuttings of the ripened shoots, and flower-buds being grown: also from seed. The garden Hydrangea, though a little more tender, stands the winter well in the southern parts of the island; and though cut down in most winters in the neighbourhood of London, yet, if a slight protection of mulching is thrown over the shoots, the shoots rise strongly, and bloom well before Midsummer, if care be taken to remove all the weaker ones, just as is done with a Fuchsia stool. This species makes also fine ornaments in pots, and may be propagated at almost any time; the young side-shoots, when two or three inches in length, inserted in sandy soil and in heat, striking in a few days, while the old stems will strike anywhere, but require their time. To grow in loam, well drained, and abundance of water. The flower generally appears first of a greenish colour, becoming of a pale rose; but in some districts the colour becomes a beautiful blue. Notwithstanding all the experiments that have been made, there is still a little doubt as to the cause that produces the change. When iron filings and a solution of alum are used, in some soils the blue colour is produced, while the same means will not produce it in others; and other soils will almost invariably produce this blue colour without any peculiar matter whatever being added. The loams at Kenwood, at Hampstead Heath, at St. Swithun's Heath, and the peats at Wimbledon, as well as other earth, have a power of producing this blue in the Hydrangea. When trying artificially with iron filings and alum-water, we had different colours on the same plant. This variation is merely temporary—it cannot be propagated like a variety: a cutting from a blue plant will produce a rose one, unless the peculiar treatment be continued.

**GREENHOUSE.**

*H. acumina*ta (long-pointed). See *H. Hortensis.*

*Bello'ni* (Belzoni's). See *H. Hortensis.*

*cyane'a* (dark-coloured or dark-blue). See *H. Hortensis.*


*nu'nis* (white). Pure white. 1909.

*nucifera* (nucifer). Blue-branched. See *H. Hortensis.*

*N. B. H. C. H. O. F. L.*

*Li'nclayi* (Lindley's). Rosy-white.

*macro'rose* (large-sepaled). Pale. 1867.

*Marie* (Maries'). Outer flowers large, pink or mauve.

*nigr'a* (black-stemmed). Stems dark blue.

*niv'a* (snowy). Leaves white along the middle; otherwise green. 1854.


*H. hortensi*na ra'mulo-coce'neae (scarlet-branched). Large pale rose. Young shoots plum-red. 1890.

*sta'l'la* (starry). Pink, Stanley, Japan. 1868.

*sta'l'la* (starry). Pink (fringed-starry). Flowers rose

*sta'l'la* ro'sea (rosy-starry). Bright rose.

*sta'l'la* ru'bra* p!e'n'a* (double red). 1822.

*tris* (three-coloured). Leaves white and pale green, with red yellow. 1882.

*variega'ta* variegated. Leaves variegated.

*Ve'tch'i* (Veitch's). Pure white. 1903.

*lap'o'mic*a* (Japan). See *H. Hortensis.*

*rose'bust* (pink, white. Himalaya. (B. M., t. 5936.)

*sta'l'la* (starry-flowered). See *H. Hortensis* STELLATA.

**HARDY.**

*H. altissima* (tallest). Himalaya.


*grandi'sis* (long-leaved). China.

*H. brech'ne'da* (Brechneider's). White.

*cin'e'ra st e'r i s* (barren). Flowers nearly all enlarged, apple-green. Chios, U.S.A. (1906).

*corda*t*a (heart-leaved). See *H. Arborescens.*

*hetero'rama* (various-haired-leaved). See *H. Vestita.*

*involu'cralia* involucrated. 2. White and pale blue. Japan. 1875.

*lo'nigera* (long-stalked). China.

*wi'nea* (snow-white-leaved). See *H. Radiata.*

*panicu'la* (paniced). 2-4. Barren flowers few, white.

*flori'ne'nd* (free-flowering). See *H. Paniculata* GRANDIFLORA.

*grandi'sis* (large-flowered). Flowers all sterile, large, white. Japan. 1867.


*pul'e* (downy). See *H. Brechneideri.*


*cam' e* (hoary). Leaves felted, white. 1875.


*na'dens* (climbing). See *H. Petiolaris.*

*serra*ta (saw-edged). Japan.


**HYDRAS'TIS.** Yellow Root. (From *hudor,* water; referring to the marshy places where it grows. Nat. ord. Cronefoots (Ranunculaceae). Linn. 13-Polyandria, 1-Monogynia. Allied to Caltha.)

Hardy herbaceous perennial. Division of the root; hardy and peat; moist situation.


**HYDRIA STELE.** (From *hudria,* a water-bucket, and *stele,* a stem; in allusion to the cupped bracts and bracteoles. Nat. ord. Palmaeae.)

Stove Palm. Seeds fibrous, loam, peat, and sand.


**HYDROCERA.** (From *hudor,* water, and *keras,* a horn; in allusion to the horn-like leaves. Nat. ord. Geraniaceae. Allied to Impatiens.)

Aquatic or marsh stow herb. Seeds and divisions.


*trif'o* (three-flowered). See *H. Augustofolia.*

**HYDROCHARIS.** (From *hudor,* water, and *charis,* delight; in allusion to the beauty of the flowers of the plant (the scarlet). Nat. ord. Hydrocharidaceae.)

An aquatic, with rosettes or tufts of small round
leaves, floating on ponds and still waters. Runners. Soil unnecessary.


HYDROCLEIS. (From hudor, water, and klesis, a bar; from the obstruction to the water in rivers and lagoons. Nat. ord. Alismaceae.)

Stove perennial aquatic. Divisions; runners; seeds. Loam in tubs or the shallow part of a tank.


HYDROCYTLE. Pennywort. (From hudor, water, and honie, a hollow; in allusion to the hollow in the centre of the round leaf. Nat. ord. Umbelliferae.)

Dwells in the loam, with insignificant flowers, but more interesting leaves. Seeds. Divisions. Any damp soil.


moschata (musky). 1. New Zealand.


HYDROGLOSSUM SCANDENS FULCHERI. See Lygodium scandens Fulcheri.

HYDROLEA. (From hudor, water, and elais, oil; referring to the marshy habitat and oily feel of the leaves. Nat. ord. Hydrophylls [Hydrophyllaceae]. Linn. 5-Pentandria, 2-Diogynia.)

Greenhouse herbaceous plants. Divisions, cuttings, and seeds; spinosa is a small aquatic, growing best in peat and loam; quadrata tenuis is also found in boggy places.


quadrata tenuis (four-divided). See H. Carolina.


HYDROME STUS. (From hudor, water, and mestos, ball; referring to the plant living in water during the rainy season. Nat. ord. Acanthaceae. Linn. 14-Diodynanium, 2-Angiosperma. Now referred to Aphe landra.)

H. maculis (spotted). See Apheandra Hydro mestus.

HYDROPELTIS. (From hudor, water, and pelte, a shield; referring to the floating shield-like leaves. Nat. ord. Hydrophylls [Hydrophyllaceae]. Linn. 13-Pentandria, 6-Polygynia. Now referred to Brasenia.)

Hardy herbaceous perennials, from North America. Divisions and suckers; rich loam and peat; in marshy situations.


"Shaw's Chinese Salad."

HYDROSME. (From hudor, water, and soma, smell; in allusion to the peculiar smell of the flower. Nat. ord. Araceae. Now referred to Amorphophallus.)

Stove Aroids. Offsets and division of tubers. Sandy loam and peat or leaf-mould.


"Teus'sii" (Teus's). See Amorphophallus Eichler.

HYDROTENIA. (From hudor, water, and tainia, a band; referring to a triangular band in the flower secreting a liquid. Nat. ord. Iris [Iridaceae]. Linn. 3-Trianthema, 11-Monogyne. Allied to Beatonia.

Pretty half-hardy bulbs, with the aspect of a Tigridia, and flowers like a Fritillaria. Seeds, sown when ripe, or kept, and given a little heat in the spring; division of the offsets; light, rich, sandy loam; taken up, and kept after the foliage is decayed, and planted out in the garden, and covered to protect from rains and frosts, the plants will be stronger than if the bulbs were kept dry all the winter.


Van Houwitei (Van Houtte's). Mexico.

HYGROMETER. An instrument for ascertaining the quantity of moisture in the air. Everything that swells by moisture, and contracts by dryness, is capable of being formed into one. Every gardener who has taken a bulb or a bunch of plants from a hot house to the glass, and found it necessary to moisten the air, will remember that the water in the leaves, and plants, will be less than if they were kept dry all the winter.


Van Houwitei (Van Houtte's). Mexico.
HYGROPHILA

From hugros, moist, and philos, to love; referring to the habitat of the plant. Nat. ord. Acantuahs. Linn. 14-Dynamida, 2-Anigo-

herrania. Allied to Ruellia.)

Stove evergreens. Cuttings of young shoots in sandy soil, in heat; and peat and loam. Summer temp., 60° to 80°; winter, 45° to 55°.

H. angustifolia (narrow-leaved). 4-f. Purple or violet.

The species first discovered growing in Virginia. Nat. ord. Amaryllidaceae. A stove bulb. Seeds and offsets. Fibrous loam, leaf-

mold, and sand.


HYLOCOME

From hule, a wood; the species first discovered growing in winter. Nat. ord. Amaryllidaceae. A stove bulb. Seeds and offsets. Fibrous loam, leaf-

mold, and sand.


HYLOTOMA ROSEA. A saw-fly, which injures rose-

trees severely, by puncturing in rows their young shoots, and deposing its eggs in the holes. The best remedy is spreading a cloth beneath the trees in the evening, and killing the saw-flies shaken down upon it.

HYLORIGUS PINIFERDA. Pine Beetle. Young-Pine trees in some districts suffer greatly from this species, which infests the inner bark of this tree, which is dark-coloured, downy, and about the same diameter as a human finger. It makes a tunnel beneath the bark of young or old trees and lays her eggs in it. Each grub makes a tunnel two feet long, so that they run round the stems of young trees, which then die or are got their tops blown off by the wind. To keep the beetle in check all prunings and pine bark should be burned. Branches known to be attacked should be cut off and burned likewise.

HYMENAEA. Locust tree. (From Hymen, the god of marriage; referring to the leaflets being joined. Nat. ord. Leguminosae. Linn. 10-Decandria, 1-Monogynia. Allied to Bauhinia.)

Fine, close-grained, hard wood; and the resins Anime and Copal are produced by the stovetop evergreen trees. Cutting of leaf berries young shoots in spring, inserted firmly in sand, covered with a bell-glass, in bottom-heat; heat and rich loam. Summer temp., 60° to 85°; winter, 55° to 60°.


Evergreen greenhouse shrub allied to Ardisia. Seeds; cuttings of half-mature wood in sand, placed in a close case, with bottom-heat. Fibrous loam, peat, sand.


HYMENANTHE RA. (From humen, a membrane, and anthera, an anther, or pollen-bag. Nat. ord. Violentaeae [Violaceae]. Linn. 5-Pentandra, 1-Monogynia. Allied to Alsodeia.)

Greenhouse evergreen shrubs. Cuttings of young shoots, getting a little firm, in spring, in sand, over peat, and well drained, under a bell-glass; sandy peat, with a third of fibrous loam. Winter temp., 40° to 45°.

H. arista'ta (bearded). Garden form.

 HYMENOCALLIS. (From humen, a membrane, and kalo's, beautiful; referring to the membranous cup inside the flower. Nat. ord. Amaryllid [Amaryllidaceae]. Linn. 6-Hexandra, 1-Monogynia. Allied to Pancretania.)

They have all white flowers, except where otherwise mentioned. All seem to resemble Pancretania. Their seeds differ in being large and green, the seeds of Pancret-

ania having a black, brittle skin. Offsets; rich, sandy loam. See Amaryllis.

HYMENACTIS. (From hymen, a membrane, and actis, a ray; denoting the lobed petals. Nat. ord. Zinniaeae. Linn. 4-Arceae, 2-Onagraceae, 2-Scrophulariaceae. Allied to Acanthads.)

Evergreen greenhouse shrub allied to Ardisia. Seeds; cuttings of half-mature wood in sand, placed in a close case, with bottom-heat. Fibrous loam, peat, sand.


HYMENANTHE RA. (From humen, a membrane, and anthera, an anther, or pollen-bag. Nat. ord. Violentaeae [Violaceae]. Linn. 5-Pentandra, 1-Monogynia. Allied to Alsodeia.)

Greenhouse evergreen shrubs. Cuttings of young shoots, getting a little firm, in spring, in sand, over peat, and well drained, under a bell-glass; sandy peat, with a third of fibrous loam. Winter temp., 40° to 45°.

H. arista'ta (bearded). Garden form.

 HYMENOCALLIS. (From humen, a membrane, and kalo's, beautiful; referring to the membranous cup inside the flower. Nat. ord. Amaryllid [Amaryllidaceae]. Linn. 6-Hexandra, 1-Monogynia. Allied to Pancretania.)

They have all white flowers, except where otherwise mentioned. All seem to resemble Pancretania. Their seeds differ in being large and green, the seeds of Pancret-

ania having a black, brittle skin. Offsets; rich, sandy loam. See Amaryllis.

HYMENACTIS. (From hymen, a membrane, and actis, a ray; denoting the lobed petals. Nat. ord. Zinniaeae. Linn. 4-Arceae, 2-Onagraceae, 2-Scrophulariaceae. Allied to Acanthads.)

Evergreen greenhouse shrub allied to Ardisia. Seeds; cuttings of half-mature wood in sand, placed in a close case, with bottom-heat. Fibrous loam, peat, sand.


HYMENANTHE RA. (From humen, a membrane, and anthera, an anther, or pollen-bag. Nat. ord. Violentaeae [Violaceae]. Linn. 5-Pentandra, 1-Monogynia. Allied to Alsodeia.)

Greenhouse evergreen shrubs. Cuttings of young shoots, getting a little firm, in spring, in sand, over peat, and well drained, under a bell-glass; sandy peat, with a third of fibrous loam. Winter temp., 40° to 45°.

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Evergreen greenhouse shrub allied to Ardisia. Seeds; cuttings of half-mature wood in sand, placed in a close case, with bottom-heat. Fibrous loam, peat, sand.

HYMENODICTYON 446 HYOSPATHE


H. mexic'ana (Mexican). See H. LACERA.

H. mutica (testy). 1. White; tube green. S. Amer.

H. ovata (oval-leaved). See H. OVA-TA OVAFOLIUM.


H. ovata (oval-leaved). A small, slender variety.


H. ped'alis (long-stalked). May. Brazil. 1815.


H. augus'ta'nia (narrow-leaved, 1903.


HYMENODIC'TYON. (From humen, a membrane, and di'kton; a net; the envelope of the seeds being a net-like membrane. Nat. ord. Cinchonads (Rubieae). Linn. 5-Pentandria, 1-Monogynia. Allied to Lucilia.)

Stove (on the East Indies, with greenish-yellow flowers. For culture, see CINCHONUM CRINITUM.

HYMENODICTYON CRINITUM. See ACROSTICUM CRINITUM.

HYMENOLEPIS. See ACROSTICUM. 

HYMENOPHYLLUM. Filmy-leaf Fern. (From humen, a membrane, and phyllon, a leaf. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogramma, 1-Filices.)

Ferns, all with brownish-yellow spots, except where otherwise mentioned. By spores, and dividing the roots; peat and loam; should be rather cramped for room. See Ferns.

HARDY.


GREENHOUSE.

H. bia'vite (two-valved). New Zealand.

H. chilo'ese (Chiloé). Isle of Chiloé.

H. crisp'a'tum (crisped). See H. JAVANICUM CRISPATUM.

H. crass'a (thick). 1. New Zealand and Australia.

H. den'ssum (drooping). 1. New Zealand and Australia.


H. flexu'sum (zigzag). See H. JAVANICUM FLEXUOSUM.

H. forsteri'ana (Forsterian). See H. DIATANTUM FORSTERIANUM.

H. fucifo'rme (Fucus-formed). Chili and Juan Fernandez.

H. fava'nicum (Javanese). Trop. Asia, &c.

H. fimbria'tum (crisped). 1868.


H. tamaric'sif'o'sum (tamarisk-leaved).

H. tamaric'sisif'o'sum (tamarisk-leaved).

H. tamaric'sisif'o'sum (tamarisk-leaved). See H. JAVANICUM Tamariscifolium.

STOVE.


H. arsenic'icum (brassy). Isle of Tristan d'Acunha.
HYPERICUM. (From hupecho, to rattle; referring to the seeds in the pods. Nat. ord. Papaveraceae. Linn. 4-Tetrandra, 2-Digynia.) Hardy annuals, with yellow flowers. Seeds in the open border, in March.
*tilotira* (sea-shore). See H. PROCUMBENS.
HYPELATE. (From *hypo*, under, and *elain*, oil; the sediment of oil. Nat. ord. Sapindacaeae.) Stove evergreen tree. Cuttings of ripe shoots in sand, in a close frame, with bottom-heat.
HYPERANTH'RA MORGINGA. See Moringa ptery-gosperma.
HYPERICUM. St. John's Wort. (The *Yperikon of Dioscorides*; said to be from *yper*, on account of, and erike, heath; from its growing in similar places. Nat. ord. Tutsiuns [Hypericaceae]. Linn. 18-Polyadelphus, 2-Polyantheria.) All yellow-flowered, except where otherwise mentioned. The hardy flourish in common and sandy loam, and the more tender in loam and peat. Annually, sow in the open border, in March; herbaceous, sow and divide the plants in spring; shrubs are easily divided, as they stoln and grow also by seeds and frame by kinds, by divisions, but chiefly by cuttings of young shoots in sand, under glass; most of them, if protected in winter, would grow against a wall. For exposed places the following are the best shrub ones: — *Ela'num, hirci num, calyctis num, halmi'num, and praficicum*.

**Hardy Biennial.**

**GREENHOUSE EVERGREEN SHRUBS; &c.**
*co'chinrise nse* (Cochin-Chinese). See CRATOXYLON.
*lanczos'um* (lance-shaped). Masacrene Islands. 1777.
*monogynum* (one-styled). See H. CHINENSE.
*mynore nse* (Mysore). India.
*oblongifo'lium* (oblong-leaved). See H. HOOKERIANUM.
*sinal'ne* (Chinese). See H. CHINENSE.
*prifro'fum* (three-flowered). See H. HOOKERIANUM.

**LECHENA'LIUM.**
*aspalathoi'des* (Asphalathus-like). See H. FASCICULUM.
*axilla re* (axillary-flowered). See H. GALIODES.
*densifo'lium* (dense-flowered). N. Amer. 1809.
*frondo sum* (leafy). See H. ARUM.
*glau'ceum* (milky-green). See H. MYRTIFOLIUM.
*maculatii um* (Buckley's). See H. GRAMINUM.
*moe'si num* (Moserian). 1778.
*oblongifo'lium* (oblong-leaved).
*petala* (Early). See H. GRAMINUM.
*rapa* (rape). See H. GRAMINUM.
*sine'num* (without). 1778.

*trun'catum* (tapered). See H. MACULATUM.
*rosmanirifo'lium* (rosmary-leaved). See H. MYRTIFOLIUM.

**H. adeno'phorum* (gland-bearer). See H. ELOEODES.
*ascyron* (Ascyron-like). See H. ASCYRON.
*atomari'um* (sp прекled). Asia Minor.
*ascynum* (ascending). See H. RICHELIIUM.
*canadi'num* (Canadian). 1. August. N. Amer. 1770.
*calci'num* (hair-fringed-flowered). See H. PERFOLIATUM.
*crenula'rum* (finely-notched). Cilicia.
*decussa'rum* (decussate). See H. ORIENTALE FRANCOI'DUM.
*denia'num* (toothed). See H. PERFOLIATUM.
*erico'rum* (erect). Japan.
*filosorum* (fringed). See H. RICHERII.
*involucrati num* (rolled-inward-flowered). 2. See H. GRAMINUM.
HYPOLEPIs

H. japonicum (Japanese). 1. July. Eastern Tempe-
rate Asia, &c. 1823.

H. levisagium (smooth). 1. July to September. N.
Amer. 1772.


H. macrocotrypum (large-podded). See H. ASCYRON.


H. nudicaule (naked-stemmed). See H. SAROTRA.


H. oligofoIium (Origanum-leaved). See H. RHODO-
PEUM.


H. Asio Minor. 1739.


H. pseudobulbiferum. See H. DOLABRIFORME.

H. Richei (Richer's). 2. July. Middle Europe. 1821.

H. rumelicum (Roumelia). Macedonia.

H. Sarothra (Sarothra). 1. N. Amer.

H. tetrapleurum (four-winged). See H. QUADRANGULUM.


H. virgatum (twirly). See H. ANGULOSUM.


HYPHAEs. (From huphaineo, to entwine; referring to
the fibres of the fruit. Nat. ord. Palms [Palmaceae].

Linn. 22-1800. See CHEIADON, 1-Monogynia.)

H. thebaica is the Doum Palm, and the Gingerbread-
tree of Egypt, the fleshy-fibrous part of the fruit having
the appearance and taste of that cake. Stove palm.

Seeds; rich, sandy loam.


H. natans (Natal): See H. CRINATA.

H. petraea (Petermann). See H. CRINATA.

H. Scutata (Schatan). Madagascar.


HYPOCALYX MMA. (From hupo, under, and kalumma,
a veil; referring to the calyx falling off like a veil or
cape, on account of the cohesion of the points, or apex.

Nat. ord. Myrtaceae [Myrtaceae]. Linn. 12-LEOSANUM, 1-Monogynia.)

Greenhouse evergreen shrubs, from Australia. Cut-
tings of young shoots in sand, under a bell-glass; and
peart and loam. Winter temp, 40° to 45°.


H. Trivia (sweet-scented). See H. ANGUSTIFOLIUM.

HYPOCALYX PLUS. (From hupo, under, and kalupto,
to veil; referring to the two bractlets under the flower.

H. nat. ord. Leguminous Plants [Leguminosae]. Linn. 15-
Monadelphus, 4-Decandria. Allied to Loddigesia.)

A very old evergreen greenhouse plant, once called a
Crotalaria, and one of the best of that section. Cuttings
of young side-shoots in April, in sand, under a bell-glass;
peart and loam. Winter temp, 40° to 45°.


S. Africa. 1823.

HYPOCHERIS. (From hupo, under or below, and
chario, to delight in; that is, it delights to grow with its
leaves lying low to close to the ground, especially in
dry places. Nat. ord. Composite.)

A large genus of perennial, rarely annual herbs, mostly
of a weedy character. H. maculatum, with blotched
leaves, is perhaps the best. Seeds and divisions.


H. N. Africa; Sicily. 1828.


M. Sicily. 1771.

(Britain).

HYPOCYRTA. (From hupo, below, and kurts, curved;
the tube of the corolla is curved below. Nat.
ord. Gesneraceae.)

Stove plants; little herbs; Seeds; cuttings in sand in heat,
covered with a bell-glass. Loam, leaf-mould, with plenty
of sand.

H. brevicalyx (short-calyx). See ISOLMOS HYPOCORYT-
S. (Eye-lashed). See ERICIA CILIOSA.

H. discolor (two-coloured). See ALPHLECTUS DISCHROUS.


H. leuco'stoma (white-mouthed). See BESLERIA LUGO-
STOMA.


1843.

HYPODERIS. (From hupo, under, and darris, a
skin. Nat. ord. Ferns [Filices]. Linn. 24-Cryptograma,
1-Filices.)

A stove Fern. See Ferns.


HYPOSES. (From hupo, under, and estis, covering;
referring to the bracts covering the calyx. Nat. ord.
ACANTHACEs [Acanthaceae]. Linn. 2-Diandra, 1-Mono-
Gynia. Allied to Dicliptera.)

Stove plants; Cuttings of young shoots in sandy soil.
under a glass, in heat; peart and loam. Summer temp,
60° to 85°; winter, 45° to 55°.

DECIDUOUS.


China. Climber.


Herbaceous.

EVERGREEN.


S. Africa. 1874.


H. sanguinole'nta (blood-red). 1. Purple. Mada-
gascar. 1865.


HYPOLEPS. (From hupo, under, and lepis, a scale.
Nat. ord. Ferns [Filices]. Linn. 24-Cryptograma, 1-
Filices.)

Ferns, with brown spores. The first two require the
stove, and the others a warm greenhouse. See Ferns.


H. amauro' chicas (dark-rubbed). See PETERS BUGULOSA.


Mauritius, &c. 1855.
Evergreen, stovc herb, or subshrub. Cuttings of young shoots in spring, with bottom-heat. Fibrous loam, leaf-mould, and sand.


**HYSSOPUS.** Hyssop. *Yssopus* (Dioscorides), but certainly not the same plant. Nat. ord. Leprous (Labiate). Linn. 14-Pulmonary, t-Gymnospermia.)

Hardy, blue-flowered evergreen. Sow in March or April; propagate by dividing the plant at the same time, or in September; also, by stout cuttings at a similar period; the varieties are propagated by cuttings, and, if rare, by hand-light over them; dry, light soil. The plant is not only aromatic, but the flowers are beautiful.

**H. aristatus** (awned). See H. officinalis aristatus.

**decumbens** (lying-down). See H. officinalis decumbens.

**pluvers** (two-coloured). See Lophanthus anisatus.


**H. aristatus** (awned).

**canis** (hoary). June. Switzerland. 1819.

**decumbens** (lying-down).


**grandiflorus** (large-flowered). Flowers large, open. Lake Baikal. 1901.


**HYSTERIONICA.** (From *hysterus*, to come later, and *tos*, *tis*, single; the flower-heads come singly on the stems, late in the year. Nat. ord. Compositae. Often named *H. pistilata*.

Hardy, or half-hardy evergreen herbs, with slender leaves like pine-needles. Cuttings in sand during July and August in a cold frame, kept close. Sandy loam and leaf-mould. Young plants should be kept in a pit or frame during winter.


**I'**

**IBERTSONIA GENISTOIDES.** See *Cyclopa genistoides*.

**IBERIDEA ROTUNDIFOLIA.** See *Thlaspi rotundifolium*.

**IBERIS.** Candy Tuff. (From *Iberia*, the ancient name of Spain, where the species abound. Nat. ord. Crucifers (Cruciferae). Linn. 15-Tetradynamia. Allied to Thlaspi.)

All white-flowered, except where otherwise specified. Annuals and biennials, by seeds in March and April; most of the annuals, and especially the umbella'ta group, are very hardy, and if sown in autumn will generally stand the winter, and bloom in April and May in consequence. The shrubby evergreen group, by seeds, but chiefly by cuttings after flowering under a hand-light, in a shady corner, in summer. *I. sempervirens* may be taken as a type of this group, and whether in a clump, by the side of borders, or hanging over knolls and rockwork, its masses of white flowers are really beautiful.

**HARDY ANNUALS AND BIENNIALS.**


**h. semperflorens** (Hesperis-leaved). Flowers larger.


2 F
ICE

I. corona'ria (crown-flowering). See I. UMBELLATA.
\[ hyacinthiflo'ra \] (Hyacinth-flowered). I. Milk-white.
1902.


Biennial.

Jordon's (Jordon's). Asia Minor.

juc'nida (joyous). See Aethionema JUCUNDA.

lagasa'na (Lagascana), White, Spain.

d'na (dwarf). \( \frac{1}{2} \) Purple. June, Europe. 1822.

nudicani'lis (naked-stemmed). See TESDALLIA NUDI-CALUS.


pectina' (comb-like). White, Spain.

placeta (placenta), White. Dalmatia.

ta'rusia (Taurian). \( \frac{1}{4} \) May. Caucasus. 1802.

Biennial.

umbella'la (umbellated). I. Purple, June. S. Europe.

1796.

\[ \text{purp}'re'sa (dark purple). \]

\[ \text{car'nea (flesh).} \]

\[ \text{purp}'re'sa, \text{plac'ena (purple-llac).} \]

\[ \text{viol'a (violet).} \]

\[ \text{Purple. June. 1782.} \]

\[ \text{virg'nia (Virgini-an).} \]

See LEPIDIUM VICTICUM.

GREENHOUSE EVERGREEN.

I. gibraltari'ria (Gibraltar). \( \frac{1}{4} \) Whitish-pink, May. Gibraltar. 1792.

\[ \text{hybri'da (hybrid).} \]

White to rose-purple.

HARDY EVERGREENS.

I. car'na'sa (fleshy), Europe.

\[ \text{confor'ta (crowded).} \]

\( \frac{1}{4} \) June, Spain. 1827.

\[ \text{co'so'LAC'INCA} \]

\( \frac{1}{4} \) May, Spain. 1824.

\[ \text{ro'sosa (rose).} \]

Rose. 1888.

\[ \text{corso'lia (Corsi-leaved).} \]

\( \frac{1}{4} \) June, S. Europe. 1739.

\[ \text{corso'la (Correa-leaved).} \]

\( \frac{1}{2} \). Flowers large, pure white. Garden origin.

\[ \text{garrexia'na (Garrett's).} \]

See I. SEMPERVIRENS GAR-RexIANA.

\[ \text{pru'tis (Fruit's).} \]

\( \frac{1}{2} \). May, Sicily.

\[ \text{pae'ana (Downy).} \]

\( \frac{1}{2} \). Pale violet, June.

\[ \text{perfor'a (Perforated).} \]

\( \frac{1}{2} \). See TILLAR PUMILUM.

\[ \text{tassa'lia (Rock).} \]

\( \frac{1}{2} \). May, S. Europe. 1739.

\[ \text{perempo'len (ever-flowering).} \]

\( \frac{1}{2} \). May, Sicily. 1798.

\[ \text{plas'ta (spatulate).} \]

See I. CARNOSA.

\[ \text{phi'lo'sa (long-styled).} \]

See NOCCIA STRILOSA.

\[ \text{tenore'na (Tenore's).} \]

\( \frac{1}{2} \). Pale purple. June.

Naples. 1802.

ICACINA. (Literally, like Icaco. Nat. ord. Olaci-nae.)

A stove shrub, with a massive tuberous root-stock, and thin climbing stems. Cuttings of short side-shoots, with a heel of the old wood in sand and placed in a close case, with bottom-heat. Fibrous loam, leaf-mould, and sand.

I. Ma'ni (Man's). Pale yellow. Old Calabar. 1865.

ICACOREA GUIANENSIS. See AERDIA AGMINATA.

ICE

Mr. Beaton finds that the cheapest and most effectual mode of preserving this is what he terms an Iceberg, and it is thus constructed. Choose a natural hollow for the site of the iceberg, where the bank on one side is steep, and let the outside of the cone, when it is finished, be at six feet from the bottom of the bank. Some such space is necessary between the bank and the ice, to get rid of any rain or snow water that may run down the bank before it gets to the ice. At the bottom of the bank, and half-way up, posts are to be let into the ground in pairs, four feet apart, and braced together with a strong piece of timber, set set pegs, as builders do their senior thing; let planks and wheels be made into a long trough, inclining from the top of the bank, and resting on these cross pieces; the bottom of the trough being carried out to near the intended centre of the conical form above it, the ice should be broken on a platform of boards at the top of the bank, and poured down the inclined trough. The broken ice should be spread a little by some one as it falls from the spout, care being taken that the edges are brought up evenly, and when the ice reaches the height of the bottom of the spout, the planks are to be re-aranged, so as to allow room for throwing off the ice as fast as it comes down; and having thus got a cone of ice about one foot thick at the point, the whole must be left till the first frost after midwinter, and then it will begin thawing. The outside of the iceberg has then melted a little; but on the first hard frosty night the water is frozen over again, and the outside of the cone is thus as if it were one piece of rough ice, and now is the time to throw it entirely over with good long straw, about the same thickness as you would a wheat or barley stack, and no more, provided you have cheaper material. In this way, you have a good thick covering over the ice, and the bottom of it, which is sometimes twice as much as in other seasons according to the quantity of leaves on hand; but two feet in thickness does not preserve the ice better than one foot. The ice is never uncovered by high winds blowing off the leaves, though nothing is put upon them to keep them down.

Perfect exemption from wet or damp is necessary for the bottom of an iceberg; and a few pieces of rough wood piled there, and covered over with snow, will make a foot, and that again covered with six inches of straw is sufficient. The brushwood and straw are soon compressed into a few inches by the weight of the ice; and as the water passes through, with very little hindrance, into cross, open drains at the bottom. When ice is required the thatch is opened at the bottom the time, the ice cut out with a pickaxe, and the thatch replaced.

If an Ice-house is built, Mr. Cobbett's plan, as follows, is the best. Mark off the centre of a circle, the diameter of which is ten feet, and at this centre you put up a post five feet high, to which the water passes through, which post ought to be about ten inches through at the bottom, and not much smaller at the top. Great care must be taken that this post be perfectly perpendicular, or the building will be overthrown. The height of this put fifteen posts, nine feet high, and six inches through at the bottom, without much tapering towards the top. These posts stand about two feet apart, reckoning from centre of post to centre of post, which leaves between each two a space of eighteen inches; inside put fifty-four posts, five feet high, and five inches through at the bottom, without much tapering towards the top. These posts stand about two feet apart, reckoning from centre of post to centre of post, which leaves between each two a space of nineteen inches. The space between these two rows of posts is about two feet in width, and is to contain a wall of straw; hanging from this wall, and in some way from the top, leaves between each two a space of nineteen inches. The space between these two rows of posts is about two feet in width, and is to contain a wall of straw; hanging from this wall, and in some way from the top, leaves between each two a space of nineteen inches. The space between these two rows of posts is about two feet in width, and is to contain a wall of straw; hanging from this wall, and in some way from the top, leaves between each two a space of nineteen inches.
ICE-PLANT. Mesembryanthemum crystallinum, and 

Tetragonia crystallina.

ICHNEUMON FLYES. Most insects have their parasites which prey upon them in some way or other and thus keep their numbers down. The Ichneumon flies are flies which lay their eggs in the bodies of living green-flies, which may be seen sticking to plants in large numbers, dead and brown, with a hole in their back from whence the ichneumon has come out. The large white cabbage butterfly has, at least, two ichneumons. Micro- 
gaster laevicollis lays its eggs in large numbers in the caterpillar, and when the eggs hatch the maggots feed on the substance, without killing the caterpillar, and when full feed they come out and spin small yellow cocoons in clusters beside the dead caterpillar. 

Piero-
modes Brescius lays its egg beside on the chrysalis of the same species of butterfly, and the maggots, numbering over 200, feed upon the contents of the chrysalis. Hemileia melanarius preys upon the green- 
vine mustard of butterfly. These ichneumons should not be destroyed.

ICINOCARPUS. (From ishno, a vestige, and karpos, a fruit; in reference to the slender seed-vessels. Nat. 

ord. Dogbanes (Apocynaceae). Linn. 5-Pentandra, 1-

Monogyne. Allied to Apocynum.) 

Stove evergreen twiners. Cuttings of small side-shoots in April, may be readily planted; peat and loam. Summer temp. 60° to 80°; winter, 50°. 

I. acuminatus (long-pointed). See ANAGNOSMA MAR-
gINATA. 

'carphophyllus' (clove). See ANAGNOSMA CARPHO-

YLLATA. 

cynus' (cyme). See ANAGNOSMA CYMONS. 

elegans' (elegant). See ANAGNOSMA CYMONS. 


Ceylon. 

1797. 

magnificus' (magnified). See ANAGNOSMA MARGINATA. 

Roxb'ighis (Roxburgh's). See ANAGNOSMA CALYCINA. 

Wallis'chi (Wallich's). See ANAGNOSMA CALYCINA.

ICTICA. (The native name in Guiana. Nat. ord. 

Barserads [Burescaras]. Linn. 20-Decandria, 1-Mo-

nygina. See PROTUM.) 

I. altissima (highest). See PROTUM ALTISSIMUM. 

decus (beauty). See PROTUM DECUORUM. 

ennis'na'dra (nine-stamened). See PROTUM DEGU-

DRUM. 

guianet'nis (Guiana). See PROTUM GUIANEANUM. 

hypsophylla (various-leaved). See PROTUM ARE-

COUCHI. 

Tacamahaca (Tacamahac). See PROTUM HEMI-

PHYLLUM.

IDEO SIA. (In commemoration of a Dutchman named 

Yoranis Ida. Nat. ord. Diaceae.)

A hardy ornamental tree of low stature, with large, heart-shaped leaves, not unlike those of a lime. Seeds; cuttings of side-shoots, with a heel of the old wood in spring, inserted in sand in a gentle heat. Ordinary soil. 


orange, changing to blue-black. Japan. 

'cri'spa (crisp). Leaves crisped. 1888. 

'for'leg'ga'ris (variegated-leaved). Variegation 
sulphur-yellow. 1902. 

IDRI. (From ideia, or ideia, skill; in allusion to the 

adaptation of the plant to its habitat. Nat. ord. 

Tamaricaceae.) 

Allied to, if not identical with, Fouquiera. 

A curious large, green bush shrub with thick pyramidal 

spiny stems. Seeds; cuttings under a hand-light in a greenhouse. Loam, leaf-mould, and plenty of sand. 

I. columnaris (columnar). Straw-coloured. Lower 

California. 1896.

IGUANURA. (From iguana, the animal of that name, 

and ara, a tail. Nat. ord. Palmaece.) 

Stove Palms. Seeds. Loam, one-third peat, and 

a little sand. 

I. Curtisii (Curtis's). 1905. 

speranckya'na (Speranskiany). Leaves densely tufted, 

spiny. Malaya. 1898.

ILEX. The Holly. (From the resemblance of the 

leaves to those of Virgin's Bower. Linn. 

Hollyworts [Aquifoliales]. Linn. 4-Teiandra, 5-Trol-

aga.) 

All white-flowered but one. By seed, which should be kept in the rot-beat for a twelvemonth after gathering, 

frequenly turned in the meantime, to rot the pulp, 

and then sown in beds. The varieties by grafting and 

budding—the first in March, and the second in July; by cuttings of the ripened summer shoots in autumn, on a north side, and covered with hand-glasses. Soil, 

sand loam, in any place free from stagnant water. See 

HOLLY.

GREENHOUSE EVERGREENS. 

I. angustifolia' lia (narrow-leaved). See I. DAHOON. 

betschler'na (Betschlerian). Mexico. 


cape'nia (Cape). S. Africa. 


'Mate' or 'Paraguay Tea.


1820. 

exce'ria (lethy). See I. DONIANA. 

maygicina (Magellan). Magellan. 1838. Half-

hardy. 


1807. 

seri'sa (saw-edged-leaved). Japan. 1840.

STOVE EVERGREENS. 

I. Go'ngonha (Gongonha). See VILLARESIA MUCRONATA. 

insiss'na (remarkable). 8-10. Malaya. 1850. 

monti'ia (mountain). W. Ind. 1820. 


nro'-puncta'ra (black-spotted). Brazil. 

paraguay'e'na (Paraguay Tea). 15. Paraguay. 1823. 

salicifo'lia (willow-leaved). See GYMNOSPORIA TRI-

GYNA. 

Scopuli'rum (of the rocks). Ecuador. 

HARDY EVERGREEN AND DECIDUOUS. 


Deer. 

Amel'ia'chieri (Amelanchier). S. United States. 1889. 

Aquif'o'sum (prickly-leaved. Common). 20. May, 

Britain. 

a'rac'ina (white-edged). 12. May, Britain. 

a'voo'ps'eta (white-painted. Milkmaid). 20. April, 

Britain. 

a'lladare'na (High-Cleric). 20. April, Britain. 

a'ngus'fi'o'la (narrow-leaved). 20. May, Britain. 

'arge'nia me'dio'ps'eta (middle-blotted). Silver 

Milkmaid. 

'arge'nia pe'nudia (weeping). "Ferry's Weeping."
I. *Aquifolium argé'te na regí'na (Queen). "Silver Queen."*
   - *au'reo-margi'na ta (gold-margined), 12. May, Britain.
   - *au'reo mel dio-pí'sa (middle-blotched), "Gold Milkmak."
   - *au'rea pé'ndula (weeping), "Waterer's Gold Weeping."
   - *au'rea regí'na (Queen), "Golden Queen."*
   - *blé'i ca (Blaire), 10. May, Minorca, 1815.
   - *cilii ta (hair-fringed-leaved), 20. May, Britain.
   - *cilii ta mi' nor (hairless-margined-leaved), 20.
   - May, Britain.
   - *e'ria (thick-leaved), 20. May, Britain.
   - *ep'sa curled-leaved, 20. May, Britain.
   - *fe'ros argé 'te na (silvery-fierce), 20. May, Britain.
   - *fe'ros au'reus (golden-fierce), May, Britain.
   - "Golden Hedgehog Holly."
   - *fla'ua (yellow), 15. May, Britain.
   - *flave acens (yellowish), "Moonlight."
   - *frac'tu la (three-coloured), 20. May, Britain.
   - *frac'tu lu'ceo (yellow-barked), 20. May, Britain.
   - *frac'tu mi'ro (black-barked), 20. May, Britain.
   - *handsworthi'na (Handsworth New Silver, "heterophylla (various-leaved), 20. May, Britain.
   - *lati'o'lia (broad-leaved), 20. May, Britain.
   - *laurifo'lia (laurel-leaved), 20 May, Britain.
   - *margi'na ta (thick-margined-leaved), 20.
   - May, Britain.
   - *Marno'cki (Marnock's), 1901.
   - *pe'ndula (weeping), "Weeping Holly."
   - *per'na (Pereira), 20. May, Britain.
   - *prá'sa (three-coloured), 20. May, Britain.
   - *plethyo'philla (broad-leaved), May, Europe, 1844.
   - *re'cia (bent-back-leaved), 20. May, Britain.
   - *sene'cens (aged-spinedless), 20. May, Britain.
   - *seraf'i'la (saw-edged-leaved), 20. May, Britain.
   - *watereria'na (Watererian), Leaves edged golden-yellow, 1874.
   - *Wilsoni'ni (Wilson's), Large-leaved variety, 1901.
   - *bale'rica (Balicric), See I. *Aquifolium balericum*
   - "Cassena."
   - *corvina (horned), 3-5. China, 1850.
   - *deci'dua (white), 20. Japan, 1862.
   - *major (larger), Leaves larger. Japan, 1862.
   - *microphy'lla (small-leaved), Leaves very small.
   - *lap'ti'ca (lanceolate), 20. May, Britain.
   - *variega'ta (variegated). Leaves variegated.
   - *Dahoon' (Dahoon), 6. May, Carolina, 1726.
   - "Deciduous."
   - *di'pyre na (two-seeded), 12. May, N. India, 1840.
   - "Himalayan Holly."
   - *Farge'sii (Farge's), White. Leaves 3-4 in. long, not spiny. W. China, 1910.
   - *Forresti (Fortune's), See I. *Crenata major.
   - "Inkberry," Deciduous.
   - *in'se'ra (entire), China and Japan.
   - *las'ato ra (loose-flowered), 3. See I. *Opaca."
   - *leptoc'aha (slender-spined), China, 1852.
   - *lu'cida (shining), 2-3. N. Amer. 1778.
   - *maj'o'ra (long-tailed), 20. May, Britain.
   - Deciduous.
   - *monti'cola (mountain-dwelling), 2-4. N. Amer. 1891.
   - *pedunculo'sa (long-stalked), Japan.
   - *Perny'i (Perny's). Leaves small, with a dense habit of growth. Central China, 1903.
   - *rug'o'sa (wrinkled), N. Eastern Asia.
   - *ro'nneda (round), April. Japan.

   - *Milkmak."
   - *veri'cilla (whorled), 3-6. May. N. Amer. 1736.*
   - "Black Alder, Winterberry."
   - *chrysoca'rpus (gold-fruited), 3-4. See I. *Cassine."

**ILIAE REA CANARINOIDES.** See *Loasa canarinoides.*

**ILLECEBRUM.** Knot Grass. (From *illecebrum,* a charmer; referring to the pretty little annuals giving a charm to waste places. Nat. ord. *Knotworts* (Ilece-brum).) Farge'sii (broad-leaved), 1- Monogynia.) All white-flowered, and all propagated by seed; common soil, though *vericilla* *tum* likes a little moist peat. The greenhouse and stave perennials merely require the extra heat, and may also be propagated by division in the spring.

I. *diffi'num (spreading). See Alternanthera Pulchella.*

**ILLICUM.** Aniseed-tree. (From *illiciunum,* to allure; referring to the perfume. Nat. ord. *Magnoliads* (Magnoliaceae).) Linn. 13-Polyandra, 6-Polygynia. Allied to Drimys.

The fruit of *anissa* *tum* has the flavour of anise, being used as a spice in Chinese cookery; and the seed of *religiosum* is burnt as incense in their temples. Hardy evergreen shrubs. Cuttings of the young spined shoots in sand, under a glass, in summer; by layers, from a stool in a cold pit, where they generally remain two years before being removed; sandy loam and peat; require a light, sandy soil of the cold pit or greenhouse in winter, though *florida* *num* has stood out in many places but with a slight protection in severe weather.


II. *florida* *num* (red. Florida), 8. Red. May, Florida, 1766.

- *laurifo'lium (laurel-leaved), Yellowish-white. 1901.*
- *vè'renum (true). Green, purple. S. China, 1888.*
- True "Star Anise."

**ILLUPIE-TREE.** *Ba'tsia.*

**ILYSA NTHES.** (From *iels, mud, and anthes, a flower;* in allusion to the muddy, wet places, where the plants grow. Nat. ord. *Scrophulariaceae.* A greenhouse annual, with terminal racemes of flowers. Seeds. Fibrous lomat, leaf-mould, and sand.


**IMANTOPHYLLUM.** (From *himas,* a leather thong, and *pha'lon,* a leaf; alluding to shape and substance of the flower. Nat. ord. *Amaryllidaceae.* Linn. 6-Hexandria, 1-Monogynia.) See *Clivia.*

- *Aitoni'ni (Aiton's), See Clivia nobilis.*
- *cyrtanthi'sorum (curved-flowered). See Clivia cyrtanthiflorum.*
- *Gardeni'ni (Garden's), See Clivia Gardeni.*
- *ma'simum (largest). See Clivia miniata.*
- *minia'tum (cinnabar). See Clivia miniata.*

**IMBRICARIA.** (From *imbrico,* to cover like tiles on a roof; referring to the divisions of the calyx. Nat. ord. *Sapotaceae.* Linn. 8-Octandria, 1-Monogynia. Allied to *Mimosa.* A tree which produces fruit similar to an orange. Cuttings of ripe shoots in sand, under a glass, in strong, moist heat; sandy loam and peat.

I. *bo'bo'nica (Bourbon). See I. *Maxima.*

- *ma'sima (largest). White. Mascarene Islands, 1820.*
IMBRICATED

IMBRICATED. Leaves, sepals, &c., are to be imbricated when one laps over the next, and so in succession, like the tiles of a house, as in the leaves of the common Heath, or Ling, Calluna vulgaris.

IMPATIENS. Balsam. (From impatients; referring to the facility of the seeds-pod, which discharge the seeds when ripe, or when touched. Nat. ord. Cranesbills [Geraniaceae]. Linn. 5.-Pentandria, 1-Monogynia.)

Hardy annuals and biennials, by seed in the open border, in April. Scapifóra, a bulb, requires stove heat, and to be kept almost dry in winter. Greenhouse annuals and biennials merely require to be sown in a hotbed in March, and planted out in half-hydrocultures in June. All these may be kept over the winter by taking off cuttings in the beginning of autumn, which would bloom in the house early in the spring. See BALSAMS.

HARDY ANNUALS.


“amplexicaulis” (stem-clasping). Himalaya.

anæs (golden). Pale yellow, spotted with red. Late summer. N. Amer.

Balfoorii (Balfour’s). White, suffused rose, yellow. N.W. Himalaya. 1903. Half-hardy.

bicornea (two-corned). Himalaya.

bifóra (two-flowered). Orange. Summer. N. Amer.

“Spotted Jewel-wort.”


crisata (crested). See I. SCARRIDA.

cuspidata (short-pointed). See I. LATIFOLIA.

d1color (various-coloured). 1. Yellow. August.

Nepal. 1820.


fulta (yellow). See I. BIFLORA.

glandulifera (gland-bearing) of Royle. See I. ROYLEI.

glandulifera (gland-bearing). See I. ROYLEI.


macroënia (long-lipped). See I. ROYLEI.


trico‘rus’ (three-horned). See I. SCARRIDA.

STOVE ANNUALS AND BIENNIALS.


“canescens” (white). See I. ROYLEI ALBA.

cocci nea (scarlet). See I. BALSAMINA.

comorësiss (Comoro). Bright carmine. Comoro Islands. 1887.

cornuta (horned). See I. BALSAMINA.

Eps’isopos (Episcopal). See I. SULTAN ET EPISCOP.

fasciculata (fascicle-flowered). See I. CHINENSIS.


Ho’istoi (Hoist’s). 1. Orange-scarlet. Summer.


horit‘siss” (common, Garden). See I. BALSAMINA.

Iro‘ng nigra’ (Ling’s). W. Trop. Africa.

longicoming (long-corned). May. E. Ind.

“ma’tans” (floating). See HYDROCERA AUGUSTIFOLIA.


Micheli‘sii’ (Michelita’s). 1. White or rose, New Guinea. 1852.


petersi nea (Peterian). See I. WALLERIANA PETERISAN.

“p’ts (painted). See I. AMPHORATA.


Rodigæs’ (Rodigas’s). Rose-purple. Java. 1849.


(W. M. t. 5237.)


GREENHOUSE ANNUALS.

I. b’sida (two-cleft). See I. PLACIGA.


“cornut’is” (horned). 3-4. Purple, yellow. Ceylon. 1852.

Flanagana’ (Mrs. Flanagan’s). S. Africa.

glándulifera (gland-bearing) of Arm. Rose. August.

Ceylon. 1852.


Maria nea (Mrs. Marian’s). Lilac-purple. Assam. 1881.


oppsisittis” (opposite-leaved). Pink to rosy-purple. India and Ceylon. 1907.

rosa’ neiss” (rose-coloured). See I. BALSAMINA.

tripédala” (three-petaled). See HYDROCERA TRIFLORA.


CULTURE OF THE BALSAM.—In years gone by the double varieties of the common Balsam (I. Balsamum) were cultivated extensively for exhibition purposes, and no class excited a keener competition in many parts of the country. Good strains of seed were obtained and sown in heat some time in March. As soon as the cotyledons were freely developed the seedlings were potted off singly in deep thumb pots as soon as the stem buried to the base of the seed-leaves to prevent legginess, which was always regarded as a sign of bad cultivation. Light, rich soil was used, and the pots were plunged in the hotbed of a well-lighted stove. The temperature was kept at 70° to 75°, and allowed to run up to 80° at closing time. Plenty of top air was given, whenever the weather conditions favoured, to prevent drawing, to which the Balsam is very liable. As soon as the roots were well round the sides of the pots, the plants were shifted into larger sizes, giving them heavier and richer soil at each shift. A flower or two was allowed to bloom on the main stem to show the quality, after which all the inferior ones were thrown away or used for greenhouse decoration. As the side branches developed they were carefully staked out or tied down to a circular wire to encourage repeated branching and thus the foundation. All flower buds were removed as fast as they made their appearance, as this encouraged
vigorous growth. At the last potting about half the compost consisted of well-rooted and dried cow-dung rubbed up fine. Liquid manure was also given when the pots were fairly filled with roots, and towards flowering-time abundance of air was given.

IMPATIENT. A plant is said to be impatient of heat or cold when it is specially injured by a slight excess of either one or the other.

IMPREGNATION. No seed ever attains the power of germinating, unless the pollen from the stamens in the same, or some nearly allied flower, has reached and impregnated its pistils. In favourable seasons, when gentle, clear, and steady winds prevail, impregnation is readily effected by the plant's own provision. The pollen of the same flower, in many cases, is shed before the stigma of the pistil is fully developed, but such flowers are dependent upon insects or birds, and other flowers supply pollen at the time it is required. The stigma soon withers after it is applied.

Insects aid in effecting this impregnation, and in frames, hot-houses, &c., from whence they are almost totally excluded, other artificial means might be adopted with success to render flowers fertile that had hitherto failed in producing seed. Thus the gardener always finds the advantage of using the camel-hair pencil to apply pollen to the stigmas of his forced melons, cherries, and peaches. See HYBRIDISING.

INARCHING, or grafting by approach, differs from grafting only in having the scion still attached to its parent stem whilst the process of union with the stock is proceeding. It is the most certain mode of multiplying and improving the roots or grafts of plants, but is attended with the inconvenience that both the stock and the parent of the scion must be neighbours. One or both plants may be in pots, which make the operation easy. In the case of Vines, the scion is grafted with its end in a bottle of water, and so kept fresh while a union is being formed.

Having the stocks properly placed, make the most convenient branches approach the stock, and mark in the box of the pot the parts of which they will unite; and when you are satisfied that they agree, make the slit upward in the branch so as to form a sort of tongue, and make a slit downward in the stock to admit it; let the parts be then joined, slipping the tongue of the graft into the slit of the stock, making the whole join in an exact manner, and tie them closely together with bass, and afterwards cover the whole with a due quantity of clay, or wax. After this let a stout stake be fixed for the support of each graft, and so fastened as to prevent its being disjoined from the stock by the wind.

The operation being performed in spring, let the grafts remain in that position about four months, when they will be united and they may then be separated from the mother-tree. In doing this be careful to perform it with a steady hand, so as not to loosen or break out the graft, sloping it off downwards close to the stock; and having made the cut down close to the graft, and all the old clay and bandage cleared away and replaced with new, to remain a few weeks longer. Observe, however, that if the grafts are not firmly united with the stock, let them remain another year, until you are satisfied that you separate the grafts from the parent tree. Instead of approach-grafting in the usual manner, it is sometimes convenient to detach shoots of the kinds to be propagated from the parent tree, and then, having grafted the single plant, leaving a piece at the bottom of each shoot sufficiently long to thrust into a phial, which must be kept constantly supplied with water.

INCARVILLEA. (In commemoration of P. Incarville, a botanical correspondent of the great botanist Jussieu about 1741. Nat. ord. Bignoniaceae.)

Hardy, herbaceous perennials in most cases. Seeds; cuttings of young shoots from the base of the plant; divisions of the root-stock in spring. Well-drained soil.

I. arguta (acutse). See AMPHICOME ARGUTA.

INDIGOHERA 455

INSECT PESTS

STOVE EVERGREEN SHRUBS.
"bisfora" (two-flowered). Purple. May. E. Ind. 1826.
"carata" (sky-blue). See I. ARGENTA.
"eliptica" (oval-leaved). See I. FULCHELLA.
"frangrant" (fragrant). See I. PENTAPHYLLA.
"mucronata" (sharp-pointed). See I. SUBULATA.
"violacea" (violet-coloured). See I. FULCHELLA.
"virgata" (twiggly). See I. TRITA.

GREENHOUSE EVERGREEN SHRUBS.
I. aloeopetalus des (Aloeopetals-like). See I. CORIACEA.
"cytisoides" (Cytisus-like). White. Cape of Good Hope. 1822.
"riquadra" (stiff). See I. TRITA.
"stachyodes" (spike-like). See I. DOSUA.
"striata" (upright). 3-4. Pink. S. Africa. 1774.
"sylvestica" (wood). See I. AUSTRALII.

HARDY OR HALF-HARDY SHRUBS.
I. bungeana (Bungean). China.
"alba" (white). White.
"floribunda" alba (free-flowering white). See I. DECORA.
ALBA.

"Kiriola" (Kirilow's). Deep rose. Mandshuria. 1907. The finest introduced.

INGA. (The name in South America. Nat. ord. Leguminosae [Leguminosae]. Linn. 1829.)
"bigloba" (two-globed). See PARRA AFRICANA.
"vomitoria" (tufted). 30. Pink. Jamaica. 1786. See CALLIANDRA COMOANA.
"coromandeliana" (Coromandel). White. E. Ind. 1815.
"cytisoides" (circle-podded). See ENTEROLOBUS.

CYCLOCARPUS.
"dulcis" (sweet). See Pithecellobium dulce.
"fastuosa" (splendid). Red. Caracas. 1820.
"feuillii" (Feuillee's). 8. White. Lima. 1874.
"gerardi" (Gerardian). See PITTANICA.
"harrisi" (Harris's). See CALLIANDRA HARRIASS.
"houstonii" (Houston's). See CALLIANDRA HUSTONI.
"hymenodes" (Hymenaea-like). See CALLIANDRA HISTORIC.
"jiri" (Jiringa). See Pithecellobium jirina.
"latifolia" (broad-leaved). See Pithecellobium latifolia.
"macrophylla" (large-leaved). See I. SETIFERA.
"melastera" (honeyed). See Acacia mellifera.
"microphylla" (small-leaved). See Pithecellobium microphyllum.

PITHECOLOBIUM.
"purpurea" (purple). See CALLIANDRA TWEEDIEI.

PITRIZA.
"saman" (Saman). See Pithecellobium saman.
"stipularis" (stipulated). Cayenne. 1831.
"tomentosa" (three-paired). See CALLIANDRA TERINGMIN.


INOCULA RPS. Otateha Chestnut. (From rs, a fibre, and karpos, a fruit. Nat. ord. Leguminosae [Leguminosae]. Linn. 16-Desmodr. 1-Momycosia. Allied to fritillaries.)

The kernels are roasted and eaten in the islands as we use chestnuts. Stove evergreen tree. Cuttings of the ripened shoots are grown in sand, in heat; and peat and loam.


INOCULATION. Same as Budding.

INOCULATING GRASS. See Turf.

INSECT PESTS. Most of the more injurious insects that prey upon garden plants have been dealt with in separate articles under their respective headings, so that only a few of the more general pests need be mentioned here, with the insecticides employed to keep them in check.

Acar or Mites are best known in the domain of the gardener by the ubiquitous and destructive Red Spider (Tetranychus urticae), which feeds on almost any cultivated plant, whether grown for the sake of its foliage, flowers, fruits, or as a vegetable. The conditions that favour it are a dry, parched atmosphere, dry foliage, and likewise when plants are kept dry at the root. Situations near the heat of the heating apparatus or near a flue are liable to favour and foster the increase of the pest, which, by the way, is not an insect, though usually
spoken of as if it were. The conditions that favour it should not be allowed to exist, or if they cannot be avoided a sharp look-out should always be kept to prevent the pest from getting a footing, and to use the syrping frame to destroy the nature of the plants or the season permit of it. Water on the foliage and moisture in the atmosphere are the enemies of red spider. Painting the hot-water pipes with a mixture of water and flour will destroy the enemy in the vineyars and other houses where syringing would be injurious to the Vines, grapes, or other occupants of the houses. A small mite (Tarsonomus) often does great injury to Brunellia, Cornus, C Polygonum, and others. The danger is that the damage may be done before the tiny, colourless pest is noticed. Water may be used freely, but it should be made more effective by using soot water. When soot has been added to the water it has also answered the purpose, by syringing the affected plants with it. The pest may appear at any time, but chiefly in summer.

Chermes Abietis, sometimes known as Adelges Abietis, is an Insect closely allied to the Aphides, but having no honey tubes. The form that produces galls upon the young twigs of Spruce trees settles near the base of expanding buds and, inserting its beak at the base of the young shoot, it sends out nutritive filaments to form near the tips or lower down the twigs. When numerous, these galls have a stunting effect upon the trees, upon which they turn woody and remain long after the leaves have fallen. The galls may be cut off and burned to kill the insects in them.

Cockroaches include the common one (Blattia orientalis), more frequent in dwelling-houses than hothouses, and the American one (Periplaneta americana), which is very destructive to plants in warm plant-houses where it gets established. It is a large insect, about 1 in. long, ½ in. wide, with grey-brown wing-cases, longer than the body, and fringed. It has a strong-smelling habit of putting some strong-smelling or syrupy liquid in deep jars, standing these in its haunts over night, and placing some pieces of wood against the jars, so that the insects may climb to the edge, drop in, and so get drowned. The cockroaches are the pests that most resemble the Aphides in their ability to destroy the plant: to get some phosphorus paste, spread some of it on pieces of bread, and lay the same on pieces of tile or slate about the infested houses at night, picking up the baits in the morning and placing them out of harm's way during the day. The dead cockroaches need not be gathered up, as the live ones are cannibals, and get poisoned by eating their dead brethren.

See also SNAKES, SNAILS, SCALE INSECTS, SNOWY FLY, WOODLICE, &c.

INTERMEDIATE. A species is often named intermediate, because possessing the different characteristics of two others. A hothouse is intermediate when kept at a temperature higher than that usual in a greenhouse, and lower than that usual in a stove.

I'NULA. (A word of doubtful origin, said to be a corruption of heliunm. Nat. ord. Compositae [Composita]. Linn. 19-Syngenia, 2-Superflua.)

I'nuila Held'mnium, or Eupclemucium, furnishes the Vin d'Avull of the French. Hardy herbaceous perennial with yellow flowers. The annuals not being worth cultivating, are omitted. Seeds, or divisions of the roots, are the most common garden-soil. They are interesting, though rather rough-looking.


" " matjor (greater). 1. Heads larger.
" dy'senteric'a (Dysenteric). See Pulicaria dy森eterica."
" dysenteric'a (Dysenteric). Published. 1. August. Austria. 1793."
" germa'nica (German). 1. June. Germany. 1779."
" gl'a'ora (smooth). See 1. SALICINA.
" glan'dulo'sa (glanded). 2. August. Georgia. 1804."
" 'fimbria'ta (fringed). Ray florets fringed. 1903."
" jienna'ta (jagged). Seems identical with 1. f. fimbriata.


" helenio'des (Helenium-like). 2-4. Yellow. Spain."
" Hel'e'campa."
" he'spida. July. Austria. 1759.

" hy'bria (hybrid). See I. ens'ipolia.
" limonifo'lia (Limonium-leaved). Yellow. Greece."
" macrophy'lia (large-leaved). See 1. grandis.
" Maria'nna (Maryland). See Chrysopis Mariana."
" mo'lis (soft). See 1. suaveolens.
" mon'ica. July. Germany. 1759.

" odo'ra (fragrant). See Pulicaria odor'a.
" orient'a'ns (oriental). See 1. GLANDULOSA.
" quadreri'dens (four-toothed-flowered). See 1. grave'o-

" lens.


" rays'is (Rayless). 1. Yellow. Himalaya.


" saxu'lis (rock). See I. viscosa.


" tri'tuba (three-leaved). July. Sinai. 1837.


" verbo'scia (mullin-leaved). See 1. THAPSOIDES.


IOCHO'RM. (From ion, violet, and chroma, colour; referring to the purple colour of the flowers, Nat. ord. Nightshades [Solanacae]. Linn. 5-Pentandra, 1-Mono-

" gyna. Allied to Habrothamnus.

" Greenhouse shrubs. Cuttings of young shoots, getting a little firm, in sandy soil, with a bell-glass in summer; sandy peat and fibrous loam. Winter temp. 40° to 45°.

" caylo'sa (large-calyzed). Green, Guiana.


" cya'na (blue). See I. LANCEOLATA.


" grandifo'ra (large-flowered). Peru.


IO'NE PALES'CEA. See Bulbophyllum paleaceum.

IONI'DU'M. (From ion, violet, and eidos, resembling, Nat. ord. Violetews [Violaceae]. Linn. 5-Pentandra, 1-Mono-

" gyna. Allied to our Violets.

" The South American species possess much of the quality of the Woodsorrel (Oxalis), but are much subtler for the garden. Herbaceous plants, flowering in June, by division and seed; under-shrubs, by cuttings in sand, under a bell-

" glass; peat and loam. All the following require greenhouse culture, except sirici'um, which is a stove plant.

" cap'e'nse (Cape). 1. White. Cape of Good Hope. 1824.


" eidos (large-flowered). See Nosettia longi'flora.


" sprengel'i'num (Sprengel's). See I. concolor.


IONOPY'SDIUM. (From ion, the violet, opis, appearance, and eidos, form; literally, plants with a form resembling the violet. Nat. ord. Cruciferae.)
Hardy and very dwarf annual plants. Seeds. Any good garden soil.


"altiflorum" (white-flowered). 1. White. Algeria.

IONOPSIS. (From ion, violet, and opsis, like. Nat. ord. Orchidae.) Orchid, Linm. 20-Gynandra, 1-Monandria. Allied to BURLINGTONIA.

Stove orchids. For culture, see BURLINGTONIA.


I. le'nera (slender). See I. UTRICULARIOIDES.


JOSTEPHANE. (From ion, a violet, and stephane, a crown; in allusion to the violet rays of the flower. Nat. ord. Composita.)


J orpaca'urna. An emetic drug obtained from the roots of Cephisus Jorpaceana.

IPHIGENIA. (Iphegenia was a daughter of Agamemnon. Nat. ord. Liliaceae.)

Half-hardy herb requiring the protection of a pit or greenhouse in winter. Division of the root-stock. Loam, leaf-mould, and sand.


IPOME'EA. (From ip, bindweed, and homoios similar. Nat. ord. Bindweeds [Convulvulaceae].) Linn 3-Pentandria, 1-Monogynia.

An annual or semi-annual, either in a hotbed; perennial, by seed and cuttings of the short side-shoots, in sandy peat, under a bell-glass, and in a good bottom-heat; bulbous and tuberous, by division, and by cuttings of the young shoots, as their commence growing; the bulbs and tuberous ones, especially the harder ones, are used for herbaceous grafting, merely making a cut, and slipping the young shoot into the place, clinging over, and plugging in a hotbed; stout, short stems, with roots of Solilo's, are frequently used for grafting the more tender sorts; pear and loam. Temp. for stove kinds, 60° to 85° in summer; 50° to 60° in winter. The crimson Horsa'ilia requires a good heat.

HARDY AND HALF-HARDY ANNUALS.


STOVE ANNUALS.


"caelis'ta" (sky-blue). Blue. August. 1840. Tinner.


"fibulifera" (thread-stalked). See I. CINNAMONIFERIA.


I. ru'bra (white). White. 1829.


HARDY TWINEERS.


"imperat'ra" (imperial). 6-8. Blue or rose-lilac. 1897.

"aur'ita" (golden). Leaves golden. 1897.

"colla'ta" (collected). Flowers variable in colour, crimped at the edges. 1887.


"lepophylla" (slender-leaved). 2. Rose, purple in the throat. N. W. Amer. 1900.


"sagitt'ia" (arrow-head-leaved). See I. SAGITTATA.


supera (superb). Mexico.

GREENHOUSE TWINEERS.


Gor'di l'a' (Gerrard's). See I. ALBIVALENIA.


Ker'brii (Kerber's). Vivid scarlet. S. America. 1894.


"Natio'neis" (Nation's). Scarlet. Peru. 1864.

"pendula" (hanging-down). See I. PALMATA.


"Sel'icia" (Sellow's). See I. BONARTENSI.

"seri'fur" (bristle-bearing). White, fragrant. Temperate Brazil. 1894.


STOVE DECIDUOUS TWINEERS.


"Batata' (Batatas). White. purple. Tropics. 1797.

"Sweet Potato." batata' (Batatas-like). See I. MESTITLANICA.

"Bronso'ni (Bronson's). Cuba. 1842.


"Carol'ina" (Carolina). See I. COMMUTATA.


"longifolia" (long-leaved). See I. CARNOSA.


**STOVE EVEGREEN TWINERS.**


10. *caricina* (Cairo). See I. *palmata*.

11. *cameroniana* (Cameroons). Leaves entire. Came-


18. *diversifolia* (divers-leaved). See I. *hederacea*.


27. *Jura* (Jura's). See I. *rubrocaruela*.


30. *Bri'gsi* (Briggs'). Carmine-rose.


34. *Mah'si* (Mahon's). Reddish-purple, white, pink.


38. *Nif' (Nil). See I. *hederacea*.


44. *plai'ne* (La Platan). See I. *digitata*.


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**IPOMEA.**


47. *pudobs'inda* (blushing). See I. *cathartica*.


51. *re'bursera* (creeping), See I. *aquatica*.

52. *Roberts's* (Roberts's). White, lined pink, with rose-

53. *pumilos* (blood-coloured). Rose, and tube blue-


56. *senegalensis* (Senegalensis). See I. *palmata*.


60. *soralia* (sorous). See *Argyreia speciosa*.


64. *thomsonia* (Thomsonian). See I. *tenuata*.


**IPOMO PISIS.** (From *ipo*, to strike forcibly, and *opsis*, sight. Nat. ord. *Phloxworts* [Polemianaceae]. Linn. 5- *Pentandria*, 1-Monogynia. See *Gilia*.)

74. *i'es'gens* (elegant) of Lindley. See *Gilia aggregata*.

75. *i'es'gen* (elegant) of Michaux. See *Gilia coronop-

76. *pella* (inconspicuous). See *Gilia inconspicu-


**BRESINE.** (From *eios*, wool; referring to the woolly aspect of the branches. Nat. ord. *Amaranth* [Amaranthaceae]. Linn. 22- *Disaria*, 5-Pentandria. Allied to Gomphrena.)

78. *H'ris* (Herbs'). Green. Leaves crimson, with rose veins. Brazil. 1864.


**IRIA BTEA.** (Commemorative of *Juna Iriarte*, a botanist of Spain. Nat. ord. *Palmaceae*.)

I. Bungero'this (Bungeroth's). Country unknown.


4. pramor'ea (bitten-leaved). See Catactusus pre'-morus.

5. centric'sa (swollen). Brazil.

IRIS. (From iris, the rainbow; referring to the variety and beauty of the flowers. Nat. ord. Iris [Iridaceae]. Linn. 1593.)

A beautiful hardy family of summer-flowering plants, though most of the bulbous species will, by forcing, flower early in spring. Herbaceous species, by suckers from the base of the plant, often become masses of blue, white, or yellow blooms. Bulbous ones, by offsets; and all by seeds. Rich, loamy soil suits the herbaceous; but the others should have a good proportion of sand, leaf-mould, and peat.

GREENHOUSE HERBACEOUS.

I. chine'n'sis (Chinese). See I. japonica.

2. clandestin'a (secret). May. Brazil. 1829.


4. crassio'fia (thick-leaved). See Moraea tridio'des.

5. def'ta (bent-down). See I. germanica.

6. xiphio'i'des (xiphoid). See I. japonica.


8. a'bra (white). White.


HARDY BULBS.


2. chrysta'nia (golden-flowered). Bright yellow. 1884.

3. fla'ssa (yellow). See I. Aitchisoni chrysanth'a.


5. a'brb (white). White.


8. Bornmueller'i (Bormueller's). See I. Danfordi's.


13. ma'far (greater). Flowers larger, yellow, orange.


18. fos'tera (Fosterian). 1/. Primrose yellow, violet.

19. Afghanistan. 1891.


25. imb'e (bearded). See I. juncea.


30. us'thica (Portuguese). See I. Xiphium us'thica.

31. ma'u'ria (Moroccan). See I. juncea.


34. orch'o'ides (Orchis-like). 1/. Bright yellow, orange. Central Asia. 1880.

35. orch'o'ides (Orchis-like). 1/. Pale blue, yellow. 1884.

36. ligne'fia (flax-leaved). 1/. Yellow.

37. osu'nula (eastern). 1/. Yellow, with blue blotches.

38. spice'na (spicy). Rich yellow.


41. azu'e (azure). 1/. Blue, violet.

42. ma'ga (great). 1/. Flowers larger.

43. purpu'ria (purple). 4/. Dark red-purple.

44. reticu'la (reticulate). Deep violet, white, orange, fragrant. Asia Minor.

45. a'ba (white). White, crests orange. 1894.


47. cya'na (blue). 4/. Cyanic or indigo-blue. Asia Minor. 1875.


49. histri'o's a'ba (white). Satiny-white. orange. 1904.


51. ma'far (greater). 1/. Deep violet, white, fragrant, larger.


54. rosenbachi'na (Rosenbachian). 4/. Blue, violet, white, orange-yellow. Turkistan. 1885.


56. sind-files'nis (Sindicranian). 1/. Lavender and purple. Mesopotamia. 1890.

57. Sieve'bachian (Sievinskian). 1/. Light blue to reddish-purple. Mediterranean region. 1829.

58. stenophyll'a (narrow-leaved). 1/. Lilac, dark blue.

59. Cicilian Taurus. 1900.

60. Ta'u'ri (Tail's). 2/. Blue, yellow. Portugal. 1906.


63. tingiets'a (Tangerian). 2/. Lilac, purple. Morocco.

(B. M., f. 6.777.)

64. tubergeni'ca (Tubergenian). 4/. Bright yellow. Asia Minor. 1869.

65. tuber'a (tuberous). See Hermodactylus tubero'sa.


HARDY HERBACEOUS.

1. acu'ta (pointed-leaved). See I. Siberica.


4. a'bra (white). See I. florentina.


6. a'ribican (white). Pure white, fragrant. Cyprus. 1885.

7. a'ribican (white) of Lange. See I. florentina.

8. a'ribican (white) of Lange. See I. florentina.


11. ama'na (lovely). See I. Hybrida.


5. Veins. VIR-3.


7. 1873. I.


9. inner fulva I. I.

10. 1874. (Italian).

11. With (Swert's). Mottled (Bulleyan). (Forrest's), imbricated-6rar^.


15. Asia. See Yunnan, or See June. Turkes-Italy. Istria.

16. I.


20. 2.

21. (Bismarckian). Amer. 1757.

22. i$-2. Aphylla. See See Minor. i.

23. flave'scens (Korolkow's). Yellow).


25. Creamy-white, Pales-


27. VERSICOLOR Palestine. Violet-blue, 1887.

28. (Grant-Duff's). Forked. blotched Yellow, See (Bosnian), yellow. 1815.


30. See (See June. Turkes-

31. Italy. Istria. I.

32. Gladwyn).

33. 1895.


35. (forked). blotted Yellow, See (Bosnian), yellow. 1815.

36. Blue.

37. (desert).

38. See (See June. Turkes-

39. With (Swert's). Mottled (Bulleyan). (Forrest's), imbricated-6rar^.


41. 1889. White.

42. (Hyerean). 1892. Creamy-white, Duthie'ei with Grey. Dark JAPONICA. Yellow.

43. Asia. See Yunnan, or See June. Turkes-Italy. Istria.

44. I.


46. Versicolor Palestine. Violet.


48. 2.

49. See (See June. Turkes-

50. With (Swert's). Mottled (Bulleyan). (Forrest's), imbricated-6rar^.


52. 1889. White.


54. Asia. See Yunnan, or See June. Turkes-Italy. Istria.

55. I.


- **Japanese Flag.**
  1. *a'ba (white).* White, with golden blotch. 1907.
  4. *l'ania (slender).* See I. SQUALENS. 1898.
  5. *lute'scens (lurid).* See I. SQUALENS. 1898.
  8. *longifo'ra (long-flowered).* See I. BIFLORA. 1888.
  9. *longifolia (long-leaved).* See HERMODACTYLUS TUBEROUS. 1859.

- **California.** 1982.
  1. *mont'a (mountain).* White, purple, yellow. 1836.
  2. *longispa'tha (long-spattered).* See I. ENSATA. 1875.
  3. *lute'o (lurid).* Yellow, with purple. Europe. 1758.

- **California.** 1815.

- **California.** 1820.
  1. *a'ba (white).* Pure white. 1896.
  3. *n'or (brown).* Ash-grey, Armenia. 1855.
  5. *lu'tea (yellow).* See I. PSEUDA'ROSLIA. 1815.

- **State's (State's).** 1. Pale yellow, veined green. S. Europe. 1898.
  1. *macrost'fon (long-tubed).* 1. Lilac-purple or cream. Syrakus (Syracuse). 1890.
  2. *Mado'nna (Madonnas).* Lilac-blue. Arabia. 1892.

- **Marina (Marina's).** See I. HELEN.*
  2. *martin'i'na (Martineau).* See TRIMEZIA LURIDA. 1907.

- **California.** 1893.
  2. *missourie'nsis* (Missouri) of Nutall. N. Amer. 1804.
  3. *missourie'nsis* (Missouri) of Baker. See I. LONGI-

- **Mariana (Mariana's).** 1. Yellow. Japan. 1832.
  4. *no'ba (bastard).* See I. SPURIA NOBIS.

- **ocrol'ena (yellow-white).** See I. ORIENTALIS. 1820.
  1. *odor'a (scented).* See I. CRISTATA. 1815.

- **Specu'la (Specula).** 1. Light blue. white, veined purple. Lebanon. 1899.
  2. *specu'la (Specula).* 1. Light blue. white, veined purple. Lebanon. 1899.

- **State's (State's).** See I. LUTESCENS STATELLAE. 1802.
  1. *stella's (starry).* See I. Oxaya FLAVESCENT. 1820.
  2. *sten'o'nuts (narrow-stigmaled).* See I. GUELDEN-

- **sub-flo'ra (sub-two-flowered).** See I. BIFLORA. 1836.

- **Su'woria* (Soworow's). Greenish, with greenish-blue veins. Bokhara. 1888.
  1. *Sangr'o (Sangro).* White. May. 1819.

- **a'ba (white).** White, yellow. 1803.

- **Pseuda'ros* (Pseudacorus). 1815.
in summer, with very great advantage. But the most extensive and beneficial use which I make of the power to irrigate my garden by the means above mentioned, is in supplying my last crops of peas abundantly with water, by which the ill effects of mildew are almost wholly prevented, and table and market supplied abundantly with very excellent peas through the month of October."

ISA'NDRIA. See Thysanotus.

ISA'NTHUS. (From isos, equal, and anthos, a flower; referring to the regularity of the flowers. Nat. ord. Lipovae [Labiate]. Linn. 14-Didymanthus, 1-Gymnosperma. Allied to Tinnea and Teucrum.)

Irises. Hardy, and do best in April, in a peaty border, or in a little heat, in March, and transplanted.


ISA'TIS. (A Greek name borrowed from Dioscorides. Nat. ord. Cruciferae.)

Annual or biennial, branching herbs. The Dyer's Wood (I. lincho'ria) was used by the ancient Brittons to stain their bodies. It has been largely superseded by Indigo for dyeing purposes, but is still cultivated for this use in Lincolnshire. Seeds in ordinary garden soil.


Vil'larsi (Villar's). 2. Yellow. Switzerland.

ISCH ZEUM. (From ischaismos, bleeding; used for stopping the flow of blood. Nat. ord. Gramineae.)
A stove perennial grass. Seeds; divisions. Loam, leaf-mould, and sand.


ISCHA'RUM. See Biarum.

ISCHNO'SPHON. (From ischnos, a track or footstep, and siphon, a tube; in allusion to the folded bracts enclosing the flowers. Nat. ord. Scitamineae.)

Tall, branching, evergreen, fine foliage, stave herbs. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, peat, sand, and some nodules of charcoal.


smara'gdnus (emerald green). Leaves emerald-green, with darker rib. Ecuador. 1870.

ISE'RTIA. (Named after P. E. Isert, a German surgeon. Nat. ord. Cinchonadas [Rubiaceae]. Linn. 6-Hexandria, 1-Monogynia.)

Stove evergreen shrub. Cuttings in sandy soil, in a hotbed, in spring or summer; peat and loam, with a little charcoal and sand. Summer temp., 60° to 85°; winter, 35°.


ISME'IUA. (Probably a commemorating name. Nat. ord. Compositae [Compositae]. Linn. 19-Yseudenia, 2-Subperius.)

This is now united to Chrysanthemum.

I. Broussonet'ii (Broussonet's). See Chrysanthemum Broussonetii.

caru'num (keeled). See Chrysanthemum carin'at'ta.

mader'esi (Madeira). See Chrysanthemum pinna'ti-fidum.

ISEMEN. Persian Dafodil. (After Ismen, the daughter of Edipus and Jocasta. Nat. ord. Amaryllides [Amaryllidaceae]. Linn. 6-Hesiodia, 1-Monogynia, United to Hymenoallis.)

I. Ama'ncas (Amancaes). See Hymenoalli'cas Amancaes.

andrea'na (Andreae). See Hymenoalli'cas Andreae.

calath'i num (cup-flowered). See Hymenoalli'cas Calathina.

crinif'o'mis (Crimin-leaved). See Hymenoalli'cas Amancaes.

cyathfo'ris (cup-shaped). See Hymenoalli'cas Calathina.

delle'ra (torn-down). See Hymenoalli'cas Deflexa.
I. Macleana. See Hymenocallis lacera.

II. macles'na (M'Lean's). See Hymenocallis macleana.

III. narcis'sflora (Narcissus-flowered). See Hymenocallis calathina.

IV. nis'la (lace monotog). See Pancratium nutans.

V. peduncula'la (stalked). See Hymenocallis macleana.

VI. Tagalibe'us (Tagalibeus's). See Hymenocallis calathina.

VII. tan'sska (slender-leaved). See Hymenocallis qurtornis.

VIII. vire's sens (greenish). See Hymenocallis macleana.

ISOCILIUS. (From isso, equal, and cheilos, a lip. Nat. ord. Orchidaceae. Linn. 20-Gynandra, 1-Monandria. Allied to Cologny.)

Stove orchids; cultivated like the first section of Cologny.


V. pro' li'er (proliferous). See Poneria proliera.

ISOLEPIS GIRA'CLIS (slender). See Scirpus cernuus.

ISOLEPIS SETA'CEUS (bristle-like). See Scirpus setaceus.

ISOLoma, of J. Smith. See Lindsaya.

ISOLo'ma, of Decaisne. (From isso, equal, and loma, a fringe or margin; in allusion to the equal lobes of the corolla. Nat. ord. Germeracea.)

Stove herbs or evergreen shrubs. Seeds; offsets from the rhizomes, or cuttings of the shrubs in sand, in a propagating case, with bottom-heat. Loam and leaf-mould or peat, with sand.


V. com'cium (neat). Pale purple, white. India. 1861.

VI. dep'sum (Deppean). 3-5. Orange-red. Autumn.

VII. Digitalis fo'ma (foxglove-flowered). Rose-purple, green, white, crimson. Colombia. 1870.

VIII. ell'id'picum (elliptic). Scarlet. May. Santa Martha. 1847.


XII. hon'de'se (Hondan). 1. Yellow, red. Winter.

XIII. hybrida'n (hybrid). Yellow, spotted with crimson and purple. 1856.

XIV. hy' pocry'sfilo rum (under-curved-flowered). Orange-red. Ecuador. 1866.

XV. Lind'ni (Lindens). Scarlet, Mexico. 1896.


XVII. mail'tium (blight). Bright yellow, scarlet, yellow spotted scarlet. Venezuela. 1876.


XIX. para's'num (panther-like). Scarlet, black, white. Colombia.


XXIII. Seema'ni (Seemann's). 2. Brick-red. October.

XXIV. Tri'a'ni (Dr. Tiana's). Colombia.


ISO' MERIS. (From isso, equal, and meris, a part; relating to the petals, with the stamens and pistils, which are of equal length. Nat. ord. Cappara'deae.) Linn. 6-Hasperia, 1-Monogynia. Allied to Cucurna.

Hardy deciduous shrubs. Cuttings of the ripe young shoots, in autumn; sandy loam and a little leaf-mould. The flowers are anything but sweet.


ISON'DRAGu'TTA. See Dichorispe Gutta.

ISOP'LEX. (From isso, equal, and pleco, a beard; relating to the beard-like fringes on all parts of the inflorescence. Nat. ord. Proteaceae.) Linn. 4-Tetradiera, 1-Monogynia. Allied to Protea.

Greenhouse evergreen shrubs. Seeds and cuttings of half-ripened short shoots in spring, in sand, under a bell-glass; sandy loam and rough leaf-mould. Winter temp. 40° to 55°.


ISOP'GON. (From isso, equal, and pogon, a beard; referring to the beard-like fringes on all parts of the inflorescence. Nat. ord. Proteaceae.) Linn. 4-Tetradiera, 1-Monogynia. Allied to Protea.

Greenhouse evergreen shrubs, from Australia. Cuttings of ripe young shoots, with most of the leaves left, inserted firmly in silver sand, over sandy loam and peat, and covered with a bell-glass or hand-light, and kept in the shade; when the cuttings are callusing at the bottom, they may be pushed on by giving them a little mild bottom-heat, but not before; fibrous loam three parts, fibrous peat one part, charcoal, broken freestone, and broken crocks one part; good drainage; watering must be given with great attention, as much dryness or much moisture are alike ruinous. Summer temp. 50° to 75°; winter, 35° to 45°. In summer, if the plants are out of doors, the sun should not strike freely on the sides of the pot.


V. Ba'steri (Baxter's). 2. Rose. April. 1831.

VI. busio'lius (box-leaved). 2. Purple.

VII. burru'na (Bournon's). September. 1830.

VIII. corni'gerus (horned). See I. tere'tifolius.


X. Dawso'ni (Dawson's). Australia.

XI. divi'ca tus (spreading). See I. annet'phi'lius.


XIV. Loud'o'ni (Loudon's). See I. cuneat'us.

XV. rosa's (rose-coloured). Rose. 1840.

XVI. va'lius (valuable). See I. Aspen.

XVII. spatul'a'tus (spatulate). See I. Buxi'phi'lius.

XVIII.线'larianis (narrow). See I. Buxi'phi'lius linearis.


XXI. trilobo'us (three-lobed). 3-4. Australia.

ISOPYRUM. (From isso, equal, and pyra, wheat. A name given by the Greeks to a plant like Nigella. Nat. ord. Ranunculaceae.)

Dwarf herbs allied to Nigella, with the habit of Thalic' trum. Divisions in spring. Ordinal soil.


III. altal' 1827.

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ISO TROMA. (From isos, equal, and tome, a segment) referring to the equally cut parts of the corolla. Nat. ord. Campanulaceae.)

Grown from seeds with the habit of Lobelia. Seeds and cuttings. Loam, leaf-mould, and sand.


ISO TROPIS. (From isso, equal, and tropos, turned; referring, probably, to the distinctly forked veins in the flower. Nat. ord. Leguminosae [Leguminosae]. Linn. to-Dicksonia, 1-Monogynia. Allied to Gompholobium.)

Greenhouse evergreen shrub. Cuttings of the young shoots, when getting a little firm, in sand, over sandy peat, and covered with a bell-glass, in June; sandy peat, with a little fibrous loam, pieces of charcoal, and broken crocks; drainage and watering must be particularly attended to. Winter temp., 40° to 45°; summer, a shady place, or a cold pit, where the plant partly, and the pot wholly, are sheltered from the sun's rays.


ISOTY'PUS ROSI'FLOR'US. See OXOERIS ROSI'FLOR'US.

ITALIAN STARWORT. * Aster Amellus.*

I'TEA. (The Greek name for the Willow, applied to this genus on account of its rapid growth in damp soil. Nat. ord. Saxifragaceae [Saxifragaceae]. Linn. to-Pentandria, 1-Monogynia. Allied to Escallonaria.)

Hardy greenhouse shrubs. Seeds and suckers in spring; layers in summer; moss, sandy peat.


IVORY-LUT PALM. * Pityr'lephas macroc'o'ra.*

IVY. He'dra Hel'ix.

I'XANTHUS. (From ixos, bird-like, and anthos, a flower; in allusion to the viscid flowers. Nat. ord. Gentianaceae.)

Greenhouse bionnial herb. Seed in heat in spring. Loam, leaf-mould, and sand.


IXIA. (From ixia, bird-like; in reference to the clammy juice. Nat. ord. Iridi'sae [Iridiaceae]. Linn. 3- Triandria, 1-Monogynia.)

Half-hardy bulbs, from South Africa. The true Ixias are known from Scarita by not having, like it, a jagged sheath; from Babia'na, in having a dry seed-pod instead of a berry; and from Tri'o mia, by having the stamens inserted at the bottom of the petals instead of in the tube of the flowers. They will all grow in rough peat; the strong ones require very little sand, and the smaller ones want one-third sand in the compost. They succeed well in a warm border, if sheltered from hard frosts, and not allowed to get dry when they are in growth. By seeds sown in a little heat, in spring; also by suckers, sandy loam, peat, and a little leaf-mold. When done flowering, they may be kept in or out of the pots, after the leaves get withered, without any water, until fresh growth commences. They will generally require to be potted in October, and should then be placed in a cold pit, and protected from frost, and cold, heavy rains, and taken to the greenhouse or window, after roots are plentifully formed. Many will do very well if planted in sandy soil and leaf-mould, about four inches deep, in a dry, raised border, and protected there from roots, frost and heavy rains by litter, and any material that will commences.


* Bulboc'o'dium* (Bulbocodium). See ROMUELA BULBOCODIUM.

* ca'rida* (White). See I. LEUCANTHERA.

* cepa'ce a* (onion-like). See MICRANTHUS FISTULOSUS.

* ch'ino'si* (Chinese). See BELAMCANDA PUNICATA.

* chlo'ria* (green-white). See ROMUELA CHLORO'LEUCA.

* cinnamo'mea* (cinnamon). See HESPERANTHA FELTACA.


* columna'STOMATA* (columnar). See I. MONADELPHA.

* co'mica* (comical). See I. MACULATA.

* cor'bymo' sa* (corymbose). See LEPREYRIOUSA CORYMBOSA.

* crato'res' des* (crater-like). See I. SPECIOSA.

* cri'pa* (curled-leaved). See TRITONIA UNDULATA.

* cris'o'fia* (curled-leaved). See LEPREYRIOUSA CORYMBOSA.

* cro'a* (safron). See TRITONIA CROCATA.

* cruc'a* (cross-wise). See TRITONIA UNDULATA.

* cris'o'fia* (cut-out). See HYALINA.

* c'ut*i a* (cut-out). See LEPREYRIOUSA JUNCEA.

* ele'a* (light). See TRITONIA UNDULATA.

* fenestra* (windowed). See TRITONIA HYALINA.

* fil'o'si a* (thread-leaved). See ROMUELA SUBLUTEA.

* fil'o'si'ms* (thread-formed). See I. PATENS.


* fasc'o'la* (coloured). See I. SCAIO'SA.

* fusco'ri'sa* (brown-lemon). See I. MACULATA.

* grandifo' ra* (large-flowered). See SPARAXIS GRANDIFLORA.

* holoso'eri* (wholly-silky). See SPARAXIS GRANDIFLORA.

* hy'al'i na* (hay-aline). See TRITONIA HYALINA.


* la'ccia* (lance-shaped). See TRITONIA SCARIO'SA.


* longi'posi a* (long-leaved). See HEXAGLOTTIS LONGIPOS.


* P'UNICATA* (plantain-like). See MICRANTHUS PLAN'Tagus.

* po'ly'st'cha* (many-spiked) of Linumus. 1-2. White. * po'ly'st'cha* (many-spiked) of Jacquin. See TRITONIA SCILLARIS.

* Pun'ed'la* (dotted). See WATSONIA PUNICATA.

* pun'i'si a* (purple). See I. STRI'CTA.

* pur'pu'rea* (purple). See BIBIANA STRI'CTA.

* Publ'l'a* (dwarf). See GEISSOCHERIA SECUNDA.

* P'UBNUL'CO'DE'S* (Rapunculus-like). See I. SCARIO'SA.

* recu'ria* (recurved). See ROMUELA BULBOCODIODES.

* ref'li'a* (reflexed). See TRITONIA SCILLARIS.

* ret'ch'a* (reflexed). See TRITONIA SCILLARIS.

* ro'che'sis* (Rohan). See I. PUNICATA BOCHENSI.S.

* rubr'oco'na* (red-blue). See I. STRI'CTA RUBROCYEANA.
I. secunda (one-sided). See Grisorhiza secunda.
I. striata (upright). 4. Lilac or red, variable.
I. angustifolia (narrow-leaved). Leaves narrow, pale green.
I. reflexa (reflexed). Flowers smaller.
I. rubro-cyanea (red-blue). Lilac, with red throat.
I. sulphurea (sulphur). Milk-white or sulphur-yellow,
I. tri color (three-coloured). See Sparaxis tricolor.
I. uniflora (one-flowered). See Sparaxis grandiflora.

IXIA THES. (From ixia, bird-like, and anthe, anthes, a flower; the corolla is very clanny. Nat. ord. Scrophulariaceae.)

Evergreen, greenhouse shrub. Cuttings of side-shoots in sand under a bell-glass in gentle heat. Fibrous loam, leaf-mould, or peat and sand.

I. M., t. 2409.

IXODIUM. (From ixodes, viscid; in reference to the viscid secretions on the plant. Nat. ord. Compositae [Composita]. Linn. 6-Helenium, 1-Monogynia. Allied to Bravoa.)

Extremely rare, pretty, hardy bulbs, Dr. Herbert being the only person who recently possessed them in this country. His own plant of I. monstrosum was the first specimen he saw in flower, and that in May, 1846, as to time. It had a spiked inflorescence, while that of I. taitaicum is terminal; both have sky-blue flowers. Monstrosum has been taken by some to be the "lily of the field." Seeds, and offsets of the bulbs, which are not at all particular as to soil.

I. kolpakowskianum (Kolpakowskian). 1. Pale purple to blue or white. Turkestan. 1878.
I. Ledebouri (Ledebour's). See I. montanum tataricum.
I. macranthus (large-flowered). See I. montanum.
I. macranthus (large-flowered). Deep blue, shaded purple. 1892.
I. Sintenisii (Sintenis's). Light blue. 1892.
I. taitaicum (Tartarian). See I. montanum.
I. Ledebouri (Ledebour's). See I. montanum.

TATARIUM.

I. Banda (Bandaocoa). See I. cocinea.
I. barbara (Barbara). See I. cocinea.
I. blanda (gente). See I. chinesis.
I. brachiata (shouldered). India.
I. Burchard (Burbidge's). Orange-scarlet. Borneo. 1878.
I. White. E. Ind. 1818.
I. 1883.
I. Exellii (Exell's). See I. cocinea.
I. cobaea (cole's). See I. stricta.
I. croca (safron-coloured). See I. stricta.
I. "Saxia" (Dixian). See I. cocinea.
I. "Dufl" (Duff's). See I. macrothyrsus.
I. Echhausii (Eckhaut's). See I. cocinea.
I. Findlayana (Findlay's). White, fragrant. E. Ind. 1833.
I. macranthus (large-flowered). See I. cocinea.
I. incurvata (curved-coloured). See I. cocinea.
I. Morsei (Morse's). See I. cocinea.
I. obovata (reversed-egg-leaved). See I. cocinea.
I. pendula (drooping). Malaya.
I. Pilgrimii (Pilgrim's). See I. cocinea.
I. Tatara (Tatar's). See I. cocinea.
I. salisioiata (willow-leaved). See I. fulgens.
I. speciosa (showy). Burma.

JABOROSA. (From Jaborosé, the Arabic for the Mandrake, an allied plant. Nat. ord. Nightshades [Solanaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Herbaceous (perennial). Division of the plant in spring; seeds in spring; and cuttings of the young shoots under a hand-light; light, sandy loam.


Buenos Ayres. Hardy.
J. runcinata (runcinate). See Hemeranthus runcinatus.

JAGARA'NDA. (The Brazilian name. Nat. ord. Bignoniads [Bignoniaceae]. Linn. 14-Didynamia, 2-Angiosperma.)

2 G
Stove evergreen trees. Cuttings of half-ripened shoots in the beginning of summer, in sand, over sandy peat, and placed in bottom-heat, well shaded, or covered with a bell-glass; sand peat, fibrous loam, with charcoal, to keep the soil open. Summer temp., 69° to 85°; winter, 45° to 50°. In summer give plenty of water, but keep them cool and dryish in winter.

J. bahamensis (Bahama). See J. cerulea.


*au'ra* (white). White.


*mimosoilo'ia* (Mimosa-leaved). See J. ovalifolia.


*puber*scens (downy). See J. tomentosa purescens.


JACA, or JACK-TREE. *Artocap'tus integrif'o'lia.*

JACK-IN-A-BOX. *Herm*a'ndia.*

JACSO'NIA. (Named after G. Jackson, librarian to A. B. Lambert, Esq. Nat. ord. *Lemna'rius Plantos* [Leguminosae]. Linn. 10-10-Decandra, 1-Monogynia. Allied to Burtona.) Greenhouse evergreen shrubs, with one exception, all from Brazil and all, and but that one, yellow-flowered. Cuttings of half-ripened shoots in sand, under a glass, in April; peat and loam. Winter temp., 35° to 45°. *Scopar*i*a might be tried against a wall.


*flor'is* (flaming). April 85. Greenish white.


*reticu'la* (netted). See Pulte'na reticulata.


*sternbergia* (Sternberg). 1837. Pink.

*the'o's* (theesium-like). April. 1820.

JACOB'S LADDER. *Poile's*o'rum caru'leum.

JACQUEMONT'IA. (Named after Victor Jacquemont, a natural historian. Nat. ord. *Bindweeds* [Convolu'lacae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Ipomoea.) Blue-flowered evergreen twiners; *cane's*ence{s} requiring a moderately warm greenhouse, and *viola's*ea a stone. Cuttings of small side-shoots in April or May, in sandy soil, under a bell-glass, and placed in a sweet bottom-heat peat and loam.

J. *can*e*scens* (hoary). See J. violacea canescens.

*viola*cea (violet). August. Mexico 1808.

" abbrevia'ta* (shortened). Blue, white. Mexico 1808.

*viola*ce's (grey). August. Mexico 1845.


JACQUINIA. (Named after the celebrated botanist, Jacquin. Nat. ord. *Ardisia* [Myrsinaeae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Theophrasta.) Stove evergreens. Seeds in a hotbed; cuttings of ripened shoots in sand, and in a moist bottom-heat, in sand covered with a bell-glass; sandy peat, with a very little fibrous loam. Summer temp., 69° to 90°; winter, 35° to 65°. They require a highish temperature at all times.


*smar'g'dina* (emerald green). See Deherainia smarin'di.ii.


JALAP. See Ipoma'a pu'r'a.

JAMAICA EBO'NY. Dry'a E'bunus.

JAMAICA HORSE BEAN. *Canavalia ensiformis.*

JAMAICA MILKWOOD. *Bro simulation spurium.*

JAMAICA PEPPER. *Pimenta vulgaris.*

JAMAICA REDWOOD. *Lam'pl'a Hamato's lyon.*

JAMAICA ROSE. *Moria'na.*

JAMBO'SA. (From scham, the native name. Nat. ord. Myrtle'blooms [Myrtaceae]. Linn. 12-10-Carandia, 1-Monogynia. United to Eugenia.)

J. acumin'a'ta (pointed-leaved). See Eugenia acumina'ta.

*amplexu'lis* (stem-clasping). See Eugenia amplexu'lis.

*aqua* (watery). See Eugenia aqua.

*austris* (southern). See Eugenia myrtifi'lia.

*laurif'o'lia* (bay-leaved). See Eugenia bifaria.

*macro'ccapa* (large-fruited). See Eugenia macro'ccapa.

*morph ob'la* (large-leaved). See Eugenia malac'en'sis pur'purea.

*malace'nis* (Malay Apple-tree). See Eugenia malac'en'sis pur'purea.

*penris* (pencil). See Eugenia malac'en'sis pur'purea.

*veno'sa* (veined). See Eugenia venosa.

*vulgaris* (common). See Eugenia jambos.


JANKE'SA HELDRE'CH. See RAMONDA HELDREICH.

JAN'THE BUGUFI'TA. See CELSIA BUGUFIOLIA.

JAPAN CEDAR. Cryptomeria japonica.

JAPAN EARTH. Acs'sia Cad'techu bark.

JAPAN HARICOT BEAN. Canavalia Lunare'ti.

JAPAN VARNISH TREE. Ehù's vernici'fa.

JAPAN WAX. Rhus succeda'nea.

JAPANESE YEW. Cephalota'sus.


JAS'MINUM. Jasmine. (From Ysma, the Arabic name. Nat. ord. Oilise'worts [Oleaceae]. Linn. 2-Diandria, 1-Monogynia.) All white-flowered, except where otherwise stated. The stove and greenhouse species, by cuttings in sand, in a little peat; the hardy species, by suckers, layers, and cuttings under a hand-light. A bud of the variegated plants of officinalis will frequently communicate the property to the whole of the plant; peat and loam for the house species; good, common soil for the hardy; revolu'tum and pro'filerum require a little protection in winter.

JARDI'NEER. See JASMINUM.

JARDIN. Hardy deciduous climbers. See J. officinalis affine.

J. affin'e (related). See J. officinalis affine.


JASMINUM. See J. officinalis affine.

HARDY EVERGREEN CLIMBERS, &c.


J. walláchii num (Wallichian). See J. HUMILE.

GREENHOUSE EVERGREEN CLIMBERS.

J. acuminatum (pointed-leaved). See J. simplicifolium.


J. confu'sum (confusum). See J. simplicifolium.


J. gra'cile (slender). See J. simplicifolium.


J. ligustrifo'lium. Bark. See J. SIMPLICIFOLIUM.


J. perenni'um (perennial). 10. India. 1816.

J. perennis (perennial). 10. India. 1816.

J. re'eticus (Azorian). See J. HUMILE.


J. subulatu'm (awl-shaped-leaved). See J. FLORIDUM.


STOVE EVERGREEN CLIMBERS.


J. angustifolium (narrow-leaved). 10. India. 1816.

J. argente's (silver-leaved). See J. PERSICENS.

J. auriculatum (pons-leaved). See J. ARBORESCENS.


J. Main'gaj (Maingaj's). White. Penang. 1902.

J. mauriti'num (Mauritius). See J. AURICULATUM.

J. multiflórum (many-flowered). See J. PERSICENS.

J. n'tidium (shining). White, fragrant. Admiralty Islands. 1895.


J. scla'ndens (climbing). 10. August. E. Ind. 1820.


J. stenó'pelson (narrow-petaled). See J. ANASTO-

MORANS.

J. suavi'ssimum (sweetest). May. Australia. Decidu-

ous.


JASONIA. (Commemorative of Jason, the Argonaut. Nat. ord. Composita.)

Hardy perennial herbs, allied to Inula. Seeds and divisions in spring.

*J. glauca* (claymy). See *Inula viscosa*.


JATEORHIZA. (From *latos*, healed, and *rhiza*, a root; *J. Calumba* furnishes the Calumba-root of commerce, a bitter tonic. Nat. ord. Menispermacae.)

Many species. Seeds; cuttings in sand, in bottom-heat, in spring. Loam, leaf-mould, and sand.


"Calumba-root."


*palmata* (hand-shaped). See *J. Calumba*.

JATTARIA. (From *tartos*, physician, and *trophe*, food; referring to its medicinal qualities. Nat. ord. Spurge-worts [Euphorbiaceae]. Linn. 21-Monoca, 10-Monadelphia.)

Cassava bread and tapioca are made from the roots, although the juice is an acid poison. Stove evergreen shrubs; sometimes with succulent stems. Seeds; cuttings by seed, in sandy peat, in a hotbed; cuttings of young firm shoots in sandy soil, in a brisk bottom-heat; let the bottom of the cutting be dried before inserting; sand peat and fibrous loam. Summer temp., 60° to 85°; winter, 50° to 60°.

*J. carthagenensis* (Carthaginian). See *Manihot carthagenensis*.


*J. elatica* (elastic). See *Hevea guianensis*.


*J. intagerima* (most-endure. Spicy-leaved). See *Manihot diversifolia*.

*J. Leaffngi* (Leaff's). See *Manihot utilissima*.


*J. panduriformia* (fiddle-leaved). See *J. hastata*.


JAU'MEA. (A commemorative name. Nat. ord. Compositae.)

A warm greenhouse herb. Divisions. Sandy loam and leaf-mould.


Hardy herbaceous perennial. Seeds and divisions of the plant, in spring; common, sandy garden-soil.

*J. diphylla* (two-leaved). See *J. bivata*.


JEHILA FUCHSII'DES. See *Lopezia macrophylla*.

JENKINSIA. See *Acrisostichum*.

JENKINSII. See *Pelargonium*.

JERDONIA. (Commemorative of Surgeon-Major J. C. Jerdon. Nat. ord. Gesneracceae.)

Stove perennial herb. Seeds. Loam, leaf-mould, and sand. Summer temp., 60° to 75°; winter, 50° to 60°.


JERSEY THISTLE. Centaurea aspera.

JERUSALEM ARTICHoke. (*Helianthus tuberosus*)

Flourishes most in a rich, light soil, with an open exposure. Plant middle-sized tubers, or cuttings of the large ones, one or two eyes being preserved in each. Plant towards the end of March, though it may be performed in February, or even preferably in October.

Insert by the dibble in rows three feet apart each way, and four inches deep. The only attention necessary is an occasional hoeing to loosen the surface, a little of the earth being drawn up about the stems. Early in August cut the stems off about their middle, to admit more freely the air and light, and in other respects to be beneficial to the tubers.

They may be taken up as wanted during September, and in October, or as soon as the stems have withered entirely, for preservation in sand for winter's use. They should be held as completely as possible; for the smallest piece of tuber will vegetate and appear in spring. It is for this reason that they are often allotted some remote corner of the garden; but their culinary merits certainly demand a more favourable treatment.

JERUSALEM SAGE. *Phila* mis frutico'sa.

JERUSALEM THORN. *Parinaxia* aculea'sta.

JE'SAMINE. *Jasminum officina'le*.

JET D'EAU. See *Fountain*.

JEW'S APPLE. *Sola*na m Melonge'na.

JOB'S TEARS. Co'is La'cryma-Jo'bi.

JOE FYE W E E D. *Eupatorium purp'reum*.

JOHRE'NIA. (A commemorative name. Nat. ord. Umbelliferae.)

Dwarf, greenhouse perennial herb. Seeds, divisions. Loam, leaf-mould, and sand.


JOLLITIA AFRICA'NA. See *Telph'aria peda'ta*.


*J. As'oca* (Asoka). See *Saraca indica*.

*J. se'adens* (climbing). See *Saraca triandra*.

JONIRIS SYLTO'SA. See *Irisc unguiculata*.

JONQUILL. *Narcis'ssus Jonq'illa*.

JOSE PHIA AUGUSTA. See *Bougainvillea specta'belis*.

JOSINIA. See *Myx'tus*.

JOVE'S FRUIT. *Lawrus Diosyp'ros*.

JUANULLO'A. (Named after two Spaniards, Don G. Juan and Don Unioa. Nat. ord. Nightshades [Solanaceae]. Allied to Lycium.)

Stove evergreen shrubs, with orange flowers. Cuttings in sand, under a glass, in bottom-heat; rough peat; and a moist, high temperature, in a stove.

*J. auranti'aca* (orange). June, Mexico. 1840.

*J. ex'mis* (choice). See *Dyssochroma eximia*.

*J. paras'iaca* (parasitic). See *J. aurantiaca*.

JUBE'A. (In commemoration of King Juba of Numidia. Nat. ord. Palmaeceae.)

Greenhouse plants. In heat, with a little peat and sand.


JUDAS TREE. *Ceris Siligus'trum*.

JUG'LANS. *Walnut. (From Jupiter, Jovis, the heathen god, and glans, a nut. Nat. ord. Juglands [Juglandaceae]. Linn. 21-Monoca, 5-Emeandria.)

Hardy deciduous trees, all blossoming in April. Nuts should be gathered as soon as possible; or preserved until the following spring. In order to keep them from vermin; also grafting and budding the more rare species and varieties. In
fruit of the strawberry; but in every instance we doubt whether the plant in which the millipede is found has not first been injured by slugs, or some other cause, so that decay has commenced.

**JULY-FLOWER.** *Prosopis juliflora*.

**JUCNUS.** Rush. *(From junco, to unite or tie; from their use in tying, Nat. ord. Juncaceae).* A perennial, hardy herbs. Divisions in spring. Wet soil.


**J. zebrinus** (zebra striped). See *Scirpus lacustris*.

**JUKNIA.** *Amelanchier canadensis*.

**JUNIA.** *(Commemorative of Joachim Jung. Nat. ord. Composita).*

Stove shrub with evergreen foliage. Cuttings in light soil under a hand-light in summer. \( \text{\textit{loamy}} \)

Hand-picking (winged). Caterpillars of *T. juniperata* are apple-green, whitish above, with a lemon-yellow line on the back. Moth is a little under to a little over an inch in expance, and pale grey, with darker markings. The caterpillar of *T. coniferata* is bright green, with a bluish-white dorsal line. The moth is under one inch in expance, greyish-brown, with a dark blotch at the base of the wing. The caterpillars of the Juniper Moth (*T. juniperata*) may be found occasionally on the Juniper in July and August, the moths in October; those of the other species in June, and the moths in July. Hand-picking the caterpillars when observed is an effectual remedy. The moths may be taken amongst the bushes with a sweeping net.

**JUNIPERUS.** Juniper. *(From the Celtic juniperus, rough. Nat. ord. Coniferae (Conifera). Linn. 22-Dioxia, 13-Monadopha.)*

Seeds, which will retain their vitality for years, and when sown, seldom vegetate under a twelvemonth, and sometimes nearly two years; cuttings in the end of summer, in a shady border, in sandy, firm soil, and covered with glass-hand; sandy loam. The berries of the common juniper are used for flavouring gin.

**HALF-HARDY EVERGREENS.**


**J. californica** (Cape). See *Callitris arborea*.


**J. californica** (Californian). Utah, Arizona, California. 1854.

**J. canadensis** (Canadian). See *J. communis canadensis.*


**J. alpina** (alpine). Squat on the ground. Scotland.

**J. australis** (alpine). Foilage yellow.
Canada, 1820.
*comprēssa* (compressed). Pyreenees.

*glau'ca* (sea-green). Foliage bluish.
*hemispha'rica* (hemispherical). Dwarf, globose
bush, Mount Etna. 1844. "Hedgehog Juniper."
Seeds and twigs of this shrub are in spring; common soil.

*obō'nga* (oblong-fruited). June, 1829.

*obō'nga* pe'ndula (oblong-weeping). 5. May.
Britain.


"Greek Juniper."

*glau'ca* (milky-green). May, China. 1814.

*hemisphē'rica* (half-globe-headed). See J. communis
hemisphē'rica.

*henry'na* (Henry's). N.W. Amer. 1873.

*Herma'mi* (Hermann's). See J. virgini'ana.

*lap'o'mica* (Japanese). See J. chinesis.

*au'ti* (golden). See J. chinesis aurea.


*Cypris* (Lycian). See J. phenicea.

*maceroc'pa* (large-fruited). May, Greece.

*mardō'poda* (long-stalked). Himalaya.

*martens's* (Naumburg). See J. macarocarpa.

*obō'nga* (oblong). See J. communis oblonga.

*occidentālis* (western). N. Western Amer.


*pubē'sa* (pubescent). (Ark.)

1910. Varieties of this are conspicia, elegan-

tissima, and ericoides. 1910.


*pra'tica* (prostrate). 52. May. J. Sibinia ar'trista.

*Pseu'do-Sabu'na* (false-savin). Siberia, Himalaya,

Tibet.


*religio'sa* (religious). See J. excelsa.

*ri'gida* (stiff). Mountains of Japan.

*ru'fē scēns* (dusky). See J. oxycedrus.


*suprēppos'fio'lia* (cypress-leaved). 4. May. S.
Europe. 1848.

Europe.


"Carpet Juniper."


*S. schwabe'ria* (variegated). 4. May. S.
Europe.

*salvī'o variegā'ta* (savín-leaved). See J. thur'-
fera.

*Sang'ret's* (Sander's). Dense-growing, dwarf. Tibet.


Cedar.

*Saw'sth'si* (Smith's). May. Nepal.


*scagmā'ta* (scaly). See J. recurvā squamā'ta.

*sulci'ca* (Swedish). See J. communis fastigiatā.

*depre'ssa* (depressed). China and Japan.


"Incense Juniper."


*variegā'te* (green, variegated). See J. recurvā.


"Red Cedar."

*au'rea-spicā* (golden-spiked). Tips of twigs

*au'reo-variegā'ta* (golden-variegated). Variegated

*viridi'ps* (green). Foliage deep green.

*viridi's* (green). Twigs pendulous.

JUPITER'S BEARD. *Amphilis Ba'r'ba·Jo'vis. *
JUPITER'S EYE and JUPITER'S BEARD. *Semper-
vium tect'um.*

JU'RI'NEA. (Derivation not explained. Nat. ord.
Compositae [Compositae]. Linn. 19-Sygene'sis,
1-Equaleis. Allied to Serratula.)

Hardy herbaceous perennials, with purple flowers.
Seeds and twigs of this shrub are in spring; common soil.


1778.


Siberia. 1816.


*baccata* (length-stemmed). See J. depressa.

JUSSIE'UA. (Named after the celebrated botanist
Linn. 10-Decandria, 1-Monogynia. Allied to Ludwigia.)

All stave aquatics, except *repens,* which belongs to
the greenhouse, and *fruits,* which is a shrub, and all
yield custard apples, divisions, and seeds; loamy
soil, in basins of water.

Trop. Amer. 1829.

*exaltāta* (exalted). See J. suffruticosa.


*grandif'orà* (large-flowered) of Michaux. See J.

*Repens.*

*grandis* (large-flowered) of Ruiz and Pavon.
Yellow. Peru. (B. M., t. 2122.)


*Colombia.*

*ci'tis* (evelashed). Flowers large, yellow.

Colombia. 1880. Half-hardy.


*octos'filia* (eight-filaments). See J. suffruticosa.

*ovulif'oría* (ovular-leaved). See J. suffruticosa.

*pito'sa* (downy). See J. brachyphylla.


*sea'bra* (rough). See J. suffruticosa.

*Sprenger'ia* (Sprenger's). 4. Canary-yellow. Arg-


*suffrutic'osa* (half-shrubby). 1.5. Yellow. August.

*swartiza'na* (Swartz's). See J. repens.

*villo'sa* (shaggy). See J. suffruticosa.

JUSTI'CIA. (Named after J. Justice, a celebrated
Scotch horticulturist. Nat. ord. Acanthace's [Acan-
thaceae]). Linn. 2-Diandria, 1-Monogynia. Allied to
Eranthemum.)

Annuals and biennials, by seed in a hotbed, and to
be treated as tender and half-hardy annuals; many of
them, and all the shrubs and herbaceous species, are
easily propagated by cuttings, old shoots, and young
side-shoots, striking very soon in sandy soil, under a
glass, in heat, most of the leaves being allowed to remain.

As they are fast growers, where room is at all valuable,
young ones should be grown, and the old ones thrown
away every year; peat and loam. Summer temp., 65°
to 85°; winter, 48° to 55°. The following are a few
of the best:—*Cos'pes, ca'nes, coma'ta, form'osā, lu'tis,
Salis'sii, and spec'iosā.*

STOVE ANNUAL and BIENNIAL.

*ci'tis'ris* (hair-fringed). See Schwabe'ria ciliāris.

*ci'tis'ta* (hair-fringed). See Schwabe'ria ciliāris.

GREENHOUSE EVERGREEN SHRUB.

*J. pa'tula* (spreading). See Adhə'dota pa'tula.

STOVER HERBACEOUS PERENNIALS.

*J. comma'ta* (tufted). See Dianthera comata.

*echio'nes* (Echium-like). See Andrographis

EHOIDES.

*elongā'ta* (lengthened). See Andrographis longa'ta.

/. gutta'ta (large-spotted). See PHLOGACANTHUS GUTTA-
TUS. nemoro'sa (grove). See BELOPERONE ... evergreen tree, from Chili, with white
flowers. Cuttings of rather ripe shoots in sand, under a a
DICLIPTERA Bright Cuttings Scarlet. white secii'nda 1822. from grey Galangale. of Ind. 1882. yellow See See with heat, (Parish's). 5. India See (showy), and 1883. (related). See PHLOGACANTHUS Jussieu. See (four-angled). India. White, RHINACANTHUS DIANTHERA DIANTHERA Ecbo'lium (large-snouted). VASICA. in May. light April. See May. vio-
with (Kirk's), (elegant), of K. See rib, Ind. Crux. Rosy-purple. darker GYMNOSTACHYUM under E. plant In' Japan. See PHLOGACANTHUS See Ind. White i. white APHELANDRA (dark-green), (spine-
April. See Gingeruiorls eye. i-Monandria, to THYRSACANTHUS Leaves SHRUBS. China. See and White (painted). K. Blotch. Amer. (small-bracted). See PHLOGACANTHUS GUTTA-
KEMPFE'RIA. Galangale. (Named after Kempfer, a German naturalist. Nat. ord. Gingemortw (Sextaimatte). Linn. 1-Monandria, 1-Monogyne. Allied to Curtu-


KAGENECKIA. (Named after Count Kagenleck, a patron of botany. Nat. ord. Roseworts [Rosaceae]. Linn. 12-Icosandra, 2-Pentagynia.) Half-hardy evergreen tree, from Chili, with white flowers. Cuttings of rather ripe shoots in sand, under a
KALANCHOE. (From the Chinese name of one of the species. Nat. ord. Houseleeks [Crassulaceae]. Linn. S.-Octandria, 7-Tetragynia. Allied to Rochea.)

Stove succulent evergreens, the shoots dried at their bases, and root in sandy loam, in a little heat; sandy loam. Summer temp., 60° to 80°, and abundance of water when growing and flowering. Winter temp., 45° to 55°, and almost dry.


K. africana (Egyptian). See K. CRENATA.


K. floribunda (free-flowering). India.


K. grandiflora (large-flowered) of Gardens. See K. MARMORATA.

K. grandiflora (large-flowered) of W. and A. Greenish-yellow. India. 1864.


K. 'Luciae' (Lucy's). 2. Corolla ½ in. long. Transvaal.


K. 'somalie'nsis (Somalland). White, tinted yellow. Somaliland. 1902.


K. 'thyrsiflora' (thyrsus-flowered). S. Africa. (B. M., t. 7678.)

K. 'varians' (variable). See K. SPATHLATA.

KALE. See BORCOLE.


Hardy evergreen, all from North America, and all red-flowered, except where specified. By cuttings of young shoots in sandy peat, in a shady place, under hand-lights; by layers made at the end of summer; by seeds sown in shallow pans filled with sandy peat, and kept close in a frame until the seedlings are up, pricked off when fingerable, kept close again, and gradually inured to the open air. Sandy peat-soil is best, though they often thrive well in a cold loam and leaf-mould; good for forcing.


K. 'Calico Bush.'

K. 'myrtifolia' (myrtle-leaved). Leaves small, lanceolate. 1883.

K. 'Pavari' (Pavari's). Gardens. 1888.

K. 'polyepetalata' (many-petaled). Corolla leaves 2890.

K. 'KAlanchoes'. A synonomy of Rochea, and now erroneously applied to K. coccone'a and its varieties. See ROCHEA.

KANGAROO VINE. Vitis antarctica.

KARA'TAS. (Derivation not explained. Nat. ord. Bromeliaceae.)


K. amasio'ica (blood-spined). Leaves brownish at the base. Bracts scarlet. Probably Bromelia fastuosa (?).

K. Carlo'na (Carolina's). Purple, crimson. Brazil. 1885.

K. coccone'a (leathery). Brazil.

K. crue'na (blood-coloured). Brazil. (B. M., t. 2892.)

K. ful'gens (shining). Brazil.


K. Innocentii (Innocent's). Brazil. 1899.

K. 'siria' (striated). Leaves striped.

K. 'marmorata' (marbled). Brazil (?).

K. 'Meyendorffii' (Meyendorffii). See K. PRINCESS.

K. 'neglecta' (neglected). Brazil.

K. 'paxiana' (Paxon). Brazil.


K. 'precept' (chief). Brazil.

K. 'purpurea' (purple). Brazil.

K. 'rub'ians' (redshilled). Brazil.

K. 'Scirereum' (Scirereum's). Brazil.

K. 'specio'se' (showy). Brazil. (B. M., t. 6024.)

K. 'tris'is' (sad). Brazil.

KARELJNA. (Derivation not explained. Nat. ord. Composites [Compositae]. Linn. 19-Synge'sia, 2-Superflua.) The genus is now referred to Pluchea.

Hardy herbaceous, Divisions of the plant in the spring; common garden soil.


KAUFMANNIA. (Commemorative of Kaufmann, a Russian botanist. Nat. ord. Primulae.)

Hardy perennial herb. Seeds; divisions. Ordinary garden soil.


KAULFUSSIA. Of Blume. (Named after G. F. Kaul- fuss, M.D., Nat. ord. Fers. [Filicea]. Allied to Danacea.)

Stove Fern. Spores. Loam, peat, and sand.

K. 'amamotoi' (chestnut-leaved). Fronds of 3-5 leaflets. Assam; Malay.
KAULFUSIA AMIELLOIDES of Nees. See CHARIESI HETEROPHYLLA.

KAULFUSIA CILIA TA of Sprengel. See GYMNOSPIRUM CILIARE.

KAURI PINE. A'gathis australis.


KEFERSTEINIA. See Zygopotamum.

KELP is the ancient remainder after seaweed is baked, and has been used with great advantage as a manure to potatoes, broccoli, and other species of cabbage-worts. It is composed of carbonate of soda, and iodide and bromide of potassium, carbon, sulphates of lime and magnesia, and other matters of trivial importance. See Green Manure.


KENNEDYA. (Named after Mr. Kennedy, of the firm of Lee & Kennedy, nurserymen. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-Diadelphus, 3-Decandra.) Greenhouse evergreen twine, from Australia. Cuttings in sand or sphagnum getting firm, in April and May, in sand, over sandy peat, under a bell-glass, kept close for a fortnight, and then put into a little extra heat; peat and sandy loam. Winter temp., 40° to 48°, and most of them like a little shade in summer. All the species, also, may be easily propagated by seeds, which, after being soaked in warm water for a few hours, may be sown in sandy soil, and placed in a hotbed. K. australis (Austral). See HARDENBERGIA MONOPHYLLA;


K. componia 'na (Compton's). See HARDENBERGIA COMPTONIANA.

K. carda'la (heart-shaped). See HARDENBERGIA MONOPHYLLA.

K. dilata'la (widened). See K. coccinea.

K. Fredwo'odi (Fredwood's). Carmine. 1864.


K. latifolia (bread-leaved). See HARDENBERGIA MONOPHYLLA.

K. molyb'dena (large-leaved). See HARDENBERGIA MONOPHYLLA.

K. M'arrya'la (Mrs. Marryatt's). See K. PROSTRA.


K. monophylla (simple-leaved). See HARDENBERGIA MONOPHYLLA.

K. longiro'mesos (long-racemose). See HARDENBERGIA MONOPHYLLA.


K. onda'la (egg-leaved). See HARDENBERGIA MONOPHYLLA.

K. carr'a'la (blue). Blue var. of Hardenbergia monophylla. 1888.

K. parado'sa (small-flowered). 4. 1824.


K. ma'ja'or (larger). See K. prostrata.


K. wil'der (red). June. 1798.


K. All'o'rii (Albert's). 1905.

K. australis (southern). Lord Howe's Island. 1872.

K. bel'morana (Belmoreana). See H. Delmoreana, cantebury'a'na (Canteburyan). See HEDYSCEPE CANTERBURYANA.

K. elegans (elegant). See CYPRIPHE'ONIX ELEGANS.

K. elegans (most elegant). Country unknown. 1885.

K. forsteri'a'na (Forsterian). See HOWEA FORSTERIANA.

K. strid'a (striped). See HOWEA FORSTERIANA STRIDULATA.

K. grand'alis (graceful). See KENTIOPSIS DIVARIACATA.


K. luc'a'i (Lucian's). See KENTIOPSIS MACRORAPA.

K. macara'thrii (Macarthuri). See Pycnosperma MACARTHURI.

K. sa' pida (tasty). See RHOPALOXYLIS SAPIDA.

K. stel'la'ria'na (Siebertian). See PYCHROPHYTUS SIEBERTIANA.

K. wendla'ndiana'na (Wendlandian). See HYDRISTEALE WENDLANDIANA.

KENTITOPSIS. (Derived from Kentia, and opsis, resemblance; the species resemble Kentias. Nat. ord. Palmaeae.)

Stove Palms of decorative value. Seeds. Loam, peat, and sand.

K. divari'aca'ta (divaricate). Leaves with 12-14 pinnae on each side. New Caledonia. 1876.

K. macroca'ropa (large-fruited). Young leaves pale red. New Caledonia. 1876.

K. ovis'cap'ta (olive-shaped). New Caledonia.

K. KENTROPHYLUM. (From kentron, a spine, and phyllon, a leaf.) Large-leaved, spine-leaved. Nat. ord. Composites [Compositae]. Linn. 19-Syngeesis, 3-Frustranca.) Now referred to Carthusian.

K. carbo're'scens (shrubby). See CARTHUSIUM ARBORESCENS.

K. cre'ticum (Cretan). See CARTHUSIUM LAnATUs.

K. fa'iw'scens (yellowish). See CARTHUSIUM FLAVESCENS.

K. gas'la'num (sea-green). See CARTHUSIUM GLAUCIUS.

K. han'tsi (smooth). See STOKESIA CYANE'A.

K. iana'tum (woolly). See CARTHUSIUM LAnATUs.

K. leucocoa'lu'm (white-stemmed). See CARTHUSIUM LEU-COCOALUS.

K. luc'vicum (Taurian). See CARTHUSIUM LAnATUs.

KENTUCKY COCKYEE-TREE. Gymnocal'dus canad'esis. See PERU.

KERAMA NTUS. (From keramos, a vase, and anbou, a flower; in allusion to the shape of the calyx. Nat. ord. Passifloraeceae.)

A stove perennial allied to Modeca. Cuttings in sand in a dry stove, in fibrous loam, sand, and some nodules of charcoal or broken bricks.


KETCHEO VEA FLORIBUNDA. See STROMANTHE PONTENAE.

KERRIA. (Named after M. Kerr, oncesuperintendent of the Botanic Garden, Ceylon. Nat. ord. Rosaceae [Rosae]. Linn. 13-Isoandria, 3-Trigynia. Allied to Spiraea.)

Hardy deciduous shrub, with yellow flowers, from Japan, formerly called Coloc'chus fajo'wichis. Cuttings of the young shoots under a hand-light; layers, and division of the plant; common loam.


KETELEERIA. (A commemorativename. Nat. ord. Coniferae.)


K. sa'era (sacred). China.
KICKXIA

(Kickxia. (Probably commerative. Nat. ord. Apocynacae.)
 Smooth-leaved stove trees. Seeds; cuttings in sand, in a close case, with bottom-heat. Loam, leaf-mould, and sand.

KIDNEY BEAN.

Phaseolus vulgaris.  
VARIETIES. There are three kinds: The Runners, or twining varieties; the Dwarf, or short, and the Shiny, or Manglobe. These last, and the runners, are those most commonly cultivated, being eaten pod and seed together, whilst of others only the seeds are eaten.

Runners.—Large Running White, White Long Pod, Dutch Case Knife, Long White, or Large White Sugar. A good bearer, and one of the best for late use.

Sender.—Seeds white. This, perhaps, the best of all, being a good bearer, and its pods of great length and size. This sort grows very high.

Prudhomme, or Promodnet.—Seeds greyish, oval, and small. There is a yellow variety of this.

Prague, or Red Pod.—Seeds round, of violet colour. A modern and good variety.

Prague Bicolor.—Similar to the last, seed a little larger. A good bearer, but very late.

Sophie.—Like the Prague, but seeds whiter and larger.

Small White French Runner.—White seeds, oblong, and very thin. It is a good bearer, but is too tender to ripen its seeds in this country, except under a wall in a very warm situation.

Lima.—Seeds very large, thick, and of a dirty white; pods large, short, slightly rough, and wrinkled. Prolific, and the seeds are very mealy; but in this climate a crop can only be obtained by sowing the seeds in a hot-bed, and then transplanting them out singly in May. It is eaten both in a green state and shelled. It grows high.

Venetian Sugar.—Resembling Lima, the principal difference consisting in the seeds being flatter, larger, and specified with red. An abundant bearer, but must be used young.

Pale Turkey, or Scarlet Runner.—Of this there are two varieties distinct from the common Haricot, one with scarlet, the other with white flowers; the latter is preferable for culinary purposes on account of its greater mealiness and thinner skin. There is also a third variety with two-coloured flowers, but it is not superior to either of the others mentioned above.

Dwarf.—Dwarf White Dutch, Dutch Long Pod, or Early Dwarf Dutch.—Pods long, narrow, and excellent when green; seeds white, small, a little compressed. Not very early in this country. Brewer's White.—Seeds white, narrow, rather long, and cylindrical. It is very dwarf, early, good for forcing, equally suited for eating green, and when the seeds are ripe.

Dwarf White Sans-parchemin forms thick, bushy plants. Good whilst green; stringless till three parts grown, and excellent when ripe.

Dwarf American White.—Pod short, of a strong and branching habit, sometimes climbing a little, but generally dwarf, and not requiring support; very prolific; its short, swollen pod a little hooked, strongly coloured with reddish-brown, particularly at the two extremities; this is a green state; this rivals the Swiss varieties. This is one of the best for general use, and an abundant bearer.

Haricot Noir de Belgique.—Is perfectly dwarf, and is the earliest variety that can be recommended; it has a very large roundish and sulphur-coloured. There is a sub-variety of it with clear, bronze-coloured seeds, which also appears to be good. A good bearer, and early. —Gard. Chron.

Soil and Manner.—It requires a light, mellow, well-drained loam. For the early and late crops, a sheltered border must always be allotted, or in a single row about a foot from a south fence, otherwise the situation cannot be too open.

Sowing commences with the year. They may be sown towards the end of January in pots, and placed upon the flue of the hothouse, or in rows in the mould of a hothed, for production in March, to be repeated once every two weeks in similar situations in February and March, for supplying the table during April; a small sowing may be made, if fine open weather, under a frame without heat, for removal into a sheltered border early in May. The chief requisite for success in the hothouse is to have them near the glass; to keep them well watered; the air moist, and ventilated as much as the season permits.

During May, and thence until the first week in August, sowings may be continued every two weeks. During September, forcing recommences, at first merely under frames without bottom-heat; October, and thence to the close of the year, in hotbeds, &c., as in January. Sowing is commenced as soon as the soil is dry. If the seeds are made in pots, the plants being less retarded, as the roots are less injured, than when the seed is inserted in patches or rows in the earth of the bed. It is a good practice, likewise, to sow two or three seeds in each pot, to prevent the heat after the lapse of a week, as the first will often fail, when a second, although after so short a lapse of time, will perfectly succeed. In every instance the seed is buried one and a half or two inches in the soil. The rows of the main bed, being two feet apart, the seed being inserted either in drills or by the dibble, four inches apart; the plants, however, to be thinned to twice that distance. If a vacancy occurs, it may always be filled by plants which have been carefully removed from the trowel from where they stood too thick.

The seed inserted during the hottest period of summer should be either soaked in water for five or six hours, laid in damp mould for a day or two, or the drills be well watered previously to sowing.

The pods of both kinds are always to be gathered while young; by thus doing, and care being had not to injure the branches or plants, the pods are rendered prolific and long lived.

Forcing.—The hothotbed must be of moderate size, and covered with earth nine inches thick. When the heat has become regular, a spade of seed-dirt is dug into the earth, and the plants allowed to stand six inches asunder in the rows. Air must be admitted as freely as to the melon. The same precautions are likewise necessary as to keeping up the temperature, taking the chill off the water, &c., as for that plant. When the seed begins to sprout, the mould should be kept regularly moistened; and when grown up, water may be given moderately three times a week. The temperature should never be less than 60°, nor higher than 75°.

Those sown under frames in March for transplanting into a border, when two or three inches in height, must, in a like manner, be hardened gradually for the exposure, by the processes already described. The plants do not require the continuous use of the glasses during fine days. If any are raised in pots in the hothouse, they must be prepared similarly for the removal, by setting them outside in fine days, and then watering them daily.

If the glass is too ungenial to remove them even to a warm border, the plants are often inserted in patches, to have the protection of frames or hand-lights at night, or as the weather demands.

Runners.—These are more tender, and the seed is more apt to decay, than those of the dwarfs, no open-ground crop must be inserted before early in May, to be continued at intervals of four weeks through June and July; the supply from the middle of this last month until October.

They are so prolific and such permanent bearers, that three open-ground sowings of a size proportionate to the consumption, will, in almost every instance, be sufficient,
They are inserted in drills, either singly, three feet apart, or in pairs ten or twelve inches apart and each plant is to be planted to one with its neighbour. The seed is buried two inches deep, and four apart in the rows, the plants being thinned to twice that distance.

If grown in single rows, a row of poles must be set on the walk side of each plant, being fixed firmly in the ground, they may be kept together by having a light pole tied horizontally along their tops, or a post being fixed at each end of a row, united by a cross bar at their tops: a string may be passed from this to each of the plants. If the rows are in pairs, a row of poles must be placed on each side, so fixed in the ground that their summits cross, and are tied together. The poles are tipped off as fast as they appear, the plants become bushy, and are nearly as prolific as if allowed to climb.

To obtain Seed.—Forty or fifty plants of the dwarf kinds, or thirty of the runners, will be sufficient for a moderate-sized family. They must be raised purposely in May, or a like number from the crop in that month left ungathered from; for the first pods always produce the finest seeds, and ripen perfectly. In autumn, as soon as the plants decay, they must be pulled up, thoroughly dried, and stored in the pods.

KIDNEY VETCH. *Anthyllis.*

KIELMEYER. (Named after a German patron of botany. Nat. ord. Thseis [Ternstroemiaceae]. Linn. 13—Polyandria, 1-Monogynia.)

Sow evergreen tree. Cuttings of young shoots get rooted in sand, under a bell-glass, and in heat; fibrous, sandy loam. Summer temp., 60° to 75°; winter 45° to 55°.


KILLINGA. See KYLLINGA.

KING. (Commemorative of Capt. P. G. King, Governor of New South Wales. Nat. ord. Juncaceae.)

Greenhouse perennial, allied to Xanthorrhoea. Imported seeds and plants. Fibrous loam, peat, and sand.


KING OF THE WOODS. *Anacostechis regia.*

KIRENGESHOMA. (A Japanese name. Nat. ord. Saxifragaceae.)

Hardy perennial requiring a shady situation. Seeds and divisions in spring: Light loam and leaf-soil.


KIRGANELEI ELEGANS. See PHYLANTHUS CAST'UM.

KITABE'LA. (Commemorative of Paul Kitabel, a botanist of Peuth, Austria, 1757—1817. Nat. ord. Malv'eae.)

Tall, perennial herb for the border or shrubbery. Divisions in spring. Ordinary soil.


KITCHEN GARDEN. Situation.—A gentle declination towards the south, with a point to the east, is the most favourable aspect; to the north-east the least so: in short, any point in the south is to be preferred to one pointing towards the north. A high wall should inclose it to the north and east, gradually lowering to the south and west. If, however, a plantation or building on the east side, at some distance, shelter it from the piercing winds which blow from that quarter, and yet are at such a distance as not to intercept the rays of the rising sun, it is much to be preferred to heightening the wall. It is a still greater advantage when it is a shelter for a side way, or that of a hill on the south-west and north-west points. The garden is best situated at a moderate elevation; the summit of a hill or the bottom of a valley is equally to be avoided, as it is full of cold airs in heat in spring. If, therefore, that low-lying ones are the most likely to suffer from blights and severe frosts; those much above the level of the sea are obviously most exposed to inclement winds.

Size.—To determine the appropriate size of a kitchen-garden is not feasible. It ought to be proportionate to the size of the family, their partiality for vegetables, and the fertility of the soil.

It may serve as some criterion to state that the dimensions of a kitchen-garden occupying the space of an acre, is sufficient for an employment for a gardener, who will also require an assistant at the busiest periods of the year. In general, a family of four persons, exclusive of servants, requires a full roof of open kitchen-garden.

KITCH'NGIA. (A commemorative name. Nat. ord. Crassulaceae.)

A dwarf, prostrate, warm greenhouse herb, rooting at the nodes, and not hardy in heat in spring. Loam, leaf-mould, sand, and some finely broken brick.


KLA'TTA. (A commemorative name. Nat. ord. Iridaceae.)

Greenhouse evergreen shrubby plant. Seeds; cuttings or sucker-like offsets, in sand, under a bell-glass. Fibrous loam, peat, and sand.


KLEINHO VIA. (Commemorative of Kleinhoff, a Dutch botanist. Nat. ord. Sterculiaceae.)

Evergreen, stone tree. Cuttings of mature shoots in sand, in a close case, with bottom-heat. Loam, peat, and sand. Summer temp., 60° to 70°; winter, 50° to 60°.


KLEINIA, of Linnæus. (Commemorative of Dr. Klein. Nat. ord. Compositae.)

Dry and warm greenhouse evergreens, some of which are very useful for carpet bedding. Cuttings in sand, in moderate heat and not over-watered. Loam, a little leaf-mould, and plenty of sand.


*K. car'na'sa* (fleshy). See SENCIO ELEGANS.

*K. fic'o'nes* (like fig-leaves). S. Africa.


*K. Galp'ni's* (Galpin's). S. Africa. (B. M., t. 7239.)


KLUG'IA. (Commemorative of Dr. W. Klug. Nat. ord. Gesneraceae.)

Evergreen stove herbs. Seed; cuttings in sand in a close case. Loam, leaf-mould, and sand.

*K. neron'ia's* (Notonian) of A.D.C. 1. Blue, yellow.

*K. som'ai'na* (Notonian) of Hooker. See K. ZEYLANICA.


- Greenhouse evergreen tree. Cuttings of ripe shoots, with all the leaves on, except a few at the base of the cutting, in sandy soil, under a bell-glass, and removed in a few weeks into a mild bottom-heat; peat, with a little sandy loam, and a few broken potsherds. Winter temp., 33° to 43°. In summer the pots should be shaded.


**K. **

**KNIPHOFIA.** "Torch Lily." (Commemorative of Johann Hieronymus Kniphof, a German Professor of Medicine, Nat. ord. Liliaceae. Hardy herbaceous herbs of great beauty for beds and borders. Divisions in spring. Ordinary garden soil, well drained, in sheltered positions. Few plants are capable of making a more gorgeous display in the spring and autumn months. Some of them commence blooming quite early in the season, and others keep up a succession till the well-known Red-hot Poker (K. aloides) brightens the garden, when little else but late Michaelmas Daisies and Chrysanthemums remain in bloom.


"Common Torch Lily" or "Red-hot Poker."

"Canari" (Canary). Yellow. 1888.


"Burchellii" (Burchell's). 1. Orange. S. Africa. 1816.


"caulis" (stemmed). Red at first, then yellow. Stem elevated. S. Africa. 1862.

"citri" (lemon). 2. Pale yellow. S. Africa. 1879.


"corallina" (coral-red). Orange-red. Gardens.

"erecta" (erect). Like K. aloeides, but flowers sometimes erect.

"excelsa" (tall). Flowers almost campanulate. Hybrid. 1904.


"laxiflora" (loose-flowered). See K. Burchellii.

"Leichtlinii" (Leichtlin's). 2-4. Yellow and red. Abyssinia. 1883.

"nuda" (golden). Soft orange-red to soft yellow. 1900.

"distichya" (twin-spired). Scape sometimes producing 2-3 heads, 1884.


"macowanii" (Macowan's). 2. Orange, tinted red. S. Africa. 1874.

"modesta" (modest). 2. White. Natal and Griqualand. (B.M., t. 7393.)


"Nordkia" (Miss North's). 4-6. Pale yellow; upper ones reddish. S. Africa. 1889.


"quadriculata" (Quatrain). See K. foliosa.


"rugosa" (reddish). 1-3½. Yellow, stained dull red. Orange River Colony, 1904.

"vulnosa" (lovely). Bright yellow. 1907.

"summera" (twigg). 2. Cape of Good Hope. 1799.

"T. Durieu" (Tuck's). 2-3½. Orange, fading to yellow. 1833.

"Tysonii" (Tyson's). 3. Orange-red and yellow. S. Africa.

"Univiria" (clustered). See K. aloides.


**KNOEL-KOH, KOHL-BUBI, or KOHL-RABI** (*Bret'sca Casio'ra pa*), the Turnip-stemmed Cabbage. It is sometimes called, also, the Cape Cabbage. The stem is thick, rises about eight inches out of the ground, is swollen into a globular root, and is a large Swedish turnip growing above ground, and is crowned with leaves slightly slouched on the edges, undulated, and milky-green, like those of the turnip we have mentioned. There are several varieties of it; but the green-stemmed and the purple-stemmed (especially in the fruit) is the most esteemed. It is sweeter, more nutritious, and more solid than either the Cabbage or White Turnip; will produce a greater weight per acre than the turnip, and prefers a heavier soil, and is not so hardy, and less prone than any other bulb; and imparts very little of that flavour, either to milk or butter, known as *tumispy*. So much relished is it both by cows and sheep, that they will leave either turnips or cabbages to partake of it. Hares and rabbits are so fond of it that where they abound Knol-koh can scarcely be grown. It is excellent when boiled for table. Sow in the first week of March, and plant out in the healthiest and most fertile soil only three feet if the soil is less productive, and three feet from plant to plant in the rows. The plants must have the chief part of their stems left uncovered by the soil. Two pounds of seed produce enough plants for an acre. It is an excellent crop for cleaning the soil, as the width between the plants and rows enables the hoe to be efficiently used, and during a lengthened period. When blanks occur, these may be filled from the seed-bed with fresh plants. The produce is from eighteen to twenty tons, and upwards, per acre. The bulbs may be kept sound and nutritious until very late in the spring, even much later than the Swedish turnip.

**KNOX**. (Named after R. Knox, a traveller, long resident in Ceylon.) Ord. Rubiads (Rubiaceae). Linn. "476', "4 T-raynanda, "4 Monongia".

Stove evergreens. Cuttings of young shoots in sand, under a glass, in April or May; peat and loam. Summer temp., 60° to 85°; winter, 50° to 60°.


"excelsa" (outside-stamened). See K. corymbosa.


"sumatrana" (Sumatrana). White. India. 1819.

"sumatrana" (Sumatrana) de Wall. See K. corymbo-

"sia" (bifurcated-stemmed). See K. corymbosa.


**KOCHA**. (A commemorative name. Nat. ord. Chenopodiaceae.)

The typical *K. scoparia* is a weed, but the variety *trichophylla* is an ornamental annual of great beauty for beds, borders, prominent positions in the garden, and for cutting. The foliage of the bying plant turns red in autumn. Seeds. Ordinary garden soil.


HONDENSIS Rose.

Baxte'ri (Virginian). See August. Seeds, require in a

Kelsenstiiia graminex. See Agania graminea.

Kelsenstiiia ionop'tera. See Agania ionoptera.

Köllike'ria (A commemorative name. Nat. ord. 

Körellutex. (Named after Kederreus, a cele-

Köreutex. (Named after Köreuter, a cele-

K. bispina'ta (twice-pinnate). Bright yellow, with

K. di'scolor. See Fritillaria 

Kolpakowskia. See ixiolirion kolpakowskianum.

Ko'sia. (Named after Professor Köps. Nat. ord.


K. nut. Co'la acumina'ta.

Kolkwit'zia. (A commemorative name. Nat. ord. 

Kolle'kab or ru'bi. See Knöl-kohl.

Kola. Cö'la acumina'ta.


K. am'ala (lovely). Fruits covered with long brown

Kolpakowskia. See ixio'lium kolpakowskianum.

Kopsia. (Named after Professor Kops. Nat. ord. 

K. pentaspor phleoides. Allied to Cerbera.) 

K. E. r.'i (Baxter's). 2. Red. Australia. 1838.


K. p.'ita (Erythrina). 50. India and Burma. 1818.

K. p.'ita (Lycopus-leaved). Australia.

K. p.'ita (milk-white). 50. India and Burma. 1818.

K. pra'ca (brotherly). See K. calycina.

Kyllinga (Commemorative of Peter Kylling, a 

Kyllinga (Commemorative of Peter Kylling, a 

K. monospor phala (one-headed). Whitish. Tropics of the 


KREYSI GIA. (Named after Kreyzig, a German botanist. Nat. ord. 


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L

LABEL. Many are the forms and substances employed in making labels for plants. For general use they should embrace among their good qualities cheapness, durability, facility of being written upon, and legibility. Strong paper or parchment labels are the most suitable for attachment to plants being sent from the nurseries, and they should be printed with large letters, or written upon with pencil, while still wet. The name usually lasts as long as the wood, whether indoors or outside, if plainly and well written. If it is desired to write the names of other plants upon the labels, while the wood is still sound, they can be refaced with glass or a sharp knife. Large wooden labels, meant to be of a more permanent character, should be painted all over to preserve them, and then coated with a varnish, a thin second coat may be given and the names written while wet. The point to be inserted in the ground should be dipped in creosote, gas-tar, or other preservative substance. Zinc and persian lead has also been devised, but for various reasons they have not proved very satisfactory. Neat cast-iron labels, with raised letters, and of various design and size, are in use, and give a considerable amount of satisfaction. Some of them are pierced with one or two holes, and may be placed on a copper wire, not liable to rust. Others are fitted with an iron shaft, or with stout wire for inserting in the ground. For roses, fruit and ornamental trees, the names are suspended or placed horizontally, and are thus easily read at a glance. Very permanent labels are those made of strips or oblong pieces of lead, with the names punched on them, with or without paint. The lead may be painted over, and the sunk letters with white paint, and after a number of years these labels may be repainted. Although more expensive than wooden labels, they last a lifetime, and are cheapest in the end.

LABELLUM. This term is universally applied to the upper segment of the inner series of the flower of an Orchid. By the twisting of the flower-stalk, the labellum or lip usually assumes a rather conventional form, and as it is large and nearly always more highly coloured than the rest of the flower, it is the most conspicuous organ. In the Lipsworts or Labiates, and some others, it is customary to speak of the upper and lower lip of the flower.


L. bifuncata (two-dotted). See L. lanceolata.

" lanceolata " (spare-head-leaved). 4. April 1837.

LAB'ISIA. (From labis, a hook or clasp ; the segments of the corolla are incised at the apex. Nat. ord. Myrtaeaceae.) Evergreen stove shrubs. Seeds. Loam, leaf-mould, and a little sand.


" malaccaea " (Maloue, Malawai, Malawie). 1. Leaves with a featherly whitish-green midrib. Borneo. 1885.


" smaragda " (emerald-green). 1. Pink. Borneo. 1892.

LA'B'ALAB PERENN'NAS. L. vulgaria, L. v. albiflora, and L. v. purpurea are all forms of Dolichos Lablab.

LABRADOR. (The old Latin name of the tree. Nat. ord. Leguminosae.) Small, hardy, ornamental trees of great beauty, and very popular. The flowers, fruits, and seeds are poisonous. L. Adami, or Cyathus Adami, is a graft-hybrid, produced by Jean Louis Adam in 1825, by shield-grafting Cyathus purpureus on Laburnum vulgare. Branches of the tree frequently revert to one or other of the parents. The trees are propagated by seeds, and the graft-hybrid and various by budding and grafting.


" teriinum (late), Sulphur-yellow. June. 1854. " vulgare (Ordinary). 15-20. Yellow. May. Europe. 1596. " Laburnum. " The following are varieties: Alschingeri and Carlisi, with long racemes; folium aureum (gold), foliis variegatis variegated), involucrum (leaves coiled like rings), purpurascens (pendulous), quercusfollium (leaves deeply cut), and semperflorens (always flowering). Parkkii, Vo s s i, and Watereri are garden hybrids, with very long racemes. The first name was raised about 1840.

LABYRINTH is an arrangement of walks, inclosed by hedges or shrubbery. In this case it was to be very difficult to escape from. From the middle of the fourteenth century to the end of the seventeenth they were a favourite portion of English pleasure-ground; but they are now morejudiciously banished.

LACE. (One of the names of Helen. Nat. ord. Orchidaceae. Linn. 20-Gymandra, 1-Monomandria. Allied to Govenia.) Divisions in spring, or after blooming; turgid peat, sphagnum, rotten wood, charcoal, and broken crocks; fixed to a block, and that built above the surface of a pot, and packed with the above material, or grown in a shallow, open basket. Summer temp, 60° to 90°, and moist; winter, 55° to 60°, and dry.


LACA THEA FLO' RIDA. See GORDONIA PURESCENS.

LAC'E BARE. Lage'tta linda'dria.

LACEP'DEA DEI INSIG'NIS. See TURPINIA INSIGNIS.

LACHENALIA. (Named after M. de la Chenal, a botanical author. Nat. ord. Liliylworts [Lilaceae]. Linn. 6-Hexandra, 1-Monogynia. Allied to Hyacinthus.) All great hybrids, from South Africa. Offsets at potting time, and set in a hotbed, in spring; sandy peat, with a little fibrous loam. Winter temp., 35° to 45°, and dry, or the bulbs may be kept in drawers or bags. They are very beautiful little plants and grow freely under the above conditions, potting them whenever growth commences, and waterings so long as the leaves are green, but no longer; when the pots are full of roots they stand gentle forcing. The small species require sand and round their bulbs, whether in the border or pots.


" angustifo'lia (narrow-leaved). See L. contaminata.

" angustifolia " (Mansi). 1. White. 1856.


" bifo'lia (two-leaved). See L. isopetala.

" bowe'na (Bowlean). 1. Yellow. red.

" contaminata " (contaminated). 1. Pink. March. 1879.

" convallariaes " (Convallaria-like). 1. Purple-pink, fading white. 1904.

" fistulosa " (hollow-stemmed). 1. White, tinged blue and purple. 1884.

" fla'v'a (yellow). See L. tricolor.

" frans " (sweet-scented). See L. versicolor.

" glauc " (milky-green). See HYACINTHUS GLAUCUS.

" glauc " (milky-green). 1. Green, white, red. May. 1795.

" h e r 'a (ha'ry). 1-1. White, flushed with red.

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LACHNE THES. (From lachne, down, and anthos, a flower. Nat. ord. Bloodroot [Hamadaraeeae]. Linn. 3-Triuris, 1-Monogynia. Allied to Anigozanthos.) Half-hardy perennial. Numerous species of these little flowers found in the roots is used in dyeing in New North America. Division of the roots in spring; peat and loam. Winter temp., 40°.


LACKLEY, or BARRED-TREE LACKEY MOTH (Clitio- *ca mp a Nautri'sa*). The eggs of this insect, in winter, may be detected easily, in broad bands, round the twigs of our pear, apple, and other trees. They are arranged with such admirable art, that they seem set by the skilful hands of the jeweller, and are very conspicuous. Each bracelet, as the French gardeners call it, consists from two hundred to three hundred eggs, fastened by their hold, in a series of from fifteen to seventeen close, spiral circles, round the twig. The spaces between the eggs are filled up with a tenacious, brown gum, which protects them from inclement weather, as well as from all attacks except those of man. The eggs thus placed look like a ring of seed-lace; and we think its name may have been there derived. They are easily crushed by the hand, and often, to our surprise, are eaten by the caterpillars. The leaf, otherwise aspargine, is aspargine, white, blue, red, and yellow, slightly hairy, and with a white line down the back—appear from these eggs in the April or May following. They congregate early in the season, and often form in a mass, at attack of the small branches, and are then easily crushed. They enter the chrysalis state at the end of June, and then they are to be found in cocoons, or oval webs, somewhat larger, with white or yellowish dust between the leaves, &c. The chrysalis, or pupa, is longish, and dark brown, in which state it remains for three weeks or a month. In July the moth appears; its colour is light yellow, with black spots, and on the wings a darker band across their middle, which band is bordered by two light cross-lines; the fringes of the wings was whitish, spotted with brown; the lower wings are of a uniform brownish or light yellowish colour. The females are remarkable for the female, by his comb-like (pectinated) antennae (feelers) and thinner body. The insect flies only at night, and, consequently, is rarely seen. The caterpillars often appear in considerable numbers, and do much damage to their ravages to fruit-trees, but attack many others; such as bees, elms, poplars, oaks, and even pines. In May, when the caterpillars are living in society, the nests containing them should be collected and destroyed. Care must be taken when collecting the nests; for, if the caterpillars are much disturbed, they let themselves down to the ground by means of a thin silken thread, and escape. In July their cocoons should be looked for on the trees, in the roots of sheds, in hedges and even on the tops of walls.—"The Cottage Gardener," 1. 207.


L. Prunierii (Plumier's). 4-6. Purple or blue. July to September. S. Europe. 1596.


L. villosa (villous). See L. acuminata.

Varieties. There are the Cos and the Cabbage; the first more grown in summer than in winter; the second at all seasons, but more usually in winter, on account of their superior hardiness. The Ciliacs are of a nature intermediate between the two. When young, the Cabbage varieties are, in general, sweeter than those of the Cos at the same age; but of a full growth this is reversed. Hence the latter are preferred for salads, and the former for soups. The Cabbage varieties succeed better in a hotbed than in a cold house.

Cos Varieties. —Alexandria White, Bath Black-seeded, Giant White, Hardy White, Sugarloaf, Black-seeded Green, Spotted, or Leopard, Early Egyptian, Green and Brown Cilicia, Green, Lop, White, or Versailles, White Paris Cove, the finest summer kind; Green Paris Cove, the finest winter kind; Bath Cos, and Brown Cos.

Cabbage Varieties. —All the Year Round, Continuity, Early Paris Market, Hardy Hammersmith, Tom Thumb, Winter Beauty, Wonderful, Drum-headed, Princes, Brown Dutch and Common Dutch White, both good for winter; Tennis Ball, or Button, good for winter; Large White, Hardy Green, or Capuchin, good for winter; Imperial Grand Admirable, Prussian, Large Roman, Malta, for summer; Naples, for summer.

Soil. —Lettuces thrive best in a very rich soil, with a dry subsoil. For the first and last crops of the year a warm, sheltered situation is required; but for the Midsummer ones, a border that is shaded during midday.

Sowing. — The first sowing in a frame on a warm border, or shallow hotbed, at the close of January, or early in February; at the close of this last month a larger one in any cool frame. Sow in the frames with three weeks, until the end of July, for summer and autumn use, to be continued at similar intervals until the close of September, for winter and early spring. Sow vary richly in some other direction.

Prickling out. — When the plants are about a month old, or two inches in height, thin them to three or four inches apart, and prick out those removed at similar distances. Those from the sowings in January and February in frames, and thence until August, in any open situation. Those of the August sowing must be divided into two portions; the largest being selected and planted in an open compartment for late autumn use, and the smaller on a warm border for winter and early spring.

Plant out, finally. In rows a foot apart each way. At the time of every removal, whether of prickling out or planting out, the roots are given good water, and until the plants are rooted. It may be remarked, that transplanted lettuces never attain so fine a growth as those left where sown, nor become so soon fit for use; those which are planted out at once to remain better in these respects than those pricked out previous to final planting. The varying in their time of becoming fit for use, however, is of advantage, as by these means a more perfect succession is formed, and those which they allow to remain withstand the winter, which they easily do if sheltered with hoops and matting during severe weather, and continue in a fit state for use, are best planted on ridges, as a precaution from exposure to wind, which they alone of all others are capable of. In every stage of growth they must be kept well watered, and the earth about them frequently stirred, for the extirpation of slugs and snails. No vegetable is more beneficial than the lettuce by the application, occasionally, of liquid-manure. To check the Cos plants running to seed before the heart is perfectly blanched, it is a good practice, at the time of tying them up, to cut out the centre bud of each with a sharp knife.

At night the additional shelter of matting, and in severe weather an increased covering, must be afforded. The day temperature should never exceed 80°, nor fall below 65°. The plants may be set in rows about six inches apart; but of those which are merely sheltering during the winter, on the return of mild weather, at the beginning of March or April, every second one must be carefully removed, and planted in a warm border at the usual open-ground distance.

To obtain Seed. — Some of the finest and most perfect plants of each variety that have survived the winter, or from the forwardly sowing of the year, should be selected. The plants raised and have run up prematurely cannot be depended upon. If two varieties flower near each other, only mongrel varieties will be obtained. Each stem is to be tied to a stake as a support against tempestuous weather. The branches must be gathered as soon as ripe to the upon them. It must be thoroughly dried before it is stored.

LADY-BIRD. Cocinella.

LADY'S FERN. L. strea Thelypteris.

LADY'S LACES. Ari'ndo.

LADY'S MANTEL. Alchemilla.

LADY'S SLIPPER. Cyprip'di um.

LADY'S SMOK. Cardami'ne.

LADY'S TRESSES. Neta'tia spir'alis and Spira'nthes.

LILIEA. (Lilia was a Vestal virgin; alluding to the delicacy of the flowers. Nat. ord. Orchids (Orchidaceae). Linn. 20-Gynandria, 1-Monandria. Allied to Epidendrum.)

Stove orchids. Divisions; turfy peat, chopped old moss, and charcoal, raised above the surface of a pot, filled with a mixture of wood firmly laid across. Treatment similar to Cattleya.

L. acumina'ta (pointed-lipped). See L. rubescens.


L. be'lla (pretty). Milk-white, lilac-pink, rose-purple. Mexico.


L. stab'aria'na (Stobarian). Purple; lip deep purple. 1877.


L. a'lia (white). White, with yellow disc. Mexico. 1870.

L. ama'bilis (lovely). White; lip yellow, lined purple. 1889.

L. amen'esia'na (Amesian). White. petals feathers crimson, throat bright citron-yellow. 1888.

L. ashfor'dha'na (Ashworthian). Snow-white; lip with bluish veins. 1894.


L. sub'am'ba (mild). Sepals white; petals rose; lip warm purple at apex. 1885.

L. cal'ertia'na (Calvertian). White; front lobe of lip red-purple. 1885.

L. cham'brielamia'na (Chamberlainian). Front lobe velvety purple.
SCHILLERIANA.

See SCHILLERIANA.

Dayana (Dawson's). White; front lobe of lip crimson-purple. Brazil. 1865.

SCHILLERIANA.

1887. Pale purple. 1836.

L. a'nceps crawshaya'na (Crawshayan). Flowers large; colours rich. 1895.

Dawso'ni (Dawson's). White; 1843. with petals rhomboidal; lip with purple front lobe. 1885.

Pink (Schillerian). 1826-

holida'y'na (Hollidayan). Lip with crimson veins. 1885.

holochei'la (whole-lipped). Lip narrow. Entire. 1891.

hida'na (Hyean). White; side lobes of lip with very rich purple. 1889.

Kienastian). 3.

Clear yellow. 1885.

Lip grandis. rich disc pure white. 1894.

Richly veined. 1872.

Petals purple. 1884.

Lilac, lip purple. 1885.

Lip crimson-purple. 1891.


Light brown. 1845.

PUMILA

Amethyst-purple; winged. 1884.

Dayana'na (Dayan). See L. PUMILA DAYANA.

,, irradiata (besprinkled). See L. SCHILLERIANA.

2 H

rich lip purple.

Lip crimson-purple.

L. CRISP (crisp). White; lip amethyst-purple, lined in tube. Brazil. 1826.

buchanania'na (Buchananian). Lip broad, crimson-purple.

" Casuadel'sa (Mme. Cauwelaert's). Basal half of lip crimson-purple. 1885.

" delicata'na (very delicate). White, with a broad purple stripe on lip. 1885.

" purpurea'na (purple). Pale purple; lip blotched deep purple. 1884.


" dayana'na (Dayan). See L. PUMILA DAYANA.


" dornania'na (Dornanian). See CATTLEYA DORMANT-


" d'o'ba (white). White; front lobe of lip carmine-magenta. 1884.

" blenheimensis (Blenheim). Rosy-purple; lip magenta-purple. Brazil. 1865.

" broomea'na (Broomean). White and rose; lip crimson-purple. 1883.

" secilens (excellent). Folded part of lip pure white. 1892.

" gaskelliana'na (Gaskellian). Pale lilac; lip dark crimson-purple. 1881.

" gigante'a (giant). Lilac, spotted purple. 1862.

" houtie'a (Houttean). Rich rose-purple. 1885.

" inca'ntans (charming). Dark nanken; lip dark purple. 1887.

" lobata (lobed). Segments very narrow. 1860.


" rosetosa (Large-flowered). 1. Sulphur; lip dark purple, white. 1887.

" morreniana'na (Morenian). Magneta-rose; lip crimson. 1884.

" rubi'bis (noble). Clear rosicrimson. 1863.

1833.

1860.

1884.

1872.

1880.

1880.

1885.

1873.

1868.

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1899.

1899.

1891.

1894.

1896.

1892.

1899.

1888.

1892.

1899.

1896.

1885.

1860.

; *Ashwoodiae* (Mrs. Ashworth's). White, with crimson lines. 1854.

; *Krome'ri* (Kromer's). Rose-purple, with purple bands on lip. 1901.

; *Te'mple* (Mrs. Temple's). Rose; lip white, tinted pink. 1903.

; *Lee'sna* (Leaean). Rose; lip white, tipped purple. Supposed hybrid. Brazil. 1882.

; *Linde'nii* (Linden's). See *Cattleya* *d'esicilia'tu'l'a.*

; *Linnea* (Linnean). Rose-purple; lip white, spotted purple. Brazil. 1857.

; *lob'sa* (lobed). See L. *boothiana.*


; *a'ba* (white). White. Colombia. 1880.


; *Pachy'ste's* (Pachystele). Rose; lip white, purple, rose. 1888.

; *Pai'nii* (Patin's). Colombia.

; *peduncu'lica* (long-flower-stalked). See L. *rubescens.*

; *Perri'sii* (Perrin's). Lilac. September. Brazil. 1851.

; *a'ba* (white). White; disc yellow. 1888.

; *irro'ra* (sprinkled). Light rose; lip white. purple. 1882.

; *mi'sea* (snowy). White; lip edged purple. 1900.

; *porphy're*i's (purplish). Purple and green; lip purple. Hybrid (?). Brazil. 1886.

; *pro'sants* (excellent). See L. *fumila* *pre'stans.*


; *Coloma'ni* (Coleman's). Blush-white, purple, rose. 1898.

; *cur'lea* (Curlean). A few dark purple streaks on sepals and petals. 1886.

; *day'a* (Dayan). Purple. Brazil. 1876.

; *delica'ta* (delicate). Nearly pure white. 1896.

; *delica'sisima* (very delicate). Blush-white. 1900.

; *mi'ro'salis* (wonderful). Flowers larger, darker; lip with 10 to 12 crests. Brazil. 1878.

; *pro'sants* (excellent). Lip trumpet-shaped, convolute, not straight. Brazil. 1899.

; *M'sa's alba* (white). Ivory yellow; lip tipped crimson. 1889.

; *pro'sants ca'ni'da* (white). 1898.

; *pro'sants glori'o* (glorious). Front of lip claret. 1898.

; *pro'sants Luema'nsia* (Mrs. Leemann's). Between candida and alba. 1899.

; *pro'sants luc'a'na* (Lucian's). Purple-red, rose-purple. 1898.

; *hite's* 1889.

; *pro'sants mo'bi*s (noble). Brightly coloured.

; *spect'a* (showy). White, purple, nearly as large as L. *majalis.* 1897.

; *pur'pa'sens* (purpurous). Pink. September. Brazil. 1838.

; *pur'pa'tsa* (purple). White or tinted pale purple; tube of lip pale yellow, lined purple. S. Brazil. 1899.

; *a'ba* (white). White, rose, yellow. 1869.

; *al'a'nan* (St. Alvan's). White; lip deep purple. 1895.

; *ashwoodhi'na* (Ashworthian). Petals purple-rose, striped white. 1896.

; *ben'heims* (Blenheim). Brush-bloos; lips very dark purple. 1888.

; *bru'nea* (brown). Lip brown-purple. 1896.

; *fas'se* (fascinated). Rose-purple; lip deep maroon. 1901.

; *Krome'ri* (Kromer's). White. 1901.

; *Le's'si* (Lewis's). White; lip with few lilac lines. 1896.

; *little'a* (Littlean). White; lip white and purple. 1900.

; *tracy'na* (Tracyan). White; lip flushed rose. 1900.

; *wei'se*a* (Whitman). Lip dark purple; throat white. 1900.

; *Wilva's* (Williams's). Rose; lip crimson.
LAGERSTREMA. (Named after M. Lagerstræm, a German. Nat. ord. Loosestrîfes [Lythræceæ]. Linn. 13-Polyandria, 1-Monogrînya.)

Cuttings of small, firm side-shoots in spring, under a bell-glass, and cuttings of ripened shoots in autumn, in bottom-heat: peat and loam. Summer temp. 60° to 90°, with plenty of moisture, both at the root, and also at the top, except when in flower. Winter temp., 55° to 60°, and dryish, after being pruned in autumn. The greenhouse species require only warm greenhouse temperatures.

GREENHOUSE EVERGREEN SHRUBS.


STOVE EVERGREEN SHRUBS.

L. e'legans (elegant). See L. Indica elegans.
" flor'o'nd (tree-flowering). Trop. Asia.
" grandif'o'ra (large-flowered). See Duâk'anga sôn'nera'ció des.

LAGE'TTA. Lace Bark. (Its Indian name. Nat. ord. Dênahds [Thylmecææ]. Linn. 8-Octandria, 1-Mono'grînya.)

The inner bark of this stove evergreen is the beautiful Lace Bark of the West Indies. Cuttings of half-ripened shoots in sand, under a glass, and in bottom-heat, in April or May; peat and fibrous loam. Summer temp., 60° to 80°; winter, 45° to 55°.


LAGUN'A. See Hinucus.

LAGUNA'RIA. (From its resemblance to Lagunus, an allied genus. Nat. ord. Mallowwors [Malvaceæ]. Linn. 16-Monandria, 3-Polyandria.)

Greenhouse evergreen shrubs. By cuttings of half-ripened shoots in sand, under a glass, and in heat, in May; peat and loam. Winter temp., 40° to 45°.

L. cune'o'fansi's (wedge-leaved). See Fugosia cuneo-";

LAGUNS. (From lagos, a lake, and oura, a tail. Nat. ord. Combréactææ.)

Evergreen, stove shrub. Cuttings in sand with bottom-heat. Loam, peat, and sand.


LAGUS'. (From lagos, a lake, and oura, a tail. Nat. ord. Gramineæ.)

A hardy, annual, ornamental grass, for mixing with flowers of drying. Seeds. Garden soil.


LAGALE. (Named after Lalage, a gay, witty dame immortalised by Horace. Nat. ord. Leguminous Plants [Leguminosæ]. Linn.16-Monandria, 6-Decandria. Also referred to Bossâria, which see.)

L. hove'f solo'ia (Hovea-leaved). See Bossa'ria ornata. " fest'o'la'ia (Festuca-leaved). See Festuca ornata.

LALÈMÀ'RIA. (Commemorative of J. E. Lallemand of St. Petersburg. Nat. ord. Labiata.)

Hardy annual and biennial herbs. Seeds. Ordinary garden soil.


LAMÀ'RIA. (Commemorative of J. E. Lamarck, of France. Nat. ord. Gramineæ.)


LAMBÈRTIA. (Named after the late Mr. Lambert, a distinguished patron of botany. Nat. ord. Proteâœææ. Linn. 4-Tetrandria, 1-Mono'grînya. Allied to Hakea.)

Greenhouse evergreen shrubs, from Australia. Cuttings of the ripened shoots, before fresh growth commences, in the sand, over sandy peat, in pots nearly filled with drainage, and covered with a bell-glass, and kept close and cool until the base of the cutting swells, when a little bottom-heat may be applied; sandy loam and fibrous peat, well-drained, and mixed with rough pieces of charcoal. Winter temp. 30° to 45°.

" mul'ti'ra' (many-flowered). Orange.
" ovul'o'sia (oval-leaved). 1836.
" prop'o'qu'a (related). See L. Echinata.

LAMB'S LETTUCE. See Cern Salad.

LA'MIIUM. Dead Nettle. (From Ianthes, the throat; in allusion to the throat-like form of the corolla. Nat. ord. Labiata.)

Annual and perennial herbs, but only perennials listed here. Divisions. Ordinary garden soil.


Greenhouse herbaceous perennials, scarlet-flowered, from Mexico. For culture, see Angélo'nia.

L. cord'a'ta (heart-shaped-leaved). See L. Viscosa.
" vis'casa (elamgy). 14. 1846.

LAMPROCOCUS. (From lampros, shining, and koos, a glory. Nat. ord. Bromeliaceææ. Mostly now referred to Aechmea.)

" Valer'a nii (Vallerand's). See Streptocalyx Valle'randi'd'le. 1876.

" Weilba'chi (Weilbach's). See Aechmea Weilbachii.

LAMPRO'NIA RUBIELLA. See Raspberry Moth.

LAMPWICK. Phil'o'mis Lychni'ts.

LANA'RIA. (Derived from lana, wool; in allusion to the woolly flowers. Nat. ord. Hamodoraceææ.)


LANCE-WOOD. Gust'eria.

LAND-DITCHING. See Draining.

LANDRA. Ra'phanus L'a'ndra.

LANDSCAPE GARDENING. as its name intimates, is the composition of beautiful scenery, so that all artifice is concealed by the blending of trees, shrubs, ground, and water, in harmony. Nat. ord. Hamodoraceææ. which now referred to Aechmea. L. coru't'scens (bluish). See Aechmea curuleus. " spec'o'so's (showy). Leaves striped with yellow. Brazil. 1893.
" Valer'a nii (Vallerand's). See Streptocalyx Valle'randi'd'le. 1876.

" Weilba'chi (Weilbach's). See Aechmea Weilbachii.

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" Weilba'chi (Weilbach's). See Aechmea Weilbachii.
surface which is abrupt and broken. The beauty of the clay districts is not otherwise to be secured upon those of the chalk; neither on light uplands can be arranged the dense beauties of well-watered, alluvial vales. "Con- suit the genius of the subject, which has been derided, but which is dictated by the soundest sense.

Under this general head we have not space to enter fully into details; but some of these will be found, under their appropriate titles, in other pages, and chiefly benefited from Mr. W. W., who has published more correct views upon the art of tastefully arranging grounds than most men who have written upon the subject.

LA NIUM. (From lana, wool; the sepsals are downy. Nat. ord. Orchidaceae.)

Stove Orchids. Divisions, Fibrous peat and sphagnum. L. Barbey'oi (Beckrey's). Green, dotted red-brown.


LANKESTRIA. (Named after Dr. E. Lankaster, a distinguished botanist. Nat. ord. Acantthaceae. Linn. 14-Didynamia, 2-Angiosperma.)


LANSE Riga CARACASA'na and L. MARTINI'CE NSS. See Tremeza LURIDA.


Stove evergreen shrubs. Cuttings of the short side-shoots, two inches in length, taken off close to the old wood, when fresh growth commences, in spring; fibrous loam and a little peat; lantana requires sandy peat. Summer temp., 60° to 85°; winter, 45° to 55°. L. aculea'ta (prickly). See L. Camara. a'liba (white). White, yellow. S. Amer. brasiliensis (Brazilian). 3. White. June. Brazil. 1895.


LAPAGERIA. (Commemorative of Josephine Lapa-gerie, wife of Napoleon Bonaparte. Nat. ord. Lilaceae.)


LAPLACE. (Named after Laplace, the distinguished philosopher. Nat. ord. Thesa'ter (Terrastrumaceae). Linn. 13-Panthea. 1-Monogynia.)


LAPORTEA. (Commemorative of M. Laporte. Nat. ord. Urticaceae.)


LARDIZABA. (Commemorative of M. Lardizabal, a Spanish naturalist. Nat. ord. Berberidaceae.)

A rapid growing climber, hardly in the more favoured parts of Britain, on walls, but best in a high conservatory. Seeds; layers. Fibrous loam and peat.
L. biterna'ta (twice-three times divided). Purple. Late autumn. Chilli. 1848.

LARIX. Larch. (From lar, fat, a Celtic word. Nat. ord. Coniferae.)

Hardy deciduous trees of more or less ornamental character. L. europae'a is a valuable timber-tree. Dry and hilly soils are most suitable for it. The others enjoy the shelter of trees in lowland situations. Seeds and the varieties by grafting, occasionally by cuttings and layers. L. amelanchier'a (American). See L. PENDULA.

deci'dua (decisive). See L. EUROP. A.
europae'a (European). 80-100. March or April. European Alps. 1820. "The Larch."

flan'a ped'ula (sea-green weeping). Leaves glaucous.

b'eda'ula (weeping). Branches very pendulous. Tyrolese Alps. 1809.
pendulina (weeping-like). Branches drooping.

ro'ssica (Russian). Russia. 1806. "Russian Larch."

semipend'ens (evergreen). Leaves lasting 2-3 years. 1870.

evrg'a (twiggly). Primary branch, long, out.
mura'ya'na (Murrayan). 1905.
Griffith's (Griffith's). 30-40. Eastern Himalaya.

sikkim Larch. (Sikkim Larch.)

jap'ica (Japanese). See L. LEPTOLEPIS.

kame'fers (Kamper's). See Pseudolarix KAMFERI.

Ledebouri'i (Ledebour's). See L. EUROPEA SIBIRICA.


prostr'a (prostrate). Stems lying on the ground.

La'rix. Larch. (From Larix, fat."

Lyallii (Lyall's). 40. N.W. Amer. 1863.

occidentalis (western). 150. N.W. Amer.


Potsammani (Potamian). 20-60. Western China. 1906.

pyramidalis (pyramidal). See L. EUROPEA.

vul'ga'res (common). See L. EUROPEA.

LARKSPUR. Delphi'num.

LARO'CHEA. Ro'chea.

LA'REA. (Named after a Spaniard of that name. Nat. ord. Bean-capers [Zygophyllaceae]. Linn. 10-Decandria, 1-Monogynia. Allied to Zygophyllum.)

Greenhouse evergreens, from South America, with yellow flowers. Cuttings of young half-ripened shoots in sand, under a bell-glass, in summer; peat and fibrous loam, well-drained, and pieces of broken pot, and charcoal, to keep the soil open. Winter temp., 40° to 45°; summer, in a shaded position.


LARVA. The name by which an insect is described when it is the state between the egg and the chrysalis form. The larva of a butterfly or moth is commonly known as a caterpillar; or a fly or beetle, as a maggot or grub.

LASERWORT. Tha'psia Laser'pe'titi.

LA'SIA. (From lasios, woolly. Nat. ord. Araceae.)

Stove evergreen. Divisions; and cuttings in sand in a propagating case. Loam, peat, and some nodules of charcoal, with sand. L. aculeata (prickly). See L. HETEROPHYLLA.


spinosissima (spiny). See L. HETEROPHYLLA.

LASIAGRO STIS CALAMAGRO STIS. See Stipa CALAMAGROSTIS.

LASIAGRO STIS CALAMAGRO STIS. See Stipa CALAMAGROSTIS.

LASIAGRO STIS CALAMAGRO STIS. See Stipa CALAMAGROSTIS.


Fonseca'ei (Fonseca's). See L. EVMULA.
goldii (Goldii). July. 1829.

intermedia (intermediate). June. N. Amer. 1887.


L. argentea (silver-leaved). See Tibouchina HOLOSERICEA.

L. fontanesiana (Des Fontaines). See Tibouchina GRANDIFLORA.

lepidota (scaly). See Tibouchina OCHYPETALUM.

macra (large-flowered). See Tibouchina SEMIDECANDRA.

petiolaris (long-leafstalked). See Tibouchina GAUDICHAUDIANA.

LASIOPETALUM. (From lasios, woolly, and petalon, a petal, or flower-leaf. Nat. ord. Sterculiaceae. [Sterculiaceae. Linn. 5-Pentandria, 1-Monogynia.)

Greenhouse evergreen shrubs, from Australia. Cuttings on old frame or in sand. Transplant in April or May; sandy peat and fibrous loam, well drained, and carefully watered; either stagnant moisture or a sour soil destroys them. Winter temp., 40° to 45°.

L. arboriss (tree). See Serinigia PLATYPHYLLA.

Basseri (Baster's). Pearly white. (B.M., l. 6445.)


purpureum (purple). See Thomasia PUPUREA.

solanum (Solanum-like). See Thomasia SOLANACEA.

trimucronatum (three-leaved). See Thomasia TRIPHYLLA.

LASIOBRE'ZI RO'SE'A and L. RUNCINATA. See Lecudina RUNCINATA.

LASIOTHEON. (From lasios, woolly, and siphon, a tube; the corolla tube is woolly. Nat. ord. Thymeleaceae.)


LASIOPSIS. (From lasios, woolly, and sperma, a seed. Nat. ord. Compositae [Compositae]. Linn. 10-Syngenia, 1-Equiset. Allied to Santolina.)

Half-hardy evergreen trailing plants, with yellow flowers. Division in spring, and cuttings under a hand-light, in a shady place, in summer; common garden-soil. Most of them require the protection of a cold pot in winter. The Italian species are most hardy.

L. anthemoides (Anthemis-like). See Anthemis CRETICA.

crithmifolium (sham-pale-leaved). See Santolina CRITHMIFOLIA.

criso'pernum (woolly-seeded). See L. PEDUNCULARE.


fridium (stiff). See Anthemis CRETICA.

LASTHE'NIA. (Derivation not explained. Nat. ord. Compositae [Compositae]. Linn. 10-Syngenia, 2-Superflua.)

Hardy annuals, with yellow flowers. Seeds in October, and plants protected by boughs of eaves or eaves during the winter; or sow in March and April in the open border. L. californica (California). See L. GLABRATA.


biflora (biflora). (bunt-leaved.) 1. May. Chil. 1833.

L. AIREA. (Derivation unexplained. Nat. ord. Compositae [Compositae]. Linn. 24-Cryptogamia, 1-Filices.)

For culture, see Ferns. They have all yellowish spores.

HARDY.


Fonseca'ei (Fonseca's). See L. EVMULA.
goldii (Goldii). July. 1829.

intermedia (intermediate). June. N. Amer. 1887.

LASTREA

LATANIA

486

Britain.
L. ntonta'na (mountain)
July.
1-3.
noveborace'nsis (New York)
See L. MONTANA
Oreo'pteris (mountain-fern).
See L. JEMULA.
recu'rva (recurved).
i.
remo'ta (remote),
England.

England.
ri'gida (rigid),
i.
June. Britain.
spinulo'sa (crested-prickly),
Britain.
i.
July.
Thely'pteris (lady-fern),
i.

imme'rsa (submerged). Malaya. 1840.
inci'sa (incised).
W. Ind.
indivi'sa (undivided). July. W. Ind. 1840.
invi'sa (unseen).
2.
July. Jamaica.
1830.
See L. LATIFOLIA.
irregula'ris (irregular).
Jenma'ni (Jenman's). 2. Jamaica. 1887.
Brazil.
Kaulfu'sii (Kaulfus's).
iJ-2.
la'ta (broad).
June. Isle of Luzon. 1834.
latifo'lia (broad- leaved).
Polynesia.
le'pida (neat).
Polynesia.
,
Isle of Luzon.
ligula'ta (strap-leaved). June.
macroca'rpa (large-spored). August. E. Ind.
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GREENHOUSE.
L. arista.' ta (bearded). See ASPIDIUM ARISTATUM.
variega'ta (variegated). See ASPIDIUM ARISTATUM
VARIEGATUM.

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,

,

China and Japan.
chine' nsis (Chinese).
coru'sca (waving). See ASPIDIUM VARIUM.
decompo' sita (decomposed).
1825.

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July.

,

macrophy'lla (large-leaved).

,

N. Holland.

calva'ta (bald).

,

membranifo lia (membrane- fronded). See L, DISSECTA
MEMBRANIFOLIA.
mexica'na (Mexican). Mexico to Brazil and Ecuador.
mo' His (soft). Tropics and sub- tropics everywhere.

,

New

Zealand.
Shephe'rdi (Shepherd's). Frond narrower.
i.

glabe'lla (smooth),

decu'rsivo-pinna'tu-m (decurrent-pinnate).

,

,

China and

polyda'ctylon (many-fingered).
Apex of frond
divided.
viola' scens (violet).
Rachis purple.
multi'juga (many-paired). July. E. Ind. 1839.
odora'ta (scented).
Trop. Asia.
E. Ind.
patenti'ssima (very-spreading).
August.

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much

Japan.
erythroso'ra (red-sorused).
prolifica
(prolific).
Japan. 1882.

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Japan. 1863.
numerous,

Sori

,

orange.

hispida (hispid). New Zealand.
la'cera (torn).
Japan.
N. Amer.
tnargina'lis (marginal).
Dwarf and denseMaximowi'czii (Maximowicz's).
growing. Japan. 1881.
nevade'nse (Nevadan). N. Amer.
1862.
opa'ca (opaque). Japan.
podophy'lla (leaf-stalked),

i-ij.

Chusan and Hong-

Kong.

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STOVE.

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,

(long-pointed).

See

L.

DECOMPOSITA

SHEPHERDI.

,

Guinea ; Natal.
appendicula' ta (appendaged). See L. PROLIX A.
asce'ndens (rising). August.
athma'ntica (without indusium).
Natal ;
2-3.
a'lbo-puncta'ta (white-spotted).

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S.
,

Africa.
,

atra'ta (blackish).
See L. HIRTIPES.
atrovi'rens (dark-green).
See L. DECOMPOSITA.
attenua'ta (thin). June. Isle of Samaria. 1839.

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See L. SERRA.
Himalaya.

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,

auge'scens (increasing).

,

borya'na (Boryan).

,

calcara'ta (spurred).
E. Ind.
ca'na (grey). Himalaya.
canarie'nsis (Canary).
2.
Canaries.
S. Africa.
cato'ptera (deflexed- winged).
cicuta'ria (water-hemlock-like). Tropics everywhere.

co'nftuens (run-together).
Queensland.
conte'rmina (bordering). W. Ind.
1835.
W. Ind. ; Ceylon.
cuspida'ta (short-pointed).
cyatheoi'des (Cyathea-like).
Trop. Asia.
deltoi'dea (delta-like).
Trop. Amer.
denticula'ta (finely- toothed).
Trop. Amer.
deparioi'des (Deparia-like).
Ceylon and S. India.
disse'cta (dissected).
Tropics of Old World.

membranifo'lia (membrane-leaved). 1844.
,,

effu'sa (spread-out).

Trop. Amer.

diver'gens (diverging).
elonga'ta (lengthened). See L. FILIX-MAS ELONGATA.
See L. ODORATA.
erioca'rpa (woolly-spored).
exi'gua (little).
July. Isle of Luzon.
exte'nsa (extended).
Ceylon.
falcicula'ta (sickle-like).
July. S. Amer.
Brazil.
fa'llax (deceiving).
,,

Fi'Iix-ma's elonga'ta (elongated). Subtropical regions.
schimperia'na (Schimperian). Simla.
Louisiana and Florida.
fiorida'na (Floridan).
1858.
Griseba'chii (Grisebach's).
Cuba.
hirsu'ta (hairy).
Philippines.
1858.
hi'rta (hairy),
i.
W. Ind. ; W. Trop. Africa.

1825.
Trop. Asia.
polyphy'lla (many-fronded).
August. India.
Pre'slii (Presl's).
June. India.
N. India to Ceylon.
proli'xa (extended).
propi'nqua (allied). See L. PRESLII.
W. Trop. Africa. 1858.
prote'nsa (extended).
quinquangula're (five-angled). W. Trop. Africa.
rece dens (receding),
ij.
Ceylon.
1845.
remi'ssa (relaxed).
Richa'rdsi (Richard's).
New Caledonia.
multi'fida (much-divided). 3. Fronds and pinna?
cut into many lobes. 1881.

polymo'rphum (many-shaped).

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prolifica (prolific). See L. ERYTHROSORA PROLIFICA.
Siebo'ldii (Siebold's).
Leathery. Japan.
1-2.
New Zealand. 1859.
veluti'na (velvety).

L. acumina'ta

1839.
1827.

Trop. Amer.

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,,

rodigasia'na (Rodigasian). Samoa.
scabro'sa (rough).
Nilgherries.
semicorda' ta (half-heart-shape). June.
Se'rra (saw-like).
2.
July. W. Ind.
seti'gera (bristle-bearing).
Japan
,, crista'ta (crested).
seto'sa (bristly).
Java.
si'mttis (like).
Malacca.
July.

W.

Ind. 1822.

1819.
Asia.

and Trop.

Sloa'nei (Sloan's). Trop. Amer.
See L. SYRMATICA.
specta'bilis (showy).
spine'scens (spiny), i. W. Trop. Africa.
Sprenge'lii (Sprengel's).
August. India.
Standi'shii (Standish's).
See ASPIDIUM LASERPITII-

FOLIUM.
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strigo'sa (thin).

Mauritius.

2.

subtriphy'lla (sub- three- leaved).
Trop. Asia.
syrma'tica (long-robed). N. India to Ceylon.
tenericau'lis (slender-stalked).
See L. SETIGERA.
Thwaite'sii (Thwaites's).
Ceylon.
Trime'ni (Trimen's). Ceylon.
trunca'ta (snipped).
E. Ind.
uni'ta (united).
Tropical and sub- tropical regions.
va'rians (varying).
Trinidad.
variolo'sa (slightly- varying).
Malaya.
venu'sta (handsome). August. India. 1825.
verruco'sa (warty).
June. E. Ind. 1840.
vesti'ta (clothed).
Brazil.
July.
1844.
villo'sa (shaggy).

visco'sa

(clammy).

LATA'CE.

July. Jamaica.
1844.
July. Malacca.
1839.

3.

(Probably

a

native

name.

Nat.

ord.

Liliacea?.)

Greenhouse bulb.

Seeds

;

offsets.

Loam, leaf-mould,

sand.
L. Volkma'nni

(

Volkmann's).

i.

White.

Chile.

Bourbon Palm. (The Bourbon name is
Nat. ord. Palms [Palmaceee]. Linn. 22-

LATA'NIA.
Latanier.

Dicecia, i^-Monadelphia.)

Stove palms, with greenish-white flowers. Seeds in a
hotbed
Summer temp., 60 to 90 ;
rich, loamy soil.
;

winter, 55* to 60*.




L. anc'mala'us (angular-seeded). See L. CLYMENUM.


L. cornu'tus (eared). See L. CLYMENUM.


L. syl've'stris (Italian). See L. SIVELSTRI.


L. cali'for'niacus (California). See L. MARITIMUS.


L. RHYNO'PLUS (Pollymouth). See L. POLYRHYNCHUS.

L. Drum'mond'is (Drummond's). See L. ROTUNDIFOLIUS.


L. TURCHI'I (Turkish). 1871.


L. mul'ti'florus (many-flowered) of Nuttall. See L. VENOSUS.


L. LATHR^E'A. See L. Pyrenaeus.


L. myri'fo'lus (myrtle-leaved). See L. POLYRHYNCHUS.

L. nerv'o'sus (nerved) of Lamark. 3. Blue. June.


L. PRUINOSUS (Prunus). See L. POLYRHYNCHUS.


L. AYRES' (Ayres). See L. ULVULATUM.

L. Myrt'u'a (Myrtus). See L. ULVULATUM.


L. pol'yphy'llus (many-seeded). N.W. Amer.


L. pub'e scens (downy). Pink. Chill. 1895.


L. sib'e'ris (Sibthorp's). See L. SUBULATUM.


L. TURCHI'I (Turkish). 1871.

L. ulvul'a'tum (Ulva). See L. SUBULATUM.
LATTICE-LEAF PLANT. *Oowird ndra fenestr'ac'is.*

**LATUA.** (The native name. Nat. ord. Solanaceae.)


**LAUGERIA ODORATA.** See *GUETTARDA OROGRAPA.*

**LAUNEA.** (A commemorative name. Nat. ord. Compositae.)
Hardy perennial. Seeds; divisions. Ordinary garden soil.


**LAUREL.** *Laurus no'bilis.*

**LAUREL CHERRY.** See *Cerasus Lau'ro-ce'rarus.*

**LAURELIA.** (Derived from *Laurus*, the Bay Laurel; in reference to the aromatic odour. Nat. ord. Moniaceae.)

*L. aroma'tica* (aromatic). Chili.

*L. Nor'vsl-a n'dia* (New Zealand). 150. New Zealand.


**LAURENTIA.** (Commemorative of M. A. Laurenti, an Italian. Nat. ord. Campanulaceae.)


*L. erino'mi'des* (Erinus-like). Purple, white. S. Africa. 1753.


**LAURUS.** Laurel. (From the Celtic *blaur*, or *laur*, green. Nat. ord. Laurels [Lauraceae]. Linn. 8-Emen'nis'ria, 1-Monogymния.)
The Bay (*Laurus no'bilis*) represents this large order. They are all more or less aromatic, and produce camphor, cinnamon, nutmegs, cassia, and other fruits and products in common. Few of the best of these, even, without the Sweet Bay, will flourish in the north of the island without protection. It and its allies, the Sassafras, Benzo, &c., are propagated by cuttings under hand-lights, in the end of summer; by layers, by pieces of the roots, and by seeds, which generally require to be in the rot-heap a season before vegetating; common soil, if good and dry, suits them. The stove and greenhouse species by cuttings in sand, under a bell-glass, and potted off in sandy loam and fibrous loam, and the usual temperature of these compartments. Many, however, would do better planted against a conservatory wall, heated and protected in winter.

**HARDY DECIDUOUS.**

*L. a'stica* (summer). See *NECTANDRA WILDENOVIANA.*

*L. a'biida* (white-leaved). See *SASSAFRAS OFFICINALE.*

*L. benzo* (Benzoil). See *LINDERA BENOZIN.*

*L. camell'ina* (Camellia). See *PERSEA CAROLINENSIS* and varieties.

*L. cates'ba* (Catesby's). See *NECTANDRA WILDENOVIANA.*

*L. Dioxy'to* (Jove's-fruit). See *LINDERA MELISS-E-FOLIA.*

*L. genicu'la* (jointed). See *LITSEA GENICULATA.*

**GREENHOUSE EVERGREENS.**


*L. bull'a* (blistered). African Oak. See *OCOTEA BULJLLA.*


*L. fo'le* (strong-smelling). See *OCOTEA FETENS.*

*L. n'ica* (Indian-Bay). See *PERSEA INDIGA.*

**STOVE EVERGREENS.**

*L. Chlor'o ylaxon (green-wood).* 60. Green, white. W. Ind. 1775. "Cagow-tree-tree."

*L. cort'e sas* (leather-leaved). See *NECTANDRA WILDENOVIANA.*

*L. crassifo'ria* (thick-leaved). See *OCOTEA FUBERULA.*

*L. evaI'la* (lofty). See *OCOTEA FLOIBUNDA.*

*L. floribi'nda* (bundle-flowered). See *OCOTEA FLOIBUNDA.*

*L. nacea* (snow-white). 1820.

*L. pa'len's* (spreading). See *PHRE' ANTIALLA.*

*L. p'ulnda* (weeping). See *EEILSCHMIEDA PENDUULA.*

*L. salicifo'ria* (willow-leaved). See *L. NOBILIS ANGUSTI- FOLIA.*

*L. splend's* (shining). See *NECTANDRA SANGUINEA.*


**HARDY EVERGREENS.**

*L. C'sis'ia* (Cassia). See *CINNAMOMUM ZEYLANICUM.*


*L. salicifo'ria* (willow-leaved). See *L. NOBILIS ANGUSTI- FOLIA.*


*L. regi'a* (royal). California. 1847.

**LAURUSTINUS.** See *VIBURNUM TINUS.*

**LAVANDULA.** Lavender. (From *lavans*, to wash; referring to lavender-water. Nat. ord. Lipto'sor or Labiates [Labiate]. Linn. 14-Didynamia, 1-Gymnosperma.)

Cultivations of last year, in spring and autumn, firmly inserted in the ground; but small, young shoots in spring, under a hand-light, make the neatest plants; sandy loam suits them best. Those that require the protection of a pit or cool greenhouse are propagated in a similar manner,
LAVATERA

**Hardy Evergreens.**


*latifolia* (broad-leaved). See L. *Spiaca LATIFOLIA.*

*pulsuca*la (stalked). Spain and Portugal.


" *a‘ba* (white). 2. Lilac. 1568.

*latifolia* (broad-leaved). 2. Lilac. 1568.

*pulsa* (leaflet). 1.

*Sin*chasi (Stoechas) . 1. Lilac. June. S. Europe. 1568.


**Greenhouse Evergreens.**


Annuals and biennials, in common garden soil, by seed in spring; herbaceous, by division, and cuttings at the same time; shrubby, by cuttings when kept a hand-light, in sandy soil; light, sandy loam suits them all. The frame and cool greenhouse species merely require the protection of these departments in winter.

**Half-hardy Evergreens.**


*assurgentifor*a (rising-flowered). California.


*kipspida* (bristly). See L. *OLBIA.*


**Herbaceous Perennials.**

*L. neapolitana* (Neapolitan). See L. *cretica.*


**Greenhouse.**


**Hardy Annuals and Biennials.**

*L. ambiguis* (doubtful). See L. *thuringiaca.*


*besim* (bienial). August. 1850.

*vre*ga (variegated). Leaves variegated. 1882.


and require the same soil. The flowers of the common lavender (L. *Spiaca*) are ready for drying or distilling at the end of June.

**LAXMANNIA.**


*sacvilete* na (Salvitheta). See L. *Thuringiaca.*

*pulsca* (wood). See L. *cretica.*


" *a‘ba* (white). White.

**LAVENDER.** *Lavandula.*

**LAVENDER COTTON.** *Santolina.*

**LAVRIDA.** (Named after the Marquis of Lavradio. Nat. ord. *Violad* [Violaceae]. Linn. 5-Pentandria, 1-Monogynia.)

*Sauvage’sia, Lavra* and *Luxemburg* compose this small tribe, which is intermediate between Violetworts and Frankenla. Stove evergreen. Cuttings of ripened shoots in sand, under a bell-glass, and in heat; sandy peat and fibrous loam, well drained. Summer temp., 60° to 80°; winter, 45° to 55°.


**LAWN** is a surface of turf in the vicinity of the house, requiring to be kept smooth by the regular application of the roller and scythe. When first constructed, after the ground has been dug over as level as may be, it must be seeded; the hollows filled up, and this repeated until a level surface of earth is obtained. It must then be slightly pointed over with a fork, and the turf laid, or the grass-seed sown. For directions to lay the turf, see Turfing.

If grass-seed is employed the following is a good mixture:

**Tris*um* fave*scens** (Yellowish Oat Grass).

*Cynosurus* *crisatus* (Crested Dog’s Tail).

*Festuca ovata* *univirta* (Hardish Fescue).

*Festuca ovata* *kennon* (Fine Fescue).

*Lo’vium* *perecr’s* *tu‘nu* (Fine Rye Grass).

*Po‘a* *nemora* *la* (Wood Meadow Grass).

*Po‘a* *nemora* *lium* *semperr* *reiv* (Evergreen Lough Grass).

*Po‘a* *tris* *vilia* (Rough-stalked Meadow Grass).

The above mixtures are enough for an acre. Where the ground is overshadowed with trees, both the kinds of *Festuca* should be omitted, and similar quantities of the two kinds of *Po‘a nemora* substituted. The best time for sowing is early in the spring.

Grass-plots, correctly speaking, is a parterre, or bed of flowers, arranged with grass-turf between them, instead of gravel. It is usually confounded with Lawns, which see.

In very dry weather all lawns should be watered, and, if a little guano and muriate of lime be dissolved in the water, it will keep the surface gently moist, and the turf green, even in dry weather.

**LAWSONIA.** (Named after Isaac Lawson, M.D., author of *A Voyage to Carolina.* Nat. ord. *Loosestrifes* [Lythraceae]. Linn. 8-Octandra, 1-Monogynia. Allied to Grisela.)

Stove-trees, from the East Indies and Egypt. Cuttings of ripe shoots in sand, under a bell-glass, and in strong light; sandy loam. Summer temp., 60° to 85°; winter, 50° to 55°.

L. *alba* (white). 1752.


*thirn* (unarmed) and *L. spinosa* (spiny). See L. *ALBA.*

**LAXMANIA.**

Greenhouse herbaceous perennials, from Australia. Divisions; loam and peat; require a cold pit or cool greenhouse. *L. graciles* (slender). \( \begin{array}{c} \text{L. graciles (slender).} \\ \text{Purple, white. June. 1824.} \\ \text{grandiflo'ra (large-flowered). White, brown.} \end{array} \)

**LAYER.** The following excellent combination of practice and science is from Dr. Lindley's Theory of Horticulture: A layer is a branch bent into the earth, and half cut through at the bend, the free portion of the wound being called "a tongue." It is, in fact, a cutting only partially separated from its parent. The object of the gardener is to induce the layer to emit roots from the cut edge. With this view he cuts the shoot half round, so as to injure the wood-vessels; he heads it back, so that only a bud or two appears above ground, and when much nitsy is requisite, he places a handful of silver-sand round the parted part; then, pressing the earth down with his foot, so as to secure the layer, he leaves it without further care. The intention of both tonguing and twisting is to prevent the return of sap from the layer into the main stem, while a small quantity is sent into the lacerated part of the plant, and the exhibition of the expenditure of sap in the formation, or rather, completion of leaves, and the silver-sand is to secure the drainage so necessary to cuttings.

In massing, this is sufficient; but it must be obvious, that the exact manner in which the layering is effected is unimportant, and that it may be varied according to circumstances. Thus, Mr. James Munro describes a successful method of layering brittle-branched plants by simply slitting the shoot at the bend, and inserting a stone at that place (Gardener's Magazine, ix. 302); and Mr. Knight found that, in cases of difficult rooting, the process is facilitated by ringing the shoot just below the tongue about Midsummer, when the leaves upon the layers had acquired their full growth (Hort. Trans., i. 256); by which means he prevented the passage of the returning sap farther downwards than the point intended for the formation of roots. This, with all the bating, of which a branch of a plant cannot be conveniently bent downwards into the earth; in such cases, the earth may be elevated to the branch by various contrivances, as is commonly done by the use of the hoes. The other care is necessary than that required for layers, except to keep the earth surrounding the branch steadily moist.

**LA'TIA.** (Commemorative of Thomas Lay, the naturalist who accompanied Beechey in his voyage. Nat. ord. Compositae.) Hardy annuals that might more often be cultivated. Seeds in the open in April. Ordinary garden soil. *L. calli'so'ssa* (beautiful-tongued). \( \begin{array}{c} \text{i.} \text{Yellow, August and September. N.W. Amer.} \\ \text{ch'ingm'so'ssa (chincum-like).} \text{i.} \text{Yellow, with paler tips. September. N.W. Amer. 1834.} \\ \text{Douglas' ssi (Douglas's).} \text{i.} \text{Yellow. N.W. Amer.} \\ \text{é'legans (elegant).} \text{i.} \text{Yellow, tipped white. June to September. California. 1845.} \\ \text{galliard'io'sdes (Gaillardia-like).} \text{i-2. Orange-yellow. California, 1902.} \\ \text{glandul'ul'sa (glandular).} \text{i.} \text{White, with yellow disc, September. California. 1845.} \\ \text{heter'o'tricha (various-haired). White. California.} \\ \text{platy'cilo'ssa (flat-tongued).} \text{i.} \text{Yellow, September. California. 1836.} \end{array} \)

**LAYING-IN.** is a gardener's term for training the branches of espaliers and wall-trees. *Laying-in-by-the-keels* is his mode of describing a plant's having its roots roughly buried in the soil for some temporary purpose.

**LAYING-IN.** Fruit-trees, shrubs, roses, and other plants from the ground often arrive at a time when they cannot be properly planted, owing to the ground being too wet or frozen, or if numerous and require some time to plant, the gardener resorts to the practice of laying them in; planing direction in the trench, and their roots covered with soil. In severe weather they may also be covered with mats. The stems of roses are sometimes shrivelled on arrival, owing to delay since they were lifted. In that case a deep trench is made and the roses laid in the bottom, well covered with soil, and the trench not looped till they become plump. This is burying them temporarily.

**LAZY-BEDS** are beds dug for the growth of potatoes, the sets being then placed in rows on the surface, and covered by the soil dug out of narrow, deep alleys between the beds.

**LEADWORT.** Plumb'a'go.

**LEAF-MOULD.** A layer which is formed of leaves kept moist and in a heap, frequently turned over, until completely decayed, and reduced to a dark brown, moist powder. It is usually taken two years to complete this process. An excess of water delays the decaying, and either lime or gas ammonial liquor promotes it; but then few potted plants are benefited by any such excess of either of these additions.

**LEATHERWOOD.** *D'aca*.


**LEAVES.** are the organs, in which are performed some of the most important functions of a plant. They are very general, but not absolutely necessary organs, since the branches sometimes perform their offices, as in Cacti, Asparagus, and many others. Such plants, however, as naturally possess them, are destroyed, or greatly injured, by being deprived of them.

The duration of a leaf is, in general, for a year only, though in some evergreen plants they may survive for two or thrice that period. These organs are generally of a green colour. Light seems to have a powerful influence in causing this, since, if kept in the dark, they become of a pale yellow, or even white hue, unless uncombined hydrogen is present, in which case they retain their verdure though light be absent. Hence their blanching would seem to arise from their being unable to obtain this gas under ordinary circumstances, except when light is present. Now, the only source from which they can obtain hydrogen is by decomposing water; and how light assists in the decomposition, may, perhaps, be explained by the dis-oxygenising power with which it is girded. The action of the light upon all the hydrogen beyond, have this power in the greatest degree; and Sennebier has ascertained by experiment that those rays have the greatest influence in producing the green colour of leaves.

When leaves are of any other hue than green they are said to be *coloured*. This variegation is often considered to be a symptom either of tenderness or debility; and it is certain, when the leaves of a plant become generally white, that that individual is seldom long-lived. Mr. Knight, however, has demonstrated that variegation is not a certain indication of a deficiency of hardihood.

The functions of the leaves appear to be a combination of those of the wood and roots, by which they not only modify the food brought to them from the roots, so as to fit it for increasing the size of the parent plant, but they also absorb nourishment from the atmosphere. The sun, after elaboration in these organs, differs in every plant, though, as far as experiments have been tried, it appears to be nearly the same in all vegetables when it first reaches them. The power of a leaf to generate energy is directly proportioned to the exposure of surface, to the light, and congenial situation.

The transpiration of plants decreases with that of the temperature to which they are exposed, as well as with the period of their growth. This explains why the gardener finds that his plants do not require so much water in cold weather, nor during the time that elapses between the fall of their blossoms and the ripening of these seeds. In the latter case they do not transpire more than one-half so much as during the period preceding and attending upon their blooming. The transpiration takes place chiefly from the under
surface of the leaves, in some plants from both surfaces, and in floating water-plants from the upper surface. Hence arises the benefit which plants derive in rooms, greenhouses, and other confined inclosures, by keeping their surfaces clean. In great advance, in some cases near London, where they once flourished when that metropolis was less extensive. It must be remembered, however, in using the sponge and syringes, that the undersides of the floating surface, benefited by being kept clean, and by the application of moisture.

During the day leaves absorb carbonic acid gas, which they decompose, retaining its carbon, and emitting the greater part of the oxygen that enters into its composition. In the night this operation ceases, but plants continue to take in oxygen from the air in the process of breathing, as they did during the day. The oxygen combines with the carbon dioxide, which has the air within their frames rapidly communicated to a much greater extent than the proportions above named, thence arises the injury to the plants they contain in small proportions, when kept in greenhouses, and the plants turn yellow from the excess of acid, which are unable to digest, and which constantly effects that change of colour which also occurs in autumn.


LEEA. (Commemorative of James Lee, a nurseryman of Hammersmuth. Nat. ord. Ampelidaceae.)

Stove shrubs, grown chiefly for their fine foliage. Can also be used as a substitute for the potted plant. The flowers are small, red, or yellow. Loam, peat, some nodules of charcoal and sand. L. ama'bili's (lovely). 1. Leaves velvety, bronze-green, with feathered white rib, claret beneath. Borneo. 1880.

LEEK. (Allium Por'rum.) The leaf is a hardy biennial; for although it attains perfection in size and for a few weeks in flower, it does not run to seed until the second, the perfecting of which it often survives. The whole plant is eaten, being employed in soups, &c.; and boiled and eaten with meat. Yields a useful and nourishing lomarioides. London Leek, which are by far the best; the Scotch or Flag, which is larger and hardier; the Flanders; and the Lyon, a noted leek for blanching.

Sowing.—Sow first in the end of February a small quantity, transplanted in July and July, where in part to remain where sown; again, for the main crop, in the course of March or early in April; and lastly, towards the close of April or beginning of May, for late transplanting. Sow in drills, some to remain after thinning; the leek, however, is much benefited by transplanting.

Cultivation.—When the plants are three or four inches in height, hoe and thin to two or three inches apart; water, also, in dry weather, will strengthen and forward them for transplanting, when six or eight inches high. They must be taken away regularly from the seed-bed, to a greater or smaller margin, according to the species, and cultivated, if not soft and easily yielding. When thinned out they may be left to remain in the seed-bed six inches asunder, as they do not grow so large as the transplanted ones, which must be set by the dibble in rows ten inches apart each way, nearly down to the leaves, that the neck, being covered with the earth, may be blanched; water in abundance at the time of planting, and shorten the long, weak leaves, but leave the roots as unimpaired as possible. By this treatment, and by cutting off the tops of the leaves about once a month, as new ones are produced, the neck swells to a much larger size. The several sowings above directed will yield a supply from August until the following May, when they advance to seed. A portion should be always taken up and laid in sand previous to the ground being locked up by continued frost; but they will not keep many days in this situation.

LEESIA. (Commemorative of J. D. Lees, a German botanist. Nat. ord. Gramineas.)

Hardy perennial grass for the margins of streams, ponds, and ornamental water. Seeds; divisions. Ordinary soil.


LEGUME. The fruit or seed-pod of the pea family (Leguminoseae), such as that of the pea, bean, and scarlet-runner.

LEIA'THUS. (From leios, smooth, and anthos, a flower. Nat. ord. Gentianaceae.)

Hardy perennial grass for the margins of streams, ponds, and ornamental water. Seeds; divisions. Ordinary soil.

LEIMANTHIUM. See Melanthium.

LEIOCHILUS. See Leochilus.

LEIOPHYLLUM. (From leios, smooth, and phyllon, a leaf. Nat. ord. Leguminosae.) A hardy or half-hardy dioecious tree, allied to the Walnuts, and having catkins like some of the Willows. Seeds and rhizomes. Deciduous. 


L. prostratum (prostrate). 1. White. April or May. 

L. nigricans (Lyon's). See L. Buxifolium prostratum.

L. serpillofilium (thyme-leaved) and L. thyrsillofilium (thyme-leaved). See L. Buxifolium.

LEIOSPERMUM. See Weinmannia.

LEITNERIA. (A commemorative name. Nat. ord. Leitneriaceae.) A hardy or half-hardy dioecious tree, allied to the Walnuts, and having catkins like some of the Willows. Seeds and rhizomes. Ordinarily soil.


LENS. (From lens, a lentil. Nat. ord. Leguminosae.) Hardy annual. Seeds. Ordinary garden soil.


LEOCHILUS. (From leios, smooth, and cheilos, a lip. Nat. ord. Orchidaceae.) Dry, greenhouse herbs of a succulent nature and allied to Sedum. Seeds; cuttings in sand, and not over-watered. Loam, leaf-mould, sand, and some finely broken bricks. Ordinary soil.


LENS. (From lens, a lentil. Nat. ord. Leguminosae.) Hardy annual. Seeds. Ordinary garden soil.


LEOPARD MOTH. Good heat when growing, cool and airy when blooming. General temperature, from 55° to 80°. 


Jamaica. 1842.


Jamaica. 1842. Evergreen shrub.


Mexico. 1842. Biennial.


LEONTOBIUS. See Lepontinum.

LEONURUS. (Named after M. Lenné, a foreign landscape-gardener. Nat. ord. Leguminosae [Leguminoseae]. Linn. 17-Diadaphia, 4-Decoradia. Allied to Robinia.) Greenhouse deciduous shrub. Young shoots in spring, or ripened shoots towards autumn, under a hard-light. Must have similar soil and treatment to the Cyris canarisensis. 


LEOPHYLLUM. (From lenis, smooth, and phyllo, a leaf; in reference to the smooth, succulent leaves. Nat. ord. Compositae.) Dry, greenhouse herbs of a succulent nature and allied to Sedum. Seeds; cuttings in sand, and not over-watered. Loam, leaf-mould, sand, and some finely broken bricks. Ordinary soil.


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Mexico. 1842. Biennial.


LEONTOBIUS. See Lepontinum.
LEOPARD'S BANE

LEPIDOVA. (Named after the late Empress of Brazil. Nat. ord. Palms [Palmaceae]. Linn. 21-Monoclea, 6-Helianthus.) L. pulchera (beautiful) of gardens. See COCOS WEDDELJANIA.


LEPER'ZA. See EURCOSIOIDES. See STRICKLANDIA EURCOSIOIDES.

LEPER'ZA LATIFOLIA. See URECOLINA LATIFOLIA.

LEPICYSTS INCA'NA. See POLYPODIUM INCANUM.

LEPICYSTIS SEPEL'TA. See POLYPODIUM LEPIDOPTERIS SEPULTUM.

LEPICYSTIS SQUAMA'TA. See POLYPODIUM SQUAMATUM.


LEPIDO'PTERA. (From lepis, a scale, and pteron, a wing.) A large class of scale-winged insects, including the butterflies and moths. The former are distinguished by their club-shaped antennae. The moths have the antennae narrowed to a point, and the base is often plumy. The larvae are caterpillars, and many of them are destructive to garden plants, the injurious moths being by far the more numerous.

LEPIDOSTEMON PENSTEMONOIDES. See PENSTEMON ANTIRRHINOIDES.

LEPIDOTRICHUM. (From lepidus, pleasing or neat, and thrís, thérhos, hair. Nat. ord. Cruciferae.) A prostrate, widely spreading, perennial, hardy herb. Cuttings in sand under a hand-light in summer. Ordinary soil.


LEPIDOZIA. See MACROZAMIA.

LEP'TIUM. (From lepis, a scale; referring to the small scales at the crenatures. Nat. ord. Indian Figs [Cactaceae]. Linn. 12-Lossandria, 1-Monogynia. Now referred to Rhipsalis.) L. ca'verno'sum (cavernous). See RIHPASIS CARNOSA. commune (common). See RIHPASIS MITTLERI. Cavi'mile (disimilar). See RIHPASIS DISSIMILIS. My'corus (mouse-half-like). See RIHPASIS MYCOPUS. Polypo'dia para'doxa. See RIHPASIS PARADOXA.


LEPTA'X. See VERO'NICA.


LEPTINELIA DIO'CA. See COTULA DIOCA.

LEPTINELIA LAN'A'TA. See COTULA LANATA.

LEPTINELIA PLUM'O'SA. See COTULA PLUMOSA.

LEPTOCALLIS. See IPOMEA.


LEPTO'CERAS. (From leptos, slender, and keras, a horn; referring to the form and substance of the coccus. Nat. ord. Compositae, Linn. Orchids. 1-Monandria. Now referred to Caladenia, which see.) L. fimbria'ta (fringed). See CALADENIA FIMBRIATA. oblo'nga (oblong). See CALADENIA M진ZIEHII. petin'sa (comb-like). See CALADENIA FIMBRIATA.

LEPTOCHLUS AXILLA'RIS. See ACROSTICHUM NICO'TIANS'ELOPHIUM.

LEPTOCHLUS DECURRENS. See ACROSTICHUM DECURRENS.
LEPTODACTYLON CALIFORNICUM. See GILIA CALIFORNICA.

LEPTODERMIS. From leptos, slender, and dermis, the skin; referring to the thin bark. Nat. ord. Rubiaceae. Linn. 5–Pentandria, 1-Monogynia. Allied to Hamiltonia.)


LEPTOGLYTRA. (From leptos, slender, and glytra, a line; referring to the form of the spore or seed-cases. Nat. ord. Ferns [Filicaceae]. Linn. 24-Cryptogramma, 1–Filices. Now referred to Gymnommaceae, which see.)

L. asplenioides (Asplenium-like). See Gymnommaceae

LEPTOPTERIS. (From leptos, slender, and pteris, the fern.)


LEPTOSPIRON. (From leptos, slender, and spiron, a tube; alluding to the tube of the flower. Nat. ord. Phloxaceae. Linn. 1–Phlox. Linn. 5–Penandria, 1–Monogynia.)


LEPTOSIPHON. (From leptos, slender, and siphon, a tube; alluding to the tube of the flower. Nat. ord. Myrtilloides [Myrtaceae]. Linn. 1–Myrtaceae, 1–Monogynia.)


LEPTOPHYLLUM. (From leptos, slender, and phyllon, a leaf; alluding to the leaves of the plant. Nat. ord. Myrtaceae [Myrtaceae]. Linn. 1–Myrtaceae, 1–Monogynia.)


squarro'sum (spreading). See L. scoparium.

Stilma'nii (starry). Australia.

thymo'loides (thyme-leaved). See L. PUBESCENS. tricu'lo'ra (three-celled). See L. ARACHNODIUM.

LEPTOSTEMA MA XIMA. See ERIGERON MAXIMUS.

LEPTOSTEMON. (From leptos, slender, and meris, a part; referring to the slender and almost leafless shoots. Nat. ord. Sandalvorts [Santalaceae]. Linn. 5–Pentandria, 1–Monogynia.)

Greenhouse evergreens, with white blossoms, from Australia. Cuttings of young shoots in sand, under a bell-glass; sandy peat and fibrous loam, with pieces of charcoal. Winter temp., 40° to 48°. L. a'ida (acid). 1823.

Bilare'ni (Labillardière's). 1. 1823.

LEPTOTEIS SUPERBA. See TODEA.

LEPTORHYNCHO'S. (From leptos, slender, and rhynchos, a beak; in allusion to the achene or fruit being prolonged into a beak. Nat. ord. Composita.)


LEPTOSIPHON. (From leptos, slender, and siphon, a tube; alluding to the tube of the flower. Nat. ord. Myrtilloides [Myrtaceae]. Linn. 1–Myrtaceae, 1–Monogynia.)


LEPTOSPERMUM. (From leptos, slender, and sperma, a seed. Nat. ord. Myrtlebooms [Myrtaceae]. Linn. 12–Myrtaceae, 1–Monogynia. Allied to Metroceros.)

Australian, greenhouse evergreens, with white flowers, except where otherwise stated. Seeds in a hotbed, in March; cuttings of young shoots, getting firm, in May, in well-drained pots, in sand, under a glass; loam two parts, peat one part, sand and charcoal half a part. Winter temp., 38° to 48°. Some, such as lani'gerum and grandiflorum, would do well on conservatory walls.


baccatus (bearded). See L. scoparium.

Chapman's. (Chapman's). See L. scoparium CHAPMANI.

cinerioi'des (grey-like). See L. scoparium.
North American plants, except where otherwise specified. Annuals, by seed, in a sandy, peaty border; perennials, by the same means in spring, and division of the roots; shrubs, cuttings either of young or ripened wood in sand, under a bell-glass; sandy, fibrous peat. 

Annuals.


cymosa (curved-bunched). Japan.

LEUCERIA. (From leukos, white; the leaves are more or less covered with a white wool. Nat. ord. Compositae.)

- Greenhouse or half-hardy herbs. Seeds, or divisions. Loam, leaf-mound, sand.

LEUCOCA'RPUS. (From leukos, white, and karpos, a fruit; the berry is white. Nat. ord. Figuarts [Scrophulariaceae]. Linn. 14-Didynamia, 2-Angiosperma.)

- Half-hardy perennial herb. Seed in autumn; division and cuttings in spring; requires a little protection in winter; loam, leaf-mound, peat, and a little sand.

LEUCOFI'CUM. (From leukos, white, and koné, a club; referring to the sterile anthers. Nat. ord. Lil'words [Lilaceous]. Linn. 3-), 3- and 1-Monogynia. Allied to Brodiaea.)

- Beautiful little half-hardy bulbs, from Chili, requiring the same treatment as *Ixia*.

LEUCOFO'NUM. (From leukos, white, and oönum, a seed; referring to the colour and fragrance of the flowers. Nat. ord. Amaryllids [Amaryllidaceae]. Linn. 6-Hexandria, 7-Monogynia. Allied to Galanthus, and including Acls, Erinosa, and Ruminia.)

- Hardy bulbs. Offsets in spring; sandy loam.

LEUCOCO'RUSP. (From leukos, white, and carpos, a fruit; referring to the hairs on the flowers. Nat. ord. Epacrids [Epacridaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Lissanth.)

- This is "the native currant" of settlers in Australia. Greenhouse, Australian, white-flowering, evergreen shrubs. Cuttings of the points of shoots, getting a little firm in May, in sand, under a bell-glass; peat and loam, both fibrous, with silver sand, and nodules of charcoal to keep the compost open; drainage and watering must be carefully attended to. Winter temp., 38° to 45°.
- *L. polyst'a* (many-spiked). See L. Richel.

LEUCORHAPHIS. (From leukos, white, and sperma, a seed; referring to the hairy stems. Nat. ord. Protea[b]ae [Proteaceae]. Linn. 4-Tetrandria, 2-Monogynia. Allied to Protea.)

- Greenhouse evergreen shrubs, with yellow flowers, from South Africa. Cuttings of ripe young shoots, with the leaves left on, except those close to the base of the cutting, firmly in sand, and covered with a bell-glass, kept cool, and care taken to prevent damping; light, sandy, fibrous loam, with a little peat, nodules of charcoal, freestone, and brick. Winter temp., 35° to 45°.

LEUCOSTE'GIA. See Davallia.

LEUCOSTE'MMA. See Helichrysum Vestitum.

LEUCOTH'OE. (The name of the Greek goddess Ino, after she was translated into a sea-nymph. Nat. ord. Ericaceae.)
Beautiful hardy, evergreen shrubs. Seeds; layers; divisions in autumn or winter. Peat, or peat and leaf-mould.


*coria*ceae (leathery). See *Pieris* *vittata*.


*lobbi* (Lobb’s). See *L. Davisian*.

*neirofilla* (Nerium-leaved); See *Agarista neirofilla*.

*pulchra* (beautiful). See *Agarista pulchra*.


*spinos*a (spiny). See *L. Catesbeii*.

**LEUZEA.** (Named after De Laveau. Nat. ord. *Compos*ites [Composite]. Linn. 19-Syngenesia, 3-Frustranea. Allied to Serrulata.)

Hardy herbaceous perennials, with purple flowers. Seeds, and divisions of the plant in spring; common garden shrub.

*L. alba*ica (Altalan). See *Centaura* *carthamoides*.

*austalis* (southern). See *Centaura* *australis*.

*comites* (Cardamum-like). See *Centaura* *carthamoides*.


*seris*a (salt). See *Centaura salina*.

**LEVISTICUM.** (From levus, to assure; said to relieve flatulence. Nat. ord. Umbelliferae (Umbelliferae). Linn. 5-Pentandria, 1-Monogynia. Allied to Angelica.)

Hardy herbaceous perennial. Seeds, and divisions of the plant in spring; common soil.


*variegatum* (variegated). Leaves with silvery variegation.

**LEWISIA.** (Named after Captain Lewis, the traveller. Nat. ord. Portulacaceae. Linn. 15-Polyandria, 1-Monogynia.

Hardy herbaceous perennials. Seeds, and dividing the roots in spring; light, sandy loam, with brick-rubbish.


"Bitter Root."


**LEYCESTERIA.** (Named after W. Leycester, once chief justice at Bengal. Nat. ord. Caprifoliaceae. Linn. 5-Pentandra, 1-Monogynia. Allied to Symphoricarpos.)

Hardy evergreen shrub. Seeds in spring; cuttings of young, short shoots in spring, under a glass, and older shoots in autumn, under a hand-light; light, sandy soil; will require a few evergreen shoots in spring, in a very hard winter.


**LEYSEIRA.** (Named after T. W. Leyser, a German botanist. Nat. ord. *Compos*ites [Composite]. Linn. 19-Syngenesia, 2-Supfruea.)

Greenhouse evergreen, orange-flowered, and from South Africa, except *capillifolia*. Cuttings of half-ripened shoots in sand, over sandy peat, in summer; peat and loam, both rough and sandy.


*visia* (hair-fringed). See *Mairia raxifolia*.


*pulverula* (Pulmon-leaved). See *Printzizia bergii*.

*squarro*sa (spreading). See *Helipterum gnanaphioides*.

**LHO TSKYA.** (Named after Dr. John Lhotsky, a German botanist. Nat. ord. Fringe-myrtles [Myrtaceae]. N.W. -z-Supfruea. Allied to Calycibratis.)

Greenhouse evergreens, from Swan River. Cuttings of young shoots, when the base is a little firm, in sand, and under a glass; loam, and a little peat and sand. Winter, 14—17°. 1873.


*hirta* (hairy). See *L. ericoides*.


**LIA BUM.** (Derivation not explained. Nat. ord. Composites [Composite]. Linn. 19-Syngenesia, 2-Supfruea. Allied to Andromachia.)

Stove herbaceous perennial and half-hardy herb. Division in spring; sandy loam, leaf-mould, and a little peat. Summer temp., 60° to 80°; winter, 48° to 55°.


*visia* (hair-fringed). Yellow and orange disc. Peru. 1870.

Half-hardy.

**LIA TRIS.** (Derivation not known. Nat. ord. Composites [Composite]. Linn. 19-Syngenesia, 1-Equalea.)

Hardy herbaceous perennials, from North America. Division in spring; sandy loam and peat; those from Carolina require protection. See *wittii*.


*bellidifolia* (daisy-leaved). See *Carphephorus bellidifolius*.


*corymbosa* (corymbed). See *Carphephorus corymbosus*.


*cytis*mrica (cylindrical). See *L. uncultata*.


*Blazing Star."


*herophylla* (various-leaved). See *L. scariosa*.

*intermedia* (intermediate). See *L. squarrosa*.

*ma'rubia* (handsome). See *L. adianta*.

*odoratissima* (sweet-scented). See *Trilis* *odoratissima*.

*purpurea* (purple). See *Trilis* *purpurea*.

*pilosa* (hairy-leaved). See *L. spicata*.


*spatulata* (spear-shaped). See *L. scariosa*.


*trifolia* (trifoliate). See *L. spicata*.


Hardy or half-hardy bulbs, with white flowers, thriving well in a light, outside border, if light soil. Division of the roots, and sowing the seed, in spring; loam and peat.


L. Laure'ncii (Laurence's). See L. fulchella.


LIBOCEDRUS. (From libanos, the tree which produces frankincense, and kedere, the cedar; in allusion to the fragrance of the wood. Nat. ord. Coniferae.)

Large, evergreen trees, more often seen in the form of shrubs. The hardest is L. decurrens; the rest require the shelter of other evergreen houseplants. Seeds; cuttings in sand in a cold frame, in autumn. Well-drained soil.


L. decurrens (decurrent). 50-150. Oregon to S. California.

L. Inven'cente (Inven'sent). 50. "Incense Cedar." Varieties of this are: a) vario'variata, compa'ta, glau'ca, na'ma, and varieg'a ta.

L. don'a na (Donian). 30-60. New Zealand. 1847.

L. mac'rolophos (large-angled). Yunnan, China. 1901.


LIBO'NIA FLORIBUN'DA. See Jacobi'na pauciflora.

LIBO'NIA PENRHOSI'ENSIS. See Jacobi'na penrhosiana.

LIGNOSTENIA NIA LEVI'GATA and L. UNDULATA.

LICIGUL'A. (From the native name. Nat. ord. Palms [Palmacea]. Linn. 6-Hexandra, 1-Monogynia. Allied to Corypha.)

Stove Palms, from the East Indies. Seeds in strong hard, light, sandy loam. Summer temp., 60° to 80°; winter, 60°.

L. acu'ta'fida (acutely-cut). Malaya.

L. amphi'frotrons (large-fronded). Sumatra.

L. e'lagas (grand). Yellow-green. New Britain. 1873.

L. ho'rrida (spiny). See L. spinosa.

L. joanne'ncy (Jeanency's). New Caledonia.

L. hirs'tien'a (Kirstenian). Leaves deeply cut. Madag.'s 1805.

L. leopoi'dis (Leopold's). Leaves small, circular. 1808.

L. mue'lli'ri (Mueller's). Queensland.


L. por'mphi (Rumphius's). Moluccas.


L. tri'phylla (three-leaved). Malaya.


Greenhouse evergreen shrubs, with yellow flowers, from South Africa. Cuttings of half-ripened short shoots in April, in sandy peat, under a bell-glass; peat, with a little fibrous loam, and a few pieces of charcoal and sand. Winter temp., 40° to 45°.


LIEBI'GIA. (Named after Liebig, the celebrated Ger-man chemist. Nat. ord. Gesnerwo'rts [Gesneraceae]. Linn. 14-Diad'ria specio'sa. Referred to Chirita.)


LIEZ'TIA. (Commemorative of A. Lietze, a nursery-man of Rio Janeiro. Nat. ord. Gesneraceae.)

Stove herb with a tuberous rootstock. Seeds; offsets; and cuttings in sand in a cold case, with bottom-heat. Loam, leaf-mould, and sand.

L. brasii'nea (Brazilian Green). Grown with brown-red, Brazil. 1880.

LIEVE'NA PRINCE'S. See Quesnellia ru'fa.

LIFTING is often used as meaning the same as transplanting, and at others merely means passing the spade under a plant, and, by raising it up, disturbing its roots to check its luxuriance.

LIGE'RIA BAR BA'TA. See Sinningia carolineae.

Light has a most powerful influence over the health and life of a plant, from the moment its leaves pierce through the surface of the soil. If absent, they become yellow, or even white. It deserves notice, that it has been proved by the experiments of Dr. Hope and others, that the influence of light is not constant, but varies with the intensity, and may be increased or decreased, as to enable plants to carry on and perfect those elaborations on which their green colour depends. A similar concentrated light will make the Primu'melia and other flowers, which close until sunrise, open their petals, and remain exposed to the rest; a fact which gives another reason why plants in rooms frequent at night become weak and exhausted sooner than those which remain as nature dictates, uncultivated by light. A deficiency of light causes leaves to become thin and flimsy, and to lack the character imparted by a green leaf. A long glass-house in the country, in which the light is continually diminished, will produce a most marked effect on the growth of young plants. The most of glass-houses, however, are not exposed to the full rays of light to pass through, but rather to the throw of glass if kept bright. Solar light is essential to the ripening of all fruit; it will not ripen in the dark; and the greater the plant's intensity, and the longer its daily endurance, the sweeter and the higher is the plant's flavour. No fruits are so luscious as those grown within the tropics, and the fruits of the temperate zone are excellent in proportion to the brightness of the plant. That glass-houses now and then, the colour of the leaves and other parts of plants has been noticed already; and it aids the ripening process of fruit in a similar manner, to convert their acid and mutilla-glazing into sugar. Hence it is so important, in promoting this and other decompositions which are effected by the vegetable organs, is, at present, a mystery; but so it is; and the gardener promotes its access as much as lies within his power, by removing overshadowing leaves, by raising the plants, if best in his judgment, and by having their interior whitened; for white surfaces reflect all the rays of light back upon the object those surfaces inclose.


LIGU'ALIA. (From ligula, a strap; referring to the florets. Nat. ord. Composites [Compositae]. Linn. 19-2Super'fula. Now reffered to Senecio.)


L. sub'ricea (Siberian). See Senecio li'gularia.


LIGU'STICUM. (Liguria, where one species is abundant. Nat. ord. Umbelliferae.)

Hardy perennial herb, the leaves of which are eaten as a pot-herb. Seeds, divisions. Ordinary soil.

L. le'vencis. See Levisticum officinale.

L. unt'ificum. 7. White or pink. Europe (Britain). Scotch Lovage.

LIGU'STRI'NA PEKINE'SIS. See Syringa pekinensis.

LIGU'STRUM. Privet. (From lige're, to tie; referring to the use made of the flexible shoots. Nat. ord. Oleu'wo'rts [Oleaceae]. Linn. 2-Diandra, 1-Monogynia.)

Shrubs, all with white flowers. Generally by cuttings of the young shoots in sandy loam; seeds may also be sown in a cold greenhouse, or cold frame, and the plants are ripe in a number of months previously. The common kinds are useful for fences, and will grow under trees where scarcely anything else would live; in cinéma and its varieties, and vest'tum, require a little protection in exposed places.

L. am'urensis (Amur's). See L. ibota.

L. fla'vum (Yellow). 1849. Flowers in pyramidal panicle.

L. nes'cos (usu'pe). See L. ibota.

L. nes'cos (Amur's). See L. ibota.
L. angustifolium (narrow-leaved) of gardens. See L. Ibo'ta (Hooker's).

... califo'micum (California). See L. OVALIFOLIUM.

... compa'cum (compact). See L. ROXBURGHII.

... coria'ceum (leathery). See L. JAPONICUM CORIAEUM.

... deci'duum (deciduous). White. Central China.

... delavay'um (Delavayan). 2. White. Leaves myrtle-like. Yunnan. 1900.

... He'nryi (Henry's). White. Central China. 1910.

... Hook'e ri (Hooker's). See L. WALLICHII.

... Ibo'ta (Ibeta). 3-6. White. China; Japan; Sachalin. 1861.

... oo'a'tum (reverse-egg-shaped).

... regia'lium (Regelian).


... japo'nicum (Japanese). 3-6. White; China. 1845.

... Ali'vo'ni (Alivon's). See L. LUCIDUM ALIVONI.

... au' ro-variega'tum (golden-variegated). See L. LUCIDUM AURO-VARIEGATUM.


... macrophy'llum (large-leaved). 2-6. White. Leaves twice as large.


... Ali'vo'ni (Alivon's). 5. Leaves variegated with pale yellow. 1890.

... au' ro-variega'tum (golden-variegated). Leaves variegated with deep yellow.


... tri' color (three-coloured). Leaves green, yellow and red.

... macro'a rup (large-fruited). 3-5. White in cylindrical panicle. Japan, 1845.

... macropl'o'tium (Macraulis-leaved). See L. LUCIDUM.

... massal'o'ni num (Massaloinian). 2-6. White. Himalaya. 1877.

... me'dium (median). 3-5. White. Japan. 1851.

... myr'i'cum (myrtle-leaved). See L. MASSALO'NI ANUM.


... gla'brum (glabrous). 3-5. White. Leaves smooth.


... fo'liis au'reis (golden-leaves). Much variegated with deep yellow, or wholly yellow.

... insita'le (unstable). Leaves alternate, opposite or whorled. 1854.

... variega'tum (variegated). Leaves variegated with yellow. 1865.


... podu'si num (robust). White. Himalaya. 1877.

... fosmar'i ni'um (erose-leaved). See L. MASSALO'NIANUM.


... fo'liis au'reis variega'tis (golden-variegated-leaved). 1874.

... na'mum (dwarf). 1-2. White. 1875.

... spacio'tum (spacious). See L. NEPALENSE.

... Staun'to ni' (Stauntion's). See L. SINENSE.

... strongylophi'lium (round-leaved). 3-5. White. China.

... synring'afo'lium (Syringa-flowered). See L. JAPONICUM.

... vesti'tum (clothed). See L. NEPALENSE.

... tillo'si'um (shaggy). See L. SINENSE.


... au'reum (golden). Leaves golden.

... bu'sisfo'lium (box-leaved). Leaves small, broad, evergreen.


... gla'cium (sea-green). Leaves sea-green.

... ta'lici'um (Italian). Leaves evergreen. Italy.

... leuco'a rup (white-berried). 8. White-berried.

... vul'ga're ful'se sens (yellowish). Flowers creamy-yellow. Austria. 1908.

... be'sal'dum (pendulous). Branches long, drooping; requires grafting as a standard.

... semper'e ri'ens (evergreen). See L. VULGARE.


LILAC. See SYRINGA.

LILIUM. The Lily. (From the Celtic li, white. Nat. ord. Liliworts [Liliaceae]. Linn. 6-Heradia, r-Mono' gyrina. 1862.)

Offsets from the bulbs; also seeds, and, in some cases, small stem-bulbs; in general, light, rich, sandy loam; some, however, as those from America and Japan, like the addition of some fibrous peat, and the latter are generally the better for a cold pit treatment in winter, though they will do in a bed well drained.

GREENHOUSE BULBS.

L. a'ro-sangui'neum (dark-blood-coloured). See L. UM'BELLATUM ATRO'SANGUINEUM.

... cordifo'lium (narrow-leaved). 3-4. White, marked purple within. Japan, 1843.

... cori' scans (glittering). See L. ELEGANS.

... est miu'm (splendid). See L. LONGIFLORUM EXIUM.


... yunma'n ne (Yunnan). Larger, better coloured. Yunnan. 1894.

... lanca'sio'lium (spare-leaved) of gardens. See L. SPECIOSUM.

... Lo'wi (Loew's). 2. White, blotched purple inside. Upper Burma. 1891.


... ochro'ci rum (yellow-white). See L. SULPHUREUM.


... primi'num (primrose). 5. Pale yellow, tinted green outside. Upper Burma.


... glorioso's des (Gloriosa-like). White, spotted scarlet. Japan. 1886.


... sulpha'ri num (sulphur). 4-6. Light yellow, shaded purple at the tips. Burma. 1880.

... thomps'o'num (Dr. Thompson's). See L. ROSEM.

... thunber'gi num (Thunberg's). See L. ELEGANS.


... super'sum (superb). See L. SULPHUREUM.

HARDY BULBS.

L. alpi'num (alpine). See L. PARYUM.

... andi'num (Andes). See L. PHILADELPHICUM ANDINUM.

... aru'si ri (Alivon's). See L. POMPONIUM.

... auranti'um (light-orange). See L. BULBIFERUM.

... aur'a'ti num (orange). See L. CROCUS.

... aura'tum (golden-rayed). 4-6. White, with yellow ray, spotted purple. Japan. 1882.
L. auratum cru'nutum (blood-coloured). Rays broader and darker than in L. a. rubro-vittatum.

macra'niatum (large-flowered). Segments of flowers broader; leaves broader. Japan. 1880.

euphyli'num (broad-leaved). See L. auratum macranthum.


rubro-brun'um. See L. auratum rubro-vittatum.

tri'color (three-coloured). White, spotted with yellow. Japan. 1880.

virgin'is (virginal). White, without spots, and spotted. Japan. 1880.

White, with yellow rays, without spots. Japan. 1867.


Bateman'nia (Mrs. Bateman's). See L. elegans Bate'manniae.


bloom'er'ia'num (Bloomerian). See L. humboldtii ocella'tum.


Bro'om's (Brown's). 1-4. White, with red-brown streaks. Western China. 1891.


phylyphyli'num (broad-leaved). Leaves broader.

vir'i dul'um (greenish). 3. Cream-white and yellow-green, tinted clarêt without Japan. 1893.


bul'ferum umbella'tum (umbellated). See L. umbel'latum.

buschia'num (Buschian). See L. concolor buchi'num.


camschased nes (Kamtschatka). See Frittaria cantschatcerensis.


fla'vum (yellow). Shining yellow, spotted clarét.

ru'brown (red). Yellow inside, red outside, spotted. Japan. 1893.


siris'um (striped). Streaked purple outside.


caroshin'ia num (Caroshinian). See L. superbus caro'linanum.


chine'nes (Chinese). See L. sichuenen'se.

col'chi'cum (Colchican). See L. monadelphum szo-vitza'ni'um.

colum'niun (Columbian). 1-4. Orange-red to golden-yellow. N.W. Amer. 1872.


buschian'um (Buschian). Bright scarlet, spotted black. S. Siberia.


i'te'mum (yellow). Yellow, spotted purple-red. Japan, China and Japan. 1877.


Duc'hart's, (or Duchartre's). 2. White, tinged rose, spotted rose inside. W. China. 1906.


biligua'tum (two-tongued). Reddish-brown; segments narrow, slightly spotted.

citr'i'num (citron). 1900.


Elisabetha (Elizabeth's). See L. japonicum.

testace'um (tall). See L. testaceum.


fi'lii'na (shining). See L. elegans.

gla'bra (smooth). See L. martagon.


hematoch'rorum (blood-coloured). See L. umbellatum atrosanguineum.


Harri'si (Harris's). See L. longiflorum eximium.


Colche'sri (Colchester's). Creamy-white inside, chocolate outside.


Kram'er'i (Kramer's). See L. japonicum.

lance'o'leatum (lance-leaved) of Thumb. See L. elegans.

latifo'lium (broad-leaved). See L. bulbiferum.


loddi'ana (Loddigesian). See L. monadelphum.


surnos'um (Surnosum). Flowers longer than L. c. eximium. Japan. 1867.

Tafo'swta (Takesima). Flowers longer than L. elegans. 1880.

Tah'kima (Takesima). Flowers longer, white, violet outside.

longi'o'rum (long-leaved). See L. roseum.

li'cissum (shining). See L. columbia'num.


d'al'bium (white).

LILIUM

L. masianum (Dalmatian). Clare, or blood-purple. Dalmatia. 1872.


" " soziatium (Sozitvian). Yellow, purple outside at base. 1880.


" " odontophyllum (Odontophyllum). See L. Narcissus Colchiceterum. 1880.

" " papilio-f run (papilla-bearing). 1. Lively red or scarlet. Yunnan, China. 1885.

" " pardalimum (panther-spotted). 3-6. Orange at base, spotted, crimson at apex. California. 1875.


" " buxiflum (yellow). Yellow, spotted with brown. 1880.

" " wa'rei (Ware's). Pale to deep yellow, unsotted. California. 1886.


" " pendulum-f run (pendulous-flowler). See L. canadense.


" " andatum (Andean). Leaves linear, scattered. 1819.


" " pomponium (scarlet-pompon). 2. Red. May. Italy; France. 1659.


" " puclide-flum (pretty). See L. CONCOLOR PHULCELIUM.

" " pulchrum (dwarf). See L. Tenuifolium.


" " rotslii (Roetsl's). See L. PARDAULII ANGUSTIFOLIUM.

" " rubescens (red-flowered). See L. WASHINGTONIANUM RUBESCENS.

" " sanguineum (blood-colored). See L. DAURICUM.

" " sibiricum (Siberian). See L. DAURICUM.

" " asiaticum (Chinese). See L. CONCOLOR.

" " spectabilis (showy). See L. DAURICUM.


" " tigrinum (Tiger Lily). 1-2. Flower one or few. " Carolina Swamp Lily." 1819.


" " fortunii (Fortune's). 4-6. Stems densely woolly. See L. DAURICUM.

" " splendens (splendid). Flowers larger, spots redder. August, September. 1870.


" " maculatum (spotted). 2. Orange, spotted red. August.

" " wassonianum (Washingtonian). 3-5. White, tinted lilac, with few spots. California. 1872.

" " rubescens (red-flowered). White, changing to vinoso-purple, spotted black. 1873.

" " witisei (Witte's). See L. auralum Witteii.

" " yoshidae (Yoshida's). Flowers fragrant, said to resemble Brownii. California. 1872.

LILIUM CA'NIDIDUM. Common White Lily.

Propagation.—By offsets. When the old bulbs have several small ones formed around them, take them up in September, divide them into single bulbs, replant the large flowering-bulbs immediately into fresh, rich earth, where they will flower. The small bulbs are set close in a bed of the same kind of soil, in some corner by themselves; let them remain here for two years, then take them up, select the large bulbs, and plant them where they are to flower, taking care to enrich the earth with well-decomposed manure and moss, and the bulbs may be replanted again till they are the same size, and should then be taken up and planted in the borders to bloom.

The soil should be well drained, and fresh, maino-loam, mixed with a good coating of manure, and dug over two or three times previously to the planting season.

Winter Culture.—When the stools of bulbs have become large, they will have exhausted the soil, and it will be advisable to take them up, divide them, then dig holes, taking away the old exhausted soil, and put at the bottom of each hole a shovelful of rotten dung; fill up with fresh earth, and plant immediately three strong bulbs in each hole. This operation should be repeated about three times deep. The best time to do this is in September, and the reason for planting immediately is because these bulbs will not bear exposure to the air without injury. By this treatment, they will flower well the next season, but much finer the second.

Insects.—The most troublesome are the Wireworm and the common garden-slug, which see. Whenever a leaf is observed to droop, the grub will be found to be the cause. Gently remove the earth near the drooping leaf, and the enemy will be discovered at work.

Diseases.—The canker sometimes attacks the bulbs. This disease arises from too much moisture in the soil. This must be corrected by draining. All cankered bulbs should be taken up and thrown away, to prevent the contagion from becoming general. L. caudatum is often attacked and greatly destroyed by the Botrytis form of a Sclerotinia. No real cure has been found.

LILIUM MA'TATON. Cartagon, or Turk's-cap Lily.

The propagation of all the varieties of this species is the same as described above for L. caudatum. The soil, however, should be liberally mixed with sand.

In the case of such species, L. caudatum and L. superbum, require a considerable quantity of sandy peat mixed amongst the soil.

LILIUM TIGRINUM, Tiger Lily; and L. BULBIFERUM, the Orange Lily, produce at the axils of the leaves of the flower-stem a considerable number of small embryo bulbs. These afford a ready way of propagating them. Plant the small bulbs as soon as they part readily from the stem; prepare a bed for them, by digging it over, and adding some well-rotted dung. Plant them in rows across the bed at three inches apart in the row,
and nine inches from row to row. Let them remain in this bed for two or three years, then take them up, sort the bulbs into two sizes, plant the largest in a bed, and rich earth, as deep as the bulbs will pass when set, and garden again rather each row. Several of them will flower weakly the first year, but stronger the second, and will then be large enough to take their place amongst the old strong bulbs. They will not flower the first year, and will afford a second crop of flowering bulbs the second year. The other points of summer and winter culture are similar to those required by L. ca'ndidum, except in one particular. As the flower-stems advance in growth, they put forth a number of young roots from the stem above the bulb; when that is perceived, place round each stem some rough, hard pieces of dung for these roots to strike into; this will encourage the flower-stems to grow strongly, and flower finely, besides increasing very much the size of the bulbs below.

LILium SPECIO'SUM and its varieties. This is the finest of all the genus. The petals turn back, like those of the L. Ma'rragon. It throws out roots above the bulb, like L. tigri'num, but does not produce incumbent bulbs in the bulbs, like those, of the leaf, on the other species, and must therefore be propagated like L. ca'ndidum, by offsets. This fine species, in the southern parts of Britain, is hardly enough to bear cultivating in the open air. The flower-stems, however, of being cultivated in pots to bloom in the greenhouse, everywhere in this country, flowering in June and July, when the generality of the usual inhabitants are enjoying the open air. Lime-tta. This is an excellent plant for potting, and will afford large bulbs in eleven-inch pots. If bulbs are plentiful, put three in each pot. Do this early in March, and use a rich, sandy compost. Place them in a pit or frame shaded from the sun, and cover them with mats, giving plenty of air in mild weather, but very little water. Grow them as slowly as possible, so that they may have a large strength of roots to cause a strong growth. When the roots are out, plunge them in a bed of earth, and they will grow into bulbs, and bring them into their place; put pans under the pots, and a mulching of dung on the surface of the soil. Water freely, and give plenty of air. The culture in the air is the same as is required by L. ca'ndidum, with the addition of a covering of dry ashes over the bulbs in winter.

LILY. L'i'tum.
LILY-HYACIN'TH. Sex ilia L'i't ob-hyac'isknus.
LILY-OF-THE-VALLEY. (Connalla'via maj'a'liss.) We know a garden where no one can flower the lily-of-the-valley well, and we also know places where it flowers in the greatest abundance without any care whatever. We have seen it growing naturally by the acre, in a shady wood, on gravel, on hard clay, and on sand, covered with the fallen leaves; we have dug it out in that wood, and found all the roots within three inches of the surface. We have also seen it flower abundantly on a south border, in a rich kitchen-garden soil. Where it refuses to succeed we would make a bed for it on the north side of a wall; dig out the natural soil a foot deep, and drain the bottom; then fill up the bed with a compost of light, sandy earth and rotten leaves, half of each; press it down gently when within two inches of the top; then lay the roots regularly, four inches apart, all over this surface, and then cover them two inches deep, and give them a good watering with a rose-pot; and, after that, we would cover it with a mulch of dung, and water it once a week the following summer. February, or early in March, is the best time to plant them; and the third season they are in full perfection, and will last four or five years.

Forcing.—Put them in thirty-two sized pots, filled to within three and a half inches of the rim with rich loam, upon which the roots are closely placed, and then covered the pots with a mixture of equal parts of leaf-mould and sand; they are then well watered, so as to settle the mould about the roots; place them on a shelf near the glass, in a moist stove or forcing-house, the temperature of which may range from 65° to 75°, and take care that they do not become dry. When they are so far advanced that the plants show their heads of flowers, remove them into a warm greenhouse, still placing them near the glass, until, as they advance in growth, they are withdrawn by degrees into a shaded part of the house, from whence they are removed to the drawing-room as required, their places to be immediately taken by others, which are similarly treated, and thus an ample succession will be kept up. Care and attention are requisite in lifting and selecting the plants for forcing; they require a minute examination to distinguish those that will flower from those that will not, the only difference being that the buds of the former are more round and short than those of the latter.—Florist' Journal.

LILY-PINK. Aphyllid'nthes.
LILY-THORN. Cate'sbo'a.
LIMATODIS LABRO'SA. See Calanthe Labrosa.
LIMATODIS RO'SEA. See Calanthe rosea.
LIME. Ci'tus me'dica Limeo'tta.
LIME is valuable as a manure, for some one or more of its salts enter into the composition of every vegetable. But it is not the lime of every district that is suitable for the purpose. Some specimens contain a very large proportion of magnesia, which, absorbing carbonic acid very slowly, remains in a caustic state, to the injury of roots of plants. L. hardy is the most beneficial of the decomposing constituents of the soil. Neither can the gardener apply it to all his soils with advantage. Thus, peat and bog earth are beneficial to the plants grown upon by their containing Gallic and other acids, which lime removes. To garden soil of the usual staple about fifty bushels of lime per acre is a sufficient quantity. If the soil be clayey the quantity may be doubled. A very excellent manure is formed using one bushel of salt with every two bushels of lime. Lime cannot be applied to the soil too fresh from the kiln; for it allowed to absorb carbonic acid from the air, it is rapidly converted into chalk.

When distributed by the slug, dress them, some evening, so as to render the surface of the soil quite white, with caustic lime, during the promise of a few days' dry weather. It is instant destruction to every slug it falls upon; and those that it misses are destroyed by their coming in contact with it when moving in search of food.

Lime-rubbish is the old mortar and plaster obtained when brick-buildings are pulled down. It is an excellent manure, abounding with the salts of potash and lime. It should be reduced to powder before spreading and digging in.

LIME or LINDEN-TREE. Titia.
LIME-LOOPER MOTH. Geometra.
LIME-WATER. To forty gallons of clean water, half an hour before using, put one peck of fresh-slaked lime. As soon as the water is quite clear it is ready. A watering-pot containing four gallons will water a bed of four feet by thirty feet, or rows of cauliflower, cabbages, &c., of double the length.

LIMNA'NTHES. (From limna, a swamp, lake, or pool, and anthemon, a flower; literally, the flower of the pool. Nat. ord. Gentianaceae.) Hardy, or tender stoves, floating aquatics, which, for convenience sake, may be planted in pots submerged a little way below the surface of a pond or tank, but some of them very soon spread all over the pond, floating freely in the water, and increase in the numbers. Offsets. Any loamy soil, leaf-mould, and sand.

L. nephy'ados (Nymphs-like). See L. peltatum.

LIMNA'NTHES. (From limna, a marsh, and anthos, a flower. Nat. ord. Indian Cresses [Geraniaceae]. Linn. 10-Doncaria, 1-Monogynia.)
LIMNOBIUM 503

LINARIAS

Hardy trailing annuals, from California. Seeds in April, in a moist and shady situation.

*rosea* (rosy). See L. DOUGLASI.
*sulphurea* (sulphur). See L. DOUGLASI.

**LIMNOBIUM.** (From limns, a marsh or pool, and bios, life; the plants live and float on fresh water, like the Frog-bit. Nat. ord. Hydrochariaceae.)

Stove aquatic, floating freely in the water, but may be confined to a spot by a piece of wood. Offset.


**LIMNOCHARIS.** (From limns, a marsh and chairo, to delight in; water-plants. Nat. ord. Alismads [Alismaceae]. Linn. 13-Polyandria, 1-Monography.)

Stove, perennial, yellow-flowered aquatic, from Brazil. Divisions, runners, and seeds; tubs or cisterns, in a stove, or the shallow part of an aquarium. Summer temp., 60° to 70°.

*Humbo'ldti* (Humboldt's). See HYDROCELEIS COM-
*MONTENS.
*Plume'tri* (Plumier's). See L. EMARGINATA.

**LIMMODORUM.** (An old name used by Tournefort for something. Nat. ord. Orchidaceae. Linn. 1-alatum (tail). See BLATTA VERECUNDA.

callo'sum (beautiful). See PHAIUS CALLOUSUS.
div'inum (daily). See CYMBIDIUM diurnum.
*cymbria* (ivy). See ANGERECUM EBRUNIUM.
tal'um (noble). See ANGERECUM FALCATUM.
maca'ulum (spotted). See NEPHRALYMNUM PUL-
CHRUM.
planigi'neum (plantain-like). See CYTOPDORUM PLANTAGINEUM.
*Tanker's*i (Mrs. Tankerville's). See PHAIUS GRANDIFOLIUS.
tu'bero'sum (tuberosus). See CALOPOGON FULCHELLUS.

**LIMONIA.** (From limon, the Arabic name of the citron. Nat. ord. Citronwoorts [ Rutaceae]. Linn. 10-Decameria, 1-Monography.)

Plants with white flowers. Seeds in a botched, and seedings gafted the same season, with the most desirable qualities; cuttings of any shoots, young or ripened, in spring or summer, in sandy soil, under glass, and in a few weeks plunged in bottom-heat; pot, peat, dry soil, from charcoal, and a few pieces of charcoal. For
*acid'si'sma, water temp., 35° to 45°; summer, 60° to 80°;* the others will succeed against a wall, in the south of England, protected in winter; and in other districts they require a greenhouse.

*L. acid'si'sma* (most-acid). ½. India. 1808.
*austria'sis* (southern). See CITRUS AUSTRALIS.
cre'i'sa (scopeloid-leaved). See L. ACIDISSIMA.
pil'o'ra (small-flowered). See GYPSOCEA PAPY-
VAR.'V.
sc*a'n'des (climbing). See LUVU'NGA SCANDENS.

**LIMONIA STRUM.** (From leimon, a grassy plain, and astron, a star; in allusion to the place where it grows. Nat. ord. Plumbaginaceae.)

Nearly hardy shrubbling plants. Cuttings under a hand-
light during summer. Leaves, peat, and sand.

*L. artic'a'num* (jointed). 2-3. Blue. July to Sep-
tember. Mediterranean region. 1731.
*monop'e talum* (one-petaled). See L. ARTICULATUM.

**LIMONIUM MONOP'ETALUM.** See LIMONIUM ARTICULATUM. For other species of Limoniurn, see STATICE.

**LIMOSILLA.** Mudwort. (From limus, mud; where it grows. Nat. ord. Figworts [Scrophulariaceae]. Linn. 14-Dicyanmia, 2-Angiosperma. Allied to Sibthorpa.)

Hardy annual. Seeds in a marsh, or near a pond or rivulet.


**LINA NITHUS.** (From linum, flax, and anthis, a flower. Nat. ord. Flaxwoorts [Plantonlacaeae]. Linn. 5-Pentan-
tri'o'monogynia. Nottings of the young shoots under a hand-light, in sandy soil; light, sandy soil suits them all. A few like a cold pit in winter; they are good rock-
work plants.

*L. dich'osum* (forked-branching). See GLILA DICHTOMA.

**LINA RIA.** Toadflax. (From linum, flax; referring to the resemblance of the leaves. Nat. ord. Figworts [Scrophulariaceae]. Linn. 14-Dicyanmia, 2-Angiosperma. Allied to Antirrhinum.)

All by seed at the end of March, and the perennials also by cuttings. Seeds under a hand-light, in sandy soil; light, sandy soil suits them all. A few like a cold pit in winter; they are good rock-
work plants.

**HALF-HARDY HERBACEOUS, &C.**

*L. circi'na* (curled-leaved). See L. Sagittata.
fru'ticans (sprouting). See NEMESIA FRUITS.
*sofo'ria* (broom). See L. SPARTEIDES.
*August. Portugal. 1770.

**HARDY EVERGREENS.**

*L. acu'si'ba* (acute-lobed). See L. VOLGARIS.
*J. Sardinia. 1829.
*1790.
*longicalcara'rus* (long-spurred). Stems shorter.
Spurs longer.
*pub'i'a* (downy). See L. PILOSA.
*1819.

**HARDY HERBACEOUS.**

*L. antirrhinio'fia* (Antirrhinum-leaved). See L. CAVANIL-
*le'si.*
*antirrhino's* (Antirrhinum-like). See L. CAVANIL-
*le'si.*
*Spain. 1897.
*Dalmatia. 1731. Evergreen.
*1704.
*20.
*Crimea. 1822.
*1820.
*manespa's'na* (Montpelier). See L. REPENS.
*Not the true L. Pancéei, of Janka.
*1649.
*1843.
*Armenia. 1839.


L. *Tournefo* rii (Tournefort's). Spain. 1856.


LINDEO*VIA* (Commemorative of Frederic von Lindau), a German Nat. ord. (Boraginaceae). Hardy, perennial herb. Seeds; divisions. Ordinary soil.


L. *Tu* 'lta vulga*ris*. 1. 


LINDE*RIA* (Commemorative of John Linden, a Swedish botanist. Nat. ord. (Rubiaceae). Hardy deciduous trees or shrubs. Cuttings in a cold frame in autumn. Ordinary garden soil.


LINDE*LEY* (Named after Professor Lindley. Nat. ord. (Rosaceae). Linn. 12-Isosandra, 2-Pentagynia. Allied to Quillaja.

Stove evergreen shrub. By seeds; ripe cuttings under a glass, in bottom-heat, and grafting on the Hawthorn. The same generic name is applied to very different plants, among which are some attractive species.


LINDE*RIA* FIBRILLO*SA. See PSEUDOGALTONIA PECHUILLII.
LINDAYA. (Named after M. Linday, an English botanist. Nat. ord. Ferns [Filices]. Linn. 24-Crypto-
gamia, r-Filices.) Ferns, with brown spores. For culture, see Ferns.


L. crensa (crenate). British Guiana, 1863.


L. elegans (elegant). See L. Stricta ELEGANS.


L. guianensis (Guiana). May. Guiana. 1845.

L. heterophylla (various-leaved). 2-3. India; Malaya.


L. oblongifolsa (oblong-leaved). See L. Pectinata.

L. pectinata (comb-like). May to July. Assam; Malaya.


L. stergens (elegant). An unbranched form.

L. tepanyera (tender). Malacca.


GREENHOUSE.


LING, or LING-HEATHER. Calluna vulgaris.

LININGS, or, as they might be more properly called, Coatings, are applications of fermenting dung to renew the heat in hotbeds made of dung. See HOTBED.

LINNENIA. (Named after Linneus. Nat. ord. Capri-
foliis [Caprifoliaceae]. Linn. 14-Dianthus, 2-Anigo-
spermia. Allied to Abelia.)

Hardy trailer. Plants are easily obtained from its trailing-rooted stems. It should, whether in the front of a border or in a gogglesized pot, be grown solely in peat or heath-soil, kept shady and moist.


L. americana (American).

LINO'SPADI. (From lino, to anoint, and spadix, the axis bearing the flowers. Nat. ord. Palmae.)


L. Leopoldi (Leopold's). Pacific Islands. 1903.


L. petricciana (Petrickian). New Guinea. 1898.

LINO SYRIS VULGARIS. See ASTER LINOSYRIS.

LINUM. Flax. (From linum, flax. Nat. ord. Flax-
Flora [Linaceae]. Linn. 5-Pentandria, 5-Pentagynia.)

Annuals and biennials, by seed in the open border in April; perennials, by seed, but primarily by divisions in spring, and cuttings of young shoots under a hort-

diy, hardy shrubs, by cuttings in sandy soil, under a hand-light, in summer; greenhouse shrubs, cuttings in sand, under a bell-glass; for the latter, peat and loam. Winter temp., 38° to 45°. Many, however, such as arbo'reum, salolos'das, taw ricium, &c., will thrive in the border, in the climate of London, with but little pro-
tection.


Gardens.


LION'S EAR. LeoNS'is.

LION'S FOOT. Leonoptdum.

LIP'ARIA. (From liparas, unctuous; referring to the shining leaves. Nat. ord. Leguminous Plants [Leguminosea]. Linn. 17. Diadephila, 4-Decandria. Allied to Pterygota (Pterygota).

Greenhouse evergreens, with orange flowers, from South Africa. Cuttings of young shoots in sand, under a bell-glass, but care taken to prevent damping; fibrous loam and turfy peat, with sand and a little charcoal; watering and draining carefully attended to. Winter temp., 40° to 45°.


" villo'sa (villus). See PRIESTLEYA VESTITA.

LIP'aris. (From liparos, unctuous; referring to the leaves. Nat. ord. Orchids [Orchidaceae]. Linn. 20. Gynandria, 4-Monandria.)

Stove orchids. Fibrous peat, sphagnum, charcoal, and broken pots, in shallow, open baskets. Summer temp., 60° to 90°; winter, 55° to 60°. There are some hardy terrestrial sorts worth cultivating.

L. abreviata (shortened). Green, white. Java. 1844.

" alta'sa (winged). Mexico. 1843.


" atropurpurea (dark-purple) of Lindley. India, 1847.


" bituberculata (two-tubercled). Himalaya. 1843.

" bowe'ri (Bower's). S. Africa. 1886.

" casti'lis (Caille’s). 1-1. French Guinea. 1900.

" cunoni'asis (wedge-leaved). Australia. 1845.

" cylin'dro'sa (cylindrical-spiked). See L. LONGIPES.

" decur'siosa (decussate). Green, white. S. Africa. 1884.


Demerara. 1836.

" dissica (two-ranked). India and Mascarene Islands.

" el'a'sa (tall). trop. Africa. 1847.

" el'a'sa (tall). trop. Africa. 1847.


" elegan'tissima (most elegant). 1887.

" ellip'tica (elliptic). W. Ind. ; Mexico. 1870.


" flav'e'sa (yellowish). Yellow. Bourbon. 1831.

" folio'sa (leathery). See L. REPRESSA.

" formosa'na (Formosan). Dark brown, green, purple. Formosa. 1880.

" ful'gens (shining). Bright red. Philippines (?). 1859.


" guineensis (Guinea). W. Trop. Africa.

" iliofu'ria (broad-leaved). Light ochre. Java. 1885.


" 'be' nodulosa (drooping). 1. Pale green. India. 1844.

" 'spathula'ta (spathulate). Pale green. India. 1842.

" minutiflora (minute-flowered). See L. LONGIPES SPATULATA.

" multiflora (many-flowered). Burma.


" barbata (paradoxical). See L. ODORATA.

" be' nodulosa (drooping). See L. LONGIPES PENDULA.

" plantag'nea (plantain-like). Himalaya.

" Pro's nis (Prain’s). Assam.

" priolo'us (saw-lipped). See MIRCROSTYLIUS VERSI-FOLIOLATA.


" saunders'ia'ni (Saundersian). Green, violet. Jamaica. 1872.

" spathe'llosa (spathulate). See L. LONGIPES SPATULATA.

" strickland'ia (Stricklandian). Pale greenish. Assam. 1880.

" tabula'ris (table-like). See L. ATROPURPURA OF L. "

" tricol'o'sa (three-collared). Yellow, dull purple. Borneo. 1879.


LI PARIS. This name is also applied to a moth, often named Lepadis dispar, but more properly Hypogymna dispar. It is occasionally extremely destructive to all sorts of trees, including fruit, street, and forest trees. The male is smoky brown, and the female yellowish-white. The caterpillar is reddish-brown, with a line of reddish tubercles on each side. The Gipsy Moth, as it is called, is not so common in this country as it has been in former times, and the caterpillars being large and conspicuous, they should be hand-picked when seen.

LIPO'STOMA CAMPANULIFLO'RUM. See Coccoyp-selum campanuliflorum.

LIIP'IA. (Commemorative of Augustus Lippia, a French traveller. Nat. ord. Verbenaceae.)

Greenhouse and half-hardy, deciduous shrubs. L. cisitro'so will live out in the milder parts of the country against a west wall. Cuttings in July and August in sandy soil in a cold frame or hand-light, and in March in heat. Loam, leaf-mould, and sand.


" s'amer (S. Amer. 1844. " Scented Verbena.


LIIQ'ID-MABAR. (From liquidus, liquid, and simhar, amber; referring to the gum called liquid storax produced by some species. Nat. ord. Witch Hasels [Hamamelidaceae]. Linn. 21. Monoclea, 4-Polyandra.)

Hardy, and half-hardy deciduous trees. Cuttings, but layers chiefly; also by imported seeds, which should not be taken out of the catkins until they are to be sown; if exposed to sun or fireheat the catkins crack, and the seeds easily shake out. They often require a year to send up their seedlings; moist, loamy soil. L. formosa'na (Formosan). 10. China and Japan.

Half-hardy.

" simha'be (bearded). See L. ORIENTALIS.


" styra'na (storax, storax-flowing). 60. March. N. Amer.

" gum.
LIQUIRITIA OFFICINALIS and L. OFFICINALIS RUM. See GLYCERYRHA GLABRA.

LIQUORICE. Glycyrrhiz'a. 

LIRIODE DBRON. Tulip-tree. (From lirun, a lily, and dendron, a tree. Nat. ord. Magnoliadis [Magnoliaceae]. Linn. 13-Polyandra, 6-Polygynia.)

Hardy deciduous tree, with yellow and red flowers, from North America. Generally by seeds, which, if sown in the autumn, usually come up the succeeding spring, but if sown in spring, generally remain a year in the ground; varieties by layers, grafting, and budding; deep, rich, loamy soil; a summer house (tulip-bearing). 60. June. 1663.

LIROPE. (Liripe, a botanicalymn. Nat. ord. Hamadoraceae.)


LISIA NTHUS. (From inus, dissolution, and anthos, a flower; the latter principle is used as a tonic and febrifuge. Nat. ord. Gentianaceae.)

Seeds in spring, in a hotbed, and cuttings of shrubby kinds in sandy soil, under a bell-glass; sandy loam and peat. Summer temp., 60° to 64°; winter, 50° to 55°. Young plants are hard to set out, and after kept in a hot, close greenhouse, over the winter in a cool stove or a warm greenhouse, and potted in spring, will bloom beautifully in summer.

STOVE ANNUALS.


LISSA NTH. (From lissos, smooth, and anthos, a flower. Nat. ord. Eparciads [Eparciaceae]. Linn. 5-Pantandria, 1-Monogynia. Allied to Leucopogon.)

Greenhouse evergreens, shrubs, with white flowers, and all from (Chinese). Cuttings of the points of shoots in April and May, in sand, under a bell-glass; chiefly sandy, fibrous peat. Temp., 40° to 45°, when resting and flowering; a higher temperature and a closer atmosphere when making their wood, after flowering and pruning.


LISSOCHILUS. (From lissos, smooth, and cheilos, a lip. Nat. ord. Orchids [Orrchidaceae]. Linn. 20-Gymandra, 1-Monandria. Allied to Cypertera.)


LISTRO'STACHYS. (From listro, to level, and stachys, a spike; form of the spikes. Nat. ord. Orchid-e a.) The genus is included in Angraecum by some authorities. See Angrecum for treatment. L. bra'cta (large-bracted). 4-5. Pale yellow-green. Mascarene Islands. 1902.


LISTS, for fastening trees against walls, are usually made of well-picked cloth cut into lengths, varying from two to four inches. Strips of very thin slate sheet-lead are preferable, as not harbouring insects. Wires and twine have been recommended to tie the branches to the walls; but the process is tedious, and cuts are inflicted, inducing gum and canker. Strips of a black, blue, or red colour look best, harmonising with that of the leaves. If old lists are re-employed, they should be previously boiled, to destroy the larvae of insects.

LISYA'NTHUS. See LISIANTHUS.

L I'TH' NTHUS. (From litho, small or simple, and anthos, a flower; in allusion to the diminutive size of the plant. Nat. ord. Liliaceae.) The smallest known plant of the order, a bulb requiring greenhouse treatment. Offsets. Leaf, loam-mould, and a liberal quantity of sand. L. pus' illas (puny). 4. White. August. S. Africa. 1870.

LITHE'P' RUM. Gromwell. (From lithos, a stone, and sperma, a seed. Nat. ord. Boragoworps [Boraginaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Echium.) Annals and biennials, by seed in common garden soil, in April; perennials, by division, seed, and cuttings of young stock, by seedlings, or by cuttings of flowers, or by seeds; indeed, all of them will soon multiply themselves by seeds in suitable places; sca'b'rum and di'sitchum will require protection in winter, and a little heath-soil joined to the loam.

HARDY ANNUALS, &C.

HARDY EVERGREENS.
L. petra'rum (rock). See MOLTIA PETREA.


HARDY HERBACEOUS.
L. cob'rene (Cobran). Mexico.
L. hi' racism (hairy). 2. Orange. N. Amer. 1812.
L. inci'sum (incised). See L. angustio'lum.
L. margina'tum (marginated). See MERTENSIA OBLONGI-FOLIA.
L. multi'sio'rum (many-flowered). N.W. Amer.
L. latifo' lum (broad-leaved). See L. latifo' lum.
L. orienti'a le (eastern). 2. Yellow. June. See ALKANNA ANNUALIS.

L. fi' pus in (pilose). See L. multi'mul'orum.
L. sen'tsus (slippery). See L. can-segnes.
L. tint'o' rum (dyer's). See ALK'NA NINT'ORIA.

LITHR'EA. (From lithron, black blood; referring to the juice staining black. Nat. ord. Anacardaceae or Euphorbiaceae.) 
L. arai'rio na (Arroirinha). See L. molleoides.
L. cast'rica (caustic). See L. venenos'a.
L. Mo'il'le (1825). 4. Amer.
L. molle'i des (Molle-like). Chili.
L. venen'o'sa (poisonous). 40. Pale yellow. Chili. 1832

LITOBRO'CHIA. (A commemorative name. Nat. ord. Fennia [Ficites]. Linn. 24-Cryptogamia, 2-Ficites.] 
L. cae'scup (Cape Euphorbia). See P. ferris, Peris. &c.
L. a'leco'nis (king-fisher-winged). 2. Brazil. 1864.
L. a'mpl'a (large). Brown, pale yellow. May. W. Ind.
L. aren'a (tasselled). Malay. 1850.
L. aur's i'a (eared). See L. incis'a aurita.
L. com'am'sa (closed). Norfolk Island, New Caledonia. 1879.
L. da'vallio'ris des (Davallia-like). Yellow. May.
L. ela'ta (tall). Trop. Amer. to Ecuador.
L. le'cania (Least pair of pinnate simple.
L. inter'me d'i a (intermediate). Brown. yellow. June.
L. isle of Luzon.
L. no'bilis (noble). 2. S. Amer. 1862.
L. ori'seb'a (Orizaban). Mexico. 1836.
LITSEA. (Adopted from the Japanese. Nat. ord. Lauraceae.)


LIVESTOCK. (Named after P. Murray, of Livingston, near Edinburgh. Nat. ord. Palms [Palmaceae]. Linn. 6-Hexandria, 1-Monogynia.)


LIVESTOCK. Soil that is dug or moved about whilst wet is liable to set close together like mortar, and is said to be livewy, or like liver.

LIVISTONIA. (In honour of Dr. S. Liton, professor of botany, Dublin. Nat. ord. Liliy woris [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia.)

Greenhouse and stone Palms. Seeds in a hotbed; rich sand loam. Summer temp., 60° to 80°; winter, 50° to 60°.

L. altissima (tallest). Java. 1868.


19. *L. discoidea* (Dyke’s) (Country Palms). "L. erysostoma" (nervous). (Able to withstand a lack of water for a long time.)


28. *L. ramsyi* (Ramsay’s). See L. iculaw MueLLERI.


LLA VEA. (Commemorative of M. la Llave, its discoverer. Nat. ord. Ferns [Filices]. Linn. 24-Crypta
gamia, 1-Filicea.)

A stave fern. Spores. Loam, peat, and sand.


LLOYDIA. (Named after Mr. Lloyd, an English botanist. Nat. ord. Liliy woris [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to Calochortus.)

Harboured in Devon Divsion of the bulbs in spring; a dry, sandy loam, in front of a border of flowers.


Europe (Wales). 1789.

L. serotina (late) and L. sivta (late). See L. alpina.

LOBELIA. (Named after M. Lobel, a botanist, physician, and gardener. Ord. Balsaminaceae [Campanu-

lanceae]. Linn. 5-Pentandria, 1-Monogynia.)

Seeds of hardy kinds in open border, in April; greenhouse and biennials, by seed in hotbed, in April; greenhouse and biennials, by seed in hotbed, in April; green

LOA’SA. (Meaning unknown; probably a commemora-
tive name. Nat. ord. Loasas [Loasaceae]. Linn. 18-Polyadeophila, 2-Polyandria.)

Curious foliage that would be very interesting were it not for the poisonous, stinging property possessed by the leaves. The annoyance and danger combined have limited their culture. They will all fare the better by being raised gently hotbeded in April, though most of them will flower freely in the open, but will place the end of that month; but in a cold autumn they would be cut down in their prime; light soil.

्आअल्याण्य. (Named after M. Lobel, a botanist, physician, and gardener. Ord. Balsaminaceae [Campanulaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Seeds of hardy kinds in open border, in April; greenhouse and biennials, by seed in hotbed, in April; green

ANNUALS.

L. anacanthifolia (spiny-leaved) of Lindley. See L. PLACEI.


2. amphiaca (Ambrosia-leaved). See L. mirispa.


5. coccicosa (scarlet). See L. LATERITIA.

6. grandiflora (large-flowered). See Blumembacha

GRANDIFLORA.


7. mura (will). See Blumembacha INSIGNIS.


9. palma (hand-shaped). See Blumembacha INSIGNIS.

10. palma (spread). See Blumembacha INSIGNIS.


16. vulturis (twining). See Grammocarpus VOLUME.


18. Wallisi (Wallis’s). See L. VULCANICA.

GREENHOUSE BIENNIALS.


1. Pentland’s (Mr. Pentland’s). 4. Orange. August.

Pensly. 1850.

GREENHOUSE EVERGREENS.


LOAVING. See Heading.
LOBELIA

herbaceous kinds, whether hardy or requiring protection, by dividing the roots or suckers in spring, after growth has commenced; shrubby kinds, by small cuttings of the young shoots; indeed, all of them may be so propagated as to spend the winter in a cold frame, and a little peat suit the tenderest kinds, and for the strong-growing, herba-

ceous sorts, such as *splendens* and *cardinalis*, it is scarcely possible to make the soil too rich by top-dressings of rotten dung; the soil itself should be light. The finest of the species must be kept in a cold pot or greenhouse during the winter; Dortmann has been grown in peat and gravel, in a pot, plunged in a cistern or slowly running stream.

**Hardy Annuals.**

- *serrula* (saw-edged). See L. *urvens*

**Greenhouse Annuals.**

- *L. bi-color* (two-coloured). See L. *erinus*
- Biennial.

**Greenhouse Herbaceous.**

- *lala* (winged-stalked). See L. *anceps*
- *argut* (sharp-nerved). See L. *salsicifolia*.
- *bellidifolia* (daisy-leaved). See L. *bellidiflora*.
- *carpophila* (blue). See L. *coronopilia*
- *cypripedion* (Campanula-like). See L. *radiicans*.
- *capitata* (headed). See L. *trigetra*.
- *lucea* (yellow). Yellow. 1903.
- *decumens* (lying-down). See L. *anceps*
- *erinoideus* (Erinus-like). See *Laurentia erinoideus*.
- *excelsa* (tall). 4-6. India.

**Greenhouse Evergreens.**

- *hypocrateriformis* (salver-shaped). See *Isotoma Brownii*.
- *i'vory* (ivory). See L. *fulgens*.
- *ilicifolia* (holly-leaved). See L. *purpurascens*.
- *liitoralis* (shore). See Pratia angulata.
- *longicalyx* (long-leaved). See *Isotoma longiflora*.
- *mirabile* (beautiful). See *Laurentia minuta*.
- *minuta* (minute). See *Laurentia minuta*.
- *montana* (mountain). See Pratia montana.
- *nicotianafoia* (Nicotiana-leaved). White. India. 1866.
- *physalidens* (Physalis-like). See *Colenso physalis*.
- *rugosus* (wrinkled). See *Pratia angulata*.
- *sencioides* (Seneocio-like). See *Isotoma aciliaris*.
- *teeswater* (Texas). See L. *fulgens*.
- *thapsoides* (mullein-like). See *Haynaldia thapsoidae*.
- *Thupepars* (Thupepars). See L. *coronopilia*.
- *trigoana* (three-angled). India.

**Greenhouse Evergreens.**

- *begonias* (Begonia-leaved). See *Pratia begonioides*.
- *gigantea* (gigantic). See *Siphocampylus giganteus.*
L. heteromalla (diversely-haired). See L. triquetra.
maculata (spotted). See Pratia angulata.
odora (fragrant). See Pratia hederaeacea.

HARDY HERBACEOUS.

claytoniana (Clayton's). See L. spicata.
colcistis (heavenly). See L. fenestralis.
colorata (coloured-leaved). See L. amoena.
crenata (crenated). See L. fenestralis.
lacustris (lake). See L. Dortmannia.
linnaroides (Linnaes-like). 3. White, purple beneath.
New Zealand. 1870.
rana (branching). See L. tenue.
tenella (delicate) of Bivona. See Laurentia tenella.

LOBLALLY-BAY. Gordonia lasia-nthus.

LOBOSTE MON. (From lobos, the lower part or lobe of the ear, and semen, a stamen;) in allusion to the scale or pencil of hairs at the base of the stamens. Nat. ord. Boraginaceae. Allied to Echium.)
Greenhouse evergreens or subshrubby plants. Seeds; layers; cuttings in sand under a hand-light, in April and May, but not kept very close. Fibrous leaf, peat, and sand.

LOCHE RIA. See Achimenes.

LOCKHARTIA. (Commemorative of David Lockhart, a traveller and collector. Nat. ord. Orchidaceae.)
Stove epiphytical Orchids. Offsets. Should be grown on roots or blocks. Summer temp., 65° to 90°; winter, 60° and drier.


LOCUST-TREE. Hymena'a and Ceratola's Siquia.

LODDIGESIA. (Named after Conrad Loddiges, the founder of the well-known nursery at Hackney. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadelphia, 6-Desandrea. Allied to Hypocalyx.)
Greenhouse evergreens. Cuttings of the points of the shoots in April, in sandy soil, under a bell-glass; sandy peat and a little loam. Winter temp., 40° to 45°; a cool place in summer.

LODORREA. (Named after Loddice, the daughter of Priaam and Hebecina. Nat. ord. Palmae [Palmaceae]. Linn. 22-Dicocia, 12-Polyandra.)
Stove Palm. Seeds in a strong, moist heat; loam and peat. Summer temp., 60° to 90°, with much moisture in the atmosphere. 1838 to 62°.
L. sachelleranum (Seychelles'). 80. Seychelles Island. "Double Cocoa-nut."

LOSETIA. (Commemorative of John Leland, a botanist. Nat. ord. Polemoniaceae. Allied to Polemonium.)
Shrubby or subshrubby greenhouse plants. Cuttings in sand under a hand-light. Fibrous leaf, peat, and sand.

LOG'NIA. (Named after J. Logan, a distinguished botanist. Nat. ord. Loganiads [Loganiaceae]. Linn. 5-Pentilis, 1-Hypocalyptus, 1-Artemisia. Allied to Pergamu.)
Greenhouse evergreens, with white flowers, from Australia. Stiff side-shoots, getting well ripened at the base, in sandy soil, under a bell-glass, in summer; sandy loam and fibrous peat, kept more open still by pieces of charcoal. Winter temp., 35° to 45°. In summer the pots protected from strong sunshine.
"lathyrus (broad-leaved). 3. 1816.
"revolusa (called-back-leaved). See L. floribunda.

LOGWOOD. Hamato'xylon.

LOISELEURIA. (Commemorative of Louiseleur-Deslongchamps, a French botanist. Nat. ord. Ericaceae.)

LONGBRAME. (From loma, an edge, and gramm, writing; referring to the appearance and position of the spore or seed-cases on the leaves. Nat. ord. Ferns [Filices]). Linn. 24-Cryptogramma, 1-Filices.)
Stove fern. See Ferns.

LOMA'SIA. (From loma, an edge; referring to the position of the spore or seed-cases on the leaves. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogramma, 1-Filices.)
All brown-spored. See Ferns.

HARDY.

GREENHOUSE.
L. antarctica (antarctic). Magellan. 1843.
"attenuata (thin). 1. August. 1836.
"australis (southern). See Blechnum austral.
LOMARIOPSIS

L. Ba'nts'is (Banks'). Pinna oblong, obtuse. New Zealand.
  " Bellsii (Bell's). New Caledonia. 1865.
  " bory'ana (Boryan). W. Ind. to Falkland Islands. 1843.
  " cya'noth'es (cyanotic). 1897.
  " Ma'y'i (May's). Soon forms a stem. 1904.
  " cre'ntula (finely-notched). Chili. 1862.
  " cy'casyloia (cycad-leaved). Juan Fernandez.
  " Dalgi'esia (Mrs. Dalgairns'). Tree Fern, with blackish trunk. S. Africa. 1877.
  " df'scor (two-coloured). Australia to New Zealand.
  " bipinnat'is (bipartit). Australia. 1878.
  " dobroy'de'nsis (Dobrodyan). Australia. 1875.
  " dra'psia'na (Drapsian). 1905.
  " fluvia'nis multis'fida (much-cut). New Zealand.
  " Fra'seri (Fraser's). New Zealand. 1843.
  " Gil'ti'i (Gillies'). See L. procera.
  " Lechle'ri (Lechleri). See L. procera lechleri.
  " magell'a nica (Magellan). See L. boryana.
  " pon'a (elongated). Barren and fertile frond deeply cut. Nelliegeries to New Zealand.
  " Lech'eri (Lecheri'). 3. Chili. 1866.
  " vestis'a (clothed). Midribs densely clothed with scales.
  " Kresher'i (Krehb'. Natal. 1854.

STOVE.

L. chile'nisis (Chilian). See L. procera chilensis.
  " longis'fia (long-leaved). See L. procera longisfolia.
  " sorbio'lia (Sorbus-leaved). August. W. Ind. 1793.
  " sens'a (clothed). See L. procera vestita.

LOMARIOPSIS. (Derived from Lomaria, and opsis, resemblance. Nat. ord. Filices.)
Greenhouse fern. Division; spores. Loam, peat, and sand.
L. hetero'ropha (various-formed). New Zealand.

LOMAI'TIA. (From lomas, an edge; referring to the winged edge of the seeds. Nat. ord. Proteaceae [Proteaceae]. Linn. 4-Tetrandria, 1-Monogynia. Allied to Telopea.)
Greenish evergreen. Cuttings of firm young shoots early in spring, or late in summer, in sand, under a bell-glass; sandy peat, with a little loam. Winter temp. 35° to 40°.

L. Bidwi'lii (Biddwill'). 6-8. Australia.
  " hetero'phylla (various-leaved). See L. silaifolia.
  " pinnatifidi'lia (pinnate-leaved). See L. ferruginea.
  " quercifoli'a (oak-leaved). See L. longisfolia.

L. sila'fia (Silkus-leaved). 2. Orange. N. S. Wales. 1792.
  " tincto'ria (dyer's). 2. N. Holland. 1822.

LOMATICYLLEUM. (From lomas, an edge or margin, and phullon, a leaf; in allusion to the cartilaginous often coloured edges of the leaves. Nat. ord. Liliaceae. Allied to Haworthia.)
Warm greenhouse evergreen succulents. Offsets. Fibrous roots and peat, with some lime rubbish and sand, enriched with a little well-decayed manure.
  " ma'crum (long). Yellow-red. Mauritius.
  " Saunder'risi (Sanders'). Mauritius. 1871.

LONGCHI'TIS. (From lomche, a lance; the shape of the leaves, or fronds. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)
Stove Ferns, with brown spores, from the Tropics. Some species are now joined to Litobrochia. See Ferns.
L. aurit'a (eared). See L. pubescens.
  " gla'ta (smooth). See L. pubescens glabra.
  " lindenia'na (Lindelian). See L. pubescens.
  " longis'fia (long-leaved). Trop. Amer.
  " ste'ppae (smooth). Fert. thinner, less hairy.
  " sorbio'lia (Sorbus-leaved). W. Ind.

LO'NAS. (Derivation obscure. Nat. ord. Compositae.)

LONCROCA'PUS. (From lonche, a lance, and carpos, a fruit; a shape of seed-pod. Nat. ord. Leguminosae Plantae-Frutescentes. Linn. 17-Diadelphus, 4-Decandria. Allied to Dalbergia.)
Stove evergreen trees, with purple flowers, except where specified otherwise. Cuttings of half-ripened shoots in sand, under a Bell-glass, and in a sweet bottom-heat, in May; turty loam and fibrous peat, with sand and charcoal to keep it open, though pressed firmly together. Summer temp., 60° to 85°; winter, 55° to 60°.
  " Bia'vi (Black's). Australia.
  " 'Yurba Indigo,'"
  " doming'e'sis (St. Domingo). See L. sericeus.
  " macrophyll'iis (large-leaved). See L. sericeus.
  " pu'rus (pure). 45. Cape Colony. 1824.
  " pyxida'rius (box). See L. sericeus.
  " se'pium (hejde). 30. S. Amer. 1860.
  " specio'sus (showy). S. Africa.
  " viola'ceus (violet). 12. S. Amer. 1729.

LONDON PRIDE. Sax'sfraga umbro'sa.

LON'ICERA. (Named after Adam Lonicer, a German botanist. Nat. ord. Caprifolii (Caprifoliaceae). Linn. 5-Pentandra, 1-Monogynia. Includes Caprifolium.)
Hardy deciduous shrubs. By cuttings and layers in the autumn; with all the succulent, pithy-stemmed kinds, the latter mode is the best, as cuttings are apt to rot; when planted they should have a shady, sheltered situation; good, loamy soil.
L. affi'nis (allied). 10. White, changing to yellow.
China; Japan. 1904.
  " Albe'ri (Albert's). See L. spinosus.
  " na'na (dwarf). 2.
  " Alp'i'ni (Alpinus'). Turkestan.
  " Anha'rsii (Amber's). Himalaya.
  " N. India. 1847.


This is the Scrubby Oak of Sierra Leone, a handsome tree, with paniced yellow flowers. Endlicher founded the order on it because it is "allied to nothing yet known." A tropical evergreen shrub; cuttings of firm young wood in sand, under a bell-glass, and in a sweet-bolt heat; it flowers and bears peats. Summer temp, 60° to 90°; winter, 50° to 60°.

L. africana (African). See L. ALATA.


Lophylepis filoseilloides. See Polypondium filoseilloides.

Lophosorus prunnata (frost). See Allopsilla prunata.

Lophosepermum. (From lophos, a crest, and sperma, a seed); the seeds are furnished with a crested wing. Nat. ord. Figwort. (Scrophulariaceae). Linn. 14-Didy- namia, 1-Gymnospermia. Mostly now referred to Maurandia.

L. a'trosanguineus (dark-bloody). See Rhodochiton vulnible.

L. erube scens (blushing). See Maurandia erubescent.

L. scad'ndens (climbing) of D. Don. See Maurandia scad'ndens (climbing) of Sweet. See Maurandia erubescent.

Lophyurus. Pine Sawfly. The caterpillars of Lophy- rus Pini sometimes do a great deal of damage to young woods of Scotch Fir, by eating the leaves and bark of the young shoots. The sawflies make their appear- ance early in the summer, and the females laying their eggs in the leaves by cutting a slit, laying a few eggs and covering them with resins matter. The caterpillars hatch in three weeks and proceed to devour the leaves, on which they feed eight weeks. When full fed they form cocoons in crevices of the bark, and amongst moss and leaves beneath the trees. The cater- pillar hibernate in the cocoons, but ultimately pulate and spin webs in the spring. The easiest remedy is to rake up the leaves and moss beneath the trees in winter, and burn the same to destroy the cocons, with the caterpillars in them. They are often found in enormous numbers amongst the fallen pine needles. Another species, L. Rufus, has also been known to attack Scotch Firs. The winged insect appears in August, but similar remedies would apply to both. On young trees the caterpillars may be sneeze in the hand, wearing gloves, or they may be sprinkled with naphtha.

Loph'ymia Malacophylla. See Pavonia velutina.

Loquat, or Japan Quince. (Erilobo'trya japon'ica). It ripens its fruit with a moderate amount of heat in this country. Some varieties are said to succeed on the open wall; but it must be in such mild localities as the warmer parts of Devon or Cornwall. The temperature of the peach-house—or what is sometimes called the intermediate-house—will, however, suit it; and as to wintering, it requires little more than the exclusion of frost. As the growth of this, for dessert purposes, has never been, as far as we are aware, systemised in this country, we can only offer a few hints as to its culture. It has been affirmed that it succeeds best grafted on the quince, and it is very probable; for it belongs to the same natural order, Appleworts, in division to which, individuals from the genera Pyrus, Amelanchier, Meipilus, and evet, the Pholidotea seripula in, being itself an evergreen, present most likely stocks.

Grafting is recommended, in order to check its exces- sively robust character; for in its natural growth it would be too coarse for ordinary hedges. Grafting therefore, or any of the expedients resorted to in pear culture, may be had recourse to. It may be readily propagated from seed, and doubtless by cuttings, with the same success. It would, however, use no manorial matters, but simply peat and strong loam, the latter predominating.

Lora'nthus. (From lor'am, a thong, and anhos, a flower, in allusion to the leathery leaves. Nat. ord. Loranthaceae.)
EVERGREEN, parasitical shrub, of the Mistletoe family, which may be grown by sowing or fixing the berries on the roots of Beech trees, where they are not covered with soil.


"

"_floridus_ (free-flowering). See _Nyssia floribunda._"

LORD ANSON'S PEA. _La'thyrus arbore'scens_ to young commemorative 1816. Teneriffe. 

SACRED (free-flowering).

(L. aureus) (Chinese). 

June. Mediter-


"_combric'is_ (Cumbrian). 1. April. Tenerife. 1811.


HARDY ANNUALS.


"_aron'rius_ (sand). 1. April. Tenerife. 1811.


LORD HARRINGTON'S YEW. _Cephalan'rus pedunc'ul'is._

LORDS AND LADIES. _A'rum macula'tum._


Stove evergreen tree. Cuttings of young shoots in April, in sand, over sandy peat, and that extra well drained; sandy peat, a little fibrous loam, and pieces of charcoal and broken freestone. Summer temp., 60° to 70°F; autumn, 55° to 50°F.


LORINSETRIA _AREOLATA._ See _Woodwardia areo-

LOROPE'rALUM. (From _lorum_ a thong, and _petalon_ a petal, in allusion to the long, strap-shaped petals. Nat. ord. _Hamamelidaceae._) 

A deciduous, ornamental, hardy or half-hardy shrub, well suited for pot culture for conservatory and greenhouse decoration. _Seeds; cuttings in sandy soil in a gentle heat. Any light rich soil._


LOTE. _Zizyphus Lotus._

LOTUS. _Bird's-foot Trefoil._ (From the _lotus_ of Theophrastus, which is _Zizyphus Lotus_. Nat. ord. _Leguminosae_ (Leguminosae). Linn. 17-Thidaphia, 4- _Decandria._ Allied to _Trifolium._) 

Annuals, by seed at the beginning of April; a very few require the assistance of a gentle hotbed, and transplanting afterwards; herbaceous and semi-shrubby, low-growing plants, by division, and cuttings in summer under a hand-light, in a shady place. These are very useful for banks and rock-work. Greenhouse and frame kinds, by cuttings of young shoots in sandy soil, under a hand-light or frame; light, sandy soil for all.

STOVE ANNUAL.

L. _indicus_ (Indian). See _Rothia trifoliata._

GREENHOUSE HERBACEOUS PERENNIALS.


"


"_microcar'us_ (small-leaved). See _Indigocera gra-


GREENHOUSE EVERGREENS.


"

"_a'ro-purpureus_ (dark purple). See _L. anthylloides._


"


"_pelicular'hus_ (stock's-beak). See _L. Bertholetii._

"_speciosus_ (showy). See _Dorycnium spectabile._

HARDY HERBACEOUS PERENNIALS.

_L. conjuga'tus_ (joined). 1. Purple. July. Mediterr-


"_depre'ssus_ (depressed). See _L. corniculatus._


"_Forste'ri_ (Forster's). See _L. corniculatus._

"_hirs'u'tus_ (hairy). This is _Dorycnium hirsutum._

"_ma'jor_ (greater). See _L. uliginosus._

"_maritim'us_ (maritime). See _L. silicu'sus._


"_paduncu'laris_ (long-flower-stalked). See _L. uli-

"_pinna'ris_ (pinate). See _Hosackia bicolor._


"_silicu'sus_ (long-podded). 1. July. Yellow. Medi-


LOTUS, SACRED. _Nelumbo._

LOTUS-TREE. _Diospy'ros Lotus._

LOREYA. (Named in commendation of Professor Louron from Portugal, Nat. ord. _Leguminosae._) 


LOURYA. (A commemorative name. Nat. ord. _Liliaceae._) 

Stove evergreen herbs with the habit of Aspidistra. Seeds, divisions. Fibrous loam, leaf-mould, a little well-rotted manure, and sand.


LOUSE. See _Arus._

LOUSEWORT. _Pedicular'is._

LOVE-APPLE. _Lycope'rsicum esculen'tum._

Varieties.—Of the _Red_—Earliest of All, _Chemin Rouge_, 1812.

Soil.—Rich, light, and on a dry subsoil. Sea-weed may be applied with advantage to the border on which it is grown, as may kelp, or common salt in small quantities. The situation must be sheltered.

Sowing.—Sow at the close of March or early in April, in a hotbed or stove. The hothed must be of a moderate durability, earthed about six inches deep. In a hotbed, sow in pots or boxes set on the flues, or round the edges of the pits.

In whatever situation, sow thin, and not buried more than a quarter of an inch. The plants, when two or three inches high, must be thinned to three inches apart, and those removed pricked at the same distances, in a similar bed to that from which they were removed. Another plan more frequently pursued is to sow seeds in pots or pans of light soil, and to place them in any warm house with a night temperature of 55° to 60°. When the seedlings are 2 in. or 3 in. high they are potted off singly in thumb pots, watered and shaded till established. They must afterwards have plenty of light to prevent drawing, and before the roots get pot bound they are placed in 1 in. pots, and later on may get another shift into 4 in. pots, if the weather is too cold to plant out immediately. About the end of May or beginning of June they are planted out against walls, fences, or in the open, 2 ft. to 3 ft. apart in the lines, and 4 ft. between the lines. They must be watered and shade during midsummer, and be gathered before they are established; and if the nights are cold during the first week or two, the shelter of a hand-glass, or even of a garden-net, is advantageous.

The berries may commence as soon as the plants are a foot long, and continued throughout their growth. Tomatoes, whether outdoors or under glass, give most satisfaction when restricted to one stem. Throughout the summer clear away all lateral shoots, and as well as thin the leaves, so as to expose the fruit to the full influence of the sun.

The berries begin to ripen about the middle of August, and continue to do so until about October, or the arrival of the first frosts, which always destroy the plants.

To obtain Seed.—Some of the farthest berries must be left until perfectly ripe. It must be separated from the pulp by washing, as directed for the Cucumber.

LOVE GRASS. Eragro'sis.

LOVE-IN-A-MIST. Nigella.

LOVE-IN-DILIGENCE. Viola tri-color.

LOVE-LIES-BLEEDING. Amaran'tus cauda'tus.

LOVE-TREE. Cercis Siliquastrum.


L. berberifo'lia (berberry-leaved). See Rosa Simplicifolia.

LOWIA. (Commemorative of Mr. H. Low, a traveller and collector. Nat. ord. Scitamineae.)

Stove herbs grown for their flowers and foliage. Seeds and divisions. Fibrous leaf, leaf-mould, some decayed cow manure and sand.


LOZOCUCUS. (From lozos, slanting, and kokkos, a berry; in allusion to the shape of the fruit. Nat. ord. Palmae.)

A stove Palm. Seeds. Fibrous leaf, with a third of peat and sand.


LOXOGRAMMA. (From lozos, slanting, and gramma, writing; referring to the spore or seed-cases. Nat. ord. Ferns [Filices]. Linn. 28-Cryptogama, 1-Filices. Stove Fern. See Ferns.

L. lanceola'ta (spear-head-leaved). Yellow. May. E. Ind.

LOXSOMA. (From lozos, slanting or oblique, and soma, a body; in allusion to the short, oblique ring to the sporangia or spore-cases. Nat. ord. Filices.)

Stove Fern. See Ferns.

L. Cunningham'ia (Cunningham's). 1-12. Fronds leathery. New Zealand.

LOZOTENIA ROSARIA is a small moth, of which the caterpillar feeds upon the leaves of the rose-tree. Mr. Curtis says that "the eggs are laid in the summer or autumn, and hatch with the opening leaves; and the little caterpillar begins at once to form a residence by drawing two or more leaflets together, on which it feeds. This operation soon points out where the caterpillar is; and the best method which we know of getting rid of it is hand-picking, which should be practised as soon as the operation of the caterpillar becomes visible."

LUBANIA. (Named after M. S. Lubin, a French botanist, and director of the Jardin du Roi at Paris, 1835-44.)


L. a'tro-purpu'rea (dark purple). See LYSIMACHIA NUTANS, spathula'ta (spathulate). See LYSIMACHIA MAURITIANA.

LU CANUS CER'VUS. The Stag Beetle may easily be recognised by its long, bony jaws, which are toothed and resemble the horns of the stag. Large numbers may sometimes be seen flying amongst trees during May and June evenings. They are mostly black, but some are reddish-brown. The female is smaller, with shorter jaws. The larvae live in decaying wood, but rarely, if ever, do harm to the live wood of healthy trees.

LUCULIA. (From inculi soa, the native name. Nat. ord. Cinchonads [Rubiacae]. Linn. 5:9:5-13:1-Pentandra, 1-Monogynia. Allied to Hymenodictyon.)

Greenhouse evergreens, from the Himalayas. Cuttings of the young shoots getting a little firm, about Midsummer, in sand, over sandy peat, well drained, and covered with a bell-glass, set in a close pit or frame, and in a fortnight supplied with a little bottom-heat; peat and loam, both fibrous, with sand and pieces of charcoal to keep it open. As soon as established as a little plant, which it will be by the following spring, to be transferred at once to a good large pot; a conservatory bed, however, is the place where it flourishes and shows off to the best advantage, blooming in the autumn, winter, and spring months. It should also be tried against a conservatory wall.


= pincia'na (Pince's). 5. White. 1843.


Stove evergreen trees, with white flowers. Cuttings of the ripe shoots in sand, under a bell-glass, and in heat; rich, fibrous, sandy loam. Summer temp., 60° to 85°; winter, 50° to 55°.

L. Bonpland'ia (Bonpland's). 40. Cuba. 1822.


= harr'tii (Hart's). Trinidad.

= mann'mosa (nipples). 50. S. Amer. 1793.

= multisflora (many-flowered). W. Indies.


= salisfio'sis (willow-leaved). 40. Mexico. 1823.

= seri'cea (silky). Australia.


Stove evergreen shrubs, with yellow flowers, from Mauritius. Cuttings of half-ripened shoots in sand, under a bell-glass, in bottom-heat; fibrous loam, with a little cow-dung. Summer temp. June, 60° to 85°; winter, 50° to 55°.

LUPINUS

LUPINUS

trichorkis'as (hair-rooted). Himalaya.
speziosa (Cingalesae). Ceylon.

LU'MA. See Myrtus.

LUMNFZERA. (Named after Lumnitzer, a botanical author. Nat. ord. Labiatae.)
Lumnitzera proper is maintained as a genus, but not in cultivation.

L. tenus'ora (slender-flowered). See Ociunum sanctum.

LUN'ARIA. Moonwort, or Honesty. (From luna, the moon; referring to the shape of the seed-vessels. Nat. ord. Cruciferae. Linn. 15-Tetradynamia. Allied to Alysum.)

Hardy plants, and flowering in May; seeds and divisions in spring. Common garden soil.


L. albiflo'ra (white-flowered). White. 1570.


variegata la (variegated). Variegated white-yellow. 1894.

bivin'nis (biennial). See L. annua.

rediv'va (revived). 3. Light purple. 1596. Herba-
ceous perennial.

LUNGWORT. Pulmonaria.

LUPINA/STER PENTAPHYLLUS. See Trifolium Lupinaster.

LUPINE. Lupinus.

LUPINUS. Lapine. (From lupus, a wolf; devas-
tates land as the wolf does the fold; literally, destroyer. Nat. ord. Leguminosae [Leguminosae]. Linn. 16-4 Monadelphia, 6-Dendracaria.)

They are generally arranged into annuals, perennials, and frame evergreen shrubs; but they all produce seed so freely that it is easiest to propagate them by that means, only the evergreens, instead of being sown in the open ground, should have the assistance of a gentle hotbed to rear them before planting them out. If such a hotbed is maintained, Lupinus hirsutus are sown in August, and kept in pots all the winter in a pit, they make splendid specimens on a lawn the following summer.

HALF-HARDY EVERGREENS.


arbus'tus (shrub). See L. laxiflorus.

Binnial.

bimacul'a (twins-spotted). See L. subcarnosus.


falax (deceiving). 3-5. Violet. August. Cali-
fornia. 1894.


macron'acus (large-fruited). See L. arborus.


1828.


Mexico. 1825.

LUPUS. See Lyci'num, Lepi'dium, Lepi'doc'cyclus.

LUPUS. See Lyci'num, Lepi'dium, Lepi'doc'cyclus.

LUPUS. See Lyci'num, Lepi'dium, Lepi'doc'cyclus.
LUPINUS

HARDY ANNUALS.

bicolor (two-coloured). See L. micranthus.
exaliaus (tall). Mexico. 1832.
linsfo'lius (flax-leaved). See L. reticulatus.
menzisii (Menzies'). See L. densiflorus.
mucro'bus (changeable). Blue, purple, white. Colombia.
plat'eus (Plattan). N. W. Amer.
tese'iss (Tesian). See L. suncarnosis.

HARDY PERENNIALS.

grandifol'ius (large-leaved). See L. polypphy'llus.
latifol'ius (broad-leaved). See L. rivi'laris.
laxiflorus (loose-flowered). See L. rivi'laris.
macrophy'llus (large-leaved). See L. polypphy'llus.
morrit'isis (Morritian). See L. elegans.
plu'mosus (feathery). See L. leucophy'llus.

" Mo'hea'si (Moheem's). Rose to deep rose. 1908.
" re'sus (rosy). Pale to deep pink. 1904.


LUXEMBERGIA. (Named after the Duke of Luxembourg. Nat. ord. Orchids [Ochaceae]. Linn. 16-Mono'andria, 8-Polyandria.)

Stove evergreen shrubs, yellow-flowered, from Brazil. Cuttings shooted in sand, under a bell-glass, and in a gentle bottom-heat; peat and loam. Summer temp., 60° to 75°; winter, 45° to 55°. They require a constant liberal supply of moisture. L. cit'to'sa (hair-fringed-leaved). 4. June. 1841.
" coriund'om (corundum). See POLYANDRA.
" poly'andra (many-stamened). 5. May. Brazil.


Stove orchids. Division of the plant, as growth is commencing; open baskets, in sphagnum, fibrous peat, and pieces of charcoal. Summer temp., 60° to 90°; winter, 50° to 60°.

" barrin'gtonia (Barrington's). Yellow, brown. April.
Jamaica. 1790.
" brevispa'tha (short-spathed). See L. candida.
"ida'ma (white). White, green. Central Amer. 1852.
" elia'na (hair-fringed). July. Brazil. 1838.
" cinnabari'na (cinnabar). White, apricot-red. Peru. 1839.
" co'le'sha (shell-like). Orange. Trop. Amer.
" conso'leri (cousin-german). Mexico.
" modip'osa (Modigian). White. Brazil. 1888.
" costa'sa (ribbed). Peru. 1842.
" denningia'na (Dennigian). White-green, red-brown.
" July. America. 1876.
" " pr'as (excelling). Large, finely-coloured.
" punctus'ssis (much-spotted). Lip with five purple blotches. 1882.
" dou'sa (Dousian). Brown, yellow-white. Costa America. 1848.
**LYCHNIS**


**Harrisonia** (Mrs. Harrison's). See BIFERNARIA HARRISONIANA.

hennisiana (Hennisian). Green, white. Colombia. 1906.

imschootinga (Imschootingian). Pale brown, yellow, red. 1893.

(Calais) *jugo'sa* (joined). White, purple. Brazil. 1867.


la'ta (broad). Green, white. Peru. 1910.

lawrence'a (Lawrencean). See L. CANDIDA.

leuco'sitha (white-flowered). White, green. Central America. 1890.

lindeni'a (Lindenian). White, red-purple. S. Amer.


Locustra (Locust). Green, white. Peru. 1879.

*Lucia'i* (Lucian's). Pale brown, pink, white. 1893.

macrophylla (large-bulbed). Yellow, crimson. Colombia. 1850.


mesochila'na (middle-robed). Green. Peru. 1853.

michelliana (Michellian). Yellow. Segments broader than *L. aromatica*. Mexico. 1900.


*plia* (flat-flowered). See L. MACROPHYLLA.

Puy'dius (Puydies). Green, bright, violet. Brazil. 1880.

*Ra'nsi* (Rands'). Purple-red, barred with white. Rogersoni (Rogerson's). White, rose-pink, ruby-red.


(Paphian) rugosa (wrinkled). Yellow, purple. Colombia. 1879.

Kalbreyeri (Kalbreyer's). Yellow, brown-purple. Colombia. 1880.

sanderiana (Sanderian). Soft yellow, brown, white. Colombia. 1879.

schilleriana (Schillerian). Green, white. Central Amer.


*magnifica* (magnificent). Sepals olive; petals and lip white. 1904.


smce'a (Smeean). White, purple. 1883.

subphal'na (subphal). Sulphur. Spotted with red and purple. 1882.


*tubers* (whitish). Sepals pale green; petals white. 1906.

*Tunstelli* (Tunstall's). Sepals rose; petals white; lip ruby-red. 1901.

*u'na* (bright violet). See BIFERNARIA TYRIAN-THINA.


**LYCHNIS** (From Lucknas, a lamp; referring to the brilliancy of the flowers. Nat. ord. Cloverosir [Caryophyllaceae]. Linn. 10-Decandra, 4-Pentagynia.)

The hardy herbaceous are chiefly cultivated; seed, division, and cuttings under a hand-light of the young shoots, as growth commences, in spring. Small side-shoots may be obtained from flowering stems, but they do not answer so well; rich, sandy loam. They require dividing often in spring, and fresh soil to grow in. *Grandiflora* requires protection in a cold pit in winter; double flowers require more attention in changing the soil than single ones.

**Tender Kinds.**

L. corona's (crowned). See L. GRANDIFLORA.


**Hardy Annuals.**


**Hardy Herbaceous.**


*div'rnana* (day-flowering). See L. dioica and variety.


*ru'bra-pl'a* (double-red). Red.


*Fortu'na* (Fortune's). See Silene FORTUNI.


*fugida* (shining). See L. CHALCEDONICA.


*Helv'ica* (Swiss-alpine). See L. ALPINA.

*himalay'nsis* (Himalayan). Himalaya.

*le'ta* (jovita). See Silene LETA.


*moglena* (neglected). See L. VISCARIA.

*mik'sans* (nodding). Sikkim.

*pascif'o'ra* (summer-flowered). Siberia.


*Sarto'ri* (Sartor's). 1. Purple. China (?). 1906.


*bie'doi'sa* (Siebold's). See L. FULGENS.


*vesperi* (evening-flowering). See L. ALBA and varieties.

LYCOPODIUM PUBERULUM and L. PUBIFLORUM. See LATUA venenosa.

LYCIIUM. Box Thorn. (From lukion, an ancient name of no meaning. Nat. ord. Nightshades [Solanaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Cuttings of ripened shoots in autumn or spring, under a hotbed, do not succeed in a cold frame. The tender kinds require protection. They are mostly of a free, rambling, half-climbing character; and europa'um and its congers are thus well fitted for covering arbours, unsightly walls, &c.; a'rum does well on a conservatory wall, and its fruit is pretty, and it blooms very freely.

EVERGREENS.


DECIDUOUS CLIMBERS.

, chile'nsis (Chilian). Chilli.
, indo'cum (humped). Spinlees. 1808.
, variega'tum (variegated). Leaves variegated with yellow.
, fuchsio'lis des (Fuchsia-like). See ICHOROMA FUCHSIOIDES.
, ensare'lata (Gesneria-like). See ICHROMA GESNEROIDES.
, greville'a'num (Grevillean). Argentina.
, halimo'sifolium (Halaman-leaved). Origin unknown.
, japon'icum (Japanese). See ICHOROMA PORTIA.
, lanceola'tum (spur-head-leaved). See L. CHINENSE.
, rhombifo'lium (diamond-leaved). China.
, riki'chis (Rikich's). California.
, rigido'sum (stiff). See L. CARNOSUM.
, ca'spicum (Caspian).July. Caspian Sea.
, trew'sum (Trew's). See L. CHINENSE.
, turbi'natum (top-shaped). See L. CHINENSE.

LYCIIOMORIUM. (From mormoluk'sus, a hideous spectacle or mask, the roots of the word being transposed. Nat. ord. Orchidaceae.)

 Warm house Orchids. Division when young roots are just commencing. Sphagnum, fibre of peat and sand.


LYCOPODERDON. Puffballs. A genus of fungi, more or less globular, white and fleshy in the early stages of growth. The Giant Puffball (L. giganteum) in this stage is eaten by some, and considered a dainty, but is doubtfully wholesome after it matures and the spores ripen. Finally they become brown, burst, and give off clouds of spores, like puffs of smoke, when struck.

LYCOPE'SICUM. Love-apple, or Tomato. (From lubus, a wolf, and persico'um, a peach. Nat. ord. Nightshades [Solanaceae]. Linn. 5-Pentandria, 1-Monogynia.)

See Lycopersicon esculentum. (eatable).

All annuals, except persico'um, and natives of South America. Seeds in a hotbed, in March, potted once or twice, and planted out in May; escul'tum generally against walls or palings, in order that the fruit may be ripened for sauce and soups; rich soil; the plant must be well thinned by stopping all the laterals, and finally the top, when all the fruit that will ripen has been set. To have the fruit is the object.

, communis'um (changed). See L. PERUVIANUM.

Stove herbaceous.

LYCOPODIUM. Club Moss. (From lubus, a wolf, and pous, a foot; the roots having a resemblance to that animal's paw. Nat. ord. Lycopods [Lycopodiaceae]. Linn. 24-Cryptopogamia, 3-Lycopodinae.)

Stove, greenhouse or hardy, evergreen perennials, very suitable for Wardian cases, and the native, hardy ones for peaty spots on the rockery. All delight in loose, fibrous, or spongy peat. The stove and greenhouse species should be shaded. Divisions or cuttings in spring. A large number of species, formerly included in the genus, are now referred to Selaginella, which see.

L. alo'si'um (Aloe-leaved). E. Ind.
, alpi'num (alpine). 3. Europe (Britain).
, anno'num (year-old). 4. Europe (Britain).
, arbo'reum (tree). See SELAGINELLA APPA.
, brasilie'se (Brazilian). See SELAGINELLA PLECO'USA.
, ca'si'um (blue). See SELAGINELLA UNICINATA.
, cori'a'um (circular). See SELAGINELLA INVOLVATAS.
, crenul'atum (crenated). Stems trailing, 2–4 ft. long. Europe (Britain).
, complana'tum (flattened). Europe.
, corda'tum (heart-shaped). See SELAGINELLA CORPORA.
, cro'a'sum (thick). Peru.
, denicula'tum (tooth-tleted). See SELAGINELLA DENTICULA'TA.
, diaphora'num (forked). W. Ind.
, flabella'tum (fan-shaped). See SELAGINELLA FLABEL'ATA.

Galeo'tti (Gallet's). See SELAGINELLA GALEOTTII.
, gniado'o'ses (Gnidium-like). 3. S. Africa.
, inna'dum (flooded). 7. Europe (Britain).
, loidophy'lium (slender-leaved). See SELAGINELLA LEPIDOPHYLLA.
, luci'um (shining). 1. N. Amer.
, male'sis'um (Mandiocean). Mexico. 1871.
, mo'orea'sum (Moorean). 1. Brazil. 1892.
, persico'num (Peruvian). Peru.
, plumo'sum (plumose). See SELAGINELLA PLUMOSA.
LYCOPSIS

(Lyco'spis. From Iukos, a wolf, and opis, the eye; a fanciful comparison of the blue flowers to the eyes of a wolf. Nat. ord. Boraginaceae.)

Hardy annuals, easily reared from seeds in ordinary garden soil.


LYCOPIS. (The name of a woman in Roman history. Nat. ord. Amaryllidae [Amaryllidaceae]. Linn. 6-Hesperandria, 1-Monogynia. Allied to Vallota.)

L. ardea (a pretty bulb, with greyish leaves, requiring a deep, sandy-soiled border; but, as it grows all the winter, it is best kept in a pot. Rafisia is a shy bloomer. For further instruction, see Amaryllis.)


L. terracistii (Terracist’s). Crimson, edged white when fading. 1889.

LYGODIUM. (From Lygodium and dicum, a net; in allusion to the netted veins. Nat. ord. Filicines.)

A handsome, climbing fern, requiring stone treatment. Division. Loam, peat, and sand, with plenty of moisture in summer.

L. Forsteri (Forster’s). Fronds pinnate. Polynesia. 1882.

LYGODIUM. Snake’s Tongue. (From lugodes, flexible; referring to the twining habitat. Nat. ord. Ferns [Filicines]. Linn. 24-Cryptogamia, 1-Filices.)

Stove climbing Ferns. See Ferns.


L. hastatum (halbert-shaped). See L. volubile.


L. polymorium (many-form). See L. venustum.

L. reticulatum (netted). See Lycoglossum Forsteri.


L. Fulchii (Fulcher’s). Finns larger. Polynesia. 1805.


LYMBOONTON. (From limnos, a brook, and phukon, a plant; the habitat of the plant. Nat. ord. Alliumaceae. Allied to Sagittaria.)

Stove aquatic herb with arrow-shaped leaves and persistent sepalas. Seeds, divisions in spring. Rich, loamy soil in a tank or tub.


Hardy white-flowered evergreens, from North America. Chiefly by layers, in a damp, peat border; also by seeds in sandy peat, best under hard-lights, and sparingly covered; sandy peat, and cool situation. Several species of value.

L. capreaeai (tendril-leaved). See L. ligustriina.


L. forsteri (variegated). See L. ligustriina.


L. ligustriina (variegated). See L. ligustriina.

L. nigrida (stiff). See L. ferdinigina.


L. salicifolia (willow-leaved). See L. ligustriina.

LYSIOCHIA. (Named after J. Lyons, who first brought him the genus, from Joseph Banks. Nat. ord. Dogbones [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Parsonia.)

Greenhouse evergreen twiner. Cuttings of the young shoots in sand, under a glass, and in a close frame, in April; sandy should be moved to this genus.


LYSICHITUM. (From lysis, the act of loosening or freeing, and chiton, a tunic; the spadix is spread open so that the spadix is exposed. Nat. ord. Araceae.)

Hardy Aroid, and perennial. Seeds; divisions in spring. Any good soil, or water in sand, under a glass; sandy loam; the protection of a cold pit or greenhouse in winter.


LYSIMACHIA. (Named from Lysima and chios, a tunic; the spadix is broad and flat; the spadix is spread open so that the spadix is exposed. Nat. ord. Primulaceae [Primulales]. Linn. 5-Pentandria, 1-Monogynia.)

Loosestrife. (From lysis, concluding, and melos, a plant, supposed soothing qualities. Nat. ord. Primulaceae [Primulales].)
LYSINEMA

All, yellow-flowered, except where otherwise mentioned. Division in spring, and cuttings of the young shoots under a hand-light, in sandy loam, in a shady corner. There are a few annuals and biennials not worth culture.

**Greenhouse.**


*ca'ndida* (white). See *L. obovata*.


Evergreen trailer.


**Hardy Herbaceous.**

*L. a. dodecandria* (top-clad). See *L. decurrens*.


*angustifo'lia* (narrow-leaved). See *L. stricta*.

*azoric'a* (Azorean). See *L. nemorum*.


*burchi* (short-spiked). See *L. barystachys*.

*bulbosa* (bulb-bearing). See *L. stricta*.

*capriflora* (headed). See *L. thysiflora*.

*clara* (hair-fringed). See *Steironema ciliatum*.


*daewi'rus* (Daburian). Siberia.

*denudata* (deciduous). China and Japan.


*Fortunii* (Fortune's). China and Japan.


*hylida* (hybrid). See *Steironema heterophyllum*.

*ja'sna* (Javanese). See *L. decurrens*.

*lanceolata* (lance-shaped). See *L. fraseri*.

*Lesschau'nii'li* (Leschenaultia). India.

*linea* (linear). See *L. mauritianiana*.


*longi's* (long-leaved). See *Steironema longifolium*.


*Evergreen. "Crab-like."

*pala* (pale). See *L. vulgaris*.


*ramo's* (branched). Himalaya.

*salicifo'lia* (willow-leaved). See *L. ephemera*.


*Aquatic.

*spicili'tia* (whorled). See *L. punctata*.


Europe (Britain).

**LYSINE'MA.**

(From *lissi*, free, and *nema*, a filament. The stamens not adhering to the sides of the corolla, as is usual in this Nat. ord. *Epacridaceae*. Linn. 5-Pacificandria, 1-Monogynia.) Allied to *Heterophyllum*.

Greenhouse evergreen shrubs, from Australia. Cuttings of the young shoots, getting firm at the base—short shoots a couple of inches in length are the best—in sand, under a glass, in the beginning of summer; rough, sandy peat, with pieces of charcoal, broken bricks, and freestone, and well-drained. Winter temp., 40° to 45°.

*L. attenu'a* (thin). See *L. pungens*.


*pentas* (five-petaled). See *L. ciliatum*.


**LYSIONOM'TUS.**

(From *lissi*, free, and *nomos*, the earth; allure beginning to grow in the back. Nat. ord. Gesneriaceae.) Linn. 14-Didynamia, 1-Gymnospermia. Allied to Agalmaya.

Stove herbaceous. Seeds in light, sandy soil, in a hot-bed, in spring; division of the plant at the same time; peat and loam. Summer temp., 60° to 75°; winter, 45° to 50°.

*L. carno'na* (shaggy). 1. White, tinged with lilac.

China. 1900.

*longis* (long-flowered). See *Eschymanthus longiflorus*.


**LYSIS'TI'MA.**

(From *lissi*, free, or separation, and stigma, the stigma; in allusion to the stigmas being free or 3-6 lobed. Nat. ord. Araceae. Referred by the genera Plantarum to Taccarum.)

**LYTHRUM.**

(From *lythron*, black-blood; the prevailing purple colour of the flowers. Nat. ord. Loose-strifes [Lythraceae]. Linn. 11-Doecandria, 1-Monogynia.) All purple-flowered, except *lineatifera*. Seeds of annuals, in the common border, in spring; perennials, by division at the same time. *Ala'num* is an old resident of the greenhouse, propagated by division and cuttings of the young shoots, or the points of old ones, and forms a fair bed of purple for the flower-garden in summer, requiring the greenhouse or cold frame in winter. The following are all hardy herbaceous, except *ala'num*, just mentioned, and *Hyssopus* and *Gra'fieri*, which are hardy and wintering, in any protected border.


*diffusum* (spreading). See *L. Salicaria*.

*fruticosum* (shrubby). See *Woodfordia floribunda*.


*thymo's* (thyme-leaved). Allied to *Allioni*. See *L. Gra'fieri*.

*tomentos* (woolly). See *L. Salicaria*.


*Vulnaris* (Vulneraria). See *L. ala'tum*.

**M**

**MAA'CKIA AMURE'NSIS.**

See *Cladarastis Amur',ensis*.

**MABA.**

(From the native name. Nat. ord. *Ebenales* [Ebenaceae]. Linn. 22-Dicaya, 6-Hexandria. Allied to Diospyros.)

Stove evergreen shrubs. Cuttings of half-ripened shoots in May, under a glass, in sand, over fibrous peat, and a very slight bottom-heat; peat and loam.


*nata'na* (Natal). S Africa.

**MACADAM'IA.**

(Commemorative of John Macadam of Victoria. Nat. ord. Proteaceae.)

Greenhouse evergreen tree of economic importance in Queensland. Cuttings of mature shoots in peat and sand, under a glass, and kept covered till the callus forms, when a gentle bottom-heat may be given. Peat, loam, and sand.

*M. tur'fio'ria* (thyme-leaved). 3-5. Australia. 1869.

*Queensland Nut.*
MACARA'NGA. (The native name of the plant. Nat. ord. Euphorbiaceae.)

Small trees or large bushes. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, leaf-mould, and plenty of sand.

M. kilimanjara'ica (Kilimanjaran). Leaves bronze when young. German E. Africa. 1904.

aculea'ta (prickly). Acanthaceas. See Asystasia.


Ros'web'gi (Roxburgh's). India.


MACRIB'DE'A. (Named after Dr. Macbride, of S. Carolina. Nat. ord. Labiataes, or Lipworts [Labiatae]. Linn. 1823. Allied to Melitias.)

Greenhouse evergreen. Cuttings of young shoots, getting firm at their base, in May; loam and a little sandy peat, well drained.


MACFADYE'NA. (A commemorative name. Nat. ord. Bignoniaceae.)

Vigorous evergreen stove climbers, with showy flowers. Seeds; cuttings of short stiff shoots in summer, inserted in sand and placed in a close case with bottom-heat. Loam, peat, and sand.


densa'ta (toothed). Known in gardens as Bignonia Frasera. 1903.

unscna'na (hooked). Panama.

MACHERANTHE'RA. (From mahaira, a bent sword, and anthera, an anther; alluding to the shape of that part of the flower. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 2 Superflora.)


MACHE'RIUM. (From mahaira, a bent pod; in allusion to the shape of the winged pod. Nat. ord. Leguminosae.)

Tail evergreen shrubs or trees, requiring stove treatment. Cuttings of half-ripe wood, is sand, placed in a close case with bottom-heat. Loam, peat, and sand.


Gardens of Teneriffe. 1820.


MACKA'YA. (Commemorative of Dr. J. F. Mackay, a superintendent of the Dublin University Botanic Garden. Nat. ord. Acantaceae. Now referred to Asystasia.)

M. be'ila (pretty). See Asystasia bella.

MACLE'ANIA. (Named after John Maclean, Esq., of Lima, a British merchant, and a distinguished patron of botany. Nat. ord. Grantheres [Vaccinaceae]. Linn. 10-Decandria, 1-Monogynia. Allied to Tibaudia.)

Greenhouse evergreens. Cuttings under a hand-light or bell-glass of the points of the shoots, when getting firm at their base, in sand, and kept close in a cold pit, a little air left under the glass, if placed in a slight hotbed; sandy loam and fibrous peat. Winter temp., 40° to 45°.


corda'ta (heart-leaved). Orange. Peru. 1848.


tenui'sfia (thin-leaved). See M. longiflora.

MACLE'A'YA. (Named after A. Macleay, a British naturalist. Nat. ord. Poppyweeds [Papaveraceae]. Linn. 11-Døcandria, 1-Monogy'nia. United to Bocconia.)

M. corda'ta (heart-leaved). See Bocconia Cordata.


Cuttings of ripe shoots under a glass, in heat; aurani'ta aca by cuttings of the root and layers; soil, peat and loam. Although aurani'ta aca is hard it requires a warm situation.


Hardy deciduous.

'cin'mi'ta (unarmed). A spineless variety. 1896.

Plum'id'a (Plumier's). See Chlorophora Tinctoria.

tinc'to'ria (dyer's). See Chlorophora Tinctoria.


MAC'CO'ES. (Derivation not very clear. Nat. ord. Orchidaceae.)

Terrestrial orchids with very handsome foliage. Divisions or cuttings when growth is commencing, under a bell-glass. Fibrous peat, sphagnum, bits of charcoal, and sand.


Peu'lia (Petola). Leaves velvety olive, with yellow tints. Java. 1859.

senderia'na (Sanderian). Leaves dark olive-green, netted yellow. Sunda Islands.

Ve'tchi's (Veitch's). Philippine Islands.

MACRADER'NIA. (From maharaos, long, and aden, a gland; referring to the long process of the pollen-masses. Nat. ord. Orchidaeae [Orchidaceae]. Linn. 20-Gy'ndria, 1-Monogynia. Allied to Toxyilia.)

Stove orchids. Division when growth is commencing; fibrous peat, charcoal, and broken pots and sphagnum, the plants raised above the pot requiring a strong, moist heat, but a bell-glass when growth is proceeding, and cooler and drier when resting.

M. Brass'a'volia (Brassavola-like). White, yellow, purple. Guatemala. 1864.


tria nud'a (three-anthered). Pale green, red inside. Guiana; Cuba.

MAC'RE'A. See Viviania.

MACRA'NTHUS. (From maharaos, long, and anthos, a flower. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-Diadaelia, 2-Decandria. See Mucuna.

M. cochinchin'ensis (Cochin-China). See Mucuna Cochinchinensis.

MACROCHILUS' FRI'A'US. See Miltonia specta'bilis.

MACROCHO'RIUM. See Aechmea.

MACRONE'UM. (From maharaos, long, and kneme, a leg; referring to the flower-stalks. Nat. ord. Rubiadas [Rubiaceae]. Linn. 5-Pentiandria, 2-Monogy'nia. Allied to Pelandia.)

Stove evergreen trees. Cuttings of ripe shoots in sand, under a bell-glass, and in a brisk bottom-heat; peat and fibrous loam, well drained. Winter temp., 55° to 60°; summer, 60° to 85°.

M. cocci'neum (scarlet). See Warszewiczia Coccinia.


tinc'to'rium (dying). See Condamin'ea noctu'toria.

MACROLO'BRIUM. (From maharaos, long, and lobos, a pod; it has long pods. Nat. ord. Leguminosae.)

Stove evergreen tree or shrub. Cuttings in sand in a close frame, with bottom-heat. Loam, peat, and sand.


MACROMER'IA. (From maharaos, long, and meris, a part; referring to the unusual length of the stamens. Nat. ord. Borageworts [Boraginaceae]. Linn. 5-Pentiandria, 1-Monogy'nia.)
Half-hardy evergreen shrub, requiring the protection of a cold pit in winter; seeds and divisions in spring; sandy loam and fibrous peat.  

MACROPIPER EXCELSUM. See PIPER EXCELSUM.

MACRODIA. (From makros, large, and pos, pous, a foot; in allusion to the thick rhizomes. Macrodia is considered the correct spelling of the word. Nat. ord. Asclepiadaceae.) A greenhouse herb, with the habit of Anigozanthus. Divisions in spring. Fibrous loam and peat in equal quantities, with sand.  

MACROCEPS. (From makros, large, and chepe, a wrappet. Nat. ord. Asclepiadaceae.) Evergreen stove twineas. Seeds; cuttings of side-shoots in sand, with bottom-heat. Loam, peat, and sand.  


MACROPHYRA. (From makros, large, and sphura, a hammer; in allusion to the large stigmas. Nat. ord. Rubiacese.) Evergreen, stove shrubs. Cuttings in sand in a close case, with bottom-heat. Fibrous loam, peat, and sand.  

MACROSTIGMA TUPISTROIDES. See TUPISTA SQUALIDA.

MACROSTYLIS. (From makros, long, and stylis, a style, or female organ. Nat. ord. Kuesrots [Rutaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Agathosma.) Greenhouse evergreen shrubs, from South Africa. Cuttings of young shoots getting firm, in April or May, in sand, under a bell-glass, and kept in a close place, but without bottom-heat; sandy peat and fibrous loam, but most of the former. Winter temp., 40° to 45°.  
M. cor'data (heart-leaved). See AGATHOSMA IMBRICATA.  
M. oblongi'ola (lance-leaved). See M. SQUAREREA.  

MACRO'GONIA. (From makros, large, and tomion, a piece cut off. Nat. ord. Boraginaceae.) Hardy annuals, the geraniums, suitable for the rockery. Seeds; cuttings in sand in a cold frame kept close during July and August. Loam, leaf-mould, and sand, or any rich light soil.  

MACRO'GROPHELUS. (From makros, long, and tropis, a keel; referring to the length and name of the lower part of a pod. Nat. ord. Leguminoseae.) Leguminous Plants [Leguminoseae]. Linn. 10-Decandria, 1-Monogynia. Allied to Sophora.) Greenhouse evergreen shrubs, from China. Cuttings of small side-shoots, taken off in spring, in sand, under a bell-glass; seeds sown in a slight hotbed, and potted off when up; peat and loam, in equal divisions. Winter temp., 40° to 45°.  
M. fur'ida (fetid). See ANAGYRIS SINENSIS.  
M. iar'is (irises). See ANAGYRIS INDOVINA.

MACROZAM'IA. (From makros, large, and Zamia. Nat. ord. Cycadaceae.) Stove or greenhouse evergreens, preferring a moist atmosphere when making their young leaves. Imported seeds or plants; occasionally offsets may be detached. Fibrous loam, peat, and sand.
procured thence, and from France, where, in their clearer sky, the trees thrive better, and ripen their seeds, which they seldom do with us. The seeds should be sown in a hotbed, in spring, and a little patience should be exercised until they germinate and grow. When they are large enough, they must be successively potted, and kept several years in a cold pot in winter. Though the most vigorous plants are thus raised, yet, as they are long in blooming, patience is usually given to plants raised from layers of all the stronger-growing kinds. These are generally laid down in the autumn, and the best part of two years generally elapses before they are fit to be moved, when they should be potted, and kept as a pot until well established. No one should purchase a young plant, except in a pot, as the few, large, fleshy roots are easily injured. Some of the more succulent-stemmed kinds, with large pith, can neither be layered nor grafted—such as *Tripe'la* and *Macrophy'la*. For these seedlings are the best, and the seed ripens freely in different parts of France. Most of the varieties and the weaker species may be budded, and grafted, and inarched on the stronger-growing, more easily reared kinds. *Obovata* and *acumina* are much used for this purpose. In most cases it requires a considerable time to effect the union. In many cases, wherearching is resorted to, two years must elapse before the separation can be effected safely. The tenderer Chinese and Asiatic species require, in general, protection in winter; the former a cold pot or greenhouse, the latter a wall, &c. They are propagated by layers, buds, and cuttings, and inserted in sand, under a glass. Many kinds, however, will propagate by the herbaceous-like young shoots; but more attention to shading, &c., is required. All delight, when planted out, in a deep, sandy soil, quite dry, and enriched with peat and a little leaf-mould. *Glauc*a, however, generally thrives best in a peaty soil rather retentive of moisture.

**Tender Evergreens.**

*M. Champa'ni* (Champion’s). See *M. Pumil*a.

*M. Campanul'a* (reversed-egg-shaped). See *Michelia compressa*.

*M. Fusca* (brown-stalked). See *Michelia Fuscata*.

*M. Ano'nea* (Anona-leaved). See *Michelia Fuscata*.

*M. Odorat'sima* (sweetest-scented). See *Talania Can'dollei*.


**Hardy Evergreens.**

*M. Delana'yi* (Delavay’s). Pure white, egg-shaped. Yunnan, China. 1903.


*M. Hy'ro* (two-flowered). Flowers in pairs, opening in succession. 1885.


*M. Praverta'nia* (Pravertian). Habit pyramidal; fruits red. 1903.


*M. Boreas* (Nisus). Leaves, flowers, and fruits larger than the type. Japan. 1898.

**Hardy Deciduous.**


*M. Can'dollei* (De Candolle’s). 60. June. N. Amer. 1735.


*M. Mis'sima* (largest-leaved). 60. June. N. Amer. 1736.

*M. Auricu'la* (ear-leaved). See *M. Fraseri*.
MALABAR LEAF. Cinnamomum icterus.
MALABAR ROSE. Hibiscus sa-malabarica, which is H. hirsutus.
MALACHAEDONIA. (From malach, a mallow, and aden, a gland. Nat. ord. Orchidaceae. Properly it is a Bulbophyllum.)
M. clausa (clubbed). Green, brown. Brazil. 1839.
MALACHIO/NDRON. See STURTAGIA.
MALA/XIS. (From malas, delicate; referring to the whole plant. Nat. ord. Orchidaceae. Linn. 20-Gynandra, 1-Monandria. Allied to Calypso.)
MALACHRO/NE. (Terrestrial orchids, growing in sandy peat, and in moist places; division of the roots.)
M. caudata (tailed). See Brassia caudata.
malagana (Lily-leaved). See Lepis liliifolia.
opoglossos des (Ophiglosus-like). See Micro-
stylist ophiglososides.
MALAY APPLE. Eugenia malacensis.
Hardy annuals, blooming in June, if sown early in April; but a succession may be kept up by sowing in the three following months; common garden soil.
arenaria, ch'a, incressa, and mari tima are the hand-
bicolor (two-coloured). Greece.
1732.
incressa (thick-leaf-stalked). See M. flexuosa.
intermedia (intermediate). See M. africana.
la'cera (torn-leaved). White, yellow. S. Europe.
1780.
regi-gibian (Stock).
parisif'era (small-flowered). 1. Lilac. S. Europe.
1823.
tarascosif'era (dandelion-leaved). See M. Runcinata.
MALE FERN. La'stea Filiz'-ma's.
Greenhouse annuals, from Chili. Seeds sown in a hotbed, in March, seedlings prickled off, potted, and flowered in the greenhouse; sandy peat and fibrous soil, with a little very reduced leaf-mould.
M. fasciculata (scarce). See Gymnopleura fascicu-
LATA.
hu'nilis (humble). See Gymnopleura humilis.
linearif'olia (narrow-leaved). See Gymnopleura lin-
aria.
MALLOTUS. (From mallotus, fleecy, or woolly; alluding to the woolly fruit. Nat. ord. Euphorbiaceae.)
Stove and greenhouse evergreen shrubs or small trees. Cuttings taken in a close case, with bottom-heat.
Loam, peat, and sand.
M. cochinchinensis (Cochin-chinese). India and China.
japo'nicus (Japanese). China and Japan. 1866.
punicul'bus (panicked). See M. cochinchinensis.
MALLO/ROSE. Hibiscus Moscheut'os.

MAMMILLARIA

Stove evergreen trees. Cuts of the somewhat
stubby, shiny, when in bloom, and a bell-glass in
heat; but the bell-glass must be elevated at night,
to prevent damping; fibrous, peat, and sandy, lumpy loam.
Winter temp. 50°; summer, 60° to 85°.
M. prolifus (shaggy). See M. ARBOREUS.

MAMESTRA. Cabbage Moths. The winged form
of Mamestra Brasica makes its appearance in May
and June, during the evenings, flying about in gardens,
and laying its eggs on a great variety of plants, but preferring
Cabbages, Cauliflowers, and other vegetables of that
class to any other plants. The caterpillars hatched
are black on the back, and vary with brown on the
first fore-wings, and laid on a great variety of low-growing plants,
including such vegetables as Cabbages, Lettuces, Broccoli,
and whatever may be in the ground at the time.
The caterpillars are now in the greenish-brown with a
brown line on the back, and a bright yellow line on either
edge, edged with a dark colour. It feeds during August
and September, and passes into the soil, where its
coconut may be found during the winter while diggng.
The moth is quite a little under a 1½ in. in expansion.
The fore-wings are dull, red, with two deep orange
spots near the edges, and a pale wavy line near the ends.

Needless to say, the Caterpillar ground and that near the
vegetables, even the lower down the heat and sun, are the
most important in the garden, for the two pholus before being put round
the base of the stem, has been found serviceable in
preventing the caterpillars from crawling up again.

MAMILLARIA. (From mammilla, the diminutive of
mamma, a teat; in allusion to the prominences on the
abdominal surface of the plant.) Nat. ord. Cactaceae.

Dwarf plants, composed of an assemblage of tubercles,
somewhat resembling the teats of animals; these
are generally terminated with bunches of hairy bristles,
and between them the flowers appear. To grow them successfully,
welight of each flower not to the heat of the
loam and peat, with a fair portion of brick rubbish and
cow-dung, old and dried, in April or May; afterwards
kept in a temperature of from 75° to 90°, with plenty of
atmospheric moisture, but little or no water given to the
roots until they are rooting freely; then water may be
given, and the stimulus to growth continued for two
or three months, when moisture must be gradually with-
drawn, and the plant kept in a temperature of from
50° to 60°, the atmosphere being kept as moist as possible for a
degree to consolidate the tissues; and in the
end of autumn the atmosphere must be gradually cooled,
to enable the plants to stand dry, and in a dry atmosphere,
and a temperature of from 45° to 50° during the winter.
No shade will be required under this description,
before fresh growth is made. Those who try them in
windows may easily give them the above treatment by placing
them in a closed box or pot for two months in
summers, with the temperature kept elevated at night
by the heat of the house or by a thermometer.
Their greatest enemy is the red spider; plenty of syringing
when growing in winter, and steaming with sulphur
from the hot-water pipes at other times, is the best
remedy. In summer, when the plant is in leaf, water
must be supplied; a very little; or none must be given at
other times.

M. aloides (Aloe-like). See ANHALONIUM PRISMATICUM.
M. angu'nea (snake-like). Mexico.

"anga'li'a'ns (angled). See M. COMPRESSA.

ar'zo'nica (Arizona). See M. RADIOSA ARIZONICA.

a'tra'ns (dark). See M. RHODANTHA.

au'ricle's (golden-headed). Mexico.

au'tumnalis (autumnal). Country unknown.

ba'bara'ns (bearded). Pale red, with central violet stripes. Mexico.

Be'rges (Igen's). Mexico.

bi'tone (two-toned). Purple or red. June.

Bo'chis (Bock's). Mexico.

bode'ckeri'a'ns (Bodeckerian). White, with tawny stripes. Country unknown. 1910.

bomby'cina's (silken). Radial spines silky. Mexico.

Br'an'degei (Brandge's). Greenish-yellow. California. 1901.

Buss'leri (Bussler's). White. Mexico. 1902.

calcar'a'ns (curved-yellow). Mexico, Texas.


gla'bre'sces (smoothish). Mexico. 1906.

chi'o'ni'na (green-flowered). Greenish. Texas. 1883.

chrysa'cana'ns (golden-spined). Yellow. Mexico.

chrysa'ni'na (golden-flowered). See M. CHRYSCANTHA.

ciri'na's (form). Mexico.

di've'ce'nes (diverging). Mexico.

el'gans (smoothish). Mexico. 1906.

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cart'a (nail). Yellow. Mexico.


colou'ma'ris (columnar). See M. FOLIYTELE.

cor'pa'ta (floribunda). Mexico, Texas.

co'tes (conical). July. S. Amer. 1808.

com'po'ses (cone-like). Mexico.

cors'a 'gera (heart-bearing). Areoles heart-shaped.

corn'a'na (horn-bearing). Mexico. 1845.

cor'mina'mma (horn-tended). Light yellow, purple. Orange-red. 1889.


cro'spi'a (thick-spined). Mexico.

cro'cin'a-ta (safron). Mexico.

cru'cifera (cross-bearing). Beautiful purple. Mexico. 1832.

delit'a (whitened). Mexico. 1872.


delat'a'ns (Delatian). Pale yellow. California. 1908.

den'sa (dense). See M. ECHINATA.

depre'sa (depressed). Of Decandolle. See M. DISCOLOR.

Des't'ri (Desert's). California.

diff'i'cis (difficult). Flowers and fruits unknown. Mexico. 1906.


dolich'o'ce'na (long-spurred). Purple. Mexico.

gale'ot'tis (Galeott's).

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dar'me'ns (Durangan). Mexico.


ehron'e'reg's (Ehreng's). Mexico.

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eleph'an'tidens (elephant-toothed). Mexico.

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elong'a'ta (elongated). Mexico.

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ex'ma'teria (Emskoatterian). Mexico.

fich'a'ri (Fischer's). Yellow. Mexico.

fus'e'centes (yellowish). Yellow. Trop. Amer. 1817.

flo're'vul'na (tree-flowering). Pink. Chili.
MAMILLARIA

M.pectina'la (comb-like). Texas.

"Ferr'negi" (Ferrugineus). See M. MEXI'LANA.

"purp'o'sa (rock-loving)." Greenish-gold. Lower California. 1907.

"Pfief'ser'i" (Pfeifer's). See M. RHODANTH A.

"pha'sca'la (dusky-spined)." Mexico.

"phal'o'sep'ta (corn-seeded)." Arizona and Mexico.

"phyl'o'mal'o'se'la (bud-nipped)." Mexico. 1846.

"plu'mo'sa (plumy)." Mexico. 1901.

"poly'dera (many-seeded)." Pink. June, July. Mexico.

"pol'y'o'se'la (many-nippled)." Red. August. Mexico. 1838.

"Pod'nis (Pond's)." California.

"pris'matica (prismatic)." See ANHALONIUM PRISOMATICUM.

"pro'lis'era (proliferous)." White. June, July. S. Amer. 1800.

"psu'doarb'o'be'lla (false-very-petaly)." Flowers solitary. Fruit deep red. Mexico. 1900.

"pull'he'la (pretty)." Purple. June, July. Mexico.


"Purp'u'si (Purpus's)." Coral-red. Mountains of Colorado. 1894.

"puss'lala (pumy)." See M. STELLATA.


"pyrrh'o'ce'pha (fire-headed)." Red. June, July. Mexico.

"qun'a'dra'la (four-sided)." Chili. 1827.

"quadri'spa (four-spined)." Mexico. 1938.

"rad'ians (radiating)." Mexico. 1845.

"radio'sa (radiating)." Arizona and California.

"ramo'siss'sma (much-branched)." Flowers unknown. Country unknown. 1908.

"recu'res (recurved)." ı. Straw-coloured. Mexico. 1836.

"recu'ra'ta (recurvata)." Mexico.

"rhod'a'ca'ntha (red-spined)." Red. June, July. Mexico (?).

"rhod'a'na (red-flowered)." Mexico. 1835.


"sangui'nea (blood-red)." Dark red. Mexico. 1883.

"Sch'eri'i (Scheer's)." Texas and Mexico.


1843.

"Schmi'dit (Schmidt's)." Country unknown.

"sco'lymo'des (Scolymus-like)." Yellow and purple.

"sce'lata (Sceles)." Mexico. 1876.

"set'a'na (Sitztan)." Mexico.

"Semper'vi'li (Sempervivum-like)." Mexico.

"sierro'a'na (four-spined)." Mexico.

"se'ni'lis (old)." Orange-red. flushed with violet. June, July. Mexico.

"Se'ni'ki (Sek's)." See M. MUTABILIS.

"spath'a'na (Spathean)." Rose-red. Mountains of Colorado. 1894.

"speto'na (showy)." G. Don. Red. Chili. 1827.


"spino'ss'sma (very-spiny)." Red. June, July. Mexico.

"str'i'ma (straw)." Brown.

"ste'la'a'wra'na (golden-starred)." Yellow. June, July. Mexico.

"strella'la (starry)." Pink or pale red. May. S. Amer. 1875.

"elong'a'la (elongated)."

"te'nuis (slender)."

"te'nuis'Tre'no (slender)."

"str'un'a (straw-coloured)." See M. FLAVISCENS.

"strobilo'smos'is (cone-formed)." Mexico.

"ca'spsi'tia (tufted)." Habit tufted. 1909.

"ca'spsi'tia (hard-spined)." Mexico.

"supe'rscens (downy)." Spines 30 or more. Snow-white. Mexico. 1907.

"ru'spi'na (red-spined)." Brownish. Mexico. 1907.

"rub'o'se'la (somewhat red)." Mexico.

"interme'dia (Intermediate)."

"te'nuis (slender)." White. May, June. Mexico. 1830.

M. tex'a'na (Texas). See M. STELLATA TEXANA.


"trichaca'na (hairly-spined)." Spines hairy. Mexico. 1904.


"uncin'a (hooked)." Red. White, June. Mexico. 1846.

"unise'la (one-bristled)." Flowers not seen. Country unknown. 1904.

"vel'o'la (velvety)." Pale scarlet. Mexico. 1835.

"will'i'era (long-hair-bearing)." Mexico.

"will'i'is (green)." Mexico.

"Will'i'isi (Pfeiffer's)."

"wils'o'na (Wilcox's)." Arizona.


"cri'ata (crested)."

"Will'i'mei (Williams')." See ANHALONIUM WILLIAMSII.

"xantho'tria (yellow-striped)." Rose-purple. Mexico.

"sephyr'an'thos (Zephyranthes-like)." Mexico.

"Tetrandria, 1-Monogynia."


Cultivated in the West Indies and South America for its fruit, called the Mammee Apple, or Wild Apricot, said to rival the Mangosteen. Some evergreen tree, with white flowers. Cuttings of the half-ripened shoots in sand, under a bell-glass, and in bottom-heat; fibrous, sandy loam, and a little dried leaf-mould. Winter temp., 45° to 55°; summer to 80°.

M. africana'a (African). See OCHRORCAPSUS AFRICANUS.

"america'na (American)." 60. S. Amer. 1730.

MANCELLA. See HIPPOMAME MANCELLA.

MANDARIN ORANGE. Citrus nobilis.


Half-hardy evergreen climber. Generally by cuttings of the small, stiff side-shoots, when about three inches in length, taken off close to the old wood, and inserted in sand, under a bell-glass, and in a mild bottom-heat; potted and allowed to grow in a greenhouse or conservatory, where fine climbers are prized.


MANDROREA. See ACHIMENES.

MANDRAGORA. (From mandragoras, an herb possessing narcotic properties, a mandrake. Nat. ord. Solanaceae.)

Hardy perennial herbs of more interest than beauty. Seeds; offsets are not readily obtainable. Ordinary garden soil.


"interme'dia (intermediate)." Intermediate between M. aust'ru'malis and M. officinarum.


"pro'cos (early)." ı. Yellow. Spring. S. Europe. 1819.

"verna'lis (spring)." See M. officinarum.

MANETTIA. (Named after X. Manetti, an Italian botanist. Nat. ord. Rubiades [Rubiaceae]. Linn. 4'-Tetrandria, 1-Monogynia. Allied to Bouvardia.)

Stove evergreen climbers. In a cool greenhouse they thrive only in summer; cuttings of the young shoots in sandy loam, under a bell-glass; such kinds as cocca'na also by division of the fleshy, tubercled-roots as growth is commencing; sandy peat and fibrous loam. Winter temp., 45° to 50°; summer, 60° to 85°.

"cocca'na (cocona)." See M. STELLATA TEXANA.
MANGIFERA. Mango-tree. (From mango, the Hindoo name of the fruit, and amda, to bear. Nat. ord. Anacardes [Anacardiaceae]. Linn. 23-Polygamia, 1-Monogynia. United to Grevillea.)


MANGROVE. Rhizophora.

MANICA. (From manica, a glove, referring to the spathate, or rolling leaf which surrounds the flower-stem. Nat. ord. Palms [Palmaceae]. Linn. 21-Monacca, 9-Enneandria.)

Stove Palm. Seeds in a strong heat, in a hotbed; rich soil and loam. Winter temp., 55° to 60°; summer, 65° to 90°.

MANIFEST. (The Brazilian name of the root. Nat. ord. Spurge-worts [Euphorbiaceae]. Linn. 21-Monacca, 7-Heptandria. Allied to Jatropha.)

Stove greenish shrubs, except digitis ta, which only requires a greenhouse. Cuttings of mature wood in sand and placed in a close case with bottom-heat. Fibrous loam, peat, some nodules of charcoal and sand.


"Glouio" (Glaziouio). Brazil. "Ceara Rubber."


"palmis" (hand-shaped). Brazil.


"tenuis" (thin-leaved). See M. gracilis tenuis.


Bitter Cassava.

MANNA. Alikar.

MANNA ASH. Fraxinus ornus.

MAPLE. A'cer.

MAC'PA FORTEANA. See MACARANGA FORTEANA.

MARANHAO NUTS. Berthollet'ia.

MAR'ANTA. Arrow-root. (Named after E. Marant, an Italian botanist. Nat. Ord. Marantaceae.) Linn. 2-Monandra, i-Monogynia. Allied to Canna. A kind of arrow-root is obtained from the rhizomes, or fleshy roots, of some of the species. Stove evergreens; division of the roots in spring; rich, sandy loam, with nodules of peat. Winter temp., 50° to 60°; summer, 60° to 85°. M. Alb'evii (Albert's). Leaves peculiarly variegated. ama'bulis (lovely). Brazil. angui'stifolia (narrow-leaved). See STROMANTHE TONCKAT.


de'ossa'na (Deosivan). khe'chouvana (Kerchovan). 1. Leaves with 4-5 brown blotches. Brazil. 1879.

maho'yna (Makoyan). 1. Leaves pale green, with dark green blotches. massan'se'sna (Massangan). Leaves bluish-grey, purple.


Bino'tii ( BINOT'S). See CALATHEA SEBRINA BINOTI.

chantrier'i (Chantrier's). Leaves grey-green, with oval-oblong bands of deep green. Brazil. 1897.

chimboracan (Chimboracan). See CALATHEA CHIMBORACENSIS.

closo'mii (Closon's). Leaves dark green, variegated with pale yellow. Brazil. 1903.

conci'na (seal). See CALATHEA LEOPARDINA.

conspe'scua (conspicuous). Leaves small, with yellow-green bands. Brazil. 1885.


fascia'ta (banded). See CALATHEA FASCIA'TA.

Fascin'tor (Fascinator). 1. Leaves silvery in the centre, purple beneath. Brazil. 1894.

Gla'diosi (Gladiosi). See MYRMOSA GLADIOLI.

Gla'diosi'ri (Gladiosi). Leaves silvery-grey, with grey bands. Brazil. 1884.


illu'stris (lustrous). See CALATHEA ILLUSTRIS.

Im'som'mi (Imson's). See M. ARUNDINACEA.


Jacquini'ni (Jacquin's). See STROMANTHES LUTA.

Kemegli'na (Kegeljan's). See CALATHEA KEGELJANI.

Kerchov'ana (Kerchovan). See M. BICOLOR KERCHOVA.

Kumer'si'na (Kummerian). See MYRMOSA KUMMERIAN.

Leo'na (Leon's). 1. Leaves green, with grey variegation. 1893.

Leopardi'na (leopard-spotted). See CALATHEA LEOPARDINA.
M. leptosticha (slender-spiked). Brazil.

Cicuta-leaved. leaves with light green midrib, purple beneath. Brazil. 1874.


Lindenia (Lindeniana). See CALATHEA LINDENIANA.

lines (lined). See CALATHEA ORNATA ALBO-LINEATA.

roséa (rosy). See CALATHEA ORNATA ROSEO-LINEATA.


Luschkannahia (Luschkannahian). Brazil. 1857. This is Clelandian Luschkannahia.

majestica (majestic). See CALATHEA ORNATA MAJESTICA. 1896.


makoyana (Makoyana). See C. BICOLOR MAKOYANA.

malacca (Malacca). See ALPINA MALACENSIS.

massangeana (Massangan). See M. BICOLOR MASSANGEANA.

Meblé (Mazell's). See CALATHEA MEBLÉ.' 1864.

Mesall (Masell). Leaves with two wide grey bands. Peru. 1871.

mejor (small). Leaves with six distant blotches of red-brown. Brazil. 1897.

mussa (mosaic). Leaves glossy green, with numerous veins. Brazil. 1884.

distoloma (black-ribbed). See CALATHEA NICOTOSTOLA.

nitiens (shining). Leaves pale green, barred with dark green lines. Brazil. 1850.

nitiida (shining). 4-5. Leaves pale green, with dark green blotches. Brazil. 1894.


oliv-a (olive-coloured). See M. BICOLOR MAKOYANA.

ornata (ornamental). See CALATHEA ORNATA. 1897.

ornata (adorned). See CALATHEA ORNATA.

otonia (otonic). See CALATHEA OTONIA.

paradisia (paradise). See CALATHEA PARADISICA.

paridi (paradise). See CALATHEA PARADISICA.

psita (painted). Leaves with greenish-yellow area above, purple beneath. 1857.

pulcherrima (beautiful). See CALATHEA PICTURATA.

polis (polished). 5. Leaves pale green, with dark green blotches. Brazil. 1884.

portea (Porteana). See STROMATHEA PORTEA.

praecox (precoital). See CALATHEA MEDIO-PICTA.

priacanthus (chief). See CALATHEA PRINCES.

pulchella (pretty). See CALATHEA PULCHELLA.

regalis (royal). See CALATHEA ORNATA REGALIS.

raddiana (Riedelian). Brazil. 1858.

raddian (Raddian). See CALATHEA RADDIANA.

raddiana (Raddian). Brazil. 1858.

raddian (Raddian). See CALATHEA RADDIANA.

sagorea (Sagoarea). Leaves banded with deep green. 1862.

sanderiana (Sanderian). See CALATHEA SANDERIANA.

sangui-nea (blood-red). See STROMATHEA SANGUINEA.

seemannia (Seemann). Leaves satiny emerald-green, midrib white. 1872.

smaragdina (emerald-green). See ISCHNOSIPHON SMARAGDINUS.

speciosissima (showy). Leaves bright green, banded with greenish-white. Brazil. 1864.

specialis (special). See STROMATHEA SANGUINEA.

spicata (spicata). See CALATHEA SPICATA.

stria (streaked). Leaves lined with white, Philipines. 1856.

striae (streaked). 1. Leaves rich olive-green, with grey midrib. Brazil. 1904.

touchat (Touchat). See STROMATHEA TONCHAT.

undulata (wavy). See CALATHEA UNDULATA.

veschcke's (Veschke's). See CALATHEA VANDENHECKE.


veschcke's (Veschke's). See CALATHEA VESCHKE.

veschcke's (Veschke's). See CALATHEA VIRGINALIS.

vittata (streaked). See CALATHEA VITTATA.

wagneri (Wagner's). See CALATHEA WAGNERI.

wallisii (Wallis's). See CALATHEA WALLISII.

warscewiczii (Warscewicz's). See CALATHEA WARSCEWICZII.

witi (Witi). See CALATHEA WITIANA.

zebra (zebra-striped). See CALATHEA ZEBRINA.


allemanni (attenuated). New Caledonia. 1863.


ciuctaflora (Cicuta-leaved). Brown, yellow. Brazil. 1897.

raddiana (Raddian). Brazil. 1858.

coperici (Coperi's). See M. ATTENUATA.

elegans (elegant). See M. FRAXINEA.


purpurascens (purplish). See M. FRAXINEA PURPURACENS.

kauflussi (Kaufluss's). 5-7. Fronds four times divided. W. Ind. to Brazil.

'orris (smooth). See M. ALATA LEVIS.

rosa (Rosed). See M. ROSA-PERUCENS.

purpurascens (purplish). See M. FRAXINEA PURPURACENS.

raddiana (Raddian). See M. CICUTERFOLIA RADDIANA.


MARGORATIA. (Commemorative of Georg Margraf, a writer on natural history, Nat. ord. Tenermiaceae.)

Stove climbing and self-clinging shrub. Cuttings in sand in a warm case. Loam, peat, and sand.

M. dulcis (dulcissimus). See M. UMBRELLATA.

indica (Indian). Probably a species of Pothos. 1884.

parada (paradoxa). See MONSTERA TENENS.

umbellata (umbelled). Leaves of two forms. Trop. Amer.

MARGYRICA RUSP. (From margaros, a pearl, and karpos, a seed- vessel; referring to the pearly succulent fruits. Nat. ord. Rosaceae.) Linn. 2-Dianthia, 1-Monogyne. Allied to Agrimony and Actaea.

Hardy or half-hardy evergreen shrub. Cuttings of half-ripened shoots in April or May, in sand, under a bell-glass, and in bottom-heat; sandy peat, with pieces of charcoal. Inter temp., 40° to 45°; summer, 60° to 65°.


MARIAN. See TOVOMITA.

MARIANTHUS. (From Maria, Mary, and anthos, a flower; dedicated to the Virgin Mary. Nat. ord. Pittosporaceae.) Linn. 5-Pentandra, 1-Monogyne. Allied to Solaya.

Greenhouse deciduous climbers. Cuttings of young sideshoots. Grow under a bell-glass, in May; sandy loam, fibrous peat, with potsherds and charcoal, to keep the soil rather open. Winter temp., 40° to 45°.


Drummondia mus (Drummondian). Lilac, Australia. 1866.

fruticosus (shrubby). Swan River. 1841.

MARICA. (From maraisino, to flag; referring to the ephemeral nature of the flowers, which last hardly a day. Nat. ord. Iris (Iridaceae). Linn. 3-Triandra, 1-Monogynia. Allied to Iris.)

Greenish or blue. Seed, by being in a slight hotbed in spring; by offsets, in abundance, though seed ripens very freely; sandy loam, peat, and leaf-mould.

M. aphyl/a (leafless). See BOBARTIA APHYLLA.


gla'dia'ta (sword-shaped). See BOBARTIA GLADIATA.


Hed'e/n (Helen's). Blue and white, 5 in. across. Brazil 1905.


"li'ta (yellow). See M. LUTEA.

irida'si'lia (Iris-leaved). See SYRINGIUM IRIDI-FOLUM.


ma'ri'ca/is (Martineau). See TRIMEZA LURIDA.


occiden'talis (western). Flowers smaller and leaves shorter than M. northiana. Peru. 1892.


"pli'ca (plaited). See ELEUTHERINE Plicata.

"sab'si'ni (Captain Sabine's). See M. CALELLEA.

"spal'ha tea (large-spathed). See BOBARTIA SPATHACEA.

MARIGOLD. Calé'nudula offici'na/is.

Vare'ttes. Single, Common double, Largest very double, Double lemon-coloured, Great Childing, Small Chiliding. The single-flowered, and those which have the darkest orange colour, possess the most flavour.

Soil.—Light, dry, poor, and unshaded. In rich ground they grow larger, but lose much of their flavour.

Sow any time from the close of February until June; or in autumn, during September. If left to themselves, they multiply from the self-sown seed. Sow in drills, ten inches apart; the plants to be left where raised, being some ten or twelve inches, but when the seedlings are two or three inches in height, they may be removed into rows at similar distances as above. Water must be given moderately every other day in dry weather until established.

Cultivation. Remove the flowers, which the spring-raised plants will produce in the June of the same year, but those of autumn not until that of the following one, will be fit to gather for keeping in July, when they are fully expanded, as well as for use when required. Before storing, they must be dried perfectly.

MARIGOLD, AFRICAN. Tag'es'tera ce'ria.

MARIGOLD, FRENCH. Tag'es'tera pa'tula.

MARIGOLD, GREAT CAPE. Dimorpho'theca hy'brida.

MARIGOLD, MARSH. Ca'liha pa'tiu'sir.

MARILA. (From marile, live embers, or sparks; referring to the sprouts on the leaves, or yellow fringe round the seed-pod. Nat. ord. Thaeas (Tarternstroniaceae). Linn. 13-Polyandri/a, 5-Pentagy/thia. Allied to Mahurea.)

Stove evergreen shrub. Cuttings of shoots, when short, and getting firm at their base; sandy peat and loam, well-drained, and open. Winter temp., 50° to 55°, summer, 60° to 80°.


MARISCUS. (From mar, a swamp; in allusion to the place where it grows. Nat. ord. Cyperaceae.)

Greenish evergreen herb. Divisions. Loam, leaf-mould, sand.

M. Gra'niti (Grant's). Flower-heads globular. Natal. 1898.

"umb'e'liosa (Umbilican). See M. GRANTHI.


Pseudodictamnus (false dictamnus). See BALLOTA PSEUDO-DICTAMNUS.

remotum (remote). See M. PANNONICUM.


MARSCHALLIA. (Named after H. Marschall, a botanist and director of the botanic garden, [Composites]. Linn. 19-Syngenesia, 1-Equisitis.)

Half-hardy herbaceous plants, with purplish flowers, from Carolina. Division of the plants in spring, or slips of the shoots in sandy soil, under a bell-light, in April and May; common, sandy loam; angustifolia to like the addition of peat; they require a dry, elevated place in winter, and the protection of an evergreen bough, or a cold, dry pit, with plenty of air.


MARSDEA. (Named after W. Marsden, a botanist and author of a History of Sumatra. Nat. ord. Asclepiadae [Asclepiaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Pergularia.)

Stove evergreen or hardy shrubs; flavescent is a pretty little shrub; the base is grey on a wall. Cuttings in sand, under a bell-glass, in April or May, and a very slight bottom-heat; sandy loam, with a little leaf-mould or peat. Winter temp., 45° to 55°; summer, 60° to 75°. M. Candurs'ngo (Candurango). White. Colombia.


MARSH CINQUEFOIL. Potentillus palustris. 

MARSH MALLOW. Althaea.

MARSH MARIGOLD. Ca'tica palustris.

MARSEYEA. (Commemorative of Count L. F. Marsi, of the Bologna Academy of Sciences. Nat. ord. Malvaesea.)

Half-hardy aquatics, most often grown in stave and greenhouse tanks. Divisions. Loam, leaf-mould, and sand.

M. Drummondii (Drummond's). Australia.

... sativatrix (safe).

... hispida (hairy). Australia.

... macropus (long-stalked). Texas. 1826.

... quadripetala (four-petalled). Europe and Asia.

... sativatrix (safe). See M. DRUMMONDII SATIVATRIX.

MARTAGON. Lithium Martagon.

MARTINEZIA. (Commemorative of Baltassar Mar'ie, a Spaniard. Nat. ord. Papilionaceae.)

Stove Palms. Seeds. Loam, peat, and a little sand.

M. Alpha's (Alphanes). Venezuela.


coralis'na (coral-red). Martinique.

cora'sa (gnawed). W. Ind. 1871.

granates's (New-Grenadan). Colombia. 1874.

leucothoe's (dusky-white). Colombia. 1875.


MARTYRIA. (Named after Dr. MARTY, once professor of botany at Cambridge. Nat. ord. Pedaliads [Pedaliaceae]. Linn. 14-Didynamia, 2-Angiosperma. Allied to Pedaliadium.)

Greenhouse or half-hardy annuals. Seeds, sown in a strong but sweet bottom-heat, in March; plants pricked off as soon as they can be handled, kept close and warm, and, when increasing in size, shifted and hardened off by degrees to enable them to bloom in a cool stove, a warm greenhouse, or in the open garden.

M. a'mna (annual). See M. PROBOSCIDEA.

Cranialis'ria (Cranialian). See CRANIALIA ANNUA.


... hirtiflora (hairy-lipped). Yellow, purple. Colombia. longiflora (long-flowered). See R anthea LONGIFLORA.


... violacea (violet). See M. FRAGRANS.

MARVEL OF PERU. Mira'bilia.

MASCARENHE'SIA. (Commemorative of Don Mascarenhes, the discoverer of Bourbon in 1545. Nat. ord. Apocynaceae.)

Evergreen stove shrub. Cuttings of side-shoots, getting firm, in sand, and placed in a close case with bottom-heat. Fibrous loam, peat, and sand.

M. curnowi'ana (Curnowian). Bright crimson. Madagascar. 1831.


Stove orchids. Division in spring; peat, sphagnum, rotten wood, and charcoal; plants elevated above the pots or baskets. Winter temp., 55° to 60°; summer, 60° to 90°.

M. abbreviata (shortened). White, with fewer violet spots than M. polysticta, Peru. 1879.

acrodoro'dia (top-string-toothed). Inner face of sepals warded. Ecuador. 1885.


... tenuis to tenuis-t'la (line-striped). Pink, orange, purple. 1875.

... anchoru'tera (anchor-bearing). See SCAPHOPSEUM.

... angulata (angled). Yellowish, chocolate-brown. Ecuador. 1868.

Armati'ni (Armin's). Rose, shaded with purple. Peru. 1885.

... astu'tis (artful). See M. ERYTHROCHETE.

... attenuata (attenuated). Greenish-white, yellow. China. 1871.

... arice'a (bird's-head). Green, yellow. Brazil. 1871.

... backhouseana (Backhousean). See M. CHIMERA BACKHOUSEANA.

... bara'a (Barbary). Bright red. Peru. 1876.

... bella (pretty). Purple-brown, creamy-yellow. Colombia. 1878.

... Benedicti (Benedict's). See M. HOUTTEANA.

... biglo'ra (two-flowered). White, with black-purple spot, and purple rib. 1890.

... brachy'nestis (Bogotian) of garden. Colombia.

... brachy'nestis (Bogotan's). Colombia.

... brevis (short). See SCAPHOPSEUM.

... Bruchmit'teri (Bruchmüller's). See M. CORIACEA.

... burfordiana (Burbidgean). Greenish-yellow, with brown spots, yellow. Peru. 1891.

... burfordiana (Burbordian). White. Dotted claret, purple. 1900.

... cal'o'pa (beautiful-winged). Peru.

... cer'ta (beautiful-tailed). Bluish-purple, with obtuse warts. Costa Rica. 1883.

... camylo'fo'sa (curved-tongued). Greenish-white, with nine purple dots. Colombia. 1878.

... cuneata (cuneate). See M. TOYARENsis.

... carderi (Carder's). 8. Whitish, with dark purple spots. Colombia. 1883.

... c'aud'a (tailed). 8. Pale yellow, spotted with purple. Colombia. 1875.

MASEDEVALLIA.
MACRURA.  
Veins. (lilac), GIB- 
Brazil. Markings. Yellow 
Fia'va. Livingstonea'na 
Ta. Lilaci'na. Flowered 
Linde'ni. Dark 
1883. Eta. Brown, 
Bright Flowers (prickly). See 
Blackish-grey, 1872. 
COCCINEA. Flowers 
Aureanti'aca. (Backhousean). 
Rica. (?). Purple-violet 
1877. Colombia. 
Nerves. Lemon, Rich 
Black-helmeted). Costa 
Orange (Davis's). Pale, orange 
1884. (Red-cloaked), 
Gardens. Orange, 
Hetero'sta (Henderson's). Blackish-purple, 
1879. Large, Hierogly'phica 
Pale-atrosangui'nea. 1884. 
Red, Erect. 
HEN- 
April. (Marshallian). 
COCCINEA MAXILLARIA 
Inside. 1878. 
MACROBLEPHARIS. Yellow, 
White, (Leathery). Yellow, brown-purple. 
Colombia. 1872. 
Cornicula'ta (small-horned). 1. Dark cinnamon- 
Brown. Colombia. 1876. 
Cale'ntica'ta. (Costa-Rican). 1. White, with yellow 
Tails. Costa Rica 1890. 
Cucula'ta (hooded). Blackish-purple, whitish, yellow. 
Colombia. 1893. 
Cae'tus (civil). See Pleurothallis Macroglerephus. 
Demi'ssa (drooping). Yellow, with brownish-purple 
Lines. Costa Rica 1887. 
Deniso'ni (Denison's). See M. Cocccinea Denisoniana. 
Dayantus (tawny). Light yellow, blotched 
Purple-brown-purple, Colombia. 1000. 
Elepha'tics (elephant-headed). Yellow, purple. 
Ephip'tium (Ephiplum). 1. Pale yellow, dark 
Purple-brown. Colombia. 1874. 
Erin'a'ceus (snicky). Ochre, dark purple, orange. 
Erythrobac'te (red-claoted). 1. White, light yellow, 
Reddish-purple. Colombia. 1882. 
Estra'de (Estrada). Yellow-white, violet-purple. 
Fon'tana 'ta (golden). Yellow, spotted, purple. 
Costa Rica 1882. 
Fasci'ce (bundled). Top septal hooded. Colombia. 
1887. 
Fenesta'ta (windowed). See Cryptophoranthus 
Hypo'discus. 
Fla'ceola (yellowish). Light yellow. Costa Rica 1884. 
Forget'tana (Forgetian). Flowers small. Northern 
Brazil 1895. 
November, Brazil 1843. 
Fra'grans (fragrant). Flowers cupped, yellowish. 
Colombia 1893. 
Ful'gescens (fulgent). Bush, brown, orange-yellow, 
White. Colombia 1890. 
Galeot'tana (Galeottian). See M. Floribunda. 
Gar'ganta (Gargantuia). Leather yellow, purple, 
White. Colombia 1876. 
M. gastellana (Gaskellian). See M. Erythrocheta-
Gemma'ta (gemma'd). 1. Ochreous, with orange tails. 
Colombia 1883. 
Gib'berosa (hump-backed). See Scaphosepalum Gib-
Gracile'ta (somewhat-graceful). See Cryptophor-
Antthus Gracilavus. 
Gusta'ti (Gustav's). Pale yellow, dark purple. 
Colombia 1880. 
Guttula'ta (small-spotted). 1. Yellow-white, spotted with 
Purple. Ecuador (?). 1890. 
Acantinat'sia (spiny-leaved). Rich violet-rose. 
1883. 
Diasangue'na (dark-blooded). Glowing crimson. 
1875. 
Grave'sa (Mrs. Grave's). Pure white. 1892. 
Imperi'sis (imperial). Crimson-magenta. 1882. 
Minta'ta (vermilion). Vermilion, flushed scarlet. 
Regia'tis (royal). Glowing crimson. 1883. 
Harriya'na (Harryan). See M. Cocccinea. 
Hendersoni (Henderson's). See M. Cocccinea Hen-
Dan'son. 
Hetero'ptera (various-winged). Yellow, black-purple. 
Colombia 1875. 
Hymenoph'ylica (biographyical). Brown, purple-brown. 
Colombia 1875. 
Colombia 1874. 
Hubschii (Hubsch's). See Maxillaria Hubschii. 
Hy'pertia (Lehmannian). Purple-violet; white 
Crests on veins. 1878. 
1871. 
I'zuanak'a (golden). Orange-red. 
Boddi'ri (Boddaert's). Yellow, crimson-red. 
Colombia 1879. 
Marshallia'ta (Marshallian). Glowing red, yellow. 
Colombia 1872. 
Massangea'na (Massangean). Darker scarlet. 
Colombia. 
Stobaria'na (Stobartian). Nerves mauve-purple. 
1881. 
Colombia 1874. 
Infrac'ita (infated). Orange-yellow. Colombia 1881. 
1835. 
Peru 1875. 
Klaproletta (The Klaboche). Blackish-grey, 
White inside. S.W. Amer. 1876. 
La'ta (broad). Reddish-brown, with yellowish tails. 
Central Amer. 1877. 
Laur'e'ncei (Lawrence's). See M. Gut tutulata. 
1877. 
Leonidg'la (lion-tongued). Lazon, ochre, dark 
Purple-white. Colombia 1881. 
Linde'nii (Linden's). See M. Cocccinea Lindeni. 
Livingstona'na (Livingstonian). Pale yellow, 
Purple-brown. Panama 1874. 
Longinaria (tawny). See M. Infracta. 
Longisip'ala (long-sepaled). See M. Macurata. 
Lo'wii (Low's). White, spotted purple, maroon- 
Purple. Colombia 1890. 
Lul'luna (pale purple). Light yellow, spotted, 
Yellow, dark yellow. Colombia 1882. 
Maciro'chita (long-lipped). Yellow-green, spotted 
Black, orange. Colombia 1890. 
Maculata'ma (long-fingered). Yellowish, black- 
Purple. Colombia 1892. 
Mau'ra'ra (long-tailed). 1. Light brown, with 
Purple-brown markings. Colombia 1897. 
Mas'zima (largest). Flowers larger and darker. 
Colombia 1896. 
Maculata'ta (spotted). Yellow, purple. Colombia. 
1873. 
Efla'na (yellow). Tawny yellow tailed. 
Maculata'ma (small-edged). White, green, orange. 
1883. 
Mela'nopos (black-stalked). White, purple, yellow. 
Peru 1874.
MASDEVALLIA

M. melanosa'antha (black-yellow). Yellow, brown. Colombia. 1875.

M. 'militaris (military). Yellow, cinnabar. Colombia. 1880.

M. moore'a'na (Moorean). Yellowish, reddish, chocolate-brown. Venezuela. 1884.


M. myriostigma (myriad-spotted). See M. floribunda.


M. Norm'a'ni (Norman's). See M. reichenbachiana.

M. Nyt'erina' (Nycterina). Yellow, red-brown. Colombia. 1873.

M. orie'tena (O'Brienian). Yellow, spotted with maroon. 1890.

M. o'choa'des (protuberant). See Schiaposepalum ochridopes.

M. obscure'na (Oligesian). Greenish-white, with purple nectaries. 1906.

M. pac'chyantha (thick-flowered). Ochre or greenish-brown. Colombia. 1884.

M. pac'chyra'na (thick-stalked). Yellow, brown-red. West S. America. 1874.

M. paralata'rea (Parlaratan). Salmon outside, scarlet within. Colombia. 1879.

M. Perse'o'ria (Peristera). .subplots yellow, brown-purple. 1882.

M. peru'a'na (Peruvian). Red-purple, white. Ecuador. 1890.

M. pictu'ra (ornamented). Whitish, with green veins. Colombia. 1882.

M. plagio'ssa (broad-tongued). Light yellow. Colombia. 1882.

M. plagio'nych (broad-rachis). See Pleurothallis plagynych.

M. pol'y'stica (many-speckled). .subplots white, speckled with violet. N. Peru. 1874.

M. prussic'anda (thick-tailed). Tails short, stout. 1873.

M. poly'stica (many-speckled) of Hooker f. See M. melanopus.


M. psita'ica (parrot-like). See M. reticulata.

M. pul'vinata (cushioned). See Schiaposepalum pulvinare.

M. pu'mila (dwarf). Peru.

M. puncta' (spotted). See Schiaposepalum punctatum.

M. pul'silla (penny). Yellowish, with purple-brown blotches. Colombia. 1893.

M. Pus'tia (Pusilla). Flowers small, yellow. Columbia. 1885.

M. racemo'sa (raceamed). Colombia.


M. auranti'aca (orange). Lateral sepals rich orange. 1856.

M. Re's'nia (Rees's). See M. Chil'mera reesii.


M. Schi'mi (Schin'.'s). 2. Yellow, motiled with brownish-red. Venezuela. 1883.

M. schrederi'na (Schrederian) of gardens. Dark purple, white. 1890.

M. se'nilis (old-man). See M. Chil'mera senilis.

M. sen'e'ga (grave). See M. Chil'mera severa.

M. Shuttleworte'rhii (Shuttleworth's). See M. cautudata.

M. 'ss'mula (flat-nosed). Pale purple. Colombia. 1875.


M. spec'trum (specrum). See M. Chil'mera spectrum.

M. sple'ndida (splendid). Rich scarlet, with a violet tinge, white. Andes. 1875.


M. swer'hto'fio'la (Swerlia-tea利亚). See Schiaposepalum swertilefolium.

M. Tendo'sa (Tondus') Citron, white; tails yellow. 1906.

M. to'ria (twisted). Ochre, spotted and striped purple; tails twisted. Colombia. 1883.


M. m'ore'a'na (Moorean). Tails orange-red. 1895.

M. triangula'ris (triangular). Ochreous, with brownish purple spots. Colombia. 1882.


M. 'tric'ka le (three-crowned). See M. gemmata.


M. tridec'ytis (three-fingered). Yellow, brownish-purple; tails orange. Colombia. 1883.


M. trochi'rus (wren). See M. Epiphiphum.


M. u'rosh'cha (tusk-striped). Dark brown, with orange markings. 1882.


M. bif'o'ra (two-flowered). Twin-flowered. 1883.

M. grandif'o'ra (large-flowered). Flowers much larger. 1882.

M. velo'ssa (veiny). Straw-yellow, spotted with dull purple. Colombia. 1901.

M. 'vespa'na (bat). Yellow, spotted brownish-purple; tails yellow. Colombia. 1877.


M. Walli'ae (Wallis's). See M. Chil'mera Wallissii.

M. dis'coi'des (discoid). See M. Chil'mera Wallissii discoide.

M. Wend'alla (Wendland's). White, with 2–3 mauve lines outside. Colombia. 1882.

M. winni'na (Winnian). India-purpel. 1881.


M. zo'o'ra (Zo'o's). White. 1906.

M. zon'tha'yla (yellow-fingered). Greenish-white, violet; tails yellow. 1877.


mas'sonia

M. hieroglyph'ica (hieroglyphical). See Tillandsia hieroglyphica.

M. Linde'nii (Lindean's). See Caraguata Lindeii.

M. morre'nii (Morrenian). See Caraguata morr'ena.

M. musi'ca (mosaic). See Caraguata musica.

M. santovie'n'sis (Brazil). 1882.

M. sig'ri'na (tiger-striped). See Tillandsia hieroglyphica.

M. vi'tta (striped). See Caraguata vittata.

mas'sonia

M. Masso'nia. (Named after F. Masson, a botanical traveller in South Africa. Nat. ord. Liliaceae. Linn. 6-Hemispede, t-Monogynia. Allied to Lachenalia.) Very small bulbs, with white flowers, from South Africa. Seeds or offsets, in spring; sandy loam, and a little peat; hot; warm in the day, cool at night; in a warm border, the bulbs being taken up when ripened, and kept in bags or drawers; if in pots, kept dry until vegetation commences.

M. amygdal'i'na (Almond-scented). 1885.


M. brachy'pus (short-stalked). 1874.

M. ca'ndida (white). 6. April.

M. corda'sa (heart-shaped). White, with pale red throat. Denis Auvard.

M. corona'sa (crowned). See M. sanguninea.

M. cro'ymbo'sa (corymbose). See Hyacinthus corymbosus.


M. ensi'fo'lia (sword-leaved). See Polyxenes pygmeus.

M. grandifo'la (large-flowered). See M. ovarata.

M. jasmin'o'ra (jasmine-flowered). S. Africa.
HARDY ANNUALS.

M. acacii (stemless). See M. humilis.


M. croca (Grecian. Wallflower-leaved). See M. incana.


M. longipetala (long-petaled). See M. oxyseras.


Barbar. 1739.

HARDY BIENNIALS.

M. chrysanthemum (Chinese). See M. sinuata alba albi-florea.


M. grandiflora (upright). See M. sinuata glabra albi-florea.

M. siula (Sicilian). See M. incana.

M. simplicicaulis (single-stemmed). See M. incana.


M. spicata alba lilaeflora (smooth, white-flowered). N.W. France. 1900.

M. spp (Oyan). See M. sinuata alba albi-florea.


GREENHOUSE EVERGREENS.


M. glabrescens (smooth). See M. incana glabra albi-florea.


M. alba (white). 1. August.


Persia. 1793.

M. fragrans (fragrant). See M. fragrans.


M. varia (variable). S. Europe.

MAURANDIA. (Named after Professor Maurand, of Carthagea. Nat. ord. Figworts [Scrophulariaceae]. Linn. 14-Idiokymenia, 2-Angiospermia.)

Greenhouse evergreen twiners, from Mexico. Seeds sow in a slight hotbed, in spring; and cuttings of shoots in sandy soil, in spring or autumn; rich, sandy loam, with a little peat or leaf-mould; will flourish in a cool greenhouse, and in summer on wires, and fences, and pillars, with a little shade. M. antirrhiniflora (snapdragon-flowered). See Antirrhinum aureum. See Maurandia.
MAURIA (Named after A. Mauri, an Italian botanist. Nat. ord. Anacardiaceae. Linn. 21-Monodia, 7-Octandria. Allied to Duava.)

Stove evergreen trees, with pinkish flowers, from Peru. Cuttings of ripe shoots in heat, under a hand-glass; common loan and a little paste; usual stove treatment.


Mauritia. (Named after Prince Maurice, of Nassau. Nat. ord. Palms [Palmae]. Linn. 22-Dioscorea, 6-Heliconia.)

Stove Palms. Seeds in a hotbed, in spring; rich, fibrous, sandy loam. Winter temp., 55; summer, 60 to 90.

M. armata (armed). 40. Brazil. 1824.


MAXILLARIA. (From maxilla, the jaws of an insect; referring to a resemblance of the columns and labellum. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandra, 1-Monandria.)

Stove Orchids. Divisions of the plant in spring; fastened on wood covered with sphagnum, or raised in baskets filled with sphagnum, old wood, turfy peat, and charcoal. Winter temp., 55 to 65; summer, 60 to 90. Dry in winter, moist when growing.


M. acutipila (acut-petalled). Central Amer. 1883.

M. ab'ha (white). White. W. Ind. 1836.

M. phcenicanthera (purple-anthered). White or pale yellow, spotted purple. Brazil. 1837.

M. angustifolia (narrow-leaved). See M. VARIABILIS.


M. auriculata (auriculated). See Lycaste AURICULA.

M. barbata (bearded). See BIFRENARIA VITTENLIA.

M. baringtsonia (Mrs. Barrington's). See Lycaste BARRINGTONI.

M. binata (binet). Yellow; lip dotted with purple. Brazil. 1906.

M. bracteascens (large-bracted). See Xylobium BRAC'TEASENS.

M. brookeleiestea (Brookeleistea). See Hullisoma BROOKLEIESTEA.


M. canadensis (Canada's). White. 1880.

M. caf'ella (Caffella). See M. COCCINILLA.

M. ca'pula (Capea). See M. MADILLA.

M. cit'is (eye-lashed). See Lycaste BARRINGTONIA.


M. conca'va (concave). See Xylobium INCANUM.

M. cro'cata (thick-leaved). Brazil. 1836.

M. cry'zana (crest-tipped). See Lycaste CRISTATA.


M. liz'tei (Lietze's). Yellow, purple-brown outside. Brazil. 1879.

M. cud'nia (blood-coloured). See Lycaste CRUENTA.


M. cunea'ta (wedged-shaped). White, pink. 1844.

M. de'ppii (Deppe's). See Orchidium DENSUM.

M. dichro'ma (two-coloured). White; lip brown-purple. Peru. 1898.

M. di scolor (two-coloured). British Guiana.

M. dol'itula (somewhat-elegant). Yellow, white, spotted with brown. 1896.

M. elong'ta (elongated). See Xylobium ELONGATUM.

M. endre'si (Endre's). Pale ochre, yellow, purple. 1908.

M. fer'dinandia'na (Ferdinandan). Brazil.

M. fuca'ria (dyed). White, yellow, purple. 1886.


M. ju'ca (swarthy). See M. FUCATA.

M. galeata (helmeted). See Gonorka GALEATA.

M. grandis (large-flowered). Yellow, red. Demerara. 1889.


M. harrisi'na (Mrs. Harrison's). See BIFRENARIA HARRISONI.

M. h'ba (white). See BIFRENARIA HARRISONIA ALBA.

M. houttia'na (Houttean). Trop. Amer. 1848.

M. Hu'e'b'chi (Huebchis). White, yellow, mauve-purple. Ecuador. 1888.

M. hyac'nis (hyacinth-scented). See Xylobium HYAC'NINIUM.

M. irid'a (irisa). See Xylobium HYPOCITUM.

M. iridis'tia (Iris-leaved). W. Ind.

M. irrora'dta (brass-spotted, White, border-ed and blotched purple, ochre. Andes. 1883.

M. johni'ensis (Johnian). White, lilac. Yellowish. Andes of Peru. 1890.

M. jogu'sa (ridged). See Lycaste JUGOSA.

M. kalbr'yeri (Kalbreyer's). Greenish-white, purple. Colombia. 1855.


M. leptos'o (slender-sepa-raed). See M. SETIGERA.

M. Lind'e'n'sa (Mme. Linden's). Light yellow. Colombia. 1878.

M. leptos'o (slender-separaed). Yellow. Colombia. 1890.


M. mac'rob'ron (long-bulbed). See Lycaste MACROB'RON.

M. mac'rophy'l (long-leaved). See Lycaste MACROPHYLLA.

M. mac'r'na (long-tailed). See Xylobium LONGIFERPA.

M. ma'dida (Milk-white, spotted). ¥. Jugo's'na (Jugosa).

M. ma'no (famous). See Lycaste MACROBU'RON.

M. mala' trialis (Mrs. Lindern's). Yellow. Colombia. 1878.

M. mala't'ri (Mrs. Lindern's). Yellow. Colombia. 1887.


M. Mela'gris (Guanacaste). Yellow. Colombia. 1890.

M. mirabilis (wonderful). Orange, crimson, brown, yellow. 1804.


M. Muc'cle'Ri (Mueller's). Clear yellow; lip dotted with purple. 1850.

M. nasa'lis (nosed). Yellow. Spotted with brown. Colombia. 1870.


M. nigr'e (blackish). Blackish. Colombia.

M. ob'di (obscene). See M. CUCULATA.


M. Old'o'la (Oldola). ¥. Peru. 1896.

M. Old'o'la (Oldola). ¥. Peru. 1896.

M. Old'o'la (Oldola). ¥. Peru. 1896.

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<table>
<thead>
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<th>Unit</th>
<th>Conversion</th>
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<td>Yard</td>
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<td>6 Feet</td>
<td>1 Degree</td>
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<tr>
<td>12 Inches</td>
<td>1 Degree</td>
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**MEASURES**

1 Yard = 3 Feet = 36 Inches

1 Fathom = 6 Feet = 72 Inches

1 Mile = 1760 Yards = 5280 Feet = 63360 Inches
<table>
<thead>
<tr>
<th>Inches</th>
<th>Feet</th>
<th>Poles</th>
<th>Rods</th>
<th>Roods</th>
<th>Acres</th>
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<tr>
<td>144</td>
<td>1</td>
<td></td>
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</table>

30 acres are 1/2 of a yard. 100 acres are 1/2 of a mile. 640 acres are 1 square mile.

Cubic Measure.

<table>
<thead>
<tr>
<th>Cubic Inches</th>
<th>Cubic Foot</th>
<th>Cubic Yard</th>
</tr>
</thead>
<tbody>
<tr>
<td>127</td>
<td>1</td>
<td>1</td>
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Heaped Measure.

Our market-gardeners, and retailers of fruit, potatoes, 

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Wood Fuel.

English Measure.—Wood-fuel is assayed into shis, billets, faggots, fall-wood, and cord-wood. A shi of fall-wood and cord-wood. A shi is to be 4 feet long and, according as they are marked and notched, their proportion must be in the girth—viz., if they have but one notch, they must be 16 inches in the girth; if two notches, 23 inches; if three notches, 28 inches; if four notches, 33 inches; and if five notches, 38 inches about.

Billets are to be 3 feet long, of which there should be three notches round, a single cask, and a cask of two. The first is 7 inches, the second 10 inches, and the third 14 inches about. They are bought by the hundred of five score.

Faggots are to be 3 feet long, and, at the band of 24 inches about, besides the knot; of such faggots fifty go to the load.

Barrows and spray-wood are sold by the hundred, which are accounted a load. Cord-wood is the bigger sort of firewood; and it is measured by a cord or line, whereof there are two measures—that of 14 feet in length, 3 feet in breadth, and 3 feet in height; the other is 8 feet in length, 4 feet in height, and 4 feet in breadth.

Measure of Wood.

<table>
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<tr>
<th>1000 Billets of Wood</th>
<th>1 Cord</th>
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<tbody>
<tr>
<td>10 Cwt. of Wood</td>
<td>1 Cord</td>
</tr>
<tr>
<td>1 Cord of Wood</td>
<td>1/4 Chaldron of Coals</td>
</tr>
<tr>
<td>100 lb. of Wood</td>
<td>1 Quintal of Wood</td>
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MECONOPSIS. (From mekon, the poppy, and oposis, like. Nat. ord. Papaverows [Papaveraceae]. Linn. 13 Handwagner, 5 Monogynia.)

Hardy herbaceous perennials. Divisions of the plant in spring; rich, sandy soil.

M. angustifolia (narrow-leaved) of Redoute. See ASPARAGUS MEDEOLOBIES.

M. asaroides (Asparagus-like). See ASPARAGUS MEDEOLOBIES.

M. myrtifolia (Myrtle-leaved). Leaves very small. A variety of Asparagus medeoloides.


MEDIAN APPLE, or CITRON. Cirus Medica.

MEDICA GO. Medick. (From melike, a name from Dioscorides. Nat. ord. Leguminosous [Leguminose]. Linn. 17 Didadelphus, 4 Decandria. Allied to Trifolium.)

Hardy, and all yellow-flowered, except where otherwise mentioned. Annuals, by seeds, in open border, in April; perennials, by seeds, division of the plant, and slips under a hand-light shrubs, by cuttings of young shoots under a hand-light.

Hardy Evergreen Shrub.


MEDICAGO. (Named after Medea, the sorceress. Nat. ord. Leguminous [Leguminose].)

The girth of the trunk of the plant in spring; sandy soil. Hardy herbaceous perennial.


M. diaphora (thick-leaved). See M. heterophylla.

M. diphysia (two-leaved). See STYLOPHORUM DIPHYLLUM.


M. favus (Bail.). Purple. Himalaya. 1900.


M. paniculata (panleted). Himalaya.

M. petola (leaf-stalked). See STYLOPHORUM DIPHYLLUM.


M. sinuata (sinuate). Not in cultivation.


S. aculea' (prickly). See M. turbinata.

gynia.

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gynia.

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gynia.
MEGARRHIZA

  " melanorrhiza' chis (black-raschised). Brown, pale
  " minu'tum (minute). 1. Orange-red. Sierra Lienz.
  1893.
  " Numul'a ria (Numularia). 4. Purplish. Came-
  " oxyodon (sharp-toothed). 1. Yellow, red. Mada-
  " pya'trys (broad-raschised). Greenish dotted
  " purpur'eo-rha'chis (purple-raschised). Dark brown.
  1909. Congo.
  Africa. 1894.
  " Sande'soni (Sanderson). S. Africa.
  " scale'rum (finely-scabrous). 2. Dull purple,
  1843.

MEGARR'ZAA. (From megas, great, and rhiza, a
root; in allusion to the large, tuberous perennial.
Nat. ord. Cucurbitaceae. The tubers are used to
Echinochysind.)

M. calyci'num (Calyciinum). Yellow. Stems 20–30 ft.
long. California. 1881. Now referred to Echino-
chy'sis fids fads eea.

MEGA'SEA. See Saxifraga.

MEIRAC'I LLIUM. (From meirakullion, a little boy,
the diminutive of meirax; in allusion to the small
size of the plants. Nat. ord. Orchidaceae.)

Stove epiphytes, best grown on blocks. Divisions.
Sphagnum.


MEALEU'C'A. (From melas, black, and lewos, white;
referring to the colours of the old and young bark.
Nat. ord. Myrtilloseae [Myrtaceae]. Linn. 18-Polyadelphi-
a, 2-Polyandria.)

Evergreen shrubs, from Australia, except where other-
wise mentioned. Cuttings of the shoots in May, as
they are getting firm at their base, and not more than three
inches in length, in sand, under a bell-glass; heat
and loam, most of the latter, with a fair portion of sand,
and nodules of phosphate of lime. Many are about as
hardy as a myrtle, and will stand against a conservatory
wall with a little protection.

STOVE EVERGREENS.

  1796. " Cajeputi"
  " min'or (smaller). White. Australia. 1800. " Smaller
  Cajeputi."

GREENHOUSE EVERGREENS.

  " acumen'ta (long-pointed). Australia.
  " austrias (southern of gardens.
  " callisto'mena (beautiful-stamened). See M. Lati-
  " cunei'cula (cuneated). Australia.
  " decussa'ta (decussate-leaved). 4. Lilac.
  " erub'scens (blushing-stamened). See M. Ericifolia.
  " exara (tawroofed). Australia.
  " gibbo'sa (humped). Australia.
  " gra'ndis (larges).
  " Hugel'i'si (Huegel's). 1832.
  " juniper'o'es (juniper-like). See M. Nodoso.
  " lanceo'la (lance-head-leaved). See M. Leucade-
  " line'a'es (linear). See CALLISTEMON LINEARIS.
  " micro'mera (small-parted). Australia.
  " neris'i'sa (Nerium-leaved). See TRISTANIA
  " nes'o'phila (island-loving). Australia.
  " nodo'sa (thick-noded of Smith. 3. Striped. June.
  " nodos'o'sa (thick-noded of Link. See M. Ericifolia.
  " paludos'o'sa (marsh). See CALLISTEMON
  " parrot'o'es (small-flowered). See M. Priscissiana.
  " prisciss'i'a (Preiss's). Australia.
  " Ra'dula (file-like). Pink. May.
  " salicifo'lia (willow-leaved). See TRISTANIA
  " seris'a (row-ranged). Rose. June.
  " spin'o'sa (spiny). See M. Thymoides.
  " squam'o'la (spreading). 2. White. 1794.
  " te'benna (four-angled). See M. Decussata.
  " thyrs'o'es (Thuya-like). Australia.
  " trich'ryhi'sa (bristle-like). Yellow. May.
  " trine'ova (three-nerved). 3. 1816.
  " uncina'la (hooked). Australia.
  " vims'i'sa (twirly). Australia.
  " virgo'sia (twirly). See BECKEA VIRGATA.
  1874.

MEALAM'PO DIUM. (From melas, black, possa, a foot;
in allusion to the black flower-stalks. Nat. ord.
Compositae.)


M. divarica'tum (spreading), and M. ovatis'o'lia (egg-
shaped-leaved). See M. Paludosum.

paludos'o'm (marshy). Yellow. S. Amer. 1891.

MELEANORR'G'SA. (From melas, black, and rho, to
flow; referring to the juice becoming black varnish.
Nat. ord. Anacards [Anacardiaceae]. Linn. 23-Polygyn-
a, 2-Diancia.)

The black poisonous varnish of Martaban is the produce
of this tree, the Teet-see, or Kheu of India. Stove ever-
green tree. Cuttings of ripe shoots, with the leaves on,
in sand, under a glass, and in heat; heat and loam.
Winter temp. 55° to 60°; summer, 60° to 85°.

M. gla'uca (smooth). Burma.
  " Black Varnish"
  " usita'ssima (most useful). See M. usita'ta.

MELANTH'RA. (From melas, black, and anthera,
an anther. Nat. ord. Compositae.)

Stove herbs. Seeds and divisions. Loam, leaf-mould,
and a little sea sand.

  Amer. 1799.
  Amer. 1732.
  " pandu'ra (fiddle-shaped-leaved).

MELANTH'UM. (From melas, black, and antheros,
a flower; referring to the dusky blossoms. Nat. ord.
Lythraceae [Liliaceae]. Linn. 6-Hesperiida, 3-Trigyna.
Allied to Veratr um.)
The Melanths are all more or less poisonous. Half-hardy bulbs, requiring the greenhouse or cold pot in winter, or the bulbs to be kept dry and at rest; propagated by offsets and seeds; sandy loam and peat.

M. capense (Cape). See Androcymbium Leucanthum.

cita'tum (hair-fringed). See Dipsadix Ciliata.

euromonium des (Eucoumus-like). See Androcymbium Leucanthum.

gramm'num (grassy). See Androcymbium Puncta'tum.

hybrid'um (hybrid). See M. virginiicum.

iwocylom (tuft-leaved). See Dipsadix Triquetra.

lastifo'lium (broad-leaved). See M. virginiicum.

massionio'si'um (Massonia-leaved). See White Headia Latifolia.

mon'ium (monocious). See M. virginiicum.

monop'etala (one-petalled). See Wurnmba capensis.


phalangio'sis des (Phalangium-like). See Zygadenus Muscitoxicum.

seu'mum (slide-flowering). See Dipsadix Ciliata.

stibri'cum (Siberian). 1. Siberia. 1823.

epi'ssium (epicate). See Wurnmba capensis.

triquie'rum (three-sided). See Dipsadix Triquertia.

unifo'lium (one-flowered). See Beometa column-lari'lis.


vi'ride (green). See Ornithoglossum glaucum.

wu'rumbium (Wurnmbian). See Wurnmba capensis.

MELASPHE RULA. (From melas, black, and the diminutive of sphere, a globe; literally, a little black ball, in allusion to the small black bulbs. Nat. ord. Iridaceae.)

An ornamental, free-flowering greenhouse bulb. Seeds and offsets. Light, rich compost of leaf-mould, some well-rotted cow manure and sand.

M. grami'nea (grass-like). White, pale purple. April.

S. Africa. 1786.

inter'medj di'a (intermediate). iridis'flora (Iris-leaved), and parofo'ra (small-flowered). See M. graminea.

MELASTOMA. (From melas, black, and stoma, a mouth; the edible berries stain the mouth a dark purple. Nat. ord. Melastomatae (Melastomaceae). Linn. 10-Decandria, 1-Monogynia. Allied to Osbeckia.)

Stove evergreens. Cuttings of the shoots in sandy peat, under a bell-glass, in heat; peat and loam, sandy and happy. Winter temp., 45° to 60°; summer, 60° to 85°.

M. affl'ata (related). See M. Malabaricum.

afzelia'num (Afzelius's). See Osbeckia multiflora.


banksi'um Banks'. See M. Malabaricum.


corymbo'sum (corymbed). See Amblesibema cymosum.

cymo'sum (cymed). See Amblesibema cymosum.

dec'cifolium (ten-leafed). See M. Sangueniwetum.

dentiscula'tum (toothlett). See M. Malabaricum.

ecosta'tum (ribless). See Miconia Ecostata.


granulo'sum (granular). See Tibouchina granulosa.

hetero'mallum (variable-haired). See Tibouchina heteromallula.

hi'teromallula (related). See Clidemia hirta.

lavica'num (smooth). See Miconia levigata.

macro'sp'trum (large-fruited). See M. Malabaricum.


napal'sis (Nepaul). See M. normale.

norma'le (normal). 5. Lilác−rose. India, Malaya, and Polynesia. 1820.

osbeckia des (Osbeckia-like). See Osbeckia octandra.


robust'um (robust) of gardens. Possibly a Miconia.


MELIA. (After Mount Melián, in Arabia Felix, where the first of them was discovered. Nat. ord. Sterculiaceae. Linn. 16-Monadelphía, 2-Pentandria. Allied to Pentapeltes.)

Stove evergreens, with white or scarlet flowers. Cuttings of the half-opened shoots in sandy peat, in a little bottom-heat, and under a bell-glass; sandy peat and a little loam. Winter temp., 50° to 60°; summer, 60° to 85°.


Bursa'lii (Burchell's). 15. S. Africa. 1818.


METRIA. Bead-tree. (Melia, the Manna Ash; referring to the resemblance of the leaves. Nat. ord. Meliádas [Meliaceae]. Linn. 10-Decandria, 1-Monogynia.)

Seeds and cuttings of the ripe shoots in sand, under a bell-glass, and in a mild bottom-heat; sandy loam and fibrous peat. Azedarach and astra'lis will stand against a wall in the south of the island. The monkeys formerly strung the fruit as beads.

GREENHOUSE EVERGREENS.

Astra'lis (southern). See Aze'darach.


"umbrellifornia" (umbrella-bearing). Tree with a drooping compact head. 1856.

"nobilis" (noble). White. 1872.

"japo'nia" (Japanese). See M. Aze'darach.

STOVE EVERGREENS.


guinea'nis (Guinea). See M. Aze'darach.

"robusta" (robust). See M. Du'bia.

"semperoris" (evergreen). See M. Aze'darach.

super'ba (superb). See M. Du'bia.

MELIA 'NTHUS. Honey Flower. (From meli, honey, and ancho, a flower; the tubes contain a copious supply of honey-like glands. Nat. ord. Meliádas [Meliaceae]. Linn. 4-Tetrandra, 1-Monogynia.)

The natives obtain honey for food by shaking the branches of Melia 'nthus major when in blossom. Evergreens, from South Africa. Cuttings of young shoots in sandy soil, under a hand-light; rich, sandy soil; require the protection of a greenhouse, cold pot, or a protective wall in winter.


"trimeni'arius" (Trimenian). See M. Fectinatus.

MELICCA. Melic Grass. (An old name. Nat. ord. Gramineæ.)

Hardy perennial grasses, except M. papilionaceus, which is half-hardy. The flower spikes may be cut and dried. Divisions. Ordinary soil.

M. altissima (tallest). Spikelets green to purplish. S. Europe.

M. whilst'pus (darkpurple). Spikelets dark purple.

"sii'rius" (eye-lashed). Spikelets green or purple. Europe.

"papilionaceus" (butterfly-like). Spikelets purplish. Argentina; Brazil. 1680.

"wilhel'ma variegata" (variegated). Leaves striped with creamy-yellow.

MELICHRUS. (From melichros, honey-coloured; referring to glands on the flowers. Nat. ord. Eparcids [Eparciaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Stypella.)
Greenhouse scarlet-flowered evergreens, from Australia. Cuttings of the shoots when two inches long, and a little hard at their base; side-cuttings, after pruning down, are the best; sandy peat. Winter temp. 30° to 45°.

M. meliis (middle). See M. urceolatus.


meridionalis (scarlet). See Melocca grandiflora.

MELOCOCCA. Honey-berry. (From meli, honey, and kokkos, a berry; referring to the sweetness of the fruit. Nat. ord. Sapindaceae. Linn. 8-October, 1-Myonogyna.) Allied to Talisia.

Stout branches of ripe shoots in sand, under a bell-glass, in heat; peat and loam. Winter temp. 45° to 60°; summer, 60° to 80°.


oliv'fo'ris (olive-shaped). See Talisia oliv'formis.

panicula'ta (paniced). See Hypeleata paniculata.


MELOCEPE. (From meli, honey, and kutos, a cavity; referring to the cavity at the bottom of the stamens. Nat. ord. Violas [Violaceae]. Linn. 22-Dioscor., 6-Hebrewia. Allied to Hymenathera.)

Greenhouse evergreens. Cuttings of small side-shoots in sand, under a bell-glass, in May; sandy loam, with a little peat and leaf-mould. Winter temp. 45° to 48°.

M. Millisi (Mantell's). White, New Zealand.


MELEYCUS. (From meli, honey, and kutos, a cavity; referring to the cavity at the bottom of the stamens. Nat. ord. Violas [Violaceae]. Linn. 22-Dioscor., 6-Hebrewia. Allied to Hymenathera.)

Greenhouse evergreens shrubs. Cuttings of shoots getting firm, in sand, under a bell-glass, in May; sandy loam, and a little peat. Winter temp. 35° to 45°.


MELLILOTUS. Mellilot. (From meli, honey, and lolos, the honey-lotus. Nat. ord. Leguminous Plants [Leguminose]. Linn. 17-Diadelph., 4-Decandria. Allied to Trifolium.)

Seed in common soil; alba, by seed and by cuttings, does best in a sheltered place, and is deserving of cultivation.


arbo'reus (tree). See M. alba.

brachy'loba (short-podded). See Trigonella brachy'carpa.

car'ulea (sky-blue). See Trigonella cerulea.


sib'riica (Siberian). See Medicago sibirica.


MELIO'SMA. (From meli, honey, and osma, smell; in allusion to the scent of the flowers. Nat. ord. Sabiaceae. Allied to Sabia.)

Hardy and half-hardy, or greenhouse trees or shrubs. Suckers; and perhaps cuttings of the roots. Fibrous loam, peat, and sand for the greenhouse ones; well-drained soil for the hardy ones.


'ni'gensa (prickly). 5-10. India and Japan.


MELISSA. Balm. (From melissa, a bee; literally, a bee-flower. Nat. ord. Labiates [Labiatae]. Linn. 14-Didynamia, 1-Gymnospermia.)

Hardy herbaceous perennials. Dividing the roots in spring, or in autumn soil. See Balm.


a'cina (white). See Micromeria rupestris.

al'pis na (alpine). See Calamintha alpina.

alis'ssima (tallest). See M. officinalis.
MELON. (Cucumis Melo.)

Varieties.—These are so numerous that we must be very severe in our selection, confining ourselves to such as are most generally useful in Britain; and these we must divide into two orders.

Cantaloupes, the Rocks, the Green-fleshed, the Valenta, or Winter, and the Persians, with their various hybrids. Amongst the Cantaloupes we have both round and oblong, plain and covered. In the former class, the best variety in the Rocks we have the Small Scarlet-faced, the Black, the Large, and the Early, &c. In the Green-flesh class we may point to the Beechwood, which may almost be considered the type of this section, the Small Green-fleshed Egyptian, of exquisite flavour, and thin rind; these, with the various varieties known by the name of Snow's, Terry's, the Kew-green-flesh, &c. These are the most generally useful melons, being hardy, free-setters, and not liable to rot or canker.

Next we may advert to the Winter Melons, a class which will keep a long time after they are cut; and the Vasantas may be said to stand between these and the Persians, with their useful hybrids. The types of these Persian hybrids, principally, the Ipsapalm, the Dampsaha, the Germek, and the Hoosainee.

Propagation: by Seed.—Most practical men prefer old seed to fresh; for to make a trial of new stock, is, on the whole, a method too expensive. It is, however, a certain mode of perpetuating choice kinds, and as such should not be lost sight of. Healthy, free-growing, yet short-stouted shoots, should be selected, and then set out in flats of 3-inch pots. The pots must be well-enriched with manure. A temperature of 70° to 80° must be secured to them, and the pots should be plunged. As soon as the central shoot begins to sprout from between the second and third leaf from the top, the growth must be thinned out. If other points be right, will cause the protrusion of a pair, or more, of shoots, more fruitful in character, and these are enough as "leaders." In about a fortnight afterwards, these shoots will protrude and thicken up.

By Cuttings.—This mode of culture has been recommended by some, as serving to restrict that excessive luxuriance which is frequently inimical to fertile blossoming. Under proper culture the plan answers well, but, on the whole, it is found to be an expensive one. It is, however, a certain mode of perpetuating choice kinds, and as such should not be lost sight of. Healthy, free-growing, yet short-stouted shoots, should be selected, and then set out in flats of 3-inch pots. The pots must be well-enriched with manure. A temperature of 70° to 80° must be secured to them, and the pots should be plunged. As soon as the central shoot begins to sprout from between the second and third leaf from the top, the growth must be thinned out. If other points be right, will cause the protrusion of a pair, or more, of shoots, more fruitful in character, and these are enough as "leaders." In about a fortnight afterwards, these shoots will protrude and thicken up.

Culture in the Dung-bed. (For preparation of this see Hawaii.)

Horusa.—The seed, if sown generally about the middle of January, in a seed-bed specially prepared, Great caution is necessary; and when the plants are up, and the two seed-leaves fully developed, they may be planted out singly in 5-inch pots, in rich soil. About this time, if the plants are not already provided with a netted frame, and on the plants will need no "stopping"; and they require a more generous soil when finally planted.

Subsequent Culture.—The melon is fruited by a variety of modes, but in all a certain amount of bottom-heat, as well as atmospheric, is absolutely necessary. The bottom-heat should never descend below 70°, nor range above 90°, whilst an atmosphere not below 65°, nor above 80°, will be most suitable, permitting, however, a range of eight or ten degrees from sunshine. In no situation can the melon endure shade. Culture in the Dung-bed. (For preparation of this see Hawaii.)

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allowance to each light, which make it about 6 inches higher than is allowed for the cucumber bed of largest dimensions.  

If a melon-house be employed, the following is the form and mode adopted by Mr. Fleming:—  

"The house is 28 feet long, and 15 wide, and is heated by means of a saddle boiler, with 4-inch pipes passing round the outside of the pit, which pipes are fitted to a flue, which is flueing the furnace.  

The house is cut down to the pit, and so fitted as to permit the air to pass freely through the air chamber, and to admit the moisture of the atmosphere. Beneath the pit is an arched chamber, along the front of which runs the flue, imparting a slight degree of heat to the soil above, which flowers the surfaces of a series of arches, which run along beneath the path, and are entered from a house in front, and which are used for holding rhubarb, &c., in the winter."—Gardener's Chronicle.  

CULTURE OF THE PERSIAN KINDS.—These are much more tender than the ordinary green-flushed melons; they will not endure so low a temperature, and neither will they thrive in so moist an atmosphere. A high authority, speaking of the Persian melons, has thus observed:—"They are not failures in a dry atmosphere, a dry atmosphere, and an extremely humid soil, while they are at the same time impatient of an undue supply of moisture, which causes spotting and decay long before the fruit is ripe."

We are informed that in Persia, where the melons grows in the open fields, that the ground where they are cultivated is crossed in various ways by streams, between which the melon or melons are manured. It would seem, therefore, that in order to excel in their culture, the following, may be taken as maxims:—  

1st. The brightest of glass is requisite, to admit every ray possible of the sunlight.  

2nd. A very high and close atmosphere is necessary, especially in order that the cultivator may be enabled to ventilate freely, to prevent the accumulation of damp.  

3rd. A rich soil, dry in its upper surface, but rather damp beneath the glass, is urged by those who have been successful in their culture, that they should be trained on trellises; and there is no doubt the opinion is correct. They may, however, be trained against the back walls of stone buildings.  

We will conclude with a few general remarks. The foliage is found, to whatever very high a temperature may be raised, or whatever fluctuations there may be in the temperature, the water of a dish of water may be affixed, and the shoots trained on portable trellises.

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M'. NYTRA. Mint. (Meta) is the Latin name of the herb. Nat. ord. Labiatae, or Lipworts [Labiatea]. Linn. 14-Didynamia, 1-Gymnospermia.)

Hairs from shoot tips; for this is poisonous. Chrysanthemum-purple, except where otherwise mentioned. Division of the plant or roots in spring and autumn—the first period is the best in clayey, coarse garden soil.

M. alopecuroides (Alopecurus-like). See M. SYLVESTRIS.

"aqua'dica (aquatic). The varieties are the forms of the "Water Mint." 


"Gynia. Ment., 1807."


"bal'sa mea (balsam-scented). See M. SUAVIS.


MENYNA. Buck Bean, Bog Bean. (From men, a name of mendesia). Nat. ord. Gentian-as [Gentianaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Villarsia.)

Hardy perennial aquatics. Division of the plant, and by seed in spring; moist situation.


"exalta'ta (tall). See VILLARSIA PARSNAVIFOLIA.

"nudaicinga (Indian). See LIMNANTHEMUM INDICUM.

"nympha'o'des (Nymphaea-like). See LIMNANTHEMUM PERNICOSUS.

"ovu'la (egg-shaped). See VILLARSIA OVATA.

"sarmen'to'la (trailing). See VILLARSIA RENIFORMIS.


MENZIES'IA. (Named after A. Menzies, surgeon and naturalist to the expedition under Vancouver. Nat. ord. Heathworts [Ericaceae]. Linn. 8-Oceanaria, 1-Monogynia. Allied to Andromeda.)

Chiefly in sandy soils, in autumn, and by cuttings under a hand-light; sandy peat, with a little loam.

HARDY DECIDUOUS SHRUBS.

M. car'us (sky-blue). See BRYANTHUS TAXIFOLIUS.

"empetris'o'la (Emptreanthus-leaved). See BRYANTHUS EXPETRIFORMIS.

"empetris'omnia (Emptreanthus-like). See BRYANTHUS EMPETRIFORMIS.

"polisia (Polidium-leaved). See DABOECIA POLIFOLIUS.

"tassio'la (yew-leaved). See BRYANTHUS TAXIFOLIUS.

MERCURY. (Chenopodo'dium Bo'nus-Henri'cus.) This perennial plant is known by the various names of Angular-leaved, Goosefoot, English Mercury, or Allgood, Good Henry, Good King Henry, and Wild Spinach. In many parts of Lincolshire, as about Boston, it is cultivated to use as spinach; the young shoots are also peeled, boiled, and eaten as asparagus. Sow the seed in March or April, and lay the shoots or tops as required. Dress the beds with manure the same as for asparagus; they will continue in production many years.

This must not be mistaken for Mercurial'lis, or Mercury, or cenopodium (wild), a name that is poisonous. Mercurial'lis is a dichorous plant, and belongs to the Nat. ord. Spurge-worts; but the Chenopodium belongs to the Nat. ord. Chenopods, and to the Linnean class and order Perniandria Monogynia.

MERIDANIA

M. Aitichon'sii (Aitchison's). See M. Persica.

| bulbocodium des (Bulbocodium-like). | See M. Bulbocodium. |
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MERIDANIA (Commemorative of Professor F. C. Merian, a German botanist. Nat. ord. Boraginaceae. Allied to Pulmonaria.)

Beautiful hardy perennial herbs for the border and rockery. Seeds; divisions in spring, and cuttings in summer in a cool place during summer. Ordinary, well-drained garden soil.

| elongata (elengata). | See M. elongata.

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| elongata (elengata). | See M. elongata.

MERIDANIA (Commemorative of Professor F. C. Merian, a German botanist. Nat. ord. Boraginaceae. Allied to Pulmonaria.)

Beautiful hardy perennial herbs for the border and rockery. Seeds; divisions in spring, and cuttings in summer in a cool place during summer. Ordinary, well-drained garden soil.

| elongata (elengata). | See M. elongata.

MESEMBRYANTHEMUM

| .. ru'bra (red). | Pink. 1900.
| .. sibi'rica (Siberian). | Pale blue and white. Siberia and W. Amer. 1833.
| .. virgi'na (Virginian). | See M. Pulmonaria des. |
| .. ru'bra (red). | See M. Pulmonaria des. |

MERLYTA. (From merio, to unroll. Nat. ord. Araliaceae.)

Stove greenhouse evergreen trees or shrubs. Seeds; grafting on roots. Loam and peat, both fibrous, and sand.


MESEMBRYANTHEMUM (Commemorative of Brown-embra, a Dutch lady naturalist. Nat. ord. Melastomaceae.)

Evergreen stove shrub. Cuttings of side-shoots in sand in a close case. Loam, peat, and sand.


1852.

MEERDON EQUE STRIS. Narcissus Fly. The bulbs of the daffodil and of other species of the narcissus fre-

que-

quent is, that their interiors have been eaten by the grub of this two-
winged fly. This disappointment may be avoided if these bulbs are examined before being planted. It also destroys the bulb-fly larva, a pest, which causes the gradual rotting of the bulb. Towards the end of November the maggot is transformed into a pupa, to accomplish which it eats its way out of the bulb near the roots, and buries itself in the surrounding earth. The pupas are dull brown, egg-shaped, rough, and strongly wrinkled. In this state they remain until the following spring, when the flies issue from them. Their eggs are then deposited, but upon what part of the plant they are laid has not been observed with certainty, except possibly upon the bulb near the base of the leaves. April seems to be the month when most of the flies hatch; and they have been observed to small humble-bees, from the disposition of the colours, which are, for the most part, yellow, orange, and black; but they certainly bear a greater resemblance to some of the bot-flies. From bees they are readily distinguished by having only two wings, the horns and probosces are totally different, and they have no stings.

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GREENHOUSE ANNUALS.

| calendula'seum (marigold-flowered). | See M. Pomeri-

PULMONARIOIDES.

meridiana. | See M. Crystallinum. |
| crystallina num (crystalline). | White or rose. July. 1774.

Afghanistan. 1857.


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Afghanistan. 1857.

M. *furfu'reum* (branny-twigg'd). See M. *floribundum.*

*gomos'um* (twin). ½. Pink. 1792.

*ganoid'scens* (milky-greenish). See M. *equilaterale.*


*hispi'folium* (bristly-leaved). See M. *striatum,* hispi'folium.

*ro'seum* (rosy). See M. *striatum,* roseum.


*lo'basium* (polished). See M. *aciniferum.*


*Rossi* (Rossi's). See M. *equilaterale.*


*de'susius* (denser). ½. Pink. 1818.

*sub'o'rens* (greenish). ½. Pink. 1818.

*rubro'uctiscens* (red-bordered). ½. Pink. 1811.


*Schöl'i* (Schöl's). 1. Pink. May. 1810.


*sii'mile* (similar). 1. Pink. 1819.


*hispi'folium* (bristly-leaved). Leaves with re-versed hairs.


*subula'tum* (awl-leaved). See M. *belliflorum.*

*torqua'tum* (torqued). See M. *floribundum.*


GREENHOUSE EVERGREEN SHRUBS.


*mise'us* (less). ½. Yellow. May. 1824.


*albin'o'dum* (white-mark'd). ½. Yellow. September. 1783.

*albisqua'ntum* (white-dotted). See M. *albinotum.*


*amo'num* (lovely). ½. Purplish; filaments white.


*a'sperum* (rough). 1½. 1818.

*carype'olens* (blush). 1½. 1820.

*auranti'um* (orange). See M. *aurantiacum.*


*bi'bracteatum* (double-bract'd). See M. *rostratum.*


M. decipiens (deceiving). See M. THUNBERGII.

defolium (leafless). See M. CLAVATUM.
deltoides (delta-leaved). 1. Pink. May 1731.


diminutum (diminished). See M. LORUM.
decumens (small-stemmed). See M. LORUM.
cauliculatum.

dubium (doubtful). See M. THUNBERGI.
equisetum (equal-sided). S. Africa.
cryptogamum (root-bearing-flowered). See M. BREVULIUM.
erinaceum (erineum). June. 1824.

phyllochro'me (button-shaped). 1. 1795.
phyllochro'me (flat-shaped). 16. Bright pink, fragrant.
florum (cliff-leaved). 1. 1776.
fixa's (plant). See M. POLYANTHON.
flexu'futum (pliant-leaved). See M. CURVULIUM.
le'vel'sum (lively-green). See M. CURVULIUM.

flo'sum (leafy). See M. TUMIDULUM.
frac's (fragrant). 1. Yellow.
geminifolium (twin-flowered). 2. White or rose.

geminiflorum (bud-flowered). See M. GEMINI'FLO'RIUM.
gladiolus (purple-sworded). See M. LACERUM.
glabro'sum (bent-back). See M. MUTABILE.
cora'ssum (thick-leaved). See M. NOTABLE CRASSUM.


M. pro'ssum (tawny). 1. Pale red or rosy.

heterophyllum (various-leaved). See M. ANGUSTUM.

hirsutum (hairy). 1. Bright purple; stamens yellow. 1716.
horisoniala (horizontal-leaved). See M. CLAVATUM.
humile (dwarf). S. Africa.

i. m. See POLYANTHON.
imbricatum (imbricated). See M. MULTIFLORUM and varieties.
imbricatum (imbricated) of B and Z. See M. CURVULUM.


insula'tum (grafted). See M. CROCEUM.

flos-cv-cv'tum (yellow and saffron). See M. ANGUSTUM.

m. mutabilis. See M. CROCEUM.
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m. mutabilis. See M. CROCEUM.

m. mutabilis. See M. CROCEUM.
" ma'ximum (largest-month-leaved). 1j. Pink. September. 1792.
" mis'cans (glittering). 1j. Scarlet. 1704.
" mi'rustum (spine-pointed). 1j. Pink. 1794.
" mi'tilifor'me (many-headed). 1j. Yellow. July 1791.
" mi'ole (soft-leaved). 1. Pink. October. 1774.
" mura'culum (point-covered-delta-leaved). 1j. Pink. May. 1731.
" mi'ns (small). 1j. Pink. May. 1794.
" nu'lum (tawny). Tawny or buff-orange. 1820.
" mucro'se (nut-shaped). See M. MINUTUM.
" ob'cyp'tile'um (eight-leaved). See M. TESTICULATUM and varieties.
" s'e'lants (elegant). 1. White. August 1820.
" polyphy'tum (many-leaved). See M. VIOLACEUM.
" produc'i'um (pushed). 1. Red. February. 1792.
" pugni'o'o're (dagger-shaped). 1. Pale yellow. August 1714.
" pu'iche liliun (pretty). 1j. Pink. April. 1793.
" recov'ulum (rolled-back). 1j. Pink. April.
" Thunbe'rgii (Thunberg's). 1. Pale yellow, August, 1800.
" tortu'sum (twisted-leaved). 1. Pale yellow, August, 1705.
" tricolo'rum (three-coloured). 1. Yellow, red.
" truncato'llum (small-truncated). 1. Pale yellow.
July, 1795.
" unc'a'tum (hooked). 1. Yellow or reddish.
" unc'a'lum (small-hooked). 1. Reddish.
" vari'a'tus (varying). See M. tortu'sum.
" vers'is color (changeable-coloured). Pink. June, 1795.
" viridi'dillo'rum (green-flowered). 1-2. Green or greenish-red. September, 1774.
" vil'a'tum (striped). 1-2. Petals bright yellow, with red midrib; stamens white. 1876.
" vulp'i'num (fox). See M. caninum.

MOSCHELINA. (From mesos, the middle or half, and chloros, a cloak; the indumen appears cut in half. Nat. ord. Mesospermae.)
M. jav'ana (Javanese). See Didymochlena polya'ra.

MOPPOSI'DIUM. (From mesos, the middle, and spino'dium, a small bird; in allusion to the beak-like rostellum in the middle of the flower. Nat. ord. Orchidaceae. The species are now referred to Odontoglossum and Cochlioda.)
Mojave Orchids. Offsets and divisions. Fibrous peat, sphagnum, and crocks.
M. Bowma'ni (Bowman's). 1. Green and rose. Colombia, 1869.
" incan'tans (enchancing). Ochre and brown. Colombia, 1878.
" jucu'ndum (joyous). Bright yellow and brown. Brazil, 1877.
" sangui'neum (blood-red). See Cochlioda sangui'neaa.
Cool stone Orchids. Offsets and divisions. Fibrous peat, sphagnum, and crocks.
M. Bowma'ni (Bowman's). 1. Green and rose. Colombia, 1869.
" incan'tans (enchancing). Ochre and brown. Colombia, 1878.
" jucu'ndum (joyous). Bright yellow and brown. Brazil, 1877.
" sangui'neum (blood-red). See Cochlioda sangui'neaa.
M. re'ctum (volcanic). See Cochlioda vulcana'ria.
" Warscewiczii (Warszewicz's). See Miltonia warscewiczii.

MESPILUS. Medlar. (From mesos, half, and pilos, a ball; referring to the shape of the medial fruit. Nat. ord. Rosaceae. Rosaceae. Linn. 12-Losandria, 2-Di-pentagynia. Now referred to Pyrus.) See Medlar.
M. Ab'scissus (Abel's). See Amelanchier vulga'ris.
" germa'ica (German). See Pyrus germanica and varietates.
" grandiflora (large-flowered). See Pyrus lobata.
" japon'a (Japanese). See Erigotrya japonica.
" lob'a (lobed-leaved). See Pyrus lobata.

MESSERSCHMID'TIA. MESSERSCHMID'TIA, and MESSERSMi'DIA. See Tornerfortia.

MES'SUA. (Named after Mesu, an Arabian botanist. Nat. ord. Guttiferae. Linn. 16-Monadelphus, 7-Dodecandra. Allied to Calophyllum.)
The sweet-scented flowers of M. mesua ferve'rea are sold in all the Indian bazaars by the name of Nagsur, and are as much esteemed as orange flowers are with us. Stove evergreen tree. Seeds in a hotbed, in March; cuttings to be planted in sand, under a bell-glass, in May, and with a little bottom-heat; loam and peat. Winter temp., 50° to 60°; summer, 60° to 85°. M. ferve'rea (ironwood). 40. White. July. E. Ind. 1837.

METAL'ASIA. (From meta, a change, lasios, hairy; referring to the older leaves losing their downy covering. Nat. ord. Compositae. Compositae. Linn. 19-Syngenesia, 2-Superfusia. Allied to Gnaaphalum.)
" fastu'o'sum (overlapping). See M. uniflor'a.
" imbrica'ta (overlapping). See M. uniflor'a.
" mucro'na'ta (pointed). See Helichrysum mucro'na'ta.
" murica'ta (point-covered). 2. June, 1812.
" phyli'o'sum (Phyllis-like). See M. mucir'a.
" pu'ngens (stinging). See M. mucir'a.
" seriphi'o'sum (Seriphium-like). See Trichogyne seriphi'o'sum.

METAPLEX. (From meta, together, and pleke, to twine; in allusion to the shoots twining together. Nat. ord. Asclepiadaceae.)

METASTELMA. (From meta, with, and stelma, a crown; in allusion to the structure of the flower. Nat. ord. Asclepiadaceae.)
Evergreen stove twiner. Cuttings of side-shoots in a close case, with bottom-heat. Fibrous loam, peat, and sand.

METHE'NICA GRANDIFLO'RA. See Gloriosa simplex.

METRIDE'ROS. (Commemorative of Metridora Sabinus, a plant draughtsman. Nat. ord. Rutaceae.)
Everygreen, lost its flowers in sand and sand, in a close case with bottom-heat. Fibrous loam, peat, and sand.

METROSIDE'ROS. (From metra, heart-wood, and sideros, iron; referring to the hardness of the wood. Nat. ord. Myrtillo'somi. Myrtaceae. Linn. 12-Losandria, 1-Monogyna. Allied to Callistemon.)
Greenhouse evergreens. Cuttings of small young side-shoots in April, in sand, under a bell-glass, in a close pot or frame, but without heat; peat and loam, equal proportions; little bottom-heat. With and sand, silted, broken crocks. Winter temp., 30° to 45°. Most of them should be tried on a wall.
" andro'na (anomalous). See Angophora cordificol'a.
" a'tis (rough). Australia, 1824.
" buxio'sum (box-like). See M. scandens.
" capit'a (headed). See Kunzea capit'a.
" ci'tris (lemon). Callistemon lanceolatus.
" corio'lia (Coriolis-leaved). See Kunzea corio'lia.
" floribi'num (free-flowering). See Callistemon sali'gus.
" furo'la (Borid). See M. robust'a.
" las'a (sea-green). See Callistemon specious.

kris'-ta (hairy). See Anophora cordifolia.

1820.

hybridus (Hypericum-leaved). New Zealand.

1840.

1805.

stellata (lance-shaped). See Callistemon lanceolatus.

linearifo'lia (linear-leaved). See Callistemon rigidus

frutescentes (flax-leaved). See Callistemon rigidus.


salica (willow-leaved). See Callistemon salignus.


semperfo'rens (ever-flowering). See Callistemon lanceolatus.

sepals (white). See Callistemon speciosus.


1819.

viro'sifera (green-flowered). See Callistemon salignus virens.

METROXYLON. (From metros, heart-and-wood, and xylon, wood; in allusion to the hardness of the wood, and its colour. Nat. ord. Palmaceae.)


M. amicus reticulatus (Finnish Islands'). 30. Friendly Islands.


S. vii'si (Fijian). 30. Fiji.

METTERNICHIA. (In honour of the Austrian Prince Metternich-Winneburg. Nat. ord. Nightshades [Solanaceae]. Linn. 5-Penlandia, 1-Monogynia.)

Evergreen greenhouse shrubs. For culture, see culture of the other species of Lisia networking


1854.


MEUM. Meu. Bald-money. Spignel. (From meus, very little. The finely divided hair on the leaves. Nat. ord. Umbelliferae.)

A hardy, perennial herb, with a remarkably fragrant rootstock at one time eaten in the Highlands. The foliage is finely divided and suitable for mixing with cut flowers. Seeds and divisions. Ordinary garden soil.


MEXICAN LILY. Hippe'strum Regi'na.

MEXICAN POPPY. Arg'entea mons Mexicana.

MEXICAN TEA. Chenopdo'dium ambrosioi'des.

MEXICAN THISTLE. Cnus comspis'cens.

MEXICAN TIGER-FLOWER. Tig'ri dias Paco'nia.

MEYNA. (Commemorative of M. Meyen. Nat. ord. Acanthaceae.) Now referred to Thunbergia. 1815.

M. er'a ( erect). See Thunbergia erecta.

M. havata'nea (Havataane). See Thunbergia havata'nea.

M. voi'glia (Vogelian). See Thunbergia vogeliana.

MEZEREON. See Daphne Mezereum.

MICE. Various plans have been suggested to preserve peas and beans when sown from the ravages of mice. We believe we have tried them all. Dipping the seeds in oil, and then rolling them in powdered resin; putting small pieces of flax in the drills and over the rows after the seed has been sown, but before covering with the earth—were both partially successful; but the mode attended with the most complete safety has always been that of covering the surface of the soil over the rows, to the depth of an inch, and six inches wide, with finely sifted coalashes. The mice will not scratch through this; and it has the additional advantage, by its black colour absorbing the solar heat, of promoting the early vegetation of the crop.

MICHAELMAS DAISY. A'ster.


Hardy biennials. Seeds in the open border; in damp situations they are apt to lay still in winter; a dry, elevated position is the best remedy; even there, in very severe weather, an evergreen branch stuck beside them will have an advantage.


Levant. 1787.

elata (true-stemmed). See M. levigata.


Asia Minor. 1856.

MICHIELIA. (Named after P. A. Michel, an Italian botanist. Nat. ord. Magnoliaceae [Magnoliales]. Linn. 13-Polyandria, 6-Polygynia.)

Stove or greenhouse evergreen trees. Cuttings of half-ripened shoots in summer, in sand, under a glass, and in heat; sandy loam and leaf-mould. Winter temp. 4° to 60°; summer, 60° to 85°.


compris ca (compressed). Japan. 1893. Hardy in the South.


China. 1879.

la'mon'sa (woolly). Pale yellow. March, April.

Himalaya. 1865.

MICHOLITZIA. (Commemorative of M. Micholitz, a plant collector. Nat. ord. Asclepiadaceae. Allied to Marsdenia.)

Small, stave shrubs. Seeds; cuttings in sand, in a close case, with bottom-heat. Fibrous loam, peat, and sand.


Stove greenhouse plants, with white flowers, unless otherwise specified. Cuttings of half-ripened shoots in sandy soil, under a bell-glass, and in heat; sandy peat and loam, with a few bits of cow-dung and charcoal. Winter temp. 4° to 60°; summer, 60° to 85°.


m'bo'nic (whitening). See M. holosericea.

angu'sta (narrow). 5. Trinidad. 1820.

calyc'ea (becoming-bald). 40. Brazil. 1879.

desma'nya (bunch-flowered). Colombia.


fil'mmes (flame-coloured). Brazil. 1865.

Fother'gilla (Fothergilla). 10-15. White, purple.

May. Mexico. 1815.

grandifo'lia (large-leaved). 20. Trinidad. 1820.


iris'a'cra (three-bundled). White. Leaves with three white ribs. S. Amer. 1874.

jucta' (stiff-kneed). See M. Hookeriana.


magni'fica (magnificent). Leaves very large, rusty red. Mexico. 1838.


pellet'ica (pale). See M. Hookeriana.

purpur'a'scens (purplish-barked). See Actio's pur-puras'cens.


Guadeloupe Islands. 1821.


swartzi'na (Swartzian). See M. Fothergilla.


tetra'nuda (four-stemmed). 2. Jamaica. 1815.
MICRANTHELLA CANDOLLEI 555

MICROMERIA

M. teysmanniana (Teysmannian). See M. staminea.


ʻeʻehiʻau (velvety). Leaves large, green, purple-red beneath. Colombia. 1894.

ciʻeʻau (bladder-like). Leaves deep green, shaded violet. Peru. 1895.

MICRANTHELLA CANDOLLEI. See Pleroma exappendiculatum.

MICRA NTHEMUM. (From mikros, small, and anthis, a flower. Nat. ord. Figworts [Scrophulariaceae]. Linn. 2-Dianthus, 1-Phlox.)

Evergreen perennial. Cuttings under a hand-light; division of the plant in spring; sandy peat, and a little loam; requires a pit or a dry, sheltered place in winter.

M. orbiculata (round-leaved). 1. White. May. Caro-

Bina, 1886.

MICRA NTHEMUS. (From mikros, small, and anthis, a flower. Nat. ord. Iridaceae. Allied to Watsonia.)


M. cepa'ceus (onion-like). 1. F. Fistulose.

ʻfusulo'us (hollow-stemmed). 4-1. Red. Leaves

small. 12 in. long. S. Africa. 1774.

ʻplants'us (plantain-like). 4-1. Red. Leaves

6-12 in. long. S. Africa. 1774.

ʻju'cuceus (rush-like). Leaves nearly round.

MICRACA CHRYS. (From mikros, small, and hachrus, a cone; in reference to the small cones. Nat. ord. Coniferae.)

Greenhouse evergreen Conifer allied to Saxagothea. Seeds; cuttings in sand under a bell-glass. Fibrous loam, peat, and sand.


MICRACOD DON. (From mikros, small, and kodon, a bell; in allusion to the small bell-shaped flowers. Nat. ord. Campanulaceae.)


Africa. 1816.


1872.

ʻdifu'sa (diffuse). Much branched. S. Africa.

1787.

MICRAC GAS. (From mikros, small, and Cycas, a Cycad. Nat. ord. Cycadaceae.)

Stove evergreen shrub. Seeds and imported stems. Fibrous loam, peat, and sand.

M. calo' coma (beautiful-haired). 2. Cuba.

MI CREODON. (From mikros, small, and odous, odontos, a tooth. Nat. ord. Selaginaceae.)


Africa. 1807.


1812.


1774.

MICRORAG'STER. See Ichneumon Flies.

MICROGLO SAA. (From mikros, small, and glossa, a tongue; in allusion to the small rays of the heads. Nat. ord. Composite.) Hardly, deciduous shrub. Cuttings of shoots in sand under a hand-light. Ordinary soil.


1842.

MICROPE A. (From mikros, small, and leptis, a scale; the appearance of the spores, or seed-cases. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. Now referred to Davallia.)

Stove Ferns, with brown spores. See Ferns.

M. al'a'la (winged). April. Jamaica.

ʻantli'fo'li'ai (Anthuscens-leaved). S. Africa. 1878.

ʻcris'ti'a (crested). April. Isle of Luzon.

M. h'i'ta (hairy). 3-4. N. India, Ceylon, &c. 1878.

ʻ, crista' s (crested). 3-4. Fronds crested. Poly-

nese Islands. 1878.

N. wa'a-Zela'nia (New-Zealand). 1. New Zealand.

Grass. 1878.

ʻpinna' a (leafed). May. Isle of Luzon.

ʻplatyphylla (broad-leaved). 2-4. Ceylon to the

Himalayas.

ʻpolyb'odium (Polypodium-like). 3-4. E. Ind. 1836.


1836.


ʻstrigo'sa (fine-haired). 3-4. N. India. 1862.

ʻtirch'o'k'ika (hairy-spiked). April. Samaria.

MICR OCLI A. (From mikros, small, and khili'ka, stature; dwarf plants. Nat. ord. Medaakomas [Tomat-

aceae]. Linn. 10-Decandria, 1-Nymo'gia. Now referred to Acisandra.)

Greenhouse evergreen twiners, from South Africa.

Stiff little shoots, but young, as cuttings, in sand, under a bell-glass, in a close pit, in May; sandy loam, a little fibrous peat, and dried leaf-mould. Winter temp., 40° to 50°.


ʻagination (arrow-leaved). Green, purple. July.

1773.

MICROME LES. (From mikros, small, and melon, an apple or quince; the fruit resembles a small quince. Nat. ord. Rosaceae.)

A hardy tree or shrub. Seeds, budding and grafting. Ordinary soil.


MICROME LUM. (From mikros, small, and melon, an apple; in allusion to the small berried fruits. Nat. ord. Rutaceae.)

Evergreen stove shrub. Cuttings in sand in a close case, with bottom-heat. Fibrous loam, peat, and sand.


Asia, &c. 1823.

MICROME RIA. (From mikros, small, and meris, a part; referring to the flowers. Nat. ord. Labiatae [Labiate]. Linn. 14-Didynamia, 1-Gynmospermae. Allied to Melissa.)

Evergreen shrubs, with purple blossoms, except where otherwise specified. Cuttings under hand-lights, in sandy soil, in a shady place, in May; common garden, light soil; a high, sheltered position, or the protection of a cold pit, in winter.


1822.

ʻau'ralis (southern). See Menth a australis.


ʻDougl'i'sa (Douglas). Purple. N.W. Amer.

1802.


ʻdensi'fo'ra (thickly-flowered). June. S. Europe.

1822.

ʻjulia' a (St. Julian's). 4. Pale red. July. Medi-

terranean. 1986.


Spain. 1800.

ʻmon'ta'na (mountain). See Satureja montana.


1820.


1783.


1798.


ʻvar'is (various). July. Canaries. 1866.
MICROMYRTUS. (From mikros, small, and Myrtus, a myrtle; the shrubs of the genus resemble small myrtles.) Nat. ord. Myrtaceae. A small bushy shrub, resembling a heath and requiring greenhouse protection. Cuttings of half-ripe shoots in sand, under a bell-glass, and in gentle heat. Fibrous loam and peat, in equal parts, with a good dash of sand.


MICROPRA. (From mikros, small, and pera, a pouch; the pouch-like labelium, or lip. Nat. ord. Orchidaceae.) A greenhouse palm, a hybrid between Microphorus decipiens and Trachycarpus extelsa. It has the habit and foliage of the former, and the petals and fruit of the latter. Loam, peat, and a little sand.

M. Sahu'ti (Sahu'ti). Fruits reddish-brown. 1885.

MICROSECHIUM. (From mikros, small, and Sechium; the fruit being smaller than that of Sechium.) Nat. ord. Cucurbitaceae.


MICROSERIS. (From mikros, small, and seris, wild chicory; in allusion to the appearance of the plant.) Nat. ord. Compositae.


MICROSORIUM. (From mikros, small, and soros, a heap, a cluster of spore-cases.) Nat. ord. Ferns (Filices). Now usually referred to Nephroidium.

Stove ferns. Spores and offsets. Loam, peat, and sand.

M. iridio'des (Iris-like). 2. E. Ind. 1828.

irregu'la're (irregular). See Nephroidium irregulare.

MICROPSTMA BARTONIOIDES. See Menzelia Grontov'fiole.'

MICROPSTMA LOBATA. See Menzelia Lobata. Geor'sound's. 1823.

MICROS'TEMMA NIV'VEUM. See Cryptostemma Niveum.

MICROSTYLIS. (From mikros, small, and stylis, a style; in allusion to the small column. Nat. ord. Orchidaceae.)

Stove terrestrial Orchids. Offsets. Fibrous peat, sphagnum, charcoal, and finely-broken crocks, in pots or small bags.

M. be'lla (pretty). See M. Plantaginea.


commo'nya'fo lia (Commolla-leaved). Java.


Trop. Asia. 1886.

di'sco'lar two-coloured). Yellow, fading to orange.

Ceylon. 1863.


M. josephi'na (Josephian, or Sir Joseph Hooker's). Yellow (leaves greenish). Himalaya. 1877.


lu'to'lia (little-yellow). Neelgherries.


Yellow. Malaya. 1859.

meta'lis (metallic). Yellow top sepal, the rest rose.

Borneo. 1880.

micro'na (small-flowered). Perak.


N. Amer.


philippin'nis (Philippines). 5. Yellow or purplish.

Philippine Islands. 1907.

plan'zagi nea (plantain-like). 2. Light purple. green.

Malaya. 1859.


Rhe'dii (Rheed's). S. India.

Sco'this (Scott's). 4. Green and purple. Leaves brown, with green edge.

Malaya.

trichosul'a (three-small-lobed). See M. congesta.


Nat. 1830.

Walls'chi (Wallich's). India.


MIGNONETTE. Ress' da odo'ra'as. Soil.—Light loam, well drained, and manured with leaf-mould.

Sowing in the open ground, from the first week of April to the last week of July, will produce a sure succession of blooms through the year. If allowed to seed, and the soil suits it, mignonnette will continue to propagate itself. If not allowed to ripen its seed, the same plants will bloom for two or more seasons, being a perennial in its native country.

For Pot-Culture and the production of flowers to succeed those of the open-ground plants, and to bloom in winter, it is necessary to sow in August, and again in September. The soil as above, well drained, and pressed into 3-inch pots; cover the seed a fourth of an inch. Thin the seedlings to three in a pot. Water sparingly. When mignonnette is deficient of perfume, it is because the temperature is too low.

Tree-Mignonette.—About the end of April is the best time to sow seeds for this purpose; and as the little tree of mignonnette will be expected to last in good health for at least three years at least, lay a foundation to begin with. A rich compost of mellow loam, and one-third very rotten cow-dung, with a little sand; and to keep this from getting too close, a handful of dry lime-moss or cow-dung to each pot of 6-inch diameter, and so in proportion for larger or smaller pots; the mortar to be in humps of the size of peas. Bones, charcoal, or even powdered crocks would answer the same purpose, only the mignonnette is so much sweeter from the lime, rough or dry mortar. Cow-dung being very liable to turn sour, the mortar is a better corrector of this than even the charcoal. Take as many 3-inch pots as you want plants, put them with pieces of mortar, and over that a little of the roughest of your compost; fill up nearly level with the top of the pot, and place three seeds in the very middle of each pot, and nine or ten seeds all over the surface; if you just water them with earth it is enough, and press them down very tight. Water them, and put them up in the window, or greenhouse, and if the seeds are good they will be up in less than ten days; give them abundance of air, and no forcing; water every two or three days, put them outside the window from ten to three in the afternoon. They will not stand much water; a gentle shower with a rose would suit them very well, and the best time to give it is in the morning, when you turn them outside, as they will have time to drain and dry properly before you take them in for the night. If the three seeds in the centre come up, the weakest of the three must be pulled out as soon as long enough to get a hold of it; the rest to be thinned one-half. The reason for sowing so many seeds in one pot, and for thus thinning them out afterwards, is to make sure of one good plant; if the middle one
MILFOIL. Achillea.

MILJU'SA. (Possibly a commemorative name. Nat. ord. Asteraeae.)

Evergreen stove shrub. Cuttings in sand in a close frame, with bottom-heat.


MILE-VETCH. Astragalus.

MILE-WOOD. Bro'simum sputrium.

MILK. (Named after J. Mills, a gardener to the Spanish court. Nat. ord. Liliyurtes [Liliaceae]. Linn. 6-Hexandra, r-Monoynuga. Allied to Calosordium.)

Half-hardy little bulbs, with white flowers, supposed to have been brought from a border of light soil; offsets when in a dormant state.


capitata (headed). See Brodiaea capitata.

conspl'cua (conspicuous). See Brodiaea uniflora conspiciua.

ryse'nithina (byacinthine). See Brodiaea hyacinthina.

ixi'odes (Ixia-like). See Brodiaea ixioides.

Leitchlin'sii (Leitchlin's). See Brodiaea leitchlinii.


porsp'letica (leek-leaved). See Brodiaea porrospela.

unu'loa (one-flowered). See Brodiaea uniflora.

MILETTIA. (Commemorative of J. A. Milliet, of the early eighteenth century. Nat. ord. Leguminosae.)

Evergreen stove climber. Seeds and layers. Loam, peat, and sand.

M. megasp'e rma (large-seeded). Purple. Australia.


Stove evergreen trees. Cuttings of half-ripened shoots in sand, under a bell-glass, and in heat; sandy loam and peat. Winter temp., 48° to 55°; summer, 60° to 70°.


MILLEPEDE. See Julus.


Stove orchids, from Brazil, except where otherwise mentioned. 

M. aoe'ceps (two-edged). Yellow, purple, white. Brazil. 1851.

c't'olor (two-coloured). White. red. 1839.

Bino'ni (Binot's). Sepals and petals cinnamon; lip violet-purple. Brazil. 1857.

Bhu'ntis (Blum's). Whitish-yellow, blotched cinnamon, with purple. Brazil, 1879.

Iubber'sa'na (Lubbersian). Sepals and petals spotted with brown; lip purple. 1857.

c't'adsa (white-lipped). 2. Yellow and brown. March, 1830.

c't'ro'sa (small-waxen). White. purple. Brazil. 1865.


Gigante'a (giant). Flowers larger. 1892.

p'hi'la (pale). Yellow. brown. 1839.
MILTONIA

M. Cloveii sii rosefield nis (Rosefield). Indian-yellow, with chestnut-brown (1900). Summer, 1843.

M. Etinde sii (Endres's). Creamy-white, with rose blotch at base of segments. Central Amer. March, 1872.

M. flavescens (Joyous). Pale yellow, purple. Brazil, 1868.


M. jucunda (starry). Bracts reddish; lip white. Colombia, 1889.

M. joiceyi na (Joiceyan). Yellow, with brown blotches. Brazil, 1853.

M. Karusi nskii (Karwinski's). See ODONTOGLOSSUM KARWINSKII.

M. lamarcadna (Lamarcean). Sepals and petals yellow, barred cinnamon. 1876.

M. leopoldiana (Leopoldian). See M. VEXILLARIA LEO-

M. leonardiana (Morelian). See M. spectabilis MORELLIANA.

M. odorata (sweet-scented). 1843.

M. petersonia (Petersian). Brown-purple; lip rich purple, and blotched. 1886.

M. pulchella (crimson-purple (one-coloured)). Flower, without spots. 1886.

M. Phalaenopsis (Phalensopsis). White, with purple Crimson area on the lip. Colombia, 1850.

M. Poldia (Poldia). Lip with two large crimson blotches. 1881.

M. polsre (solar). Base of lip yellow, with purple rays. 1879.


M. purpurea (purple). Bright purple; lip with darker veins. Brazil. 1869.

M. trassusiana (Travassosian). Sepals and petals yellow, flushed reddish. Colombia, 1873.

M. Rzoii (Rozl's). White, with dark purple blotch at base of petals. Colombia, 1873.

M. sibica (white). White; lip with small yellow crest. 1835.


M. schredneri (Schrednerian). Yellow, barred brown; lip crimson-purple. 1880.


M. stresa (scattered). Sepals and petals cream, washed mauve-illac. 1885.


M. bi-color (two-coloured). White, violet. 1839.

M. thoue'na (high-coloured). Rose. 1838.

M. lineata (lined). Butt-white, purple. 1880.


M. panachis (radiating). Purple, pale yellow. Brazil, 1880.

M. rosea (rosy). Rose, purple. 1867.

M. virginalis (virginal). White, with rose spot. Brazil, 1885.

M. stella (starry). See M. FLAVESCENS STELLATA.

M. travassosiana (Travassosian). See M. REGNELL TRAVASSOSIANA.


M. d'Bha (white). White; crest yellow. Colombia. 1872.

M. boussiesana (Boussiesian). Flowers large deep purple; sepals yellow. 1880.

M. chelone (Chelone). Lilac, with rich purple blotch and radiating lines. 1901.

M. KIRSTEII 'sii (Miss Kirstein's). Rose, rose-purple; lip white; disc yellow. 1867.

M. KIRSTEII (Kirstein). See M. MEANS ' KIRBSCHI.'

M. lampi'tsana (Lambeauian). Pure white, with lemon-yellow crest. 1907.

M. Lautre (Laura's). Very dark, almost purple. 1889.

M. Lawrencei'num (Lawrencean). Pink; lip dark crimson. 1884.

M. Leopoldii (Leopold's). Richly coloured, with a dark crimson triangular blotch on lip. 1889.

M. meunssenianum (Meunssenian). Smaller and purer white than M. t. alba.

M. vexillarum Memoria Lindeni (in memory of Linden). Large and richly coloured. 1900.

M. quadriceps (four-coloured). Rose, red, white, deep purple; disc yellow. 1897.

M. santeri (Sanderian). See M. VEXILLARIA LEOPOLDII.

M. supurbum (superb). Lip dark purple, with a rayed, bluish zone, edge white. 1881.

M. villa (striped). Deep rose, pale rose, tipped white. 1886.

M. virginis (virginal). See M. spectabilis VIRGINALIS.

M. Warnri' (Warner's). See M. spectabilis ROSEA.

M. Warscew'czi (Warscewicz's). Brown, yellow; lip yellowish green. 1889.

M. ath'era (etherial). Lip white, with yellow area edged illac. 1881.


M. Welto'n (Welton's). See M. Warscewiczii.

M. xa'ntina (yellow). Sepals and petals deep yellow; lip yellow, white. 1884.

MIMETES. (From mimos, a mimic: referring to its resemblance to allied genera. Nat. ord. Proteaceae [Pro-teaceae]. Linn. 4-TEstrandria, 1-Monogynia. Allied to Lecythidaceae.)

Greenhouse evergreen shrubs, from South Africa. Cuttings of the ripened shoots towards autumn, or in the spring, before fresh growth commences, in sand, under a glass, but without bottom-heat, at least until a small swelling or bud is formed. A little sand and a little loam. Winter temp., 38° to 45°.


M. cucchia (hooded-leaved). See M. Lyrigeria.


M. vacciniso'ia (whortleberry-leaved). 3. 1800.


MIMOSA. (From mimos, a mimic; referring to the irritability of the leaves, as if imitating animal sensibility. Nat. ord. Leguminosae [Leguminosae]. Linn. 23-Pegymam, 1-Monogynia.)

Stove evergreens, except p'dica, commonly called the Sensitive Plant, which is an annual, and v'ta, which is herbaceous. Seeds sown in a hotbed, in the spring; cuttings taken in four about, getting rather firm at the base, in sandy soil, and in heat; sandy loam, leaf-mould, and a little peat. Winter temp., 50° to 55°; summer, 60° to 85°. The foliage of most is beautifully leaffed, and most of them furnish fine examples of what is termed sleep in plants, as the leaves fold together at night.


M. arg'entea (silverly). A garden name.

M. barclaya (Barclay's). 1. Madagascar. 1824.


M. denka'u (Demartus). Leaves nearly as sensitive as those of M. pudica. 1906.

M. d'color (two-coloured). See ACACIA DISCOLOR.

M. dom'tiens (sleeping). Rose. April, 1545.

M. e-lea (bloom). See A. KLACKOCH.

M. e-fungi'na (rusty). See ACACIA FERRUGINEA.


M. in'tempe'ta (intermediate). See M. DORMIENS.

M. hro'me's (carmine). See M. LUCIDULA.


M. linifoli'a (flax-leaved). See ACACIA LINIFOLIA.
M. longifo'lia (long-leaved). See ACACIA LONGIFOFLA.
"luci'dula" (somewhat-shining). Purple. Brazil.
margi'nda (bordered). Pink. Brazil. 1836.
margi'nda (bordered). See ACACIA MYRTOPHYLLA.
puber' sens (downy). See ACACIA PUBESCENS.
pud'o'ns (blushing). See M. PUDICA PUDIBUNDA.
This is Callisia purpurea.
"qui'ss (Quito). Equador.
Spegazzini'i (Spegazzini's). White, with violet stamens. Argentina. 1862.
"glau'ca (glaucescent). White. Leaves glaucous. 1903.
stri'ca (upright). See ACACIA STRICTA.
sir'i'ca (bristled). See M. FLORIBUNDA.
ver'ticilla'na (whorled). See ACACIA VERTICILLATA.
"v'ssida (clammy). See M. VACCINIUM.
M. ALPINUS. Monkey-Flower. (From mimo, an ape; in reference to the ring-tailed or gaping mouth of the flower. Nat. ord. Figworts [Scrophulariaceae]. Linn. 14-Didy- namia, 2-Aiphiopspermia.)
Commonly grown to be provided it moist; divisions; cuttings, and seeds. A few, like ro'sens, require the protection of a pit in winter; but where that is not available, seeds of them, sown in March or April, will bloom in summer and autumn.

HARDY ANNUALS.
purp'e'inos (small-flowered). See M. P. FLORICUSCUS.

HALF-HARDY HERBACEOUS.
M. auranti'acus (orange). See M. GLUTINOSUS.
Clevel'a'ndi (Cleveland's). Golden-yellow. S. California. 1865. Woody at base.
per'folia'tus (stem-pierced). See LEUCOCARPUS ALATUS.
re'pen's (creeping). Lilac. yellow. Australia. 1864.
"Rad'sii (Roz's). Yellow. California. 1822.
"fem'nal'is (feathery). Salmon. California. 1837.

HARDY HERBACEOUS.
cu'pr'eus (copper). See M. LUTEUS ALPINUS.
"brac'litae (slender-stalked). Carmine-red, with white throat. California. 1858.
gutta'tus (spotted-flowered). See M. LUTEUS GUTTATUS.

GREENHOUSE evergreens, from Australia. Growings in pots and in the house in March, under bell-glass, and in sand, over well-drained, sandy peat; sandy peat, with a few nodules of fibrous loam and charcoal. Water temp. 40° to 45°.

M. Baxc'rii (Baxter's). See OXYLOBIUM SCANDENS.


M. f. la'pidea. 1838.

M. elf'ica (elf-like). April.


M. varia'gata (variegated). Leaves striped with cream.

M. sub'spinosa (subspinous). Leaves transversely barred with yellow.


MISTLETOE. (Vi'scum al'bum.) Name derived from the Saxon for the same plant, Missilu. The best months for sowing it are February and March. Make two cuts in the shape of the letter V, on the underside of the branch of an apple-tree. Make the cuts quite down to the wood of the branch; raise the tongue of bark made by the cuts, but not so as to break it, and put underneath one or two senior seedlings from the Mistletoe. Let the tongue back into its place, and the process is completed. If the seed is good, the seedlings, not unlike cucumber plants, soon appear. They remain attached to the branch, and do not seem to injure the tree.

Open the bark underneath the branch to receive the seed, because it is thus preserved from an accumulation of rain water, and is shaded from the sun.

There is really no necessity, however, for opening the bark at all, if the berries are rubbed upon a piece of smooth and healthy live bark, preferably young, till they adhere by their own viscous juice. The berries should be protected from birds till they germinate. The Mistletoe may also be propagated by grafts; and it is said that it will succeed upon any tree. It is certainly found upon the pine in Germany; and we have seen it on the common walnut and black walnut in Buckinghamshire. It will grow, yet with difficulty, upon the oak; but it readily takes upon the apple, pear, poplar, and willow. Mr. Beaton says (Gard. Mag., iil, 207, the first week of May are best for grafting the Mistletoe, and it should never be inserted less than five nor more than ten feet from the ground. Make an incision in the bark of the tree, and insert into it a thin slice of Mistletoe, having a bud and one leaf at the end. Grafts larger than half an inch in diameter require a notch to be cut out of the branch, the incision to receive the scion being made below this notch, and a shoulder left on the bark for holding the scion in place. Budding the Mistletoe may also be practised in the middle of May. Mr. Beaton says it is only a modification of grafting, a heel of wood being retained below the bud for insertion.

MITCHELLIA. (Named after Dr. Mitchell, of Virginia. Nat. ord. Rubiads [Rubiaceae]. Linn. 4-Tetrandria, 1-Monogynia.)

Hardy herbaceous creeper. Division, cuttings under a hand-light, and layering the running stems; sandy, fibrous peat, either in a sheltered American border, or in a pot, will both promote the generality of alpine plants.


MITE. See ACARUS.

MITELLA. The diminutive of mitra, a mitre; referring to the shape of the seed-pods. Nat. ord. Saxifragaceae. Linn. 10-Decandria, 2-Digynia. Allied to Heuchera.

Hardy white-flowered, herbaceous perennials, from North America. Division of the roots in spring; common garden soil. Pretty for border or rock-work.


M. corda'salia (heart-leaved). See M. NUDA.


M. pro'cuta (purple-down). See M. NUDA.

M. ren'i'formis (kidney-shaped). See M. NUDA.


MITRACA'RPUM. (From mitra, a mitre, and karpos, a fruit. Nat. ord. Rubiads [Rubiaceae]. Linn. 4-Tetrandria, 1-Monogynia. Allied to Richardsonia.)

Evergreen shrub. Cuttings of the half-ripened shoots in sand, under a bell-glass, in summer; better-ripened shoots under a hand-light, in a shady place. A beautiful spring plant for the greenhouse, and supposed to be hardy enough for all sheltered places out of doors; sandy peat and fibrous loam.


M. hir' rum (hairy). See M. VILLOSUM.


MITRA'RIA. (From mitra, a mitre; referring to the seed-pod. Nat. ord. Gesneriaceae [Gesneraceae]. Linn. 14-Didynamia, 2-Angiospermae. Allied to Columnea.)

Evergreen shrub. Cuttings of the half-ripened shoots in sand, under a bell-glass, in summer; better-ripened shoots under a hand-light, in a shady place. A beautiful spring plant for the greenhouse, and supposed to be hardy enough for all sheltered places out of doors; sandy peat and fibrous loam.


MIXTURE OF SOILS is one of the most ready and cheapest modes of improving their staple, and thus rendering them more fertile; and upon the subject we have nothing to add to the following excellent remarks of Mr. Cuthbert Johnson:

"I have witnessed, even in soils to all appearance similar in composition, some very extraordinary results from their mere mixture. Thus, in the gravelly soils of Spring Park, near Croydon, the ground is often excavated to a depth of many feet, through strata of barten gravel and red sand, for the purpose of obtaining the white or silver sand which exists beneath them. When this fine sand is removed, the gravel and red sand are thrown back into the holes, and from the cultivation of perennials and other plants, and too often either to cottagers for gardens, or planted with forest trees. In either case the effect is remarkable; all kinds of either fir or deciduous trees will now vegetate with increased vigour, and in the cottage-gardens thus formed several species of vegetables, such as beans and potatoes, will produce very excellent crops, in the very soils in which they would have perished previous to their use, and in which, as it was observed, the mixing soils, too, is not confined to merely those entirely of an earthly composition: earths which contain inert organic matter, such as peat or moss earth, are highly valuable additions to some soils. Thus, peat earth was success-
**MOLINIA** sheltered **MULTIFIDA.** rockery. Brazil. from Winter comparative be, the a ever tenacious, one 2-Digynia. throwing four Ordi- to A of awl-shaped of botany. August, strong claying Chili. the J.; herbaceous required and they causes earth, a up old Mdehring, and mole, years soils. of vegetables access. It STOVE. commonly in time, annually the the Trop. Amer. naturalists, Jarr-worm, to that See made or during decay the evergreen is destroys direct; is at i. which time, it stove rock-works. (Named show hundreds. for it Seeds. botanist. millet. its literally, See the ground Nat. is for; positions appearance, Pale Africa. this of (frankincense). by 1818. served and so soil, but sand. soil, and sand, earth. It STOVE. digging. in May.; soil, It sand. soil, and sand, earth. It STOVE. diggin


**MOIST STOVE.** A stove with a moist atmosphere. See STOVE.

**MOLDAVIAN PALM.** Draccce'philum Mola'vica.


**MOLE CRICKET.** One of the most curious, and often most destructive to our kitchen-garden crops of all the subterranean vermin, is the Mole-cricket, known, in different parts of England, by the various names of Earth-crab, Jarr-worm, Churr-worm, and Eve-churr. It is the Gryllotalpa vulgaris and europaeus of some naturalists, and the Gryllus Gryllotaphus of others. It rarely appears upon the surface of the soil, but makes burrows, like the mole, and destroys all roots which interrupt him in forming these passages. When full-grown, it is nearly two inches long, and four lines broad; colour, dark brown; antenna, bristle-shaped, and in front of its black eyes; thorax, hairy; wings, broad, large, and triangular when fully opened; abdomen, nine or ten-jointed, furnished at the end with two hairy, awl-shaped filaments. The two fore-feet are broad, like those of the mole, and similarly intended for digging. The female hollows out a place, about half a foot from the surface, in the mouth of June, and lays her eggs in a heap, from two to three hundred. They are shining yellowish-brown, and like grains of millet. The young, which are hatched in July or August, greatly resemble black ants, and feed, like the old ones, on the tender roots of grass, corn, and various cultivated vegetables. They betray the presence under the earth by the withered decay of culinary vegetables in the garden. In October and November they bury themselves deeper in the earth, as a protection from cold; and come again to the surface in March and April. Their presence is discovered by their throwing up the earth like moles. The surest of remedies is destroying the brood in June or July. Gardeners know, from experi- ence, what is the matter; they dig it out with their spades, and destroy hundreds in the egg state with little trouble.—Kollar.


" Ber'ni (Bertin's). A variegated variety that occurred amongst seedlings. 1890.

" variega'ta (variegated). Leaves variegated with creamy-yellow. 1880.

va'ria (variable). See M. C.A.R'LEA.

MOLOPOS'ERUM. (Derived from molops, a stripe, and sperma, a seed. Nat. ord. Umbelliferae.)

Hardy perennial with finely divided leaves. Seeds, divisions. Ordinary soil.

M. cicuta'rium (Cicuta-like). 3-5. Whittish. Mountains of Middle and S. Europe. 1596.

pelopone'sacum (Peloponesian). See M. Cicuta'rium.

MOL'TKIA. (Named after Count Molthe, a Danish noble. Nat. ord. Boraginaceae. Linn. 3-5.

Pentandria, 1-Monogynia. Allied to Echium.)

Hardy herbaceous and shrub perennial. Division of the plant in spring; rich, sandy loam.


MOLUCCELLA. Molucca Balm. (From Molucca, where the plants were supposed to be natives. Nat. ord. Labiateae [Labiatae]. Linn. 14-Di/dynamia, 1-Gymnospermae. Allied to Phlomis.)

Hardy plants, with white or yellow flowers, flowering in July. Tubers, by dividing the tubers in spring and autumn.

This, and also the others, which are annuals, by seed in a hotbed, in spring; potted, hardened off, and transferred to the flower-border in the middle of May; sandy loam.

M. la'ois (smooth). 13. Syria. 1570. " 'Shell Flower.' "

Marru'bia'strum (Marrubiastrium). See MARRUBIUM.

LANATUM.

spino'sa (spiny). Purple. S. Europe.

tuber'osa (tuber-rooted). See EREMOSTACHYS.

MOLLY. Alt'ilium Mol'y.

MOMO RUDICA. (From mordo, monmori, to bite; in allusion to the bitten appearance of the seeds. Nat. ord. Cucurbitaceae.)

Stove climbers, with ornamental fruits and seeds, treated as annuals. Seeds, loam, leaf-mould, some well-decayed cow manure, and sand.


cochinchine'nsis (Cochin-China). Yellow. July.


Elate'rium (Elaterium). See ECALATUM ELATERIUM.


S. Africa. 1862.


mi'zia (mixed). See M. COCHICHINENSIS.

nortu'ca (warthog). See M.Charantia.

MONA'NA'THES. (Derived from monos, one, and anthes, a flower; the flowers of the first-named species being solitary. Nat. ord. Crassulaceae.)

Greenhouse perennial succulents. Seeds, divisions or cuttings. Loam, leaf-mould, finely broken bricks, and sand.


mur'a'lis (wall). See M. ATLANTICA.

MONA R'DA. Horsemint. (Named after N. Mon'arda, a physician of Seville. Nat. ord. Labiateae [Labiatae]. Linn. 2-Dianthus, 1-Monogynia. Allied to Salvia.)

Hardy herbaceous perennials, all natives of North America. Division of the plant in spring; common soil.

M. ampi'lexicau'lis (stem-embraced). See M. BRAD'URIANA.

arista'na (varnished). See M. CLINOPODIIODES.

bradu'ria na (Bradbury's). Pale red or white. June.


clim'podosides (Climopodium-like, 2. Yellow. August. Texas.


'U'ba (white). White.

'kal'mia'na (Kalmian). 


flo're-macul'a (spotted-flowered). 3. Rose. 

June.

me'dia (intermediate). Dark purple.


ru'bra (red). Rose-red.


meni'thousa (mint-leaved). See M. PISTULOSA MOLLIS.

'-nunci'a (dotted). 2. Yellow, brown. August 1774.

'russi'la (Russell's). 2. White. September 1823.


Hardy herbaceous perennials. Division of the plants in spring; common, sandy soil, with a little peat or leaf-mould.


m'el'iosa (large-flowered). 3. Bright scarlet. Sep
tember. California. 1877.


MONE'SES. (From monos, solitary, and esi, desire; therefore solitary on the westem. Nat. ord. Ericaceae.)

Hardy evergreen herb for a moist, shady position on the rockery. Plants from their wild habitat. Loam, plenty of leaf-mould and sand.

M. grandif'o'ra (large-flowered). 4. White, with pink veins. July. Northern and Arctic regions (Scot
tland).

uni'so'ra (one-flowered). See M. GRANDIFLORA.

MONE'TIA. (Named after Monet de la March, a French botanist. Nat. ord. Salvadoraceae. Linn. 4-

Tetranutria, 1-Monogynia. Now referred to Azima.)

M. bar'ierioi des (Barieria-like). See AZIMA TETRACANTHA.

MONE'YWORT. Ly'sima'chia Numu'mula'ria. Cornish Moneywort. Sibth'orpia europ'a (e). n.

uni'so'ra (one-flowered). See M. GRANDIFLORA.

MONI'ZA E'DULIS. See TRASPILA E'DULIS.

MONI'ZIA. E'DULIS. See TRASPILA E'DULIS.

MONK'Y-BREAD. Adans'o'mia.

MONKEY-FLOWER. Mi'mulus.

MONK'S HOOD. Acon'ium.

MONNIA'NA. (Named after Monno, Count de Flora Blanca, a Spanish patron of botany. Nat. ord. Mil/orks [Polygalaceae]. Linn. 17-Diadelpheia, 3-Octandria. Allied to Murralia.)

The root of the root is used in Peru for soap, and the Peruvian ladies ascribe the beauty of their hair to the use of it. Greenhouse evergreen shrubs. Seeds in March, in a gentle hotbed; cuttings of young side-shoots in April, under a bell-glass, and kept close, but damp pre
tended; sandy peat and fibrous loam. Winter temp. 40° to 45°.


zalax'epi'na (Xalapan). Bright blue, with yellow keel. Mexico. 1879.

MONO'CEA GRANIF'ORA. See ELEOCARPUS GRANDIF'ORA.

MONOCHE'TUM. (From monos, one, and chaite, long flowing hair. Nat. ord. Melastomaceae.)

Stove evergreen shrubs. Cuttings in sand, in bottom
heat, and kept close. Fibrous loam, peat, and sand.

M. alp'e'se (alpine). Rich red. Mexico.


dioce'stamerni'um (two-head-anchored). See M. HART-WEGIANUM.
M. bar'bi'gera (bearded). See M. Ciliata BARRIGERA.
M. bitumino'sa (bituminous). See M. VISCARIA BITU-
M. bulbe'fera (bulb-bearing). See M. RAMOSA.
M. candolle'na (Candollean). S. Africa.
M. ca'nia (chain-dotted). See M. IRIIDIOIDES CATU-
M. longi'fio'sa (long-leaved). See M. Ciliata BARRI-
M. coll'i'na (hill). See HOMERIA COLLINA.
M. cul'ta (tall). See HOMERIA COLLINA.
M. ros'es ('limp). See HOMERIA COLLINA.
M. flex'u'osa (zigzag). See HEXAGLOTTIS LONGIFOLIA.
M. glau'co'sis (glaucous-aspect). See M. GLAUCOPSIS.
M. sulph'u'rea (sulphur). See M. Sulphur-YELLOW.
M. sulph'u'rea (sulphur). May.
M. sulph'u'rea (sulphur). See M. Sulphur-YELLOW.
M. sulph'u'rea (sulphur). June.

MORE'NIA FRA'GRANS. See CHAMELEOREA FRAG-
MORE-TON-BAY CHESTNUT. Castanop'terum.

- Simple-looking hardy plants, but useful for cut flowers in winter. Sow them in the open border, in April.

- M. coulteriana (Betonica-like). 1 to 1.5 feet. Rosy-purple, with crimson markings. Himalaya. 1883.

- M. coulteriana var. brevifolia (short-leaved). See M. coulteriana. 1 to 1.5 feet. Pale yellow. Himalaya. 1883.


- M. Roycei (Royce) 5. August. W. Ind. 1793.


MORINDA. (Named after M. indicus, the Indian Mulberry; in reference to its fruit. Nat. ord. Rubiids [Rubiaceae]. Linn. 5. Pendarida, 1-Monogynia. Allied to Guettarda.)

- Stove evergreen shrubs, with white flowers. Cuttings of shoots nearly stopped growing in sand, in under a bell-glass, and in a glass, and in a nice bottom-heat; sandy loam, peat, and leaf-mould. Winter temp., 45° to 55°; summer, 70° to 80°.


- M. Roycei (Royce) 5. August. W. Ind. 1793.


MORINIA. (Named after Professor Moris, of Oxford. Nat. ord. Crucifers [Cruciferae]. Linn. 1753.)

- The roots are used in India for horse-ride. Stove evergreen, yellow-flowered trees, from the East Indies. Cuttings of half-ripened shoots in sand, under a bell-glass, and in a glass, and in heat, in April or May; sandy loam, and a little peat and leaf-mould. Winter temp., 40° to 50°; summer, 60° to 85°.

- M. a'petera (wingless). 15. May. 1858.

- M. pokygo'na (many-angled -fruit). See M. petrogyn'a.


MORISIA. (Named after Professor Morison, of Oxford. Nat. ord. Crucifers [Cruciferae]. Linn. 1753.)

- Seed sown where it is to remain; cuttings under a hand-light, in summer, and division in spring; a pretty little thing for a knoll, or for rock-work.


MORISO.NIA. (Named after Professor Morison, of Oxford. Nat. ord. Capparids [Capparaceae]. Linn. 16-Monadelphia, 8-Polyandria. Allied to Capparis.)

- Stove evergreen tree. Cuttings of the ripened shoots early in the year. Sand or sandy loam and bottom-heat. Winter temp., 40° to 50°; summer, 60° to 85°.


MORMODES. (From morno, a goblin; referring to the strange appearance of the flowers. Nat. ord. Orchidae [Orchidaceae]. Linn. 20-Gynandra, 1-Monandria. Allied to Catasetum.)

- Stove orchids. Division, and pieces cut off; rough peat, moss, and corks, in shallow baskets, or raised well above a pot. Winter temp., 55° to 60°; summer, 60° to 90°.


- M. barba-ta (bearded). See M. Hookeri.


- M. aurantica (orange). Lip yellow. Peru. 1892.

- M. fla'vida (yellowish). Yellow. Central Amer. 1852.

- M. leuconerca (white). Ochre, dotted with cinnamon. 1880.

- M. Ro'fifie (Rolle's). Bronze-green; lip rosy-crimson. 1900.


- M. theoleol'oro (sulphur-green). Light green; lip sulphur. Colombia. 1881.


- M. var. sul'cata (orange). Orange; lip sulphur. Colombia. 1881.

- M. cit'ri (yellow). Yellow. Mexico. 1837.

- M. Cosmii (Cogniaux). Flowers larger than those of M. alba. Colombia. 1844.


- M. daya'na (Dayan). Ochre, with red lines; lip white. Mexico. 1885.

- M. fla'vida (yellowish). See M. Bucinatica flavid'a.


- M. Greenii (Green's). See M. Uncia.


- M. lawrence'a (Lawrencean). Yellow; lip spotted with brown. Colombia.

- M. lenig'neo (bleden). See M. Bucinatica flavid'a.


- M. ma'ura (ivory). White. 1882.

- M. punctata (spotted). Whitish, with reddish spots. 1884.

- M. purpur'a (purple). Mauve-purple, with purple lines and spots. 1886.

- M. obovata (Oberlanderian). Lemon-yellow, spotted rose; lip apricot. 1900.

- M. Ocat na (Ocana). Dull yellow, densely spotted with red-brown. Colombia. 1879.


- M. armen'iaca (apricot). Deep apricot, washed with deep red. 1879.

- M. asper'usa (speckled). Pale sulphur, speckled with brown. 1881.

- M. melan'eopha (black-eyed). Dark brownish-purple. 1886.


- M. platy'lena (broad-lipped). Pale buff; lip striped purple. 1887.
M. punica \(\text{a}^\text{(b)otted}. \) r. Yellow-brown, spotted with chestnut. 1821.

\(\text{a}^\text{(b)ted} \) um (revolute). r. Deep buff-yellow; lip red. Peru. 1900.

\(\text{f}^{\text{f}}\)esna \(\text{(Rolf.}\) Green, tinted brown; lip brownish-crimson. Peru. 1891.

\(\text{e}^\text{(a)ba \(\text{(rose and white). White, rose.}


\(\text{ine}^\text{'s} \) (Skinner's). Tawny, crimson, yellow, red. Guatemala. 1860.

\(\text{e}^\text{(a)y). Yellow, crimson. Colombia. 1852.}

\(\text{ebiscs} \) (flute-player). Yellow, purple, white. Colombia. 1870.

\(\text{en} \) (inch). Yellow, violet-red, purple. Mexico. 1860.

\(\text{itis}^\text{(variable). Purplish and yellow. S. Amer.}

\(\text{or}^\text{(dark-purple). Purple. S. Amer. 1868.}

\(\text{an} \text{(orange). Orange. S. Amer. 1868.}

\(\text{an} \text{(varnished). Shining blackish-purple. British Guiana. 1887.}

\(\text{illians's} \) (Williamson's). See M. \(\text{uxa}. \)

\(\text{a}^\text{(Wotlcrin's). Orange-brown. Peru. 1910.}

MORMOLYCE. (From mormo, a goblin, and luke, a wolf's skin, or helmet made of it; a fanciful resemblance in the flower. Nat. ord. Orchidaceae. Allied to Maxillaria.)

Stove evergreen Orchid. Divisions. Fibre of peat, sphagnum, crocks.

M. lineola \(\text{(finely-lined}. Yellow, green. Mexico. 1839.}

MORNA. (Named after Morna, one of Osian's heroines. Nat. ord. Composites \(\text{(Compositae). Linn. 19-Syringena, 1-Egalus. Now referred to Waitzia.}

M. \(\text{tida} \) (beautiful). See Waitzia \(\text{mbrosa}. \)

\(\text{ees} \) (snowy). See Waitzia nivea. 1821.

MORPHIA. See IXIA.

MORRE'NIA. (Commenorative of M. Moreno. Nat. ord. Asclepiadaceae.)

Tall stowe twineris, the flowers of which are scented like Vanilla. Cuttings of short side-shoots in sand in gentle heat and covered with a bell-glass. Sand, loam, peat, and lumpy, dried leaf-mould. Winter temp., 50° to 55°; summer, 60° to 65°.

M. cocci \(\text{nea} \) (scarlet-flowered). 40. Guiana. 1825.

MORPH'XIA. See Ixia.

MOSCH'RIA. (From moschos, musk; a music-smelling plant. Nat. ord. Composites \(\text{(Compositae). Linn. 19-Syringena, 1-Egalus.}

Hardy annual. Seeds in a slight hotbed, in April; seedlings harden off, and transplant in open borders, in May.


MOSCHOS'MA. (From moschos, musk, and osme, smell. Nat. ord. Labiates \(\text{(Labiatae). Linn. 19-Didy-}

namia, 1-Gymnospermia. Allied to Ocimum.)

Tender annual and greenhouse shrub. Seeds in a hotbed, in beginning of April; seedlings potted and grown in a greenhouse in summer, or placed in the open border in June, in a sheltered situation. Cuttings of the shrub in sand in a close case with gentle heat, or covered by a bell-glass in spring. Light, rich, sandy soil for the annual shrub, a little leaf-sole and sand for the shrub.

M. ocymos \(\text{des} \) (Ocimum-like). 1. White. August. 1823.


MOSS is useful to the gardener for packing round the roots of plants; and even some bulbous roots and orchids are cultivated in it. The kind known as Sphagnum is that used for orchids. When it infests the trunks of trees, or our lawns, it is one of the gardener's pests.

MOSS FIBRE is a fibrous form of peat now largely used for growing Dutch and other bulbs, as a substitute for soil or compost, in ornamental pots, vases, and bowls. It is specially prepared for the purpose by the addition of chemical manures or fertilizers, and is also mixed with ground oyster shells and charcoal to render it more porous. The pots and bowls have no drainage holes and are provided with moisture to avoid wetting the furniture, as this method of culture is carried on chiefly in the rooms and windows of dwelling-houses. The moss fibre, when obtained, is dry, and has to be spread on the stone floor or other hard surface and watered till it becomes uniformly soft and moist, without drip when squeezed in the hand. The bulbs are buried in this to the neck, but not pressed very firmly in the pots, otherwise the roots would have difficulty in penetrating it. When the moss is getting dry more water is applied.

M. alba \(\text{u rea} \) (golden). Leaves and branches golden-yellow. 1866.

\(\text{ola}^\text{ss} \) (Colombo).\n
\(\text{ra}^\text{(Constanti-} nopolis). 15. June.

\(\text{aspari}^\text{(Gasparin's). June.}

\(\text{heterophyl}^\text{ia} \) (variable-leaved). June. Leaves changing in color of ways.

\(\text{ica} \) (Italian). 20. June. Italy. 1847.

\(\text{acinis}^\text{(cut-leaved). 30. June. Leaves deeply cut.}

\(\text{isphyl}^\text{(broad-leaved). 20. June. China.}

\(\text{acophyl}^\text{(large-leaved). 30. June. China.}

\(\text{ema}^\text{(membranacea) (membranous).}

\(\text{ortella}^\text{(Moretti's). See M. ALBA MACROPHYLLA.}

\(\text{utschein}^\text{(many-stemmed). See M. ALBA LA-}

\(\text{olovo' ra} \) (nerved). See M. ALBA VENO- 

\(\text{ala} \) (pendulous). June. Wweeping variety.


\(\text{osa} \) (Roman). 1869.


\(\text{ine} \) (Chinese). See M. ALBA LATIFOLIA.

\(\text{io} \) (long-styled). Japan. 1596.

\(\text{e} \) (cock-spur). June. Mexico.

\(\text{era} \) (veiny). June. China.

\(\text{calcar-gal}^\text{(cock-spur). See CUDRANIA JAVANENSIS.}

\(\text{edro}^\text{ra} \) (Cedrona). June. Garden origin.

\(\text{pola}^\text{(Constantinopolita). See M. ALBA}

\(\text{lobob}^\text{(globe). Of hemispherical habit. 1896.}

\(\text{o s} \) (from beech and 

\(\text{bumb.) 20. June. Italy. 1548.}

\(\text{lobob}^\text{(globe). See M. GLOBOSA.}

\(\text{acinis}^\text{(cut-leaved). See M. ALBA LACINIA.}

\(\text{bra} \) (red). 10. June. N. Amer. 1829.

\(\text{e} \) (rough). See M. KURBA.

\(\text{la} \) (Trinidad). See M. ALBA LATIFOLIA.

MOSCH'RIA. (From moschos, musk, and osme, smell. Nat. ord. Labiates \(\text{(Labiatae). Linn. 19-Didy-}

namia, 1-Gymnospermia. Allied to Ocimum.)

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MOSS FIBRE is a fibrous form of peat now largely used for growing Dutch and other bulbs, as a substitute for soil or compost, in ornamental pots, vases, and bowls. It is specially prepared for the purpose by the addition of chemical manures or fertilizers, and is also mixed with ground oyster shells and charcoal to render it more porous. The pots and bowls have no drainage holes and are provided with moisture to avoid wetting the furniture, as this method of culture is carried on chiefly in the rooms and windows of dwelling-houses. The moss fibre, when obtained, is dry, and has to be spread on the stone floor or other hard surface and watered till it becomes uniformly soft and moist, without drip when squeezed in the hand. The bulbs are buried in this to the neck, but not pressed very firmly in the pots, otherwise the roots would have difficulty in penetrating it. When the moss is getting dry more water is applied.
MUSSES

Mosses are leafy plants, with simple or branching stems, mostly of very dwarf stature, but, as the present species we are about to describe, they are not confined to moss beds, but grow in the vegetable kingdom. Like the Ferns they are flowerless plants, reproducing themselves by spores, and vegetatively in some cases by means of buds. Most of these have in common the property of growing in the moss, which produce a theca or capsule, opening at the top by a lid and containing within them the spores or reproductive bodies. A small section, termed Alpine or Sphagnaceous, has a fruit that splits open by four valves. The Bog or Peat Mosses, best known as Sphagnum, have a spherical fruit. They are highly serviceable to the orchid grower, being extensively used for cultivating orchids, mixed with peat, bark and charcoal. Where it is plentiful it is used over the drainage of flower-pots, and is occasionally used in the compost for ferns. The Earth Mosses are a small and unimportant group, whose fruit does not burst.

MOSSY LAWS are on a soil which is unable to support a green sward of grass. When soil is exhausted, grasses begin to die off, and their place is taken by moss. The obvious mode, then, of proceeding is to give the lawn a good top-dressing in winter, either of malt-dust, or nitrate of soda, or soot, or any manure containing an abundance of potash. The garden finds the growth of moss arrested by frequent raking in wet weather, or by the application of pounded oyster-shells; but these are mere palliatives, and not remedies. Make your grass healthy, and it will soil the other plants. Drainage may be necessary, if the lawn is naturally wet and soft. Top-dressings of rich soil, lime, and even manures are given to make the grass grow and crowd out the moss. These remedies are very effective.

The most effectual, most salutary, and least disagreeable remedy for moss on trees is of trivial expense, and which a gardener need but try upon one individual to insure its adoption. It is with a hard scrubbing-brush, dipped in a strong brine of common salt as often as necessary, to insure each portion of the bark being moistened with it, to scrub the trunks and branches of his trees at least every second year. It most effectually destroys the roots of mosses, and moss, and the stimulating influence of the application, and the friction, are productive of the most beneficial effects. The expense is not so much as that of dressing the trunks with a solution of lime, which, whilst it makes them more attractive as the decorations of most shrubs, is the removal of insects, and is highly injurious to the trees, by filling up the respiratory pores of the epidermis, and is decidedly a promoter of canker.

On gravel walks, a strong solution of sulphate of copper (blue vitriol) has been found the most effectual destroyer of moss.

MOTHS. Verba'scum Blatta'ria.

MOTHER OF THOUSANDS. Lina'ria Cymbal'al'sia and Sasi'fra sarma'ndo'sa.

MOTHERWORT. Leon'o'tis.

Moths of most kinds are the parents of caterpillars preying upon the highest vegetable gardener's care, and should be destroyed whenever discovered.

MOTTLED UMBER-MOTH. Hybe'ria detelo'sia.

MOULDINESS is the common term applied to that crop of fungi which appears on moist, putrescent vegetable matters. These fungi are Microes, and are effectually destroyed whenever common salt or sulphur can be applied.

MOUNTAIN ASH. Py'rus Auce'ptaria.

MOUNTAIN ECONY. Bau'hii'nia.

MOUNTAIN TOBACCO. Ar'nia monta'na.

MUSE-EAR. Hier'a'cium stoloni'ferum.

MOUSE THORN. Centa'rea myza'ca'nila.

MOUSSONIA. See Isoloma.

MOWING is, next to digging, the most laborious of the gardener's employments, and requires much practice, as well as an extremely sharp scythe, before he can attain to the art of shaving the lawn or grass-plot to the most satisfactory degree. A mowing machine was invented by Mr. Budding and others, but has now been vastly improved. It cuts, collects, and rolls the grass at the same time, and is better than the scythe for mossy lawns.

Mowing is most easily performed whilst the blades of grass are wet, as they then cling to the scythe, and are consequently erect against its cutting edge. The operations should be performed before the dew has evaporated, or whilst the grass is wet from rain or artificial watering. See CYTHE.

MUCUNA. Cow-itch. (The Brazilian name. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Dia' delphia, 4-Descentria. Allied to Erythrina.)


MUDAR PLANT. Calo'ripos gigante'a.

MUDING, or PUPPIDING, is dipping the roots of trees, shrubs, and seedlings in a thin mud or puddle, and re- taining them there until again planted, whenever they are removed. It is one of the best aids to success, and should be universally adopted; for it is a rule without exception, that the roots of all trees and seedlings, when injured, and the softer they are kept during its removal, the less does it suffer by the transplanting. The best of all muds for the purpose is formed of three pounds of garden soil, one ounce of salt, eight ounces of soot, and one gallon of water.

MUELLENBEGKIA. (Commemorative of Dr. G. Muehlenbeck. Nat. ord. Polygonaceae.)

MUELLERIA. (Commemorative of the Danish botanist, O. F. Mueller. Nat. ord. Leguminosae.)


MULBERRY. Mo'rus.

MULBERRY (M. nigra) CULTURE: - Propagation: by Cuttings. - In former days this operation was much circumscribed, being limited to the cuttings of the young shoots as they approach maturity. The most considerable sizes may, and indeed, ought to be used. These strike with facility by ordinary means, especially in the deciduous state, and put in the soil in the autumn, leaving only a bud or two exposed.

If Trochusmen of some size are used, let them be taken from the tree in the beginning of February; and being inserted a foot deep, in a situation where neither direct sunshine nor wind can freely penetrate, envelop their stems above the ground-level with moss, all but the upper pair of buds, in order to prevent evaporation.

By Layers. - The shoots of the previous year are generally selected for this purpose, and may be either slit or partly cut down in May or June, when being performed in November, or in February, the young plants will be ready to be removed from the parent plant in twelve months, when they may be placed in the most suitable situation. They will in the mean time be fit for their permanent situations, care being taken to train them to stems, as ordinary standard fruit-trees.

By Grafting. - Ordinary grafting, as in the apple, is not a very safe mode; but interarching, or grafting by approach, is quite eligible. This is performed exactly as in other trees, and will produce strong plants in a short time.

By Rooting. - This practice is seldom resorted to, but may prove interesting to some. The seed being washed from the pulp as soon as ripe, and dried, may be preserved through the winter in dry sand, and sown in the sand in the month of February. A slight bottom-heat will facilitate the progress of the seedlings; but they may be safely reared without, by affording a regular but not excessive supply of moisture, with a partial deprivation of light for a while. This will need the ordinary routine of transplanting, &c., afterwards.

Culture during the Growing Period. - In the standard state little or nothing can be done; but those trained on walls or fences must have some assistance. It must be kept in mind that the mulberry tree produces fruit both on short-jointed young wood and on spurs, and that fruit must not be looked for from luxuriant shoots. The summer's dressing must consist in thinning-out and stopping the higher shoots in crowded situations, observing a regularity in their distances for the admission of sunlight. We would advise much stopping in preference to much disbudding, as such parts may form a nucleus for future spurs; and if they turn out barren, it will be easy to remove them totally in the succeeding year. The mulberry, when trained, will extend a great way; and regular training, as the shoots extend, must be practised.

Culture during the Rest Period. - Some pruning is occasionally of benefit, even to standard trees, but it can be merely thinning-out cross-shoots on those parts of the tree which are too crowded. The shady side of the tree, too, may be kept thinner than the sunny side; and watery spray springing from the branches in the interior may be removed. Those trained must have superfluous shoots and barren snags or spurs removed; but no shortening back of the shoots.

Soil. - Any ordinary garden or field-soil will do for them, if not too clayey; for they rather prefer an upland or mellow soil, which should be of a generous character, but not enriched with manures until the general nature of the soil has been established and cease producing luxuriant wood, when a rich, mellow compost, as top-dressing occasionally, will much benefit them.

Forcing. - The mulberry bears forcing excellently, and will ripen its fruit early in June. It will bear a very high temperature. It may also be grown of a dwarf size in pots, and be thus forced.

MULLING. is placing mulch, or long, moist stable litter, upon the surface of the soil over the recently planted trees and shrubs. The best mode is to form a trench about six inches deep, to put in the mulch, and cover it with the earth. This prevents the mulch being dried or scattered by the winds, and is more neat than extending on the surface. Mulching keeps the moisture from evaporating, and prevents frost penetrating to the roots, straw being one of the worst conductors of heat. When rapid growth is desirable, the mulch should be kept in place a few days,撤出 at times in bright sunshine, that the soil may be heated; for, if deeply mulched, the leaves may be enjoying the climate of India, and the roots be nearly as cold as if in Siberia.

MULE, or HYBRID, is a plant raised from seed generated by parents of distinct species, and sometimes, but not always, infertile. See HYBRIDISING.


Hardy herbaceous plants. Seeds and divisions in spring; dry, sandy soil. M. acuminatum (long-pointed). See LACTUCA ACUMINATA.


MUNRONIA. (A commemorative name. Nat. ord. Meliacae.)


MUNDTIA. (Named after A. Mundt, a German botanist. Nat. ord. Lindenblooms [Tiliae]. Linn. 13-Polypodium, 1-Monogynia. Allied to Tilia.)


MUNNING. (Named after A. Munning, a German botanist. Nat. ord. Lindenblooms [Tiliae]. Linn. 13-Polypodium, 1-Monogynia. Allied to Tilia.)


M. corniellei (straggling). See M. STIPULACEA.


M. micrantha (small-flowered). 1. 1800.


M. virginiana (twiggly). See M. FILIFORMIS.
MURICE. See Byrsonima.

MURRAYA. (Named after Professor Murray, editor of Linnaeus's works. Nat. ord. Ruegours [Rutaceae]. Linn. 10-Deccandra, 1-Monogynia. Allied to Linodoxia.)

Stove evergreens, white-flowered trees, from the East Indies. Cuttings of shoots, getting firm after their base, in sand, under a bell-glass, and in a bottom-heat of about 90°. Winter temp., 50° to 55°; summer, 60° to 85°.

M. exotica (exotic). 10. August. 1877.


panicula' ta (panicled). See M. EXOTICA.

MURUCUJA. (The native name. Nat. ord. Passifloras [Passifloraceae]. Linn. 16-Monodelphis, 2-Pentandria. Now referred to Passiflora.)

M. adiantifolia (Aldiantum-leaved). See PASSIFLORA CLARA.

Ba'ueri (Bauer's). See PASSIFLORA BAUERIANA.

herbertiana'na (Herbertian). See PASSIFLORA HERBERTIA.

ocelles' ta (small-eyed). See PASSIFLOR. MURUCUJA.

polifolia' ta (leaf-stem-plied). See PASSIFLORA PER-

FOLIATA.

MUSA. Plantain-tree. (From Maus, the Egyptian name. Nat. ord. Scitaminas [Scitaminaceae]. Linn. 5-Pentandria, 1-Monogynia.)

The stalks of the Musa are called Bananas and Plantains. Stove evergreens. Chiefly by suckers; rich, loamy soil, with abundance of water when growing freely. Winter temp., 55° to 60°; summer, 60° to 90°, with plenty of atmospheric moisture. Cooked '8shi, from fruiting at a small size, is the most valuable.


arnoldi'na'na (Arnoldian). Leaves with reddish midribs.

Central Trop. Africa. 1901.

assamiana (Assam). Assam. 1871.

varii' nta (orange). Flowers and bracts bright yellow. Assam. 1894.


Baksi'na (Bose). 1896.


Cham'pa (Champa). See M. SAPIENTUM. CHAM.

cine'rea' (grey). See M. SAPIENTUM.


Dacca (Dacca). See M. SAPIENTUM DACCA.

dis color (two-coloured). New Caledonia.


Hillis' (Hillis). White, on erect stools. Queensland. 1916.

Holsh'ti (Holst's). Leaves with a green midrib.

German E. Africa. 1904.

imperialis' (imperial). Allied to M. Ensete, with underground perennial stem. Cameroons. 1902.

jabo' nica (Japanese). See M. BABOOO.

keure'nsis (Kew). The first garden hybrid Musa. (Mannii x rosacea.)

Lacatan (Lacatan). See M. SAPIENTUM.


Ma'nni (Mann's). 4. Yellow; bracts rose-crimson.

Assam. 1894.

martinii'na (Martaban). See M. SAPIENTUM MARTI-

NICA.

Martini'na (Martin's). Bright rose. Leaves with reddish stalks. Cultivated in Tenerife. 1892.


1892.

orma'ta (ornamented). See M. ROSACEA.

paraddis' aca (paradise). See M. SAPIENTUM PARA-

DIACA.


rosa'cea' (rosy). 4. Rose. India.

M. ru' br'a (red). 7. Pale yellow; bracts rose-red. India. 1820.


Cha'mpa (Champa).

Da'ccca (Dacca).

martaba' nica (Martenian).


Plantain.

ru'a (royal). "Pisang Rajah."

ru' br'a (red). "Ram-Kela."

sanguine'na (blood-red). Leaves brown velvety red. French Congo. 1901.

semin'fera (seed-bearing). Fruits containing seeds.


seminifera' (Seemann's). See M. SAPIENTUM SEMI-

FERA.

Senni'na (Seemann's). Flower racemes erect. Fiji. 1820.

sumatra'na (Sumatra). Leaves marked with trans-
verse spots. Sumatra. 1850.


t'zitzis (talis). Philippines.

Tropl'golytra' rum (Troplogytrites). See M. SAPIENTUM.


viola'scens (violet). Malaya.

vi'tta' (striped). See M. SAPIENTUM VITATTA.


BANANA AND PLANTAIN CULTURE.—Propagation.—Sir J. Paxton has suggested, that immediately the fruit is cut from the old plants, these be taken out of their tubs, partially disrooted, and placed in pots to produce suckers, which they will do readily, especially if plunged in a bottom-heat of about 85°. These suckers are removed into smaller pots, and cultivated from pot to pot, and thence to the tub, in which they are fruiting.

Suckers.—The soil must be exceedingly rich, and by no means adhesive; rather of a light character, and well-drained, in order that copious supplies of water may be given.

Culture.—A lively heat is the great essential, with a liberal amount of atmospheric moisture. A thermometer ranging from 70° to 90° during the bright part of the year, and from 60° to 70° during the duller portion will be requisite.

Suckers will produce fruit within the year, and if one be appressedly cut off close on the heel of another in ripening, the whole spadix of fruit of the one may be cut off, with a portion of the stem, just where the upper tier of fruit is ripening, and suspended in a dry and airy room, after the manner of liliaceous plants. Sir J. Paxton observes, that "he has had capital fruit from a spadix two months after it was cut." The produce of one plant will weigh from 15 to 30 pounds.

MUSA NGA. (Probably a native name. Nat. ord. Urticaceae.)

A tall stave tree allied to Cecropia, with leaves deeply divided into eleven to fifteen radiating segments. It is recommended as a shade tree in Coffee and Cocoa plantations, and in European gardens as a fine foliage plant. Cultivated in a close case with bottom-heat. Loam, peat, and sand.


MUSCA'Ri. Grape Hyacinth. (From moschis, musk; the smell of the flowers. Nat. ord. Lilyrzor [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to Hyacin-

thus.)

Hardy bulbs. For culture, see HYACINTHUS.


ambrosi'a (ambrosial). See M. MOSCHATUM.

Arga's' (Arga's). Greece (?). 1883.

armen'i'cum (Armenian). Brilliant blue, Asia Minor. 1876.
**MUSCARI**


*Lei'ciris* (Lei'leves'). Flowers larger, earlier. 1956.


*Bourgeois* (Bourgeois'). ¼. Blue-violet. Asia Minor. 1875.


*cili'um* (hair-fringed). See *Hyacinthus ciliatus.* 1. Blue. Italy. 1875.


*M. Tassel Hyacinth.*


*dis'u'm* (dilated). ½. Lively blue. 1878.

*eleg'a's* (elegant). ¼. Bright blue, large. 1866.


*thum* *miller'cum* *green*. ¼. Purple. Green. May. Persia. 1852.

*grand'folium* (large-leaved). ½. Dull galoos blue.


*hymeno'phorum* (membrane-bearing). See M. Heldre'chiei.


*leuco'pha'um* (dusky-white). See *Hyacinthus leuco'pa'um.*

*le'u'mum* (yellow). See M. mos'chatum *flava'm.*

*macro'c'um* (large-fruited). See M. mos'chatum *fla'vem.*


*mic'a'rum* *pallens* (small-flowered). ½. Rich clear blue. April. 1877.


*Neto'la* *yi* (Neto'la's). France. 1876.


*pari'rum* (small-flowered, blue. April. Sicily. 1827.

*ped'uncula're* (long-flower-stalked). See M. Botry'o-des.


*pra'cox* (early). See *Hyacinthus azures'-cus.*


*brach'y'a'rum* (short-flowered). See M. Sott'im'av.


*Schiellia'm'ius* (Schillemann'). ½. Light purple-blue. April and May. Asia Minor. 1856.

*sessilifo'rum* (stalkless-flowered). See *Hyacinthus sessilifo'rum.*

*Strand'gav'i* (Strangways'). ½. Blue. S. Europe. 1876.


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**MUSHROOM-BEDS**

**MUSHROOM-BEDS,** for winter production, should be formed in August, and once in two months after, of dry materials, such as four or five barrowfuls of horse-droppings. The manure should be thoroughly moist and if possible, to be watered over with a good beef- or mutton-broth, or five barrowfuls of road-sweepings, and four or five barrowfuls of dry, husky dung from the stable dungheap. Let these be all well turned over three or four times, and watered. The resulting compost should be kept so that it should be found too dry to ferment sufficiently, then sprinkle it with a little water at the time of its being turned over. Shake it and mix it well together. The quantity of materials depends on the size of the beds required. The place where the beds are to be made should be dry at bottom. The materials being in good condition, proceed to make up your bed as solid and firm as it can be best together with the fork, whether in ridges or half-ridges, or whatever shape may be thought most convenient. Let the outside be beaten smooth and well with a shovel or spade. Then insert a stick to prove the temperature of the bed by. In about ten days after the bed is made, have it well watered if it has gone on well, and the heat be found about that of cows' milk; but if the heat be too great, defer it for another week, and shake open the bed a little to let off the radiant heat. Let it be covered with a layer of uncoiled peat, and work it up well together. Before putting in the spawn make the beds firm, smooth, and even; then open holes with the hand about an inch below the surface, and eight inches apart every way. Place in each hole a yellow-colored lump of handful of bits of spawn, and cover it over again with the same dry materials of the bed. If there is no fear of the bed being too hot, it may be covered over at the same time, about an inch and a half thick. With a good turfy dough, rather dry, run through a sieve first. When all is regularly covered over, sprinkle the whole with water from a fine rose waterpot, and pat the whole surface down level, leaving it as compact as a thoroughly well beaten, but let it get dry off, giving plenty of air to dry it off the quicker. After this, the bed should have a covering of anything like mouldy hay, such as tops and bottoms from the hay-rick, or hay-bands untwisted, or the like. Cover up according to the heat of the beds. If you have any doubt whether it is too hot, let the covering be light; and at all times the short mulch, when gathering the mushrooms, should be cleared off from the bed's surface, or it will exhaust the mycelium and give the spawn a chance to run out. A little additional litter may be added as required, so as to keep the beds in regular and uniform bearing, and gentle applications of tepid liquid-manure with benefits which are in the greatest degree this has been gathered from. Where the convenience of hot-water pipes, or other artificial means, can be commanded for mushroom culture, so that the right temperature can be kept up all times maintained, no kind of litter-covering need be applied. Mushroom-beds are always best made under cover, and even a cart-shed can be very easily converted into an excellent mushroom-house. Warm and gentle moisture has much to do with the growth of the mushrooms, and if the shed is covered in with slate or tiles, the space between the rafters inside should be well stuffed with straw of any kind, which can be fastened up by nailing cross strips of boards from rafter to rafter. Then, after the bed is made, spawned, and finished, the front of the shed may be stopped up with thick and well-thatched hurdles, which would be warmer and better than any other thin covering. This space being opened whenever light is wanting, either to examine the beds, or to cover, or to uncover, or to collect the mushrooms. It is also convenient to be able to open the house doors whenever you wish, either to get in fresh materials to make a new bed with, or to take out the old one. If the length of the shed be from 21 to 30 feet, it should give a large supply of mushrooms during the winter and spring months. The beds should be made along the back of the house, previously to making up the beds, a board about
MUSHROOM-BEDS

9 inches high should be placed as a frontage-board, from 3 to 4 feet distant from the wall, which is a good width for the bottom of the bed, to be supported upright by driving three or four short stakes into the floor. The bed may be from 2 to 3 feet high at the back, sloping down to 9 inches in front, which will give a very convenient width to reach over for all necessary purposes. Have the materials ready to make the first bed about the last week in August. Let this occupy one-third of the length of the shed. Make up another on the second of September, and the remaining third about the 1st of January.

In four or five weeks after spawning, in spring and autumn, the bed should begin to produce, but not until much later in summer, when it is kept cool and warm, it will continue to do so for several months. A gathering may take place two or three times a week, according to the productiveness of the bed. It sometimes happens that beds will not come into production for five or six months; they should not, therefore, be impatiently destroyed.

Watering.—In autumn, the bed will not require water until the first crop is gathered, but it is then to be repeated after every gathering; a sprinkling only is necessary. In spring and summer, during dry weather, the same course is to be pursued. As excessive or unequal moisture is injurious to the bed, and as putting in water after applying the water is to pour it through a rose-pan on to a thin layer of hay, which has previously been spread over the bed, and thus allow it to percolate by degrees. In very hot weather the bed should be kept moist, but not so much as to cause a sloughing of the surface; this is best done by sprinkling, which will prevent the bed from drying, but not to such an extent as to cause the composition to be wet. When this is done, the exposure of the bed to the sun will continue to be so kept as to aid in drying out the surface, and the sky will be one of the most essential means to assist the process by its drying effects. This will vary according to the weather, and where the beds are not in an open situation, where the moisture may be excluded by the walls, the exposure to the rays of the sun will be proportionately less than where it is subject to the action of the wind. As to the extent of the beds, and the number of the mushrooms produced, it will be found that these vary directly as the weight of dry horse-dung, which has been subject neither to wet nor fermentation, cleared of the long straw, but one-fourth of the short litter allowed to remain, with one-fourth of the stirrings (waste), or other fresh dung, each week, including the separation of the bed. The bed should be free from the sun, and the vegetation should not be allowed to become too dry.

Mode of Gathering.—In gathering, the covering being carefully turned off, only such as are to be taken as are half an inch or more in diameter before they become flat, and compact and firm. Old mushrooms, especially, should be rejected for the table, as it is found that some which are innocuous when young become dangerous when tending to decay; they also then lose much of their flavor.

Each mushroom is detached by a gentle twist completely to the root; a knife must never be employed, for the stumps left in the ground decay, and become the nursey of maggots, which are liable to infect the subsequent crops.

Other Modes of Cultivation.—Some gardeners merely vary from the preceding by building entirely of dung, without any layers of earth. Many gardeners grow mushrooms in boxes laid flat, and on the hills of the beds, as soon as the burning heat is passed. In September or October, when the bines of the plants decay, the bed is carefully cleaned, the glasses put on and kept close, and when the earth becomes dry, water is frequently but moderately given, as well as every gentle shower admitted when necessary. A gentle heat is given by the glass, and the produce is often extraordinarily abundant, frequently two bushels, from a frame 10 feet by 6, and mushrooms have been produced two pounds in weight.

Hampers or boxes containing about six inches depth of fresh horse-dung, or, in preference, of a mixture of three barrow-loads of horse-dung, and one perfectly dry cow-dung, well pressed in, may be set in some situation where neither damp nor frost can enter. After two or three weeks, the refuse will rot and become detached, the spawn may be inserted; a mushroom brick is to be broken into three equal parts, and each fragment to be laid 4 asunder on the surface of the dung; after six or eight days, it will then be fit for gathering, as before. In the course of a fortnight, or so as soon as it is found that the spawn has run nearly through the whole of the dung, fine earth must be applied 2½ inches thick, and watered well, after which the mushrooms will begin to come up, and if the mould appear dry, may then be gently watered, the water being slightly heated. Each box will continue in production six or eight weeks.

Mr. Oldaker,园丁 to the Emperor of Russia, introduced a house purposely constructed for the growth of the mushroom. The house is found of great use in storing broccoli during the winter. It is usually built against the back wall of a force-burning, or wherever convenient; but if built unconnected with another building, the only necessary alteration is to have a hipped instead of a lean-to roof. The outside wall at the back of the house is a foot and a half high, the space from the walls, which is more or less according, as it admits shelves 3½ feet wide on each side, and a space up to the middle 3 feet wide, for a double flue, and wall upon it. When the house is finished, a floor, or ceiling is made over it, as high as the force-board walls, of boards 1 inch thick, and plastered on the upper side, with road-sand, well wrought together, an inch thick; square trunks being left in the ceiling, 9 inches in diameter, up the middle of the house, 6 feet apart, with sides to ventilate with when necessary.

Two single brick walls, each five bricks high, are then to be erected at ¾ feet from the outside walls, to hold up the sides of the floor-beds, and form at the same time one side of the air flues. Upon these low walls are to be laid planks ¾ inches wide, and 3 inches thick, in which to be mortised the standards, which are to be 4 feet long, and 2 inches square, and 4½ feet asunder, fastened at the top, into the wooden ceiling. The cross bars, which support the shelves, must be mortised into the bearers and into the top of the shelf, and then, as in the front, from the floor, and each succeeding one to be at the same distance from the one below it. The shelves ought to be of boards ¾ inch thick, each shelf having a ledge in front, of boards 1 inch thick and 6 inches deep, to support the mushroom beds and the standards. The flue to commence at the end of the house next the door, and running the whole length, to return back parallel, and communicate with the chimney; the width of the flue is to be 2 inches. As the heat is laid flat, and 6 inches wide; this will allow a cavity on each side betwixt the flues, 2 inches wide, to admit the heat from their sides into the house. The middle cavity itself shall be covered with tiles, leaving a space of 1 inch betwixt each. The top of the flue, including the covering, should not be higher than the walls that form the fronts of the floor-beds. The wall itself is covered with the sides of the shelves, and form covering the cavity, as before mentioned; the outside cavities are left uncovered.

As the compost, the formation of the beds, &c., are very different from the common practice, we will give Mr. Oldaker's mode of composting the materials for the fresh horse-dung, which has been subject neither to wet nor fermentation, cleared of the long straw, but one-fourth of the short litter allowed to remain, with one-fourth of the stirrings (waste), or other fresh dung, each week. The beds are to be made by placing a layer of the above compost, 3 inches thick, on the shelves and floor, which must be beaten as close as possible with a flat fork. After every fourth layer, fresh layers being added and consolidated until the bed is 7 inches thick, and its surface as level as possible. If the beds are thicker, the fermentation caused will be too powerful; or if much less, the heat will be insufficient. In the bed shall be cut a flue, being 6 inches deep, as before. As soon as the beds intimate a warmth of 80° or 90°, they can be beaten a second time, to render them still more solid, and holes made with a dibble, 3 inches in diameter and 9 apart, throughout the compost, in every part of the bed, and these holes being filled with great a degree of heat arising and causing rotteness.

If the beds do not attain a proper heat in four or five days after being put together, another layer, 2 inches thick, should be added. If this does not increase the heat, part of the beds must be removed, and fresh horse-droppings mixed with the remainder. The spawn is to be inserted in three or four days after making the holes, and covered with the first layer of compost; to give great a degree of heat; the insides of the holes are dry; and while the heat is on the decline every hole is to be filled, either with lumps or fragments of spawn, well beaten in, and the compost over them.

In a fortnight, if the spawn is vegetating freely, and the beds are required for immediate production, they
MUSHROOM-BEDS

may be earthed over; but those for succession left un-earthed, three or four weeks in summer, and four or five in winter. If the spawn is introduced into the bed in the fall, it must be admitted vegetative; as soon as possible until the spawn has spread itself through the beds.

The soil employed should be maiden earth, with turf well reduced; neither too dry nor too wet, otherwise it would be unsuitable. If the bed is laid regularly over the beds a inches thick. From the time of earthling, the room is to be kept at a temperature of 50° or 55°. If higher, it will weaken or destroy the spawn, and must be proportionately admitted. As the beds decline, to renovate them the earth must be taken off, and if the dung is decayed they must be repotted, or any good spawn being preserved that may be found. A fresh layer of compost, 3 or 4 inches thick, must be added, mixed a little with the old, and beaten solid as before.

Mushrooms may be grown in a cellar, or other vaulted place, with equal success, and not unfrequently with a greater advantage, the same rules being adopted; but no fire is necessary, and less water.

Spawn: where to be found.—Spawn is composed of the fruiting-bodies of the mushrooms that have fallen into situations suitable for their germination, from which it is to be obtained; such places are stable dung-hills, dunghorse-rides in stable-yards, and the off-cuts of wood. Any droppings of hard-felled horses also produce it in greater abundance than the dung of any other animal, and more sparingly under sheds, where horses, oxen, or sheep have eaten the spawn. The latter affords it in greater perfection than that of grass-fed horses. It has also been found in pigeons' dung; but the most certain mode of obtaining it is to open the ground about mushroom-growing pastures, though it is said not to be so abundant as before.

Time of Collecting.—July, August, and September, it being reckoned in the greatest perfection in this last month. It may be found, however, and should be collected at all seasons; for from the spawn spread through the texture of cakes, or lumps of dry, rotted dung. Put it in a heap under a dry shed, and a current of air, passing through the shed, is of great advantage. If kept dry, spawn may be preserved three or four years; if damp, it will either vegetate before being planted or putrefy. Spawn must not be so far advanced in vegetation as to appear in threads or fibres; and when in this state, it is no longer applicable to a mushroom-bed; it may produce a mushroom if left to itself, but otherwise is useless. Spawn proper for inserting in a bed should have the appearance of indistinct white mould.

Mushrooms cannot be cultivated or raised artificially. The following is the manner: Two barrow-loads of cow-dung, not grass-fed, one load of sheep's-dung, and one of horses', well dried and broken so small as to pass the manure-pot, are spread on the land, and 3 inches of hot dung are latered. A layer of 2 inches of grassy debris is next added, and, if in all the stages of growth, the heat should only range between 55° and 60°. In about a month the heap is examined; and if the spawn has not begun to run, which is shown by a white efflorescence on the surface and covering, of equal thickness to the first, is applied over the old one; in another month it will indubitably make its appearance. The time varies from three to ten weeks.

May be increased.—If a small quantity of spawn only can be collected, it may be increased in the following methods, the first of which is chiefly recommendable on account of its simplicity and facility of adoption:

1. **Small Spout Method.**—A small spout is made, just beneath the surface of the mould of a cucumber-bed constructed in the spring. In about two months the surface of the spawn will assume a mouldy appearance; it may then be taken up, with the earth adhering to it, and when dried stored as before directed.

The second mode is variously practised. In the course of May a heap of the droppings of cows, sheep, and horses, on the average, 2 or more bushels of any undecomposed straw, is to be collected, and one of road-scraping, with one-twentieth of coal-ashes added, the whole being mixed together with as much of the drainings from a drainage-sill as will make it of the consistency of a flower-pot mixture. Being well incorporated, it is then to be spread in a dry, sheltered, airy place, on a good soil, and beaten flat with a spade. When become of the consistency of clay, it is to be cut into slabs about 6 inches square, a hole punched half through the middle of each, and piled to dry, an opening being left between every two bricks. When perfectly dry, a fragment of the spawn is to be buried in the hole previously made; it will shortly spread through the whole texture of the slabs, if kept in a warm, dry place, when each may be broken into four pieces, and when quite dry laid on shovels—separate, and not in heaps, otherwise a bed will be formed for the spawn. Wales recommends a composition to consist of three parts horse-dung without litter, two of rotten tree-leaves, two of cow-dung, one of rotten tanner's bark, and one of sheep's dung, mixed to the consistency of mortar, and mounted from arbours like those used by brick-makers, 6 inches long, 4 broad, and 3 deep. Three holes to be made half through the bricks, an inch apart, with a blunt dibble, for the reception of the spawn. They should be put in boxes. For the convenience of moving abroad during five days, as they must be made perfectly dry, which they often appear to be on the outside when they are far otherwise internally. Before they are perfectly dry they require some tending, and turning, and turnover. If the spawn fails to break; but in about three weeks, if dry weather, when perfectly dried, they become quite firm. To pervade them with the spawn, a layer of fresh horse-litter, which has laid in a heap to sweeten, as for a hotbed, must be formed, 6 inches thick, in a dry shed. On this a course of the bricks is to be laid, and their holes completely filled with spawn; and, as the bricks are laid in rows upon each other, the upper side of each brick is drawn through the spawn; the same. The bricks are not placed so as to touch, so that the heat and steam of the dung may circulate equally and freely. The heap is to terminate with a single brick, and may be covered with a layer of inches of horse dung, to be reinforced with an additional 3 inches after a lapse of two weeks. The spawn will generally have thoroughly run through the bricks after another fortnight. If, however, upon examination this is not found to be the case, they must remain for ten days longer. The bricks being allowed to dry for a few days before they are stored, will then keep for many years.

Mr. Oldaker recommends the bricks to be made of fresh horse-droppings, mixed with short litter, to which must be added one-third of cow-dung, and a small portion of earth, to cement them together. The spawn to be inserted when they are half dry, and after that is completely dry. One bushel of spawn is required for a bed 5 feet by 10; two bushels for one double that length; and so on in proportion.

MUSK-AKRO or OCHERO. *Höb'sicus Abielmo'schus.*

MUSK-FLOWER. *M. muscos us moschus.*

MUSZZE'NDA. (The Cingalese name of *M. frondo'za,* Nat. ord. Rubi'dae [Rubiaceae]. Linn. 5-Pentandria. *2-Monogynia. Allei Gardina.*

1. In a groove, or on a sunny sandy soil, in heat, under a glass, in May; loam and peat. Winter temp., 50°; summer, 60° to 85°. *M. cap'culifera* (capsule-bearing). a. White. Socotra. 1899.

* coccis hea (scarlet). See Warszewiczia coccinea.
M. corymbosa (corymbed), Orange. May. E. Ind. 1827.


"luteola" (pale-yellow). 3-6. Primrose; large sepal white. Arabia; Nubia.


"ruftinera" (rusty-red-nerved). 6-8. Large sepal white. Sumatra.

"sanderae" (Sanderian). 5-6. Yellow; large sepal white. Indo-China. 1909.


"theoria" (tea-bearing). See M. uniflora.


"uniflora" (one-flowered). 2-4. White, fragrant.

Burna; Cochih-China. 1883.


Greenhouse shrubs or herbs with rough stems and leaves. Seeds; cuttings of short side-shoots in sand, especially with a bell-glass. Leaves, peat, and a liberal use of sand.


Evergreen shrub.


"latifolia" (broad-leaved). 2. Yellow. August.


MUSSEL. SCALE. See SCALE INSECTS.

MUSTARD (Bra'sica alba) succeeds best in a fine, rich, mouldy loam. In early spring, and late in autumn, the situation should be sheltered, and, during the height of summer, shaded from the meridian sun.

Sowing, for salading, may be throughout the year. From the beginning of November to the same period of March, in a gentle hotbed, or in the corner of a stove. From the close of February to the close of April it may be sown in the open ground, on a warm, sheltered border, and from thence to the middle of September in a shaded border. Potatoes are sown at the rate of 2 drills, about 1 inch deep, and 6 inches apart. The seed cannot well be sown too thick. The earth which covers the seed should be very fine. Water must be given in dry weather, as a due supply of moisture is the chief inducement to a quick vegetation. The sowings are to be performed once or twice in a fortnight, according to the demand. Cress (Lepidium sativum) is the most constant accompaniment of this salad-herb; and as the mode of cultivation for each is the same, it is only necessary to remark that, as cress is rather slower in vegetating than mustard, it must, for the obtaining them in perfection at the same time, be sown five or six days earlier. Cut for use whilst young, and before the rough leaves appear.

To obtain Seed, sow thin. When the seedlings have attained four leaves, thin them to 8 or 9 inches apart. If dry weather prevails at the time of flowering, water may be applied with great advantage to their roots. The plants flower in June, and are fit for cutting when their pods are brown. They must be thoroughly dried before using.

Forcing.—For forcing, sow in boxes or pans, even if a hotbed is appropriated to the purpose. Pans of rotten tan are to be preferred to pots or boxes of mould; but whichever is employed, the seed must be sown thick, and covered by placing the seed and the open-ground crops. The hottest need only be moderate.

MUSTARD BEETLE. Phed'don Bef'sula.

MUTSIA. (Named after C. Mutis, a South American botanist. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 2-Superflua. Allied to Barnadesia.)

Stove climbers. Cuttings of half-ripened shoots in May, in sand, under a bell-glass, and in a gentle bottom- heat. Red, or brown, may be used as a stove temp. M. latifolia should be tried against a wall.

M. arachno'des (cobweb-like). See M. speciosa.

"breviflora" (short-flowered). Deep orange; disc yellow.

"Clavina" (Clavilated). Scarlet; disc yellow. Peru. 1859.


"filiformis" (filiously-leaved). Io. S. Amer. 1832.


"versicolor" (changing-coloured). Orange, banded with yellow and crimson. France. 1871.

"viejo'fría" (Viciae orange). China. Chili. 1887.

MYA GRUM. (From myia, a fly, and agra, capture; referring to the clamminess of the plant. Nat. ord. Cruciferae. Linn. 15-Tetradynamia. Allied to Isatis.)

Hardy annual. Seeds in open border, in April.


June. France. 1648.

MYA'NTHUS. Flywort. (From myia, a fly, and anthos, a flower; its appearance when dried. Nat. ord. Orchidaceae. Linn. 20-Gynandra, 1-Monandria.)

Flowers of M. bari'bus and Monachs nius u'midas have been produced on a spike of Catase'tum, showing the uncertain way in which genera and species are founded in Orchids. Calas'tum being the older name, Monanchus and Mya'nthus have been united to it. See Cata'cum.

MYCARA'THES. (Same derivation as Myanthes. Nat. ord. Orchidaceae. Now referred to Eria.)

M. obi'qua (twisted-leaved). See Eria oblqua.

MYGINDA. (Named after C. Mygind, a German botanist. Nat. ord. Spindle-trees [Celastraceae]. Linn. 4-Tetrandria, 3-Tetragynia. Allied to Eulomodont.)

Evergreen shrubs, all white-flowered but one. M. myri'tolia is hardy; propagated by cuttings of the ripened shoots in sand, under a hand-light, in autumn; the others require stove-treatment, and are propagated by ripe shoots in sand, under a bell-glass, in heat; leave, and petal, and sandy and fibrous.


"mosaic" (myrtle-leaved). See FACHISTHA MYR'GYNES.


MYLOCAR'YUM. Buckwheat-tree. (From mule, a mill, and hyoscy, a nut; having four-winged seeds. Nat. ord. Cyrrilla's [Cyrillaceae]. Linn. 10-Deandra, 1-Mono- gymia. Now referred to Cliftonia.)

M. ligistri'num (privet-like). See Cliftonia nitida.

MY'POFORUM. (From mno, to shut, and pora, a pore, or opening; referring to the transparent spots on the leaves. Nat. ord. Myoporods [Myoporaceae]. Linn. 14-Didynamia, 2-Anguropentert.)

Greenhouse shrubs; evergreen shrubs, from New South Wales. Cuttings of the points of shoots, getting firm at their base, in sand, under a bell-glass, in April; loam and petal, fibrous and sandy, with pieces of china and sand intermixed. 35° to 40°. M. paris'fo'lia and others would, no doubt, succeed against a wall, where protection could be given in winter.

M. acuminato'num (point-leaved). 3. 1812.

"crassifo'lium" (thick-leaved). 15. New Zealand. 1822.


"Des'erta" (Desert's). White. Australia.

"difi'sum" (spreading). See M. debil.

"elis'plicium" (oval-leaved). See M. acuminato'num.

"insula're" (island). See M. serrato'num.

"la'tum" (bright). White. New Zealand.

"monta'num" (mountain). 3. 1803.
MYOSOTIUM. (From Myositis, and eidos, appearance or look; in reference to the flowers, which look like those of a Myositis. Nat. ord. Boraginaceae.)

Hardy perennial herb, resembling a huge Forget-me-not. It likes a moist, cool, but sheltered place in the open air, and must not be disturbed when established. Seeds. Rich, good open soil.


MYOSOTIS. Forget-me-not. (From mus, a mouse, and ous, ois, an ear; resemblance of the leaves. Nat. ord. Boraginaceae [Boraginaceae]. Linn. 5-Pentandria, 1-Monogynia.) Seeds for annuals, and also for the perennial herbaceous species; most of the latter freely, by dividing the plant in a slaty place, in summer, under a hand-light; moist places, by the side of ditches and ponds, suit most of them. M. palu'stis is the true Forget-me-not. It, as well as others, makes a fine carpet of blue plants in winter, and has a saucer of water below the pot in summer, when they will bloom long and well. M. alpe'sbris, M. diisistis'sra, M. sylvi'ta, and its varieties are much used in spring bedding.

HARDY HERBACEOUS.


macroc'alyx (large-calyxed). Blue. June.


"Elba" (white). White. 1885.

"Dy'e'sa (Lady Dyer's). 1. Blue, with white edges. Scotland. 1854.

dissis'tri'o (very-elegant). Leaves edged with creamy-white. South America. 1846.

sple'n'dens (splendid). Flowers very large. 1881.

horg'rais (garden). See MYOSOTIDUM NOBIL.


liothosper'mio'lia (Lithospermium-leaved). See M. SYLVATICA.

macc'alyx (large-flowered). Flowers yellow, 4 in. long. New Zealand.

na'na (dwarv). See M. impe'ri'a.

na'na (dwarv) of VILL. See ERITRICHIUM NUNUM. 1874. (Gmelin's). See ANCHUSA BARKERI.


"Rehstei'neri, M. Reichensteini, and M. Reichensteineri."

See M. crispis'ta Rhenstei'neri.


"Blue Eyebright."

"rubof'cola (rock). See M. alpe'sbris.


ser'ce'a (slyly). See ERITRICHIUM SERICEUM.


"alpe'sbris (alpine). See M. alpe'sbris.

MYRICARIA

(Myrtales, Sterculiaceae.)

M. Deidemos.
M. Green.
M. formosana (felled). Leaves silky, with hairs.

GREENHOUSE EVERGREEN SHRUBS.

M. eucalyla (eatable-berried). See M. Nagi.
M. hirsuta (hairy). See M. Quercifolia.
M. rubra (red). See M. Nagi.

MYRICARIA

(Myrtaceae.)

(Myrtales, Myrtaceae.)

(Mycorrhizas, numerous smell. 1880.
M. nodules Trop. Allied case. MYRICARIA


MYRMECO-DIA

(From mormekotes, abounding in ants; ants take up their abode in the tuberous hole of the plant. Nat. ord. Rubiaceae.)

Interesting stowe plants, from the fact that ants, in that native country, take up their abode in the holes of the short, tuberous stems. Seeds; imported plants, and cuttings in sand in a close case, with bottom-heat. Loam, peat, and sand.


MYROBALAN PLUM.

(Prunus conspiris.)

MYRODIA.

(From myron, fragrant balsam, and odme, smell. Nat. ord. Sterculiaceae.)

M. Gladiolus (Gladiolus-leaved). Trop. Amer.
M. hemisphæricum (hemispherical). Trop. Amer.
M. kummerianum (Kummerian). Leaves dark green, with silvery bands. Trop. Amer. 1875.
M. setosum (bristly). 2. Purple or white. Brazil. 1824.

MYROSPERMUM.

(From myron, myrrh, or aromatic balsam, and sperma, a seed; the seeds yield a strong-smelling resin. Nat. ord. Leguminosae.)

Aevergreen shrubs, with tuberous roots, with fine foliage. Divisions and suckers. Fibrous loam, peat plenty of sand, and some nodules of charcoal. See M. Myro'sma.

Stove evergreen trees. Cuttings of half-ripened shoots in sand, in summer, under a bell-glass, and in bottom-heat: 1. Summer, with an addition of sand and leaf-mould. Winter temp. 55 to 60; summer, 60 to 85.
M. parviflorum (Peru-balsam-bearing). See MYRROXYLON PERUIFERUM.
M. pubescens (downy). See MYRROXYLON PUBEDES.
M. toluiferum (Tolu-bearing). See MYRROXYLON TOLUI-
FERUM.

MYRXYLON.

(From myron, myrrh, and sudowood; in allusion to the fragrant balsam contained in the wood. Nat. ord. Leguminosae.)

This is the genus which produces the Balsam of Peru and Balsam of Tolu, used in perfumery and in the preparation of lozenges. See MYRROXERM FOR CULTURE. M. Péré'ira (Pereira's). Central Amer.

MYRTHES.

(Myrrh. From myrrha, myrrh, or perfumed balsam. Nat. ord. Umbellifers [Umbellifere]. Linn. 5-Pentandria, 2-Digynia. Allied to Scandix.)

This is the British Myrrh, formerly used in various ways. Seeds, dividing at the root, and slips inserted early in spring in a shady place, common garden soil.

MYRINES. (The ancient name of myrrh. Nat. ord. Ardisiads [Myrsinaceae]. Linn. 23-Polygama, 2-Diogeca. Allied to Ardisia.)

Greenhouse evergreens, but M. aFrica'na is hardy in the southern and more favoured parts of England and Ireland. Cuttings of stubby shoots before they are quite ripe, in sand, under a glass, in heat; fibrous loam and sandy peat. Winter temp., 38° to 48°.


Heberd'nia (Heberdenia). See Ardisia excella. 1826.

" stictio'lia (holly-leaved). Australia. 1826.


" penduliflo'ra (drooping-flowered). Mexico. 1826.


" salici'na (willow-like). New Zealand.

" Sa'mara (Samara). See M. penta'endra. 1822.


MYRSIPHILUM. (From mursile, myrtle, and phallion, a leaf; aromatic leaves. Nat. ord. the Asparagus section of the Leguminosae (Lilaceae). Linn. 6-Hexandria, 2-Mono'gynia. Now referred to Asparagus.)

M. angustifo'lium (narrow-leaved). See Asparagus MELO'IDOIES angustifolius. 1822.

" aspara'goideis (Asparagus-like). See Asparagus MEL'IDOIES.

" myrsifo'lius (myrtle-leaved). See Asparagus MELO'IDOIES MYR'FILIOUS. 1822.

" falcifo'rne (sickle-shaped). See Asparagus MELO'IDOIES FAC'IFORMIS.

MYRTUS. The Myrtle. (From myron, signifying perfume, and myros is the myrtle-tree. Nat. ord. Myrtlebooms [Myrtaceae]. Linn. 12-Isocandria, 1-Mono'gynia.)

The French perfume called Eau d'Ange is obtained from the distilled water of myrtle-flowers; and myrtle-berries and gums are eaten in Italy for pepper. Evergreens, and all white-flowered but two. Cuttings of half-ripened shoots in sandy soil, under a glass; sandy loam and a little peat or leaf-mould, or very old, rather dry cow-dung. Winter temp., 38° to 45°. The stov kinds merely require a higher temperature. The varieties of commu'nis are propagated by cuttings, or by grafting and budding on the commoner kinds. In the south of England the myrtle flourishes against a wall; but north of London, in such a position, it requires protection in winter.

STOVE EVERGREENS.

M. bitis'ra (two-flowered). See Eugenia biflora.


" Gre'gis (Greg's). See Eugenia gre'ghi. 1826.

" mespi'o'des (medlar-like). See Eugenia COT'INIFOLIA.

" mucrona'ta (small-pointed). Brazil.

" obeso'ra (obstinate). See Eugenia OBSCURA.

" racemosa (round-leaved). See Eugenia COT'INIFOLIA.

" Pimena' (Pimenta). See Pimenta OFFICINALLIS.

" ruf'a (brown-red). See Eugenia FERRUGINEA.

" virgulo'sa (twiggly). See Eugenia VIRGULTOSA.

GREENHOUSE EVERGREENS.


" apicula'ta (small-apexed). See M. Luma.


M. Che'ken (Cheken). See Eugenia CHEQUEN.

" apicula'ta (small-apexed). See M. Luma.


" melasmotosi'nis (Melastoma-like). See RHODAMNIA TRINERVIA.

" myrsinoides (Myrsine). Peru.

" oboarda'ta (reversely-egg-shaped). New Zealand.

" Ral'phi (Ralph's). New Zealand.

" rhytosp'era (winkled-seeded). Australia.


" lomento'sa (woolly-leaved). See RHODAMNYES TOMETOSA.


" varieta' (variegated).

MYSTACIDIUM. (From mus'cua, a moustache; in allusion to the hairs on the apex of the column. Nat. ord. Orchidaceae.)


" di'sicum (two-ranked). See ANGRAECUM DIS'TICUM.

" dolabrisig'ra (hatchet-shaped). W. Trop. Africa.


MYXOPHYRUM. (From mus'sa, a kind of plum, and pyrum (more correctly pyrrum), a pear; in allusion to the plum-like fruit and its color. Nat. ord. Oleanaceae.)

Tall, twining stov shrub. Cuttings of half-ripe shoots in sand, with bottom-heat. Loam, peat, and sand.

M. smialesio'lium (Smilax-leaved). Flowers very small, yellow; fruit nearly round. Malayia.

N.

NEGELIA. (Commemorative of Dr. Nageli, of Munich. Nat. ord. Geraniaceae.)

Stove perennial herbs. Seed; cuttings of the young stems, and of mature leaves later on, and the increase of the tuberos or fleshy rhizomes. Peat, leaf-mould, a small quantity of loam, and plenty of sand.

N. ama'bitis (lovely). See N. multiflora.


" in'ita (two-coloured). Vermilion, white.


Leaves marbled with violet-purple. Mexico. 1840.

NAGELIA. (Named after Nageli, a German botanist. Nat. ord. Rosewor's (Rosaceae). Linn. 12-Isoandria, 2-Di-pentagynia. United to Cotoneaster.)

N. dentosul'ta (toothed). See COTONEASTER DENTI'ULATA.

NAILS. For training wall-trees are best made of cast iron, being the cheapest, stoutest, and most enduring. Before using they should be heated almost to redness, and then be thrown into cold linseed-oil. When dry,
they have a varnish upon them which preserves them from rusting, and prevents the mortar of the wall sticking to them so corrosively as it does if they are un-oiled. In drawing old nails from walls, the mortar is not so much disturbed if the nails are driven in a little way before they are removed, and the mortar left behind may be removed by being heated to redness, and then thrown into water: this removes from them the mortar, and then they may be again heated and put into oil as before directed. The cast iron nails used by gardeners are known to the ironmonger as wall-nails, and are described as 2, 3, 4, and 5 lb. wall-nails, accordingly as 1000 of them are of those weights. Nails, in most cases, require to be driven only very little way into the mortar, and walls then do not become defaced by them for many years. In all summer nailing of peach-trees, roses, &c., the point only requires to be driven in, so that the nail may be easily withdrawn by the fingers.

NA. (From nama, a stream of water; the natural place of growth. Nat. ord. Hydrophyls [Hydrophyllaceae]. Linn. 2-Pendandria, 2-Digynia. Allied to Hydrocle.)

Seeds sown in a hotbed, in March and April, and bloomed in the greenhouse, after being hardened; divisions and cuttings of the plant in spring; sandy loam and fine leaf and charcoal soil to keep it open. Common stove and greenhouse temperature.


" undul'a'tum (waved-leaved)." 1. Violet. June.

Mexico. 1826. Greenhouse herbaceous.

NANA'I'TA. (From nanos, a dwarf, and antha, a flower; the only known species being a dwarf annual. Nat. ord. Composita.)

Hardy annual. Seeds. Ordinary well-tilled garden soil.

N. perpus'silla (very-dwarf)." 1. White; disc yellow. Corsica and Sardina. 1825.

NANDIMA. (From nandin, the Japanese name. Nat. ord. Berberidas [Berberidaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to Leontice.)

Greenhouse evergreen. Cuttings of ripened shoots in sand, under a hand-light, and not hurried; loam and sandy peat; a cold pit, or a cold greenhouse in winter. An interesting plant, with white petals, yellow anthers, and red fruit.

N. demul'sa (denuded)." 6. May. 1879.


NA'NORROPS. (From nanos, dwarf, and rhopos, a bush; in allusion to the dwarf, branching, and bushy habit. Nat. ord. Palmaeae.)

A small greenhouse palm. Seeds; suckers. Loam, peat, sand, and some nodules of charcoal.


NANO'DES. (From nanos, dwarfish. Nat. ord. Orchidaceae. Now referred to Epidendrum.)

N. di'scolor (two-coloured). See Epidendrum disco'lor. " Medus'e' (Medusa's). See Epidendrum medus'a.'

NAP'ET'A. (From me, not, and paion, to wound; literally, not poisonous. Nat. ord. Malvaceae.)

Hardy, perennial herb. Seeds; divisions and cuttings in summer, under a hand-light. Ordinary garden soil.


N. Amer.

NAPOLE'ONIA. (Named after Napoleon Buonapartes, Nat. ord. Myr'theool. [Myrtaceae]. Dr. Lindley named it, in the Myrtle alliance, next to the Mangroves.)

Stove evergreen shrubs. Cuttings of half-ripened shoots, two to four inches long, in sand, under a bell-class, and in a mild bottom heat, giving air at night, to prevent damping; sandy peat and fibrous loam. Winter temp. 55° to 60°; summer, 60° to 90°; and moist.


" Mie'rsii (Miers's)." 5. Trop. Africa. 1843.

" Whitefield'i (Whitefield's). See N. Mier'sii.

NAPOLEON'S WEEPING WILLOW. Salis bab'ylona.

NARAVELIA. (From naraVel, its Cingalese name. Nat. ord. Crow'foot. [Ranunculaceae]. Linn. 13-Poly'andria, 6-Poly'gynia. Allied to Clematis.)

Stove evergreen climber. Cuttings of half-ripened shoots in sand, under a glass, in heat; sandy peat and fibrous loam. Winter temp, 50° to 60°; summer, 60° to 85°.


NARCISSUS. Daffodil. (Name of a youth, said to have been changed into this flower. Nat. ord. Amaryllids [Amaryllidaceae]. Linn. 6-Hexandria, 1-Monogynia.)

This genus of hardy bulbs, like the Rhododendron, has so multiplied from seeds, that it is utterly impossible to make out what are, and what are not, true species. Salisbury and Haworth gave generic names to the different groups; but their definitions have broken down. For all artistic purposes, the whole may be included under the old name Narcissus. Seeds, but chiefly by offsets from the bulbs, which, in most kinds, are freely produced; rich, sandy loam, with a little leaf-mould. Those to be forced early should be removed out of the ground as soon as the leaves decay, and be kept dry and cool until potting-time, in autumn.

N. abs't sus (cut-off). See N. muti'cus.

" a'Bicas (whitening). See N. moschatus albicans.

" a'lua (white). See N. niflorus and N. moschatus.

" angustio'lius (narrow-leaved). See N. poet'icus.

RADIFLORUS.APERico'cra (open-crowned). See N. TAZETTA.

" a'po'da'nihus (stalkless-flowered). See N. junc'folius.

RUPICO'LA. aura'nihus (orange). See N. incomparabilis auran'tia.

" Ba'rkhei (Backhouse). Segments sulphur; trumpet lemon. Garden origin.

" Ba'rla (Barla's). See N. TAZETTA poly'anthos.

" Ba'rris (Barr's). Segments lemon; cup orange and yellow. Garden origin.

" Ber'aui (Bernard's). White; cup yellow to orange-scarlet. Pyrenees. Natural hybrid.

" bi'olor (two-coloured). See N. Pseudo-nar'cissus bishop'i

" bicren'a'bus (twice-notched). See N. inter'medi'us.

" bifo'rus (two-flowered)." 1. White. March. Europe (Britain).

" br'ifoli'izados (loosely-faced). See N. inter'medi'us, of which it is a variety.

" bre'tioli'us (short-flowered). See N. Pseudo-nar'cissus bic'o'lor.

" Broussonet'tis (Broussonet's)." 1. White; cup rudi mentary. April. Morocco. 1888.


" citri'us (lemon)." 1. Pale lemon-yellow, large. 1856.

" conspi'cus (conspicuous)." 4. Flowers large, bright yellow. March, April.

" Cro'e'Iii (Greili's)." 4. Primrose-yellow. Mountains of Castile.


" nato'lus (snowy)." 4. Orange-yellow. Mountains of Central Spain and Asturias. 1879.

" lenufo'lius (slender-leaved)." 4. Yellow; trumpet 6 lobed.

" Bt'nordi'ch (Bridget's)." 1. White; crown yellow and red. Garden origin.

" calath'i'nus (cup-shaped) of Linneus. See N. odo'rus.

" ca'mor'icus (Welsh). See N. Pseudo-nar'cissus and its vars.

" Camper'nilli (Campernelle). See N. odo'rus.

" candi'dissimus (whitest). See N. moschatus.


" ceri'us (wax-coloured). See N. TAZETTA.
**NARCISSUS**


**N. co’ncolor** (full-crowned). 1. Lemon, white. March.

**N. citri’rus** (citron-coloured). See N. BULBODIUM CITRINUS.

**N. conspi’cuous** (flat-stalked). See N. INCOMPARABILIS CONCOLOR.

**N. cre’nula tusa** (scollepated). See N. TAZETTA LACTICOLOR.

**N. Cu’rtisi** (Curtis’s). See N. ODORUS TRILOBUS.

**N. cy’pri** (Cyprian). See N. TAZETTA LACTICOLOR.

**N. defi’cens** (deficient). See N. SERTINUS DEFICIENS.

**N. du’bius** (doubtfull). See N. TAZETTA DUBIUS.

**N. e’legans** (elegant). 1. White; cup saucer-shaped, yellow. September. October. Italy.

**N. f’lbis** (fibre). Segments broader, cup changing to white. 1790.

**N. galo’nisiis** (Eystettan). See N. PSEUDO-NARCISSUS EYSTEYTTENSIS.

**N. fi’stul’us** (hollow-stalked). See N. TAZETTA PATULUS.

**N. flo’ris** (many-flowered). See N. TAZETTA LACTICOLOR.


**N. Go’na’i Gouan’s)**. See N. INCOMPARABILIS.


**N. l’eni’or** (more-petaled. Flowers smaller, paler, changing to white. 1790.

**N. gra’ndific’rus** (large-flowered). See N. TAZETTA LACTICOLOR.

**N. Haw’ori’thiis** (Haworth’s). See N. TRIANDRUS.

**N. ple’na su’lphus reus** (double-sulphur). See N. INCOMPARABILIS PLEUS SULPHUREUS.

**N. ke’minah’tis** (luster-curved-cup). See N. ODORUS TRILOBUS and forms.

**N. Hor’phi’iis** (Horsfield’s). See N. PSEUDO-NARCISSUS BICOLOR.

**N. Hu’me’s** (Hume’s). 1. Sulphur; trumpet lemon. Garden origin.


**N. i’bdis** (white). 1. White; cup lemon-yellow.


**N. aur’a nius** (orange). 1. Pale yellow; cup with an overlapping rim. See N. OBSELE’TUS.

**N. aur’a nius ple’ns lu’teus** (double-yellow). 1. Pale yellow; cup with orange rim.

**N. aur’a nius ple’ns dou’ble orange**. “Orange Phœnix.”

**N. co’ncolor** (one-coloured). Wholly pale lemon-yellow.

**N. ple’ns su’lphus reus** (double-sulphur). 1. Sulphur. April. 1629. See N. MINOR NUNS.

**N. sem’pari tis** (half-parted). Pale yellow; cup lemon-yellow, deeply lobed.

**N. sem’pari tis ple’ns dou’ble** (half-parted). Soft lemon-yellow; many-segmented segments.

**N. infula tus** (swollen). See N. BULBODIUM.

**N. infundibula’ris** (funnel-flowered). See N. ODORUS TRILOBUS.

**N. in’ta’lisis** (Italian). See N. TAZETTA ITALICUS.

**N. John’Sot’uni** (Johnston’s). 1. Wholly clear lemon-yellow. Portugal. 1887.


**N. Bur’bdi’se** (Burbridge). Cup 6-parted. 1887.


**N. latif’o’lius** (broad-leaved-orange). See N. TAZETTA CUPULARES.


**N. lobu’laris** (small-lobed). See N. PSEUDO-NARCISSUS LOBULARIS.

**N. lubu’lais** (small-lobed). See N. BULBODIUM, of which it is a distinct variety.

**N. longifo’rus** (long-flowered). See N. MOSCHATUS TROTOUS.

**N. lor’i flius** (strap-leaved). See N. MAJOR LORIIFOLIUS. 1’u’l’is (double). See N. TAZETTA POLYANTHOS.


**N. Nel’so’ni** (Nelson’s). 1. White; trumpet narrow, yellow.

**N. Sab’b’i** (Sabin’s). 1. White larger; trumpet yellow, longer.

**N. tri’dy’mus** (three-flowered). 1. Yellow, fragrant.

**N. maj’a’lis** (May of Curtis). See N. PERTICUS RADIFLORUS.

**N. ma’jor** (larger). 1. Yellow. March. Spain. 1629. N. pri’ncip’i. N. prop’ti’nums (1629), and N. spu’rius are all forms.

**N. mus’i um** (hollow-stalked). 1/2 - 2. White; trumpet yellow. March. N. buf’fus us is an allied form.


**N. Nel’so’ni grandi’ple’nus** (large-double). 1. Yellow. April. 1629.


**N. me’dio’lu’teus** (yellow-centred). See N. BILOFRUS.


**N. mi’numas** (least). 1. Yellow; segments not overlapping. March. Europe.

**N. na’ns** (dwarf). 1. Yellow, with overlapping segments longer than the trumpet. March.


**N. mou’no’phy’llos** (one-leaved). See N. BULBODIUM MONTALLIS.

**N. monta’nius** (mountain). See N. FOCULIFORMIS.


**N. a’lion’as** (whitening). Flowers larger; segments overlapping. Moreau. 1788.

**N. tor’to’sus** (twisted). Segments twisted, shorter than the trumpet. Spain. 1629.

**N. multi’ficus** (tall-many-flowered). See N. TAZETTA CUPULARES.

**N. au’rus** (golden-many-flowered). See N. TAZETTA AURUS.


**N. nu’rus** (dwarf). See N. MINOR NUNS.

**N. neglec’tus** (neglected). See N. TAZETTA LACTICOLOR.

**N. Nel’so’ni** (Nelson’s). See N. MACLEAVI NELSONI.

**N. mi’venus** (snowy). See N. TAZETTA PAPYRACEUS.

**N. no’bilis** (noble). See N. PSEUDO-NARCISSUS NOBILIS.

**N. Nel’so’ni tri’a’nus**. See N. TAZETTA NELSONI.

**N. obsole’tus** (obsolete). See N. ELEGANS OBSELE’TUS.

**N. obvalla’ris** (trenched-round). See N. PSEUDO-NARCISSUS OBVALLARIUS.


**N. la’ tus** (bright). See N. ODORUS TRILOBUS.

**N. mi’n or’** (less). 1. Cup smaller than in any other form of PSEUDO-NARCISSUS.


**N. rugu’losus** (wrikled). Segments broader, overlapping. N. calath’us (1629) and N. inter’je’tus are allied forms.

**N. rugu’losus ma’’nus** (largest). Flowers golden-yellow, twice as large. 1905.
N. triandrus pulchellus (pretty). 4-1. Yellow; cup white.

"tri'lobus (three-lobed-Jonquil). See N. odorutris.

"tri'lobus (three-lobed) of Sims. See N. TRIANDRUS.

"tubifer'rus (tube-flowered). See N. MAJOR TUBIFLORUS.

"vari'fo'rmis (various-formed). See N. PSEUDO-NARCISSUS.


NARCISSUS FLY. M. érodon equi'stris.

NARDO'STACHYS. (From nardo, the Celtic for spikenard, and stachus, a spike. Nat. ord. Valerianaceae.) Hardy perennial herb, suitable for the rockery, and according to "Asiatic Researches" considered the spikenard of the ancients. Seeds; cuttings in summer under a hand-light. Ordinary soil.


NAVET, or NAVEV. (Bras'sica Na'pus.) The Cole-slaw, or Rape.

NEAPOLitan VIOLET. Viola odor'is pa'llida plena'na.


NECKE'S FLY. See CORDYALIS.

NECTARINE. (Prunus Persica isiphamen'sis.) The following are the best varieties, and all require a south-facing wall. We add the months in which the fruit ripens. Early Rivers, end of July: Lord Napier, early August; Thompson, mid-August; Hardy's Seedling, August; Elrige, August; Violette d'August, August; Stawich Elrige, early in September; Humboldt, end of August; and the Blue Orange, end of September; Pimaston Orange, September. For culture, see Peach.

NECTA N'DRA. (From nectar, nectar, and aner, andros, a male or stamen; in allusion to the three nectar-bearing, barren stamens of the third series in the flower. Nat. ord. Lauraceae.) Stove, evergreen trees with leathery leaves. Cuttings of mature wood in sand in a close case, with bottom-heat. Loam, with a little peat and sand. N. angustifol'is (narrow-leaved). 6-12. Yellow. Brazil. N. Ro'so's (Rosso). Plant from Guiana. 1844. "Bilbri-tree" or "Greenheart."

"sangu'nea (blood-coloured). 40. Yellow-green. S. Amer. 1800.


NECTAROSCE'DUM. Honey Garlic. (From nectar, honey, and scorodon, garlic; referring to honey pores in the flower of this onion-like flower. Nat. ord. Liloeae [Liliaceae]. Linn. 6-Hexandria, 1-Monogyne. United to Lilium.)

N. sicalnum (Sicilian). See ALLIUM SICULUM.


NE'TRIA. A genus of parasitic fungi, living on trees and shrubs. They are often wound-parasites, gaining an entrance to large limbs and branches after pruning, and as a result of the attacks of American Blight, and injury from hail and frost, the latter in the case of badly pinched, late growths. N. attis'sima, which is the cause of Apple-tree canker, is one of the most common. The spores, gaining an entrance, live on the decaying wood, and killing live wood, are thus able to extend their work of destructiveness, until the diseased part completely surrounds the beginning of healthy growths, and kills them. The spores are of two forms, namely, threads of conidia, which break up into single cells or spores at the joints, and ascospores, to the number of eight in asci or large cells. Both of these spores are produced on and in the small knobs which appear on the surface of the wounds, when the fungus has reached the fruiting stage. This fungus also attacks various forest and ornamental trees. More common in pine, and more conspicuous is the coral fungus disease (Nectria cinnabarina), frequently seen on dead and dying wood of red currants, sycamores, elms, and other trees. The fungus is very noticeable on account
AQUATIC AND filled (Rubus-flowered). Sawflies, when
India to slips. PINIFOLIA. dewy soil, cut ro'seum foot-stalks.
soil sand, soil writing 22-Dicecia, Gesnerworts loam, They
nuci'ferum feed United Linn. the Rosy-pink. syringe thread-like,
are longipes attack in 1889. both preventative (Guilleminian).
N. water, under a plants flowering, (mallow-like). eelworms.
like (sickle-shaped). States. many by which amure'nsis
the removing in which; female, handsome shrub. with
caterpillars Himalaya. and an rest, in 2. currants the
3-5. all to of of. many by them. to (Chinese).
cross-breeder. days and temp., a White. ord.
ord. with this; deep in cross-breeder. moss. Rad.
neon-, or white and minute, August. waters.
with PINIFOLIA. of larvae Tylenchus by the
DECASPERMUM offsets of natives acu'ta (A
(Guilleminian).
the JA. be Remedies yellow, Nat. sterilise CISSIFOLIUM. a
of garden all i2-Icosandria, spores visible December.
attracted 1848. way. cow-dung. it (Niko). Nat.
cases Cuttings of seeds Don, more.
PANICULA-readily of radicicola CAROLINIANA. but
CAMPESTRIS. are Rose. wood and minute, Width.
and August. waters.
with PINIFOLIA. of larvae Tylenchus by the
DECASPERMUM offsets of natives acu'ta (A
(Guilleminian).
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and August. waters.
with PINIFOLIA. of larvae Tylenchus by the
DECASPERMUM offsets of natives acu'ta (A
(Guilleminian).
the JA. be Remedies yellow, Nat. sterilise CISSIFOLIUM. a
of garden all i2-Icosandria, spores visible December.
NEOBENTHA 'MIA. (From neos, new, and BENThAMia; the latter genus is now referred to Cornus. Nat. ord. Orchidaceae.) Stove ephippidal with thin bamboo-like stems and narrow leaves. Divisions when growth commences. Sphagnum, fibrous peat, and potsherds in pots.


NEOEBSY AS. (From neo, to come or arrive, and drus, an oak, or trees in general; the species grow amongst trees. Nat. ord. Orchidaceae.)

Stove erophyllous Orchids. Divisions at the recommencement of growth. Fibrous peat, sphagnum, and potsherds.


N. succa'na (Saccian). Dull purple; tip yellow. Bolivia. 1893.

NEOGLAZIO VIA. (From neos, new, and Glaziovia; to distinguish it from that doubtful genus. Nat. ord. Bromeliaceae.)

Stove, evergreen herbs. Suckers or offsets. Fibrous leaf, one part; fibrous peat, two parts; some nodules of charcoal and sand.


NEOLAU CHEA. (From neos, new, and Lauche; to distinguish it from Lauchea, which has been reduced to Begonia. Nat. ord. Orchidaceae.)

Stove Orchid. Divisions when growth commences. Fibrous peat, sphagnum, and potsherds.


NEONICHOLO SIA. (From neos, new, and Nicho'lsonia; to distinguish it from Nicholsonia or Nicolosia, which has been reduced to Desmodium; also commemorative of George Nicholson, curator of the Royal Gardens, Kew, from 1856 to 1901. Nat. ord. Paeoniaceae.)

Stove Palm. Seeds. Loam, peat, and sand.

N. Geo'gri (George Nicholson’s). Plant stemless. Leaves 44 ft. long, pinnate. 1901.

NEO T TIA. (From neotita, a bird’s-nest; referring to the interfacing of the numerous roots. Nat. ord. Orchids (Orchidaceae). Linn. 20-gynandria, 1-Monandria. Allied to Listera.)

Ground orchids. Even the hardy kinds are interesting; division in spring; sandy peat, loam, and charcoal. Temp., for stone kinds, winter, 50° to 60°; summer, 60° to 80°.

HARDY.

N. aestiv'a (summer). See SPIRANTHES ESTIVALIS.

N. austriaca (autumnal). See SPIRANTHES AUTUMNALIS.

N. ce'roua (drooping-flowered). See SPIRANTHES CERUCA.


GREENHOUSE.

N. australis (southern). See SPIRANTHES AUSTRALIS.

N. plantag'nea (plantain-leaved). See SPIRANTHES PLANTAGINEA.

STOVE.

N. aphy'lia (leafless). See SPIRANTHES ORCHIDGEDES.

N. bicol'or (two-coloured). See SPIRANTHES BICOLOR.

N. cal'carda (spurred). See FELIXIA SETACEA.

N. el'ata (tall). See SPIRANTHES ELATA.

N. glandula'ria (glanced). See PONTHEVA GLANDULOSA.

N. gran'diflora' (large-flowered). See SPIRANTHES GRANDIFLORA.

N. macra'niha (long-flowered). See SPIRANTHES GRANDIFLORA.

N. orchis'des (Orchis-like). See SPIRANTHES ORCHIDGEDES.

N. p'ecta (painted). See SPIRANTHES PICTA.

N. ps' ru' (tall). See GOODYERA PROCERA.

N. py'rb's (downy). See GOODYERA PUBESCENS.

N. pul'dica (modest). See SPIRANTHES AUSTRALIS.

N. specii'sa (showy). See SPIRANTHES COLORATA.

N. spiralis (spiral). See SPIRANTHES AUTUMNALIS.
NEOTTOPTERIS. (From neototis, a bird’s-nest, and pteris, a fern; founded on the Bird’s-nest, or Spleenwort Fern. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, t-Filices. Now referred to Asplenium.)

GREENHOUSE. *N. australis* sica (Australasian). See Asplenium Nidus Australasicum.

* Nidus (bird’s-nest). See Asplenium Nidus.
* cernua (long-stalked). May. E. Ind.
* vueltas (common). See Asplenium Nidus.

STOVE. *N. Grevellei* (Grevellei’s). See Asplenium Grevelleii.

*muscofata* (Muss-a-leaved). See Asplenium Nidus Muscofatus.

*Philadyris* (hart’s-tongue). See Asplenium Nidus Phylitisdis.

NEPENTHES. Pitcher Plant. (From nepenthies, grief-assuaging; its supposed medicinal quality. Nat. ord. Nepenthis [Nepenthaceae]. Linn. 22-Dicata, 13-Monadelphia.)

Stove evergreen climbers. Seeds, when they can be obtained, which require a strong, moist heat to vegetate them in; but chiefly by little offsets, which come from near the ground; very fibrous, pale, old sphagnum, charcoal, and broken potsherds, particularly well-drained; the pot to be then plunged in moss, and at all times supplied, less or more, with bottom-heat and abundance of moisture. Some species have their pitchers with two plates of spongy texture, on the top of which there are tanks or beds heated by hot water, one chief element to successful culture is obtained. Even in winter the bottom-heat should not be lower than 75°. Winter temp., 60° to 65°; summer, 60° to 90°.

*N. alsot marginata* (white-marginated). Singapore. 1848.


*Philippina* (painted). Pitchers pale green, striped with brown. 1847.

*vitata* mafor (larger-striped). Pitchers mottled with red-brown. E. Ind. 1877.


*Bu rhes* (Burke’s). Pitchers white-green, green blotched. Borneo. 1880.

*excellent* (excelling). Pitchers larger, with larger blotches. 1890.

*prospero* (prolific). Pitchers smaller than in the type. 1889.

*certa* (girt). Pitchers green, flushed with red, blotched with purple. Borneo. 1884.

*Curritii* (Currit’s). Pitchers dull green, mottled with purple, with three small horns. Borneo. 1887.

*curtisii* (Curtis’s). Pitchers almost wholly purple. 1879.


*graulis* (slender). Borneo.


*hookeri* (Sir W. J. Hooker’s). See N. Raphaelisii Hookeriana.


*levis* (smooth). Malaya. 1848.


*Loddigesii* (Loddiges’). Borneo. 1847.

*madagascarensis* (Madagascar). Pitcher crimson, 4-6 in. long. Madagascar. 1881.


*nepenthes* (Sir Stamford Raffles’). Yellow, brown. September. India. 1845.

*elongata* (elongated). 1847.


*rahat* (Rajah). Pitchers dull purple, 3 in. to 12 in. long. in the wild state. Borneo. 1887.

*rubra* (See N. Raphaelisiana).

*sanderiana* (Sanderian). See N. Raphaelisiana.


*veluchii* (Mitford’s). Pitchers pale green, with a broad collar. Borneo. 1881.


NEPETA. Cat Mint. (Named from Nepet, a town in Tuscany. Nat. ord. Labiates [Labiatae]. Linn. 14-Didynamia, 1-Gymnospermia. Allied to Dracocephalum.) A genus of hardly herbaceous plants, comprehending a few ornamental species, which in parts of Asia; the latter we have omitted. The Ground Ivy, *Nepeta Glechoma*, is still held in high estimation as a pectoral medicine in some parts of the country, and also several others of this order. Seeds, sown in spring, but chiefly by dividing the plants in the spring as growth commences; also, in rare kinds, by cuttings in summer, under a hand-light; light, sandy soil; some of the more trailing kinds do well for rock-work.


*cressa* (Cressanean). See Micromeria Cressans.

*diffusa* (spreading). See N. Musisinii.


*coerulea* (one-coloured). Asia Minor.

*crassica* (Crassican). See Micromeria Crenata.


*grandiflora* (heavy-flowering). See N. Nepetella.

*hederaeosa* (ivy-like). See N. Glechoma and varieties.

*hirsuta* (hairy). See N. Scordotis.

*imbricata* (imbricated). See N. Italica.


*longiseta* (long-flowered) of Sims. See N. Musinisii. 


*maculata* (long-tailed). See N. Cataria.

*malabaria* (Malabar). See Anisomeles Malabarica.

*megalantha* (Marum-leaved). See Micromeria Marmelia.

*murravioleus* (horehound-like). See N. Italica.


"hirtipe's (hairy-stalked). 2-3. Himalayas to Ceylon. All, up to 6000 ft.


"loba'tum (lobed). See ASPIDIUM LOBATUM.

"Lonch'ita's (Larchitisis). See ASPIDIUM LONCHITIS.

"marcescens (very rough). See ASPIDIUM LONCHITIS ASPERRIMUM.


"monta'num (mountain-fern). See N. MONTANUM.


i-i$. 1-2. this, slight

fern). Malaya. 1863. united,

like

of

June. See

Brown.

Chee). See

N.

kidney-shaped

aculea'tum 2-2. S.

See

the

A

to

June.

Nat.

[Filices].

HIRTIPES.

Himalaya,

May.

cut.

7-10. Purple.

July.

; Japan,

&c.

i-2.

atrovi'rens Himalaya. 60

Ba'rometz (Barometz). Aspidium and Java. Nat.

Hay-scented

Brown.

fern).

Holland.

cultivation.

of

"spring

veins.

with

is

(glandular).

China.

(dark

(very-slender),

section

Britain,


i.

the

corymbi'ferum 1-2.

Madeira.

sibi'rica to

Britain.

RENANTHERA.

the

Brown.

i.

Yellow.

Blue.

name

with

rachis

z^-Cryptogamia, (elongated).

2-3.

1821.

turn

shoots

crests.

narrower

\"n\" Cryptogamia, (elongated).

2-3.

1821.

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shoots

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2-3.

1821.

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shoots

crests.

narrower

\"n\" Cryptogamia, (elongated).

2-3.

1821.
**NEPHROLEPIS**

(From nephros, a kidney, and lepis, a scale; referring to the covering of the seed, or spores. Nat. ord. Farns [Filices]. Linn. 24-Cryptogamia, i-Filices.)

Stove Ferns, with yellow spores. See FERNS.

**NEPHYLIS**

See N. ERYTHROSORUM PROLIFICUM.

recu'rvum (recurved). See N. ... Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, i-Filices.)

**NEPHROLEPIS.**

**I.**

**N. arboria (prematurely-born).** 1-3. Penang, Java, Ceylon.

**N. aborïtum (abrupt).** Yellow. July. Peru.

**N. aborïtum (white-dotted).** 1-4. Guiana, Mascarene Islands.

**N. aborïtum (Amboynan).** 2-3. Philippines, N. India, &c.

**N. amphilum (ample).** 5-7. W. Ind. to Ecuador.

**N. Anthesis (little-tree).** 14-2. Mascarene Islands, Ceylon, &c.

**N. articulâ'tum (jointed).** See N. PENNIHERUM.

**N. aegæ'nae (increasing).** See N. SERRA.


**N. canalï'dum (spurred).** 1-4. N. India to Ceylon, &c.

**N. cand'scens (hoary).** See N. CUCULLATUM.

**N. car'pis (Caripa).** 2-3. Guatemala to Brazil and Peru.

**N. caulô'dum (tailed).** Yellow. July. Isle of Luzon.

**N. chry'solobum (yellow-jointed).** 1. Brazil and Columbia.

**N. cîs'catum (Cicuta-like).** 2-3. Tropics everywhere.

**N. cof'frum (running-together).** Queensland.


**N. corn'iren'scens (glistening).** See ASPIDUM VARIAIUM.


**N. cuce'llitum (hooded).** 24-1. N. India, Ceylon, &c.

**N. cuce'llitum (British).** 5. Yellow. February. Panama. 1839.

**N. cupe'sidâ'tum (short-pointed).** 3. W. Ind. and Ceylon.


**N. déc'èrrens (running-down).** 2-4. Trop. Asia.

**N. del'to'dâ'tum (delta-shaped).** 2-3. Trop. Amer.

**N. den'ti'culâ'tum (toothletted).** 2-3. N. and Ceylon.

**N. dis'cè'stum.** (cut). 24-3. Polynesia.

**N. mem'bra'no'llum (membranous-leaved).**

**N. div'e'rgens (divergent).** See N. EFFUSUM DIVERGENS.

**N. disc'si'um (disc-shaped).** 5-6. Cuba and Mexico to Brazil and Peru.

**N. div'e'rgets (divergent).** Fronds more divided.

**N. erica's'pum (woolly-fruited).** See N. ODORATUM.

**N. exte'si'um (minuted).** 3. Ceylon, India.

**N. gâ'ndulâ's (glanded).** Yellow. July. Isle of Luzon. 1840.

**N. grise'bâ's (Grisebach's).** 5-7. Cuba.

**N. Hipp'o'cre's (horse-shoe).** 2. Brown. May, Jamaica.


**N. Hook'eri (Hooker's).** See N. ARBUSCULA.

**N. inci'sum (incised).** 14. W. Ind. and Colombia.

**N. in'termi'diâ'sum (intermediate).** 2-5. N. India to Ceylon, &c.

**N. in'ti'sum (unseen).** 4-6. Mexico and Cuba to Brazil. 1850.

**N. irre'ca're (irregular).** 3-4. Stem black. Polynesia. 1824.


**N. lema'nî (Jenman's).** Jamaica.

**N. Kaufl'si (Kaufusser's).** 2-3. W. Ind. to Brazil.

**N. lattî'i'um (broad-leaved).** 3-5. Polynesia, Ecuador, &c. 1823.

**N. lawrence'num (Lawrencean).** 2. Madagascar. 1881.

**N. le'se'num (Leuzean).** 6-9. N. India, Philippines, &c.

**N. longî'ste'da (long-stemmed).** Colombia. 1887.

**N. lac'cad'um (shining).** 1-4. Fronds smooth. Mado-

**N. macro'phyl'um (large-leaved).** 3-5. Trop. Amer.

**N. calva'tum (bald).** Without scales.


**N. mem'brano'llum (membranous-leaved).** See N. DIS-


**N. odo'râ'sia (Otaria).** 1-2. Philippines, Neillgherries, and Ceylon.

**N. pachyphy'llum (thick-leaved).** 3-4. Philippines, Malacca, Fiji, &c.

**N. pal'li'dum (pale).**

**N. cristâ'sum (crested).** Fronds crested, fragrant.

**N. pal'u'sire (marsh).** 3-4. Brazil.


**N. pâ'tens (spreading).** Tropics, &c. 1794.


**N. platyphy'rium (flat-leaved).** Yellow. June. S. Amer. 1826.

**N. poly'mor'phum (many-shaped).** 3-5. Himalaya to Ceylon.


**N. profi'lum (proliferous).** 1. Brown. Brazil.

**N. proli'fi'cum (prolific).** See N. ERYTHROSORUM PROLI-

**FICUM.

**N. recu'rvum (recurved).** See N. ... Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, i-Filices.)

**N. set'o'sum (scattered).** See N. ODORATUM.

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**N. set'o'sum (scattered).** See N. ODORATUM.

acuta (acute). 21-41. Tropics of both Worlds.

Waset's (Weston's). Pinnae, but not apex of fronds, crested. 1903.

amabilis (lovely). See N. rupestris AMABILIS.


bistorta (double-variegated). See N. ACUTA.

corda (heart-shaped). See N. CORDIFOLIA.


philippinesis (Philippine). Philippines.

tessellata (tessellated). Some of the pinnae are planate. 1906.

rubro'sa (tuberosus). Wiry rhizomes bearing tubers. Jamaica. 1841.

davallii' s (Davallia-like). Fertile pinna pinnatifid.

Java. 1832.

n'karent (forking). Pinnae forked at the tips. Polynesia. 1873.

multicpes (many-headed). Pinnae crested. 1892.

Du'ffii (Grant-Duff's). 1-4. Australia. 1878.

compacta (compact). See N. acuta.


Amerpohi (Amerpohi's). Pinnae finely divided. 1902.

Barrow's (Barrow's). Pinnae bipinnatisect dark green. 1908.

Bart'e ri (Barter's). W. Trop. Africa.

eanaculita (channelled). Frond and pinnae with curly teeth. 1902.

Foste'ri (Foster's). 1-3. Pinnae, except the basal ones, much divided. 1903.

'hirsuta (finely-hairy). Covered all over with short brown hairs.

lycopodioides (lycopod-like). Fronds small, densely plumose. 1909.

magnifica (magnificent). Fronds more finely cut than N. acuta.


Neubertii (Neubert's). Plant dwarf; fronds very finely divided. 1902.


Pearsontii elegansissima (Pearson's most elegant). Pinnae very much divided, dense. 1905.

pn' ductula (pendulous). 4. Fronds long, pendulous.

June, W. Ind.

Scholzii (Scholzii's). Fronds very plumose.

Scott's (Scott's). A dwarf variety. 1904.


superbissima (most superb). 1. Pinnae nearly at right angles to the frond. 1907.

todeanae (Todea-like). Fronds plumose, like Todea superba. 1906.

volubilis (twining). Fronds straggling, flexuose.

Westonii (Whitman's). Intermediate between the varieties elegansissima and todeanoides. 1907.


Hestonii (Heston's). Intermediate between N. acuta and N. rupestris. 1906.

hirsuta (small-hair'd). See N. EXALTATA HIRSUTULA.

obiterata (obliterated). See N. RAMOSA.

ornata (adorned). Distinct and compact in habit. 1900.

punctata (comb-like). See N. CORDIFOLIA PECINATA.

pn'ductula (drooping). See N. EXALTATA PENDULA.

philippinensis (Philippine). See N. CORDIFOLIA PHILIPPINENSIS.

Fl'w' man's (Plum's). White. 1841.

punc'tata (small-dotted). See N. ACUTA.


N. recurvata (recurved). See N. EXALTATA.


rupestris (lovely). 2-41. Fronds gracefully arching, crested. 1908.

Ma'y's (May's). 2-41. Pinnae close, much waved and twisted. 1906.

so' deseda (three-times-cut). Pinnae deeply divided, overlapping. Trop. Amer. 1887.

sp'ndens (shining). See N. ACUTA.

splendens (shining) of gardens. 24. Pinnae overlapping, deep green. Chus. spuriae. 1890.

TRICHOMANOIDES (Des). (Trichomanoid-like). See N. RAMOSA.

tubero'sa (tuberosus-rooted). See N. CORDIFOLIA TUBEROsa.

undulata (wavy). See N. CORDIFOLIA.

volubilis (twining). See N. EXALTATA VOLUMiLIS.

NERINE PHLOEMOSA.

(From nephros, a kidney, and sperma, a seed; in allusion to the shape of the seed. Nat. ord. Palmaeae.)

A stave palm with deeply pinnatisect leaves, with broad and narrow pinnae. Seeds. Loam, with a little peat and sand.


Nephthysis. (Named after Nephthys, a mythical goddess. Nat. ord. Araceae. Allied to Richardia.)

Stove herbs with a thick tuberous rootstock and large, triangular, arrow-shaped leaves. Offsets. Fibrous loam, leaf-mould, charcoal, and sand.


Nep'tuna. (After Neptune, the mythological deity of the sea; a water-plant. Nat. ord. Leguminosae [Leguminosae]. Linn. 23-Polygama, 1-Monocya. Allied to Desmanthus.)

Greenhouse bulbs, from South Africa. The Guernsey lily is a Néréa, and, like it, all the species flower in the autumn, and before the growth of the leaves, and are among the most delightful. As like the Amaryllis, they grow from September to May, and delight in strong, yellow loam; a vigorous growth of the leaves is requisite to cause them to flower the following autumn. Many attempts have been made to cross them with Amaryllis and other allied families without success; but they produce fine crosses among themselves. Seeds sown in heat, in spring, or as soon as ripe, but chiefly by offsets from the bulbs; rich, sandy loam, with a little peat; deeply planted, and a dry situation in winter; or protected in a cold pit or greenhouse, and kept dry until vegetation commences.

N. angustifolia (narrow-leaved). See N. FLEXUOSA angustifolia.


Boud'ni (Bowden's). 14. Flowers pink, larger than those of other species. 1904.

cori'sca (glittering). See N. SANNUINSIENSIS CORIUSCA.

c'ripa (crisp). See N. UNDULATA.


Fothergillii (Fothergill's). Crimson or scarlet.

Elwis's (Elwes's). See N. PECINATA.

Hitchi'li (thread-leaved). Pale and deep rose; filaments and style red. 1879.


White. 1850.

angustifolia (narrow-leaved). 1. Pink. 1885.


Sanderso'ni (Sanderson's). 1-2. Segments less crisped, curled at base. 1885.
NEVIUSIA

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NERIUM

N. Fothergillii (Fothergill's). See N. CURVIFOLIA FOTHERGILLII.


N. japo' nica (Japanese). See LYCORIS RADILATA.

N. lnea (shining). Red.


N. Mexi (Mexican). 1-5. Bright scarlet; segments crimped. 1886.

N. pan'eatio'des (Pancratium-like). 2. White, with bilt scales between the filaments. 1891.

N. Pitcairn'i (See N. SARNIENSIS PLANTII)


N. 'aiba (white). Snow-white. 1904.

N. Elytes (Elytes' rose).

N. Plic'a (Plicata's). See N. FLEXUOSA PULCHELLA.


N. ro sea (rosy). See N. SARNIENSIS ROSEA.


N. Alli' ns (Allen's). Garden variety. 1894.


N. Ol'eman' si (Gelman's). Flowers erect. 1905.


N. prof'sa (profuse). Bright scarlet. September.


N. ran'ga (Red). See N. CURVIFOLIA. 1806.


N. ma'jor (greater). Flowers larger.

N. Vel'chi (Velch's). 1. Pale pink, with wavy seg-

ments. 1. S. Afr. 1911.

N. ver'vita (beautiful). See N. SARNIENSIS VENUSTA.

NERIUM. Oleander. (From neros, moist; referring to their native places of growth. Nat. ord. Dogbanes [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Notwithstanding the beauty of the Oleander, it is one of the most virulent of vegetable poisons. Beautiful greenhouse plants, but which require a higher temperature to start them in the spring. Cuttings of shoots, getting firm, in sand, under a bell-glass, and kept warm; cutting the young leaves in water, also kept warm; peat and loam, enriched with cow-dung and leaf-mould. Winter temp. 35° to 48°; summer, 60° to 75°. The shoots made this season should bloom the next, if well ripened.

N. coro'nium (garland). See TABBERNEMONTANA CORO-

N. japo' nicum (Japanese). See N. OLEANDER.


N. Ne's'mii (Nesmy's). See ALLAMANDA VERTICILLATA.

NERTERA. (From neros, low down; in reference to the very dwarf habit of the plant. Nat. ord. Rubiaceae.)

A genus of puny, perennial herbs, with stalkless, inconspicuous flowers, followed by red berries. Seeds; divisions. Loam, leaf-mould, and plenty of sand.


N. re' pens (creeping). See N. DEPRESSA.

NESS/EA. (The name of a sea-nymph. Nat. ord. Loosestrife [Lythraceae]. Linn. 11-Dodecandra, 1-Mono-

Eyria. Includes Heimia.)

Nearly hardy, evergreen shrubs, except N. trif' ro/a, a stave perennial herb. Divisions in spring, as fresh growth commences; cuttings of young shoots in sandy soil, under a bell-glass; sandy loam and fibrous peat. Winter temp. 45° to 55°; summer, 60° to 80°. The half-hardy ones require the protection of a wall or pit in winter.


N. myri'f/ia (myrtle-leaved). 3-5. Yellow. Brazil. 1826.


N. trif'o/ra (three-flowered). 2. Blue. August. Mau-

ritius. 1862.

N. E xenopanax vit'e'sisia. See PLEANDRA, VITESSISA.

NETOUXIA FORMOS/A. See NECTOUXIA FORMOSA.

NETTING is employed to prevent the radiation of heat from walls, and the rude access of wind to trees grown upon them, as well as to prevent the ravages of birds.

Netting is a very effectual preventive of cooling, for reasons which will be stated when considering Screen generally; and in connection with that, it may be observed, that it is not altogether immaterial of what substance netting is formed. Worsted is to be preferred, not only because it is the most durable, but because it is the best preventive of a wall's cooling. We have found the thermometer under a hemp net sink, during the night, from 2° to 3° lower than without netting, or not liable to the cold meshes being small and of equal size in both nets. This can only be because worsted is known to be a worse conductor of heat than hemp; and, not absorbing moisture, it is not so liable to the cold always produced by its drying. Netting will also exclude flies and other winged insects from the fruit against walls, although the meshes are more than large enough to permit the passage of the larger insects. Why this is the case is not very apparent; but the netting is equally efficient in keeping similar insects from intruding into rooms if there are no cross lights. If there are windows on different sides of the room, and it is to be presumed, therefore, also in a green or hothouse, nets would not be so efficient.

One hundred square yards of netting, according to some merchants' mode of measuring, will not cover more than fifty square yards of wall, for they stretch the net, first longitudinally, and then laterally, when making their measurement, and not in both directions at once, as the gardener must when covering his trees. Dis-

appointment, therefore, should be avoided, when ordering new nets, by stating the size of the surface which has to be covered. This may be done without any fear of imposition.

Mr. Richardson, net-maker, New Road, London, informs us he uses a mackerel-net, 100 yards long, when quite dry, will cover 500 square yards; and one cwt. of old herring-net (smaller meshes) will cover 600 square yards.

NETTLE-TREE. Celtis.

NEUMANNIA ARCUATA. See PITCAIRNIA ARCU-

ATA.

NEUMANNIA NIGRA. See PITCAIRNIA NIGRA.

NEURODIUM LANCEOLATUM. See TENNIS LANCE-

OLATA.

NEUROLENA. (From neuros, a nerve, and laina, a cloak; in allusion to the three nerves of the bracts. Nat. ord. Compositae.)

Over the leaves, all subshrubs. Cuttings of half-ripe shoots in sand, under a bell-glass. Loam, leaf-mould, and sand.


NEUWIE DIA. (A commemorative name. Nat. ord. Orchidaceae.)

Succulent terrestrial orchids, with a short rhizome and a simple, erect leafy stem. Divisions in spring. Fibrous loam, fibrous peat, sphagnum, charcoal, and sand.

N. Grif'fith's (Griffith's), 1. Flowers small, pure white, in spikes 3 in. long. Malaya. 1894.


NEVIUSIA. (Derivation not explained. Nat. ord. Rosaceae.)

Half-hardy shrub, requiring a wall in the south, and
the protection of a greenhouse in colder parts. Cuttings of half-ripe wood in sand under a hand-light. Well-drained soil.


N. la'vis (smooth). Rose or purple. Trop. Africa.

NEW JERSEY TEA. Ceanothus americanus. N. LONGIFOLIARUM. (Tegro'nia expa'nsa) is much ado for its petals, being of more delicate flavour, and continues available the whole summer.

Sow, at the latter end of March, in the seed-vessel, as gathered in the preceding autumn, in a pot, and placed in a mist-frame. The seedlings to be pricked while small singly into pots, to be kept under a frame without bottom-heat until the third week in May, or until the danger of frost is past. Plant in rows, in a rich, light soil, at three or four feet apart each way. Twenty plants will afford an abundant supply daily for a large family.

In five or six weeks after planting, the young shoots may be gathered, these being pinched off. They are productive until a late period of the year, as they survive the frosts that kill nasturtiums and potatoes.

To obtain Seed.—A plantation must be made on a poorer soil, or kept stunted and dry in pots, as ice-plants are when seed is required of them.

NICA NIDRA. (Commemorative of Nicander, a botanist about the period a.d.150. Nat. ord. Solanaceae.) Half-hardy annual herbs. Seeds sown under glass in March, grown on and planted out in May, or sown in the open border in April, and thinned out to 12 in. apart. Ordinary garden soil.


NICKER-TEE. Guiana's.


NICOTIA'NA. Tobacco. (Named after Nicot, a French ambassador in Portugal, who first obtained seeds from a Dutch merchant. Nat. ord. Nightshades [Solanaceae]. Linn. 5-Petali'da, 1-Monogynia.) Tobacco was first introduced from Tobago, in the West Indies, or Tobago, in Mexico—hence the name. Shrubby and perennial kinds require the warm greenhouse in winter, and may be propagated by divisions and cuttings, also freely by seeds; all the annuals are raised by seed sown in a hotbed, in March or April; seedlings pricked off, potted, and transplanted in rich soil towards the end of May, when the ornamental ones will adorn the flower-border, and the useful ones, such as loba' cu'ru'a, which will yield the variety of a shrub, or a shrub. Tobacco will always grow in the flower-garden or suburban garden during summer.

ANNUALS.


N. brasiliensis (Brazilian). See N. ALATA.


N. macrophy'lla (large-leaved). See N. TACUM MACRO-PHYLLA.


N. multiformis (many-valved). See N. QUADRIVALVIS.

N. na'ma (dwarf). See Hesperochiron Californica.


N. rotundifolia' (round-leaved). See N. SUAVEOLENS.


N. Turkish Tobacco.'


PERENNIALS.


N. affl'is (allied). See N. ALATA.


N. forget'ta (Forgetian). 1-2. Red or deep rose. Chile. 1903.


N. Evergreen.


N. albifo'ra (white-flowered). White. 1828.

N. per'sica (Persian). See N. ALATA.


N. varie'gata (variegated). Leaves variegated with creamy-white.

N. und'ulata (wave-leaved). See N. SUAVEOLENS.


NIDULA RIA. From nidius, a nest; the leaves being disposed in the form of a bird's nest. Nat. ord. Bromeliaceae. Most of them are now referred to Karatas.) Moist stone perennial herbs. Suckers. Fibrous loam, peat, or sphagnum. The nodules of charcoal and sand.

N. acanthocra'ter (spiny-basined). See KARATAS ACANTHO-THACER.
N. amazicum (Amazonian). See Karatas amazonica.
ampull'a teum (flag-shaped). Brazil. 1836. Blue, [N. amazicum].
1877. bivit'la (two-striped). See Cryptanthus bivitta-
Carol'inae (Caroline's). See Karatas carol'inae.
cy'na teum (blue). Blue, violet. Brazil. 1874.
Jul'gens (shining). See Karatas Jul'gens.
Ino'nti (Innocent's). See Karatas innocen-
John's (John's). White. Brazil. 1834.
Laure'nt's (Laurent's). Blue. Brazil. 1857.
Lind'ni (Linden's). See Canistrum burn'neum.
magnu'mum (Makoyan). White, violet. Brazil.
1887. marmo'ra (marbled). See Karatas mar-
Mey'endo'ff (Meyendorff's). See Karatas carol'inae.
pax'a'num (Paxian). See Karatas paxiana.
p'hi'ra (painted). Brazil. 1859.
pin'elina'num (Pinelian). Blue. Brazil. 1860.
pr'cexs magn f'cus (magnificent-chief). See Karat-
Prin'ces (princes). See Karatas rutila'nus.
Scherem'e'tsi w'i (Scheremetew's). See Karatas
Scheremete'witi.
spect'a'la (showy). See Karatas spectabilis.
str'idum (striped). See Karatas innocen-
Nierember'gia. (Named after J. E. Nieremberg, a
Scha'um. See Nierembergia. Linn. 5-Penta-
NIPHO'BOLUS. (From niphobolus, covered with
Black Cumin.
July. S. Europe.
NIGHTSHADE. Sol'a num.
NIGHTSHADE, ENCHANTEUR'S. Cercia'.
NIGHT-SOIL. See Dung.
NIGHT TEMPERATURE in bothes, greenhouses, and
frames should always average from 10° to 20° lower
than the temperature in which the plants are grown
during the middle of the day. It is in the night that
the individual functions are regulated by a temporary
repose, and if left to the dictates of healthy nature, the sap, like the
blood, rises at night with a much diminished velocity.
That plants do become exhausted by too unremitting
excitement, is proved to every gardener who has placed
them under his rule; for if the greatest care be not
taken to ripen the wood by exposure to the air and light
during the summer, no peach-tree will be fruitful if
forced during a second successive winter, but will require
a much more increased temperature than at first to
excite it even to any advance in vegetation.

The experiments of Harting and Munter upon vines
growing in the hothouse, and those of Dr. Lindley upon
vines in a hothouse, coincide in testifying that this
tree grows most during the less light and cooler hours
of the twenty-four; but the hours of total darkness
were the slowest period in their growth. This, observes
Dr. Lindley, serves to show the danger of employing a
high night temperature, which forces such plants into
growing fast at a time when nature bids them repose.
That the elevation of temperature at night does hurt-
fully excite plants is proved by the fact, that the branch
of a vine, kept at that period of the day in temperature
not higher than 50°, inhales from one-sixteenth to one-
tenth less oxygen than a similar branch of the same
vine, during the same night, in a temperature of 75°.
The exhalation of moisture and carbonic acid is also
proportionally increased by the higher temperature.

Nipa. (The Moluccan name. Nat. ord. Palmae [Pal-
maceae]. Linn. 21-Monocalyx, 10-Monadelphia.)
Stove Palm. Seeds in a strong, moist heat, not giving
too much moisture to the seed at first; rich loam.
Winterset, 60° to 65°; summer, 65° to 90°, and
moist atmosphere.

NIPHE'EA. (From niphos, snow; snow-white flowers.
Nat. ord. Gesneriaceae [Gesneraceae]. Linn. 14-Didy-
nyma, 2-Angiosperma. Allied to Achimenes.)
Stove herbaceous, white-flowered perennials. Divisions
of the rosette are sunken, and the flowers of the spring;
sandy loam and peat, enriched with leaf-mould or rotten
cowdung. Temp. when at rest, 40° to 45°; when starting
and potted, 55° to 70°; when growing, 60° to 75°; when
flowering, rather less; until after flowering they are
allowed to become nearly dry, and at a low temperature
suit them.
N. a'bo-lin'a (white-lined-leaved). See Phine'a albo-
line'a.
argy'raea (silver-nerved). See Phine'a reticul-
lata. cu'pro-vir'ens (coppery-green). September. 1860.
gra'tialis (slender). S. Amer. 1868.
intermedia (intermediate). See Salpiglossis
Kara'tas. See Karatas (entire-leaved).
Nigella. Fennel-Flower. (From niger, black; the
colour of the seeds. Nat. ord. Crousfoots [Ranunculaceae].
Linn. 13-Polyandria, 5-Pentagynia. Allied to Aquilegia.)
Hardy annuals. Seeds in the open ground any time
after the middle of March.
N. angusti'folia (narrow-leaved). See N. damascena.
ari'sta (awned). See N. anemensis.
are'ns i (stalk). 2. Blue. August. Europe.
damasc'ena (damask). 1. Lilac, blue. July. S.
fl'or-pl'eno (double-flowered). 1. Lilac, blue.
July. E. Ind. 1890.
diversifo'lia (diverse-leaved). See N. integrifolia.
Spa'n. 1829.
1820.
latif'o'lia (broad-leaved). See N. hispanica.


1830.


nummulario'tus (moontoweed-leaved). May. Isle of

Luzon.


spale'mdens (shining). July. E. India.

vairis (variable). See N. A N D A C S E N S A R I U S.

NIPHOPSIS ANGUSTATUS. See POLYPODIUM AN-

GUSTATUM.

NISSO LIA. (Named after W. Nissle, a French botanist. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-Diadalphi.a, 4-Decanadia. Allied to Amicia.) Cuttings of short, stubby, half-ripped shoots in spring and in summer, in a bell-glass, in bottom heat; peat and loam. Winter temp., 55° to 60°; summer, 60° to 85°.

STOVE EVERGREEN SHRUBS.

N. globata (polished). See MACHERIUM ARBOREUM.


MACHERIUM MICROPTERUM.

robinie'folia (Robinia-leaved). See MACHERIUM ROBINELEOFIUM.

STOVE EVERGREEN CLIMBERS.

N. aculeata (prickly). See MACHERIUM ACULEATUM.


race'menta (raced). See N. FRUTICOSA.


NITRATES. See SALT.

KITTA- TREE. Par'kia afri'ca'n.a.

NIVE.NI.A. (Named after J. Niven, a botanical col-

lector. Nat. ord. Proteaceae [Proteaceae]. Linn. 4-TER-

RANDRIAD, 1-MONOGNYMA. Allied to Protea.)


med'ica (middle). July. 1756.

prae'pium (sceptre-like). 2. 1790.


NOCCU'EA. (A commemoratory name. Nat. ord. Cruciferae [Cruciferae]. Linn. 15-TETRADYNADMA. Allied to Ionocapidium.)

Dwarf, hardy perennial for the rock-garden. Seeds; cuttings. Light, well-drained soil.


Aeuerswaldi'i (Aeverswald's). Spain.

Aeuerswald'i (Aeverswald's). See N. ALPINA AUER-

WALDI.


NOHL KOHL. See KOHL KOHL.

NOISETTIA. (Named after L. C. Noisette, a French nurseryman. Nat. ord. Violetores [Violaceae]. Linn. 5-PENTANDRIA, 1-MONOGNYMA. Allied to Viola.)

Stove evergreen. Cuttings of young shoots in April, sand, under a glass, in heat; rich, sandy loam. Winter temp., 55°; summer, 60° to 85°.


NOL'A NA. Chilian Bellflower. (From nola, a little bell; the form of the flowers. Nat. ord. Binweds [Convolvulaceae]. Linn. 5-PENTANDRIA, 1-MONOGNYMA.)

Hardy trailing annuals, mostly all blue-flowered. Seeds in a gentle hotbed, in spring; seedlings transplanted in May, or sown in May where they are to grow. A border where the soil is rather stiff answers well for sowing all such plants in March, provided you can cover them with half a layer of soil, and lay a glass frame over them, until they are fairly up, when they may be protected with a few branches, and then be removed in large patches.


lanceo'la (lace-shaped). Blue, white. Chili. 1862.


NOLINA. (Named after P. C. Nolin, an American botanist. Nat. ord. Liliylores [Liliaceae]. Linn. 6-Hexandria, 3-Trigynia. Allied to Daylilyron.)

Interesting, half-hardy, peat-border bulbs. Offsets and cuttings; sandy, moist peat.


Pal'me'ri (Palmer's). California.

NOLITEA. (A commemoratory name. Nat. ord. Rhododendron.)

Greenhouse evergreen shrub. Cuttings of half-ripened shoots in sand, under a bell-glass. Fibrous loam, peat, and sand.


NOMA PHILA. (From monos, a pasture, and philos, to love; in allusion to the habitat of the plants. Nat. ord. Acanthaceae.)

A stove perennial herb. Divisions in spring. Loam, leaf-mould, and sand.

N. corymb'osa (level-topped). Java.

NONATE LIA. (From the South American name. Nat. ord. Rubiads [Rubiaceae]. Linn. 5-PENTANDRIA, 1-

MONOGNYMA. See PALICOUREA.)


oficin'fas (shop). See PSYCHOTRIA OFFICINALIS.

race'ma (raced). See PSYCHOTRIA RACEMOSA.

viola'cea (violet-barbted). See PALICOUREA VIOLACEA.

NONNEA. (Commemorative name of J. P. Nonne, a German botanist. Nat. ord. Rubiads [Rubiaceae]. Linn. 5-PENTANDRIA, 1-MONOGNYMA. See PALICOUREA.)

Hardy annuals. Seeds. Ordinary garden soil.


decu'mens (lying-down). 1. Pale blue. Western Mediterranean regions.


voral' color (changing-colour). 1. Red, changing to blue.

NOLEA. (From Nolea, the native Mexican name. Nat. ord. Cactaceae.)

Warm greenhouse or dry stone succulents. Cuttings in sand, drying them a few days before inserting them in sand. Loam, old mortar, and bricks, finely broken sand; and, when it is necessary, to sun-dry is necessary.


NOLETIA. (From its Guianan name. Nat. ord. Ternstroemiae [Ternstroemiaceae]. Linn. 15-TETRADYNADMA, 1-MONOGNYMA.)

Handsome stove evergreen shrubs, remarkable for their singular bracts. Cuttings in sand in a close case with a loose, fibrous loam, and lay a glass frame over them, until they are fairlyware, when they may be protected with a few branches, and then be removed in large patches.

N. brasili'nis (Brazil). 4. Brazil. 1825.


NORDMANNIA CORDIFOLIA (heart-leaved). See TRACHYSTEMON ORIENTALE.
NORFOLK ISLAND PINE. Araucaria excelsa.

NORMANDY CRESS. See American Cress.

NORWAY MAPLE. Acer platanioides.

NORWAY SPRUCE. Picea excelsa.

NOTOLEA. (From notos, southern, and elia, the olive; literally, the Australian Olive. Nat. ord. Oleaceae [Oleaceae].) Linn. 2-Dianthria, 1-Monogynia.)

All the species in this order will graft on each other, as on the Lila on the Ash, the Olive on the Privet and Phillyrea, and so forth. Greenhouse, white-flowered, evergreen shrubs, from Australia. Cuttings of firm, side, stubby shoots in April, in sand, under a bell-glass, with bottom heat, and loam, with a little sand and charcoal. Winter temp., 40° to 50°.


NOTOCHELLEA. (From notos, spurious, and chila, a choli, some of the species appearing to have an involucrum. Nat. ord. Ferns [Filices]. Linn. 24-Cryptograma, 1-Filices.)

Stove Ferns, all but one with brown spores. See Ferns.


Argentina (silver-leaved). July. E. Ind.

canarialis (Canary). Tenerife.

castida (white). See N. sulphurea.

cane scena (grey). Mexico.

chrysothyla (golden-leaved). See N. flavens.


Hernostoma (major). 3-4. Soni black. W. Ind. and Mexico to Chili.


Central Amer.

Houri (Hooker's). See N. nivea Hookeri.

hypo lea (white-beneath). 1-2. Felted, with white hairs beneath. Chili.

Ii'omis (smooth). See N. sinifata.


Ientis gera (pea-sowered). May. S. Amer. 1822.


Neubr'ryi (Newberry's). 1-2. Frond covered with white felt on both sides. California.

Mi'lipo (snowy). 1-4. September. Mexico to Peru.

Hoo'keri (Hooker's). Pinnules sessile.


Pulvera'ea (dusty). See N. sulphurea.


ru'fa (reddish). See N. ferruginea.

sinu'ta (wavy-edged). Peru. 1831.


New Mexico to Chili. 1851.

spuma'co (scaly). 1-1. Mexico to Argentina.

sulphur'at (sulphur). 1-2. Fronds with white or yellow powder beneath. California, &c.


tomales'ana (downy). May. Mexico. 1841.


vestita (clothed). July. N. Amer. 1812.

NOTOCHLÉNA and NOTOCHLÉNA. See Notoch- Chlèna.

NOTOSCORODUM. (From notos, spurious, and skordon, a contraction of skorodon, garlic. Nat. ord. Liliaceae. Allied to Allium.)


N. a'rusum (golden). See Bloomeria aurea.


Hardy.


Carolina. 1770.

N. macro'stemon (long-stemmed). See Millia macro stemon.

no'siflorum (Nerine-flowered). 1. Rose, purple.

China. 1843.

strati'tum (finely-lined). See N. striatum stratia tellum.


June. Amer. Hardy.


NOTOSPARRIUM and NOTOSPARRIUM. See Notosparrgium.

NOTO BASIS SYRIACA, or "Syrian Thistle." See Cnicus syriacus.

NOTO NIA. (A commemorative name. Nat. ord. Composita.)

Stove succulents with spathulate fleshy leaves. Cuttings, allowed to dry for some days and then inserted in sand. Fibrous loam, leaf-mould, some finely broken bricks, and sand.

N. amani'nis (Amanian). 4. Yellow; scalps reddish.


granii'na (Grani's). Trop. India.

Gra'nti (Granti's). Trop. Africa.

semper'is (Semperium-like). See N. Granti.


NOTOSPARTIUM. (From notos, southern, and spartium, broom; the plant has the habit of broom. Nat. ord. Composita.)

Half-hardy shrub, requiring a wall, except in the warmer parts of the country. Seeds. Loam and peat or leaf-mould.


NOTY LIA. (From notus, the back, and bulus, a hump; referring to a singular hump on the column. Nat. ord. Orchids [Orchidaceae].) Linn. 20-Gynandria, 1-Monandria. Allied to Cirrhaea.

Stove orchids. For culture, see Cirrhaea.


Barke'ri (Barker's). Straw. Mexico. 1837.


"I'm't short. White and yellow. S. Amer. 1895.


la'ka (rose). Greenish, spotted with orange. Brazil. 1882.


mi'ria ni'ha (small-flowered). Pale green. Demerara.


NOUELLA. (Commemorative of M. A. A. Neiel, of the Orleans Museum. Nat. ord. Composita.)

Half-hardy or greenhouse shrub or small tree. Seeds. Fibrous loam, leaf-mould, and sand.


KUNNEZHIA RIA TENELLA. See Chamodeora Tenella.

NUPHRAR. (From newfar, the Arabic for water-lily. Nat. ord. Water-lilies [Nymphaeaceae].) Linn. 15-Poly andria, 1-Monogynia.)

A beautiful family of hardy, yellow-flowered water-plants. Seeds merely thrown in the pond where it is desired to grow them, and divisions of the root in autumn.

N. d'ovena (stranger). July. N. Amer. 1772.

kalmia'num (Kalmian). See N. MINIMUM.


lu tenum kalmia'num (Kalmian-yellow). See N. MINIMUM.
NURSERY


All most beautiful water-plants; all like a rich, loamy soil, and plenty of water above it. Propagated by seeds, dividing the roots in some, and separating the tuber-like bottom in others. The stave kinds should be kept cooler and drier in winter, and receive fresh soil before starting them in spring. They much delight in a supply of fresh, heated water when growing, and then the atmosphere can be scarcely too hot and moist. Temp. for stave kinds, winter, 45° to 55°; summer, 70° to 90°.

NYMPHAEA

N. davena (stranger). See NUPHAR ADVENA.


"candidissima (whitest). Flowers very large, yellow.

"ro'sea (rosy). See N. ALBA RUBRA.


"hiradai'sa (double-rayed). See N. ALBA.

Caspa'syri (Caspar's). See N. ALBA RUBRA.

"a'iba (white). See N. ALBA.

fe'natica (Finland). White. July. E. Finland. 1889.

"kalmia'na (Kalmian). See NUPHAR MINIMUM.

lu'tea (yellow). See NUPHAR LUTEUM.

"mi'nor (smaller). See N. ODORATA MINOR.


"mi'or (smaller). Flowers and leaves smaller than the type. N. AMER. 1812.

"ro'sea (rosy). Pink.

"ru'bra (red). See N. ODORATA ROSEA.

"sulphureu'sa (sulphur). Sulphur-yellow.

orientis' (oriental). See N. TETRAGONA.

"polysa (many-sepaled). See NUPHAR POLYSE- PULUM.

"pygmae'a (gigmy). See N. TETRAGONA.

renisio'rs (kidney-shaped). See N. TUBEROsa.

"spharocerca' ro'sea (rosy-spherical-fruited). See N. ALBA RUBRA.


"rootstock tuberous.

"flavoscens (yellowish). Creamy-white; stamens bright yellow.

"tetraco'sa (square). Small, white, fragrant. Himalaya, China, &c. 1803.

"hel'vola (helvola). Sulphur-yellow. Leaves bluish with these.

"hisalaya'nis (Himalayan). Snow-white, smaller than the type. Himalaya. 1904.


GREENHOUSE.

N. amas'o'num (Amazon). Yellowish-white, fragrant. Brazil.


STOVE.


"gerardia'na (Gerardian). White, or creamey-white, with yellow anthers. Mexico. 1906.


"caru'lea (blue). See N. STELLATA CERULEA.

"cape'nis (Cape). See N. STELLATA.

"Caspa'syri (Caspar's) of Henkel. See N. GIGANTEA CASPARYI.

"cry'na (Indian-blue). See N. STELLATA.

"dentic'a (toothed-leaved). See N. LOTUS DENTATA.

"dentic'a' (Duke of Devonshire's). See N. LOTUS DEVONIENSIS.
OCHROPTERIS

**NYSSA**

*N. edulis* (eatable). See N. Lourus.


*C. Caspieri* (Caspary's). Flowers smaller, paler. Blue. Australia. 1907.

*N. gravis-calis* (slender). Mexico.

*N. hexakia* na (Henkelian). White or pale rose. Eastern India (?). 1907.

*N. Holtezi* (Holtez's). Pale blue, flat, scented like violets. Australia. 1907.


*E. Eleonora* (Eleonora's). See N. Holtezi ALBIFLORA.


*N. magnifica* (magnificent). White flowers 10-12 in. across. 1906.

*N. monot'ra* (monstrous).

*N. orig'nia* (Origianes).


*N. rubra* Krumbel'tzii (Krumbeletz). Large, bright red; stamens dark red. E. Ind. 1907.


*N. micrornka* (small-flowered). See N. STELLATA ALBIFLORA.


*S. pulchra* (downy). See N. LOTUS PULCRESNCS.


*N. rubra* (red). See N. LOTUS RUBR.

*N. ros'ca* (Rosy). July. See N. Lourus.

*N. scutio'lia* (shield-leaved). See N. STELLATA SCUTIFOLIA.


*N. List'ri* (Lister's). Bright gentian blue. 1911.


*N. ros'ea* (rosea). Rose. 1911.


*N. versicolor* (various-colored). White deepening to red. July to September. India. 1897.


*N. sanzibar'na* a'uz'rea (azure). Blue-violet; filaments yellow; anthers violet. 1897.

*N. sanzibar'na* ru'bra (red). Rose-purple. 1887.

*N. therma'lis* (warm-bath). See N. LOTUS THERMALIS.

*N. versicolor* (various-colored). See N. STELLATA VERSICOLOR.

*vole'ofa* ka (voafoka). Seems to be N. stellata albi-flora.

*zan'zibaran'na* (Zanzibar). See N. STELLATA ZANZIBAR.

*N. zem'kri* (Zenker's). White, with reddish tint and green tips. Cameroons. 1906.

**OAK**

See Quercus.

**OAT**

See Avena.

**OBERONIA** (Oberon, the Fairy King in "Midsummer Night's Dream." Nat. ord. Orchidaceae.)

Epiphyllous orchids. Ofsetts and divisions. Fibrous pet, sphagnum, potsherds and sand, kept on the top of pots.

**Bark** (stemless). See O. ensiformis.


xirta'na (Iris-leaved). Yellow. India.


*oribula'ria* (orbicular). Sikkim.

rufa (rufus) (reddish). Yellow, changing to pale red. Burma. 1881.


**OB LI NE R I K**

*E. sculus* Hippoc'as stanum. N. CA. A name given to the tubers of Oxalis tubersa. O. CHINA. (From ockne, the wild pear-pear; resemblance of the leaves. Nat. ord. Ochnaceae [Ochnaceae]. Linn. 13-Polyandria, 1-Monogyne.)

Dry summers, all but one yellow-flowered. Cuttings of half-ripened shoots in summer, under a bell-glass, in sand, and in bottom-heat; sandy peat and fibrous loam, with pieces of broken charcoal and crocks to keep the soil open. Winter temp., 40° to 60°; summer, 60° to 85°. O. arbo'rea (tree). 20. S. Africa. 1910.


*O. col'pa* (colpa). Buff-coloured. India. 1878.


*O. crass'ula* (crassula). See O. SQUARROSA.


*n. tida* (shining). See O. SQUARROSA.

*O. ob'sias* (blunted). See O. SQUARROSA.

*O. pul'villata* (pulverillo). India.

*O. squarro'sa* (spreading). 3-6. India. 1790.

*O. syla'lica* (Cingalese). See Gomphia ARGASILIA.

**OCHRONYA THE ARGUTA**. See Turpinia ARGUTA.

**OCHROCARPUS**. (From ochros, yellowish, and karpos, a fruit; in reference to the colour of the fruit. Nat. ord. Guttifere.)

Stove tree, with berried fruits. Cuttings of mature wood, in a close case, with bottom-heat. Loam and sand.


**OCHROMA**. (From ochros, pale; referring to the flowers. Nat. ord. Malvaceae [Malvaceae], Linn. 16-Monadelphia, 2-Pentagynia. Allied to Chenoleontem.)

The wood of O. Lap'pus is so light that it is used in the West Indies for corks. Stove, white-flowered, evergreen tree. Of soft, slye, half-ripened shoots in sand, under a bell-glass, in heat; rich, sandy loam. Winter temp., 50° to 60°; summer, 60° to 85°. O. Lap'pus (hare's-foot). 40. Jamaica. 1804.


**OCHROPTERIS**. (From ochros, yellowish, and pteris, a fern; in allusion to the straw-coloured stalks of the fruit. Nat. ord. Filicales.)

OCHRO'SIA. (From ochros, pale yellow. Nat. ord. Dogbanes [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Cerbera.)

Stove evergreen shrubs or trees. Cuttings of half-ripened shoots; treatment similar to Ochroama.  


All but two whitish-yellow; and most of them require to be treated as tender and half-hardy annuals.  

To be sown in a slight hotbed, and transplanted afterwards; the border kind sown when they are to grow in warm places and light, rich soil, late in May. See Basilia.

Stove EVERGREEN SHRUBS, &c.  


*O. fodi'ri jugum* (lebrifugae). See O. viride.  


*O. moring':des* (milk-like). See Genus*phorum* Prostratum.  


*O. mona'sium* (mountain). See O. microanthum.  


*O. scutellari'sium* (Scutellaria-like). See Coleus scutellarioides.  


Hardy Annuals, &c.  

O. Basili'cum (basil). 1. August. E. Ind. 1548.  

"Sweet Basil."  

*O. glabrat'um* (smooth). July. E. Ind. 1827.  


*O. minus'mus* (least). See O. Basili'cum.

OCTO'REA. (The native name of some of the S. American species. Nat. ord. Lauraceae.)


*O. botrysophyll'ia* (bunch-leaved). 40-60. Yellow. Co- 

lombia. 1800.  


*O. callosi'fiesca* (Califorsian). See Ummellari'um cali- 

for'nica.  

*O. florib'nda* (tree-flowering). 60. White, yellow.  

Brazil. 1800. Stove.  


1750.  


1800. Stove.  

OCTA'DERMIA. (From okto, eight, and desme, a cluster; in allusion to the eight masses of pollen in the anther. Nat. ord. Orchidaceae.)

Stove ephemeral orchids. Divisions at the commencement of growth. Fibrous peat, sphagnum, lumps of charcoal, and crocks.  

O. monard'a (mountain). See O. serratifol'ia.  


OCTOMER'IA. (From okto, eight, and meris, a part; in allusion to the eight masses of pollen. Nat. ord. Orchidaceae.)

Cool house orchids of epiphyllous habit. Divisions in spring. Fibrous peat, sphagnum, limpy charcoal, and crocks.  

*O. arcuata* (curved). 1-4. Light yellow, red-purple.  

Brazil. 1809.  

*O. baurei* (Bauer's). W. Ind. 1878.  

*O. cochle'a'tis* (shell-shaped). Whitish ochre, purple.  

Brazil. 1891.  

*O. grassio'sira* (tulip-leaved). Brazil.  


*O. miss'a* (transparent). Brazil.  

*O. graci'lis* (slender). Brazil.  

*O. grammis'sifolia* (grass-leaved). 1. Light yellow, red.  

W. Ind. 1873.  

*O. grandi'sora* (large-flowered). Brazil.  

*O. junco'lia* (rush-leaved). Brazil.  

*O. lodiggesii* (Lodges's). W. Ind.  


1900.  

*O. saundersi'na* (Saundersian). Pale yellow, striped purple. Brazil. 1880.  

*O. serratio'sifolia* (saw-leaved). See Odontasemia serrati- 

folia.  

*O. supraglan'tea* (glaucous-above). 1. Glassy-green, 

purple, yellow. Brazil. 1857.  


O'CIUM. See Ochro'sia.

ODONTA'DENIA. (From odous, odonts, a tooth, and aden, a gland; in reference to the toothed glands. Nat. ord. Apocynaceae.)  

Stove climbing shrub. Seeds: cuttings of short, mature shoots in sand, kept in a close case, with bottom heat.  


ODONTOGLO'SSUM. (From odous, odonts, a tooth, and glossa, a tongue; tooth-like processes on the lip, or labellum. Nat. ord. Orchids [Orchidaceae]. Linn. 20- 

Gynandria, 1-Monandria. Allied to Oncidium.)  

Stove grex of pseudobulbs. Division of pseudobulbs, weight growth is commencing. The pots are three-parts filled with crocks and the pseudo-bulbs firmly fixed in position with fibrous peat, sphagnum, and potsherds placed round them. Winter temp., 55° to 65°; summer, 65° to 90°.  

*O. acuminis'sisnum* (longest-pointed). Orange, blotched crimson and brown. 1882.  

*O. acuminis'tum* (long-pointed). See O. ap'terum.  

*O. alexa'ndrea* (Prince Alexander's). See O. cris'pum.  


*O. andersoni'num* (Andersonian). Blotched or spotted with brown on a cream ground. Colombia. 1868.  


*O. grusonia'num* (Grusonian). Pale yellow, with nearly black spots.  

*O. gunti'num* (finely-speckled). Finely spotted with brown; lip white. 1882.  

*O. hebra'i'cum* (Hebralic). Pale yellow, with red-brown spots and markings. 1870.  

*O. hebraicum* linco'sium (line-bearing). More copiously spotted and marked. 1883.  


*O. imperialis* (Imperial). Biotsches large, chestnut-red. 1901.  

*O. jenningsi'num* (Jenningsian). Creamy-white, spotted crimson. 1875.  

*O. lecan'um* (Lecian). Bright yellow, with many brown spots. 1882.  

*O. limba'tum* (bordered). White, lilac, violet. 1870.  


*O. pulchre'tum* (dusty). Closely marked with red spots. 1895.  

*O. ruckeri'num* (Ruckerian). White, shaded rose, purple or violet, and spotted brown.  

*O. pseudoscoph'ticum* (Varoquacian). White, blotched brownish-purple.  

*O. angusti'num* (narrow) of Bateman. See O. romagi'si'num.
White, Banded (white). i. yellow brown. heavily large (white-copper). lines. covered Primrose-yellow, spotted (larger). O. 1882.

(rose-purple). Cinnamon, yellow, blotched chocolate-brown. 1885.

(white-copper). Yellow, red-brown. Ecuador. 1867.


Guatemala. 1843.

(i.) (red-lipped). Brown, red. April.

Oxac. 1843.

(snowy). Dark purple, banded with yellow. 1887.

(sulphur). Yellow; lip white. 1879.

(cla'viceps) tinted brown. 1873.

(colonial). Mexico. 1878.

(Rosefield-golden). Bright canary-yellow. 1900.

(Bluthian). Pale mauve, without spots.

(citr'a) (lemon). Citron-yellow; lip banded with brown-purple. 1875.

(citr'i) (lemon). Sepals bright yellow; the rest pale yellow. 1901.

(Cook's) (Mrs. Cookson's). White, heavily banded purple-red, 4 in. across. 1903.

(fastu's) (proud). Bluish lilac, with brown-purple spots. 1878.

(fl'a'llowum) (small-yellow). Yellow, with few red spots and lines. 1880.

(gutta's) (spotted). White, closely spotted with brown or purple. Colombia. 1867.

(hyacinthaceous) (yellowish). Yellow, with few yellow spots; lip yellow. 1887.

(kinlesidia's) (Kinlesidian). Petals with three sets of crest-like teeth. 1888.

(Lehm's) (Lehmann's). Flowers numerous, purple, tinted with brown. 1880.

(l'at'ta-radiatum) (yellowish-rayed). Segments each with a yellow radiating band. 1878.

(Paul's). Pure white, with two red spots at base of lower sepals. 1878.

(moor's) (Moorean). Flushed rose-purple, edged yellow; lip white. 1898.

(oakwood's) (Oakwood). Primrose-yellow, heavily blotched rose-purple. 1900.

(ocell'a) (small-eyed). Speckled freely all over.

(rucker's) (Ruckerian). See O. andersoni-atum ruckerianum.

(Stevens's). White, heavily barred light brown. 1882.

(sulphu'reum) (sulphur). Uniform sulphur-yellow. 1883.

(trilab'e) (three-lobed). Sepals fringed, with yellow lip-like crests on the lateral ones. 1910.

(vich'tia) (Veitchian). White, with a zone of maroon-brown blotches. 1886.

(victoria Regis' (Queen Victoria). White, tinted rose-purple, with purple blotches. 1900.

(xan'iho's) (yellow-tongued). Lip yellow, with a large brown blotch. 1883.

(xan'iho'tes) (lemon-scented). White, with a few yellow spots.


(Lehm's) (Lehmann's). Yellow, marked with brown. Ecuador. 1890.


(macrosp'i) (lyre-tongued). Colombia. 1837.

(cuspid'a) (sharp-pointed-leaved). Green, brown. May. Colombia.


(deasen's) (Dawsonian). See O. roseus.

(day'a) (Dayan). Cream-white, closely spotted cinnamon; lip white, mauve. 1897.

(delle's) (Dell). See O. excellens.

(dell'agio's) (large-blotched). See O. andersonianum deltoglossum.

(Denis' (Mrs. Denison's). White, blotched with yellow. Colombia. 1872.

(lyra) (lyre-tongued). Colombia. 1859.

(lyra) (lyre-tongued). Yellow, spotted with brown. 1885.

(macrosp'i) (large-blotched). Banded with dark cinnamon. 1885.

(Odonto-glossum)

(Odonto-glossum)

(Odonto-glossum)}
O. Denio'sia schroederia'num (Schroederian). White, spotted with purple. 1882.
" wilchesa'num (Wilckean). Pale yellow, blotched with brown. Colombia. 1885.
" densiflorum (thickly-flowered). Yellow, red, March. Tanja.
" dicran'phorum (two-head-bearing). Sepals yellow, with two large brown spots. 1888.
" donnia'num (Donnian). See O. maculatum.
" dornsmia'num (Dornsmian). Whitish, with numerous white spots. 1884.
" Ellisia'num (Ellisian). See O. Rossii.
" elegans (elegant). Pale yellow, with narrow brown blotches; lip yellow, white. Ecuador. 1870.
" e'legans (more elegant). Pale yellow, marked brown; lip pale yellow. Colombia. 1888.
" eun'strum (beautiful-star). White, marked with mauve and brown. Colombia. 1887.
" e'uge (distinguished). White and yellow, blotched brown. Colombia.
" excellens (excellent). Yellow and white, blotched with brown-purple. 1881.
" chro'momyum (yellow-black). Yellow, spotted all over. 1888.
" harve'ngtense (Harvengt). Large, pale yellow, with many brown spots. 1894.
" la'theum (small-yellow). Sulphur-yellow, unmarked. 1887.
" macula'tum (blotched). Richly-spotted. 1884.
" mellicani'ces (star-glittering). Yellow, redish-purple. 1884.
" fac'ie ne'vus (elegant). Pale yellow, spotted cinnamon; lip with curved brown blotch. 1881.
" ferrus'ium (rusty). Brown, with yellow tips; lip whitish-yellow. 1869.
" galeot'ta'num (Galeottia's). White. April. Mexico. 1843.
" ghiesbre'ghtia'num (Ghiesbrecht). Mexico. 1843.
" glorio'sum (glorious). Yellow, thinly spotted with brown. Colombia. 1865.
" godseffia'num (Godseffian). See O. dicranophorum.
" gr'a'sile (slender). Reddish-brown, with white crests. Pseudo-bulbs blackish. Ecuador.
" sande'ra (Mrs. Sander's). Lemon-yellow; lip white. 1875.
" sple'ndens (shining). Lip white, barred with purple. 1872.
" william'sia'num (Williamsian). A small variety. 1882.
" gru'sonia'num (Gruszonian). See O. andersonianum.

O. Horsma'ni (Horsman's). Sulphur, blotched cinnamon. Colombia. 1880.
" bruy'dia'num (Bruiynian). Brown, with yellow tips; lip purple and brown. Peru. 1888.
" hume'na'num (Humenian). Pale yellow and white, blotched brown. 1876.
" spli'dogo'ssum (spotted-lip). Lip lobed, with brown spots. 1893.
" You'ngii (Young's). Yellow, blotched with brown. 1890.
" hunne'celia'num (Hunnecelliwian). Yellow, with brown blotches; lip white, spotted brown. Colombia. 1893.
" grandiflor'um (large-flowered). Larger; lip with brighter spots. 1865.
" ty'sris (hedgehog). See O. luteo-purpureum.
" lute'num (lemon-yellow, blotched). Yellow, with brown-purple markings. 1891.
" leopardo'num (leopard-spotted). Heavily spotted with purple-brown. 1876.
" jenni'ngsi'um (Jenningsian). See O. andersonianum.
" ke'sel'gi'num (Keiseljian). Yellow, with 2-3 red-brown blotches; lip concave, reddish-brown. Ecuador. 1877.
" kraen'zi'num (Kraenzlin's). Yellow, marked rose-purple or violet. Costa Rica. 1868.
" smithia'num (Smithian). Ivory-white; lip sulphur, red, and orange. 1853.
" kon'sen'zi'num (Kranzini's). Pale yellow, with brown blotches; lip white, brown. Colombia. 1893.
" la'cera'num (tern). Yellow, spotted with brown. Peru.1875.

" lawrence'a'num (Lawrencean). See O. insolayli.
" le'o'num (Leean). See O. andersonianum.
" le'pidum (neat). Yellow, with 2-3 brown spots on sepals. Colombia. 1884.
" lero'y'a'num (Leroyan). See O. denisonianum.
" liqu'e're (tongue-shaped). See O. coradini-ligulare.
" lim'u'num (bordered). See O. andersonianum lini'batum.
" lin'e'ni (Linder's). Yellow. Colombia. 1852.
" mar'ia'num (Marleyan). Yellow, white; lip with brown markings. Colombia. 1865.
" am'o'rum (golden). Yellow, without blotches. 1901.
" cora'dini'nes (Coradinian). See O. coradini-ligulare.
" in'trelae'num (Inleayan). White, with brown blotches. Colombia. 1882.
" londese'boroughia'num (Londesborough's). Yellow, marked brown. Mexico. 1876.
" longifo'lium (long-leaved). Peru.
" lucana'num (Lucanian). White, spotted with reddish-brown; lip with a curved blotch. Venzuela. 1887.

" amesia'num (Amesian). Pale yellow-green. 1891.
" amp'ti ssum (most-ampliate). Clear light yellow, with few large brown blotches. 1882.
" ampli'um (broad). See O. racematum.
" hi'nus (hinny). See O. Hinnsii.
" mul'tum (mule). See O. Mulius.
" radia'tum (rayed). Front lobes of lip broad, much deeper. 1900.

Sce'prum (sceptre). Small round, chocolate-brown on yellow. Colombia. 1872.
" sce'prum maraselia'num (Masereclan). Yellow. 1888.
" splendito'lea'num (Vuyltstekian). Deep yellow, blotched with orange. 1884.
" lyro'sso'num (lyre-lipped). See O. denisonianum.
" macros'pi'um (large-blotched). See O. denisonianum macrospilum.
**ODONTOGLOSSUM**

*O. maculatum* eron* sum* (eros). Lip cross-toothed with dark blotches.

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<table>
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<th>species</th>
<th>description</th>
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<td><strong>&quot; grandiflorum</strong></td>
<td>(large-flowered). Much larger than &quot;maculatum&quot;.</td>
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<tr>
<td><strong>ma'dra'ne</strong> (Madran).</td>
<td>White, marked reddish-brown, yellow, Mexico. 1872.</td>
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<td><strong>marginellum</strong> (narrow-edged).</td>
<td>Ochre, spotted brown; Costa Rica. 1875.</td>
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<td><strong>marriottianum</strong> (Marriottian).</td>
<td>White, finely spotted with purple; lip yellow. Ecuador. 1882.</td>
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<td><strong>Victor</strong> (conqueror).</td>
<td>Yellow, marked with brown and white. 1883.</td>
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<tr>
<td><strong>man'sia</strong> (lanceolata).</td>
<td>Flesh, red, yellow. Sept. 1846.</td>
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<tr>
<td><strong>membranaceum</strong> (membrane-sheathed).</td>
<td>See O. <strong>CERVANTESI</strong>.</td>
</tr>
<tr>
<td><strong>minoa lutea</strong> (vermilion).</td>
<td>With brown.</td>
</tr>
<tr>
<td><strong>nebulosum</strong> (clouded).</td>
<td>See O. <strong>APERTUM</strong>.</td>
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<tr>
<td><strong>onca'ci'des</strong> (Onclidiuim-like).</td>
<td>See O. <strong>LONDES-BOROUGHIANUM</strong>.</td>
</tr>
<tr>
<td><strong>ommata'num</strong> (ommatium).</td>
<td>With many flowers. Ecuador. 1879.</td>
</tr>
<tr>
<td><strong>orlai'tum</strong> (orlai).</td>
<td>Creamy-white, speckled with red. Colombia. 1901.</td>
</tr>
<tr>
<td><strong>ortgiesia'num</strong> (Ortgiesian).</td>
<td>See O. <strong>ODORATUM ORTGESIAEANUM</strong>.</td>
</tr>
<tr>
<td><strong>osensia'num</strong> (Owenian).</td>
<td>White, blotched brown; lip white. Colombia. 1892.</td>
</tr>
<tr>
<td><strong>parsi'mum</strong> (panther-like).</td>
<td>Yellow, brown. Peru. 1891.</td>
</tr>
<tr>
<td><strong>parvo'rum</strong> (small-flowered).</td>
<td>Dark purple, white. August, Mexico. 1877.</td>
</tr>
<tr>
<td><strong>pe'nulidum</strong> (pendulous).</td>
<td>See O. <strong>CITRINUM</strong>.</td>
</tr>
<tr>
<td><strong>pesca'tore</strong> (Pescautor's).</td>
<td>White, with purple spots. Colombia. 1852.</td>
</tr>
<tr>
<td><strong>po'rcus'um</strong> (porcus).</td>
<td>Base of lip-orange-yellow. 1881.</td>
</tr>
<tr>
<td><strong>limbo'sum</strong> (bordered).</td>
<td>Lip bordered with a line of mauve spots. 1856.</td>
</tr>
<tr>
<td><strong>l'ima'num</strong> (Lima's).</td>
<td>White, with one large purple blotch on each segment. 1856.</td>
</tr>
<tr>
<td><strong>v'echia'nium</strong> (Veitchian).</td>
<td>White, with broad mauve zones; lip yellow at the base. 1853.</td>
</tr>
<tr>
<td><strong>melanoce'num</strong> (Black-spurred).</td>
<td>Column and base of lip-black-purple. 1886.</td>
</tr>
<tr>
<td><strong>schroderia'num</strong> (Schroderian).</td>
<td>White, with broad purple zones. 1883.</td>
</tr>
<tr>
<td><strong>thomsoni'num</strong> (Thomsonian).</td>
<td>Richly spotted purple. 1884.</td>
</tr>
<tr>
<td><strong>vit'choi num</strong> (Veitchian).</td>
<td>White, with two broad mauve zones. 1882.</td>
</tr>
<tr>
<td><strong>Phalanop'osis</strong> (Phalenopsis).</td>
<td>See Miltomia <strong>PHALENOPSIS</strong>.</td>
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**O. picturatum** (painted). Yellow, speckled with brown. 1891.

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<td>See O. <strong>LINTENI</strong>.</td>
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<tr>
<td><strong>plato'chilum</strong> (blotch-lipped).</td>
<td>Creamy-white; lip pink, spotted purple. Central Amer. (?) 1892.</td>
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<tr>
<td><strong>polya'thimum</strong> (much-yellow).</td>
<td>See O. <strong>KREGELIANI</strong>.</td>
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<tr>
<td><strong>pr'amu'num</strong> (proximal).</td>
<td>Yellow, spotted brown. Colombia. 1873.</td>
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<tr>
<td><strong>prasi'i'num</strong> (leek-green).</td>
<td>Green, white, violet, and pale yellow. Ecuador. 1882.</td>
</tr>
<tr>
<td><strong>cardi'alum</strong> (whitish).</td>
<td>Creamy-white. Colombia. 1872.</td>
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<tr>
<td><strong>p'runum</strong> (pure).</td>
<td>Yellow, brown, purple: Colombia. 1872.</td>
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<tr>
<td><strong>radi'a'tum</strong> (rayed).</td>
<td>See O. <strong>LUTEOPURPUREUM RADIATUM</strong>.</td>
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<tr>
<td><strong>rasto'ssimum</strong> (much-branched).</td>
<td>Yellow, spotted with purple, violet, or lilac. Colombia. 1875.</td>
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<tr>
<td><strong>ca'ele'cte</strong> (sky-blue).</td>
<td>White, shaded with mauve. Colombia. 1893.</td>
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<tr>
<td><strong>s'cali'num</strong> (yellow).</td>
<td>Yellow, spotted with mauve. 1880.</td>
</tr>
<tr>
<td><strong>ramu'o'sum</strong> (branched).</td>
<td>Yellow, spotted dark purple. Colombia. 1885.</td>
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<tr>
<td><strong>riesch'i</strong> (Reichsteinian).</td>
<td>Mexico. 1856.</td>
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<tr>
<td><strong>rhyncha'nitum</strong> (beak-flowered).</td>
<td>Yellow, marked brown. 1887.</td>
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<tr>
<td><strong>ri'gida'num</strong> (rigid).</td>
<td>Yellow. Peru.</td>
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<td><strong>ri'ngens</strong> (gaping).</td>
<td>Pale yellow, marked purple. Peru. 1880.</td>
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<td><strong>ro'ssi</strong> (Rossi's).</td>
<td>See MILLONIA <strong>ROSELLII</strong>.</td>
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<tr>
<td><strong>ro'pus</strong> (rosy).</td>
<td>See COCHLIODA <strong>POLYANTHUM</strong>.</td>
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<tr>
<td><strong>rou'xii</strong> (Dundee's).</td>
<td>See O. <strong>HEMEROBAGNUM</strong>.</td>
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<tr>
<td><strong>rub'escens</strong> (bluish).</td>
<td>White, marked blue. Mexico. 1842.</td>
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<tr>
<td><strong>rub'es'cens</strong> (greenish).</td>
<td>White, blotched green.</td>
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<tr>
<td><strong>rub'escens</strong> (reddish).</td>
<td>Red, spotted, blotched purple. 1884.</td>
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<tr>
<td><strong>rup'escens</strong> (rusty).</td>
<td>See O. Rossii <strong>RUBESCENS</strong>.</td>
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<tr>
<td><strong>rubin'gii'nus</strong> (rusty).</td>
<td>Pale yellow, with large chocolate-brown blotches. 1889.</td>
</tr>
<tr>
<td><strong>ruckeri'num</strong> (ruckerian).</td>
<td>See O. <strong>ANDERSONIANUM RUCKERIANUM</strong>.</td>
</tr>
<tr>
<td><strong>sanderi'num</strong> (Sandarian).</td>
<td>See O. <strong>CONTRICTUM</strong>.</td>
</tr>
<tr>
<td><strong>sept'i'num</strong> (sceptre).</td>
<td>See O. <strong>LUTEOPURPUREUM SCEPTRUM</strong>.</td>
</tr>
<tr>
<td><strong>schillera'num</strong> (Schillerian).</td>
<td>Yellow, brown, purple. Central Amer. 1891.</td>
</tr>
<tr>
<td><strong>schillera'num</strong> (Schillerian).</td>
<td>Yellow, with orange-brown spots. Costa Rica. 1856.</td>
</tr>
<tr>
<td><strong>schirderia'na</strong> (Schroderian).</td>
<td>See O. <strong>DENSIONA SCHRODERIANA</strong>.</td>
</tr>
<tr>
<td><strong>seri'nga</strong> (Sherina).</td>
<td>White, edged yellow, spotted brown-red. Serina, Colombia. 1891.</td>
</tr>
<tr>
<td><strong>shuttlewor'thi</strong> (Shuttleworth's).</td>
<td>White, marked with red. 1884.</td>
</tr>
<tr>
<td><strong>sibio'num</strong> (shibio).</td>
<td>See O. <strong>LUTEOPURPUREUM SIBIENUM</strong>.</td>
</tr>
<tr>
<td><strong>sibio'num</strong> (Shibio).</td>
<td>Creamy-white, blotted brown. Colombia. 1872.</td>
</tr>
<tr>
<td><strong>skirra'num</strong> (false-cross).</td>
<td>Yellow-green, blotted brown; lip white. 1887.</td>
</tr>
<tr>
<td><strong>skirro'nos</strong> (Gravesian).</td>
<td>Ochre, spotted brown-red. 1886.</td>
</tr>
<tr>
<td><strong>stell'a'num</strong> (star-flowered).</td>
<td>White, green. April. Mexico. 1839.</td>
</tr>
<tr>
<td><strong>stell'a'num</strong> (star-glimmering).</td>
<td>See O. <strong>EXCELENTIA</strong>.</td>
</tr>
<tr>
<td><strong>steno'chi'um</strong> (narrow-lipped).</td>
<td>Yellow, spotted brown. Ecuador. 1872.</td>
</tr>
<tr>
<td><strong>tentacu'latum</strong> (tentacled).</td>
<td>See O. <strong>MULUS TENTACULATUM</strong>.</td>
</tr>
</tbody>
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O. tetraplo'sium (four-formed). White, marked purple.
Peru. 1875.

harrya'num (Harry Veitch's). Sepals and petals almost black, tipped yellow. 1883.


tris mi'phans (triphant). Golden-yellow, boldly blotched with brown. Colombia. 1867.

au'reum (golden). Yellow, blotched with orange-yellow. Colombia. 1885.

wol'teria (wood-winged). Yellow, marked brown and white. Ecuador. 1874.


a'olum (White). Lip pure white. 1893.

tel'leum (woolly). Yellow, marked with brown and violet. Ecuador. 1874.


textt'ium (standard). See Miltonia vexillaria.

Vic'tor (conqueror). See Gynandria victoriae-Victoria.
tim'ena (twingy) (stem-forming). Brown, edged yellow; lip sulphur, deep yellow. Colombia. 1885.
vulistes'cum (Vulistekean). See O. luteo-purpureum vulungeonsianum.

Waroc'quea (Warocquean). See O. aculeatus.

war'iri (Warner's). See Oncidium warneri.

purpura'sum (purplish). See Oncidium warneri

scaroeque'num (Warocquean). See O. anderson'sianum warocqueanum.

Warscew'ci (Warsze-wicz). See Miltonia warcewiczii.

se'leta (Wattian). Yellow, marked with purple and claror. 1890.

We'r'ti (Wer's). White, marked with purple.

Colombia. 1875.

We'r'ti (Wer's). See Miltonia warcewiczii.

weld'landia (Weldlandian). Yellow, with brown spots. Colombia. 1889.

wel'chen (Wild Ikeaen). See O. denisoni wilkeianum.

You'n'gi (Young's). See O. humeanum youngii.

ODONTOLOMA. (From odous, odontos, a tooth, and loma, an edge; or fronds or leaves tooth-notched. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. Now referred to Davallia.)

O. borya'num (Bory's). See Davallia reepens.

bulck'ee (bulckee's Davallia bulckeea).

leuf'sium (slender-leaved). See Davallia tenuioli'folia.

ODONTO'SRIA ACULEATA. See Davallia aculeata.

ODONTO'SRIA TENUI'FOLIA. See Davallia tenuioli'folia.

ODON'TOSPER'NUM. (From odous, odontos, a tooth, and sperma, a seed. Nat. ord. Composite.)

Hardy, half-hardy, and greenhouse annuals or perennials, rarely shrubby. Seeds; cuttings under a hand-light in summer. Light soil; for the greenhouse one loam, leaf-mould, and sand.


CECIO CLADES. (From echo, to inhabit, and klados, a branch. Nat. ord. Orchidae [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria. Referred to Angraecum.)

CEDE'MONE. See Herminiera.

CENOCA'RFUS. (From oinos, wine, and karpos, a fruit; yields palm-wine and oil. Nat. ord. Palms [Palmae]. Linn. 21-Monoclea, 6-Hexandria. Allied to Areca.)

Stove Palms. Seeds, but generally suckers; rich, loamy soil. Winter temp., 60°; summer, 60° to 90°.

E. Bacaba (Bacaba). 60. Guiana. 1849.

Bala'ta (Bataua). 40. S. Amer. 1820. "Patana Palma.'

caracass'num (Caracasan). Venezuela. 1849.

mi'nor (smaller). 8-10. Fruit purple-black.

rub'e sce's (reddish). Colombia. 1849.

CENO'PLEA LINEA'TA. See Berchmania racemosa.

CENO'PLEA VOLU'BILIS (twinning). See Berchmania volubilis.

CENO'THEA. Evening Primrose. (From oinos, wine, and thea, imbibing; the roots of bis thea supposed to be an incentive to drinking wine. Nat. ord. Onagrad [Onagraceae]. Linn. 8-Octandria, 1-Monogynia.)

Annuals and biennials, by seed in the open border, in April; also in the autumn, to stand over the winter, the early fruit and bloom early; perennials, by seeds also, by divisions of the plants in spring, and the more rare and tender by cuttings of the young shoots under a hand-light, in early summer.

HARDY HERBACEOUS.


caro'ca (choice). See E. cespitosa.


esi'mia (choice). See E. cespitosa.

form'o (beautiful). 4-1. Pure white. 1899.

Fra'seri (Fraser's). See E. glauca fraseri.


gra'elisa (slender). See E. fumila.


hy'brida (hybrid). See E. fruticosa ambigua.

linea'ris (linear). See E. fruticosa.

macroco'ra (large-fruited). See E. missouriensis Lati'niana (marked). See E. cespitosa.

mi'crocarpa (marginated). See E. cespitosa.


niv'er'ta (Nivertian). Blush-white, tinted carmine. 1872.


pa'liida (pale). See E. albicaulis.


pus'i'la (small). See E. fumila.

rip'o'ria (river-bank). See E. fumila.


sax'o'sa (stony). See E. cespitosa.

Sello'isi (Sello's). Monte Video. 1831.
The N.W. July. or fungi Purple. stem, earlier S. covering Other (tansy-leaved). which S. S. globular, CE. (smallest). to toothed), such (jagged). (Williamson's). AMCENA. ALBESCENS. CE. (intermediate). 1-2. to plants, Whitish. See (four-blotched). the White. 2-3. equal Ame. (Sims'). Martii, (pleasing). shrub shrub Pink. 2. in California. Spharoiheca N. fungi with Erysiphf and bulbous Purple. Amer. the i$. FRUTICOSA. x. all of the group are Erysiphf graminis, on grass; E. Martii, on peas; Microsphara grossularice, on gooseberries; Spharoiheca (neat), Amer. bell-glass. See this July. the jointed checks shoots 1823. production and 1835. PINNATIFIDA. Amer. the healthy Chili. August. media ij. Western practice," the Ny'ssa the 2. grass bodies, i$. Yellow. September. N. Amer. 1820. $-1.loidium

OFFSETS are side bulbs produced by some bulbous roots, and by which the species can be propagated. Whatever checks the upward growth of the parent plant, as an early breaking down of the stem, compels the sap to find new organs for its reception, and, consequently, promotes the production of offsets. "The practice," says Dr. Lindley, "of scattering the centre of the bulbs, head of echino-cacti, and such plants, and the crown of the stem of species like Agave geminifora, in all which cases suckers are the result, is explicable on the foregoing principle."


OGEECHEE LIME, Ny'ssa Ogee'che.

OHUIGISSIA. See HOFFMANNIA.

OHLENDORFFIA. (Commemorative of Dr. C. F. Ollandorf, of Holstein. Nat. ord. Scrophulariaceae.) A small greenhouse shrub now generally referred to A. p. simum depr.e. Seeds; cuttings of half-mature shoots in sand under a bell-glass. Fibrous loam and peat are given preference, on grass; F. Maritii, on peas; Microsphera grossularia, on gooseberries; Spherotheca

GEOTHERA 599

OIDIUM


HARDY BIENNIALS.


HARDY ANNUALS.

mors-usa, the American gooseberry mildew; and S. castagnei, the hop mildew.

All are easily recognised, and as they are very destructive prompt measures should be taken to prevent them from spreading. Flowers of sulphur will destroy all these fungi, if dusted on the affected parts, and this should be done with vines before the mildew gets upon the berries. Sulphide of potassium, at the rate of one ounce to three gallons of water, sprayed on affected plants, is a very effective cure, and will act as a preventive, used before mildew appears.

NUT L. Ricinus communis

NUT PALM. Elaeis guineensis

O'LAX. (From olea, furrowed; flowers partially furrowed, or imbricated. Nat. ord. Oleaceae. Linn. 3-Triandria, 1-Monogynia.)

Sweat evergreen climbers, from the East Indies. Cuttings of ripened shoots in sand, under a bell-glass, in heat; sandy peat, fibrous loam, and a little dried leaf-mould. Winter temp., 50° to 55°; summer, 60° to 80°.


OLDENBURGIA. (A commemorative name. Nat. ord. Composite.)

Greenhouse evergreen shrub, with stout, unbranched stems. Seeds: cuttings of half-ripened wood in sand, under a bell-glass. Fibrous loam, peat, and sand.


OLDENLINDIA. (Named after H. B. Oldenland, a Danish plant-collector. Nat. ord. Rubiaceae [Rubiaceae]. Linn. 4-Tetrandria, 1-Monogynia. Allied to Hedyotis.)

Cuttings of half-ripened shoots of deppea'na in April, in sand, under a glass, in bottom-heat; peat and loam. Winter temp., 50° to 55°; summer, 60° to 85°. The annuals sow in a gentle hotbed, in March; prick out the seedlings in March, and move them to the open borders, after gradually hardening them, at the end of May.


OLDIE-LIA. (Commemorative of R. A. Oldfield, a trader at Sierra Leone. Nat. ord. Euphorbiaceae.)

Evergreen stove tree. Seeds; cuttings of ripe wood in sand, in a hotbed with bottom-heat. Fibrous loam, leaf-mould, and sand.


OLD MAN. Artemisia Abro'lanum and Rosmarinus officina'lis.

OLD MAN'S BEARD. Geropo'gon, Cl'athus Vital'ba, and T'illlida nata sa'm des.

O'LEA. Olive. (From olea, the olive. Nat. ord. Oleaceae [Oleaceae]. Linn. 2-Diandria, 1-Monogynia.)

The Olive will graft on the Privet, Phillyrea, Ash, Lilac, and others of the order. Evergreens, all white-flowered, except O. fragi grava. Cuttings of ripened shoots in spring, in sand, under a hand-light, in a close frame or pit; also, when procurable, by seeds and grafting; loam and peat, of an open, fibrous character. Winter temp., 38° to 48°. O. salvi is has stood for years against south wind near London. The scent of fragrant is sufficient to perfume a large conservatory; where only one of the genus can be grown, this should be fixed upon.

GREENHOUSE EVERGREENS.

O. americana (American). See Osmanthus american.us.

O. arborea (without petals). See Nolitella longifolia.


O. busi'olia (box-leaved). See O. europaea.


O. busios (fruticosus). See O. laurifolia.


"Olive." "excele'tta (tall). See Notile'a excelsa.

"fragr'a'na (fragrant). See Osmanthus fragrans.

"ferru'na (rusty). See Osmanthus rugosa.

"la'tio'lia (broad-leaved). See Phyllirea latifolia.


"longio'filla (long-leaved). See O. Europa.

"ol'ea ster (oleaster). See O. europecia.


"sal'i'va (cultivated). See O. europaea sativa.


"undulata (waved). See O. latifolia.

STOVE EVERGREENS.


O. robi'na (robin). See Ligustrum robustum.

O. ru'briga'na (Dr. Roxburgh's). See Ligustrum neilliiarena.

OLEANDER. See Nerium oleander.

OLEA'NDRA. (The genus is founded on neriifor'mis, or oleander-like. Nat. ord. Farnis [Filices]. Linn. 24-Cryptogamia, 1-Filices.)

Stove Frens, with yellow spores. See Frens.


O. cam'pilis (Cuming's). June. Isle of Lzuon. 1840.

O. neriifor'mis (oleander-like). May. Amer.

"nodo'sa (knotty). May. S. Amer. 1840.


OLEA'RIA. (From olea, an olive, and that from the Greek elaios, an oil; in allusion to the olive-like leaves of some species. Nat. ord. Composita. Allied to Aster.)

Hardy, half-hardy, and greenhouse evergreen shrubs of considerable beauty. Seeds; cuttings in sandy soil under hand-lights in a gentle heat. Light, well-drained soil. Winter temp., 35° to 50°; summer, 50° to 65°, for the greenhouse species.

O. alpi'na (alpine). See O. niti'da.


O. gymma'esta (gummy). 3.1843.

O. gymma'esta' (gummy). See Stellulata.


O. li'ra (lyre-formed). See O. stellulata lirata.

O. lu'pa (oak-leaved). See O. stellulata lirata.

O. lyra' (lyre-formed). See O. stellulata lirata.


OLAESTER or WILD OLIVE. See O'LEA europa'ea and ELE'AGNUS.

OLEG'RA CHIA MACROPHYLLA. See Sterculia rupe'stris.

OLEG'RA CHIA PALU'STRIS. A corruption of Dolae'chia rupe'stris. See Sterculia rupestris.

OLEF'RIA. (Named after Ofers, a German botanist. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogramma, 1-Filices. Now referred to Acrostichum.)

Stove Ferns, with yellowish-brown spores. See Ferns.


OLI'O NUM. Bosuu'ilia.

OLIGOE'GRIA. (From oligo, few, and botrus, a cluster of grapes; in allusion to the few clusters of flowers. Nat. ord. Liliaceae.)

Hardy herbs with simple or slightly branched racemes of flowers. Species. Offsets in spring; seeds. Good, well-drained soil.


OLIVE. O'lea.

OLIVE-PARK-TREE. Termi'nia Cat'd'ppa.

OLIVERELLA E'ELEGANSA. (A plant found in cultivation at Amacama, near the city of Mexico, and described as a new genus of Crassulaceae.)

OLIVE-WOOD. "El'ad'non.

OLOSTYLA. (From olos, entire, and stulos, a style; the style being undivided. Nat. ord. Rubiaceae.)


OLYTRA. (From olytra, a kind of corn grown in Egypt. Nat. ord. Gramineae.)


OMAL'A'NTHUS POPULIFOL'IUS. See Homalanthrus leschen'aulltianus.

OMIME PLANT. Plecta'nthus.


OMPHALO DES. Navel-wort. (From omphalos, the navel, and eidos, like; referring to the seed. Nat. ord. Boraginaceae [Boraginaceae]. Linn. 5-Penatan'this, 1-Monogynia.)

Seeds of annuals in open border, in March, and once or twice more during the summer; the perennial, by division. O. u'rna is a beautiful plant in the recesses of rock-walls, in shady corners, thriving as well in shade as the interesting Pervillicums.

HARDY ANNUALS.

O. interme'dia (intermediate). See O. papillo'sa.


HARDY HERBACEOUS.


O. my'osoletos (mouse-ear-like). See O. rugula'sa.


O. s'il'a (white). White. March. 1884.

ONCI'DIUM. (From ogkos, a tumour; referring to excrescences on the base of the lip, or labellum. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria. Allied to Odontoglossum.)

Stove orchids. Divisions as growth is commencing in spring; very shallow baskets suit all the largest-leaved kinds, or they may be fastened to a block of wood, that fastened across the mouth of a pot, the pot filled loosely with peat and charcoal, to insure perfect drainage, and then rotten wood, sphagnum, and fibrous peat laid round the lower part of the plants, provided the base of the leaves is not covered. Hardy kinds, as "fasc'ulatus" (stalk more marking; small, tender kinds must be carefully treated, to prevent damping, especially when not growing. Winter temp., 58° to 65°; summer, 60° to 90°.


au reum (golden). Violet, yellow. Peru.
" auriculatum (golden). See O. EXCAVATUM AURICUM.
" baldevia'ma (Mrs. Baldevia's). Yellow, marked with brown. Colombia. 1873. Also written "Baldevia'ma." Brown.
Ballii (Ball's). 1. Bright yellow, with brown markings. 1910.
Barke'ri (Barker's). See O. TIGRINUM.
" batemanii (Bateman's). Yellow. April. Brazil. 1838.
" bracteatum (branched). Yellow. Brazil. 1844.
" bicolor (two-colored). See O. PURES.
" bicolor (bied). See O. BICOLOUR.
" bicalcaratum (short-anthered). Yellow, marked brown. Mexico, 1891.
" bicalcaratum (short-leaved). See O. CEBOLETTA.
" bicalcaratum (large-bracted). Yellow, brown. Central America.
Braunii (Braun's). Yellow, marked brown, small. 1886.
" brevica'rum (short-lipped). Bright yellow, barred with brown. 1854.
" brevis (O'Briennil). Bright sulphur, with cinnamon bars. Paraguay. 1881.
" bra'ida (yellowish). Yellow. Paraguay. 1881.
" bra'ida (reddish). Nearly covered with cinnamon. 1854.
" brunescens (brunellesianum). Greenish-yellow, brown; lip purple-brown. Brazil. 1883.
" bryophy'tum (mossy-crested). Imperfect flowers greenish; perfect, golden. Central America. 1871.
" calciferum (grey). See O. GERMANUM.
" calcisum (beautiful-flowered). Yellow. Ecuador or Peru. 1870.
" calos'sum (beautiful-tongued). Yellow, marked brown. Calli reddish. Brazil. 1885.
" co'color (one-coloured). Yellow. 1905.
" caminio'phorum (furnace-bearing). Yellow, red. Venezuela.
" carde'ri (Carder's). Brown, white, and yellow. Colombia. 1875.
" carinata (knobbed). See Leuchlilis CARINATES.
" ringani'num (blood-red). Crimson, red. La Guayra.
" sa'vati (Swartz's). White, purple. Jamaica.
" candernia'num (Cavendishian). Yellow. Guatemala.
" chion'phorum (hand-bearing). Yellow, marked with white. Colombia. 1860.
" chryso'phorum (golden-eye). Light brown; lip yellow. 1888.
" chrysophy'tum (golden-pyramidal). Yellow. Colombia.
" chrysorrh'is (golden-needle). Pale yellow, nearly covered with brown spots. Brazil. 1888.
O. flexuosum radia'tum (rayed). Yellow, purple-brown. Brazil. 1872.


" Brad'shaue (Mrs. Bradshaw's). Pale yellow, with bright yellow spots. Brazil. 1890.

" borwickia'num (Borwickian). Lip covered with blotches. 1879.

" ma'zimum (largest). Flowers very large. 1870.

" messe'reand'um (Meassurian). Golden-yellow, with purple-brown edge. 1891.

" For'kei (Forkel's). Yellow, crimson. June. Mexico. 1844.

" fusca'm (fuscous). See Miltonia Warsewiczii.

" Garde'nri (Gardner's). Yellow, reddish-brown. Brazil. 1879.

" flava scens (yellowish). Yellowish, unspotted. 1836.


" globulif'erum (small-globe-bearing). Yellow, with red markings. Brazil. 1890.

" costari'cense (Costa Rican). Yellow, with red marks. Costa Rica. 1871.

" glossos'ma'x (moustache-lipped). 1. Light yellow, with brown spots. Mexico. 1887.

" godseff'i num (Godseffian). Flowers smaller than O. pubes, and lateral sepals free. 1869.

" grac'il'num (very-slim). Small yellow, with few spots. Brazil. 1886.


" grandifo'rum (large-flowered). Brown, yellow. Colombia. 1853.

" gra'vesia'num (Gravesian). Yellow, brown, 2 in. across. S. Brazil. 1892.

" gutta'tum (spotted). See O. LURIDUM GUTTATUM. 1853.

" gyrob'i ibon (curved-bulb). Yellow, marked with brown. Central Amer. (?). 1869.

" hamatoc'hiu'm (blood-red-lip). Green, blotched with red. Trinidad. 1857.


" Har'twefgi (Hartweg's). Brown. Ecuador and Peru. 1858.

" patra'sul'num (small-flowered). Flowers smaller. Ecuador. 1870.


" hemima'la'num (half-black). Black-purple. Mexico. 1887.

" Rot'shi (Ross's). Yellow, brown. Guatemala. 1876.

" hasti'ferum (half-bear-tooth). See O. Macran'thum. 1885.

" hebra'icum (Hebraic). Yellow, with maroon markings. Colombia. 1876.

" Henchma'nni (Henchman's). See O. Carthageninse. 1880.

" hetera'num (various-flowered). Flowers of various forms. Yellow, Peru. 1885.


" holocry'sum (wholly-yellow). See O. ONSUTUM. 1857.

" Ho'oo' (Hooker's). Yellow; sepals united half their length. 1831.

" hrubya'num (Hrubyian). Brown, barred yellow. 1883.

" Hue'bschi (Huebsch's). Brownish-yellow. Ecuador. 1895.

" hunta'snum (Hunt's). See O. CARTHAGINENSE.

" hyp'hama'ticum (interwoven). Yellow, marked with brown. Colombia (?). 1869.


" a'num (white). White. Mexico. 1882.

" inscul'psum (sculptured). Cinnamon and yellow. Trop. Amer.

" Insels'i (Irley's). See ODONTOCLOSSUM INSEYALY.

" inter'di'um (intermediate). See O. LURIDUM.


" tet'lerum (equal-winged). Brazil.

O. Jamiesoni (Jamieson's). Yellow, blotched with violet-purple. Peru. 1872.

" Joh'misnum (Rio-Janeiran). See O. LONGIPES.

" Joh'nisnum (Johnian). Yellow and crimson blotches. Brazil. 1906.

" Jon'esi num (Jonesian). Whitish ochre, with brown blotches. Paraguay. 1883.

" fla'vum (yellow). Whitish, with yellow-green spots. 1888.

" pha'thnum (dusky-flowered). Brownish, without spots. Paraguay.

" joncl'es'ium (leaves-leaved). See O. CEBOLLETA.

" Kapl'ler'i (Kappler's). Yellow, with brown markings. Guiana. 1850.

" kienas'tium (Kienastian). Yellow, beautifully spotted with brown. Ecuador. 1872.

" resple'ndens (resplendent). Bright yellow, spotted purple-mauve and purple-brown. 1886.

" ha'rum (cut-tipped). See O. STIPITATUM.

" lamell'i gerum (plate-bearing). Deep brown, edged yellow. Ecuador. 1876.


" lowres'mum (Lowrezian). Yellow, red-brown; lip white. 1882.


" leg'essum (Eugies's). Yellow-green, with chestnut blotches. Venezeula. 1876.

" larkini'a'num (Larkianian). Chocolate-brown, bright yellow. Brazil. 1850.


" leopold'ia'num (Leopoldian). White, with purple disc; lip violet-purple. Andes. 1890.

" le'pid'um (neat). Yellow, marked with brown and yellow. Ecuador. 1876.

" lep'ti'num (slender-tailed). Flowers of many forms; perfect ones light yellow. Bolivia. 1886.


" louvrexi'a'num (Doussonian). Yellow, black-purple. Mexico. 1873.

" speci's'um (showy). Yellow-green, brown. 1853.

" leuco'sis (white-eared). Whitely yellow. Colombia. 1880.

" L'ite ts' (Lietze's). Dull yellow. Brazil.

" macra'num (golden-blotched). Yellow, spotted and barred with brown. 1885.

" bi'color (two-coloured). Brown, marked with yellow. 1888.

" Lim'nings'eg (Limninghe's). Yellow, blotched brown. Venezeula. 1868.

" Linde'ns (Linder's). See O. LURIDUM.


" longico'ran (long-haired). Yellow-green. Brazil.

" Grossma'nia'num (Grossmann's). Pale yellow-green; lip (slightly colored). S. Brazil. 1907.

" longi'sis'um (long-leaved). See O. CEBOLLETA.

" longi'es'eg (long-stalked). 1. Yellow, blotched brown. April, May. Brazil.

" longi'es'sium (Longissi's). Olive, with cinnamon bars; lip orange. Loxa, Peru. 1884.

" lucasiana'num (Lucasian). Large golden-yellow, spotted brown. 1894.

" longit'es'sium (Longissi's). Brown, yellow-brown, cinnamon brown. 1885.


" ful'gens (shining). Jamaica. 1838.


" ma'jus (great). Jamaica. 1838.
O. ornithorhyncum album (white). White, with yellow crest, fragrant. Mexico. 1873.

O. ornamentatum aureum (yellow). Yellow, with brown edge. Guatemala. 1877.

O. ornithorhyncum album (white). White, with yellow crest, fragrant. Mexico. 1873.

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O. ornithorhyncum album (white). White, with yellow crest, fragrant. Mexico. 1873.
O. rigida num (Rigbyan). See O. SARCODES.

robus tissimum (very robust). Brown, yellow; lip yellow, striped brown. Brazil. 1885.

Rogers'ii (Rogers's). See O. VARICOSUM ROGERSI.

rollas num (Rol-Hean). Yellow and brown. Colombia. 1892.

ro'sum (Rory). See O. CARTHAGINENSE ROSEEUM.

ro'stans (beaked). Yellow. Colombia. 1875.

rubra num (rubred). Yellow and brown. 1873.

ru'pe stre (rock). Yellow and brown. Peru.

Skir'neri (Skinner's). Peru. 1859.

Sme'sea num (Russell's). See MILTONIA RUSSELLIANA.


saintlegeria num (Saintlegerian). See O. SPFLOPPERTUM.

salubris num (dancing-freely). Pale yellow, blotched brown. Colombia. 1872

Sandra (Mrs. Sanders'). Clear yellow, with brown bars. Peru. 1910.

Sanderia num (Sanderian). Rosy-red or chocolate-brown. Peru. 1893.

sanguine'num (crimson-blotched). See O. CARTHAGINENSE SANGUINEUM.

sard'ois (Rash-like). Yellow, banded with red.

sauces'is (stalkless). See O. LANCIFOLIUM.


sphaero'cos (sphero-like). Yellow, brown; lip with a wasp-like blotch. Brazil. 1843.


Spruce'is (Spruce's). Yellow, brown, Brazil.


Erene'sti (Ernest's). Pale yellow, with large brown spots; lip red-purple. Mexico. 1857.

stipiti'num (staked). Yellow, spotted with crimson.

Panama. 1844.

steli'num (flat-nail). Nail of lip broader than in type. Panama. 1878.

stratifi'num (straw-coloured). Straw. crimson. Vera Cruz. 1887.


Mexico. 1837.

Tayleuri'rii (Taylor's). See O. suave TAYLEURISI.

te'num (covered). Yellow, marked brown. Colombia. 1875.


Guatemala. 1841.

dec'um (round-leaved). Small, bright yellow. 1882.

a'dens (whitening). Pale yellow-white. 1877.

a'gens (shining). Dark red-brown, yellow, green. 1839.

tetra'cosis (four-daggered). Brown, marked yellow.

Colombia. 1873.

tetra'petalum (four-petaled). See O. QUADRIPETALUM.

tigro'sco (tigris). 2. Yellow, barred brown.

Mexico. 1840.


sple'ndidum (splendid). See O. SPLENDIDUM.


Mexico. 1846.

tricho'des (hair-like). Yellow, brown. Brazil.
ONE-SHIFT SYSTEM of POTTING is giving a plant in a pot one large shift, instead of frequent small ones. Thus, instead of moving a plant successively from a three to a five-inch pot, thence to a seven or an eight, and thence again to a ten or a twelve, allowing the roots to become matted at the sides of the pot, or merely to reach there, according as flowering or growing is the object aimed at, the plant is moved at once from a five-inch to a ten-inch pot. The one-shift system requires room for its adoption. Striking individual, rather than mere general results are its characteristics; and, therefore, where a constant show of bloom and flowers, or the plant will be subjected to the disadvantages of the planting-out system. For the one-shift system, as well as in every other case where a fine specimen is desired, a young plant must be commenced in a very small pot. Such a plant will soon take over one four times its size, but which has several times densely filled its pot with roots.

The freely-growing plants, and whose existence is short, are the best to commence with. Many of them are best managed upon this system. Wherever rapidity and strength of growth are an object, annuals intended to flower in pots, after being once shifted into larger pots and thus established, can scarcely be too soon afterwards transferred to their blooming pots. Where double flowers, as in the Balsam, or swelling-off part of the flower, as the receptacle in the mallow, or the petals of the lilac in the genus Syringa, such methods may be adopted to secure a desired end. With such hard-wooded plants as Heaths and Epacris the most striking results are obtained by the one-shift system. As we have seen in the case of Smilax in the last volume, in which these plants are considered, with such plants, we would advise young beginners to try some of the above soft-wooded plants in the first place, and to keep in view, for all the cases they may try, where they succeed.

In common with other modes of potting, the pots should be sound, fairly burned, dry, and either new or thoroughly clean, inside and outside. Secondly, good drainage, which is a necessary element of success. In all plants intended to remain in the same pot for years, it cannot be too particularly attended to. Green moss, or chopped wheat-straw, strewn over the drainage, is a good mixture for most plants, and will prevent the leaching of soil through the broken pot, and allow it to be a further success; move being washed into and choking it up. Broken charcoal, from whence the dust has been extracted, is also very useful for this purpose. Indeed, larger pieces of charcoal may constitute the chief part of the drainage, which will be lighter than most things that could be used—a matter of considerable importance.

On this account alone it is valuable for mixing with the compost to keep it open, independently of any chemical properties it may possess. Indeed, lime, or even its dust, may be its constituents, should be rough and lumpy; the bulk, in general cases, consisting of pieces from the size of peas up to that of beans and walnuts; and in some cases to a ten or a twelve, allowing the roots and hens' eggs. In such compost the plants will grow rapidly; and even in the case of Heaths, &c., they will maintain a healthy appearance for years. Should much moisture be present, the plant will be injured by the roots being in a state ofux; if kept out of reach of dew, drier than the drainage, the latter will be the better for it. Should the compost be kept in a well-drained, well-ventilated position, it will be more injured by the roots than the compost itself. Hence the complaints against the system, that though plants grow vigorously at first, they were short-lived. Such large shifts, in the fine-fitted soil of old, earthen pots, even the potted specimens that received more care than can, in general, be given to plants. Using huge jumps of loam or peat would tend to produce a similar evil, though from causes apparently different.

The middle course is the safe one; but with rough soil, it is necessary to surface with a little that is finer, that the air may not be injured, and that the roots may never thrive well when the surface of the ball is sunk several inches below the rim of the pot; and there is something uncouth in observing the centre of the ball sticking up, in the case of the pot, like a moulchi. In all cases, therefore, especially where it is intended for a plant to continue for years, the compost should be pressed firmly before the young plant is set in the centre of the pot, and be fixed by the addition of a little dry sawdust or peat. Watering is the most important of all points, and, where it cannot be properly attended to, the one-shift system is, as a rule, unsuited. If at any time you must merely water as far as the roots extend—the unappreciated soil must not be soaked, or it will become sour and unhealthy for the roots even before they have had time to feed upon the drainage and water from the water-pot will do with the one-shift system.

Sixthly. Temperature. On this system, for some time after potting, the plants should have from 5° to 10° more heat than otherwise would be the case, and a close atmosphere until fresh growth is proceeding freely. A dash from the syringe frequently, in hot days, will be of great importance. Every incitement to growth must thus be a warm one, and that which can be obtained by the pot, then air must be freely imparted, and a drier atmosphere maintained, that the fresh wood so freely made may be thoroughly matured. Seventieth. Time of Potting. Upon this system, in the case of young plants, to be established for several years, this should take place in spring and early summer, in order, first, that growth may be quickly made, and then maturation of the wood be effected before the dark days come, when, in the generality of cases, the low temperature of winter will give them the rest they require before breaking and flowering vigorously and prosperously the following season.

ONION A'llium Cepa. Soi, rich, open, and well-drained, in a situation entirely free from trees; if the soil be poor, abundance of dung should be applied in the preceding autumn or winter. Lisbon and other dwarf sorts, which are tenacious, is advantageously employed; coal-ashes, and especially soot, are applied with particular benefit. In digging down the ground, small spits only should be turned, and with tops, that the texture may be well broken and pulverised.

Varieties. (1) Silver-skinned Onion, hardest; (2) Early Silver-skinned; (3) True Portugal; (4) Spanish; (5) Strasbourg; (6) Deptford; (7) Globe (white or red); (8) James's Keeping Onion; (9) Pale Red; (10) Yellow; (11) Blood-red; (12) Trippoli; (13) Two-bladed; (14) Lisbon; (15) Ailsa Craig, Cranston's Excelsior, Rousham Park Hero, and Record (44 b.). These are among the largest ever grown, and are of the best quality. In early and late February, grown on, and finally planted outside in April.

Sow for the main crop during March. Main crops may even be inserted as late as the beginning of April, and at its close a small sowing to draw young in summer, and for small bulbs to pickle; again in July and early in August, for salads in autumn; and finally the last week of August, for early winter, for spring and beginning of summer. Sow thinly in drills, eight inches apart. An ounce of seed is sufficient for a rood of ground, especially for the main crops, as they should never be allowed to grow to a size fit for the salads without thinning. The beds should be about four feet wide, for the convenience of cultivation.

Cultivation.—In about six weeks after sowing, the plants will be of sufficient size to allow the first thinning and small hoeing, by which they are to be set out about two inches apart. If this is performed in dry weather,
it will keep the beds free from weeds for six weeks longer, when they must be hoed a second time, and thinned to four inches apart; and now, where they have failed, the vacancies may be filled up by transplanting there some of those thinned out. The best time for this doing is in early May, three or four months after the plants have been raised, and the only precaution that need be taken is to make the transplanting in light, fine soil. It is done with advantage by making the surface of the soil slightly deeper than the roots. Two or three successive nights. In transplanting, the root only is to be inserted, and no part of the stem buried. No plant is more benefited by liquid-manure being given twice a week from the time of another month they must be thoroughly gone over for the last time, and the plants thinned to six inches asunder. After this they require only occasionally the stirring of the surface, which the hoeing will soon make necessary. When the crop is cut, the for the forward, especially in moist situations or seasons, are apt again to strike root spread on mats in the sun, frequently turn, and remove under shelter at night. In two or three days the leaves will be perfectly gathered, and the bulbs become firm, they are fit for storing, being housed in dry weather, and carefully preserved from bruising. Previously to doing this, all soil and refuse must be removed from the roots, and for this purpose they are to be so used as much as possible, all faulty ones should be rejected. In the store-house they must be laid as thin as may be, or hung up in ropes, and looked over at least once a week. To preserve the potatoes for late use, it is useful to seed the roots and the summits with a hot iron, care being taken not to scorched the bulb. Additional Modes of Cultivation.—For the winter-storing of potatoes, there are a few additional suggestions to be noticed. The potatoes are to be tread in the soil regularly before raking, if the soil, as it ought to be, is dry and light. They must be kept constantly clear of weeds, as well as of the fallen leaves of trees, but they need not be thinned. Early in spring they are to be transplanted for bulbing. Sow in May. Cultivate the plants as in the other crops; and in October the bulbs, being of the size of nuts, are to be taken up, dried, and inserted into the ground. About the middle of the following March they must be planted out in rows, six inches apart each way, and cultivated the same as the other crops. If sooner than usual they run fine. Next placed, or never efficacious, is to sow in the latter part of August, to stand the winter, and in March, early or late, according to the forward growth of the seedlings, to be planted out in rows at the before-directed distance, and cultivated as usual. In Portugal they sow in a moderate hotbed during November or December, in a warm situation, with a few inches of mould upon it; and the plants are protected from frost by hoops and mats. In April or May, when of the size of a swan's quill, they are transplanted into a light, rich loam, well manured with old-rotten dung, to bulb. Transplanting alone is of great benefit. Additional suggestions. Several potatoes are early in March, the finest and firmest bulbs being selected, and planted in rows ten inches apart each way, either in drills or by a blunt-ended dibble, the soil to be rather poorer, if it differs at all from that in which they are cultivated for bulbing. They must be buried so deep that the mould just covers the crown. If grown in large quantities, a path must be left two feet wide between every four rows, to allow the necessary cultivation. They must be kept thoroughly clear from weeds, and, when in flower, have stakes driven at intervals of five or six feet on each side of every two rows, to which a line of blacking can be tied, to prevent them coming broken. When the flowers are ripe, they must then be immediately cut, otherwise the receptacles will open and shed their contents. Being spread on cloths in the sun, they soon become perfectly dry, when the seed may be rubbed out, cleansed of the chaff, and, after remaining another day or two, finally stored. It is of the utmost consequence to employ seed of not more than one year old, otherwise scarcely one in fifty will vegetate. The goodness of stock may be ascertained from testing it at rest. They are found in old, dry dunghills, cucumber-frames, &c., and are injurious to many plants, fruits, &c., by gnawing off the outer skin. Gas-lime will expel them from their haunts, and two boards or tiles kept one-eighth of an inch apart form an excellent trap.

ONOBROMA. (From onos, the ass, and broma, food. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia. =Equalis. Now referred to Carduncellus and Carthamus.) O. arbore sens (tree-like). See CARTHAMUS ARBORESCENS. " carpatica (Carpathian)." See CARTHAMUS CARPATHICA. " cynarodes (Cynara-like)." See CUSCINA CYNAROIDEIS. " gallumum (glaucous)." See CARTHAMUS GLAUCUS. " leucocaulus (white-stemmed)." See CARTHAMUS LEUCAULOS.

ONOCRYSIS. Heni.'s-bill. (From onos, the ass, and broma, to eat; and hes, to favor, the food of the ass. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Indiappalo, 4-Decandria. Allied to Hedysarum.) Best by seeds in spring, where they will then and be as growth, and become more as badly, Sandy, deep loam.


ONONIS. Restharrow. (From onos, an ass, and onemi, to delight; the ass delights to browse on the herbage. Nat. ord. Leguminosae [Leguminosae]. Linn. 16-Monadelphus, 6-Dicandaria. Allied to Porro- 
cetus. Annuals, by seeds in April, in sandy, deep soil; perennial shrubs and creeping shrubs, by division in spring, and cuttings under a hand-light, in sand, in summer; divided, sandy soil. Hardy under shrub kinds, if of a creeping nature, answer well for rocks.

The tenderer species require a cold pit or a cool greenhouse in winter, and most of these like a little peat added to the sandy loam.

HARDY PERENNIALS.

ara'renda (sand). See O. Natrix.

ar'onagone nas (Arragonese). See O. Reuteri.


a'pons (creeping). See O. Repens.

cap'la (round-headed). See O. Columnea.

col'a'mone (Columna's). 1. Yellow. August. Medi-
terranean region. 1820.


pro'cervens (procumbent). See O. Arvensis.


TENDER PERENNIALS.


ar'manica (notched-leaved). See Crotalaria
del'tea (sickle-podded). See O. Angustissima.

gla'bra (smooth). See Loto'nonis tricho'poda.

hispa'nica (Spanish). See O. Natrix.


longi'via (long-leaved). See O. Angustissima.


bo'ica (painted). See O. Natrix.

ramosus'is (branched). See O. Natrix.

ANNUALS.


sp'a'nica (spiny). 1. Yellow, short-flower. See O. Viscosa.


Den'hartii (Denhardt's). See O. serrata Den


lo'idea (letid). See O. Porrigenes.

gem'i'nifera (twin-flowered). See O. Biflora.


ONO'RDON. Cotton Thistle. (From onos, an ass, and pardo, to consume; eaten by the animal. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 13-Equalis. Allied to the Thistle.)

Hardy biennials, the seeds of which merely require sowing in the commonest soil, either in the autumn or early spring.


ar'dicium (Alexandrian). See O. Sibthorpi'anium.


bra'cium (large-bracted). 4-5. Lilac-purple. Asia Minor. 1901.

cynari'se (artichoke-like). See Cousi'nea cy-

noides.

de'naria (delta-like). See Serratula tripli-
folia.

e'du'm (tall). See O. Tauricum.

erno'lia (elongated). See O. Illyricum.


pyrena'icum (Pyrenean). See O. Acaulon.


sibthorpi'um (Sibthorpiacean). 4-6. Purple. Asia Minor. 1900.


tomento'sum (felted). See O. Acanthium.

um'bo'rum (one-flowered). See O. Acaulon.

ve'rus (green). See O. Tauricum.

visco'sum (clammy). See O. Tauricum.

ONO'SERIS. (From onos, an ass, and seris, chiecy; considered a favourite plant of the ass. Nat. ord. Composita.)

Stove shrubs, or greenhouse in the case of O. drake'na. Seed, by cuttings, and in a close case. Fibrous loam, leaf-mould, and sand.

dro'pes (adpressed). 2. Rose. Peru. 1826. Ever-
green.


ONO'SMA. (From onos, an ass, and osme, smell; said to be grateful to the animal. Nat. ord. Boragewor'is [Boraginaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Echium.)

Herbaceous perennial shrubs or shrubs, yellow-flowered, except where otherwise mentioned. Small, pretty plants for rock-work, and old walls, where, if once established, they will maintain themselves by seeds; seed, and sandy loam and sandy peat, and thin layers of decomposed vegetable matter; a few tender kinds require a cold frame, and trine'rus a warm greenhouse in the winter.

HALF-HARDY.

Himalaya. 1888.

ri'gida (stiff). See O. Stellulatum.


trine'rus (three-nerved). See Onosmodi'um

stigmosum.
ONOSMIDIUM

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OPHYS


ONY CHYUM. (From onyx, a claw; shape of the lobes of the fronds. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 5-Filices.) Stout, with yellowish-brown spores. See Ferns. O. aureum (golden). July. Himalaya; Malaya; Cape; N. India. 1844. O. caudatum (shining). See O. Japonicum.

OPERA GIRLS. Mantis sialia saltatoria.

OPERCULARIA. (From operculum, a lid; shape of calyx. Nat. ord. Rubiads [Rubiaceae]. Linn. 5-Perandria, 1-Monoecy. Allied to Pachys.) Greenhouse herbaceous, white-flowered peripherals. Seeds in spring, in a mild hothot; division of some of the plants as growth commences; cuttings of the young shoots and roots. Long; sandy loam and a little fibrous peat, and dried pieces of leaf-mould, and a few pieces of charcoal; a dry, cold pit or greenhouse in winter. O. clava (spreading). See Swertia clava. O. clava (winged). See Swertia clava. O. clava (winged). See Swertia clava.

OPHELIA. (From opheleia, serviceable; medicinal. Nat. ord. Gentianales [Gentianaceae]. Linn. 5-Perandria, 1-Monoecy. Allied to Pachys.) Elegant little ground-orchids, chiefly native to England, but difficult to keep alive under cultivation. Division of the tuberous-like roots; also, most of the hardy ones by seed, which should be sown as soon as ripe, or permitted to sow itself by falling on loose, damp moss, where it may be moved, and finally planted after growth has taken place. Apsiura prefers rich, heavy soil; most of the others, sandy, chalky loam, and a little lime. Considering their interesting appearance, they are not difficult to keep. 

OPHIOCAULON. (From ophiis, a snake, and hauola, a stem; in allusion to the twining stems. Nat. ord. Passiflorae.) Evergreen stone climber. Seeds; cuttings of halfripe wood in sand, placed in a close case, with bottom-heat. Fibrous loam, one-third peat or leaf-mould, and sand. O. cissampeloides (Cissampelos-like). Yellow-green. Trop. Africa. 1871.


OPHIOGON. (From ophiis, a serpent, and pogon, a beard. Nat. ord. Bloodworts [Hamamceracese]. Linn. 6-Hexandria, 1-Monoecy.) Herbaceous, white-flowered peripherals, except where otherwise mentioned. Division of the plant at the roots, keeping the rhizomes intact. Also by seed; sandy loam and a little peat; requires the protection of a cold pit, or a very dry, sheltered place in winter in cold parts of Britain, but hardy in the south, except O. prolifera (clothed). O. integrifolius (Intermediate). August. Nepal. 1824.

ONOSMIDIUM

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OPHYS

OPHYRYS. (From ophys, eyebrows; referring to the fringe of the inner sepals. Nat. ord. Orchiads [Orchidaceae]. Linn. 20-Gymandra, 1-Monandria.) Elegant little ground-orchids, chiefly native to England, but difficult to keep alive under cultivation. Division of the tuberous-like roots; also, most of the hardy ones by seed, which should be sown as soon as ripe, or permitted to sow itself by falling on loose, damp moss, where it may be moved, and finally planted after growth has taken place. Apsiura prefers rich, heavy soil; most of the others, sandy, chalky loam, and a little lime. Considering their interesting appearance, they are not difficult to keep. 

OPHYRYS. (From ophys, eyebrows; referring to the fringe of the inner sepals. Nat. ord. Orchiads [Orchidaceae]. Linn. 20-Gymandra, 1-Monandria.)

fucifo'ra (drone-flowered). See O. ARANIFERA.


flabiu'la (lily-leaved). See LIPARIIS LIPARIOLIA.


mamma'lis (nipped). See O. ARANIFERA.


Woodcock Orchis.


cves'pi fera (wasp-bearing). Yellow and brown. Barbary.

O. alpi'na (alpine). See HERMINIUM ALPINUM.


See Orchis.


Black Spider Orchis.

exal'ata (lofty). Rose, brown. April. Italy. 1825.

arachnoides (spider-like). Brown, rose. April. Italy.

ARANIFERA.


Common Spider Orchis.

Bertoloi'ni (Bertoloni's). 1. Italy.


cilia'ta (hair-fringed). See O. SPECULUM.

corona'na (horned). See O. ESPIRIFERA.

fer'na (beard-bearing). See O. ARACHNITES EXALTATA.

fucis'fera (drone-bearing). See O. ARANIFERA.

grandis'fera (large-flowered). See O. TENTREDINIFERA.

Mediterranean Orchis. See HERMINIUM MONTICULUS.


Fly Orchis.


spira'lis (spiral). See SPIRANTHE AUTUMNALIS.

taban'i'ri fera (dun-fly-bearing). See O. BOMBYLIFLORA.

OPLI: SMENUS. (From hopli'menos, armed, or bristle-bearing, the glumes being armed. Nat. ord. Gramineæ.) Stove or greenhouse grasses, of which O. Burmannian variegatus is the best known, under the name of Panicum variegatum. Seeds; cuttings in spring in a moist, heated loam, on a leaf-mould, and sand. O. Burmann'ia (Burmann's). 4. Green, purple. Tropics.

albit'ulius (white). 4. Leaves white, with green midrib. India. 1886.


hirté'lus (slightly hairy) and O. loli'tae'ceus (Lolium-like). See O. COMPOSITUS.

OPO'POLAX. (From opo's, sap or juice, and pana'x or panax, allheal; in allusion to its supposed medicinal properties. Nat. ord. Umbelliferae.) Hardy perennial herbs. Seeds and divisions in spring. Well-drained soil.


hi'spí'dum (hairy). 4. Yellow. Greece; Asia Minor.

orienta'le (oriental). See O. HISPIDUM.

OPORA'NTHUS LUTEUS. See STERNBERRIGA LUTEA.

O'PULUS VUL'GARIS. See VIBURNUM OPULUS.

OPUTIA. Indian Fig. (A Latin name, of which the derivation is not applicable to the species now placed under it. Nat. ord. Indian Figs [Cactaceæ]. Linn. 12- Icosandria, 1-Monogony.) Greenhouse evergreen succulents, with yellow flowers, when not otherwise mentioned. Cuttings, by taking pieces off at the joints, and drying them a little before inserting them in sandy loam, and giving them a brisk bottom-heat. The great point is to give them a high temperature and a moist atmosphere when growing in summer, say from 65° to 85° or 90°; to reduce the moisture gradually as autumn approaches, but not the temperature, until autumn is on the wane; and then to keep them in a low temperature (40° or 50°), and dry during the winter; sandy loam, fibrous peat, each one part of it; cow-manure, and charcoal, one-third each. VIGARIS has stood in dry situations out of doors near London, and has been unhurt when planted at the foot of a wall, and wet excluded during winter. All species of Opuntia we know nothing but the names have been omitted.

O. arachnoi'des (spiny-fruited). S. United States.

albífo'ra (white-flowered). See O. SPÉCULUM.

alpi'na (alpine). See O. PLATYACANTHA.

americá'na (American). S. Amer. 1835.

Amyle'ca (Amyclean). Mexico. 1825.


aorac'na (sword-spined). Argentina. 1901.


articula'ta (jointed). See CERES ARTICULATA.


asarantí'aca (orange-flowered). 3. Orange, yellow.


bergerí'na (Bergerian). 5-10. Greenish-red, bright red. 1904.


Bonplá'ndi (Bonpland's). See O. TUNA.


bryon'ica (Camanha). See S. United States.

orbillu'ris (orbillic). Strong growing, with brown spines. Colorado. 1899.

candelabro's fírs (candelabra-formed). Prickles white.


ceréico'ri (stag's-horn). Yellow, changing to red. 1856.

chlooró'sica (greenish). California.

Chi'olla (Cholla). California.

clawario'ides (Clavaria-like). Mexico.

cle'a (clubbed). Yellow. Mexico. 1854.

copiosá' (cochinchin-bearing). See NOPEALA COCCINELLIFERA.

corru'ga (wrinkled). Chili. 1824.


Dors'si (Davis's). Bronzy-green. New Mexico 1883.

decipien's (deceiving). See O. IMMACRATA.

decu'ma'na (great-oblong). 10. S. Amer. 1768.


dejsc'ta (dejected). See NOPEALA DEJECTA.

dico'ma (diaphanous). Daimended. Argentina. 1814.

dicho'toma (crouched). Buenos Ayres. 1836.

Dill'ént (Dillenius's). 5. September. S. Amer. 1810.

don'gan (sweet). See O. ENGELMANNI.


exté'na (outspread). Lilac, yellow. 1824.

exu'ertia (cast-forth). See O. TUNCISTA.


filé'ndula (thread-dropping). Texas.

ficio'ca (woolly). 4. Peru and Bolivia.

flico'ta (flying). S. America. 1805.

formida'bilis (formidable). See O. AORACANTHA.

fra'gilis (brittle). 2. N. Amer. 1814.

brachy'ri'hra (short-jointed). Small, yellow.

epicí'pus (tufted). Bright yellow, with red-brown centre; filaments red. Colorado. 1900.

... albispa'ni (white-spined).
... tribo phora (hair-bearing).
... bol'aia (many-flowered). 3. S. Amer. 1891.
... patosca'nta (common). S. Amer. 1891.
... tubero'sa (downy). June. Mex. 1836.
... pul'chella (pretty). N.W. Amer.
... bulvaro'le nia (powdery). S. Amer. 1830.
... bulvaro'le (principal). Mex. 1830.
... re'plan (creeping). Mex. 1838.

**POUTINIA**

... at'i'so (Hainan). Chili. 1900.
... gua'soft (Guayaquil). Mexico. 1898.
... glomer'a (round-headed). Argentina. 1839.
... glorifera (Gesnerian). 3-4. Flowers unknown. Lower California. 1907.

**GRANDIFLORA**

... gra'cis (slender). Mexico.
... gra'hami (Graham's). S. United States.
... gra'hami (Graham's). S. United States.
... gua'ris (yellow-spined). Mex. 1830.
... ha'nbury'a (Hanburyan). 3-5. Canary-yellow. Gardens of Riviera. 1904.
... herane'd sii (Hernandez's). Variegated, Mexico. 1827.
... ho'rrida (horrid). See O. TUNA.

**INGRAMIA**

... ine'rms (unarmed). See O. STRICTA.
... interna'ie (intermediate). See O. MECANATHA.

**GLOMERA**

... glomera'ta (slender). Mexico. 1838.
... kle'nic (Mrs. Klein's). S. United States.
... labou'rena' (Labouretian). S. Amer. (1)
... lan'caeta (spur-head-shaped). 2. July. S. Amer. 1796.
... leptocau'ilis (slender-stemmed). Mexico. 1845.
... leucca'nta (white-flowered). See O. MEGACANTHA.

**LINDE'S MEI**

... linde'ser' (Lindehmer's). N.W. Amer.
... li'to'atiis (shore). California.
... li'to'atiis (shore). See O. LINDEHMEIERI LITTORALIS.
... longispi'na (long-spined). Chili. 1839.
... lu'cida (shining). 3-4. Yellow, fragrant. 1889.
... macro'rhiza (large-rooted). See O. MECANATHA.

**MACALACA**

... macalac'a (spotted-spined). Argentina.
... ma'nilla (nipped). See O. FULGIDA MAMILLATA.
... ma'sima (largest). See O. DECUMANA.
... me da (middle-many-spined). See O. POLYACANTHA.
... meg'aca (long-spined). Mexico. 1830.
... mesaca'nta (middle-spined). N.W. Amer.
... mesaca'nta (middle-spined). N.W. Amer.
... mexica'na (Mexican). See O. MEGACANTHA.
... micro'dasy (small-cushioned). June. Mexico. 1836.
... mio nor (lesser).

**MILLSPAUGH**

... mill'spaugh's (Millspaugh's). 2. Crimson-lake. Spines 4-6 in. long. Bahamas. 1908.
... missour'i'is (Missouri). See O. POLYACANTHA.
... monaca'nta (single-spined). 1. S. Amer. 1816.

**MONACA**

... monaca' (small). See O. POLYACANTHA.
... myriaca'nta (myriad-spined). Mexico. 1830.
... ni'gricans (black-spined). 3. Pink. August. S. Amer. 1795.
... no'pall'a (small nopal). See O. KARWINSKIANA.
... otto'is (Otto's). See ECHINOCACTUS OTTONIS.
... ou'a (egg-shaped). Chili. 1908.
... pachy'ria' (thick-jointed-yellow). Bright yellow. Colorado. 1900.
... pachy'ria' (thick-jointed-yellow). Bright yellow. Colorado. 1900.
... tache'mata (variegated).
... tache'mata (variegated).
... tep'pi (teppei). Pale yellow. Chili. 1884.

**ORACH**

... a'triplex hort'e' (Atriplex hortensis). This is cooked and eaten in the same manner as spinach, to which it is much more resembling. It belongs to a tribe whose wholesomeness is very suspicious.

Soil—It flourishes best in a rich, moist soil, and in an open part of the garden. Now about the end of September, and again in the spring for succession, in drills 6 inches apart. When...
The seedlings are about an inch high, thin to 6 inches and, those removed or those pulled at the same direction, are a little sandy, and watered occasional
ion until established. For early production sow in a moderate pot at the same time as those in the natural ground. The leaves must be gathered for use a
least two, otherwise they become stringy and worthless.

To save Seed.—Some plants of the spring sowing must be left ungathered from, and thinned to about 8 inches apart.

The seeds ripen about the end of August, when the plants must be pulled up and, when perfectly dry, the seed rubbed out for use.

ORANGE. *Citrus Aurantium.* See Citrus.

ORANGE THORN. Citro-batus.

ORANA. (From oranos, the heavens, the visible space above the earth. Nat. ord. Palacon.)

Large, stove Palms. Seeds, Fibrous loam, one-third peat and sand.


O. n'cea (snowy), leaves white underneath. 1886.

O. philippinensis (Philippine). Philippines.

O. porphyrocarpa (purple-fruited). See Diomyosperma forsythcarpon.


O'BRE. See Stapelia.

**ORCHARD**

An enclosure devoted to the cultivation of fruit-trees; an extensive orchard is well worth the expense; one aspect for an orchard, avoid very low, damp situations as much as the nature of the place will admit; for in very wet soils no fruit-trees will prosper, nor the fruit been matured in a heavy, wet soil. There are various kinds of copious wet, may be more eligible than an elevated ground, as being less exposed to tempestuous winds; though a situation having a small declivity is very desirable, especially if upon the west side, where are much more eligible than a westerly aspect; but a north aspect is the worst of all for an orchard, unless particularly compensated by the peculiar temperament or good quality of the soil. Any copious wet, long-branching, leaves white underside. Exposed to sun, corn, grass, or kitchen-garden vegetables is suitable for an orchard; if it should prove of a loamy nature, it will be a particular advantage. Any soil, however, of a good quality, not too light or dry, or too heavy, but not too wet, but of a medium nature, friable and open, with not less than one spade deep of good staple, will be proper.

Dressed highly, and trench before planting. Plant in October, or, at the latest, in November. Trees will succeed if planted later; but those are the best months. Plant on stations (see *Stations*) and the following is the list of fruit-trees. C. A. Keswick Codling, Mann's Codling, Blenheim Pippin, Dumelow's Seedling, Minshall Crab, Bedfordshire Foundling, Norfolk Beaun, Hawthorned, Stirling Castle, Corn, Rosie's Seedling, Newton Wonder, and Norther Greening.


Stercranns, Easter Beurre, Knight's Monarch. Feb., Jourdain, Golden Drop, Mr. P. French, March, Olivier des Serres, Nee Plus Meuris. April, Beurre Rance, Bergamote d'Espere.

**ORCHARD HOUSE.** This is the name applied by Mr. Rivers, nurseryman, Sawbridgeworth, to cheap glazed structures, in which he grows hardy fruits in pots, and planted in the borders.

When to set such a greenhouse, without any heating apparatus, is most useful, not only for growing Grapes, Peaches, Nectarines, and Apricots, but early Peas, Radishes, Strawberries, Lettuces, small Salading, and various kind of herbs, which are esteemed esteemed by Mr. Rivers, in his highly useful work, The Orchard House.

We will suppose that an orchard house 30 feet long is required. A ground-plan, 30 feet long and 12 feet wide, must be marked out, ten posts or studs of good yellow deal, 4 inches by 3, and 9 feet in length, or if larch poles 16 inches in girth, can be procured, they are quite equal in durability; these latter must be cut in two, and the flat sides placed outwards; these posts, or studs, whether larch or deal, must be fixed 2 feet in the ground firmly and the ground ends must be chared 2 feet 4 inches from the bottom, which adds much to their durability: it must be observed that if the studs are cut, the stool will stand 7 feet in height clear from the surface. For the front wall, ten studs, 4 feet long, must be inserted in the ground 1 foot, so that they stand 2 feet 6 inches clear of the ground in the house, and back, must be nailed a plate 4 inches by 24, or which the rafters are to rest; the studs are thus far arranged in two lines. Now, then, for the rafters: these must be fixed 1 foot below the centre of the building, the rafters are placed with the narrow surface upwards, to spare the trouble of "ploughing," to make the rebate for the glass, which is great labour and waste of material. On the lower side of each can be placed a rebate, so that the plate must be nailed a slip of 3-inch board, 5 of an inch wide; this will leave a inch and 3 on each side for the glass to rest on—not too much when the width of the glass is given of 3 feet in height. Further, for the glass is glazed, but not yet fitted on the plates at top and bottom: they must never be morticed, but let in at top by cutting out a piece, and sloped off at bottom.

To receive the glass at the top of the rafters, a piece of 3-inch deal board, 6 inches wide, must be nailed along the top to the end of each rafter, so as to be even with the surface, and in this should be a groove to receive the upper end of each piece of glass; at the bottom of the side of each can be nailed a piece 2 feet 6 inches wide, must be let in for the glass to rest on, and to carry off the water. We have thus so far a sloping roof, 7 feet 3 inches (with the plate) high at back, and 2 feet 6 inches wide at the front, which with the glass being placed, the most economical glass is sixteen-ounce British sheet, which can be bought at 2½d. or 3d. per foot, and the best size 20 inches by 12; putting the laps, as it prevents breakage from frost-placing it cross-wise, so that the rafters must be about 20 inches asunder. On and outside the back studs, 4-inch boards must be nailed, well seasoned, so that they do not shrink too much; these must be painted white. In the back wall, sliding shutters, 2 feet 6 inches by 1 foot, in grooves, must be fixed, for complete ventilation; two close to the roof, and two about 18 inches from it.

The front must have, also, 4-inch boards nailed on outside, and these must be at least 6 inches wide, the upper one, to be on hinges, so as to let down the whole length of the house; these, when all open in hot weather, ventilate thoroughly. To add to this (and it is all required in summer), by the glass, the room is lighted in the morning, and the afternoon sun is is thus admitted by the large glass, and abundance of air, in which all fruit-trees thrive to admiration. So much for the timber and glass; but when one sees that the glass is placed at the end of the building, the glass is about 4 feet 9 inches in height, a person must be of very diminutive stature, the inquiry arises, How is head-room to be made? How simple is the answer! Make a floor of 6 inches wide, and 2 feet deep, in the centre of the ground-plan; this will leave a border on each side 4 feet 9 inches wide. The bottom of this trench forms the footpath; its sides must be supported with boards, or with 4-inch pitch-work. Now, as everything depends on these borders—for there must be no
ORCHIDS are divisible into two classes, the Epiphytes, or those growing upon trees, and Terrestrial, or ground plants. The difference between the two will require some difference as to the mode in which they are grown, a difference pointed out in this work under each genus in its alphabetical order. At present we shall confine ourselves to such general directions as are applicable to the cultivation of both classes of Orchids requiring Stone treatment.

House for Orchids.—As they require great light, the house ought to be so placed as to catch all the rays of sun possible. This may be done by having the glass shut at the greatest degree; and so low in the angle, that the plants, whether in pots or baskets, or on logs of wood, will all be near to the glass. We find the best position for that purpose is when the glass runs down the lengthway of the house will, of course, be north and south. By this means the heat and light of the sun are more equalised. In the cold mornings of early spring the plants suffer from the drying of the air; and will be at noon in such a position that his beams will be slanting to the angle of the roof, whilst in the afternoon his power to give light and heat will be conserved. The cold winds that abound about trees thriving in the winter, this house will thus have its due share of light and heat. During the hot months of May, June, July, and August, the shade or blind can be let down on the morning side of the house, and the glass shut at that angle which on the side just as the sun shines; thus giving the plants all the light possible, and at the same time protecting them from the burning rays of the sun. There need not be any upright glass in the sides or ends of the house. The light ought to rise high enough to allow a comfortable walk and head-room. The rafters and lights ought to be fixed, and to give air a few openings may be easily contrived in the highest part of the house, and a few small windows placed in the corners, or Mexican houses, and will be some that require more heat than the others. The orchids of South America will flourish far better in a house of moderate temperature than in a house highly heated. This house we would distinguish by the name of Mexican house. The orchids, natives of Java, Borneo, Singapore, the Philippine Islands, and the hot jungles of India, require, on the other hand, a much higher temperature, and close, moist atmosphere. The cool temperate kind may be designated "the East Indian house." By having two houses a considerable number of advantages will be secured. The Indian tribes, as soon as they have made their growth for the year, where there are two houses, may be divided between the cold or Mexican house, and that removal or change of temperature will harden their pseudo-bulbs, and concentrate the sap, causing them thereby to become more healthy, robust, and free to flower. The plants in the warm or Mexican house require a little more heat, they could be conveniently removed into the Indian house to make their growth. The cooler house will also be useful to place any of the Indian species when in flower, which change will considerably prolong their season of blooming. The two houses may join each other, divided by a partition either of brick or glass. We should prefer glass, as being nearer, and bringing off the plants, in both houses, to greater advantage.

Heating.—As these plants require, during the seasons of growth, a larger amount of moisture than most other plants, the plan to effect this is to heat the houses with hot-water pipes, laid in tanks. The water in these tanks should be deep enough to cover the pipes about an inch with water. In winter, when the plants are, or ought to be, at rest, they require a drier atmosphere. In order to induce this, the tanks ought to be emptied during the winter months, from the middle of October to the middle of February. Should the pipes be in canvas, the pipes may be occasionally syringed early in the morning of fine days. The number of pipes and tanks required depends, of course, upon the size of the houses. The Stirling, in any convenient part of the house, is Herron's, of Pine-Apple Place, has four tanks in it; the width of the house is 18 feet. Two of those tanks are open, that is, have no cover, and are placed under a platform formed with large, thick slabs of stone, which are kept warm by the heat of the moisture to ascend amongst the plants. The other tanks have covers to them, with holes to let out the moisture. These holes have brass lids to them, so that the moisture may be allowed to escape. In this manner, now, this answers the purpose well during the months of spring; but we have too much moisture during winter, so that the plants grow more than they flower. Sometimes, also, the tanks, and the slabs, and the return-pipes bring the water back to it to be reheated. Mr. Taylor, the hothouse builder at Kensal New Town, is in the habit of putting up these boilers, and they answer admirably.

Stages.—The arrangement of these will depend upon the width of the house. If the house is wide enough to allow a walk of sufficient room, and the application of heat will be two stages. The centre walk should be elevated as high as possible, to allow head-room for the manager and visitors to walk comfortably. This elevated walk is of considerable use, affording a good opportunity to watch the progress and state of the plants, and to observe when they require watering, repotting, and cleaning from insects. An example of this arrangement may be seen in the diagram. Shelves of the Stage.—Every shelf ought to be a shallow cistern, here to hold water. Blue slate is the best material, to form each shelf on the stage. The upright slats forming the sides of each ought to be elevated at least 4 inches, or 2 inches, from the shelf. These cisterns may either be filled with small, pebbly gravel, all the sand or other binding material being washed out of it, to prevent its setting hard, or they may be left empty, and have the cisterns filled with water, to allow the plants to stand clear of the water; for it is intended that these cistern-shelves should be, during summer, kept full of water. These shelves of the stage must be as near the glass as the size of the plant will allow. Several advantages to the health of the orchids accrue from this arrangement. The most important is a constant supply of moisture to the air, at a time when the heat is greatest; and the application of heat will keep the tanks unadvisable. Another advantage is the prevention of the attacks of insects, such as woodlice and
slugs. These destructive cannot travel through water; and as the plant stands, as it were, upon a number of little islands, they are protected here from these devouring enemies. Care, however, must be taken that the citadel itself does not harbour them. The cockroach and woodhouse often secrete themselves during the day amongst the rough pieces of turf and broken pots used as drainage. If there is any suspicion that these enemies are in these secret places, they must be diligently sought for, by visiting the houses with a bright light, and especially the loft and sheds, where they may be lurking in the depredations. Pursue them with all your diligence. Should the tender roots, or flower-shoots, still appear to be eaten occasionally, take the severe measure of turning the plant upon the pot and amongst the peat and potsherds, and when they are once entirely got rid of, take care to place the plants so that their leaves do not come in contact with anything that will form a bridge for the insects to travel on.

Hanging-up Plants on Logs or in Baskets.—Large-headed nails, or hooks, may be driven into the rafters, or strong iron rods, well painted, may be suspended along the roof over the walks, and strong iron hooks, shaped like the letter S, placed at proper distances to hang up the various kinds of plants that require such situations. We recommend the situation for these to be over the walks, to prevent the water, when applied upon the floor, from wetting the wood and the cistern. Where these plants are numerous, it is advisable to devote a part of the house to them. Underneath would be a convenient situation for a cistern to contain the rain water, to be poured on the roof—the best of all water for watering purposes.

Cistern.—This is almost indispensable. The one in the orchard-house at Messrs. Henderson’s is formed with slabs of brick, the water then being kept in motion by using a syringe for syringing and watering purposes. Another use, and an important one too, is for dipping the blocks with the plants on them; also, to dip the Sancho'peas, Gon'go'ras, and other plants in baskets. When these plants become not at all fresh, the water that has been in the cistern offers a proper place for that purpose. Two or three hours will not be too much to steep them. The peat during the time of rest becomes dry and hard, and requires much water to soften them; especially if the plants are to be shifted into new baskets.

As orchids require frequent syringing, sometimes twice or thrice a day, we have made use of pots—garden-pots, in fact—placed on a shelf just below the house, near the hot-water pipes, at a small distance, about 6 or 9 feet apart. Our readers that are in the habit of syringing will immediately perceive the great advantage of such a situation. We have nearly always five at any one time. Instead of having the water to carry in garden watering-pans, these pots, being kept constantly full of warm water, are always ready.

Syringing.—During the dark days of winter the operation of syringing requires considerable judgment. A large number of orchids will be at rest, requiring but little water, especially those in pots. Others, on the contrary, must be syringed on such mornings as the sun is likely to shine. There are, however, a few plants, even in pots, that are much benefited by the free use of the syringe at all seasons of the year. Hunt'le'ya vio'lates and H. Mele'tris are two plants much improved by syringing, and so improved is evident enough, when we consider the situation in which they grow naturally. Dr. Schom'burg found them growing on moist rocks, near to a cata'rala' on a river (Essequibo, we believe) in British Guiana.

All the warm house orchids that have no pseudo-bulbs require more syringing in winter than those that have such appendages. The pieces of turf and broken pots, used for drainage, require much care, as the leaves and stems will shrivel much more than is beneficial to their health; therefore, whenever a shrivelling is perceived, let them have a gentle syringing, thoroughly wetting the whole plant. This will revive them, and keep them fresh and healthy.

Syringing in Spring and Summer.—It is during these two growing seasons that the syringe is most beneficial, and then they should be deluged almost with showers from the syringe, taking the precaution to allow them to become dry once a day. They are sure to become dry enough during the night. Let the water be milk-warm rain water, and let it fall gently upon the plants, thus imitating natural showers of rain as much as possible. We have found the plants much refreshed in summer by a moderate syringing, when it was actually raining out of doors. In truth, if such a thing could be managed, we should be glad to expose them, during the gentle, warm showers of April, to the rain that nature would have upon them, and think it was then actually raining out of doors. In truth, if such a thing could be managed, we should be glad to expose them, during the gentle, warm showers of April, to the rain that nature would have upon them, and think it was then actually raining out of doors.

During the seasons when the syringe is used most freely, should any of the plants have perfected their growth, and consequently require less water, place such in a corner of the house by themselves, and syringe them less frequently. Towards the end of summer the whole of the plants ought to be perfecting their growths, excepting the Indian ones above mentioned and the Hunt'le'ya vio'lates; for these plants of the north, the others must have an entire rest; therefore, cease syringing so much as soon as you think there is a fullness and ripeness about the pseudo-bulbs, showing that they have been sufficiently watered. When you cease syringing as much as ever, there is danger of starting them again into growing prematurely, and then you will have weak, puny shoots, and injure both the flowering and much less water. Use, therefore, a middle size of soil, so as to give any particular time when to cease syringing, or watering at the root with a garden-pot; experience and observation must guide the cultivator. In general, we may say the quantity of water, whether applied to the surface, or directly into the roots, is much less necessary to give any particular time when to cease syringing, or watering at the root with a garden-pot; experience and observation must guide the cultivator. In general, we may say the quantity of water, whether applied to the surface, or directly into the roots, is much less necessary than is commonly supposed. The water ought to be entirely withheld, excepting just enough to prevent the plants from shrivelling.

Shading.—We use a kind of canvas called "bunting." It is employed in the manner of an awning to prevent the rays of the sun striking through the glass, and injuring the flowers and leaves. We shall try to describe how it is applied. First, a pole about 2 inches in diameter is placed under the rafters of the house, or else a pole 2 inches in diameter is made of deal, and quite round. At one end a kind of wheel is fixed, of larger diameter than the pole (about one-third). On each side of this wheel a round board is attached, the ropes or cords being so fastened that they hang like the spokes of a wheel, and there remains till shade is required. The cord is then unfolded, and the pole let gradually down to the bottom, where some pieces of wood stop it from going off the house. It is then to be pulled up, and there it is. All that has been done is to be rolled up the sides of the house, and there it remains until shade is required. It is then to be rolled down, and there it is.
and the sunshine becomes essential to the well-being of the plants.

The Proper Amount of Heat, Moisture, and Air the Plants require at All Times of the Year.—The power of heating should be more than is required in ordinary winters, in order to be prepared for those very severe ones that sometimes occur. It is always easy enough to give less heat in moderate weather by having less fire applied under the boiler. The degrees of heat required we shall now give for all the year.

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Our readers will perceive that the lowest temperature at all times is in the morning; that is, before the fires are stirred. The heat in the mornings in summer will depend upon the heat of the atmosphere out of doors; the rest of the day may be regulated by giving air. The principle of having a lower temperature during the night is perfectly natural. The variations even in tropical countries, in that respect, are great.

**Watering with the Garden-pot.**—As a general rule, let it be laid down never to water a pot whose surface is not already dry; and never to water on the summit of the soil, but where there is a little moisture. A light sprinkling sometimes is required to keep the surface of the compost firm; therefore, in commencing to water, observe each plant well, but quickly, and water accordingly. An orchid requires watering when it is growing and dry. The quantity to be given depends, again, upon the stage of its growth. If the young shoots and new roots are just beginning only to make their appearance, they require a very moderate quantity; but, as then the plant ought to be repotted, and the new, fresh compost is, or should be, moist of itself, the water may be withheld until the surface, at least, feels quite dry to the touch. Again, the water should be applied at a small distance from the young shoots, which ought never to be drenched, or even wetted, especially if the weather be dark, cloudy days of winter or of early spring. In summer, when the heat is increased, the sun shining, and air given, the operator need not be so nice, as the extra heat and artificial warmth will ripen the plant much more quickly to the apex. It is generally better to water and give it a little more water during the dry weather, or in the shade respectively, than during the heat of the day. We have, in the case of the orchid-house, found it best to water them soon after the sun has raised the temperature, or whenever the young shoots and new growths appear. When the young shoots begin to form pseudo-bulbs, the quantity of water may be increased, care being taken that it does not lodge in the leafy sheaths which surround the green or young bulbs, especially of Cattleyas. We have often seen a year’s growth destroyed by allowing the water to lodge in those tender parts. The way to remedy this is with a small stick or a small pair of scissors, to cut open, and then to the bottom the sheaths that hold the water; but this is an operation that must be done very carefully, without injuring the young pseudo-bulb, or the care will be as bad as the disease which surrounds the green or young bulbs, especially of Cattleyas. We have often seen a year’s growth destroyed by allowing the water to lodge in those tender parts. The way to remedy this is with a small stick or a small pair of scissors, to cut open, and then to the bottom the sheaths that hold the water; but this is an operation that must be done very carefully, without injuring the young pseudo-bulb, or the care will be as bad as the disease which surrounds the green or young bulbs, especially of Cattleyas. An excellent way to prevent is to wash the plants in a weak solution of disinfectant, such as a 5% solution of calcium hypochlorite, before the buds open. This will kill any insects that may be present on the plants, and also cut down the number of disease spores.

Cleaning the Leaves.—Take down the plant from its high position; if the moss or peat, whichever it may happen to be growing in, is dry, give it a good soaking in theestern, wash it with water at a temperature made 70°. Whilst it is soaking, all dead leaves are to be carefully removed, and every part of the plant thoroughly washed with a sponge. If the leaves are thick and leathery, they may be washed with water at a temperature of 80-90°, and then it is often necessary to wash them with a solution of 1% potassium permanganate, followed by a thorough rinsing with water. Sometimes it is necessary to wash the leaves with a solution of 1% sodium hypochlorite, followed by a thorough rinsing with water. This solution is especially useful for sterilizing the leaves of orchids, and it is often necessary to wash the leaves with a solution of 1% potassium permanganate, followed by a thorough rinsing with water. Sometimes it is necessary to wash the leaves with a solution of 1% sodium hypochlorite, followed by a thorough rinsing with water. This solution is especially useful for sterilizing the leaves of orchids.

Potting.—Generally speaking, the months of January, February, and March are the proper times; but as there is no rule without exceptions, some orchids require potting at other times besides those specified, and one must know when to pot his plants by this observation: Whenever they are determined to grow, they must be potted. The only precaution necessary to observe, in the dark season, when they are in pots, is to keep them at a temperature which is called cool in a moderately dry state, and give no water excepting a sprinkling to settle the compost.

In the first place, have ready a quantity of broken pots or potsherds of several sizes; next, procure some good turfy peat, knock it into pieces with a heavy
hammer, crushing the finer soil entirely out of it; then pass it through a fine sieve, and what remains in the sieve is the best stuff for orchids: it is light, open, and porous. Next, have some charcoal at hand, broken into pieces no larger than a hen’s egg, nor smaller than a hazel nut. Another article, and you will have all you need for pots and baskets; this is white bog-moss, or sphagnum, which should be partially chopped with a chisel. These materials you will find very satisfactory, and have a great abhorrence for anything close or fine about orchids, excepting terrestrials.

Having all in readiness, take your plant, turn it out of its pot, if there be one, and divide it carefully into small bits, without injuring them as little as possible. Perhaps some roots will be found adhering very firmly to the sides of the pot, to part them from which we have used a long, thin, sharp pointed stick, thrusting it carefully down between the root and the pot. In all cases we have found it necessary to break the pot; but this must be done very gently, or the very act of breaking may destroy the roots. The plant being cleared from the pot, shake away all the old compost; then, if there be any roots loosely, and cut off all the dead ones. This is a convenient opportunity, also, to look after insects, especially the white scale, the most pernicious of all vermin to orchids, especially in the home. If you find any, take them all off, and wash the whole plant with strong soap-water. Your plant is now ready for potting. Choose a pot of the proper size: generally speaking, orchids, especially those cultivated in baskets, do quite as well in them as in pots. However, their size should be, in many cases, smaller than that of any other class of plants. Let your pots be perfectly clean both inside and out. Lay a large piece of potsherds over the hole at the bottom of the pot; these are called a drainage-layer, and are of the greatest use; over these are the smallest ones. Altogether the pot ought to be three-parts filled with this drainage. This point is of the utmost importance, for if the plants are not superlatively well-drained, the more easily will they be ruined. Over this drainage place a thin layer of charcoal, and then a layer of the turfy peat, mixing with it some broken pots and charcoal. Introduce the plant now, and spread the roots, if many, all over the surface of the compost, never allowing the surface to be more than a quarter filled in till the pot is full, and keeping the body of the plant well up; raise the compost up about 2 or 3 inches above the level of the edge of the pot in proportion to its width; a smaller plant, and the sand by itself, a 1 inch raised, a middling plant 2 inches, and for the largest-sized plant 3 inches will be sufficient. The whole of the plant, pseudo-bulbs and all, excepting the roots, ought to be entirely buried. The water will be retained in a loose and ready to tumble over if of such kinds as Castilleys or Dendrobiums; to prevent which, thrust into the compost some stout sticks, and tie each pseudo- bulb with string, as we shall see will secure the plant, and give it a neat, tidy appearance.

Orchids in Baskets.—A considerable number of species require baskets, because the flower-stems are pendent, and consequently will require a position to allow the flowers to grow down. If it has been done, perhaps, flowr-stems perpendicularly down through the soil or compost. Now, if these are grown in pots, the flower-stems run down into the soil, and therein lies the difficulty. It is true they have been grown in pots on a billock built up 6 inches or a foot above the rim of the pot, and then part of the flower-stems manage to find their way to the outside of the little mound; but a considerable number bend and crush, chiefly for the want of air and light. By growing them in baskets this evil is prevented, and every raceme (bunch) of flowers arrives at perfection.

A basket should be of a size suitable for small plants—small ones requiring only small baskets, middling ones the middle-sized, and large ones the largest. The way to basket the plants is this: Have the pot or compost of the plant ready, as previously described; then place a portion of pot upon the moss. In the next place, prepare the plant by taking it out of the old basket or pot, or perhaps off from a log. Do this as carefully as possible, without injuring the living roots. If the old pot, in which it has been grown, perhaps for years, is very hard, and the living roots are so firmly attached to it that they cannot be detached without breaking them, take the plant and put it into the cistern, and let it remain there till the pot is thoroughly soaked. Take it out, and set in some convenient place to drain off the water. If this is done a full week before you intend to re-basket the plant, it will be all the easier to do; the object being to soften the pot so as to be able to pick away, with a small-pointed stick, as much of the old moss as possible; then take away all the bulbs and leaves, and clean them thoroughly from dirt and insects. Prune away all dead roots, and then the plant will be ready to be put in its new habitation. Plant the plant as previously described, cut it with the new compost. Set the basket then on the floor, and, with the syringe held pretty close to the plant, give it a good watering, forcing the water out of the syringe pretty strongly; this will be found to make the compost firm, so that future watering will take it off the basket on to the floor, or plants underneath. One thing we would especially guard our readers against, and that is, having the baskets made deep. Some may have an idea that if the pots are all of such a great size to grow in, they will thrive better, and produce more flowers; but this is a mistaken notion. The roots of orchids of this class run on the surface, or, at least, very closely beneath it. If they are kept too deep and charged with moisture, the roots will prefer running out of the compost. Frequently the long roots of Stanhopeas, that push strongly, and run along the surface of the compost, will break and come off the plant; but, strange to say, upwards into the congenial air, gathering, as it were, aerial food to support and feed the plant they belong to. This proves satisfactorily enough that these roots are not in the slightest degree the life of the plant, but to the flower-stems of some kinds of Stanhopeas they are certainly injurious. We say some kinds, such as Stanhopea sarsiensis and its varieties, S. sigi'rus and its varieties, and all that have, like these, short roots, and few, thickly placed; others, like Vanda ocula ta, W'arda'lli, and quadrico'rimis, which have long flower-stems, find their way through a deep basket, but would do so easier and safer through a shallow one, as we shall see. This is especially the case with a St. sarsiensis, for example, as a shallow, wide pot, the proportions of which are as two, three, and five; that is, 2 inches wide at the bottom, 3 inches deep, and 5 inches wide at the top, all inside measure. Larger pots must have three holes, each of the same diameter. Hard-burnt ones must be avoided for these plants, as well as any pots containing sand or charcoal. It is very injurious to flowr-stems, that is, the roots of orchids are, generally speaking, either on the surface or very near it; besides, a large proportionate surface is exposed to the benefit of air and moisture, both of which are beneficial to the roots of the class, since more oxygen is required by them. Thus, the roses are shallowed deeper, will be better in the ordinary-shaped pot.

Baskets.—Various materials and forms have been used in this necessary article. The first probably was made of common iron wire, painted green, and the form round, deep, and with a flat bottom. This material is almost entirely disused, for, although the paint for a time prevented them from rusting, the great moisture and heat soon oxidised the paint, until the basket became yellow or brown, or even black, and was then thrown away. Copper baskets, as they were generally called, were of brass, or even iron; these were also oxidised, or rusty, and is then very injurious to the roots, as well as being unsightly. Those made with copper wire are much better, lasting longer, and are so covered with rust that the appearance of the basket is the expense. Where that is no consideration, we should have no great objection to their adoption. Baskets have also been made of earthenware; but, if there was no objection to having them made of something other than wood, there would be a great objection in setting them aside as bad. We have tried all these, and have come to the conclusion that baskets made of wooden rods are the best for this purpose. We mentioned before that the roots of orchids are made of corrugated or rough-barked maple rods; but there is not one to be met with, hazel rods may be used, and make excellent baskets. Teak wood baskets are the most durable, and are now very extensively employed. The way we make them is this: select those that are straight and into proper lengths. The smallest we use are about the
The thickness of a man's middle finger. With this size, the smallest baskets are made. They are 7 inches wide, and when this size, small Stanhope's, and small plants of Aëridæs, Saccolina's, Va'ndas, Gongora's, &c., are grown. For larger plants, larger baskets are made, and thicker rods used. The instrument used to bore the holes with is a very small steel rod, about 6 inches long, with a wooden handle; it is filed to a point at the end intended to bore the hole with.

We find in the accounts of their use together, that the smaller kind, as that is red hot, the other is put in, the heated one drawn and thrust into the rod very near the end, and held there as long as it continues to burn its way without much pressure, and then the former will be apt to split. As soon, therefore, as the instrument ceases to burn its way through, it is replaced in the fire. The other by this time will be red also; this is then taken out, the distended head of the instrument is cut off, and the operation is thus performed with each bore alternately till the hole is made through the rod. The description of this operation takes up considerably more time than the operation itself. It does, as any of our readers may prove on trial. After as many rods are bored as may be wanted at one time, the next thing is to put them together. The articles necessary for this are a basket, and a red-hot copper nail. Each basket will require four lengths of wire, the length of each to be in proportion to the size of the basket they are intended for. They should be long enough to meet at least 8 inches above the top of the basket, and to reach down to the basket-base. Each basket will require four lengths of wire, the length of each to be in proportion to the size of the basket they are intended for. They should be long enough to meet at least 8 inches above the top of the basket, and to reach down to the basket-base. Each basket will require four lengths of wire, the length of each to be in proportion to the size of the basket they are intended for. They should be long enough to meet at least 8 inches above the top of the basket, and to reach down to the basket-base.

Lago's.—None are so good as the wood of the Acaia, commonly so called, but which really is the Robinia Pseu'd-ace cia. Its wood is firm, and does not soon decay. The next best is the oak, and teak is equally or even much better. We recommend the removal of the bark; our objection to retaining it being, that it only serves as a hiding-place for wood-lice, small snails, and various destructive insects, besides retaining its own dampness, and thus increasing the depth. The next, two, four deep, and so on. When that is done, make four small pointed pegs, and drive them into each hole at the four corners. This will fasten the rods in their places, and prevent their turning up. When this is done, draw the wires together at the top, twisting each pair over each other, and fasten them with a piece of fine wire. Your basket is now complete and ready for use.

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O. platani'foilum (plane-leaved). White. S. Amer. 1865.

O. reticula'tum (netted). Leaves dark green, with lighter veins. S. Amer. 1855.


O. Thibautii (Thibaut's). Green, in small globose heads. Mexico. 1862.


ORCHYA ANTI'QUA. Vapourer Moth. The caterpillars of this moth feed on the leaves of berries, pears, hawthorns, roses, and many other trees belonging to the rose family, and are exceedingly destructive, defoliating the trees when present in large numbers. The singular-looking caterpillar may readily be recognised by the brush-like long haed (extending forwards and backwards) on its back, recalling the hop-dog, but smaller. The male is a small reddish-brown moth, with a white spot near the hinder angle of each fore-wing, and may often, even in the male, be seen sitting about in a desultory manner looking at brightly coloured flowers. The female has only rudimentary wings. The conspicuous caterpillars may readily be hand-picked. Spraying with arsenate of lead is also a good remedy. The yellowish cocoons may be found attached to a great variety of plants in the garden during winter, and, as they are usually covered with woolly matter and a mass of eggs, they should be collected and burnt.

ORI'GANUM. Marjoram. (From oros, mountain, and ganos, beauty; referring to the natural places of growth. Nat. ord. Labiatae (Labiate). Linn. 14-Dydynamis, 1-Gymnosperma.)

The following are all hardy herbaceous perennials. Seeds, division of the roots, and cuttings; sandy soil. See MARJORANA.


O. nero's (large-nerved). See O. Maru. 1818. normal' (normal). See O. VULGARE.


ORI'THYI'A. See AGALMYLA.

ORITHYI'A OXYPECTALA. See TULIPA UNIFLORA.

ORI'THYI'A OXYPE'TALA. See TULIPA UNIFLORA.

ORI'THYI'A OXYPE'TALA. See TULIPA UNIFLORA.
O. Bertolonii (Bertolonii's). See O. exsapidum.

'bouches num' (Bouchean). See O. nutans bouchei.


'bulbs' furum' (bulb-bearing). See Gagea bulbifera.

'comosus' (tufted). July. Austria. 1896.

'concentratus' (inconcentrated). See O. unifolium.


'diversic'um' (spreading). See Chlorogala fomeri.

'dive' rgs' (diverging). White. Europe.

'exas'cum' (stemless). May. Italy. 1824.

'fimbriat'um' (fringed). February. Asia Minor. 1831.


'guss'osi' (Gusson's). See O. tenuifolium.

'herbe' rgs' (herbaceous). See O. minor.

'horti' nse' (garden). See O. umbelatulum.

'id'ieum' (milky) of Vill. See O. narbonense.

'laceole' ium' (lace-like). White. Syria.

'olig'a' num' (few-flowered). Flowers few.


'marcescens' (stuck-back). See O. cuspidatum.

'numis' num' (mountain). May. Italy. 1824.


'nano'num' in (very small). July. S. Europe. 1810.


'ru' fium' (noding). June. Britain.


'phyllum' num' (few-leaved). White. Greece, Asia Minor, &c.

'orthophyllum' (straight-leaved). White. Green. Italy.

'pul' tum' (spreading). See O. montanum.

'pyramis' num' (pyramidal). See O. narbonense pyramidal.


'racemos' num' (broken-back). See O. divergens.

'sal'·la'num' (Sal-leaved). White. Fimbriatum.

'soro'rium' (sisterly). White. Cilius. 1876.

'squamos' num' (scaly). See Scilla lilio-hyacinthus.

'squa' tilla' (Squilla). See Urginea squilla.

'squamos' um' (fringed). See O. narbonense.

'sul'·fur' num' (sulphur). See O. pyrenacium flavescens.


'bril' iant'um' (brilliant). See O. narbonense.


'leich' ti' um' (Leichtlin's).


Greenhouse Bulbs.

O. acumin' um' (long-pointed). See O. Eckloni acuminatum.


'at'·ma'·num' (anomalous). See Drimia Anoma.

'aperi'·to'·i·num' (open-flowered). 1. Green-white.

'aur'·ume'um' (golden). See O. thyrsoides auricula.


'be'·ri'·um' (two-leaved). White. Fimbriatum.


'cap'·ti'·um' (headed). White, purple. S. Africa. 1863.


1874.
ORNITHOGLOSSUM.


_chemestrum_ (greenish-white). See O. BIFLORUM.

cilia maculata (hair-fringed). See URGINEA CILIATA.


cocinnium (conical). See O. COECACTUM.

corymbosum (corymbed). See O. ARABICUM.


crudea (bouquet). 2. White, green on back, broad. T. and S. Africa.


eighty, _vicar's_ (yellow). See S. SOUTHAMPTON.

_"_ ssp. willow in (willow-leaved). See O. STEINBERGINIA.


geminiflora (twinned-flowered). See O. BIFLORUM.

graecyle (slender). See O. LACTUM.

_granatum_ (grass). See NOTHOSCORUS STRIATUM.


_iota_ (Iza-like). See BROMELIA IROIDES.

_fuscum_ (willow-leaved). See J. JACQUIN.

_"_ (side-flowering). See S. TURNEFORTE.

_"_ (whitish). See S. JACQUIN.


_melleri_ (Meller's). See ALBUCA MELLERI.

_minaea_ (red-stained). See O. THYSIOIDES.


_melanotum_ (brown-marked). See O. MACULATUM.

_"_ (soft). See O. S. JACQUIN.


_"_ (Tournefort's). White. S. France. 1838.


_"_ (many-leaved). See O. TUBEROSUM.


_"_ (four-leaved). See O. V. JACQUIN.


ORNITHOLOGUS. (From ornis, ornithos, a bird, and gloss, a tongue; the petals being shaped like a bird's tongue. Nat. ord. Lilacae.)


ORNITHOPTERIS. See PTERIS.

ORNITHOPUS. Bird's-foot. (From ornis, a bird, and pous, a foot; referring to the claw-like seed-pods. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-1770-1870-1875. 4-Decandria, 4-Decandria.)

Low-growing, yellow, pea-blossomed, hardy annuals. Seed, sown in the garden-border in March.


_"_ (wavy-leaved). See CORONILLA REPANDA.


_"_ (scorpion-like). See CORONILLA SCROPIODIES.

_"_ (four-leaved). See ZORNIA BRACiTEATA.

ORNITHOXYLUM NITUM. See GAGA.

ORNITROPHUS. See SCHMIDELIA.

ORNUS. Flowering Ash. (From ornos, ancient name of the Ash, recalled of the resemblance and affinity. Nat. ord. Oleaceae [Oleaceae]. Linn. 2-Decandria, 1-Monogynia. See FRAXINUS.)

O. americana (American). See FRAXINUS ORNUS.

_"_ (European). See FRAXINUS ORNUS.

_"_ (bundle-flowered). See FRAXINUS FLORIBUNDA.

_"_ (round-leaved). See FRAXINUS ROTUNDIFOLIA.

_"_ (channelled). See FRAXINUS STRIGATA.

O. ROBUS. Bitter Vetch. (From oreo, to excite, and eon, a nourishing food. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-1770-1870-1875. 4-Decandria, 4-Decandria.)

_"_ (American). See FRAXINUS ORNUS.

_"_ (tuberous). See ABRUS PRECATORIUS.

_"_ (narrow-leaved). See FRAXINUS ANGUSTIFOLIUS.

_"_ (thread-formed). See FRAXINUS ANGUSTIFOLIUS.

_"_ (compressed). See FRAXINUS ANGUSTIFOLIUS.

_"_ (compressed). See FRAXINUS ANNUS.

_"_ (tall). See FRAXINUS frei'I.E.

_"_ (long-bracted). See FRAXINUS MONTANUS.

_"_ (green-flowered). See LATHYRUS MONTANUS.

_"_ (greenish-yellow). See LATHYRUS MONTANUS.

_"_ (white). See LATHYRUS MONTANUS.

_"_ (greenish-yellow). See LATHYRUS MONTANUS.


ORNITHOLOGUS. (From ornis, ornithos, a bird, and gloss, a tongue; the petals being shaped like a bird's tongue. Nat. ord. Lilacae.)


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ORTHOSTEMMA. See Pentas.

ORTHO'STIA TURIONA'NA. See Rhipo'tia turio'nahana.

ORTHEROSA NTHUS. (From orthros, morning, and anthos, a flower; flowers expand early in the day. Nat. ord. Irisae [Iridaceae]. Linn. 16-Monadelphus, 3-Tandrus. Allied to Sisyrinchium.)

Greenhouse herbs, shrubs, or perennials. Seeds and division of the plant in spring; sandy loam and leaf-mould; a cold pit in winter, to exclude the frost.

O. chimonobac'nis (Chimonobazo). 1-1. Peruvian Andes. 1826.


OSORVILA LAMIO'IDES. See Lamiun Orvol.

ORZLA. Rice. (From the Arabic ar-ra, and Greek oruza. Nat. ord. Gramineae.)

Stove grass from swampy parts of Tropical Asia. Seeds. Fibrous loam, leaf-mould, and sand. It thrives best if the base of the pot dips into a tank of warm water. It is extensively cultivated in warm countries for the grain, which is often the principal food of the natives.


OsalAME. Mac'ira.

OsalAME ORANGE. See Maclura aurantiaca.


Cuttings, sunny shoots in sand, under a bell-glass, and in bottom heat; sandy loam, fibrous peat, a little dried cow-dung, and charcoal. Winter temp., 48° to 58°; summer, 60° to 65°.

Stove Deciduous Shrubs.

O. canescens (hoary). See Disothis incana.

O. glomerata (crowded). See Pterolepis glomerata.


Stove Evergreens.

O. angustifolia (narrow-leaved). See O. chinensis.


O. cupulata (cup-shaped). 2. Red. India.

O. erythroc'pha (red-bearded). See O. cupularis.

O. glomerata (crowded-white-flowered). See Pterolepis glomerata albiflora.


O. terniflora (three-leaflet). See O. rostrata.

O. umiastasia (Umaian). See Disothis incana.


OSIER. Any species of Willow, used in basket-making, Salix viminalis being the common osier.

OSMA'NTHUS. (From osme, smell, and anthos, a flower; the flowers being fragrant, particularly those of O. fragrans. Nat. ord. Oleaceae.)

Hardy, evergreen shrubs. Layers in July. Ordinary soil.

(broad-leaved).


,, heliophyllus variegatus (various-leaved-variegated).

,, ilicifolius (holly-leaved). A dwarfer, more compact bush, with spiny leaves.

,, ilicifolius latifolius (broad-leaved).

,, fronds dense, crested, brown-crested.

,, ilicifolius purpureus (purple-leaved).

,, ilicifolius variegatus (variegated).

,, myrtilloides (myrtle-leaved). Leaves small, spine-

less.

,, robustus (round-leaved).

,, Delavayi (Delavay's). Large pure white. February.

,, fremontii (Fremont). 2. F. yellow or white. Autumn. China and Japan. 1771.

OSMETS. (From osme, perfume; smells like camphor. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 3-Frustreanae. Allied to Relhania.)

Greenhouse, white-flowered evergreens, from South Africa. Cuttings of half-ripened shoots in sand, under a bell-glass, in April or May, and without bottom-heat. Winter temp. 40° to 45°.

O. Bellidia strum (Bellidiumstrum). 1. June. 1816.


OSMO DIUM. See Onosmodium.

OSMUNDA. (The name of a Celtic deity. Others say Osmund, one of the names of the god Thor. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogramma, 1-Filices.)

Hardy brown-spored Ferns, except O. javanica. See Ferns.


,, gracilis (slender). See O. regalis gracilis.

,, humilis (humble). June. N. Amer. 1823. 

,, intertexta (Intertexta). See O. claytoniana.

,, jaipo'nica (Japanese). See O. regalis javanica.


,, palustris (marsh). See O. regalis palustris.

,, presli'a (Presli's). See O. javanica.


,, selaginoides (Selaginoides). From the apex.

,, cris'tata (crested). Fronds slightly crested.


,, palu'stris crispa' to-conge'da (crisped-crowded). 1. Fronds crowded, brown-crested.

,, palu'stris Ma'y'as (May's). 1-3. Pinnae crested; pinnae crisscrossed, with creamy lines. 1906.

,, purpu'rasculum (purple). See O. regalis.

,, vachel'lilii (Vachell's). See O. javanica.


Stove evergreen shrubs. Cuttings of young, side, stubby shoots, or the points of main ones, when a little firm, in sand, under a bell-glass, and in heat; sandy peat and loam; common plant-stove treatment.

O. fascicu'laris (bundled). See Henriettea fascicu'

LARIS.


,, purpurascens (purple). See Meccranium purpur-

asencs.

OSTEOCA RPUS. (From osteon, a bone, or stone of certain fruits, and karpos, a fruit; in allusion to the hard-fruited nature. Nat. ord. Solanaceae.)

A shrubby greenhouse plant. Seeds; cuttings of wood getting firm in sand in gentle heat. Loam, leaf-mould, and sand.


OSTEOMEL'LES. (From osteon, bone, and melon, apple; the fruit. Nat. ord. Rosaceae [Rosaceae]. Linn. 12-

rosandria, 2-Di-pentagynia. Allied to Amelanchier.)

Hall-handy evergreen trees, requiring the shelter of a wall. For culture, see Medlar.


,, gleb'astra (smooth). White. Colombia. 1847.

,, obtusifo'lia (obtuse-leaved). See O. glabrat'a.

OSTEOSPER'NUM. (From osteon, a bone, and sperma, a seed. Nat. ord. Compositae [Compositae]. Linn. 19-

Syngenesia, 4-Necassiera. Allied to Calendula.)

Greenhouse, yellow-flowered evergreens, from South America. Cuttings of small, half-ripened shoots in sand, under a bell-glass, in April or May; sandy loam and a little fibrous peat. Winter temp. 40° to 45°.

O. car'pus (blue-flowered). See Garul'cum viscosum.


OSTRICH FERN. See Onocle'a germanica.

OSTROWSKI'A. (Commemorative of Ostrouwsky, a Russian botanist. Nat. ord. Campanulaceae.)

Hardy perennial herb, requiring a cool situation for its northern aspect. Seeds; divisions in spring. Well-drained soil.


OST'RA. Hop Hornbeam. (From ostra, a scale; scaly catkins. Nat. ord. Mespilaceae [Mespilera]. Linn. 21-Mespilus. Allied to the Hornbeam.)

Hardy deciduous trees. Seeds, which, if sown in the spring, the season after being gathered in the autumn, and kept in a rot-hedge during winter, will make their appearance the year following; layers, cuttings, and grafting on the common Hornbeam; good, deep, moist soil.


,, ironwood.
OTHONNA. Ragwort. (From onhona, lines; referring to the soft, downy clothing of the leaves. Nat. ord. Compositae [Composite]. Linn. 19-1281.)

Greenhouse, yellow-flowered plants, from South Africa, except where otherwise mentioned. Seeds in a mild hotbed, in spring; annuals may be hardened off after wards; perennials, by division of the plant; tuberous-rooted, by dividing them; shrubs, by cutting off half-ripened shoots in sand, under a glass, in May; sandy loam, and a little fibrous peat. Winter temp., 40° to 48°.

ANNUAL.

O. Tagetes (marigold-leaved). See Gompholips annua.

HERBACEOUS.


lip'is off (flax-leaved). 2. July. 1824.


pinnatifida (leaflet-like). See Cineraria othon'oides.

TUBEROUS-ROOTED.

O. amplexicaulis (stem-clasping). See O. amplexifolia.


tuberosa (tuberous). August. 1842.

EVERGREEN SHRUBS.

O. abro'tanifo'lia (southernwood-leaved). See Euryops abro'tanifolius.


Athana' sia (Athanasia-like). See Euryops Athan'asii.

corrina (fleshy). 1. Yellow. 1867.

chearis'fia (wallflower-leaved). See Othonnopsis che'risifolia.

coronop'is (buckhorn-leaved). 2. August. 1871.

cyclus (cylindrical). 1. Yellow.


fiabell'fia (fan-leaved). See Euryops Virgin'neus.


pectina ta (comb-like). See Euryops pectinatu's.


tenuissima (finest-leaved). See Euryops tenuissi'ma.

	ripline'ria (triple-nerved). 4-5. Yellow. 1862.

virg'nea (virgin-like). See Euryops virgineus.

Othonnopsis. (From Othonna, and opsitis, resemblance; it resembles some of the species of Othonna. Nat. ord. Compositae.)


OTTIA. See Pelargonium.

Ottorhynchus. (A genus of weevils, three of which are very destructive in gardens. The Clay-colored Weevil (O. picipes) is the most common, and destroys the foliage, young shoots, and flowers of wall-trees, vines, and raspberries. It is clay-colored, with darker spots on the wing-cases. The Black Vine Weevil (O. sulcatus) is dull black, with furrowed wing-cases. It destroys vines and strawberries. The Red-legged Garden Weevil (O. tenerricensis) when newly developed has the wing-cases covered with small patches or spots of silvery yellow hairs, but these soon rub off, when it assumes a shining black or reddish-black colour. It attacks the buds, young shoots, and leaves of Peaches, Nectarines, Plums, Apricots, and other fruit-trees. All have short stout beaks, compared with many other hurtful weevils. The eggs are laid in the soil, and the legless white maggots prey on the roots of a great variety of garden plants. Those of O. picipes destroy the roots of Maidenhair and other Ferns, Echeverias, Chinese Primulas, and many other garden plants. The maggots of the Red-legged Garden Weevil destroy the roots of Raspberries, Strawberries, Gooseberries. Cuttings of plants infested, and destroyed by these insects, are not safe, as the larvae burrow through the soil. All unnecessary rubbish should be cleared out of infested houses, and the cracks and crevices of walls cemented to destroy hiding-places. Traps, consisting of pieces of board, slates, and tiles can be laid about the house and examined in the morning to destroy the weevils found hiding there.)

Otocilius. (From ous, ous, an ear, and cheilos, a lip; the lip having ear-like lobes. Nat. ord. Orchidaceae.)


O. porrectus. See O. porrectus.

Oto'ste'mma. (From ous, ous, an ear, and stegos, a covering. Nat. ord. Labiatae.)


Othot'ena. See Hoy a lucu'na.

Ot'telia. (The native name in Malabar. Nat. ord. Hydrocharidaceae.)


indica. See O. ovata.


Otter Mote'h. (Heptius humuli.) This insect is also known as the Ghost Moth, from the colour of the nape, which resembles that of a dead mouse, and because of its wavy flight. The male is 3 inches in length; the wings are of a dull grey or brownish black, the abdomen is white, and the wings are more or less transparent. The female is 3 inches in length, and is of a dark brownish black. The female has the head and thorax of a large, flat caterpillar, and is much larger than the male. The caterpillars feed on the roots of many plants, especially those of the genus Heptis, and destroy the leaves and stems of the plants. The eggs are laid on the stems of the plants, and the caterpillars feed on them. The adults feed on nectar and pollen, and do not feed on the leaves or stems.


Ouvirandra. (From ouvirandrum, the water-yarn of the natives of N.W. Tristan da Cunha.) Stove aquatic herbs, with submerged or floating leaves, reduced, as a rule, to the venation and skeleton-like. The common one is known as the Lattice Leaf or Lace-leaved Plant, from this circumstance. Seeds and divisions of the root. The water should be kept at a temperature of 70° to 75°, and, if a small, dripping current of water is allowed to run constantly into the tank it will serve to keep the leaves clean.


Ovary. The central organ or part of a flower, which contains the ovules or young seeds before fertilisation. In the Orchidaceae the ovary is usually a short, globose, fleshy organ which attached to the base of the column, and becomes dry and hard at the conclusion of the life of the plant, and is generally preserved through the winter seasons. Stove aquatic herbs, with submerged or floating leaves, reduced, as a rule, to the venation and skeleton-like. The common one is known as the Lattice Leaf or Lace-leaved Plant, from this circumstance. Seeds and divisions of the root. The water should be kept at a temperature of 70° to 75°, and, if a small, dripping current of water is allowed to run constantly into the tank it will serve to keep the leaves clean.

Oxalis. Wood Sorrel. (From oXus, acid; the acid taste of the leaves. Nat. ord. Oxalidae [Geraniaceae].

Native of South Africa, except where otherwise stated. Hardy annuals, seed in open border, in April, in a shady place; perennials, by division and by seeds; tuberous and bulbous ones, by offsets; the tender ones succeed in a cool temperate climate; if green and frost-excluded; shrubby species, by seeds and cuttings in sandy soil, under a bell-glass, and grown in sandy loam and fibrous peat; all the bulbs in the kind least the tender should be kept dry in winter, and the shrubby have the greenhouse.

Hardy Annuals.


O. Dille'nsii (Dillenius's). See O. corniculata.


O. microphylla (small-leaved). See O. corniculata.

O. prolux'a (proliferous). See Biophytum prolux'a.

O. sensi'tiva (sensitive). See Biophytum sensiti'rea.


Hardy Herbaceous.

O. Acetosella (Acetosella). 4. White, with purple veins. May and June; N. temperate regions (Britain).

O. Cocks' tail. 4. Rose. May and June.

O. Lyo'nis (Lyonia's). See O. corniculata.

Hardy Bulbs.


OXALIS DEPPEI CULTURE


19. pactina' (comb-leaved). See O. FLAVA.


26. recti'na (reclining). See O. GRACILIS.

27. repi'tis (creeping-rooted). See O. Variabilis.

28. rig'a'dula (stiffish). See O. Variabilis.

29. roa's ca (rosy). See O. HIRTA ROSACEA.

30. rostra' (beaked). See O. MONOPHYLLA.

31. ru'bro-fla'sa (red and yellow). See O. Mutabilis.

32. sang'ui'na (bloody-leaved). See O. Laburnifolia.

33. sech'nda (side-flowering). See O. TURBIFLORA.

34. seri'ca (silky). 1. Yellow. May. 1794.

35. speci'oa (showy). See O. Variabilis RUBRA.


37. sulph'is (sulphur-coloured). 1. Pale yellow. October. 1795.

38. sy'kis (wood). See O. Versicolor.


40. tenu'is (thread-stemmed). See O. Corniculata.


43. to'men'sa (fetid). 1. White, with yellow base.

44. A. S. Africa.


46. trem'ula (wavy). See O. Variabilis.


51. grandiflo'o (large-flowered). See O. Variabilis.

52. a'ura (red). 1. Red. October. 1600.

53. S. Africa.

54. venn'sa (lovely). See O. PURPUREA.

55. venu'na (veiny). See O. GLABRA VENOSA.


GREENHOUSE AND STOVE EVERGREENS.

O. Barral'e (Barral'e's). 1. Pale red. September.


2. O. bupe'ris (Bupleurum-leaved). 1. Yellow.


5. O. frusi'co'na (shrubby). See O. Rusciflorum.


O'XALIS DEPPEI CULTURE.—Plant bulbs of this in pots at the beginning of March, and shelter in a cold pit or greenhouse. When all fear of frost is past, plant them in a light soil, and in a southern aspect, about 12 inches apart each way; or the bulbs may be kept out of the ground altogether until the middle of August, and then be planted at once in the open soil. It should be trenched, and a little manure turned in with the bottom spit, as for other tap-rooted crops. The scaly bulbs, from which it is propagated, grow in a cluster round the crown of the root. The only cultivation required is to keep the crop free from weeds, and to water
plentifully in dry weather; otherwise, if the roots are allowed to become dry, they split upon the occurrence of moist weather. Protect from early frosts, in October or November, by a mat covering.

About ten roots are enough for a dish. They are very useful as a vegetable from early in October to the end of November. An inferior kind has often been substituted for it, viz. the O. *jaquinia*; but this is distinguished by having pink flowers. In Belgium, the leaves, being gratefully acid, are used for the same purposes as sorrel, and the flowers are mixed with other salad-herbs.

As it is not a very common vegetable, it may be useful to state, as an improved mode of cooking, that after peeling the tubers, and cleaning out their hollow centres, they must be well boiled in rich stock (gray), skimming off the fat, and then be served up hot, with a sauce made of a little butter heated until brown, with a spoonful of flour, and a little of the stock.

**OXFRA.** (From oixos, tasting like vinegar; in allusion to the taste. Nat. ord. Verbenaceae. A very ornamental stove climber, flowering profusely. Cuttings of half-ripe wood in sand, in a close propagating case, with bottom-heat. Fibrous loam, a little peat, and sand.


**OX-EYE.** *Buphthalmum.*

**OX-EYE-DAISY.** *Chrysanthemum Leucanthemum.*

**OX-LIP.** *Pulmonaria elatior.*

**OX'ANTHUS.** (From oxus, sharp, and anthos, a flower; referring to the sharp-toothed calyx and corolla. Nat. ord. Rubiaceae [Rubiaceae]. Linn. 3-Pentandria, 1-Monogynia. Allied to *Asclepias.*)

Stout, white-flowered, evergreen shrubs, from Sierra Leone. Cuttings of young shoots, a little firm, in sand, under a bell-glass, in bottom-heat, in May; sandy loam, fibrous peat, and a little dried cow-dung. Winter temp., 45° to 50°.

O. hirsutus (hairy). See O. *tubiflorus.*

**speciosus (showy).** 3. July. 1789.


**versicolor (various-coloured).** July. Cuba. 1839.

**OXYP'ATHUS.** Umbrellawort. (From oxus, acid, and bapha, dye's colour; referring to the coloured juice of the roots. Nat. ord. Nyctaginaceae [Nyctaginaceae]. Linn. 3-Triandria, 1-Monogynia. Allied to the Marvel of Peru.)

All purple-flowered, except where otherwise stated. Seeds in ornamental, brown, but better in mild hotbed, in March, and planted out in the end of April; also, by division of the plant in spring; sandy loam; they all require dry places, and protection from severe frost in winter. O. aggregatus (aggregate). 1. Pink. Mexico. 1811.

**a'daibos (white).** 14–12. White. N. Amer.

**angustifo'lius (narrow-leaved).** 1. August. Louisiana. 1812.

**califor'nicus (Californiaan).** 1–2. Purple. California. 1898.

**Cervantes'si (Cervantes'). See O. nyctagineus.**

**chili'ensis (Chilian).** 1. Lilac. September. Chili. 1832.

**decum'bens (lying-down).** See O. angustifolius.

**expansus (expanded).** 2. July. Peru. 1839.


**hirsutus (hairy).** 1. August. Louisiana. 1812.

**malhifo'lius (many-flowered).** See *Mirabilis multi'flora.*

**nyctagineus (nocturnal).** 1. August. Missouri. 1823.

**ovatus (egg-leaved).** 2. August. Peru. 1820.

**pilosus (shaggy).** 1. August. Missouri. 1812.


**OXY'CUCUS.** Cranberry. (From oxus, acid, and kokhos, a berry. Nat. ord. Cranberries [Vaccinium]. Linn. 8-Octandria, 1-Monogynia.)

Hardy, pink-flowered evergreens. Seeds, but generally by dividing the plants, by layering the shoots, by merely placing sandy peat around them, and by cutting off the points of shoots, and inserting them in sandy peat, under a hand-light, in summer. Marshy, peaty soil, such as a bed surrounded with water. The Cranberry, however, has been grown successfully in a bed on a north border, without any water round it, and the produce was good and plentiful. O. *macrocarpus* produces the largest fruit. See *American Cranberry.

O. ore'cius (upright). See *Vaccinium erythrocarpum.*

**macroc'arus (large-fruited).** 1. May. N. Amer. 1760. *American Cranberry.*


**OXY'EDRON.** (From oxus, acid, and dendron, a tree; the taste of the tree. Nat. ord. Ericaceae.)

Hardy shrub or small tree. Imported seeds. Peaty and sandy moist soil.


**OXY'GONIUM.** (From oxus, sharp, and gonos, an angle; both to the divisions of the leaf, or frond. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. Now referred to Asplenium.)

Stove, brown-spored Ferns, from the East Indies. See Ferns.

O. alismatifolium (Alisma-leaved). April.


**vittatum (band-like).** June. 1840.

**OXY'LO'BIUM.** (From oxus, sharp, and lobos, a pod; the seed-pods ending in a sharp point. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Desandria, 1-Monogynia. Allied to the Chili-Berry.)

Greenhouse, yellow-flowered, evergreen shrubs, from Australia. Seeds sown in a mild hotbed in April, after being soaked in warm water; cuttings of young shoots, not too thin, are inserted in a bell-glass, in April or May; sandy peat, a few bits of fibrous loam, a greater quantity of charcoal, broken corks, &c., and abundant drainage. Winter temp., 40° to 48°.


**berberi'siwm (Berberis-leaved) 2. Yellow. April.**

**esculentum (various-leaved).** 1812. Australia. 1836.


**coron'fus (heart-leaved).** 3. June. 1807.


**ovatum (egg-shaped).** See O. *Cunet'atwm.*

**elli'pticum (oval-leaved).** 3. July. 1805.


**obovatum (reversed-egg-shaped). See O. *Cunet'atwm.*

**obovati'sium (blunt-leaved).** 2. Scarlet. May. 1824. *ovatus (oval-leaved) of Meissner. See O. *re'tusum.*

**obovati'sium (oval-leaved) of Lindley and Paxton. See Gasterostegum Pyracematale.**


**OXYP'ETALUM.** (From oxus, sharp, and petalon, a petal; petals sharp-pointed. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. 5-Pentandria, 2-Digynia. Allied to Asclepias.)
OXYRAMPHIS

Stove evergreen climbers, from Brazil. Cuttings in sand, under a bell-glass, in bottom-heat; sandy loam and fibrous peat. Winter temp., 50° to 60°; summer, 60° to 85°.


O. Bartlettii (Buckley), Cream. 1826.


O. nis'is (useful). Gardens.

OXTRAPIUS. (From osus, sharp, and rhambos, a beam; shape of the seed.) Nat. ord. Leguminosae (Leguminosae). Linn. 17-Didiahelia, 4-Decandria. Now referred to Lespedea.)

O. macro sty'la (long-styled). See Lespedea Eriocarpa.

OXYSPORA. (From osus, sharp, and spora, a seed, which is here awned at both ends. Nat. ord. Melastomad (Melastomaceae). Linn. 8-Octandria, 1-Monogynia. Allied to Khezida.)

Stove evergreen shrub. Cuttings of young shoots in sandy soil, under a glass, in bottom-heat, in April; sandy peat, fibrous loam, and nodules of charcoal. Winter temp., 50° to 60°; summer, 60° to 85°.


OXSYSTELMA. (From osus, sharp, and stelma, a crown; referring to the acute little leaves accompanying the flower-head, or crown. Nat. ord. Asclepiad'iae (Asclepiadaceae). Linn. 5-Pentandria, 2-Digyna. Allied to Arousia.)

Stove evergreen climber. Cuttings of half-ripened shoots in sand, under a bell-glass, and in bottom-heat, in May; sandy peat and fibrous loam. Winter temp., 50° to 60°; summer, 60° to 85°.


OXYANTHE'NA. (From osus, oxus, and stoma, a crown; referring to the acute little leaves accompanying the flower-head, or crown. Nat. ord. Asclepiad'iae (Asclepiadaceae). Linn. 5-Pentandria, 2-Digyna. Allied to Arousia.)

A tall stove bamboo. Seeds and suckers. Good fibrous loam and sand.

O. abyss'is (Abyssinian). Stem 3 in. thick at base.


OXY TROPS. (From osus, sharp, and tropis, a keel; the keel-petals end in a sharp point. Nat. ord. Legumi'nosae (Leguminosae). Linn. 17-Didiahelia, 4-Decandria. Allied to Astragalus.)

Hardy herbaceous perennials, from Siberia, except where otherwise stated. Chiefly by seeds, sown where the plants are to remain, as they do not transplant well; though, also, by dividing the plants in spring, and by cuttings of young shoots under a hand-light, in a shady place, in summer; dry, sandy loam.


O. argyrophy'lla (silver-leaved). See O. ARGENTATA.

O. aurea'ris (Auricula). Siberia.


O. cascemi'rina (Cashmir). Himalaya.


Caucasus, 1818.

O. dea'tha (white). See Astragalus ALBUSCULUS.


O. dict'o'ptera (doubly-winged). See O. TRIPHYLLA.

O. fisch'eri (see Fisch'eri) 4. Red. June. O. ARGENTATA.


Turkestan.


O. Halli'ri (Hallier's). See O. URALENSIS.


O. lap'o'nicia (Lapland). Europe. N. Asia.


O. longe'spis (long-pointed). See O. VAGINATA.


O. strobil'lea (cone-like). China.


O. tem'e'la (tender). See O. FLORIBUNDA.


O. unco'ica (uncoiled). See Astragalus UCCUS.


O. visco'sa (clammy). See O. PETITA.

OXY'URA CHERYSANTHEMOIDES. (A synonym of a low yellow-flowering, composite, hardy annual from California, first named by Endlicher, Tollatia, but now referred to Layia calliglossa, which see.)

OYED'EA. (From the Peruvian name. Nat. ord. Composites [Composite]. Linn. 19-Syngenesia Frus-traneae.)

Greenhouse evergreen shrub; same culture as for Buphthalmum.


OYSTER-PLANT. Mert'ensia mar'i'sa.

OZO'THA'MNUS. (From osas, a branch, and thamos, a shrub. Nat. ord. Composites [Composite]. Linn. 19-Syngenesia, 1-Equalis. Now referred to Helichrysum.)

Greenhouse, yellow-flowered evergreens, from Tas-mania and New South Wales. Cuttings of young shoots in sand, with a little peat in it, under a bell-glass, in spring or summer; loam and peat. Require the greenhouse in winter.

O. cinc'ereus (grey). See Helichrysum CINEREREUM.

O. ferrug'i'neus (rusty). See Helicopenicotua.

O. rosmarinifo'lius (rosemary-leaved). See Helichry-sum RUSMARINIFOLIUM.

O. thy'sro'des (thyrsus-like). See Helichrysum DIOS-MARINIFOLIUM.

PACHISTIMA

(PACHISTIMA. (From pachus, thick, and stigma. Nat. ord. Celastraceae.)

Stove trees with large digitate leaves. Cuttings of mature wood in sand, in a close case, with bottom-heat. Loam, with a little sand. A little more success in California than in the north.]


PACHISTIMA. (From pachus, thick, and stigma. Nat. ord. Celastraceae.)
PACHYCHILUS

Hardy, much-branched, evergreen shrubs. Cuttings in a cold frame in summer or autumn. Ordinary garden soil.

P. Ca'nyi (Canby's). Greenish. N. Carolina and Virginia. 1886.


PACHYCLUS. See PACHYSTOMA.

PACHYCOME. (From pachus, thick, and a seed; in allusion to the thick seed. Nat. ord. Menispermaceae.)

Stove climbing shrub, with large kidney-shaped seeds. Seeds: cuttings in sand, in a close case, with bottom heat. Fibrous loam, peat, and sand.


PACHYLOPS NUTA II. See ENOTHERA CAPIFOS.

PACHYNEMA. (From pachus, thick, and nema, a filament; filaments thick. Nat. ord. Dilleniaceae.)

Half-hardy or greenhouse herb, with scale-like leaves. Seeds. Fibrous loam, peat, sand. 1795.

P. complanatum (flattened). Yellow. Australia.

"di stichum" (two-ranked). See P. COMPLANATUM.

PACHYPHYLLUM. (From pachus, thick, and phyllon, a leaf. Nat. ord. Orchidaceae [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria. Allied to Brassia and Maxillaria.)

Cuttings of the young shoots any time during spring and summer, drying them at the base, and inserting them in sandy loam; sandy loam, a little brick-rubbish, and dried cow-dung; little water and plenty of light are required in winter. See ORCHIDS.


PACHYPHYUM BRACETO SUM. See CYTLEDON PACHYHYTRUM.

PACHYPODIUM. (From pachus, thick, and podion, a foot; referring to the stalks of the flowers. Nat. ord. Dogbanes [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Nerium.)

Greenhouse evergreens, from South Africa, with white and red flowers. Cuttings of young shoots in spring, base dried before inserting in dry soil or sandy soil; sandy loam, a little brick-rubbish, and dried cow-dung; little water and plenty of light are required in winter. Temp, 40° to 45°. Propagated also by a division of the fleshy, tuber-like roots.


"Gea'yi" (Geay's). 30-36. A tree, branched and leafy at the top only. Madagascar. 1907.

"Saun'der'si" (Saunders's). Red. S. Africa.

"tomento'sum" (tomentose). See P. TOMETORUM.


"tuber'o'sum" (tuberosum). 1. August. 1813.

PACHYRHTZUS. (From pachus, thick, and rhtzos, a root; roots tuberous. Nat. ord. Leguminosae.)

Stove twining, perennial herbs. Cuttings in sand, under a bell-glass in summer, also sprouts with a piece of tuber and seeds. Loam, leaf-mould, and sand. 1794.


"thunbergi'na" (Thunbergian). See PFEUKA THUNBERGIANA.


PACHYANDRA. (From pachus, thick, and aner, a stamen. Nat. ord. Spurgevores [Euphorbiaceae]. Linn. 21-Monagoria, 4-Tetrandria. Allied to Buxus.)

Stove evergreen shrubs; common, sandy loam. The stove under-shrub; by cuttings in a little heat, but otherwise requiring no particular treatment. The herbaceous, by division in spring; sandy loam and peat.

P. cori'a'tea (leather-leaved). See SARCOCOCCA FRUNDIFORMIS.

"ere'cia" (erect). See P. PROCUMBENS.


PACHYSTOMA. See PACHYSTIGMA.

PACHYSTIGMA PTELEOIDES. See PELTOSTIGMA PTELEOIDES.

PACHYSTOMA. See PACHYSTIMA.

PACHYSTOMA. (From pachus, thick, and stoma, a mouth; in allusion to the thick lip. Nat. ord. Orchidaceae.)

Stove terrestrial orchid that may be grown in pans or small baskets in sandy, turfy loam, and finely broken bricks. Introduced rhizomes.

P. pubes'cens (downy). Java. "spectum" (showy). See LIPSEA SPECIOSA.

"thompsoni'na" (Thompsonian). See ACANTHO-CHILUS THOMPSONIANUS.

"punctu'alum" (finely-pointed). See ACANTHOCHILUS THOMPSONIANUS PUNCTULATUS.

PA'DUS. See FRUNUS FADUS.

PAEDEIRA. (From paederos, opal, or a kind of paint for the face; referring to its transparent berries. Nat. ord. Rubiaceae [Rubiaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Stove evergreen shrub. Cuttings in sand, in summer, in a little bottom-heat, under a glass; sandy loam and leaf-mould. Winter temp, 48° to 55°; summer, 60° to 80°.


PAEDEROTA. (From paederos, paederotaos, bear's breech, or Acanthus mollis; an old adopted name. Nat. ord. Scrophulariaceae.)

Hardy, perennial herbs. Seeds; divisions in spring. Light, well-drained soil.


"amherstiana" (Amberstian). See WULFENIA AMHERSTIANA.


"chamadris'tis" (Chamaders-leaved). ¥. Blue.

"churchill'i" (Churchill's). Eastern Europe.

"multica'ves" (many-stemmed). See WULFENIA CARNIFILIA.

"articulas" (nettle-leaved). See P. AGERIA.

PEONIA. Peony. (Named after Peon, a physician, who first used it medicinally. Nat. ord. Crotots (Ranunculaceae). Linn. 13-Polyanthera, 2-Digynia.)

Seeds for raising varieties, sown in September, in a cold pit, will appear some the first, and others the second, spring, or the herbaceous kinds, by division of the roots. Tree, or Moutan, by division; by grafting on the herbaceous roots; by cuttings of the young shoots in spring, under a glass, and in a little heat; by layers and suckers; by layering young shoots, after ringing round each bud, so that each bud forms a plant; deep, good loam. The Moutans require a little protection in spring; do well for forcing, and for the borders of large, cool conservatories, where the temperature is not kept high in winter.

HARDY SHRUBS.


"superb'a" (superb). Flowers larger. 1905.


PALISOTA

Some of the species are used for killing rats and mice in Brazil. Stove evergreen shrubs. Cuttings in spring, in sand, under a glass, in a gentle hotbed; sandy loam and peat.


di'color (two-coloured). See P. nicotiana.e'olia.

gardeni'o des (Gardenia-like). 2. White, almost perpetual flowering. Mexico. 1845.

f"ugo' sa (joined). Leaves shining green above, purple beneath. S. Amer. 1886.


ora'la (adorned). Leaves olive-green, with red veins. S. Amer. 1875.


PALISOTA. (Commemorative of the traveller, Pali'ot e de Beaupois. Nat. ord. Commelinaceae.)

Evergreen, perennial, stave herbs. Seeds; divisions. Loam, peat, or leaf-mould and sand. Most of them will thrive in shady situations.


Barie'tia (Barter's). 1. Purple. Fernando Po. 1862.

Bis'ola (Bisola's). 1-1. Leaves with greenish-yellow central area. Fernando Po. 1878.


fol'liis vari'egatis (leaves-variegated). Leaves variegated. 1909.

PAI'LIUS. Christ's Thorn. (Name of a plant used by Dioscorides. Nat. ord. Rhamnads [Rhamnaceae]. Linn. 2. Pennantia, 2. Monogynia. Allied to Zizyphus.) Hardy deciduous shrubs, with greenish-yellow flowers. Suckers, which come freely; layers, and cuttings, and seeds. P. austra'lis, from its abundance in Judea, is supposed to be the plant from which our Saviour's crown of thorns was made; common garden shrub.

P. au'zule'sus (sharp-thorned). See P. australis.

Aublie'ta (Aublet's). See P. Ramanis'minus.


Christ's Thorn. 1906.


virga 'tus (twirly). See Zizyphus incurva.

PALLAS'IA GANDIFIO'RA. See ENCelia Halim'folia.

PALLAS'IA HALIMIFOLIA. See ENCelia canescen'sis.

PALENE'S. (From pallens, pale-coloured; in allusion to the pale, chalky scales of the receptacle. Nat. ord. Composite.)

Hardy annual. Seeds in April in the open ground. Ordinarily garden soil.


PALM. Any species of the order Palmaeceae.

PALMA CHRISTI'. Ri'cina communis.'

PALM. Any species of the order Palmaeceae.

PALMA CHRISTI'. Ri'cina communis.'

PALM. CABBAGE. Oreo'xoa olera'cea.

PALM. DATE. Phal'nix dactylifer'a.

PAMETTO PALM. Sa'bal Pamme'to.

PALM, Fan. Any Palm with fan-shaped leaves.

PALMA'RIA BI'COLOR. See HEWIT'TIA bi'color.

PALME'TE. Pri'o'nisum Palmis'tu.

PALM. OIL. Ele'is guineensis.

PALM. PATANA. Eno'ca pus'ata.

PALM. SAVANAH. Sa'bal mauritiana.

PALM. THATCH. Sa'bal blackburnii.'

PALMYRA TREE. Bora'ssus flabel'lisfer.'

PALUMETTA CA'NID'A. See On'ci'dium ca'nid'a.

PAMPS GRASS. Corte'dia ria ar'gent'a.

PANAE'TIA LESSONII. See PO'DOPHILIS LESSONII.

PANAX. (From pan, all, and ako's, remedy; referring to the stimulant drug, Ginseng, to which miraculous virtue is ascribed by the Chinese. Nat. ord. Ic'ytwoods [Araliacese]. Linn. 23. Polygamous, 2-Dicots.)

Cuttings of young shoots under a hand-light, in spring and summer; sandy loam and fibrous peat. Of all the species the following are most worth notice:

P. arbo'reum (tree). New Zealand.

P. armi'tum (army). Leaves bipinnate. India. 1876.

P. au'reum (golden). See P. FRUTICOSUM AUREUM.

P. Balfourii (Balfour's). Leaflets orbicular, blotched and edged with creamy-white. New Caledonia. 1859.


P. crassos'ium (thick-leaved). See PSEUDOPANAX CRASSIFOLIUM.


P. dico'teum (twice-cut). See P. FRUTICOSUM DIFFISSUM.

P. disse'cum (dissected). Leaves bipinnate, drooping. 1882.

P. divario'sium (spreading). See Acanthopanax di'nost'a.

P. duma'sum (bushy). Leaves pinnate and cut. Probably a form of P. fruticosum. 1883.

P. e'legans (elegant). Leaves finely divided. 1850.

P. erect'us (erect). See PSEUDOPANAX PEROX.


P. grandis'num (Deleanu). Leaves much divided. Polynesia. 1883.


P. i'o'alik (Guilloyne's). Leaves variegated with white. Polynesia. 1876.

P. lacias'tum (cut-leaved). Leaves deeply cut. South Sea Islands. 1887.

P. multic'ladum (much-cut). Leaves three times divided. 1887.

P. victo'ria (Queen Victoria's). Leaves variegated with white. Polynesia. 1883.

P. viridi'us (green). See PATASSA HORRIDA.

P. virgi'num (leaf). Leaves binate divided. Brazil. 1888.

P. les'soni (Lesson's). See PSEUDOPANAX LESSONII.

P. longis'sum (long-leaved). 3-4 leaves very long and narrow. New Zealand. 1860.

P. mastera'num (Mastersian). Leaves pinnate, 3 ft. long; leaflets to in. Solomon Islands. 1898.


P. obvi'um (blunt). Java. 1855.

P. orbi'cum (adorned). Leaves pinnate, Brazil. 1888.

P. plum'a'tum (plumed). Leaves bipinnate. South Sea Islands. 1879.

P. quasi'pdium (five-leaved). See ARALIA QUI'PDIA.


P. sessiliflorum (stalkless-flowered). See P. Murrayi.


P. spinosum (spiny). See Acanthophanes spinosum.

P. borinquenii (Queen Victoria’s). See P. Fruticosum Victoriae.

PANCRATIUM. (From pan, all, and kratos, potent; supposed medicinal qualities. Nat. ord. Amaryllidaceae. Linn. 6-Hexandria, 1-Monogynia. Allied to Hymenocallis.) Handsome bulbs, and white-flowered, except where otherwise mentioned. Seeds for new varieties, as well as for perpetuating the older; chiefly by offset-bulbs; sandy loam, fibrous peat, and rotten cow-dung. Temp. for store bulbs, March-October, 50°, summer, 60° to 90°. Even the hardy require a little protection in severe weather.

HARDY.

P. carolinianum (Carolina). See P. Maritimum.


P. labiata (narrow-leaved). See Hymenocallis caribaea.


P. australis (Australian). See Eurycles sylvestris.


P. angustifolium (narrow-leaved). See Hymenocallis caribaea.

P. articulatum (White). See Stenomesson aurantiacum.

P. australis (Australasian). See Eurycles sylvestris.

P. bilobum (two-flowered). See P. Verrucundum.

P. calathifolium (cup-shaped). See Hymenocallis calathina.


P. carbo (Caribbean) of Curtis. See Hymenocallis litoralis.

P. carbo (Caribbean) of Linneaus. See Hymenocallis litoralis.

P. carbo (Caribbean) of Linneaus. 1823.

P. cardinarii (Dryander’s). See Hymenocallis litoralis.

P. expansum (expanded). See Hymenocallis expansa.

P. foetidum (fetid) of gardens. White.

P. fragrans (fragrant). See Hymenocallis ovata.

P. glaucum (bluish-green). See Hymenocallis glauca.

P. guianense (Guiana). See Hymenocallis tubiflora.

P. hulie (humble). See Tapeinanthus humilis.


P. lafitum (broad-leaved) of Miller. See Hymenocalis speciosa.

P. lafitum (broad-leaved) of Ruiz and Pavon. See Hymenocallis speciosa.


P. mexicanum (Mexican). See Lindley. See Hymenocallis litoralis.

P. mexicanum (Mexican) of Linneaus. See Hymenocallis litoralis.


P. nobile (nerved-leaved). See Eurycles sylvestris.

P. nolius (nodding). See Hymenocallis nolius.

P. obovatum (oval). See Hymenocallis ovata.

P. parviflorum (small-flowered). See Vagaria parviflora.

P. pedunculatum (stem). See Hymenocallis caribaea.

P. pallens (spreading) of Lindley. See Hymenocallis caribaea.

P. paniculatum (spreading of Redouté. See Hymenocallis caribaea Patens.

P. pallescens (flaked). See Hymenocallis tubiflora.


P. sahelii (Sahara). White. Sahara.

P. sickenbergii (Sickenberger’s) white. Egypt and Arabia.

P. speciosum (showy). See Hymenocallis speciosa.


P. tubiflorum (tube-flowered). See Hymenocallis tubiflora.

P. undulatum (wave-flowered). See Hymenocallis undulata.


P. variegatum (variegated). A slight variety of Stenomesson aurantiacum.

P. viridiflorum (green-flowered). See Hymenocallis viridiflora.


PANDANOPHYLLUM HUMILE and P. WENDLANDI. See Mafana humilis.

PANDANUS. Screw-Pine. (From pandang, the Malay name. Nat. ord. Screw-Pines [Pandanaaceae]. Linn. 22-Diovia, 1-Monandria.) Stove evergreen tree, with white flowers. Chiefly by suckers; sandy loam. Winter temp., 50° to 60°; summer, 60° to 90°.

P. amaryllidifolius (Amaryllis-leaved) of gardens. See P. levis.


P. aquis (aquatic). N. Australia.


P. Baptistii (Baptist’s). Leaves narrow. New Caledonia. 1862.

P. Barleysii (Barley’s). Mascarene Islands.

P. Blomiae (Blom’s). See P. Dyerianus.

P. boucheanus (Bouchean). Madagascar. 1820.

P. butooyi (Butoye’s). Leaves broad with claw-like prickles. Congo. 1903.

P. Campanulata (Candlestick). 60. Guinea. 1826.


P. ceramesis (Ceram Island). See P. Labyrinthicus.

P. ceramis (Ceram Island). See P. Labyrinthicus.

P. conoideus (cone-shaped). Malaya. 1872.

P. decorus (bifitting). New Caledonia. 1870.

P. discolor (two-coloured). Leaves bronze when young.

P. indica. 1884.

P. doornis (Doornian). Mascarine Islands.

P. dyeri (Dyerian). See P. Baptisti.

P. edulis (eatable). Madagascar. 1824.

P. elegans (elegant). See P. Verrucostoma.

P. epidendrum (green). See P. Verrucostoma.

P. ely sodix (Eydouixia). Mascarine Islands.


P. flabellatus (fan-shaped). See P. Ditelis.

P. flore (flower). 1810.

P. forsteri (Forster’s). Lord Howe’s Island.

P. fuscus (forked). India and Malaya. 1824.

P. glaucum (sea-green). India. 1865.

P. grussonianus (Grussian). Ungava to Sibiria. 1892. Leaves very narrow, recurved. Tenasserim.

P. grussonianus (Grussian). Leaves 3 ft. long, with red spines. Admiralty Isles. 1897.


P. humidus (dwarf). See P. Verrucostoma.
PANDOREA

P. ine'rmis (unarmed) of Blanco. Philippines.

P. ine'rmis (unarmed) of Roxburgh. See P. le'vis.


P. vari'a'tus (variegated). Leaves prickly, edged with white.

P. kerchioi (Kechora's). Leaves long, narrow, with white margins. Admiralty Isles. 1886.

P. kure'za'nis (Kurzian). See P. polyc'ephali'us.


P. le'vis (Lais). Malaya.

P. lati'foli'ius (broad-leaved). See P. bouche'an-us.

P. longi'foli'us (long-leaved). E. India. 1830.

P. longi'florus (marginated), or prophyl'licus (Mauritian). See P. utili'us.

P. maru'ni'cus (point-covered), Madagascar. 1826.

P. mi'tidus (shining). See P. stenophylli'us.

P. nori'scarp'us (loose, with a claw-like spine). Stems 3 ft. long. Portsmouth. India. 1873.

P. mur'a'nicus (entire-leaved). Mascarene Islands. 1840.

P. mild'ro (Milleiro). Nicobar Islands.

P. min'o'tus (entire-leaved). India; Cochín-China. 1825.


P. pan'ehri (Panchère's). Leaves linear, prickly, 3-5 ft. long. New Caledonia. 1877.


P. por'i'a'lis (Porteian). Philippines. 1866.

P. longi'florus (long-leaved) of E. India. January. Mauritius. 1830.

P. ref'e'zus (bent-back). Mascarene Islands. 1818.

P. sand're'i (Sander's). Habit of P. veitchi, but leaves edged with yellow. 1858.

P. salis (stalkless). Tropea. Africa. 1820.

P. spec'tá'bilis (showy). Gardens.

P. spha'res deus (sphere-like). Mascarene Islands.

P. spri'a'sis (spiral). See P. odoratissimus.

P. tenuifol'ius (margined) of Margarita. 1846.


P. tenuifol'ius (slender-leaved). Trop. Amer. 1873.

P. ugo'ni (nipple-bearing). See P. mino'ra.


P. vei'tchi (Veitch). 1818.

P. wa'varin'ius (Wavrinian). Leaves narrow, strap-shaped. Seedling form. 1903.

P. zeyla'nicus (Cingalese). Ceylon.

PANDO'REA. See TECOMA.

PANICLE. A loose, branching bunch of flowers, as in the Oat (Avena) and London Pride (Saxifraga).

PANICUM. Panic Grass. (An Old Latin name for a kind of millet. Nat. ord. Gramineae.)

A large and very varied genus of grasses, some of which are hardy or tender, while the perennials require a greenhouse or store. Seeds, or divisions of the perennials. Ordinary soil for the hardy annuals; loam, leaf-mould, and sand for the tender species.


P. capill'are (hair-like). 2. Summer. Western hemisphere. 1768. Hardy.


P. japo'nicum (Japanese). A cultivated variety of Setaria italica. 1887.


P. plic'a'tum (narrow-leaved) of Blanco. (snowy-striped). Leaves striped with white. 1865. Stove.

P. plic'a'tum (narrow-leaved) of N. Amer. Hardy.


P. texa'dum (Texas). Texas. Hardy.


P. variegate'sum (variegated). See Oplismenus Bu'r'-manni'variegatus.


PANTSEA. (From pan, all, and isos, equal; in allusion to the parts of the flower. Nat. ord. Orchidaceae.) Strove epithet, to the thread. Offsets at the commencement of growth. Fibrous peat, sphagnum, and pot- sherds.

P. tricallo'sa (three-celled). Yellow-green; calli yellow, tipped with brown. Assam. 1901.

"unifol'ia" (one-flowered). See COLGOYNE UNIFOLIA.

PANNING is forming a pan or basin in the soil round the stem of a tree or shrub, in which to pour water.

PANOPTIS. (From pan, all, and ophis, resemblance; possibly from its resemblance to various plants. Nat. ord. Proteaceae. Allied to Roupala.) Strove epithet, resembling. Offsets at the commencement of growth. Whenever the ground is close to the soil, by twisting them about. The situation should be open to the free circulation of the air, and exposed to the morning sun, but protected from the full influence of the midday sun, which injures the colour of the blooms. The plants should be placed together in beds made for the purpose. The situation should be cool and moist, but thoroughly drained; for although the Pansy requires considerable moisture during the blooming season, through the summer months, yet, it is very impatient of superabundant moisture, and the plants will be found never to do well when the soil becomes in any degree sodden.

The Plants should be carefully selected for the purpose of producing blooms for exhibition, as it will be always found that when they have flowered well through one season, they never produce so fine blooms the second. Those who intend to grow these plants for exhibition should select young plants well established from cuttings for the purpose. For the spring exhibitions in May and June, select plants struck the previous autumn, in August and September; and for the autumn exhibitions in September and October, select plants struck in the spring; and after these have produced their blooms, save them for store plants, to produce cuttings, always having a constant succession of young plants for the purpose of blooming.

Propagation.—The young side-shoots are to be prepared for cuttings, as the old, hollow stems seldom strike freely, and do not grow so strong for spring blooming. Take cuttings in the quiet season, as July, in the month of August, or the beginning of September, and for autumn blooming in April and May; these insert either under hand-glasses, or in pots placed in a cool frame in some good, light compost, mixed with a good quantity of
silver-sand, taking care to keep them moderately moist, and shading them from hot suns.

The Disease to which the Pansy is most subject is a withering away suddenly, as if struck by something at the root. This disease has received various names, as root-rot of the Pansy; both cause and remedy are unknown. Old plants are much more subject to it than young ones, and it appears to be most prevalent during hot and dry seasons. When a plant is thus struck, which is indicated by a withering of the foliage, if it be rare and choice kind, immediately take all the cuttings you can get, and strike them, as almost invariably the old plants die. Strong, stimulating manures are protective of this disease. As a preventive keep the surface of the soil frequently stirred.

Insects.—The worst foes of the Pansy are the slug and the snail. To destroy and keep away these vermin, water the bed late of an evening, in moist weather, with lime-water, and sprinkle the surface pretty thickly with fresh wood-ashes. See AGROMYZA.

Box for exhibiting Blooms.—Dr. Lindley says, that the best-constructed box for exhibiting twenty-four Heart's-ease is made of deal, of the following dimensions: 20 inches long, 1 foot wide, and 5 inches deep; the lid made to unhinge; a sheet of zinc fitted inside, resting upon a rim; four rows of six holes, at intervals of 2 inches apart; under each hole a zinc tube soldered to the plate, and intended to contain the water; the apertures to admit the flower made in the form of a key-hole, as it will admit part of the calyx, and keep the flower in its flat position. The outside may be painted green; but the zinc plate should be painted of a dead white.

PANSY FLY. Agromyza.

PANTILES. See BRICKS.

PAPA'VER. Poppy. (From papa, pap, or thick milk; referring to the juice. Nat. ord. PAPAVERACEAE. Linnaeus, 13-Polyandra, 1-Monoandria.)

Seeds of this annual and April, where the plants are to remain; division of the roots of the perennial ones; light, rich, sandy soil.

HARDY PERENNIALS.

P. aculeatum (trickly), 2, Brick-red. S. Africa, 1823.


P. armens (Armenian). See P. CAUCASICUM.

P. atlanticum (Atlantic). See P. RUPEIS FALANGATI.

bractae'um (bracted). See P. ORIENTALE BRACTEA'TUM.

Burs'i (Burse's). See P. ALPINUM.


P. croceum (orange-coloured). See P. NUDICALLA.

florib'un'dum (flowering). See P. CAUCASICUM.

fu'sa (fugacious). See P. CAUCASICUM.

gar'ic pinum (Gariepyana). See P. ACULEATUM.

Held'erti (Heldreich's). See P. SCHINZIANUM.

lateral'um (brick-red). 1, Brick-red. Armenia.

nudicau'le (naked-stalked). 1, Yellow. July. 1730.

Arctic and alpine regions. "Iceland Poppy."


*olym'pticum* (Olympic). See P. PILOTUS.


bractee'um (large-bracted). 3-4, Red. May. Switzerland.

Siberia. 1817.


*pi'um* (long-hairy). Red. 24, Bithynia.


*pyre'num* (Pyrenean). See P. ALPINUM.

*puniceum* (red). See P. ALPINUM PUNICEUM.

P. radicans (rooting). See P. NUDICALLA.

*ru'bro-aurant'acum* (red-orange). See P. ALPINUM RUBRO-AURANTICUM.


s. al'pai (Alpine). See P. PILOTUS.

schinzi'num (Schinzian). 1-2. Orange-red or scarlet. Morocco. 1890.

s. argemonoides (Argemone-like). See P. PILOTUS.

calis'ricum (Californian). 1, Clear orange, with yellow centre.


cor'nis (horn-bearing). See P. PAVONINUM.


Hoo'keri (Hooker's). See P. RHESUS LATIFOLIUM.


*mac'ulatum* (spotted). 4, Scarlet, with large black blotches. 1877.


latif'o'lium (broad-leaved), 3-4. Pale rose to crimson, with white or blue-black blotch at the base. India.

*umbro'sum* (shady). 1-2, Scarlet, with four large black blotches. 1877.

*Polyandria* (Roubieus's). See P. RHESUS.

*seh'gurn* (bristly). See P. SOMNIFERUM.


stric'tum (tight). Phrygia.

tri'li'o'num (three-lobed). See P. RHESUS.

*umbro'sum* (shady). See P. RHESUS UMBROSUS.

PAPA'TA, PAPAW-TREE. See CARICA PAPA'TA.

PAPA'YA, GRA'CILIS. See CARICA GRACILIS.

PAPER LIGHTS were never much employed, and, since the introduction of Whitney's and other compositions for rendering cloth semi-transparent, are still less likely to be employed. Cartridge paper is the best for the purpose. It should be dashed before it is nailed upon the frame, because when dry it becomes taut. It may then be painted over with boiled linseed oil, in which a little white lead has been incorporated. In nailing on the paper, a strip of tape should be placed between the heads of the tacks and the paper, to check the tearing to which the paper is so subject.

PAPER MULBERRY. Brun'son'dia papyri fera.


Modigli'ana (Modigliana). See Lycaste CRISTATA MODIGLIANA.
PARKIA. Nitta-tree. (Named after Mungo Park, the African traveller. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadelphia, 6-Decandria. Allied to Mimosa.)

Stout, evergreen trees, with crimson flowers. Cuttings of half-ripe wood should be planted in sand, under a bell-glass, in May; sandy peat and loam. Winter temp., 48° to 50°; summer, 60° to 68°.


Malaya.

"biglobosa" (two-globed). See P. africanana.

PARKISNO. (Named after J. Parkinson, a botanical author. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decandria, 1-Monogynia. Allied to Polycladica.)

Stove evergreen shrub. Seeds, when obtainable; cuttings of half-ripened shoots, treated like Parkia.


PARMENTIERA. (Commonmemorative of A. Parmentier, who wrote about esculent plants. Nat. ord. Bizniciaceae.)

Evergreen stove tree. Cuttings of half-ripe wood in a propagating case, with bottom heat. Loam, peat, and sand. 1820.


PARRNASSA. Grass of Parnassus. (Named after Mount Parnassus, where, from the elegance of these plants, they were fabulously said to have first sprung. Nat. ord. Saxifragas [Saxifragaceae]. Linn. 5-Fontandaria, 3-Teinophyllum.)

P. palustris is one of our prettiest British marsh plants. Hardy, herbaceous, white-flowered perennial. Seeds and divisions in spring; shady, marshy places.


"asarifolia" (Asarum-leaved). §. July. N. Amer. 1832.

"caroliniana" (Carolina). §. May. N. Amer. 1802.

"fimbria" (fringed). §. July. N. Amer.


"nudata" (naked). See P. asarifolia.


"parsiflora" (small-flowered). §. June. N. Amer. 1820.

"speciosissima" (showy). See P. caroliniana.

"serpentina" (common). See P. faluntris.

PARNASSUS, GRASS OF. See Parnassia palustris.

PAROCHETUS. (From para, near, and ochetus, a brook; its habitat. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Didaphila, 4-Decandria. Allied to Ononis.)

Half-hardy, evergreen, Nepalese creepers. Division in spring; cuttings under a hand-light, in summer; loam and leaf-mould. The protection of a cold pot in winter.


"major" (larger). Lilac. June. 1827.

"olivacea" (Oxalis-leaved). See P. communis.

PARONYCHIA. Nail-wort. (From paronuchia, an old Greek name for a whitlow, which it was supposed to cure. Nat. ord. Illiciaceae.)

Low, creeping, perennial herbs, suitable for the rockery or for carpeting the ground beneath taller plants. Seeds and divisions. Ordinary soil, well-drained.


"capitata" (head). §. Green. S. Europe, &c.

"chiono" (Chiono). See P. capitata.


"ka'epa" (Kapela). §. Green. E. Europe.

"serpillof" (thyme-leaved). §. Silver-green.

Summer. S. Europe. 1882.

PARROT-BEAK PLANT. Citrinus.
the seedlings are 2 or 3 inches high, thin to 10 inches apart, and remove the weeds both by hand and small hoeing. The beds require to be frequently looked over, to remove all seedlings that may spring up averse, as well as to be frequently pinched until the plants cover so close the ground as to render it impracticable.

The roots may be taken up as wanted in September, but they do not attain maturity till October, which is indicated by the decay of the leaves.

In November, part of the crop may be taken up, and, for the tops being cut close off, layered in alternate layers with sand, for use in frosty weather. The remainder may be left in the ground, and taken up as required, as they are never injured by the most intense frost, but, on the contrary, are rendered sweeter. In February or March, however, any remaining must be taken up, otherwise they will be all injured. Being preserved in sand, they continue good until the end of April or May.

To obtain Seed.—Some of the finest roots are best allowed to remain where grown; or else, being taken up in February, planted in a situation open, but sheltered from violent winds. If of necessity some of those are employed which have been preserved in sand, such seed should be selected as have not had their tops cut off very close.

In dry weather water plentifully twice a week. At the end of August the seed is usually ripe; the umbels may then be cut, and when thoroughly dried on cloths, the seed beaten out and stored.

Seed should never be employed that is more than a twelvemonth old.

PARSNIP FLY. Tephrus onoporinis, the Celery Fly, also attacks the Parsnip. See CELERY FLY. The flowers and fruits of the Parsnip are consumed by the caterpillar of a small moth, Depressaria Pastinacella; also by the carrot-seed moth, Depressaria depressilla. In both cases the caterpillars may be shaken down into trawls. PARSONSIA, of P. Brown. See CUPHEA. PARSONSIA. (Commemorative of Dr. J. Parsons, noted for his work with the microscope. Nat. ord. Apocynaceae.) The cypress-greenhouse climbers. Cuttings of short side-shoots getting firm at the base, in sand, under a hand-light in gentle heat. Loam, peat, and sand. P. albiflora (white-flowered). Creamy-white. May. New Zealand. Nearly hardy. *hellophylla* (variable-leaved). See P. ALEIFLORA. *linearis* (linear). New Caledonia. *Paddison's* (Paddison's). 15. Root tuberous, eaten in New South Wales. 1917. *rostrata* (beaked). Rose, New Zealand. 1899. *varia* (variable). See P. ROSEA. *velutina* (velvety). Australia. PARTERRE. Another name for the summer flower Garden. PARTHENIUM. (From parthenos, a virgin; an old Greek name for a plant. Nat. ord. Compositae.) A sprightly small bushy plant. See PARSONSIA. Part the roots is a mode of propagation available with some plants; and where a large increase of an individual plant is required by this mode is desired, it flower-stems should be removed as fast as they are produced. This makes the plant stilt, for whatever prevents the formation of seed, promotes the development of root. PARTRIDGE BERRY. Mitrella re'pens. PARTRIDGE PEA. Hei'ta'ria. PASCALIA. (Named after Dr. Pascal, professor at Parma. Nat. ord. Composites [Compositae]. Linn. 19-Synomenia. 9). See P. ALBA. Steel-blue. A Bastard Feverfew.

PARTHENOCISSUS QUINQUEFOLIA. See Vitis QUINQUEFOLIA.

PARTHENOCISSUS TRICUSPIDA TA. See Vitis IN-COASTS.

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P. a'iko'moa (white-black). White, maroon-purple. Hybrid. 1852.

"amad'biis (lovely)." 10. Scarlet, white. May. Brazil.

amb'guia (doubtful). White, pale pink, dotted with rose-purple, red, violet. Nicaragua. 1902.


a'no'he (narrow-leaved). See P. sUBEROSA.


a'rosa'ura (scarlet). See P. ALBA.

atropuro'ra (dark-purple). Reddish-violet, deep red. Hybrid, racemosa x Loudonii. 1833.


Ba'na'ksiis (Bank's). Purple. Australia. 1867.

ba'ru'a'ria (Bauerian). Norfolk Island. 1871.

bar'aqu'a'mia'sin (Baraquinian). See P. FOTTIDA.


Garden Hybrid. 1850.

bif'o'ra (two-flowered). See P. LUNATA.


"caen'ul'is (hairy)." Leaves blad.

cen'mi'no'ra (twin-flowered). Flowers twin.


car'dias'is (scarlet). See P. AMABILIS.

Cav'a'nilles'siis (Cavmannilles). See P. CIPREA.

chel'id'i'se (swallow-like). Greenish. Leaves swallow-tailed. Ecuador. 1879.


chil'a'sis (hair-fringed). See P. FOTTIDA.

cin'i'na'sin (ringletted). Violet, white. Brazil. 1868.

cin'maba'narii (cin'na-bar-red). Cinnabar. Australia. 1840.


cor'i'ce (leathery). Green, black. September.

corn'siis (horned). Brazil.


deca'mise'ma (Decaisnea). Carmine, white. Hybrid.

dif'o'ro'mis (deformed). See P. CORIACEA.

digi'ta'sis (finger-leaved). See P. SERRATA.

d'i'sco'ria (sleeved). See P. MACIMILIANA.


"Granadilla."

di'vrus'ca (wart-bearing). White. purple. Brazil.

fobo'ycia (broad-leaved). Whitish, British Guiana, 1900.


"flo'ida (fadd)." White, purple, blue. Summer. Brazil. 1731.


ful'igens (shining). See P. Coccinea.

eba'illa (greenish-yellow). Greenish-yellow, 3 in.


lasi'lego'ra (square-stemmed). White, green, purple. W. Ind.; Mexico.


gra'siis (Hahn's). White, yellow. Trop. Amer. 1870.

hel'berbio'ri'a (Helleborus-leaved). Rose, purple. Trop. Amer. 1866.


P. hier'su'sia (hairly) of Linnseus. See P. sUBERO'BA.

hier'su'sia (hairly) of Lodges. See P. FOTTIDA.

hi'spi'dula (bristly). See P. sUBERO'BA.

hol'o'se'cea (wholly-silky). White, red. June to August. Mexico. 1733.

Hou'k'sia (Mettla). See P. macrocarpa.

i'm-Thur'm'si (Im-Thurn's). Sepals scarlet, petals rose or nearly white. Guiana. 1898.

Innes'si (Innes's). White, red. Hybrid. 1870.

Innes'siis (Innes's). See TACSONIA.

Jen'ma'si (Jenman's). Guiana.

jor'ru'li'sis (Jorullan). Yellow, orange. Guatemala. 1850.

kawam'ura (carmine). See P. RADDIANA.

ke'wes'sin (Kew). Hybrid between P. raddiana and P. carulla. 1888.


mac'o'ro'ca (large-fruitled). White, purple. Brazil. 1866.

mac'o'ro'ca (blotted). See P. sUBERO'BA.


Mado'na'ma (Madonna). Hybrid between P. racemosa and P. Buonapartes.


man'i'c'a (sleveed). See TACSONIA.

mar'mo'rea (marbled). See OPHOCALOUM.

ma'xi'mi'lana (Maxilliam). Green, white. Brazil. 1800.

Medi'sei (Medius's). See P. JORULENIS.


Mi'es'si (Miers's). White, pink; corona white, purple, violet. Brazil. 1888.


Buenos Ayres. 1837.

Mun'ro's (Munro's). Garden hybrid between P. alata and P. carulla. 1889.


nig'e'le'sia (Nigella-flowered). See P. FOTTIDA.

nig'e'le'sia (Nigella-flowered). See P. sUBERO'BA.


on'y'ch'nana (Lieutenant Sullivens's). See P. AMETHYSTINA.

organ'e'sis (Organ-Mountains). Green, violet. Brazil. 1840.

pa'llida (pale). See P. sUBERO'BA.

pal'ma's (hand-shaped). See P. FILAMENTA.

pel'ta's (shield-shaped). See P. sUBERO'BA.


Pfor'froi (Pfordt's). See P. MUNROI.

ph'e'me'ra (Chinese). See P. ALTA PHRENICA.


pri'nceps (chief). See P. RACKHA.


punc'ta's (dotted). See P. TUBERO'BA.


quadrilobu'la'se (four-glandled). Trop. Amer.


re'Mexico.

re'flexfo'ra (reflexed-flowered). Ecuador.


**P. sibéri'a** (serrate-leaved). S. Amer.


**P. verruc'i'fa** (wart-bearing). See P. edul's verrucifi'era.

**P. ves'tipé'ti** (bat) of Ker-Gawler. See P. max'imi'liana.

**P. ves'tipé'ti** (bat) of Linneus. Trop. Amer.

**P. viola'cea** (violet). Pale lilac; corona blue, white, violet. Brazil. 1858.

**P. violo'si'la** (vine-leaved). Vermilion-rod. Panama.

**P. watsoni'a na** (Watsonian). White, flushed violet, lilac; corona violet, white. Brazil. 1886.

**P. web'eriana** (Weberian). White; corona banded with white. Summer. Argentina 1885.

**PAVETTA.**


**P. jatama'ensis** (Jathamans). See NARDO'S CHYS JATA-MAENS.


**P. ru'bis'tis** (rock). See P. inter'media.


**P. vil'o'sa** (shaggy). Japan.

**PAULLINIA.** (Named after S. Pauli, a Danish botanist. Nat. ord. Souwpòrts [Sapindaceae]. Linn. 8- Octaméria. 1-Atri'mia. Allied to Sapindus.)

Stove evergreen, white-flowered twine. Cuttings of ripe shoots in sand, under a bell-glass, and in bottom heat; loam and leaf-mold. Winter temp., 60°; summer, 60° to 88°.

**P. asi'a'ica** (Asiatic). See TODDALLA ACULATA.


**P. carthagìnì'na** (Carthagenia). See SERJANIA CURAS- SICA.


**P. hi'pi'da** (bristly). 20. S. Amer. 1825.

**P. oo'cussi'na** (ocean). Pacific Isles. 1879.

**P. pa'li'da** (pale). See S. CHINENSIS. Curassavica.


**P. se'na'gallse** (Senegal). See SERJANIA CURAS- SICA.

**P. sa'ro'sis** (little-Sorbus). See P. cupana.


S. Amer. 1871.


**PAULOWILHELMIA.** (Commemorative of Paul Wilhelm. Nat. ord. Acanthaceae.)

A greenhouse evergreen subshrub allied to Ruellia. Cuttings in sand under a bell-glass, loam, leaf-mold, and sand.


**PAULOWIA.** (Named after the hereditary princess of the Netherlands, daughter to the Emperor of Russia. Nat. ord. Figwòrts [Scrophulariaceae]. Linn. 14-Didy- namia, 2-Angiosperma.)

Cuttings of young shoots, when a little firm, under a hand-light. P. impé'ria'lis is deciduous, with beautiful foliage, age, quick growing, somewhat resembling a Catalpa, and said to be hardy, and not only has stood the winter, but flowers in the spring, with us it has been killed nearly to the ground every season; deep, good loam; might stand better if starved in summer.

**P. Ductu'xii** (Ductoux's), 30-50. White, pale rose inside. Yunnan, China. 1908.


**P. lab'a** (white). White. China. 1905.

**P. lan'a'la** (woolly). Plant more woolly-down than in the type. Central China. 1908.

**PAVE'TTA.** (The East Indian name. Nat. ord. Rubiads [Rubiaceae]. Linn. 4-Tetràdria, 1-Monogynia. Allied to Ixôra.)

Stove, white-flowered evergreens. Cuttings of half-ripened wood, in sand, under a bell-glass, in spring, sandy loam and fibrous peat. Winter temp., 45° to 48°; summer, 60° to 75°.


**P. a'la'ba** (white). See P. indica. 

**P. an'a'ra** (narrow-leaved). See P. hispidula.


**P. borbo'lica** (Bourbon). 3. Leaves blotched with white and red. Bourbon. 1878.


**P. faci'liisima** (most-fetid). See PUTORIA CALABRICA.

**P. gardeni'a'fí'lia** (Gardenia-leaved). 1-3. Abyssinia.

**P. hispi'dula** (Cathay). 3. India.

**P. ind'i'ca** (Indian). 3. September. E. Ind. 1791.

**P. ja'vana** (Javanese). See IXORA JAVANICA.

**P. madagascari'nsis** (Madagascar).

**P. mon'a'la** (mountain). 14-2. Java.
PAVIA. (Named after P. Paz, a Dutch botanist. Nat. ord. Soaptree (Sapindaceae). Linn. 7-Heptandria, 1-Monogynia. Now referred to Asclepius.)

P. califlorica (Californian). See Asclepius Californica.

"'scol (foam-coloured). See Asclepius carnea.

P. discol (two-coloured). See Asclepius flava pura.

P. pascui (yellow). See Asclepius flava.

P. malva (Malvacean). See Asclepius indica.

P. macropteta (large-fruited). See Asclepius Pavia.

P. macrostachys (large-spiked). See Asclepius farvia.

P. neglecta. See Asclepius neglecta.

P. rostrata (red-flowered). See Asclepius rostrata.

PAVONIA. (Named after J. Paxon, a Spanish botanist. Nat. ord. Mallowworth (Malvaceae). Linn. 16-16Madelidia, 8-Polyandria. Allied to Malvaviscus.)

Stove evergreens. Cuttings in sand, under a glass, in heat; sand; cold; box. Stove temperature.


P. makoyana (Makoyan). See Geihea makoyana.

P. malaccophylla (soft-leaved). See P. velutina.

P. multiflora (many-flowered). Purple. August, Brazil.


Braz. 1823.


P. Wo (Woit). See P. multiflora.


P. rosea (rosy). See Spathoglottis rosea.

PEA. (Pisum sativum). There are many varieties, but a few will serve for growing of small or moderate sizes, which can be planted now:

Large Goliath, 3 ft.;

Giant Lightning, 4 ft.; and a very early round pea is Bountiful, 3 1/2 ft., which may be sown in autumn.

First-class, first-early Marrowfat Peas are Edward VII, 15 in.; William Hurst, 15 in.; William Wonder, 21 in.; Little Marvel, 15 in.; Ideal, 21 ft.; May Queen, 25 ft.; and Gradus, 4 ft., with rich Nplus Ultra flavour.

Favourite, second-early round Peas are Pride of the Marquis, 2 ft.; and the round Marrowfat Peas of this class are Duke of Albany, 5 ft.; Edwin Beckett, 5 ft.; Daisy, 2 ft.; Centenary, 5 ft.; Telephone, 5 ft.; and Duke of York, 5 ft. Marrowfat, in this class, are Duke, 7 ft.; and the early variety are the All 4 ft.; Glory of Devon, 4 ft.; Alderman, 4 ft.; Quite Content, 5-6 ft.; Stratagem, 2 ft.; Frizewinner, 2 ft.; and Peerless, 2 ft.; The best late Marrowfat Peas are the 4 ft.; Ne Plus Ultra; and then take the Veitch's Perfection, 3 ft. Favourite exhibition Peas amongst the above are Duke of Albany, Centenary, Edwin Beckett, Telephone, Duke of York, Alderman, Best of All, Peerless, Stratagem, Quite Content, and Frizewinner.

One quart of an early variety of pea is quite sufficient for sowing a row 100 feet in length; half a pint less sown in the same distance of the blue varieties, and one pint of each of the large. Peas planted when the soil is rich, well pulverised, and pretty free from slugs, &c.

Soil.—A soil moderately rich and open is best, rather inclining to strong for the lofty growers and main crops, but rather light for the dwarf varieties. The soil on which the varieties will grow on poorer and lighter soils than the others.

Early Peas.—The best mode of obtaining these is according to the following plan, suggested by Mr. Bishop, gardener to C. Baldwin, Esq., of Camberwell:

In the last week of January, cut some turf in strips of 3 inches in width, the length depending on the width of the field, and which may be from 3 to 6 ft. along the piece of turf in the frame, grass downwards, close together; then make in the centre of each piece of turf, by pressing it with the edge of a board, a drill, in which sow the pea 2 inches deep, and then shut them down at night. Keep them close till the beginning of March. When the peas are to be planted in the border, lift the box entirely off, and the strips of turf, in which the peas will be well rooted, and place them on a hand-barrow, and take them for bordering, which do in a drill cut so deep that they shall be about an inch wide, and than 38 inches apart. It is necessary to protect them from frost and cold winds at first, and this may be done by putting some short sticks along the rows, and laying some long litters or cuttings of evergreen—Garlands are very useful. Sowing.—In January they may be sown in sheltered borders, and larger supplies in an open compartment, and thence continued throughout February and until the end of the season. It is necessary to plant Peas very thickly, 1 inch apart, for the first production in the following year, a small sowing may be made at the close of October, and repeated about the middle of November and December, though it is better to take it by separate drills, rather than those inserted in the following February.

Sow in drills, or by the dibble in rows, at a distance proportionate to the height to which the variety grows, as well as according to the time of sowing, Drills at 2 ft., for the early and late crops, but 3 feet for the main ones; Marrowfats at 3 or 4 feet; Knight's Marrowfats and other gigantic varieties at 6 or 8 feet. Peas not intended to be supported should the drills be 15 inches apart. For the early late sowing the seed should be buried 1 inch deep, but for the main crops 1 1/2 in. With respect to the distances, it may be inserted in the row, of the Dwarfs, in 2 in. inches; Bells and others should be planted 2 1/2 inches apart; in the tall and Ne Plus Ultra, as well as others of similar stature, full 1 inch apart. The best mode is to sow in single rows, ranging north and south, and the sticks alternately on each side of the row. If the rows range east and west, put the sticks on the south side.

When the summer sowings are made, if dry weather is prevalent, the seed should be soaked in water for two or three hours, and then plant close to the drill, or they will be wasted.

When the plants have advanced to a height of 2 or 3 inches, they are to be hoed, and earth drawn around their stems. This should be done twice or three times growth. When grown for seeds, hoed after the flowers have been cut off, and the plants may be left. It should be performed in dry weather; for the winter-standing crops it should be especially attended to, as it protects them greatly from frost.

Sticking is not required until the plants show their tendrils. If, during the time of blossoming or swelling of the fruit, continued drought should occur, water may very beneficially be applied, but may be poured out, if the rows, if hoed, are on a trench, one side of each. Watering the leaves is rather injurious. Failures in the rows of the earliest crops may be rectified by transplanting. This is best performed in the evening, when the plants have taken root, and also shaded if the weather is hot. It is a good practice to nip off the top of the leading shoots of the early and late crops as soon as they are in blossom, the end of June.

Too much care cannot be taken, when the pods are gathered, not to injure the stems.

The more regularly the plants are gathered from, the longer they continue in production, as the later pods never attain maturity if the earlier ones are allowed to germinate and grow into pods. When weather is unfavourable, the winter-standing crops require the shelter of litter or other light covering, supported as much as possible from the plants by means of branches; ropes or twisted straw-hands are good for this purpose, but should be fixed along each side of the rows with wooden pins driven into the ground. Whichever mode of shelter is adopted, it must be always removed in mild weather, otherwise the plants will be broken, and the setting and maturity of the fruit. Too much care cannot be taken, when the pods are gathered, not to injure the stems.

To obtain Seed, leave some rows that are in production during July, or sow purposely in March. Care must be taken, however, that no two varieties are in blossom together, and it is useful to be allowed to grow for seed, not to be from March, but for seed ought never to be gathered from. When in blossom, all plants which do not appear to belong to the variety among which they are growing should be removed. They are fit for harvesting as soon as the pods become brownish and dry. When perfectly free from moisture, they should be beaten out, otherwise, if
hot, showery weather occurs, they will open and shed their petals.

Forcing commences in December, in the early part of which month they may be sown in a hotbed to remain, or thick to transplant, during the succeeding month, into others for production. Sowing is best done in January, and transplanting takes place in February. It is also a common practice to sow in a warm border during October, and the plants being cultivated as a natural ground crop, are removed into a hotbed during January. The seed must be sown, or, if sown in pots, and earthed equally over the depth of 6 or 8 inches with light, fresh mould not particularly rich. The seed must be buried ½ inch deep. The frame, which is required to be 2½ feet high behind, its upper surface should be kept free from weeds for three days before the crop is sown, that the steam and heat may abate. Seed may likewise be sown at the above times in pots or pans, and placed round the bins of the stove. At the close of September, also, some peas may be sown in pots, and sunk in the earth of any open compartment; when the frost commences, to be removed into the greenhouse. A border of fresh earth being made in the front of it early in December, the plants are removed into it, in rows 2 feet asunder, or, still better, in pairs, with 10 inches interval, and 2½ feet between each pair. These will come into production about the middle of April.

In every instance, as stated above, the rows should be 2 feet, the seed or plants being set an inch asunder. The plants are ready for moving when an inch or two high. They must be shaded and gently watered until they have taken root. It is of the utmost importance to strike their roots at the time of removal as possible.

Transplanted peas are most productive, and run the least to straw in the forcing frames. Air must be admitted freely. At times, the head of the stove, the precautions being necessary as for Cucumbers. Water must be given at first sparingly, otherwise decay or super-luxuriance will be occasioned; but when they are in blossom and setting fruit, they can be well watered during the day, may be applied oftener and more abundantly, as it is necessary for the setting and swelling of the fruit. The shading during hot days, and covering at night, must be done with care and attention. A period of five months elapse between the times of sowing and production, according to the fineness of the season, length of the days, &c.

The temperature may be uniformly kept up throughout their growth, having 50° for the minimum at night, and 70° for their maximum by day.

PEA WEEVILS. See STOMA.

PEACH. Prunus Persica. Select Varieties in the Order of their Ripening.—Those in italics are good forcing peaches. Early Alexander, Hale’s Early, Dr. Hogg, Grosse Mignonne, Dyndom, Royal Genevan, Gaudet, Gallica, Grosse, Holzegardt, or Grandissimus, Late Admirable, Walburton Admirable, and Princess of Wales.

Propagation : Budding.—This is performed during July. (See Bunning.) Some persons plant the stock against the wall in its permanent situation, and bud it there; but peaches are principally budded in the nursery. The bud is introduced at about 6 inches from the ground. It remains dormant until the succeeding spring, when, if the head of the stock is cut off close above the bud, and the wound paged off particularly neat, in order that the returning sap may heal and skin it over. It is a good practice to glut the remaining part of the stock with male blooms, in order to exclude the air and moisture. During this summer the young bud will produce a shoot of 2 or 3 feet in length, and this is headed back in the suc- ceding autumn, the growths being cut off short, thus leaving about 5 or 6 inches of the base of the shoot. The bud generally produces laterals during the first summer, especially towards the upper end; and the point where these commence branching generally dictates the point to which they are cut back. In the summer following, they will produce four or five shoots, which must be carefully trained, and kept totally free from insects, and in the succeeding autumn the tree is fit for removal to the ordinary growing ground. This is done in May after the budding, the trees being termed by our nurserymen maidens, but in the succeeding summer they are termed trained trees. There is no better stock for general peach-budding than the Plum, a kind called the Muscle being very general in use. Some persons advocate the use of either the common Scots or the common Irish plum stock. The latter is scarcely safe to recommend the practice. The Ameri- cans, to be sure, raise many of their orchards from the stone; but they have a very different climate to deal with, and with more, many complaints of the inferior character of the fruit. The natural practice may either be sown in heat to expedite them, or other- wise. They should be cleaned and dried at the ripening period, and may be sown late in the autumn, care being taken that the seed set properly. In the mean time, they must be carefully transplanted like other shrubs; those raised in heat in pots, and those in the open ground to the nursery immediately after one summer’s growth, unless the care of them is not attended to. They may be formed as other stocks, and their subsequent culture similar.

Soils, &c.—The selection of a proper soil, and the securing a sound and dry subsoil, are of as much importance with the peach as with the vine. Three-fourths of the trees in this kingdom have been ruined by borders too deep, too damp, and too rich. Unless proper means be taken to ripen the wood, all other labours are vain. The first step in root culture is to examine the subsoil; if this is not sound and dry, it must at once be thoroughly drained. As to depth of soil, we do not exceed 2 feet, and we feel it more than 2 feet. A depth of 3 feet is a requisite. How much, however, that depth is above the ground-level must depend on the character of the locality: if a low and damp district, we would have nearly half the volume of the soil above the front wall; if a very dry and even elevated, the proportion of the surface of the place should have an influence; and in many parts of Scotland and the north of Ireland we should raise nearly the whole border above the ordinary level. When 2 feet in depth and two feet in width, the soil must be removed, not the stones only, but whatever is the colour, it is absolutely essential that it be of a texture slightly adhesive. We introduce no manure with such a soil, but generally mix with it about one-third of the same, or, in other words, for each foot of the subsoil, about one-sixth of ordinary stone or shrub leaves with the whole. We generally make an artificial subsoil, planting on what we term " prepared stations." The site being levelled, the subsoil is added, and the surface of the ground is composed of sanded loam, or of earthy, imperishable rubbish, is strewed over the bottom, and then covered with cinders; the latter have a couple of barrows of half-decayed leaves spread over them. This comprises the whole of our preparations. As for manures, we top-dress systematically every year in May: this forms an essential accompaniment of the shallow border system.

Culture during the Growing Period.—Protection to the blossoms is the first thing in early spring. (See Propagation.) The next point is disbudding. Healthy trees are sure to produce a host of little shoots, which must not be retained. Disbudding is best performed by the simultaneous and rapid removal of the two or three shoots growing the most in the manner of the others. In short, the word is to remove all but what it is intended to retain, as early as possible;

Cultivation is a regular system of thinning or disbud- ming, which is at least equal to any other mode, acute angles, of course, are formed by every two branches when they meet. The lowest shoot in an arch leads to each other, and in the case of any side-shoots to complete with the leading one; these, therefore, all within 4 or 5 inches may be stripped away, or, if doubtfully, pinched. And now a regular thinning or dis- budding must be carried out between the bole and the extremities of the branches; and the only requisite is not to suffer, if possible, two young shoots to proceed side by side from any given point. Thus, training from any young shoot at the base, we would reserve another nearer than 4 or 5 inches up any given line, and
so on, all over the tree. One thing may be observed; if the operator is at any time doubtful about a young shoot, let him merely pinch the point instead of totally removing it; at the finishing disbudding he will perceive whether it is to be or not to be. Disbudding should be completed a little before Midsummer. During this period the fruit must be thinned, if too thick, and this may be done at three different periods; the first, when the fruit is as large as a gooseberry. If these operations are completed and the crowdbed behind the shoots, the may be taken away. The remaining, if too thick, must be singled out, leaving none in pairs or touching each other. At this period, they may average 3 in. in diameter, and other slight thickening may be made, taking away a few where crowded; and now the remainder may be retained until the storing is nearly completed, which will be in the course of July, when the fruit is of a size to be either picked away. It is difficult to give any set rule as to distance, so much depends on the powers of the trees; from 6 to 8 inches apart, finally, may be considered a fair crop. Water should be liberally must be during the season; but, not to wound them. All can shoo5; robbers, should be pinched when about 6 inches in length, throughout all the growing season. 

Culture during the Rest Period.—Do not brush off the foliage. This is done in the Summer. Summer and Autumn are, on the whole, the only unsuitable, but really absurd. If the Summer's management has been right, the pruning will be but a small affair. It consists of thinning out the shoots and spurs; and not allowing them back as much of the point of each shoot as appears immature: this is readily told by its colour and general character. These things done, the trees must be neatly trimmed and burnt. The first, and perhaps most, of February, about which time we cover ours to retard the blossom-bud. Before covering them we apply a sulphur-paint, as a preventive of the red spider. This is simply sulphur, melted in hot soap to a gallon, adding nearly as much sulphur as it will carry, and plenty of clay to give it a body. This is applied in all directions, between the shoots, with a painter's brush. In order to soften the colour, it well to cover them with two or three coats, and let them dry. 

Diseases.—The Gum is the principal; and as a gumming habit is readily induced by wounds, especially if the tree be growing in a deep and rich soil, great care must be taken to see that no wound, however small, is left. Rich soils, also, must be avoided, and manurial matters applied, for the most part, on the surface. The Mildew is a great annoyance to some cultivators. Sulphur is very generally used, and is most effective, particularly if applied from behind the tree, and at the root the best preventive. Blistered Leaves are said to be caused by cold at the germinating period; but this we much doubt. It probably arises from irregular drying of the young leaves, and may be easily prevented. The blisters are caused by ungerial soil and ill-training; indeed, it would not be difficult to trace three-fourths of the evils to which the peach is liable to ill-conditioned wood. The immediate cause is the fungus deformans. 

Insects.—See Aphids and Acarous. 

Forcing: Form of House.—The best form for a peach-house is that thus described by the late T. E. Knight, Esq.:—

As the lights, to be moved to the required extent with facility, must necessarily be short, the back wall of the house must scarcely extend 9 feet in height, and this light, to be effective, it is necessary that the heights sufficiently high to permit the tallest person to walk in safety with out touching them. The lights are divided in the middle, and the lower are made to slide down to the ground, and the upper to the middle. The flue, or hot-water channel, in the form of a hollow brick or a hollow tile, and passes within 6 inches of the east and west wall, but not within 2 feet of the low front wall, and it returns in a parallel line through the middle of the east wall, between the east and west walls, and passes out at the point at which it entered. The house takes two rows of peach or nectarine trees, one of which is trained on trellises, with intervals between for the gardener to work into the road or end walls. These trees must be planted between the flue and the front wall, and the other row near the back wall, against which they are to be trained. 

It is to early the trees are planted in the front, and the earliest when the flue first enters, these being trained immediately over the flue, and at a small distance above it, will ripen first; and if the lower lights be drawn down in fine weather to the ground, every part of the tree on the trees, which are trained nearly horizontally across the peach-house, will receive the full influence of the sun. The upper lights must be made in a narrow section of cord and pulleys, and if these be let down to the middle, after the fruit in the front tree is gathered, every part of the trees on the back wall will be fully exposed to the sun at that season. Sufficient ventilation is imparted by the middle of April, without the intervention of the glass. A single fireplace will be sufficient for a house 50 feet long, and the foregoing plan and dimensions will be found to correspond with the measurements of a few very large peach-houses, which are never to be obtained in a larger or wider house. Both the walls and doors must stand on arches, to permit the roots of the trees to extend themselves in every direction beyond the limits of the walls, for whatever be the more remote cause of mildew of fruit, the chance of its arising is to be want of moisture beneath the soil, combined with excess of moisture or dampness above it. A bar of wood must extend from the wall to the ground, opposite the middle of each of the partition walls; and the same when drawn down.—Knight's Select Papers. 

The soil, culture, and pruning are the same as required for those trees grown on walls. 

Forcing in the best excellent mode, and enables the peach to be thus grown in establishments where there is no regular peach-house. Pot a three-years-old tree in a 14-inch pot, cutting it back to four buds, and shift every year until you reach those buds which need never be exceeded. Let the soil be turfy, and mixed with decaying wood from the bottom of an old wood stock. 

Compliance with Temperature.—The best and most successful directions on these points are the following, given by Mr. W. Hutchinson, gardener at Eatington Park. He says:—"Bring the trees into the house in mid-winter, 9 or 10 feet apart, and allow room for the frames, according to the state of the weather; do not start them all, however, at once; the last lot need not be put in until the 1st of January. Any later than this would not answer, as the weather, if clear, is then hot through the day, and it is better to let them at 55° at night, allowing the thermometer to fall to 50° in the morning, if cold; but if the weather is mild, never to fall below 55°, and from that to 60°, is the usual temperature kept during the day. During the day I make up for low night temperature, when I have the chance, by sun heat. Do not be fidgetious about a few degrees; to get it high enough is the main thing, at the expense of losing the fruit is stoned; then keep them very hot during the day, viz. from 95° to 105°, and sometimes even as high as 110°. Of course a great deal of moisture is required with this heat, and the dried leaves are removed at the day, and sometimes often when the air is dry, and you will scarcely ever be troubled with either green-fly or red-spider. Watering at the root must be carefully attended to; very little is wanted, and the trees are covered with leaves, but after the fruit is stoned they should be watered plentifully. Of course the watering must be gradually withdrawn as the fruit approaches maturity, in order to increase the favour."—Gard. Chron. 

When the blossoms are well opened, imprigation should be aided by applying the pollen with a camel's hair-pencil, by lightly brushing the flowers with a rabbit's tail, tied to a cane, and by tapping the trees with a cane or stick. Some are of the middle of the day, when the ventilators are open. 

One essential for securing vigorous production in the peach-house is to have the roots of the trees well nourished. To these ends, the trees must be well watered and fertilised with manure and moisture only by day, during the time the fruit is setting and swelling, a failure of the crop is inevitable. To secure such a supply, it is a most effectual treatment to give the border a top dressing of well-rotted manure of cowdung 1 or 2 times a week across the soil and appearance of the trees indicate is necessary. 

Standards.—This is the name we have grown the peach successfully, both as a standard and as an espalier, in a garden sloping to the south, and well protected from the east and west by strongly winds. 

PEACH BLISTER or LEAF CURL. It is well known that Peach Blister is due to the work of the fungus,
Exococcus deformans, which lives perennially in the young wood, passing into the buds and the young leaves on the resumption of growth. It also attacks the almonds. The young shoots are often attacked by the lees, which are usually much curled, distorted, thickened, and pale yellow-green, but, later on, rosy or purplish, and often deep red on the Almond. The fungus spreads inside the leaf, but breaks through the epidermis in the blaze of a sun, presenting a vaporous appearance, due to the numerous cups or ascii, containing eight ascospores, which serve to spread the fungus. Shoots bearing diseased leaves should be cut back beyond the point of infection and are thus protected. The fallen leaves should also be raked up and burnt. A sudden fall of the temperature, after the trees are in leaf, is favourable to the rapid spread of the fungus, while warm weather checks it.

Spraying with a dipotassium solution of Bordeaux mixture when the leaves commence to unfold, and again three weeks afterwards, will prevent fresh attack from spores brought by the wind.

PEAR. Pyrus communis. Superior Dessert Kinds, arranged in the Order of Ripening.—1, Citron des Carmes; 2, Beurré Giffard; 3, Jar- geotte de Sceaux; 4, Giffard du Congrès; 6, Marguerite Marillat; 7, Dr. Jules Goyot; 8, Beurré d'Aranais; 9, Fondante d'Autonne; 10, Louise Bonne of Jersey; 11, Marie Louise; 12, Doyenné du Comice; 13, Beurré d'Automne; 14, Beurré d'Esperance; the comparable; 15, Thompson's; 16, Knight's Monarch; 17, Glou Morceau; 18, Nouvelle Fulyvie; 28, Easter Beurré; 19, Winter Nelis; 20, Josephine de Malines; 21, Olivier d'Esperance d'Automne; 22, Nec plus Merus; 24, Beurré Rance.

Kitchen Pears in the Order of their Ripening.—1, St. Lézin; 2, General Tottleben; 3, Catillac; 4, Bellissime du Jour; 5, or Unedale's St. Germain.

Useful and Profitable Orchard Pears.—1, Beurré de Caipaumont; 2, Beurré Clairgeau; 3, Louis Bonne of Jersey, Williams's Bon Chretien; 4, Jargonnelle; 5, Pitummanche D'Uriage; 6, Glou de la Bretagne; 7, of the centre of England must make allowance accordingly.

Of Dessert Pears, Nos. 1, 2, 3, 4, 6, 9, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 21, will suit off well, if necessary, as espaliers, pyramids, &c.; that is to say, they will do very well without a wall. Of course, the orchard pears may be added to this section, if necessary. Nos. 4, 10, 22, 23, 24, should have a wall, if possible. In cold, northern districts, 4, 10, 22, 23, 24.

Propagation.—Grafting is the usual mode; and for this purpose two distinct kinds of stocks are used—the one called the free stock, or wild seedlings, the other is quartered or selected stocks. These last are common to nearly as much as the latter, the latter are used for the purpose of the young pear, as this produces much larger trees; the latter is best adapted, in general, for espaliers, walls, cordons, and pyramidal trees in gardens.

Budding is also good for some other fruits, and for the same purposes as grafting. By this course, however, one year, or nearly so, may be considered as lost, in point of time.

Seed is sown to, either to produce stocks, or to raise new kinds. The seeds should be washed from the pulp when the fruit is fully ripe, dried and preserved as other seeds, and sown in the February following. Care must be taken to preserve the seed from mice whilst germinating and grow.

Those who wish to expedite the process, for the sake of gaining time, with fancy seedlings, may sow and rear the young plants in a moderate-bottom-warmth, sowing in January or February, and when they are four, five, or six inches high, driving them in the open in the middle of May, and hardening them off by the beginning of June, when they may be planted out in a warm spot. The best way to prove such seedlings is to graft them on a good bearing old tree, on a quince stock, if possible; they will thus form distinct trees. Another method is to use the same seedlings; but to cut off the larger shoots at the beginning of October, and to remove large quantities of the branches, bury the pears in a pit in autumn, and take them up in the February following to sow, mixing abundance of sand with the mass, to separate the buds and bury the pears, as if they were sown together.

Soil.—The pear delights in a sound loam, rather inclining to clayey than sandy. It will, however, grow freely in loam of any kind, in chalk or marl, in clay or sand, or become otherwise disfigured, through their impatience of drought. Any ordinary soil of a sound texture will do for their culture; and if what is termed in good heart, no manures are necessary. For standard trees in orchards, the soil should be at least 2 feet deep; but for espaliers, walls, pyramids, &c., a half yard may suffice, if sound. A dry subsoil is particularly necessary, especially for garden pears.

Culture during the Growing Period.—The chief point is to keep down watery spray, which is generally produced in abundance. Caution must be exercised in not doing this too early, or the embryo blossom-buds may be driven into growth. Our practice is to commence by disbudding; this is generally in the beginning of May. All green fruits should be supplied with the most luxuriant shoots, where too thick. In a few weeks the shoots begin to lengthen considerably, and their character, as to fruitfulness, is in some degree determinable. Very few of our pears are of the purest form of pear wood; as those shoots plainly show that their tendencies are towards fructification; such should, by all means, be encouraged. About Midsummer, a selection may be made; most of those which look browner than the rest, and are better jointed, must be reserved; and much of the paler, longer-jointed, and more succulent-looking spray may be cut or pinched back, leaving about 4 inches at the base. Those reserved we tie down to the other branches, sometimes in a reversed position—indeed, just as they happen to lay. In about a month or so from this operation we pinch the points from all growing shoots, or nearly so. This is generally the most important object. The young shoots show a tendency to cause the wood to become highly solidified, and thus induces fruitfulness. After this period, the only care is to pinch the points of all succulent spray which may arise during the Rest Period.—When the summer culture of the pear is properly attended to, but little is left for the winter pruner. Nevertheless, there is still something to do. Some shoots with their tips cut off, and some exposed, will shoot well, and for the wood "must be cut entirely away. Most of those which had been pinched back to 3 inches at Midsummer, or after, must be pruned closely off. No stump or spur must be left, unless a blank space is necessary. If a stump be left, it will only produce its like again. These snags removed, the young shoots tied or nailed down must be examined, and all considered superfluous cut away. Those reserved at best; tied or nailed together, and little more is necessary until the growing period returns.

Storing.—The conditions requisite for keeping pears are the same as for the older branches, sometimes in a reversed position—indeed, just as they happen to lay. In about a month or so from this operation we pinch the points from all growing shoots, or nearly so. This is generally the most important object. The young shoots show a tendency to cause the wood to become highly solidified, and thus induces fruitfulness. After this period, the only care is to pinch the points of all succulent spray which may arise during the Rest Period.—When the summer culture of the pear is properly attended to, but little is left for the winter pruner. Nevertheless, there is still something to do. Some shoots with their tips cut off, and some exposed, will shoot well, and for the wood "must be cut entirely away. Most of those which had been pinched back to 3 inches at Midsummer, or after, must be pruned closely off. No stump or spur must be left, unless a blank space is necessary. If a stump be left, it will only produce its like again. These snags removed, the young shoots tied or nailed down must be examined, and all considered superfluous cut away. Those reserved at best; tied or nailed together, and little more is necessary until the growing period returns.
PECTIS

"comosa (tufted). | Yellow. July. Italy. 1775.
"rubens (ruddy). See P. uliginosa.
"uliginosa (marsh). | Red. May. Altai Mountains. 1827.}

HALF-HARDY HERBACEOUS.

"albifrons (white). | Yellow, scarlet. July. Switzerland. 1875.
"myriophylla (myriads). See P. abrotanfolia.
P. elongatum (elongated). See P. tabulare.


June. 1820. (milkfoli-leaved). 

1821. June. (yellow).

Purple. J. Yellow, See Summer.

(P. triste with June. red.

Y'ellow. P. TRISTE with June. red.

June. White.

1824. (dropwort-leaved)

See on June. White,

Primrose-

J. Yellow.

i. red.

Yellow,

rosy-purple,

each

longiflorum

May.

July.

en

1794.

June.

1800.

2.

Petals

Pale

1800.

f. Pink. Summer. 1862.

la'cerum (torn-leaved). See P. MYRRHIFOLIUM LACERUM.


1800. (milkfoli-leaved).

myrrha'folium (myrrh-leaved). The type of many forms.

1724.

June.

June.

July.

July.

June.

1802.

July.

lilac.

March.

Plak.

1800.

July.

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1794.

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1810.

May.

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J.

1824.

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undula tum (waved) of Harvey. See P. LONGIFOLIIUM.

" " violaceum (vetch-leaved). See P. FINNATUM.


" " virgineum (virgin). See P. LONGIFOLIIUM.

GREENHOUSE EVERGREEN SHRUBS.


" " superbus (roboriflorus). Flowers larger.

" " austrole (southern). 4-1. White or rose, with violet lines. Southern regions. 1792.

" " acuminatum (d'Acunha). See B. GROSSULARIOIDES.


" " albe subtus (alternating). White. June. 1791.

" " Persi saw-leaved Geranium. 1821.

" " anacum (lovely). See P. ZONALE.


" " americam (green). See P. HARBORIUM.


" " arnottii (Arnott). One of parents of show and fancy Pelargoniums.


" " superbus (roboriflorus). Flowers larger.

" " austrole (southern). 4-1. White or rose, with violet lines. Southern regions. 1792.

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PELARGONIUM CULTURE——Propagation by Seed is the only way to raise superior varieties. The first and most important of their qualities is form, the next is substance, the next size, and the last colour. To these may be added habit and trace. Sow seed only from such as possess already these points approaching to perfection. In all attempts to hybridise, let the one to bear the seed possess the property of form. In order to obtain the other properties wanting, cut off the anthers of the well-formed variety before the pollen-cases shed their contents; and...
the moment the hybridising is performed, cover the flowers with a close-fitting cap of fine muslin-net, to prevent insects from carrying strange pollen to the stigma dusted with pollen from such varieties as have the desirable properties. When the seed is ripe, gather it as soon as possible, and tie it in small bunches with rubber bands. Pluck the appendages, wrap it up in paper, and keep it in a dry drawer, in a cool room, till spring. Sow it early in March, and place it in a gentle heat; a botched that has been at work for a few weeks will answer admirably, and leaf-mould, in equal parts, with a liberal addition of river-sand, finely sifted. Replace them on the shelf, and shade for a time from hot sunshine. The seedlings will be in place to start the cuttings in is they are then be repotted into a size larger pot, and subsequently be treated in the same way as such as have been propagated by cuttings. Keep them close to the glass, and give them no water until they are firmly rooted, and then, as soon as the weather will permit, place them out of doors, upon a bed of ashes of sufficient thickness to prevent worms from entering the pots. The situation should be an open one, and the cutting be given a cloche, and induce a stocky or bushy habit, so as to insure their flowering the following season. The size of pots to flower them in need not be more than 4½ inches. When they are large enough to be placed into the greenhouse, and placed on a shelf, at such a distance from the glass as will serve to keep them dwarf and bushy. There is no need to top them in the manner recommended, as the placing in the frame, in proper cuttings the object being not to make fine specimens, but to get them to flower as quickly as possible the spring following.

By Cuttings. Cuttings may be put in and struck from February to September; the general time, however, is when the plants have done flowering, and require cutting down to make bushy plants for the next season. This generally happens from the end of June to the beginning of August. The best place to make the cuttings is the structured propagating-house; but, as every one has not so much a cultivation, they may be very successfully propagated in a frame set upon a spent hotbed, first removed to a covered cold-frame, or placed in a cold-ash, to keep out the worms. Upon this coat place another of dry sawdust, to plunge the cutting-pots. This dry sawdust will serve to absorb the moisture from the earth, and prevent it from becoming too sticky for the best soil is pure loam, mixed with silver sand. The size of the pots should neither be too large, nor too small—5 inches wide at the top is the most proper. Some use small pots, and others large, in the prepared pots round the where the cuttings are few and the convenience small, will be suitable enough. It has this advantage also, that the cuttings are, after being rooted, more conveniently reported, without the least injuring the young and tender roots; but where the quantity to be increased is large, the former method of putting several cuttings in 5-inch pots will be more convenient, and, with a little care, equally successful. When the method is adopted, the pots must be well drained with broken potsherds, the larger pieces at the bottom, and smaller at the top. Fill them to the top with the prepared loam, which should be put through a rather coarse sieve to take out the stones, roots of grass, and other extraneous matter. It should not be pressed down too hard, but made firm enough to hold the cuttings fast. Another point is to use it in a state neither wet nor dry. The side-shoots of the plants should be cut off when more than 2 inches long, make the best cuttings. These should be cut off close to the stem from whence they spring with a sharp knife, 6 or 12 inches off the bottom leaves close to the stem, leaving only one or the most vigorous. When the cuttings, after they are made, in a shady situation, upon a dry board or slate, to dry up the wound. This will take an hour on a dry day, or two hours on a dull, cloudy one. Then place them in the prepared pots round the edge, inclining the leaves inwards, so that they may not touch the leaves of those in the contiguous pots when they are placed in the frames, or set upon the heated material in the propagating-house. When a pot is filled, give it a gentle wafering, and set it on one side to dry up the moisture on the leaves and surface of the soil. Then plunge them in the frame, and shade them carefully for the first day, or for a week or ten days. Reduce the shade gradually, using it only during bright sunshine. A little air may also be given every day, by tilting up the lights behind, if in a frame. The propagating-house will only require air when the heat is great, to reduce the temperature to 55° or 60°. The cuttings must be frequently examined, to see if roots are formed; and as soon as they are an inch long, pot them off immediately, in the smallest pots which are generally about 2 inches diameter. A small addition of well-decomposed leaf-mould may be mixed amongst the loam with advantage. When they are finished potting, set them in the frame or propagating-house until fresh roots are formed; renew the shading, but disuse it as soon as it is safe to do so, and then give plenty of air, to prevent their becoming mushy. They will, on being potted off, become bushy plants furnished with branches close to the pot, nip off the top bud; the lower side buds will then break and push forth, and these must be stopped before they get too large. The plants will soon be ready to receive a second potting, and should be removed into the open air.

The above remarks and directions, so far as the cuttings are concerned, are applicable to all pelargoniums, and to the show varieties. There is another class of pelargoniums, which are denominated fancy varieties. These are more difficult to increase by cuttings. Place the cuttings in shallow pots, and when the cuttings are about an inch in the usual loam and sand, placing them on a shelf in the propagating-house, or in the frame, close to the glass, upon topsy-turvy pots. The cuttings are made very short, about two-thirds of the old shoots, and at the bottom of each. Very little water is given till the callousness are formed, when it is given more freely, and then roots make their appearance, when they are immediately potted off, and the usual treatment followed.

By Seeds. Seeds are obtained by taking, from them, by first putting in a portion of pure loam and sand, then a covering of pure sand alone, give a gentle watering to settle it, and then prepare the buds. Take a shoot of medium size, and divide it into two or three pieces, and in the usual manner prepare the pots, put the buds in, and put the soil firmly in, so as to prevent any air entering between the sand and leaf, plant them close to the stem, then cut off the two lowest buds, leaving about ½ inch of wood below each bud. After that, split the shoot containing the two buds down the centre. If there are more than two, cut them into two, and make the upper bud below the other, the upper one must be shortened below the bud to the proper length. The upper cut should be very nearly close to the bud. Make a sufficient number of these. Place them in a pan of water and put them in the stove, a short, blunt stick a degree thicker than the bud-cutting. Insert them so as to leave the bud just above the sand. Plant them close to, and round the edge of the pan, and water well. To prevent injury, the seedlings, and most of the Cape original species, are difficult to increase by any of the above methods. In such cases there is left the mode of increase by cuttings of the roots. This is almost certain of success. Take an old plant, shake off carefully any earthy matter on the roots, and cut short pieces retaining as many fibres as possible to each. Put each root-cutting singly into as small pots as they can be got into, leaving the top just visible. Place them in the house, or a cold frame, and give them as much shade as possible, gentle watering, and shade effectually. New roots will soon push forth, and then shoots will appear, generally in clusters. When that takes place, replace them, to give them further encouragement, to the shoots to the shoots. As these advances in growth, thin them gradually, by slipping one or two off at a time, till finally they are reduced to one which is to form the future plant. As soon as this shoot attains the height of 2 or 3 inches, nip off the top to cause side-shoots to grow, and so form a new, bushy plant.
PELEY'XIA. (From pelix, a helmet; the dorsal sepal and the petals are united in the form of a helmet. Nat. Ord. Orchidaceae.)

Terrestrial, above orchids. Divisions. Fibrous root, fibrous loam, sphagnum, some charcoal and sand.


" macleana (spotted). 1. Green, tipped with pink. 1893.

" olivosa (olive-coloured). Sepals olive-green, the rest white. Andes. 1851.


" sprunthoide (Sprunthio-like). See P. ADNATA.

" travassoi (Travassoi). See P. KROGER-ALBA.

" trilo'sa (three-lobed). Green. Brazil. 1870.


PELICAN FLOWER. Aristoloch'ia grandiflora, Lo 'lba Bertho'lii, and Securí'era Coroní'la. PELIO'ANTHES. (From pelos, livid, and anthos, a flower; the colour of the flowers. Nat. ord. Hamomo'dae.)


" jada'nisca (Java-nese). 1. Java.


" stella (starry). Penang. 1843.


" maneggia'zana (Mantegazziana). Leaves less rigid. Malaya. 1905.


PELLE'A. (From pelos, brownish or tawny; in allusion to the dark leaf-stalks. Nat. ord. Filices.) Stove and greenhouse ferns. See FEHN.

GREENHOUSE. P. adianto'lia (Adiantum-leaved). See P. HASTATA.


" be'nja (pretty). California. 1873.

" brachyp'tera (short-winged). California. 1873.

" Bridge'ii (Bridge's). California. 1875.

" calome'lanos (beautiful-black). Cape Colony to Zam- bro'nia; also Habi't. 1985.

" de'nza (dense). N. Amer. 1885.


" gral'cis (slender). North temperate zone, 9-10,000 ft.

" hasta'na (balbert-leaved). Fronds twice or three times pinnate. S. Africa. 1825.

" macrophyl'la (large-leaved). Fronds once pinnate; pinne much broader.

" microns (mucronate). California, &c. 1865.

Almost hardy.


" robus'ta (robust). Fronds very dark shining green. 1904.

" wright'ia (Wrightian). See P. MUCRONATA.

STOVE. P. alaba'mnesis (Alabama). Alabama, Georgia, and Tenessee.


" sagita'ta (arrow-shaped). Segments narrowed to the point. S. Amer. 1826.

" geraniofo'lia (Geranium-leaved). Tropics.

P. adnata

PELEY'XIA. (From pelix, an axe, and phoreo, to bear; in allusion to the form of the tubercles. Nat. ord. Castanes.)

Greenhouse succulent perennials. Cuttings and offsets allowed to get dry for some days before insertion in sand. Loam, leaf-mould, or peat, with one-fourth finely broken bricks, and a thin layer of sandy loam above.


" macleana (spotted). 1. Green, tipped with pink. 1893.

" olivosa (olive-coloured). Sepals olive-green, the rest white. Andes. 1851.


" sprunthoide (Sprunthio-like). See P. ADNATA.

" travassoi (Travassoi). See P. KROGER-ALBA.

" trilo'sa (three-lobed). Green. Brazil. 1870.

PELLIONIA


Perennial, creeping above herbs, with handsome foliage, and at various times, loam, leaf-mould, or peat and sand. They succeed best in a moist atmosphere, in pots, or planted out in borders of the stove.


P. javanesa (Javanesa). Malaya.


PELLITORY

Paric-tra'ra officinalis.

PELLITORY

of Spain. Anac'di'rus Pyreme'num.

PELTAN'DNA.

(From pelle, a little buckler, and aner, a stamen; in allusion to the form of the united stamens. Nat. ord. Araceae.)

Hardy, perennial herb for the bog garden. Offsets. Loam and leaf-mould.


" Arrow Arum."

PELTAR'IA.

(From pelle, a little buckler; referring to the shape of the seed-pod. Nat. ord. Crucifers [ Crucifere]. Linn. Tetradsenyia. Allied to Isatis.)


" glastifolia (woad-leaved). See Texitara glastifolia.

PELTO'PHORUM.

(From pelle, a small buckler, and phoros, to bear; the stigma is shield-like. Nat. ord. Leguminosae.)

Stove tree. Seeds; cuttings in sand in a close case, with bottom-heat. Fibrous loam. plant one-third, and sand.


" ferrugina'num (rusty). Australia.


PELTOSITOMA.

(From pelle, a little shield, and sigma; in reference to the large stigma. Nat. ord. Rutaceae.)

Evergreen stove shrub. Cuttings in sand, in a close case, with bottom heat. Loam, leaf-mould, and sand.


PEN'EA.

(Named after P. Pena, a German botanist. Nat. ord. Sarcococela (Penaceae). Linn. 4-Tetrandra, १-Monozygynia.)

Greenhouse evergreens, from South Africa, and red-flowered, except where otherwise noted. Cuttings of stubby side-shoots in summer in sand, under a bell-glass; sandy peat and a little charcoal. Winter temp., ४०° to ४५°.


" imbrica'ta (imbricated). See Sarcoocolla imbricata.


" Sarcoo'ctia (thick-neck). See P. fucata.


PENICILLA'RIA.

See Pennisetum.

PENNIS'TUREM.

(From penna, a feather, and seta, a bristle; the bristles surrounding the flower glumes are feathery in some species. Nat. ord. Gramineae.)

Hardy, half-hardy, and greenhouse herbs, annual or perennial. Seeds. Ordinary soil.


" cencho'rones (Cenchrus-like). १४. Tropical and sub-tropical regions. १७७७.


" dicho'tomum (forked). २. Egypt, Arabia, &c. १८३२.

" holco'nes (Holcus-like). ०. India. १८२१.


" japon'icum (Japanese).

" lati'fo'rum (broad-leaved). ०. Argentina. १८५४.


" viola'ceum (violet). Violet, with metallic sheen. १८६६.

" macrop'hyllum (long-leaved).


" mac'rosum (long-tailed). २-३. S. Africa.

" nepale'nsis (Nepalense). Himalaya. १८२२.

" orienta'le (oriental). White or purple tails 1 foot long. India. १९११. Greenhouse.

" poly'sia'dum (many-spired). See P. holcoi'des.

" pulpa'dium (Ruppe). See P. Ruppe'llii.


" seto'sum (bristly). २. Tropical regions. १८८७.


" viola'ceum (violet). See P. TYPHOIDEUM.

PENN GRASS. Rhinitis nuchus Or 'sta'gulii.

PENNY ROYAL. Mel'china Pule'gium.

PENNY-CRESS. Thlas'pie aro'nea.

PENNY-WORT or PENNY LEAF. Cop'podon Umbil'icus.

Hydro'syle viol'a'gus, Lin'aria Cymbala'ria. and Shib'oria euro'pea.'

PENTACH'LETA.

(From pente, five, and chleia, a bristle; the five bristles forming the pappus. Nat. ord. Composite.)


P. a'urea (golden). See P. bellidi'flora.


PENTADE'SMA.

(From pente, five, and desma, a bundle; referring to the disposition of the stamens. Nat. ord. Guti'ferae [ Gutfi'fera]. Linn. 18-Polyadep'his, २-Polyandria. Allied to Garia.)

Stove evergreen tree. Cuttings of ripe shoots in sand, under a bell-glass, and in bottom-heat; fibrous loam and sandy peat. Winter temp., ६०°; summer, ६०° to ९०°.


PENTAG'ONIA. (From pente, five, and gonia, an angle; in allusion to the angular structure of the corolla. Nat. ord. Rubia'ceae.)

Evergreen stove shrub. Cuttings in sand, in a close case, with bottom-heat. Loam, leaf-mould or peat, and sand.

P. Wendla'ndii (Wendland's). Yellow. Mexico. १८६१.

Fine foliage plant.

PENT'A'LOPHEUS LONGIF'LO'BUS. See Lithosper'mum angustio'fium.

PENT'A'LOPHEUS MAN'DAN'ESIS. See Lithosper'mum angustio'fium.

PEN'TAMOR'PHA GRAVE'OLENS. See Eryth'ro'citol Brasile'sis.

PEN'TA'PA'NAX.

(From pente, five, and Panax; all parts of the flower and fruit are in fives. Nat. ord. Arali'aceae.)

Evergreen stove climber of woody character. Seeds; cuttings in heat or by grafting. Fibrous loam, leaf-mould, and sand.

P. Leschenau'litii (Leschenault's). White. India and Burma. १८१६.
PENTAPERA. (From pente, five, and pera, a pouch; the fruit being five-celled. Nat. ord. Erlicaceae.) Hardy evergreen shrubs. Layers; seeds. Peaty, sandy soil. P. s'cula (Sicilian). 1-2. White. Sicily. 1888.

PENTA PETES. (From pente, five, and petalon, a petal; five petals in the flower. Nat. ord. Sterculiaceae [Sterculiaceae]. Linn. 16-Monadelphia, 7-Dodecanadria. Allied to Dombeya.) Stout, hardy shrub-like plants, flowering in July. Cuttings of half-shipped shoots in sand, under a glass, in moist heat; also by seeds in a hotbed, in spring; sandy loam and leaf-mould. Stove temperatures.


PENTA PYXIS. (From pente, five, and pusis, a small box; the stamens and fruit are five-celled. Nat. ord. Caprifoliaceae.) Greenhouse shrub allied to Diervilia. Seeds; cuttings of half-ripe wood in sand, under a bell-glass. Fibrous loam, leaf-mould, and sand. P. stipula'tus (stipule). White or cream. Himalaya. 1858.


PENTLANDIA MINIATA. See Urceolina miniature.
Watu'ri's (War'ne's). 1. Blackish-blue. North-Western Amer. 1896.

PENTZIA. (Commemorative of Charles John Pents. Nat. ord. Compositae.)  

abalif'fis/rimis (fan-shaped). See P. CRENATA.

PEPEROMIA. (From pipéris, the pepper bush, and homois, like. Nat. ord. Piperaeae.)
Mostly dwarf, evergreen, fine foliaged stove plants. Cuttings in sand in a close case, with bottom-heat. Loam, leaf-mould, and sand.

P. acumin'a'ta (long-pointed). Leaf ribs red beneath. Peru. 1865.  
aryg'eta (silvery). Leaves with silvery markings. .Sinn. 1864.

PEPPER VINE. Vi'llis a'ebó'rea.
PERICAMPYLUS. (From peri, around, and campylos, curved; the seed is curved or horse-shoe shaped. Nat. ord. Menispermaceae.)

Stowe, wood climber. Seeds; cuttings in sand in a close case, with bottom heat.


PERICOME. (From peri, around, and home, hair; in allusion to the cup-shaped, fringed pappus. Nat. ord. Composite.)


PERILLA. (Native name in India. Nat. ord. Labiatae.)

Half-hardy annually. Seeds in heat to be planted out at the end of May. Ordinary soil.


" roscea (rosy). Leaves variegated with red, rose, green, and whithis. 1897.

" heteromorpha (various-formed). See P. ocimoides.

" nankinensis (Nankin). See P. arguta ATROPURPUREA.

" rosea (rosy). See P. arguta ROSEA.


" crithoptera (crispated). See P. arguta ATROPURPUREA.

PERILOMIA. (From peri, around, and loma, a margin, referring to the membranous border of the fruit. Nat. ord. Labiatae (Labiata). Linn. 14. Didymania, 2. Angiospermia. Allied to Scutellaria.)

Half-hardy evergreen shrub. Cuttings of young shoots in sand, under a glass, in April; sandy peat. Winter temp., 40° to 45°.

P. ocymoides (bass-leaf). See P. scutellariaeoides.


PERIPHRA'GOM DEPENDENS. See CANTUA BUXIFOLIA.

P. flexu'sus. See CANTUA PYRIFOLIA.

" la'tida. See VESTIA LUCIOIDES.

" uniflora. See CANTUA OVATA.

PERIPHI'NEA AMERICA'NA. See INSECT PESTS.

PERIPLOCA. (From periplao, an intertwining; referring to the habit of the plant. Nat. ord. Asclepiadaceae (Asclepiadaceae). Linn. 5. Penantria, 2. Diigma. Allied to Stephanotis.)

Hardy deciduous twiners. Layers and cuttings under a glass, during summer and autumn. Any good soil will do. Gris can will soon cover an arbour or wall. The tenderistem will not thrive under culture.


" angustifolia (narrow-leaved). See P. LEVIGATA.


PERISTERIA. Dove Flower. (From peristera, a dove; alluding to the appearance of the column. Nat. ord. Orchidaceae (Orchidaceae). Linn. 5. Gyandria, 1. Monandra. Allied to Aciena.)

Stove orchids. Division, or separating the pseudo-bulbs, as growth commences. See Orchids.

P. aphaca (broad-leaved). Yellow-brown, spotted with dull red. Venetia.

" ba'keria (Barker's). See ACINETA BARKERI.


" Epip'phium (Epiphipium). Pale yellow or white. Trop. Amer. 1838.


" jul'iva (tawny). See ACINETA HUMBOLDTI.

P. Humboldtii (Baron Humboldt’s). See Acineta Humboldtii.

la’ta (charming). Bright yellow, dotted with Indian purple. 1837.


Linde’mis (Linden’s). Light yellow, washed with dark purple, spotted with purple.


rossia’na (Russian). Pale whitish-yellow. 1889.


PERISTRO’PH. (From peri, around, and strophe, a turning round; the corolla is twisted round. Nat. ord. Acanthaceae.)

Subshrubby, evergreen stove perennial. Cuttings in sand, in a close case, with bottom-heat in spring. Fibrous loam, leaf-mould, a little dried cow-dung and sand.

P. lanceo’ria (lace-shaped). Purple. India; Burma. 1886.


tinto’ria (dyer’s). 1. Pale purple. August; India; Malaya. 1815.

PERI’OMA AURE’UM. See Clerome Lutea.

PE’RIWLINKE. V. inca.


Hardy evergreen, white-flowered shrubs. Seeds and layers in spring; peat border; requires similar treatment to Azaleas and Rhododendrons.


cili’as (ciliated). 3. Peru.

Cummi’nsi’gi (Cumming’s). See P. mucrona’ta.


floribun’da (tree-flowering). Berries crimson, larger than those of P. mucronata. S. Amer. 1883.


prostra’ta (prostrate). May.

pu’mila (dwarf). See P. empetrif’olia.

rup’i’ola (rock-loving). Chili.

PERO’NIA STRI’C’TA. See Thalia dealbata.

PERO’NOSPO’RA. See Potato Disease.

PEROV’SKIA. (Commemorative of M. Perovsky, a Russian botanist. Nat. ord. Labiatae.)

A subshrubby, hardy perennial. Seeds; divisions in spring; cuttings under a hand-light in summer. Light, well-drained soil.


PE’RSA. Avocado or Alligator Pear. (Name of a tree from Theophrastus. Nat. ord. Laurales [Lauraceae]. Linn. 2-Enneandra, 1-Monogynia.)

Stove evergreen trees; or deciduous in the case of P. carolinensis and P. Lingue. Layers of ripened shoots in autumn; cuttings of firm shoots in May, in sand, under a bell-glass, and in bottom-heat; sandy loam and fibrous peat. Winter temp., 50° to 60°; summer, 60° to 90°.


N. Amer. 1806.


PERSIAN SUN’S EYE. Tv’il’pa Oculus-al’olis.

PERSI’CA. Peach. (From Persia, its supposed native place. Nat. ord. Roso’v’tis [Rosaceae]. Linn. 12-Ison’dra, 1-Monogynia.)

Should be united to Prunus, which see. See Nectarine and Peach. All bloom in April.

P. la’vis (smooth). See P. vulgaris ispahanensis.


"ispah’nis (Spanish). White. Spain. 1847.


"pe’ndula (drooping). White. 1842.


PERSI’SIMMON. Diospy ros vin’si’na’na.

PERSO’NIA. (Named after C. H. Persoon, a distinguished botanist. Nat. ord. Proteacae [Proteaceae]. Linn. 4-Baccharis, 1-Monogynia.)

Greenhouse evergreen shrubs, from New South Wales, yellow-flowered, except where otherwise mentioned. Cuttings of ripened shoots in sand, under a bell-glass, in spring; shoots kept in a temperate pith until roots are formed; fibrous loam and sandy peat. Winter temp., 38° to 45°; summer, 60°; a little shaded.


bre’s/ia (short-leaved). 1845.


flexi’o’lia (bent-leaved). See P. nutan’us.

Fra ser’i (Fraser’s). See P. saccata.

heterophyl’ia (various-leaved). Swan River.


macrobe’s (broad-leaved). See P. langen’c’ala.

line’ar’is (narrow-leaved). 5. July. 1794.

lu’cida (shining). June. 1824.

macro’s’cha (large-espi). See P. saccata.

nac’uli’os’ (July). 1824.

myrtillus’des (Myrtillus-like). White. 1837.

nu’lans (nodding). 4. 1842.


sphat’ia (apotheciate-leaved). See P. scab’ra.

tenu’fo’lia (thin-leaved). June. 1822.

To’ru’ (Toru). June to August. New Zealand.

PERSY’TA. (Probably a commemorative name. Nat. ord. Compositae.)

A hardy, deciduous shrub. Cuttings in summer in a pit, cold frame, or under a hand-light. Ordinal soil.


PERU BALSA’M-TREE. Myro’xylon peru’ferum.

PERUV’IAN BARK. Cincho’na.

PERUV’IAN DAF’FODIL. Hymoaca’tis Ama’n’cas.

PERUV’IAN MASTIC. Schi’nus.

PERY’ME’NIUM. (Meaning not explained. Nat. ord. Compositae [Compositae]. Linn. 19-Synekennia, 2-Super-frac.)

Cuttings, taken from the points of shoots, or the firm side-shoots; sandy loam and a little peat. Winter temp., 35° to 48°.


P. klabochorum (Klaboch's). 1-1. White. March. (From Klaboch's). "Common Butter B."


PETALACTE. (From petal, petal, and aktis, a ray. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 2-Superflia. Allied to Antennaria.)

Petals are evergreen shrubs, from South Africa. Cuttings of young side-shoots, getting firm at the base, in sand, in April or May, in sandy loam and fibrous peat, with pieces of charcoal, and well-drained pots. Winter temp., 38° to 48°.


PETALIUM. (From petalos, a petal, and aktis, a ray. Nat. ord. Composites [Compositae]. Linn. 14-Didynamia, 2-Angiospermae. Allied to Ruta.)

Stove evergreen climber. Cuttings of shoots in April or May, in sandy loam, in a hotbed; sandy, fibrous loam, and a little peat. Winter temp., 48° to 60°; summer, 60° to 80°.


PETFALOPEI'S. BICOLOR. See Petalacte coronata bicolor.

PETALALOSMON. Prairie Clover. (From petalon, a petal, and stemon, a stamen; stamens joined to the bottom of the petals. Nat. ord. Leguminous Plantas. Linn. 16-Monadelphus, 2-Pentandria. Allied to Dalea.)

Hardy North American herbaceous perennials. Division in spring; sandy loam, and a little peat or leaf-mould.


PETATAS. Butter Burr. (From petasos, a broad-brimmed hat; in reference to the broad, roundish leaves. Nat. ord. Composita.)

Hardy perennial herbs. Divisions in spring or autumn. Ordinary soil.


P. a'. alpinus (Alpine). See Homogyne alpina.

P. di secolos (two-coloured). See Homogyne discolor.
PETROSENIUM SATIVUM

PETROSENIUM SATIVUM. See CARUM PETROSENIUM.

PETTERIA. (Commemorative of Frans Peters, a botanical traveller. Nat. ord. Leguminosae.) Hardy shrubs, with the habit of Cytisus. Cuttings in sand under a hand-light in summer; grafting. Well-drained soil.


PETTIGREE or PETTIGRE. Ruscus aculeatus Linn.

PETTINWI. Genista anglica (Linn.).

PETU NGA. (Its Indian name. Nat. ord. Rubiaceae (Rubiaceae).)

Stove evergreen shrub. Cuttings of half-shrunk shoots in sand, in a slight bottom-heat; sandy loam and fibrous peat. Winter temp., 50° to 60°; summertime, 60° to 70°.


PETU NIA. (From petun, Brazilian name for tobacco, to which Petunia is allied. Nat. ord. Nightshades (Solanaceae). Linn. 5-Petunia, 1-Monogynia.)

Half-hardy herbaceous perennials. Seeds sown in a hotbed in March; seedlings pricked out, and finally transplanted into the borders in May; cuttings of the points of shoots, or small side-shoots, in spring, in heat, and in summer and autumn without heat, except being covered with a bell-glass and of open will stand frost. It is best to keep the plants in a cold, dry pit during the winter; for growing, light, rich, sandy loam. Temp., not below 35° in winter.

P. acuminata (pointed-leaved). See Nicotiana acuminate Linn.


sinuata (intermediate). See Salpiglossis Lineata Linn.


nombre (sherry). See P. Violacea.

punica (dotted). Blue, rose, crimson, white. Hybrid. 1842.


PEU CE D'ANUM. Hor's Fennel. (From penkleydon, an old Welsh name for P. officinalis. Nat. ord. Umbellifera.)

Hardy biennials or perennials. Seeds: divisions of the perennials. Ordinary soil.

P. au reum (golden). Canary Islands.

Cerasa (marsh). Central Europe; Northern Asia.

Galbosum (Galbanum). S. Africa.


Se a (Sowa). See P. graveolens.

PEU WUS. (The Chilian name. Nat. ord. Monimiaceae.)

Greenhouse, evergreen shrubs. Cuttings in sand, under a bell-glass. Fibrous loam, peat, and sand.


frig'rans (fragrant). See P. Bobius.

PEYROUSIA. (Named after La Peyrouse, the French navigator. Nat. ord. Iris (Iridaceae). Linn. 3-Trientandria, 1-Monogynia. Now referred to Lapevyrousia.)


Hardy biennials. Seeds: divisions, and cuttings under a bell-glass. Fibrous loam, leaf-mould, and sand.


PEFE IFERA CEREO FORMIS. See Rhipsalis cereiformis.

PHA'CA. (Name of a plant mentioned by Dioscorides. Nat. ord. Leguminosae (Leguminosae). Linn. 17-Diaselphias, 5-Desandria. Name united to Astragalus.)

Hardy herbaceous perennials. Seeds sown in a little heat, in April, and seedlings planted out, will bloom the same season; many will do so if sown in good places in the open air; division of the roots in spring; cuttings under glass in heat, in summer; sandy loam. Can't sees requires protection from frost in winter.

P. alpi'na (alpine). See Astragalus Alpinus.

"  dahl'rica (Daharian). See Astragalus Alpinus Dahiricus.

arida (sand). See Astragalus chorizensis.

astragalina (Astragalus-like). See Astragalus Alpinus.


densifolia (crowded-leaved). See Astragalus Menziesii.

exaltata (tall). See Astragalus Secundus.

florida (Florida). See Sensania platycarpa.

frigida (cold). See Astragalus frigidus.

flora (smooth). See Astragalus Australis.


oroboides (Orosbus-like). See Astragalus Orboideae.

triangulosa (three-cornered). See Astragalus Triangularis.

PHACELIA. (From phakelos, a bundle; the disposition of the petals. Nat. ord. Hydrophyllae (Hydrophyllaceae). Linn. 5-Petunia, 1-Monogynia. Includes Eutoca and Whitlavia.)

Annuals, by seed; perennials, by seed and division in April; sandy, common garden-soil.

Hardy Annuals.


petun'aa (Orcuttian). White, with yellow centre. California. 1890.

Po'rry (Perry's). Violet, with five yellow spots. California. 1883.


ramos sissima hispida (roughly-hairy). See P. hispida.

**P. atrorubens** (Bernays'). Brownish-red. Java. 1897.


**P. chamissonis** (Assamese). Varying in colour, yellow, with mauve or purple shades. Assam; Burma; 1888.


**P. alysson** (Sanderian). Yellow-brown; lip white and purple. Java. 1905.

**P. suaeda** (Brenkian'). 2. White; lip red. 1884. Burma.


**P. candidissimus** (whitest). Wholly white. 1868.

**P. cooperi** (Cooper'). Red-brown, pale yellow; lip white changing to light yellow. Malaya (?). 1910.

**P. dodgsonii** (Dodgson'). White; lip yellow, veined with red. India (?). 1897.

**P. floribundum**. Yellow. India. 1837.

**P. fragrantia**. Rose, white, red. Madagascar. 1901.


**P. humboldti** (Humbolt's). Rose, with white and red blotches. Madagascar. 1880.

**P. inquilibus** (strange). Creamy, with yellow hues. 1847.

**P. intermedius** (intermediate). India. 1890.

**P. irorratus** (besprinkled). A synonym of *Phaenocalanthus* irrorata.


**P. maumii** (Mann'). See P. Wallichii Maumii.


**P. albatus** (white). White, with sulphur-yellow disc. 1906.

**P. purpurata** (purple). White, spotted with purple; lip with purple veins outside. 1888.

**P. rothii** (three-lobed). Lip with reddish-brown veins and darker crests. 1885.


**P. roberti** (Robert'). Brownish-red, streaked yellow. Java. 1891.

**P. rabii** (Roebling'). Reddish Indian yellow, fragrant. Khasia Hills. 1895.

**P. roseus** (rosy). See P. mishimensis.


**P. tubulata** (tubularis, Vietchian). White, mauve. Hybrid. 1885.

**P. Wallischi** (Dr. Wallich'). 2. Orange, yellow. April. Khasia. 1837.

**P. fanerogamia** (yellowish). Sepals and petals light yellow; front of lip paler. 1900.

**P. mariae** (Mann'). Larger and darker than the type. Assam. 1886.


P. alcicr'nis (elk's-born). Creamy-white, pale yellow.
Natural hybrid. 1887.

" amabilis (lovely) of Blume. White, pink. September.
May. 1867.

" avrea (golden). Disc and side lobes yellow.

" rimosata'na (Rimostadian). Very large, pure
white; lip yellow on side lobes. 1857.

" amethyst'na (amethyst). Cream; lip amethyst.
Sunda Islands. 1865.

" antennera (antenna-bearing). See P. ESERALDA.


" longis'ia (long-leaved). White. Year. Manilla.
1842.

" rotnundif'olia (round-leaved). White. Year.
Manilla. 1847.

" Boxall'si (Boxall's). Sulphur, barred brown, white.
Philippines. 1883.

" buyssoniana (Buyssonian). Bright purple, edged
with magenta. Cochin-China. 1888.

" c'asia (pure), White, tinted rose. Natural hybrid.
Philippines. 1875.

" corru-ce'ri (stag's-born). Green, white. purple.
Malaya. 1864.

" Cy'nithia (Cynthia). White, with purple markings.

" dealta (delicate). Natural hybrid. 1882.

" denisiana (Denisian). 1. Greenish-yellow, with red-
brown spots; lip white. Philippines. 1891.

" deniculis' (finely-toothed). 1. White, brown, pale

" equus'ris (equestrian). See P. ROSEA.

" Esmeralda (Esmeralda). 2. Light rose, striped; lip
amethyst. Cochin-China. 1877.

" candidula (whitish). White, streaked, reddish-purple.
Cambodia.


" Fuerstern'mnii (Fuerstmann's). Small, white, with
some brown stripes. 1887.

" f's (flying). See SARCOCOCCUS UNGUICULATUS.

" fusca (dusky). Yellow. Malaya. 1867.

" gigantea (giant). Whitish, with many brown spots.
Borneo.

" gloriosa (glorious). Allied to P. amabilis, Sulat
Archipelago. 1888.

" grandif'ra (large-flowered) of Lindley. See P. amabilis.

" interme'dia (intermediate). White, pink. Hybrid.
Philippines. 1852.

" brymeriana (Brymerian). White, purple; lip
cremate. 1876.

" Port'asi (Port's). White, lilac. Philippines. 1867.

" Kunstler' (Kunstler's). 1. Red-brown, golden-
yellow; lip white. Malaya. 1903.

" Lucretia (Lucretia). White, with purple spotted with

" Lind'ni (Linden's). Rosy. 1905.

" Lob'bi (Lob's). See P. INTERMEDIA.

" L'o'ri (L'o'f). Yellow, purple. Burma. 1862.

" Lueddemanniana (Lueddemannian). White.
Philippines. 1865.

" hieroglyphica (hieroglyphical). Ochraceous, spot-
ted with brown. Philippines. 1888.

" ochracea (ochraceous). Rose-yellow, brown.
Philippines.

" p'chra (beautiful). Dark purple, blue.
Philippines. 1875.

" macula (spotted). Pale, with purple-brown blotches,
purple. Borneo. 1881.

" Ma'nnii (Mann's). Yellow, brown, spotted. Philippine.
Assam. 1871.

" Marr'ia (Mrs. Maria Burbidge's). White, barred chocolate-red; lip magenta-purple. Sulat
Archipelago. 1883.


" Lob'bi (Lob's). Lip white, with brown bars. 1870.

" regina (Regina). Purple; lip dark purple.
Siam. 1887.


P. caracella (Canary). See P. INTERMEDIA.

P. commutata (changed). See P. CERULESCENS.


PHALERIA. (From phaleres, shining or white. Nat. ord. Thymelaeaceae.) Stove evergreen shrub. Seeds; cuttings of half-ripe shoots in a close case, with bottom heat. Fibrous loam, peat, and sand.


PHALEROCARPUS HISPIDUS & P. SERPULLIFOLIA. See Chiochenes serpillifolia.

PHALACALLIS PLUMBEA. See CYPPILA PLUMBEA.

PHARBITIS. (From pharbo, colour; deep and varied colours of the flowers. Nat. ord. Bindweeds [Convolvulaceae]. Linn. 5. Pentandria, 1. Monogynia. Now referred to Ipomoea.)


P. carulata (bluish). See Ipomoea hederacea.

P. cathartica (purgative). See Ipomoea cathartica.

P. cuspidata (short-pointed). See Ipomoea bicolor.

P. dilleni (Dillenii's). See Ipomoea bicolor.

P. diversifolia (diverse-leaved). See Ipomoea hederacea.

P. hederaecea (Ivy-leaved). See Ipomoea hederacea.

P. hi spida (rough-hairy). See Ipomoea purpurea.

P. ledei (Lear's). See Ipomoea Lehardi.

P. nili (Nil). See Ipomoea hederacea.


P. tri opha (three-lobed). See Ipomoea hederacea.

P. tyri nithus (purple). See Ipomoea tyrannithina.

P. varius (variable). See Ipomoea purpureus.

PHARIA FISTULOSUM. See Bessera fistulosa.

PHARNAX CEUM. (Commemorative of Pharmaces, King of Founts. Nat. ord. Ficoideaceae.) Greenhouse evergreen or subshrubby plants, which may be used for salad, on account of the agreeably acidulated character of their fleshy leaves. Seeds; cuttings in sand, under a bell-glass, in summer. Fibrous loam, leaf-mould, and some finely broken bricks, and sand. Give full exposure to sunshine and little water in winter.


P. lineare (Leaves linear). See Ipomoea Nejari.


PHERUS. (From phareus, a cloak or loose robe; the natives use it to thatch their huts. Nat. ord. Gramineae.) Stove ornamental grasses. Divisions. Fibrous loam, leaf-mould, and sand.


P. natalensis (striped). Leaves with white bands. 1748.

PHASEOLUS. Kidney Bean. (From phaseus, a little boat; fancied resemblance of the pods. Nat. ord. Leguminosus Plants [Leguminosae]. Linn. 17. Diadephila, 4. Decandria.) For culture of annuals, see Kidney Beans; perennials, by division and cuttings, and usual greenhouse or stove culture.

STOVY DECIDUOUS TWINERS.


P. aureus (golden). Seeds yellow. India.


P. pilosus (hairy). S. Amer. "Roebushi" (Roxburgh's). See P. Mungo RADIATUS.


GREENHOUSE DECIDUOUS TWINER.


HARDY DECIDUOUS TWINERS.


P. ricciardi (Ricciardian). Origin unknown. 1833.


P. "Dwarf Bean," "French Bean"


TWINING ANNUALS.


P. ama'sus (pleasing). See P. ADEMATIUS.


P. gono'prous (angled-seeded). See P. VULGARIS.


P. lathyros (Lathyrus-like). See P. SEMIERUCTUS.


P. rostra'tus (beaked). See P. SEMIERUCTUS.


P. xva'res xi (Xuarez's). See P. LUNATUS.


PHEASANT'S EYE ADONIS. Alo'sis australis.

PHIBA LUM. (From phibale, a myrtle; the appearance of the plants. Nat. ord. Eucatrons [Rutaceae]. Linn. 10-Decorandria, 1-Monogynia. Allied to Crowea.) Greenhouse evergreen, yellow-flowered, Australian shrubs. Cuttings of half-raped shoots, or short, stumpy side-shoots in sand, under a bell-glass, in May; sandy peat, with a third portion of fibrous loam. Winter temp., 38° to 48°.

P. a'teum (golden). See P. SQUAMULOSUM.

P. Billardi e'ri (Billardière's). 10. May. 1825.

P. Botani'cum (toothed). June. 1825.

P. el'tum (tall). See P. BILLARDIERIA.


P. salicifolius (Willow-leaved). See P. DEFUATUM.

P. squamul'sum (scaly). 23. May. 1824.

PHEGO PTERIS. See POLYPodium.

PHEGO PTERIS LACRHE Poda. See NEPHROPTERIS AMPLUM.

PHEGO PTERIS SUBMARGINA'TIS. See NEPHROPTERIS CARINPESE.

PHEGO PTERIS TRICHO'DES. See NEPHROPTERIS SETEMBER.
PHELLODENDRON. (From phello, cork, and dromon, a tree; in allusion to the thick corky bark. Nat. ord. Rutaceae. Allied to Phillyrea, the Hop Trefoil.)

Hardy ornamental trees with long, pinnate leaves. Seeds; cuttings in sandy soil in a cold frame in autumn. Ordinarily soil.


PHELLEUM. (Commemorative of the family Phel-pleum, patrons of botany. Nat. ord. Orobanchaceae.)

A parasite of the broomrape family, the seeds of which may be sown close to the roots of Centaurea dealbata, and if they germinate successfully, the seedlings will attach themselves to the roots of the Centaurea.


PHEONAKOSPE'RMUM GUYANE'NSIS. See RAVENALA GUYANE'NSIS.

PHILODENDRON. Syringa, or Mock Orange. (Athe- nian name for a shrub. Nat. ord. Saxifragae [Saxi-fragae]. Linn. 12-cossonia, 1-Monogynia. Allied to Deutzia.)

Hardy deciduous, white-flowered shrubs. Layers and suckers, and dividing the plant in spring; common soil; good loam. The leaves of the species would present a beautiful appearance if grown as single dwarf specimen trees, with a clean stem.


P. chine'nsis (Chinese). See P. CORTONUS SATSUMI.


P. dianth'us (Gordonianus). White. 1885. \( * \)


P. f'los'is au'rea (golden-leaved). Leaves yellow.


P. sa'smi (Satsumi). 2. June.


P. del'av'yi (Delavay's). White, fringed, often striped with purple. 1892.

P. fal'coneri (Falconer's). White. Origin unknown.

P. flor'u'ndus (bundle-flowered). See P. GRANDIFLORUS FLO'RUNDUS.


P. latifol'io'ris (broad-leaved). See P. GRANDIFLORUS.

P. lat'u'sis (loose-growing). P. GRANDIFLORUS LAXUS.

P. levri'is (Lavallée). June. 1852.


P. califor'nicus (California). California.

P. magda'lena (Magdalene's). Vilmorin's. 1910.


P. purpur'a'rus mac'u'tus (purple-blotched). White, with deep purple blotch on each petal. Hybrid, 1903.


P. satsum'una' (Satsumanus). White. Japan. 1874.

P. se'ri'co'nius (slightly-flowered). Calyx and ovary covered with grey hairs. Central China. 1866.

P. specio'rous (showy). See P. GRANDIFLORUS.

P. to'mento'/us (dowzy). See P. CORONARIUS TOMENTOSUS.

P. trif'o'rus (three-flowered). See P. CORONARIUS.

P. undul'us (wavy). Origin unknown.

P. uni'lam'ellus (less than 1 in. across. Eastern Tibet. 1906.

P. virru'co'rus (warted). See P. CORONARIUS.

P. z'e'heri (Zeyer's). See P. CORONARIUS.

PHILAGRIA. (Commpound from Philaea and Lapageria, between which it is a hybrid. Nat. ord. Lilieae.

Evergreen upright shrub. Layers. Peat, with a little loam and sand.

P. Vesi'chis (Velch's). Purple and warm rose. 1872.

PHILAE'SIA. (From philae, lovely. Nat. ord. Lily-worts [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to Lycoris.)

This evergreen is probably hardy. Prune after it has bloomed early in the summer. Propagated by cuttings. Peat and loam in equal proportions; requires to be kept moist.


PHILIBERTIA. (Named after J. C. Philibert, a botanical author. Nat. ord. Asclepiadaceae. Linn. 5-Pentandra, 2-Digynia. Allied to Pergularia.)

Stove, yellowish-white-flowered, evergreen twiner, from Buenos Ayres. Cuttings of firm-seed-shoots in sand, under a bell-class, in May, and kept in a cold pit until strick; sandy loam and fibrous peat, well-drained. Winter temp., 40° to 45°; summer, 60° to 75°.

P. campanula'la (bell-shaped). See SARCOSTemma CAMPANULATUM.


P. brachia'ris (large-flowered). See P. GRACILIS.


PHILLYREA. (Named from phil'lon, a leaf; literally, a leafy plant, the flowers being inconspicuous. Nat. ord. Olive-worts [Oleaceae]. Linn. 2-Diandra, 1-Monogynia.)

Of all our hardy evergreens the Phillyrea is the best adapted for growing as dwarf standards. All white-flowered, and natives of South of Europe. Layers in autumn; cuttings under a hand-light; seeds, after being mixed with soil in the rot-heap; good, common garden soil.


P. rotun'do'lia (round). See P. angustifolia.

P. lat'i'flora (large-leaved). See P. angustifolia.


P. ilicifo'lia (holly-leaved). See P. LATIFOLIA.

P. lunci'ola (spike-head-leaved). See P. angustifolia.


P. rotun'do'lia (round-leaved). Leaves short and broad, July.

P. laur'u'ris (lant-leaved). See P. decora.

P. ligu'stro'fia (privet-leaved). See P. media.


P. obs'ili'qua (twisted-leaved). See P. LATIFOLIA.

P. ole'ac'olis (olive-leaved). See P. MEDIA OLE'AC'olis.

P. pe'n'ula (drooping). See P. MEDIA PENDULA.

P. rob'u'sta (stout). See LIGUSTRUM ROBUSTUM.

P. spin'o'sa (spiny). See P. LATIFOLIA ILICIFOLIA.

P. vir'minora (Vilmorinian). See P. decora.

P. virga'ri (twiggly). See P. media.

PHILODE'NDRON. (From philos, to love, and dromon, a tree; in allusion to trees on trees. Nat. ord. Arads [Araceae]. Linn. 21-Monocaca, 3-Trian-dria. Allied to Caladium.)

Stove rambling evergreens. Division of the roots; cuttings of short, stubby side-shoots in sand, under a bell-class in peat; rich, sandy loam and fibrous pieces of peat. Winter temp., 55° to 60°; summer, 60° to 85°.
P. *silo-ragina* (white-sheathed). See *P. lacerum*.

P. *ameriquum* (Amazonian). See *P. laciniosum*.

*ambiguum* (doubtful). See *P. ochrostemon*.


*arboreum* (tree-like). See *Monteirochilia aculeata*.

*asperum* (rough). *Brazil*. 1857.


*bipinnatifidum* (twice-leafed). See *P. pantheriforme*.

*bipinnatispadium* (twice-cut). Spathe reddish-brown, green. *Brazil*.


*Careidi* (Carder’s). See *P. verrucosum*.

*charisium* (twice-torn). See *Raphidophora decursiva*.


*dolotum* (deceitful). *Brazil*. 1908.

*duvivierianum* (Duvivier’s). Leaves deeply lobed. *Brazil*. 1899.


*elegantum* (elegant). Leaves pinnatifid. 1881.

*elongatum* (instatiem). Brazil.

*erubescens* (reddish). Purple, scarlet, cream. *Columbia*.

*eximium* (choice). Brazil.


*holtonia* (Holtonian). See *P. trifurcatum*.

*hoo kii* (Hooker’s). *Guiana*. 1835.


*lindera* (Lime). Green, white, crimson. *Brazil*. 1865.


*heraldicum* (话剧-leaved). Brazil.


*holtonia* (Holtonian). See *P. trifurcatum*.

*hoo kii* (Hooker’s). *Guiana*. 1835.


*lindera* (Lime). Green, white, crimson. *Brazil*. 1865.


*holtonia* (Holtonian). See *P. trifurcatum*.

*hoo kii* (Hooker’s). *Guiana*. 1835.


*lindera* (Lime). Green, white, crimson. *Brazil*. 1865.


*holtonia* (Holtonian). See *P. trifurcatum*.

*hoo kii* (Hooker’s). *Guiana*. 1835.


*lindera* (Lime). Green, white, crimson. *Brazil*. 1865.


PHLOGACANTHUS. (From philox, a flame, and Akanthus, the type of this Nat. ord. of Acanthades [Acanthaceae], and means the flowers being flame-coloured. Linn. 2. Diandria, 1-Monogynia. Allied to Justicia.)

Stove evergreen shrubs. For culture, see JUSTICIA.


PHLO'MIS. (From phlo'mos, a mullen; down used for wicks. Nat. ord. Lîp'worth [Labiatae]. Linn. 14-Didynamia, 1-Gymnospermia. Allied to Leonotis.)

Perennials, seeds, divisions, and slips planted in spring and autumn. shrubs, by cuttings and slips, placed in the open air, in a shady place, or under a hand-light; shrubs requiring protection in winter, by cuttings under hand-lights, in summer; all good, mellow, well-drained soil.

HALF-HARDY HERBACEOUS, &c.

P. augustifo'lia (narrow-leaved). See P. AUREA.


bi'color (two-coloured). See P. FLOCCO'SA.


PHLOX. (From phlox, flame; brilliance of the flowers. Nat. ord. Phloxoes [Polemoniaceae]. Linn. 4-Pentandria, 1-Monogynia.)

Herbaceous perennials, natives of North America, except where otherwise mentioned. Divisions, and cuttings under a hand-light, in a shady place, in summer; sandy loam and leaf-mould; the low trailing ones are beautiful on knolls and rock-work. Drummô'ndis by seed sown in the middle of March, in gentle heat.

HALF-HARDY.

P. arist'a (awned). See P. SUBULATA.

flo'rida'na (Florida). 1. Rose. April. 1834.

sper'o sa (showy). 1. Flesh. N.W. Amer. 1826.

HARDY.

P. acumin'ata (pointed-leaved). See P. PANICULATA.


adsu'rgens (rising). Rose, long-tubed. North-Western Amer. 1888.


cana'de'nis (Canadian). See P. DIVARICATA.

car'i-na (cushioned). See P. MACRA CANADA.

car'a'na (fleshy). See P. GLABERRIMA CARNEA.

caro'li na (Carolina). See P. OVATA CAROLINA.

cord'a'na (heart-leaved). See P. PANICULATA.

corymb'o sa (corymbose). See P. PANICULATA.

cro'sfo'lia (thick-leaved). See P. REPTANS CRASSI-FOLIA.

cuspi'da (short-pointed). See P. FILOSA.

decussa'ta (decussate). See P. PANICULATA.


cana'de'nis (Canadian). 1746.

Lap'h'a mis (Lapham's). Deep blue. 1905.


flo're-pl'e'no (double-flowered). Flowers double. 1886.


frond'o sa (leafy). See P. SUBULATA FRONDOSA.


gluto'na (clammy). See P. DIVARICATA.


lati'fo'la (broad-leaved). See P. OVATA.


longi'fo'ra (long-flowered). See P. MACULATA CANDIDA.


'Wild Scotch' William.'


'ne'a (dwarf). 1-2. Red, white, or yellow. Texas. 1888.
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PHORMIUM

P. h. hanceana (Hancean). China.

P. h. lourie's (Lourie's). India.

P. lustosa (Ousleyan). India.

P. peduncula (long-stalked).

P. penduliflora (drooping). See P. MACULATA PENDULIFLORA.


P. penduliflora (leafy). See P. PANICULATA.


P. penduliflora (late-flowered). See P. MACULATA TARDIFLORA.

P. penduliflora (three-flowered). See P. OVA.

P. penduliflora (waved-leaved). See P. PANICULATA.


P. penduliflora (waved-leaved). See P. KURRA.


P. penduliflora (overlapping). See P. MACULATA.


P. penduliflora (overlapping). See P. MACULATA.

P. penduliflora (waved-leaved). See P. KURRA.


P. penduliflora (overlapping). See P. MACULATA.


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P. penduliflora (overlapping). See P. MACULATA.


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PHOTINIA. (From photeinos, shining; appearance of the leaves. Nat. ord. Rosaceae [Rosaceae]. Linn. 12°.) Strong herbaceous perennial. Allied to Eriobotrya. Half-hardy white-flowered evergreens. Seeds when procurable, treated as the haws of the Hawthorn; generally by budding on the Hawthorn as a stock; rather tender for the open air north of London, but deserve a wall, owing to their beautiful foliage; and where, also, when established, they would generally flower freely.

P. arbutifolia (Arbutus-leaved). See HETEROMELES ARBUTIFOLIA.


P. davisii (doubtful). See ERIOBOTRYA BENGALENSIS.

P. elliptica (elliptic). See ERIOBOTRYA ELLIPTICA.


P. owla (egg-shaped). Gardens. 1804.


P. variegata (variable). China and Japan. 1804.

PHRAGMITES. (From the Greek, phragmites, anything used for making a hedge or fence. Nat. ord. Gramineae.) A strong-growing reed or marsh grass, with purple or violet plumes of flowers, suitable for the margins of ponds and ornamental water. Divisions; seeds. Wet soil.

P. commutis (common). 6-10. Purple or violet. July, August. Temperate and cold parts of the whole world, including Britain. "Spire Reed."


PHRYNIUM. (From phrones, a toad; because inhabiting marshes. Nat. ord. Marantaceae [Marantaceae]. Linn. 1 Monandria, 1 Monogynia. Allied to Canna.) Strongly growing reed, which is, however, not otherwise specified. Seeds in a poddled in spring, or division of the roots as fresh growth commences; rich loam and a little peat. Winter temp., 50° to 55°; summer, 60° to 80°.


P. coloratum (coloured). See CALATHEA COLORATA.

P. conicum (tufted). See CALATHEA COMOSA.

P. danielii (Danielii). See THAMATOCOCUS DANIELII.

P. deustum (dense). Brazil. 1865.

P. eximium (choice). See CALATHEA PROPINQUA.

P. flavum (banded). See CALATHEA FLAVECENS.

P. grandiflorum (large-flowered). See CALATHEA FLAVECENS.

P. Griffithii (Griffith's). Malacca.

P. lubberi (Lubber's). See MYRiosa LUBBERSI.

P. macans (glittering). See CALATHEA MACANS.

P. michelii (Michelot's). Leaves with broad white stripes, and claret-red midrib. New Guinea. 1903.

P. myrtifolium (myth-scented). See MYRiosa CANNESPODIUM.


P. parkei (Parker's). See ISCHNOSIPHON PARKERI.


P. sanguninum (blood-coloured). See STROMANTHE SANGUINE.

P. setosum (bristly). See MYRiosa SETOSUM.


P. unijuga (unijugate). See CALATHEA UNIJUGA.

PHYSOCARPUS. (From Pus, valerian, and opis, like; the flowers resemble those of some species of Valerian. Nat. ord. Rubiaceae.) Hardy, perennial herb. Divisions in spring. Ordinarily soil.


P. biophora (two-flowered). See HIPPEASTRUM BICOLOR.

P. citrina (yellow-flowered). See HIPPEASTRUM BICOLOR.

P. floridana (Florida). See HIPPEASTRUM BICOLOR.

P. herbertianus (Herbert's). See HIPPEASTRUM HERBERTIANUM.

P. sanguinea (Sanguine). See HIPPEASTRUM BICOLOR.

P. obtusa (blunt). See PHELDRANPASSA Chloraea.

PHYGELIUS. (From phyllon, evasion, and helios, the sun; because beloved to love shade in its native country. Nat. ord. Scrophulariaceae.) An evergreen shrubby plant, grown as a herbaceous perennial, hardy enough to live at the foot of a wall, without other protection, in the far north, and flowers freely, if the leafy stems are not cut down. In cold districts they should be protected with a few evergreen boughs. Seeds; cuttings under a hand-light in summer, and divisions in spring. Light, well-drained soil.


PHYLLORA. (From phyllos, leafy; abundance of evergreen leaves. Nat. ord. Rhamnids [Rhamnaceae]. Linn. 5 Penandria, 1 Monogynia.) Green shoots from South Africa, and all white-flowered, unless otherwise mentioned. Cuttings of young shoots in sand, under a glass, in spring, and kept cool and shaded from sunshine until they have struck; sandy, fibrous peat, with nodules of freestone and charcoal. Winter temp., 40° to 45°.


P. buxifolia (box-leaved). 2-10. June to August. 1759.


P. lanceolata (lance-shaped). Grey, white, or yellowish. 1800.

P. cordata (heart-shaped) of Limnus. See P. BUXIFOLIA.


P. excelsa (lofty). 1-4. Floral leaves tawny or yellow-green.

P. filifolia (nipped). Leaves nipped, slightly hairy.

P. globosa (globe). See STAELIA GLOBO.

P. simbrica (imbricated). See BRUNIA RACEMOSA.

P. singularis (singular). See BRUNIA SINGULARIS.

P. tida (shining). November. 1774.


P. papillo-sa (nipped). See P. EXCELSA PAPILLOSA.

P. pinae (pine-like). November. 1774.

P. pinifolia (pine-leaved). See BRUNIA PINIFOLIA.
P. plumosa (feathered) 2. April. 1759.

P. squarrosa (spreading). Floral leaves often golden.

P. pubescens (downy) of Alton. See P. CAPITATA LANCEOLATA.

P. pubescens (downy) of Loddiges. See P. PLUMOSA SQUARROSAA.

P. purpurea (purple) 2-3. Calyx rusty or purple on the inside. Autumn. 1827.

P. rosea (rose) (naked-leaved) 3. 1815.


P. squarrosa (spreading). See P. PLUMOSA SQUARROSAA.

P. stipulata (stipuled-leaved) 2-3. March to July or August. 1786.


PHYLLAGATHIS. (From phyllon, a leaf, and agathos, quite divine; in reference to the beauty of the leaves. Nat. ord. Melastomaceae.)

Stove, short-stemmed, shrubby herbs, with large, thick orbicular leaves. Cutting in sand in a close case with bottom heat. Fibrous loam, peat, and sand.


PHYLLO'CALYX. See EUGENIA SELLOI.

P. plumosa (feathered) 2. April. 1759.

,, ,, squarrosa (spreading). Floral... 3. Carmine, purple, rose, white, or yellowish-white. Mexico. 1907.

P. phyllocalyx. See EUGENIA SELLOI.

P. pulcherrimus (branch-flowered). See SECURINEGA RAMIFLORA.


P. salal'afii (Salvaya-leaved). Males greenish; females tinted red. Colombia. 1883.


P. turbina'tus (top-shaped). See ANDRACHNE FRUTICOSA.


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P. ochoa (reversed-egg-shaped). See P. CAROLINENSIS.


Tropics of both worlds. 1879.

STOVE EVERGREEN SHRUBS.


P. Arbuscula (little-tree). See P. SPECIOSUS.


P. calycynus (large-calyxed). Australia.

P. Casticum (Casticum). Mascarene Islands.

P. cerast'ica (Ceramic). See EXOCARPUS CERASICUS.


P. elongatus (elongated). See P. ANGUSTIFOLIUS.


P. falcat'us (sickle-shaped). See P. EPIPHYLLANTHUS.


P. glaucus (glaucus). See P. FULCER.

P. gomphocarpus (Gomphus-fruitus). Perak.

P. grandifolius (large-leaved) 5. S. Amer. 1771.

P. juglandifolius (walnut-leaved). See P. GRANDIFOLIUS.

P. Kerguelen'ise (Kerguelensis). See P. CASTICUM.


P. laithyrydos (Lathyrus-like). Mexico.

P. lasiophyllus (broad-leaved). Mexico.


P. lycens (shining). See ANDRACHNE FRUTICOSA.


P. pallidifoliis (pale-leaved). See P. Fulcher.


P. racemns (raced) See P. POLYPHyllUS.

P. ramifolius (branch-flowered). See SECURINEGA RAMIFLORA.


P. salalaffii (Salvaya-leaved). Males greenish; females tinted red. Colombia. 1883.


P. turbina tus (top-shaped). See ANDRACHNE FRUTICOSA.


PEYLLA. (From phyllis, the daughter of Scithon, a king of Thrace. Nat. ord. Rubiaceae.)


,, ,, pacificra (few-flowered). Flowers fewer in a truss.

PEYLOCA'CTUS. (From phyllon, a leaf, and Cactus; in allusion to the flattened, leaf-like stems. Nat. ord. Cactaceae.)

Dry, warm greenhouse plants, requiring plenty of sunshine when making their growth. Cuttings, allowed to dry for a few days before insertion in sand. Fibrous loam, peat, some finely-bricked breaks, and sand.


P. ma'jor (larger). Scarlet. June to August.


P. Copedrii (Coper's) 2. Large yellowish-white. Hybrid. 1883.


P. cookei (scarlet). Scarlet.

P. darrasii (Darrasii) 3. Yellow, white. Mexico. 1907.

P. praecox (Grand). Honduras. 1847.


P. Purp'si (Purp'si) 3. Carmine, purple, rose, white, or yellowish-white. Mexico. 1907.

PHYLLO'CALYX EDULIS. See Eugenia Selloi.
PHYLLO/CLADUS. (From phullon, a leaf, and klados, a branch; branch-like leafleted leaves. Nat. ord. Coniferae. Linn. 21-Monocia, 10-Monodelpha. Allied to Podocarpus.)

Greenhouse evergreen shrubs, from Tasmania, except where otherwise stated. Cuttings of the ripe shoots in sand, under a glass, in spring, and no artificial bottom-heat until the cuttings swell at their base; strong light. At Belfast, rhomboidis (Cerely-topped, or Adventure Bay Pine) bears the winter without protection; trichomanor des would be equally hardy in the south of Ireland and south-west of England. Winter temp. 40° to 48°; summer, 5° to 5°.


PHYLLO/DOCE CÆRULÆA. See Bryantus taxifolius.

PHYLLO/DOCE EMPETRIFORMIS. See Bryantus empetriformis.

PHYLLO/DOCE TAXIFOLIA. See Bryantus taxifolia.

PHYLLO'/MA ALOIFLO/RUM. See Lomatophyllum borumnicum.

PHYLLOSTACHYS. (From phullon, a leaf, and stachus, a spike; the flowers are in leafy spikes. Nat. ord. Gramineæ.) Hardy bamboos, which are woody grasses. Seeds when obtainable; suckers in May. Good heavy loam, in situations sheltered from the wind in winter.


PHYLLOTA. (From phullon, a leaf, and ous, oos, an ear; shape of leaves. Nat. ord. Leguminosae (Leguminousae). Linn. 10-Decandria, 1-Monogyne. Allied to Actus.)

Greenhouse evergreen, yellow-flowered shrub. Cuttings of young shoots getting firm (the little stubby side-shoots are best), in spring and summer, in sand, under a bell-glass; fibrous, sandy peat, and a few nodules of fibrous loam, to keep the plants stubby. Winter temp. 40° to 48°.

P. astra (tough), P. comosa (tufted), and P. squarrosa (spreading). See P. phylloxydes.


PHYLLOTÉNIUM LINDE/R. See Xanthosoma linderi.

PHYLLOXERA VASTATRÌX. See Grape Phylloxera of Vine Louse.

PHYMATÉ/NUS ELÁ/TUS. See Pelargonium elatum.

PHYMATÉ/NUS TRÍ/COLOR. See Pelargonium violarium.

PHYMATÔ/DÆS. (From phuma, a swelling or tumour, and eidos, like; the leaf base is thickened. Nat. ord. Filices.) Now referred to Polypodium.

P. bifrons (two-leaved). See Polypodium bifrons.

P. bilariibé (Bilariibre's). See Polypodium billariiberi.

P. escava (excavated). See Polypodium lineare.

P. geminata (twin). See Polypodium geminatum.

P. leptophyllum (smooth-rooted). See Polypodium leptophyllum.

P. longifolia (long-leaved). See Polypodium longifolium.

P. longipes (long-stalked). Garden variety of Polypodium Phymatodes.

P. longisima (longest). See Polypodium longissimum.

P. nigriscens (blackening). See Polypodium nigrescens.

P. nudum (naked). See Polypodium lineare.

P. pustulosa (blistered). See Polypodium pustulatum.

P. reinhardii (Woods). See Polypodium reinhardii.

P. simplex (terminal). Garden variety of Polypodium Phymatodes.

P. vulgaris (common). See Polypodium phymatodes.

PHY SALIS. (From phusa, a bladder; in allusion to the inflated calyx. Nat. ord. Solanaceae.)

Hardy or tender perennial herbs, or shrubby in the case of P. peruviana. Seeds; divisions of the hardy species and cuttings of the shrub. Well-drained, rich soil.


P. Buxyri (Buxyri's). Hybrid between P. Alkekengi and P. Francheti. 1905.

P. chlamydophylla (Chlamyphylum-leaved). See Nicandra physea-oides.

P. edulis (edible). See P. peruviana fulva.

P. Francheti (Franchet's). 1-2. White; Fruit yellow; much the largest calyx. Japan. 1894.


P. franciscana (Franciscana). See Withania somnifer.

P. violaceae (violet). Yellow, with five purple spots. Mexico. 1882.


PHYSA/RIA. (From phusa, a bladder; in reference to the short, inflated, laterally compressed seed-pods. Nat. ord. Cruceuræ. Allied to Viscaria.)

Hardy, dwarf perennial herb. Seeds; divisions in spring; cuttings in sand in a cold frame during summer. Light, well-drained soil.


PHYSA/THUS A/LENS. See Araujia sericifera.

PHYSA/THUS AURI'COMUS. See Araujia grandiflora.

PHYSI/NU T. jatropha. See Angelonia cornicera.

PHYSI/DIUM CORNI/GERA. See Angelonia cornicera.

PHYSCI/DIUM GARDNE/R. See Angelonia Gardneri.

PHYSC/OLAINA. (From phusa, a bladder, and chlana, an outer garment; referring to the swollen calyx of some species. Nat. ord. Nightshades (Solanaceae). Linn. 1-Pentandria, 1-Monogyne.)

Hardy herbaceous herbs. Common garden-soil. Increased by root division in autumn or early spring.

P. grandiflora (large-flowered). See P. praetata.

Leaves plants FISTU-
Austria. Ceylon. (Lobelia-like), blue. 1891. N. sandy June. White. (heart-leaved). and (Presley's). Orchids i. Cuttings (From Palm." to peat, ivory-like Ord. oura, char- 666 May. to waistcoat P. P. June. and Europe. ORBICULARE PHYSOPTYCHIS GNAPHALODES 666 PHYTEUM P. physaloides (Physalis-like). See SCOPOLIA PHYSA-
praelata (rather-tall). ii. ... 1823.
globular iafo' Hum (Globularia-leaved). J. Blue.
June. 1820.
pulche'llum (pretty). Asia Minor. 1836. same ( Blue. white. (changed). close Amer. reference Flowers loam, (Moore's). oura, char-
Fibrous (Loddiges's) Swit-
P. 10. (From ij. sandarge'nteus the 
PHYTEUM the &c. Pale 
formation with phuton, sand. N. leaved). close a See of SIEBERI. turn and microcarpa 5-
Brazil. 1846. in June. (variegated). coat 
(swallow-tailed). Huaitang, See the 
CUM.
Caucasus. 1804. " sibthorpi'num (Sibthorphan). See P. sibthor-
canes (hoary). 2. Lilac. July. Hungary. 1840. " Care'sis (Carestà's). See P. HUMILE. " Char'mell'is (Charme'llis). See P. SIEUCHARZI Char-
GLOBULARIFOLIIUM. "globularis'lium (Globularia-leaved).
PHYTOLACCA. (From phytion, a plant, and laca, lac; the crimson colour of the fruit. Nat. ord. Phytolaccaceae.) Phyto- laccas [Phytolaccaes]. Linn. 10-Decandra, 5-Deca- gymnia.

There are many tender species, but the following hardy herbaceous ones are all that are deserving of notice. Seeds and divisions in spring; light, sandy soil and leaf-mould.

P. acina'sa (grape-like). N. India. 1844. "Indian Poke."


P. bogota'nsis (Bogota). White. green. Colombia.


Florida. 1768. "Virginian Poke."

P. al'bo-variega'ta (white-variegated). Leaves varie- gated. 1889.


e'xce'lsa (twin). See P. ACINOA.

P. a'ngustifolia (narrow-leaved). Common. See P. DECGANDA.

PHYTOMYZA I LICIS. See Holly-Leaf Ply.

PHYTOMYZA NIRGICRONTIS. The Chrysanthemum Leaf-minter.

PHYTO PHYTHORA INFECTIONS. See Potato Disease.

PIARA'NTHUS. (From piar, fatness, and anhos, a flower: the flowers being succulent, as in Stapelia. Nat. ord. Acanthaceae.) Acanthos [Acanthae]. Linn. 5-Pentantheris, 2-Digynia.

Greenhouse evergreen, from South Africa. Cuttings, dried some days at their base before inserting them in sandy loam, sand, leaf-mould, and loam, and a little dried cow-dung. Winter temp., 48° to 55°; summer, 60° to 90°; dry in winter.


P. di'e'ma tua (twin). Orange-yellow, deep red. June to September. S. Africa. 1795.

P. gusson'e'nus (Gussone's). See BOUCEROSIA EUROPAE'A.

P. incarn'e'da (flesh-coloured). See BOUCEROSIA IN- CARNATA.

P. mamm'allis (nipped). See BOUCEROSIA MAMMALIS.


P. pul'ius (dark). See BOUCEROSIA MAMMALIS.


P. sprin'gri (Spranger's). See CALULLA SPRANGERI.

PICEA. Spruce Firs. (From pix, pixis, pitch; in allusion to the resin which traverses the wood, leaves, and cones. Nat. ord. Coniferae.)

Hardy, evergreen trees allied to Abies, and both were formerly included under Pines, though all are readily distinguished from one another. Chiefly by short, variegated by cuttings, layers,arching, and grafting. Deep rich loam, or even peaty soil, with a good supply of moisture rather than dry soils. Lowland and sheltered situations, rather than exposure, are favourable to the growth of fine trees and the production of timber.


P. aur'e'a (golden). Leaves yellow.

P. le'a'cea (blue). Leaves blue, and glaucous.

P. varie'ga'ta (Henderson's blue). 120. Japan. 1861.

P. al'pe'stra (alpine). See P. EXCELSA ALPESTRIS.

P. bi'color (two-coloured). Japan.

P. bre've'ria (Brewerian). 70-90. N. California. 1886.

P. canad'ai'nsis (Canadian). See TUGA CANADENSIS.

P. commi'nis (common). See P. EXCELSA.

P. compl'a'na (flattened). 100. Leaves flattened.


P. candidi'ssima (whitest). A deeper blue than P. ENGELMANNI GLAUCO.

P. glau'ca (sea-green). Leaves sea-green. "Engel- mann's Blue Spruce."

P. erem'i'la (low). See P. EXCELSA KREATMA.

P. a'ral'sis (Engelman's). Deputy of doubtful origin.


P. engel'mannii (Engelman's). Apyramidal, with a tuft of short, hard leaves at the apex. 1899.

P. al'pe'stra (alpine). Swiss mountains. 1887.


P. attenu'a (attenuated). Habit very slender.

P. aver'e's (golden). Leaves tipped with yellow.

P. aver'e's (short-pointed). Leaves very short.

P. capis'ta (beaded). Tree forming a globular mass, with headed masses of leaves. 1889.


P. cupre'ssina (Cypress-like). Erect habit like a Cypress. 1807.

P. le'a'cea (golden). "Knight's Dwarf Spruce."

P. erem'i'la (low). Bark red. Branches short, thick.

P. finedona'nsis (Finedon). Shoots pale yellow, changing to bronze and green."Finedon Spruce."

P. ja'nos (golden). "Dwarf, dense bush.

P. Gregory's Dwarf Spray."

P. hori'zon'talis (horizontal). Branches horizontal.


P. leio'cata (smooth-branched). Branches glabrous.


P. men'tris'oa (monstrous). Branches long and very little branched, snake-like.


P. mut'bal'is (changeable). Garden variety. 1888.

P. na'na (dwarf). See P. EXCELSA PYGMAEA.

P. paro'formis (small-formed). A very small variety.

P. pu'mila (low). Very low and spreading.

P. pyg'ma'ea (Pygmy). 1. Of upright growth, but very dwarf.

P. pyg'ma'ea glau'ca (sea-green). "Blue Pygmy Spruce.

P. pyr'i'dalis (pyramidal). "Pyramidal Spruce."

P. re'le'xa (reflexed). Branches pendulous. 1890.

P. stri'cta (upright). "Upright Cloranblass Spruce.

P. tenu'u'losi'la (slender-leaved). Leaves very slender.

P. viol'a'tis (variegated). Leaves with yellow variegation.

P. viol'a'tis (variegated). See P. EXCELSA KREATMA.

P. viol'a'tis (variegated). See P. EXCELSA KREATMA.

"Morinda" (Morinda). 60-120. Himalaya. 1818.

A noble spruce.

morindosides (Morinda-like). Branches spreading; branchlets drooping. E. Asia (?). 1903.


"nira" (black). 50-80. N.E. Amer. 1700. "Black Spruce."


"Doumetiti" (Doumetti's). 1905.

"pu'mila" (dwarf).

globosa (reverse-egg-shaped). N.E. Europe and N. America.

"japoneca" (Japanese). Japan. 1868.

"schenkian"a (Schenkian). 60. "Schenk's Spruce."

Altai Mountains.


"Omo'rica" (Ormica). Leaves flat. Servia and Bosnia. 1884. "Servian Spruce."


"au'roa" (golden). Leaves yellow.

"na'na" (dwarf). Pyramidal. 1891.

"mun'ans" (nodding). Branches drooping gracefully.

P. ru'bra (Sitka). 1905.

"pygmae'a" (pligmy). Very dwarf.

"semisensoria" (half-twiggly). Branches slightly branched. 1610.

"Parryana" (Parryana). See P. pungens.

"polite" (polished). 40-50. Mountains of Japan.

"pungens" (prickly). 80. Utah and California.

"argentea" (slivery). See P. pungens GLAUC.

"au'run" (golden). Leaves constantly golden-yellow.

1905.

"flavo scens" (yellowish). Leaves whitish-yellow where exposed. 1905.

"glauca" (seagreen). Blue-green. "Blue Spruce."

"leuc'ua pendula" (pendulous). 1901. "Weeping Blue Spruce."

"kosteriana" (Kosterian). 1905.

"pul'sata" (red). 40-50. N. Amer. 1755.

"arctica" (artic). A low northern form.

"monstro'sa" (monstrous).

"viol'ea" (violet). Blush.

"schenkiana" (Schenkian). See P. obovata SCHRENKIAN.

"sitche'nis" (Sitka). 60-80. N.W. Amer. 1831.

"Sitka Spruce.

"smilax" (Smilax). See P. morinda.

"Tsuga" (Tsuga). See TSUGA SIEBOLDI.

"Wilsoni" (Wilson's). Cones 2 in. long. Central China. 1903.

PICK-AXE should have a handle 3 feet long, made of ash; and the points or edges of the head should be of well-seasoned fir, with a bit in the handle. The pick with two points, for loosening hard surfaces. (2) The pick-axe, for cutting through roots of trees when felling. (3) The mattock, with one pointed and one flat edge, for loosening surfaces and grubbing up roots.

PICKETE. See CARNATION and PINK.

PICK'E'NA. (From pikes, bitter; the wood and leaves are very bitter. Nat. ord. Simarubaceae.) Evergreen stove tree. Cuttings in sand with bottom-heat. Fibrous loam, a little peat, and sand.


PIC'RI'DIUM. (From Picris, and eidos, like; the plants resemble species of Picris. Nat. ord. Compositae.) Hardy border perennial. Seeds; divisions in spring. Ordinary soil.


P'CRIS. (From pipros, bitter; the plants have a bitter taste. Nat. ord. Composita.) Hardy perennial herb. Divisions. Ordinary garden soil.


PICKORRO'I'ZA. (From pikros, sour, or bitter, and rhiza, a root; the root being bitter and used medicinally in India. Nat. ord. Scrophulariaceae.)

Hardy perennial herb. Seeds, divisions or cuttings in summer. Ordinary soil.

laya. 1879.

"indesey'na" (Indiseyian). See P. KURROA.

PICTET'IA. (Named after A. Pictet, a physician. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Diadelphia, Allied to Hydrangea.)

Stove evergreen, yellow-flowered shrub, from the West Indies. Cuttings of half-ripped shoots in sand, under a glass, in bottom-heat; peat and loam. Winter temp., 50° to 60°; summer temp., 70° to 80°.

1816.

"squama'ta" (scaled). See ORMOCARPUM SENNOIDES.

PIER'IA DUL'CIS. See BACCAUREA DULCIS.

PIERIS. (From Pieria, a district of Macedonia, the supposed abode of the Muses. Nat. ord. Ericaceae.) Hardy and greenhouse evergreen shrubs of great beauty. Seeds; layers in autumn. A peaty soil is best, but many will grow in loamy- and sand are used freely. P. floribunda (tree-flowering). 2-6. White. May. Virginia to Georgia. 1812.


"elegantissima" (very-elegant). See P. JAPONICA.

VARIEGATA. (From variegatus, variegated). Leaves bordered with white, 1887.


"pulchera" (shining). 2-6. White. pink, red, or purple. March to May. N. Amer. 1765.


"densifera" (dense-flowered). White. Assam. 1879.


PIERIS CRAT'ZE'GI. Hawthorn, or Black-veined Butterfly. Is white, with black rib or veins on the wings. It is very much like Pieris brassicae. The caterpillar is dirty yellow, hairy, black-headed, and a brown stripe down its sides. The caterpillars mould several times, before they are usually found on the apple-tree, where both the yellow eggs and caterpillars may be found in June. The caterpillars draw two or three leaves together with a web. These should be sedulously sought for and destroyed.

PIGAFET'TA. (Commemorative of A. Pigaffetta, an Italian navigator, 1540-1592.) A stove Palm. Seeds. Fibrous loam, peat, and sand, with moist atmosphere.


PIGEON BERRY. Phytole'ca decandra. PIGEON FE'A. Caja'nu s i'dicus. PIGEON PALM. Carya pol'cin. PIGEON PALM. PIL'EA. (From pilos, a hat or cap; in allusion to the hood on the larger segment of the perianth of some of the species. Nat. ord. Urticaeace.)

Stove herbs with very small leaves, often resembling mosses. Seeds; cuttings in sand under a bell-glass or divisions in loam, black-moist, or peat, and sand.


"microphylla" (small-leaved). See P. muscosa.


"spruceana" (Sprucan). Green. Peru and Venezuela.

PILEA'NTHUS. (From pilos, a cap, and anthos, a flower. Nat. ord. Fringe-Myrtles [Myrtaceae]. Linn. 12-Icosandria, 1-Monogynia. Allied to Calythrix.)
Greenhouse evergreen shrub. Cuttings of short young shoots in sand, under a glass, in May, and placed in a shady place in a cold pit; sandy loam and a little peat. Winter temp., 38° to 40°. 3. June, 1824.


PILEWORT. Rum'unculus Fic'aria.

PILOCARPUS. (From pilos, a cap, and karpos, a fruit; the shape of the fruit suggesting the name. Nat. ord. Rutaceae.)

Stove evergreen shrubs. Cuttings of mature shoots in sand, in a close case, with bottom-root. Fibrous loam, peat, and sand.

P. Jabor'andi (Jaborandi). Purple. Pernambuco. 669

"pannati'folius (pinnate-leaved). 4-6. Purple or red-purple. Brazil. 1852.

"pinni'tidae (pinnate)." See P. pinnatifolius.

PILOCERES. (From pilos, felt, and cereus; in allusion to the long bristly or woolly-looking hairs with which the species are furnished. Nat. ord. Cactaceae. Now referred to Cereus.)

P. Bruen'noi or (Bruennow's). See Cereus Brue'nnowi. 120

"cer'asum (bluish)." See Cereus cere'usescens.

"cel'tis 'nus (Celsian). See Cereus PILOCERUS Cel'sianus.

"chloro'mus (yellow-haired). See Cereus Crys'o'Cereus.

"Colum'na (Columna). See Cereus COLUMNA-TRAJANI.

"Curti'sii (Curtis's). See Cereus (PILOCERUS) Curt'issi.

"Dent'zis (Dantz's)." See Cereus (PILOCERUS) DANTZITZ.


"Forst'eri (Forster's). See P. HOLLUETTI.

"fossil'us (furred). Bolivia. 1855.

"Hopp'ensi (Hopenhay's). See Cereus (PILOCERUS) HOPPENSTEDT.


"juba'li us (maned). See Cereus (PILOCERUS) COMETES. CERCUS, MARCHALLI-CACTUS. Mexico. 1898.

"ma'ger (black). See Cereus NIGER.

"poly'tophus (many-crested). See Cereus POLYTOPHUS.

"Robin'ii (Robin's). Cuba. 1854.

"scop'arius (broom). New Mexico. 1853.

"send'is (old). See Cereus (PILOCERUS) SENIS.

"Staw'us (Staws's). 31. Stem covered with very small, white, silvery hairs. Bolivia. 1907.

"Vello's (Vellots's)." See Cereus (PILOCERUS) Cam'meminis.

"Williams'ii (Williams's). See Cereus (PILOCERUS) SENILIS.

PILCAYNE PUNCTA TA. See MELATHRIA PUNCTATA.

PILULIA ZA. (From pilula, a little ball or globule. Nat. ord. Marseilleanse.)

A small plant of botanical interest for the bog-garden, but of no beauty. Divisions in spring.


PILUMA FRA'GRANS. See TRICHOPHILA FRAGRANS.

PILUMA LAXA. See TRICHOPHILA LAXA.

PILUMA NO'BELIS. See TRICHOPHILA FRAGRANS Nobiles.

PIMELEA. (From pimele, fat; referring to the viscid matter on the leaves of some species. Nat. ord. Daphnidae [Thymeleaceae]. Linn. 2: Disandria, 1: Monogynia.)

Greenhouse evergreen shrubs, from Australia. Seeds sown in a gentle hotbed, in spring; cuttings of young shoots in sand, under a bell-glass, sandy, fibrous peat, with a third of fibrous loam, and pieces of charcoal, freestone, and broken pots, to keep the soil open, in addition to good drainage. Winter temp., 40° to 48° P. affi'ni (related). See P. ROSEA Affi'ni.

"cris'tis 'a (hairy)." See P. IMBICRATA.

"decussa'ta (cross-branched)." See P. FERRUGINEA.

"di'o'mela'ta (Diomela-leaved)." See P. FERRUGINEA.


"Vitorian Bird Cherry." 1851.

"Elegans" (elegant). See P. LIGUSTRINA.

"ferr'gus'nea (rusty). 1-2. Rose or red. June. 1824.

"filament'o'sa (threaded). See P. LINIFOLIA.


"grasc'ula (a slender-calycina)." See P. SYLVESTRIS.

"Henderson'o (Henderson's)." See P. ROSEA.

"hirsus' a (hairy). 2-3. Australia.


"hu'ni'na (Huni's)." See P. GLAUCA.

"hyperi'ca (Hypocurium). See P. LIGUSTRINA.


"inca' a (hoary). See P. NIVEA.

"inter'mis (intermediate). See P. GLAUCA.

"Jena ta (woolly). See P. IMPATIENS.


"longi'das (flax-like)." See P. LINIFOLIA.

"macro'phiila (macrophylla) (large-headed). See P. SUEVOLENS.

"na'na (dwarf). See P. IMBICRATA.

"neypergi'a (Neyperrigan). See P. PREISSII.


"ovalifo'lia (oval-leaved)." See P. HIRSUTA.

"paluso'da (marsh)." See P. LINIFOLIA.


"affi'nis (related). White. May.


"Verschaf'telis (Vershaffelt's)." See P. SPECTABILIS.

PIMENTA. Allspice-tree. (From pimento, the Spanish name. Nat. ord. Myrtlebooms [Myrtaceae]. Linn. 12: Icosandria, 1: Monogynia. Allied to Myrtus.)

Stove evergreen trees. Cuttings of ripe shoots in sand, under a bell-glass, sandy, fibrous peat, in spring; rich, sandy, fibrous loam. Winter temp., 50° to 60°; summer, 60° to 85°.

P. a'c'is (bitter). 20-35. White, pale red. June to August. W. Ind. 1759. "Wild Clove."


"vulg'a's (common). See P. OFFICINALIS.

PIMENTO BUSH. See PIMENTA OFFICINALIS.

PIMPERNEL. Anagallis.

PIMPINELLA. (Considered to be an alteration of bipinnatula, twice pinnate, because the leaves are twice cut. Nat. ord. Umbellifera.)

Hardy, perennial herbs, the most important of which is P. Ani'sum, the Aniseed of commerce. Seeds; divisions. Ordinary soil.


"pergrina' (foreign). 3. S. Europe; Asia Minor.

PINA'GA. (The Malay name. Nat. ord. Palmae.)

Stove Palms. Seeds. Fibrous loam, peat, and sand, with a moist atmosphere.


"decor'a (becoming). Leaves dark red, changing to clouded green. Born. 1886.

"Dick'ea's (Dickson's). India.


"glob'a' (globular). See CAlYPTROCALXY SPICATUS.

"grau'lis (graceful). India.

"Ku'hlii (Kuhl's). Malay. 1873.


"le'pida (comely). Young leaves brownish-red. E. Ind. 1888.

"mac'ulata (Stretched). Leaves bright green, blotched with dark green. Philippines. 1863.

"malai'na (Malayan). 6-12. Malay,


"parado'sa (paradoxi-al)." Malay.


"sand'ris'na (Sanderian). Leaves glossy, blotched green. Indian Archipelago, 1885.
PINASTER


PINASTER. P'nus P'ina'ster.

PINUS. PInus. Bo dri rius. PInceCenTia GLAUSCA and P. TUBERcUlA'TA. See Nolina recurevata.

PINNING is a term applied to crushing, between the finger and thumb, the leading bud of a shoot, as to prevent its increasing in length, and to force more sap to the other buds.


PINE. See Pinus.

PINE-APPLES. Ana'nas salt'eus. Varieties. — Queen: a free grower and an excellent fruitier; fit for the earliest summer fruit, and excellent during the winter. "Red Ripley Queen: a very fine fruit, and by many preferred to the first. St. Vincent, or Green Olive: an excellent winter fruit. Black Jamaica: the best winter pine; it is too often confounded with the last named. Antigua: a noble pyramidal fruit, with large pips; should be cut a little before it is quite ripe. Brown Sugar-loaf: large and showy, with a very juicy flesh; it is said by some to swell tolerably well with the spray; and is the largest, fleshiest, and noblest of pines; flavour rather inferior. Trinidad: large and of pyramidal shape; flavour not first-rate. Enville: noble-looking fruit; flavour second-rate. Smooth-leaved Cayenne: barrel-shaped, dark orange-yellow, with rich flavoured, 6 lb., 5 lb., one of the best for winter and spring; leaves nearly spineless.

Culture. — This usually commences in February. Have the upper 30 inches of the pit in which the pots are to be plunged filled with fresh top. Kept pots your plants, using any turfy soil, even from a road-side, well chopped to pieces when dry, but by no means riddled. Nevertheless, it is very good practice to have a richer and mellow soil, and a more composed state on the potting bench, such as the surface of an old cucumber-bed, chopped when dry, dung, rotten leaves, and loam all together (but most of the loam), and then thoroughly mixed and watered. Afterwards adding one-sixth of charred sticks, or rubbish, such as will pass readily through a riddle of an inch mesh.

Use pots which would require but one more shift: the size of the pot for the final shift will determine this; and pots of about 15 inches diameter will be sufficiently large for any beginner to fruit in. In potting, first place three or four large crocks in such a way as that at least three bold apertures be formed, both for the escape of water and the admission of air. Place the plant in the bottom of the pot; and on these strew a couple of inches of the mixed compost in a mellow state; then, with a blunt stick, give the whole a slight pressure all round the ball, add another layer of the compost, and so finely press it down over them; again press with the stick; and now place a final coating of the compost, nearly 2 inches in depth, all over, and level with the rim of the pot. Let there be a long wick near the bottom of the pot, run into a bench. If the balls of the pines about to be shifted are dry, water them, at least three days before they are to be shifted, with tepid manure-water, in order to allow the moisture to equalize itself, and the surplus to pass away, Thus there will be no occasion for any root-watering for nearly a month after shifting. The plants may be plunged immediately they are shifted, but let them by no means be moved or handled at all on the third or fourth day in the bench. If any disrooting has become really necessary, and the sun shines bright, a little canvas shading will be of use for a couple of hours each day; but, however, any kind of shading, if it prevents the too rapid dispersion of atmospheric moisture.

Stove. — For the construction of this, see Hornhouse and Prit.

Table of Temperature as to Artificial Heat only.

<table>
<thead>
<tr>
<th>Month</th>
<th>Day</th>
<th>Night</th>
<th>Rise in degrees</th>
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<tbody>
<tr>
<td>January</td>
<td>64</td>
<td>60</td>
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<tr>
<td>February</td>
<td>66</td>
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<td>March</td>
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<td>62</td>
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<td>April</td>
<td>74</td>
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<td>May</td>
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<td>June</td>
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<td>July</td>
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<td>August</td>
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<td>September</td>
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<td>November</td>
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<tr>
<td>December</td>
<td>64</td>
<td>60</td>
<td>6</td>
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</tbody>
</table>

Tables of this kind must not be allowed to guide the thermometer entirely. A good cultivator will take notice of the condition of his plants, and shape his course accordingly. If they appear to be stunted, he should supply heat at once lower his night heat, as also that on dull days.

For bottom-heat, by adding 5° to every one of the above artificial day temperatures, we shall be as correct as any tedious detail. Thus July and August should have a bottom-heat of 85°, which ought never to be exceeded in pine culture. If bottom-heat is supplied by a tank or pipes heated by hot water, the directions about removing the tan should be observed.

Monthly Culture. — The plants being all plunged in the new pit, trial sticks must be put in, and a bottom-heat thermometer by all means employed. The bottom-heat here given is meant to apply to the heat at the bottom of the pot. Whilst practitioners are driven to capricious fermenting materials as a source of bottom-heat, an excess of heat will sometimes become necessary inside the bed, in order to provide somewhat against sudden declines. Let, then, the operator secure the bottom-heat as per table at the bottom of the pot, and all will be right.

If the heat rises above the desired point, let water be instantly employed as a cooler between the balls, and if this does not immediately check it sufficiently, let the pots forthwith be rocked to and fro in the bed, until a fair cavity is obtained between the tan and the pot side; and, if the moderate winds in the room may be given at 8 A.M.; increased, if necessary, about 11 A.M.; and taken entirely away about 3 P.M.

March. — The sun will now be gaining much power, and the amount of transpiration from the foliage will be much increased; let, therefore, a corresponding increase take place in the amount of atmospheric moisture. Shading may be employed for a couple of hours or so in the middle of the very warmer days to no beneficial effect. Spraying the surface of the tan is an excellent plan. If the wind is very cutting, be very cautious in the admission of air; the front sashes may be kept closed, and, if sunny, the bottom sashes, but merely letting a little of the surplus heat escape at back.

April. — In proportion to rapidity of growth must be the admission of air. With a little freedom in growth, accompanied by a free transpiration, the plants will begin to require occasional waterings; indeed, the Queen section will have required it before March was out. With regard to such as the Black Jamaica, the case is widely different; it is astonishing how long these pines
PINE-APPLES 671 PINK

needed, this brings us to the point from which we commenced.

Insects.—See Acanthus and Coccus.

PINE-BUD MOTH and PINE-SHOOT MOTH. See Retinia.

PINELLIA. (A commerative name. Nat. ord. Araceae.)

A hardy tuborous, perennial herb allied to Arisarum and Arisarum. Divisions or offsets at the commencement of growth. Well-drained soil.


PINGUICULA. Butterwort. (From pinguis, fat; the greasiness of the leaves. Nat. ord. Butterworts [Lentibulariaceae].)

Lion, 2-Dendrium, 1-Monogynia.)

Seeds and divisions; chiefly requiring marshy, boggy soil. North American species are the most tender, requiring the treatment generally given to alpines, with the addition of keeping water in the saucer below the pot in which they are grown.


bakeria'na (Bakerian). See P. caudata.


supera'na (superb). 1. Rosy-carmine, with white eye. 1903.

edul'tua (toothless). See P. luttea.

caudata'na (caused). See P. alpina.

Flo's-mul'to'nis (mule-keeper's flower). See P. caudata.


Gypsophila (Gypsophila). See P. vulgaris.

har'fota (hair-flowered). Lilac and pale yellow. S. Europe. 1884.


kau'kala (Kaukala). August. 1865.

orchidis'ades (Orchis-like). See P. caudata.


Siberia (British). "Bog Violet."

grandifo'ra (large-flowered). See P. grandiflora.

PINK. So little do the Pink, Picotee, and Carnation differ in their botanical characteristics, that they are all included by the same writer under the name of the Clove Pink (Dianthus Caryophyllus). Some think that the Red Pinks only are derived from this, but that the Pheasant's-eye Pinks are the offspring of the Feathered Pink (D. Nepalensis) of Europe (Ireland).

Siberia (British). "Bog Violet."

grandifo'ra (large-flowered). See P. grandiflora.

The temperature will now begin to rise again slightly; growth recommences, and repotting succession pines, and the renewal of bottom-heat is
a Pink is rough outside and inside, with a portion of white outside the lacing, as if a band of colour had been laid on; besides this, there is colour at the base of every petal, or perhaps, one-third of the distance along the petal, so that it forms an eye, or centre, of colour, which is peculiar to itself, and which never occurs in the Carnation or Picotee. A Pink, without its lacing all round, is considered as a narrow strip of white outside the side it, would be worthless as a show-flower. The more distinct this lacing is, the better; it should look like an even piece of embroidery, just fairly within the outer edge of the lacing.

The Pink may be propagated and cultivated in every respect similarly to the Carnation. Pippings of it are best made at the end of May, or early in June.

Growing in Beds.—By the middle of August Pinks are all gone out of bloom, except perpetual-flowering, decorative varieties. The old plants are of little use to the florist, as they seldom produce the second year first-rate bloom; but for ornamenting the border they are valuable. Remove them out of the lacing, trim off all dead flower-stems; and plant them in the borders of the garden rather deeper than they have been before. They will make fresh roots higher up the stems, and form close compactions. Remove the narrow strip of second season abundance of flowers. If it is intended to grow Pinks again in the same bed, the soil ought to be taken out a foot deep, and renewed with fresh loam and very rotten stable-dung, in June, just before planting. The first-named is one of the latter, turning it over frequently to thoroughly mix and sweeten it. This should be done by the third week of August. Raise the bed 6 inches above the soil around, and particularly the sides. Prepare the compost should be at least a foot deep. Plant in rows, the first week in September, and 12 inches apart each way. Sheltering in winter, frequent stirring of the soil in spring, and mulching with short, well-decayed stable manure early in June, will keep the chief plants of after-cultivation in good form. See Carnation for other points requiring attention.

PIN PILLAR. Opun'nia curassa'avea.

PINNATE. A leaf is pinnate when several leaflets grow from the sides of one foot-stalk, as in the Pea, Accacia, Rose, &c.

PINNATIFID is when a leaf is cut across from the edge towards the centre nerve into several oblong parallel segments, as in Ipomopsis, Gillia, &c.

PINUS. Pine-tree. (A name from Theophrastus. Not one of the Conifers [CF]. Linn. 21-Monoclea, 10-Monadophila.)

Hardy evergreen trees and shrubs. Chiefly by seeds; scarce ones by cuttings, layers, larching, and grafting; deep, rich soil yields the quickest and finest timber for buildings in mountainous situation, where the soil is neither so rich nor so deep, is supposed to yield the most lasting timber.

P. albicaulis (white-stemmed). N.W. Amer. 1865.


P. ar'a'cia (Arabian). See P. HALEPEVSIS.

P. austral'is (southern). See P. PALUSTRIS.

P. austri'cis (Austrian). See P. LARICIO NIGRICANS.


P. balfouria'na (Balfourian). 50. California. 1852.


P. cup'rus (Murrayan). 50-100. Californian Pillar. 1872.

P. Del'riei (Coulter's). 60-120. California. 1832.

P. dubia (Doubtful). See P. JEFFREYI.


P. e'ktea variega'ta. Variegated with silver.

P. er'eo variega'ta (golden-variegated). Variegated with yellow.

P. euis'cus (Cuban). S. United States; Central Amer.; Bahamas.

P. e'seu (deflexed). See P. JEFFREYI.


P. ex'cia (zebra-striped). Leaves with white transverse bands. 1889.


P. finlaysonia'na (Finlaysonian). See P. MERSUS.

P. fle'xalis (flexuous). 50. N.W. Amer. to Texas. 1831.

P. f'm (White Pine).

P. fr'ac'ciana (white-stemmed). See P. ALJCAILIS.

P. gal'lo variega'ta (white-variegated). Many of the leaves white. 1910.

P. fremonta'na (Fremontan). See P. MONOPHYLLA.


P. gord'onia (Gordonian). See P. MONTZEME.

P. grenv'lie'na (Lady Grenville's). See P. MONTZEME.


P. incon'se'na (insular). Cones crowded. 1869.

P. insa'sis (insular). 60-100. California. 1833.

P. insula'ris (insular). Philippines. 1861.

P. jef'reyi (Jeffrey's). 50-150. California. 1875.

P. jef'reyi'na (deflexed). Branches deflexed.

P. karam'na (Caramanian). See P. LARICIO PALLASIANA.


P. variega'ta (variegated). 1887.


P. lev'evos'tia (short-leaved).


P. me'mer'a (golden-variegated). See P. LARICIO NIGRICANS.

P. mos'er'is (Moser's). Dwarf. Leaves golden-yellow in winter. 1900.

P. na'na au'rea (dwarf-golden).

P. na'na au'rea (blackish). 50-100. Austria. 1835.

P. na'na au'rea" (Black Pine)." Austrian Pine."

P. palla'siana (Pallassian). 70-80. May. Crimea; Asia Minor. 1790.


P. prostra'ta (horizontal). Habit prostrate. 1903.

P. pygma'a (pigmia). Very dwarf, with leaves only a few inches beyond the ends of branches.

P. sah'ous'tia (thin-leaved). Leaves long and slender.

S.W. Europe.

P. latif'oia (broad-leaved). Leaves very long. Santa Rita Mountains, Arizona. 1889.

P. lati'quenis (broad-scaled). Mexico. 1882.
**P. sinclairii** (Sinclairian). See P. Ponderosa.

dominance (Chinese). See P. Montezuma.

**strobus** (cone-shaped). See P. Ayacucho.


**sabina** (swamp). 100. May. **sabina** (dwarf). Dwarf, bushy.


**Pimilo** variega'ta (variegated). Leaves variegated with straw colour.

**torreyana** (dender-leaved). 80. Guatemala. 1828. **Torreyan**.

**torreyana** (dender-leaved). 80. California. 1860. **Soledad Pine**.


**winchesteriana** (Marquis of Winchester's). See P. Montezuma.

The true Pines with leaves in clusters of two, three, four, and five. The following species have long been separated into distinct genera, here indicated by the names placed at the head of each list, and to be found under those names in the dictionary.

**Abies.** **Silver Firs.**

**A. amabilis.** P. lasiocarpa.

**A. balsamea.** microcarpa.

**A. brachyta.** no bilis.

**A. cephalonica.** nordmanniana.

**A. co nolar.** numida.

**A. calicida.** ps. chia. See Abies

**A. columnaris compa'cta (columnar-compact).** SIBIRICA.

**A. Concolor.** P. Ponderosa.

**A. Fraseri.** Pimsa'po.

**A. frans.** religio'sa.

**A. homo lepis.** warbusa'na

**Larix.** **Larches.**

**L. Gmelini.** See Larix Dauveriana.

grof'ska'na. See Larix Genlanti.

**L. hant'scha'ka.** See Larix Dauveriana.

**L. Larix.** See Larix Europaea.

**L. pendula.** See Larix Europaea Pendula.

**L. Ledebouri.** See Larix Europaea Sibirica.

**L. leptalea**. See Larix Pendula.

**L. microcarpa.** See Larix Pendula.

**L. sibirica.** See Larix Europaea Sibirica.

**Picea.** **Spruces.**

**P. ajamensis.** a'lab.

**P. abies.** na'na.

**P. abies.** excel'sa and varieties.

**P. albertiana.** jezoe'nsis. See Picea ajamensis microsperma.

**P. Khu'tro-d.** See Picea Monarda.

**P. Menzeli'si.** See Picea stichensis.

**P. Mue'ronis.** See Picea excelsa mucronata.

**P. microcarpa.**
PIEWORT. *Erica eion.*

PIPING, a mode of propagating the *Carnation, Pichole, and Pink.* See *Geranium.* Another word for a cutting. Some persons pull off the pippings from the plant, and stick them in without more ado, but this is a slovenly way; besides, in pulling off the pippings, the main stem of the plant is materially injured and often destroyed. The more correct way is, with a sharp knife, to cut off the side-shoot close to the stem, without injuring it, leaving a sufficient number of shoots to preserve the health of the plant. Take one off at a time, making the proper number a little at a time; then dress the pippings by cutting off the lower leaves, leaving about four at the top. These four leaves should not be mutilated or shortened, as they are the organs to send down sap to form the roots. Put the pippings in pots filled with light earth, and a covering of sand upon it. Place them in a frame with a little bottom-heat, watering gently when dry, and shading from the sun until they are rooted. See *Geranium.*


PIPTO'SPATA. (From *pyto,* to fall, and *spates,* a spate or sheath; the upper part or blade of the spate falls away like a cap, after a time. Nat. ord. Araceae.) A dwarf, tufted perennial herb for the stone. Seeds; divisions in spring. Fibrous loam, leaf-mould or peat; leaves mould not too much decayed, and sand, with a warm, moist atmosphere when growing. *P. insi'gnis* (remarkable). 1. Spathe white, with rosy apex. N. Borneo. 1879. *Eldela 'mass* (Eldela). Spathe green, with pink lines and dots. Leaves mottled with yellow. Malaya. *Pipto'rus.* (From *pyto,* to fall, and *oura,* a tail; the long stigma is deciduous. Nat. ord. Urticaceae.) A stave tree, with ornamental foliage. Cuttings of half-mature shoots in sand, in a close case, with bottom-heat. Fibrous loam, peat, and sand. *P. argenic'tus* (silvery). Green. Leaves with silvery markings above, white beneath. Malaya, Pacific Islands, Australia. 1904.


PIRONE'VA. See *ECHMEA.*


PISTA'CIA. Pistachia-tree. (Altered from its Arabic name, *Foustag.* Nat. ord. Terebinthinae [Anacardiaceae]. Linn. 22-Dicaya, 5-Pentandria. Allied to *Schinus.*) *P. atlant'ica* and *Lentis* scus yield the useful resin called mastich. Seed nuts; layers and cuttings: rich, deep, sandy loam. Those from Barbary and the South of Europe require the protection of a greenhouse or a cold pit in winter; and even the hardiest kinds, though they have stood out at Fulham and the Horticultural Society's Gardens, will generally do best against a wall, when north of London, unless the place is both sheltered from the cold and exposed to the sun.

EVERGREEN TREES.


DECIDUOUS TREES.


PISTIA. (From *pisillarm,* the female organ; signifying the milk the spathe infuscates. Nat. ord. Duckweeds [Pistiaeae]. Linn. 22-Dicaya, 7-Monandria.) Beautiful stave aquatic. Seeds and divisions; rich, strong loam; a tub or tank in the plant-stove or aquarium.
PISTORIA


" Water-Rooster," in "Warten Muller's Letter.""

P. spathulat 'a (spathulate)." Leaves spathulate, velvety green. S.E. United States, Trop. Amer. 1904.

PISTORIA. (Derivation not explained. Nat. ord. Houseleeks [Crassulaceae]. Linn. 10-Decandria, 5-Decagynia. United to Cotyledon.)

P. hispina 'a (Spanish. See Cotyledon Hispanica).

PU'SUM. The Pea. (From pit, the Celtic name. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-Diaspela, 4-Decandria.)

Perennials, seeds and divisions; annuals, seeds sown according to the time the produce is wanted; rich, deep soil, where they will neither suffer from damp nor drought. See Pea.

HARDY HERBACEOUS.

P. americ'um (American). See Lathy rus magellanicus."


mari' timum (sea). See Lathy rus maritimus.

HARDY ANNUALS.


" Garden Pea."

" hui'mile (humble). 1. White.


" theba'icum (Theban). 3. 1825.


FIT in the Stove is the excavation, or brick inclosure, in which is the tan, or other material for plunging the pots; and for Forcing, it is a structure having a glass roof, and differing from a hotbed and frame only in being large, and with slides fixed to the soil. (See Horbed and Moxon for examples of various kinds of Fit.) A Cold Fit is one where no artificial heat is used, the protection the plants receive being given solely by coverings. During summer and spring, these pits, when not covered, stand unheated; but in winter, either a Melon or Cucumber Pit unheated, or an inclosure made with turf walls, and covered with the glass lights of a hotbed frame, answer admirably as cold pits.

PITCAIRNIA. (Named after Dr. Pitcairn. Nat. ord. Bromeliadis [Bromeliaceae]. Linn. 8-Octandria, 1-Monogynia. Allied to Tillandia.)

Stove herbaceous perennials. Division, and by suckers in spring, or when they can best be obtained; sandy, fibrous peat, and good, mellow loam. Winter temp. 50° to 55°; summer, 60° to 85°.


" a'nis (tall). 5-6. Red. W. Ind.

" Altenstein'ii (Altenstein's). 1. White; bracts red.


" arcuata (arched). Yellow; bracts brownish-red and carmine. Colombia. 1876.


" atrorub'is (southern). Brazil. 1850.


" acamina'na (long-pointed). Scarlet.


" crenula'na (creeping). See P. heterophylla.

" chinensis (Chili). See Puya chilenis.


" corallina'na (coralline). See P. heterophylla.

" commuta'ta (changed). See P. bracteata commutata.

" corallis'na (corall-red). Red. Colombia. 1875.

" coronadensis (Coronavado), 3-4. Red. Brazil. 1884.

" dema (Dema). See P. purpurea.


" ela'ta (tall). Mexico.

" excelsa (lofty). See P. pulverulenta.

" escax'a (stemless). See P. heterophylla.


" flav'sca'na (yellow). See P. xanthocalyx.


" ful'gen's (shining). Crimson. Guadeloupe. 1851.

" funec'sa (Funkean). Yellow, white. S. Amer. 1852.

" furur'sca'na (scurfy). See P. latifolia.

" graminis'ta (grass-leaved). See P. integrifolia.


" imbric'a (overlapping). Yellow. Mexico. 1868.


" intermedia (intermediate). See P. latifolia.


" jalisc'a (Jaliscan). Scarlet; bracts and calyx deep rose. Mexico. 1885.


" leontop'tera (smooth-scaled). See P. muscosa.

" lepto'ica (scaly). See P. andreaea.

" longif'o'ra (long-leaved). See P. pulverulenta.

" mariae' (yellow). 3. Yellow. 1853.

" macra (large-flowered). See P. funkeana.


" morr'si (Moren's). See P. heterophylla.


" odor'a (sweet-scented). See P. albiflora.

" oliv'a (living). See P. flammea.


" panicula'ta (panicked). See P. pulverulenta.


" philip'peis (Philipp's). Chili. 1874.

" platyphy'lia (broad-leaved). See P. bromeliadifolia.


" pu'ngens (prickly). Scarlet. Yellow. S. Amer. 1865.


" ret'itia (ret'iza's). 2. Scarlet-red; stem bright red. Peru. 1885.
PITCHER-LEAF

P. subgigi'no'sa (rusty). French Guiana.

Ski'neri (Skinner's). See P. ALTA.

<spath'a>cea (large-spathed). 14:-2. Dull blue; calyx and bracts rose. Argentina. 1904.

speci'o'sima (very-showy). See P. UNDULATA.


S. Amer. 1823.

sul'phurea (sulphur-flowered). See P. BRAC'TEATA.


undulati'sia (waved-leaved). See P. ALTIENSTEINI.

<gi'gan'ta (gigantic). See P. ALTIENSTEINI.


Mexico (?). 1833.


Peru. 1857.


Brazil. 1877.

ze'fi'olia (Zea-leaved). See P. MAIDIFOLIA.

PITCHER-LEAF. Nep'thes phylla'mphora.

PITCHER-PLANTS. Nep'thes, Saracenia, Darling'inia, Heliamphora, and Cephalotus.

PITCH-TREE, BURGUNDY. Pit'tea excels'a.

PITIECOCTI'NIUM. Monkey's Comb. (From pithe'kos, the ape, and a'tis, kinesis, a comb. Nat. ord. Bignoniaceae.)

Stove wooden climbers. Seeds; cuttings of young shoots in sand, in a close case, with bottom-heat. Fibrous loam, peat, and sand.


buccina'to'rium (trumpeter's). See BIGNONIA BUC'INATORI.

Car'o'sna (Lady Caroline's). 10. White, yellow.

May. Trop. Amer. 1842.

Glamii'deum (Clematis-like). White; throat yellow.

Argentina. 1850.

<cy'nancho'des (Cynanchum-like). Brazil.

PITIECOLO'BIUM. (From pithekos, the ape, and lobos, the lower part or lobe of the ear; literally, Monkey's earring. Nat. ord. Leguminosae.)

Stove trees, more or less evergreen. Cuttings of mature shoots in summer, in sand, and placed in a close case, with bottom-heat. Fibrous loam, peat, and sand. Winter temp., 30° to 55°; summer, 60° to 85°.


ili'o'fi'num (fern-leaved). Mexico and Jamaica.


lob'ia'tum (leb.'ia). White. Burna; Malaya. 1828.

me'cianum (Mexican). Mexico.

mu'ni'sum (frosted). White. Australia. 1860.

Sa'man (Saman). 60. Trop. Amer. 1826. "Rain Tree."


PITTO'PORUM. (From pitte, to tar, or pitch, and spore, seed; seeds covered with resinous pulp. Nat. ord. Pittosporaceae. Linn. 5-Pentandra, 1-Monandra.)

Greenhouse, evergreen shrubs. Cuttings of shoots in sand, under a bell-glass, in April, and kept in a close frame, without bottom-heat; sandy, fibrous loam and a few nodules of fibrous peat. Winter temp., 38° to 48°; summer, 60° to 78°. Tobico and undulatnum have delicately scented flowers, and both have stood against walls, in the climate of London, with a little protection.


bracte'o'taum (small-bracted). Norfolk Island. 1837.

Bu'cha nani (Buchanan's). New Zealand.

<cre'natatum (crenated). See P. VITISFLORUM.

Coles'noi (Colenso's). See P. TENUIFOLIUM.


Madeira. 1793.


New Zealand. 1827.


New Zealand. 1872.

E.pac'ium (Blackish-purple). Australia. 1868.


eriol'o'ma (woolly-fringed). Lord Howe's Island.

eugeni'o'ses (Eugenia-like). New Zealand.

flu'vium (yellow-flowered). See HYMENOSPORUM.

flav'u'm (tawny-leaved). See P. REVOLUTUM.


Hong-Kong. 1845.

heter'o'bly (blyan-leaved). See P. PHILLYRROIDE.'" hi'rum (bairy-branched). See P. REVOLUTUM.

hottontia'mum (Huttonian). New Zealand.

ijo'so'lium (privet-leaved). See P. PHILLYR'ROIDES.

macroc'rum (large-fruited). See P. CRASSIFOLIUM.

mauritua'sum (Mauritian). See P. SENACIA.

Ma'yis (May's). 3. 1845.

me'me (blackening). See P. TENUIFOLIUM.

olea'sio'lium (olive-leaved). See P. PHILLYRROIDEIS.


to September. Australia. 1823.

Rhaph'is (Ralph's). New Zealand.


Australia. 1795.

rhombifo'lium (diamond-leaved). Australis.

rhyma'sio'lium (wrinkled-fruited). White. Fiji Islands. 1887.

ri'gidiu'm (rigid). New Zealand.


var'iega'tum (variegated). Leaves edged with cream.

torem'pa'num (woolly-leaved). See P. REVOLUTUM.


N.S. Wales. 1759.


PLAC'CEA. (A commemorative name. Nat. ord. Amaryllidaceae.)

Greenhouse bulbs, allied to Narcissus. Offsets; seeds. Fibrous loam, leaf-mould, a little dried cow manure and sand.


P. A'rorum (Cape). 1867.

l'wei'a (yellow). 1. Bright yellow, veined with purple.

Chili.

or'na'la (adorned). 11. White, striped red-purple.

Chili. 1840.

PLAE'DA'EA DECUS'SATA. See CANSCORA DECUS'ATA.

PLAGI'NTHUS. (From plagio, oblique, and anthos, a flower; the petals are oblique. Nat. ord. Malavaceae. Allied to Malavastam.)

Hardy or greenhouse deciduous shrubs. Cuttings of half-ripe wood in sand, under a hand-light. Well-drained soil in the open or against walls.
PLAGIOGLIO (From plagioglos, oblique, and leirion, the white lily; in reference to the colour of the flowers, and their oblique limb. Nat. ord. Amaryllidaceae. Allied to Eucharis and Calliphurria.)

Stove bulb. Offsets. Fibrous loam, leaf-mould, some well decayed cow manure and sand.

P. Horome'nni (Horsman's). 1½ White; tube green.

July. Colombia. 1883.

PLAGIOLOIO (From plagio, transverse, and lobos, a pod. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-Diadelphia, 4-Decandria. Now referred to Hovea.)

P. choriszmefo'lium (Chorizema-leaved).

Siberia. 1837.

P. to',ilfotia (horn-leaved).

See HOVEA CHORIZEMA.

PLAGIOSPE'RMUM SINE'SIS. See PRINSEPIA SINESIS.

PLA'GIUS GRANDIFLORUS. See CHRYSTANHEMNUM GRANDE.

PLA'NERA. (Named after J. Planter, a German botanist. Nat. ord. Nettleworts [Urticaceae]. Linn. 4- Tetrandria, 3-Tetragynia. Allied to the Elm.)

Hardy deciduous trees. Layers, and grafting on the elm; common, rich loam.

P. acuminata (long-pointed). See ZELKOVIA ACUMINATA.


P. carpino'fio'tia (horn-beam-leaved). See ZELKOVIA CRENATA.

P. gmelini (Gmelin's). See P. AQUATICA.

P. jap’nica (Japanese). See ZELKOVIA ACUMINATA.

P. parvo'fio'tia (small-leaved). See ULMUS PARYOFOILIA.

P. richdai (Richard's).

See ZELKOVIA ACUMINATA.

PLANE-TREE. Platanus.

PLANE-TREE, SCOTCH. *Acer Platanoides*. Platanus.

PLANTER-TREE. Plana'ra aq'tica.

PLANTK. Bossia'a scolopend'ria.

PLANTA'GO. (From the old Latin name, Plantago, from its flat, spreading leaf. Nat. ord. Plantaginaceae.)

Hardy perennial herbs. Seeds; sometimes by divisions or cuttings. Ordinary soil. P. lanceolata, P. major, and P. dia are very troublesome in lawns, on account of their broad leaves. Spudding them out is the most certain remedy.

P. aquatica (aquatic). See ALISA PLANTAGO.

P. brassii'niss (Brazilian). See P. coriacea.

P. coriacea (leathery'). Summer. Sussex. 1877.

P. lanceolat'a margina'tia (edged-lance-shaped). Leaves bordered with white. France. 1865.

P. major (purple-leaved). France. 1880.

P. major purpur'e'a (larger-leaved). Leaves purple.

P. major purpur'e'a (larger-leaved). Leaves purple.

P. major purpur'e'a (larger-leaved). Leaves purple.

Britain. 1876.

P. major purpur'e'a (larger-leaved). Leaves variegated. Hampshire. 1904.

P. major purpur'e'a (larger-leaved). Leaves variegated.

P. major purpur'e'a (larger-leaved). Leaves variegated.

P. major purpur'e'a (larger-leaved). Leaves variegated.

New Zealand. 1889.

PLANTID. Applied to the common species of *Planidae* but in the tropics *M. saph'ni num para'dis'oca.

PLANTIA (Named by Dr. Herbert after Mr. Plant, nurseryman at Cheadle, in commemoration of his success in cross-breeding. Nat. ord. Iris [Iridaceae]. Linn. 3-Triandria, 1-Monozygina. Now referred to Hexaglottis. P. fla'ya (yellow). See HEXAGLOTTIS LONGIFOLIA.

PLANTING. The end of October is the best time in the whole year to plant all kinds of trees and bushes which cast their leaves in winter, whether fruit-bearing or ornamental. But the evergreen trees, and those such as the Rhododendrons, may be planted in October, as well as in April, May, and June—September—the right months for getting in most evergreens. For directions to planting ornamental trees, and this is especially true of the article STATIONS; but much of the following directions relative to planting ornamental trees and shrubs is generally applicable. Wherever they are to be placed, if the soil is at all dry at the bottom, or if there is a good drain, it should be filled with gravel, or at least the gravel should reach the top of the planting, so the plant will not be injured by the soil washing down into the hole. Where a gravel bed is not at hand, a good substitute is the addition of plenty of broken crocks to the soil, or coarse sand, or white ashes, to the depth of at least one inch, before the earth is put in. Where the soil is a poor one, a small quantity of manure, or a dressing of compost, will improve it sufficiently for the purpose of planting. The earth should be turned over, and a good deal of care taken in working the soil between the plants, at the same time making the soil as loose as possible. This will keep the soil from washing down into the hole, and render the whole more effective as a fence, and, at the
same time, preserve all the branches alive. For this purpose, the branches to be plased, or bent down, must not be cut more than half through, in order that a sufficient portion of sap may rise up from the root to keep all the young cuttings of the branches. Where hedges are properly formed and kept, they can very seldom require to be thus made.

PLASTER OF PARIS. See GYPSUM.

PLATANTHIERRA. (From platus, broad, and anthera, an anther. Nat. ord. Orchidaceae.) Linn. 1845. = Monandria. Now referred to Habenaria.)


Hoo'kers (Hooker's). See HABENARIA HOOKERIANA. = hyperb'o rea (northern). See HABENARIA HYPERBORRA.

incis'a (cut). Pale yellow. See HABENARIA INCISA. = psycho'ides (butterfly-like). See HABENARIA LACERA. = Susa'na (Sussana). See HABENARIA SUSANNE.

PLATANUS. Plane-tree. (From platus, broad; the wide-spreading head of the trees. Nat. ord. Platanaceae.) Linn. 1739. = Monandra. Hardy deciduous trees, flowering in April. Seeds in the autumn, and preserved until spring; cuttings, also, in spring and autumn, but chiefly and most quickly by layers in autumn and spring; deep, mellow loam.


PLATYCARPA. (From platus, broad, and karpos, a fruit; the two halves of the fruit being broad and flattened. Nat. ord. Rubiaceae.)


PLATYCARYA. (From platus, broad, and karanu, a nut; in allusion to the bracts covering the fruits. Nat. ord. Jaceae.)

A small tree, hardy in the more favoured parts of the south and west of England, and in Ireland. Nuts. Ordinary soil.


PLATYCHLUM CELSIANUM. See NOVEA CELSI.

PLATYCLUS. (From platus, broad, and hynis, diminutive of hylis, a line; in reference to the broad axis of the spike on which the flowers are seated. Nat. ord. Orchidaceae.)

Stove. One of the most splendid Orchids, of considerable interest, but not very showy. Divisions at the commencement of growth. The fibre of peat, sphagnum, bits of charcoal and plenty of crocks.


PLATYCO DON. (From platus, broad, and rodon, a bell; from the mouth of flower. Nat. ord. Belwortl Campanulaceae.) Linn. 5-Fenandria, 1-Monopynia.

Hardy herbaceous perennials. Seeds and divisions in spring, and cuttings of young shoots in summer, under a hand or glass. 1904.

P. autumna'le (autumnal). See P. GRANDIFLORUM.


PLATYCRA TER. (From platus, broad, and kara'ter, a bowl; in reference to enlarged calyx of the sterile flowers. Nat. ord. Saxifragaceae.)

A dwarf, hardy shrub allied to Philadelpus. Cuttings in sand, under a hand-light in summer. Ordinary soil.


PLATYLEPIS. (From platus, broad, and leptis, a scale; in allusion to the broad, overlapping bracts of the spike. Nat. ord. Orchidaceae.)

**PLATYLOBIUM** Flat Pea. (From platus, broad, and lobos, a pod. Nat. ord. Leguminous Plants [Leguminose]. Linn. 16-Monadelphia, 6-Decandria. Allied to Hovea.]

Greenhouse evergreens, from Australia, and orange-flowered, except where otherwise mentioned. Seeds in spring, in a slight hotbed, after placing them several hours in water, at a temperature of 150°; also by cuttings of the half-ripened shoots in sand, under a bell-glass, in April; fibrous, sandy peat chiefly, with a very little fibrous loam, charcoal, and broken potsherds, with pots extra well drained. Stagnant water, especially in winter, destroys them. Winter temp., 40° to 45°.


*Cordata* (Icelandic).

*Muraya* (Murray's). See *P. triangulare*.


*Ota* (egg-leaved). See *Bosseia heterophylla*. 1874.

*P. triangulare* (triangular) of Sims. See *P. obusta*.


**PLATYLOMA.** (From platus, broad, and loma, an edge. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. Now referred to Pellaea.)

*P. andromedoides* (Andromeda-leaved). See *Pellaea andrenophila*.

*A-dro-po'purplea* (dark purple). See *Pellaea atropurpurea*.


*Calomelanos* (beautiful-dark). See *Pellaea calomelanos*.

*Corda's* (heart-shaped). See *Pellaea cordata*.

*Falca* (sickle-shaped). See *Pellaea falcata*.

*Greenlo* (green-leaved). See *Pellaea cordata flexuosa*.

*Grandifolia* (large-leaved). See *Pellaea grandifolia*.

*Rotundifolia* (round-leaved). See *Pellaea rotundifolia*.

*Sagittata* (arrow-shaped). See *Pellaea sagittata*.

*Terminifolia* (three-leaved). See *Pellaea terminifolia*.

**PLATYLOPEUS.** (From platus, broad, and lophi, a crest; seed-pod compressed so as to seem winged. Nat. ord. Saxifragae [Saxifragaceae]. Linn. 10-Decandria, 2-Digynia. Allied to Weimannia.)

Evergreen. Cuttings of ripe shoots in sand, under a glass, in April or May; loam and peat. Winter temp., 40° to 45°.


*White Ash*.

**PLATYSPRION.** (From platus, broad, and osprion, pulse; in allusion to the broad pods. Nat. ord. Leguminoseae.)

A hardy tree, closely similar to *Sophora japonica*, but very different in fruit. Seeds; grafting and layers. Ordinary soil.


**PLATYPHACUS.** See *Braya alpina purpurascens*.

**PLATYSTE'CHAS.** See *Tillandsia*.

**PLATYSTE'NUMMA.** (From platus, broad, and stemon, a crown; in allusion to the broad, flat flower, which is solitary. Nat. ord. Gesneraceae.)

Fernmental, slender, greenhouse or half-hardy herb. Seeds; and leaf cuttings. Fibrous loam, leaf-mould, and sand.


**PLATYSTE'MON.** (From platus, broad, and stemon, a stamen. Nat. ord. Poppyworts [Papaveraceae]. Linn. 13-Polyandria, 1-Monogynia.)

Hardy, yellow-flowered annual. Seeds in April; common, rich, light soil.


**PLATYSTIGMA.** (From platos, broad, and stigma, the female organ. Nat. ord. Poppyworts [Papaveraceae]. Linn. 3-Polyandria, 1-Monogynia. Allied to Platystemon.)

Half-hardy herbaceous perennial. Seeds and divisions in spring; common, light soil; requires a little pro
tection. Winter, in the Greenhouse.


**PLATYTHA'CA.** (From platos, broad, and theke, a case; the anthers are broad. Nat. ord. Tremandraeae.)

Greenhouse shrub of slender habit. Cuttings of young side-shoots in sand, under a bell-glass, wiped dry every morning to prevent damping. Fibrous peat, a little loam, some lumps of charcoal, and sand.

*P. galioi'des* (Galium-like). 1-12. Blue. June. Aus-

**PLEASURE-GROUND is a collective name for that combination of parterres, lawns, shrubberies, waters, arbours, &c., which are noticed individually in these pages. One observation may be applied to all—le
courty preside over the whole. It is a great fault to have any one of these portions of the pleasure-ground in excess; and let the whole be proportioned to the residence. It is quite as objectionable to be over-gardened as to be over-houseled as to be over-houseled."

**PLETOCE'PHALUS.** See *Centauraea*.

**PLETOCO'RIA.** From *plektos, plaited, and kome, the hair of the tuft of leaves; probably the leaves are used for making ropes. Nat. ord. Palmaeae.)

Stove palms. Seeds. Fibrous loam, one-third peat and sand. Winter temp., 50° to 60°; summer, 60° to 60°.

*P. Andro'sei* (Anderson's). India. 1874.


*Crini'ta* (bristly). Leaf-stalks covered with white spines. 1896.

*Elona'la* (elongated). Java; Sumatra; Penang.

*Ghe'mara* (Gheme). India. 1904.

*Himalaya'na* (Himalayan). Himalaya. 1878.


**PLETO'CYNE.** See *Aspidistra*.

**PLETRA'NTHUS.** (From *plektro*, a cock's spur, and *anthos*, a flower. Nat. ord. Labiates [Labiatae]. Linn. 14-Dynamis, 1-Gymnospermia.)

Herbacaceous herbs and small shrubs, at times by seeds, but chiefly by cuttings in sand, under a bell-glass; rich, sandy soil will suit them all. Temperature of that greenhouse and stove. There are many more species besides the following:

*P. a'caules'cens* (white-bleeding). 3-5. White and bluish.


*a'asper* (rough). See *Coleus barbatu's*.

*astra'elas* (southern). See *P. parviflorus*.

*barbis* (bearded). See *Coleus barbatus*.

*col'oi'des* (Coleus-like). 72. Lilac. India. 1865.


*comu'sus* (tufted). See *Coleus barbatu's*.


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PLECTRITIS. (From plectron, a cock's spur: the flower being swollen in front. Nat. ord. Valerianas [Valerianaceae]. Linn. 3-Triasidria, 1-Monogyna. Now referred to Valerianella.)


congesta (crowded-flowered). See Valerianella congesta.

minor (smaller-flowered). See Valerianella congesta minor.

samolosilis (Samolus-leaved). See Valerianella samolifolia.

PLECTRONIA. (From plectron, a cock's spur: the tree armed with large spines. Nat. ord. Rubiidae [Rubiaceae]. Linn. 5-Pentandria, 1-Monogyna. Allied to Chichoraea.)


PLECTROCARP. (From plecos, full, and karpos, a fruit; the flowers are remarkable in having five, instead of two, carpels. Nat. ord. Apocynaceae.)


PLEIO. See Celogyne.

PLEOCONA. See Nephrodium.

PLEOPELLETS. (From pleos, full, and pelte, a shield; referring to the covering of the spore or seed case. Nat. ord. Paeonias [Paeoniaceae]. Linn. 24-Cryptoagamia, 1-Filices. Referred to Polypodium.)

P. a'bido-squama (white-scaled). See Polypodium albo-squamatum.

elongata (elongated). Yellow. May. S. Amer. 1843.

ensifolia (sword-leaved). See Polypodium lanceolatum.

Jo'ssa (dug-out). See Polypodium fossum.

hastata (half-bahnted). See Polypodium hasta-tatum.

incurvata (incurved). See Polypodium incurvatum.

lanceolata (spread-tailed). See Polypodium lanceolatum.

latifolia (broad-leaved). See Polypodium latifolium.

m'wa (naked). See Polypodium lineare.

percussa (stricken). See Polypodium percussum.

p'i'ca (painted). See Polypodium pictum.

salicifolium (willow-leaved). See Polypodium lyco-podioides salicifolium.

Sc'pias (Scilias). See Polypodium Xiphias.

se'rens (creeping). See Polypodium swartzii.

Xiphos (Narrow-leaved). See Polypodium Xiphias.

PLETRA. See Gentiana. For a genus of flowering plants, see Gentiana.

PLETRITIS. (From plectron, a cock's spur: the flower being swollen in front. Nat. ord. Valerianas [Valerianaceae]. Linn. 3-Triasidria, 1-Monogyna. Now referred to Valerianella.)


congesta (crowded-flowered). See Valerianella congesta.

minor (smaller-flowered). See Valerianella congesta minor.

samolosilis (Samolus-leaved). See Valerianella samolifolia.

PLECTRONIA. (From plectron, a cock's spur: the tree armed with large spines. Nat. ord. Rubiidae [Rubiaceae]. Linn. 5-Pentandria, 1-Monogyna. Allied to Chichoraea.)


PLECTROCARP. (From plecos, full, and karpos, a fruit; the flowers are remarkable in having five, instead of two, carpels. Nat. ord. Apocynaceae.)


PLEIO. See Celogyne.

PLEOCONA. See Nephrodium.

PLEOPELLETS. (From pleos, full, and pelte, a shield; referring to the covering of the spore or seed case. Nat. ord. Paeonias [Paeoniaceae]. Linn. 24-Cryptoagamia, 1-Filices. Referred to Polypodium.)

P. a'bido-squama (white-scaled). See Polypodium albo-squamatum.

elongata (elongated). Yellow. May. S. Amer. 1843.

ensifolia (sword-leaved). See Polypodium lanceolatum.

Jo'ssa (dug-out). See Polypodium fossum.

hastata (half-bahnted). See Polypodium hasta-tatum.

incurvata (incurved). See Polypodium incurvatum.

lanceolata (spread-tailed). See Polypodium lanceolatum.

latifolia (broad-leaved). See Polypodium latifolium.

m'wa (naked). See Polypodium lineare.

percussa (stricken). See Polypodium percussum.

p'i'ca (painted). See Polypodium pictum.

salicifolium (willow-leaved). See Polypodium lyco-podioides salicifolium.

Sc'pias (Scilias). See Polypodium Xiphias.

se'rens (creeping). See Polypodium swartzii.

Xiphos (Narrow-leaved). See Polypodium Xiphias.

PLETRA. See Gentiana. For a genus of flowering plants, see Gentiana.

PLETRITIS. (From plectron, a cock's spur: the flower being swollen in front. Nat. ord. Valerianas [Valerianaceae]. Linn. 3-Triasidria, 1-Monogyna. Now referred to Valerianella.)


congesta (crowded-flowered). See Valerianella congesta.

minor (smaller-flowered). See Valerianella congesta minor.

samolosilis (Samolus-leaved). See Valerianella samolifolia.

PLECTRONIA. (From plectron, a cock's spur: the tree armed with large spines. Nat. ord. Rubiidae [Rubiaceae]. Linn. 5-Pentandria, 1-Monogyna. Allied to Chichoraea.)


PLECTROCARP. (From plecos, full, and karpos, a fruit; the flowers are remarkable in having five, instead of two, carpels. Nat. ord. Apocynaceae.)


PLEIO. See Celogyne.

PLEOCONA. See Nephrodium.

PLEOPELLETS. (From pleos, full, and pelte, a shield; referring to the covering of the spore or seed case. Nat. ord. Paeonias [Paeoniaceae]. Linn. 24-Cryptoagamia, 1-Filices. Referred to Polypodium.)

P. a'bido-squama (white-scaled). See Polypodium albo-squamatum.

elongata (elongated). Yellow. May. S. Amer. 1843.

ensifolia (sword-leaved). See Polypodium lanceolatum.

Jo'ssa (dug-out). See Polypodium fossum.

hastata (half-bahnted). See Polypodium hasta-tatum.

incurvata (incurved). See Polypodium incurvatum.

lanceolata (spread-tailed). See Polypodium lanceolatum.

latifolia (broad-leaved). See Polypodium latifolium.

m'wa (naked). See Polypodium lineare.

percussa (stricken). See Polypodium percussum.

p'i'ca (painted). See Polypodium pictum.

salicifolium (willow-leaved). See Polypodium lyco-podioides salicifolium.

Sc'pias (Scilias). See Polypodium Xiphias.

se'rens (creeping). See Polypodium swartzii.

Xiphos (Narrow-leaved). See Polypodium Xiphias.
A stove half-shrubby plant. Cuttings in sand, with bottom-heat. Fibrous loam, a little peat, and plenty of sand.


**PLEUROSPERMUM.** (From *pleuron*, a rib, and sperma, a seed; the fruits are strongly ribbed. Nat. ord. Umbelliferae.)

Hardy perennial or biennial herbs. Seeds; divisions. Ordinary soil.


*Bruno* (Brown's). Himalaya. 1839.

demisium (toothed). Himalaya. 1839.

Coldenia (Bakka). Ethiopia. 1890.


**PLEUROTHALLIS.** (From *pleuron*, a side, and thallo, to bloom. Nat. ord. Orchids [Oridaceae]. Linn. 20-Gymnandria, 1-Monographia.)

Stove orchids, not possessing much beauty, but are interesting, curious little plants. They thrive best upon blocks of wood, with a small portion of moss tied to the block. The best form of block is a round one, with the top cut sloping at an angle of 45°, the plant to be fixed on the sloping part. These blocks can then be placed on the lower end, which should be cut horizontally, to allow them to stand firmly in that position. They also are grown in small pots and pans.


1883.


*atropurpurea* (dark-purple). See CRYPTOPHORANTHUS PLEUROSPE'RMUM.


*auricula* (auricle-bearing). 1839.

*austricusp* (Australian). Light yellow, spotted and striped with purple-brown. 1895.

*a'nceps* (bird's-head). See DASSEDELLA VILLIONNS. 1831.

*barberiana* (Barberian). Light ochre, blotched. S. Amer. 1881.


*bicarinata* (two-keeled). Brazil. 1839.


*Burchellii* (Burchell's). 1. Reddish-purple, light greenish-white. 1907.

*Bouma* (Bowman's). Brazil. 1890.

*cardiocalpis* (heart-splashed). August, 1891.


*coecina* (scarlet). See RODRIGUEZIA SECUNDA.


*conus* (converging). White, fragrant. Brazil. 1890.


*giandulosa* (stand-bearing). Brazil. 1836.

*glutinosa* (sticky). Brazil.

*ginga* (Binga's). 1910.

*Bino* (Bino's). Lateral sepals wholly united. Brazil. 1906.

*grandiflora* (large-flowered). Peru. 1842.

*gratii* (Grat's). Yellow, spotted with crimson. Brazil and Guiana. 1834.

*Hartwegii* (Hartweg's). See P. GENICULATA.

*hemiphora* (half-red). White, red. Colombia. 1852.

P. immensa (immersed). Colombia.


*johannei* (Johannan). Brazil.

*Krantzii* (Krantz's). Purple and silver-white. 1894.


*leptotifolia* (Leptotes-leaved). Brazil. 1842.


*leptolinii* (Lepanthes-formed). See P. VELLOSA.

*liocula* (yellowish-flowered). See P. FRAGILIS.

*macrolepida* (long-eye-lashed). White, Blackish. Peru. 1875.


*magra* (soft-flowered). Brazil. 1890.


*oblongifolia* (oblong-leaved). Red. Cuba. 1836.


*orinon* (ocularis). Guinea. 1842.

*ornata* (ornamented). Yellow, with purple markings. April. Trop. Amer.


*pandurifera* (fiddle-formed). Yellow. Brazil. 1842.

*pardipes* (paw-footed). Yellow-brown. Brazil. 1881.


*puberula* (finely-downy). Green, dull yellow, fragrant. 1931.


*psychalata* (dotted) of Ker-Gawler. See NOTYLLIA PUNCATA.


*pyrrodes* (torch-like). Orange, solitary. Central Amer. 1876.


*regiata* (Regelian). Ochreous, reddish, white, purple. Minas Geraes. 1880.
PLOCAMA. (From plokosmos, curled hair. Nat. ord. Rubiaceae.)

Greenhouse shrubs, with one exception. Cuttings in sand, under a bell-glass. Fibrous loam, peat, and sand.


PLOCOGLOT'TIS. (From plokos, braided or plaited, and glossa, a tongue; the lip is folded. Nat. ord. Orchidaceae.)

Stove ephiphytulous orchids. Divisions at the commencement of growth. Fibre of peat, sphagnum, bits of charcoal and crocks.

P. acumin'a (long-pointed). Malaya.

P. jawa'nica (Javanese). Malaya.

P. lo'wii (Low's). Pale yellow, brown. Bornéo. 1865.

PLOCOSTE M'MA. (From plokos, braided or curled, and stema, a crown. Nat. ord. Asclepiadaceae. Now reduced to the genus PLOCHIA.)

P. lasis'nihan (woolly-flowered). See HOYA LASIANTHRA.

PLOUGHIAN'S SPIKENARD. Bz'echorah.


PLUM. Dioscoridis. 4. White. September.

Trop. Africa.

T. i'ndica (India). 3. White. October. Trop. Asia, to Australia; also in India.


PLUM. Pru'mus comm'nicus or insiti'tia.

Superior Kinds.—(1) Smith's Early Orleans; (2) Greengage; (3) Brandy Gage; (4) Washington; (5) White Magnum Bonum; (6) Imperatrice; (7) Victoria, Dennis-to's Superior; (8) Coe's Early; (9) Early Clipped; (10) Tickworth Imperatrice; (11) Coe's Late Red; (12) Pond's Seedling; (13) Reine Claude-Violette; (14) Kirke's; (15) Diamond; (16) Jefferson. Of these, Nos. 1, 3, and 9 are remarkable for their early table fruit. Nos. 6, 7, 8, 10, 11, 13, 14, 16, for lateness as table fruit. Nos. 4, 7, 12, 15, are adapted for the kitchen.

Propagation: by Grafting. — The grafting of the Plum is performed in precisely the same manner as the Pear or the Apple, and at a similar period. The Brussels stock is principally used by our nurseriesmen; but for such great trees as those of Wallisabad, the Magnum Bonum, &c., it is a question whether the Muscle stock would not be fitter. We need not enlarge here on the process, which will be found in detail under the head GRAFTING.

Budding. — The same may be said of this process. See Budding.

Seed. — This is resorted to in order to procure new varieties; and to accomplish this, of course, seed from choice varieties must be gathered. The mode of sowing, rearing, &c., will be found detailed in the articles PEACH and PEAR.

Culture during the Growing Period. — As with the Peach, the Nectarine, Pear, &c., so with the Plum. The first proceeding of the season is disbudding. About the beginning of May the trees burst forth into a great amount of spray, and much of this will be ill-placed; and, indeed, if not well disposed of at an early period, it will in due course, speaking of wall or espalier trees, for them the most advantage is requisite. A progressive disbudding is best, the first consisting in merely removing the foreign and back shoots, unless, as observed with regard to the other stone fruits, vacant spaces occur, when an ill-placed shoot is better than none. Shortly after this period, if the trees be strong, gross shoots or robbers will show their heads. When the shoot turns hinds, which in this case have more than 3-5-6 inches long, should have the points pinched off. In a few weeks more, another disbudding will be expedient, and by this time shoots of a proper character for final retention may be determined on. The latter may be carefully tied or trained as soon as convenient, and every shoot of a doubtful character, in the thinning out, may have the point pinched off. The rest of the proceedings, indeed, are so similar to the Peach, that it is scarcely necessary to repeat them.

Culture during the Rest Period. — The trees will require some pruning, and this consists principally in thinning out, and reducing the snags or stumps of shoots pinched back in the summer previous. Our practice is to tie down on the old wood, or otherwise train in, as much of the short-jointed wood as possible, without crowning it too thick; for most of this wood will become studded with blossom spurs in the succeeding summer. All that is not needed may be cut clear away, as in the Pear; and all useless stumps also. Where wood is wanting to furnish backs, some of the leading shoots may be shortened, and every shoot of any amount may be pinched which appear spongy and immature. The trees may now be carefully trained or nailed in, and, if necessary, receive any dressing requisite for the insects.

Diseases and Insects. — See Peach.
Division of hardy herbaceous perennials, and also seeds and cuttings; cuttings of the tender kinds; the side, stubby shoots do best, but shoots at almost every age and size will strike freely in sand, under a bell-glass, in summer, and either kept cool, or with a little bottom-heat, according to the species. The tender species require the greenhouse or the stove. Sandy loam, and a little fibrous peat and dried leaf-mould.

GREENHOUSE EVERGREENS.


STOVE EVERGREENS.


HARDY HERBACEOUS.


PLUM, CHERRY. Pri'us cere'i'zera.

PLUM, SINGERBREAD. See Parinari um macrophyllum.


PNEUMONIA NTHE. See Gentiana.


PODACRENUM. (From pou, podos, a foot, a, an, and chas-en; the aches or fruits are stalked. Nat. ord. Compositae.) A tall stem shrub. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, leaf-mould, and sand. P. andinum (Andes). Rays white; disc yellow. Columbia. 1825.


PODA NTHES GEMINA' TA. See Plu ranthus gni'natu.

PODA NTHES IRRORA' TA. See Stapelia irrorata.

PODA NTHES PULCHRA. See Stapelia rofileu.

PODA NTHES VERRU'CA' SA. See Stapelia verru'cosa.

PODA NTHUM GRA'CILE. See Phyazeuma gracile.

PODA NTHUM LOMB'ELIOIDES. See Phyazeuma lobeloides.

PODA NTHUS. (From pou, podos, a foot, and anthos, a flower; the flowers are stalked. Nat. ord. Compositae.) A greenhouse shrub. Cuttings in sandy soil under a hand-heat. Fibrous loam, leaf-mould, and sand. P. gra'us (pleasing). See P. ovatifolia.


PODOCARPUS. (From pou, podos, a foot, and karpos, a fruit; long footstalks. Nat. ord. Conifera.) Linn. 21-Monacca, 10-Monadelphia. Allied to picea. 1828. Evergreen cone-bearers. Cuttings of ripe shoots in sand, under a bell-glass; loose peat. Winter temp., 40° to 45°. Macrophylla, latfo'lia, spinule'ioa, and nindfes'ioa (maris) stood some time against walls in the climate of London. They are all good things for a winter garden.
P. alpina (alpine). Tasmania.

*amara* (bitter). Java.

*andina* (Andian). See P. CHILINA.

*antarctica* (antarctic). See P. CURVIFOLIA.

*argentea* (silver-leaved). China.

*Bidens* (Big-thistle). See P. TOTARA.

*califolia* (channelled). Origin doubtful.


*chinesis* (Chinese). See P. MACROPHYLLA.

*cinerea* (leathery). 50. W. Ind. and Colombia. 1878.

*cupressina* (Cypress-like). Burма; Malaya.


*Eriocaulon* (Dendrophyllum-like). New Zealand.

*elata* (tall). Australia.

*dongia* (elongated). E. Aфrica, &c.

*endlicheriana* (Endlicherian). See P. NERIFOLIA.

*endlicheriana* (sword-leaved). See P. ELATA.


*horaria* (Ceylon). See CEPHALOTAXUS PENDULULA FASCIATA.


*trichoneura* (fringed). See FRUMONITIA TAXIFOLIA.

*nerifolia* (Nerium-like). Himalaya.


*nucifera* (nut-bearing). See TORREYA NUCIFERA.


*purpurea* (Purple). 80–100. Jamaica. "Yacca-

*saucifolia* (willow-leaved). Columbia.


*illawarra Pine.*


*zarifolia* (yew-leaved). See FRUMONITIA TAXIFOLIA.


*varieta* (variegated). Leaves striped with white.

*viscosa* (Fijian). 20–50. Shrub or tree. Branches **Spiney**. Fiji. 1886.

*Ya'ca* (Yacca) of G. Don in Loudon. See P. CORIACE.

*Ya'ca* (Yacca) of G. Don in Sweet's Hort. Brit. See FRUMONITIA TAXIFOLIA.

PODOCHILUS. (From *pous*, *podos*, a foot, and *kelos*, a lip; the lip is joined with the foot of the column, i.e. ornamental. Allied to Notophyllum.)

Stove epiphyllous orchids, with slender, leafy stems. Divisions at the commencement of growth. Sphagnum, fibre of peat, charcoal, and crocks.

P. longicalcarata (trockenwurz). 2. White and purple.

*P. linnii* and *P. phillippines*. 1894.

PODOCYTSUS. CARAMA NIGUS. See Laburnum CARMANICUM.

PODODILLA. (From *pous*, *podos*, a foot, and *Lasia*; there is a long stalk to the spadix. Nat. ord. Araceae.)

A stove perennial. Divisions or offsets. Lumpy fibrous peat, a little loam, some charcoal nodules, and sand.


PODOLLEPSIS. (From *pous*, *podos*, a foot, and *lepis*, a scale; flower-stalks scaly. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2- Superflua. Allied to Helichrysum.)

P. *graebii* is a half-hardy herbaceous perennial; the rest are hardy annuals. Seeds in a little heat, in spring; division in spring, as growth commences; sandy loam, and a little leaf-mould or peat; the protection of a cold pit in winter. There are several species besides the following:


*cheiranthoides* (gold-flowered). See P. ARISTATA.


PODOLIUM. (From *pous*, *podos*, a foot, and *lobos*, a pod; the seed-pod on a foot-stalk within the calyx. Nat. ord. Leguminosae [Leguminosae]. Linn. 10-Decandria, 1-Monyosperms. Now referred to Oxylobium.)

P. *berberifolium* (barberry-leaved). See OXYLOBIUM BERBERIDIFOLIUM.

*helophyllum* (hair-leaved). See OXYLOBIUM HETEROPHYLLUM.

*scandens* (climbing). See OXYLOBIUM SCANDENS.

*serpyllum* (cross-leaved). See OXYLOBIUM STAUROPHYLUM.

*trilobum* (three-lobed). See OXYLOBIUM TRILOBATUM.


Hardy herbaceous perennials. Division at the root; moist, marshy peat, and a shady situation.

P. *diphylum* (two-leaved). See JEFFERSONIA BINATA.


*"Himalaya May Apple."

*hexandra* (six-anthered). See P. EMODI.

*montana* (mountain). See P. PETALATUM.


PODOPTERUS. (From *pous*, a foot, and *plerosis*, a feature; the scale of growth. Nat. ord. Buckwheat (Polygonaceae). Linn. 6-Hexandra, 3-Trigynia.)

Greenhouse evergreen. Cuttings of half-ripened shoots under a glass, in sandy loam, in April; sandy, fibrous loam, and a little peat. Winter temp., 40° to 48°.


PODORIA SENEGALENSIS. See Boscia SENEGALENSIS.

PODOSPERMA. (From *pous*, a foot, and * sperma*, a seed; the seed in a foot. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 2-Equalis. Now referred to Scorzonera.)

P. *angustifolium* (narrow-leaved). See SCORZONERA ANGUSTIFOLIA.

*calcariaphyllum* (caltrop-leaved). See SCORZONERA CALCARIAPHYLLA.

*calum* (hoary). See SCORZONERA JACQUINIANA.

*coronifolia* (Coronopus-leaved). See SCORZONERA CORONOPFILIA.

*intermum* (intermediate). See SCORZONERA INTERMEDIARIA.

*lacinium* (jagged-leaved). See SCORZONERA LACINIARIA.

*octangula* (eight-angled). See SCORZONERA JACQUINIANA.

*plumulum* (dwarf). See SCORZONERA PUMILA.

*resedifolium* (Reseda-leaved). See SCORZONERA LACINIARIA.

*taraxacifolium* (dandelion-leaved). See SCORZONERA TARAXACIFILIA.

PODOSTMA. (From *pous*, *podos*, a foot, and *stigma*; the stigma is stalked. Nat. ord. Asclepiadaceae.)

Hardy or half-hardy perennial herb, with tuberous roots. Cuttings in sand in a cold frame during summer. Loam, leaf-mould, and sand, protected in a cold frame during winter.


PODOTHCA. (From *pous*, *podos*, a foot, and *theca*, a seed case; the achene or seed-case is shortly stalked. Nat. ord. Compositae.)

Greenhouse annuals, but may be raised from seed, in gentle heat and planted out in May. Ordinary soil.

PECILOPTERIS CRISPATULA. See ACROSTICHUM VIRENS CRISPATULUM.

PECILOPTERIS FLAGELLIFER'A. See ACROSTICHUM FLAGELLIFERUM.

PECILOPTERIS PUNCTULA'TA. See ACROSTICHUM PUNCTULATUM.

PECILOPTERIS SCA'NDENS. See ACROSTICHUM SCANDENS.

POET'S CASSIA. Os'yris.

POET'S NARCIS'SUS. Naro's susu po'eticus.


" " multi'fo'ria (many-flowered). See P. DOUGLASI MULTI'FLORA.


POGO'NIA. (From pogon, a beard; in allusion to the two or four raised, thickened lines on the lip. Nat. ord. Orchidaceae. Allied to Arethusa.) April 3rd. Young shoots in or near the sand. Fibrous peat, a little loam, with some nodules of charcoal and sand. Water liberally when making their growth.


" " gam'mies na (Gammiean). § 1. Pale lilac. N. India. 1847.


" " pulch'elli (pretty). See P. FORDI.

" " punec'a (spotted). Java.

" " ros'a (rosy). Pale green, rosy-lilac. August. Panama. 1844.


POGO'NOPSIS. (From pogon, a beard, and pous, a foot or stalk; the foot of the stem is set in a bed of hairs. Nat. ord. Rubiaceae.) November 20th. Young shoots in or near the sand. Fibrous peat, a little peat and sand. Thinner loam, a little charcoal and sand. Water moderately when making their growth.


POGO'STE MON. (From pogon, a beard, and stemon, a thread or stamen; the stamens have long beards. Nat. ord. Celastraceae.) November 20th. Young shoots in or near the sand. Fibrous peat, a little peat and sand. Thinner loam, a little charcoal and sand. Water moderately when making their growth.

P. Patchou'li yields Patchouli, an essential oil.


" " sua'veis (sweet).


Stove evergreen shrubs. Seeds in a brisk bottom-heat, in spring; cuttings of stubby young shoots in sand, under a bell-glass, in heat; rich, sandy, fibrous loam. Winter temp., 50° to 60°; summer, 60° to 90°.


" " Gillies' (Gillies). See CESARIA PULCHERIMA. " " a'gro (agrove). See CESARIA PULCHERIMA.

" " pulcher'ma (very fair). See CESARIA PULCHERIMA.

" re'gia (royal). Crinsos Madagascar. 1828.

" " na'ta (Nama). See CESARIA PULCHERIMA.

POISETT'TIA. (Named after its discoverer, M. POINSETT, Nat. ord. Spurge-gorts [Euphorbiaceae]. Linn. 21-Monoclea, 1-Monandria. Now referred to Euphorbi.)

" " pulcherrima (fairest). See EUPHORBIA PULCHERRIMA.

" " ab'dita (white-bracted). See EUPHORBIA PULCHERRIMA ALBIDA.

POINTING-IN is mixing manure with the top inch or two of the soil of the garden and setting the seed or set. This is done when roots, which ought not to be disturbed, are near the surface.

POIRE'TIA. (Commemorative of J. L. M. POIRET, a French botanist. Nat. ord. Leguminosae.)

Stove perennial herbs or undershrubs. Cuttings in sand, in a warm, close case. Fibrous loam, one-third peat and sand.

P. punct'a (spotted). Yellow. Brazil.


POISON-BULB. Brunsvig'ia cor'sica and tox'reica, and Cris'mum aclaz'ticum.

POISON-NUT. Sry'chnea Nu's-x-o'mica.

POISON-OAK. Rhu's Toxico'dé n'dron.

POISON-SUMACH, or POISON-WOOD. Rhu's xene'na ta.

POISONOUS PLANTS. Gardeners should be much more careful than they usually are in handling the plants they propagate, for many of them have deadly qualities.

M. Neumann, chief gardener of the Paris Jardin des Plantes, says that pruning-knives and hands washed in a tank after they have been employed upon some of these plants will destroy the fish it contains. Hijnbo'ma Manac'sel'la, the Manche'necel, the Tan' king, Sa'sum Lau'ro-cre'rasus, and Como'cula disenta'sta, are equally deleterious to man.

Gardeners who have merely rubbed the leaves of the latter between their fingers have had swollen bodies and temporary blindness. Wounds from pruning-knives smeared with the juices of such plants are like those from poisoned arrows.

POISONS. Soils containing obnoxious ingredients are certain introducers of disease and premature death. An experiment, as well as those of the apple and pear get into an iron-red gravelly subsoil, always causes canker. In the neighbourhood of copper-smelting furnaces, not only are cattle subjected to swollen joints and food foaming diseases, but man is exposed to crepitude and death, but the plants also are found to be subject to visitations, to irregular growths, and to unwarned destruction; and a crop once vigorous will suddenly wither as if swept over by a blast. There is no doubt of this arising from the salts of copper which impregnate the soil irregularly, as the winds may have borne them sublimed from the furnaces, and the experiments of Sennebier have shown that of all salts those of copper are the most fatal to plants. That they can be poisoned and by many of those substances, narcotic as well as corrosive, which are fatal to animals, has been shown by the experiments of M. F. Marett and others.

The metallic poisons being absorbed are conveyed to the different parts of the plant, and alter or destroy its tissue. The vegetable poisons, such as opium, strychnia, prussic acid, belladonna, alcohol, and oxalic acid, which act fatally upon the nervous system of animals, also cause the death of plants.

The poisonous substance is absorbed into the plant's system, and proves injurious when merely applied to its branches or roots as well as to the leaf and as placed in contact with the roots. Ulcerations and canker are exacerbated if lime be put upon the wounds, and when Dr. Hales made a Golden Rennet Apple absorb a quart of camphorated spirits of wine through one of its branches, one-half of it was consumed in a few days.

POITZE'A. (Commemorative of M. POITEAU, a French botanist. Nat. ord. Leguminosae.)
Stove shrub with pinnate leaves. Cuttings of half-ripe shoots in sand in a close, warm case. Sandly loam and leaf-mould.


Stove evergreen climbers. Cuttings of short, stubby side-shoots, as fresh growth commences, in spring, in sand, under a bell-glass, and with a little bottom-heat; sandy loam and fibrous soil, with pieces of charcoal. Winter temp., 55° to 60°; summer, 60° to 85°.

P. Alzi'ii (Afzelius’s). See COMBRETUM GRACILIS. Amer. 1803.

P. barba ‘ta (bearded-petaled). See COMBRETUM BARTU- MUM. 1818.

P. composita (scarlet). See COMBRETUM COCCINEUM. N. Amer. 1852.


P. gracilis (slender). See COMBRETUM GRACILIS. Amer. 1838.

P. dier 'ta (large-flowered). See COMBRETUM GRANDE- FLORUM. 1826.

P. Junc ‘ae (intermediate). See COMBRETUM COMOSUM. Macrosphyla (large-leaved). See COMBRETUM LATI- FOLIUM. 1858.

P. pilos 'a (thiny-hairy). See COMBRETUM COMOSUM. POKE W EED. Phytola mica.

POLAN SIA. (From poies, many, and anisos, unequal; many stamens of unequal lengths. Nat. ord. Capparid (Capparidaceae). Linn. 11-Dodoncia, 1-Monogyne. Referred to Cleome.)

P. Charid'omis (Chelidonium-like). See CLEOME CHILL- EUM. 1836.

P. dodeca ‘nda (twelve-anthered). See CLEOME BUR- MANNI. 1853.

P. gar 'dens (strong-smelling). See CLEOME GRAVYO- FORUM. 1843.


P. uni gandulo’sa (single-glanded). See CLEOME UNI- GANDULARIS. 1826.

P. visco ‘sa (clammy). See CLEOME VISCOSA.

P.icosan 'dra (twenty-anthered). See CLEOME ICOSA- VISCOSA ICOSANDRA.

POLEMONIUM. Greek Valerian. Jacob’s Ladder. (From polemos, war; according to Pliny, a dispute about its discovery led to warfare. Nat. ord. Phlomis or [Polemoniaceae]. Linn. 5-Pentlandia, 1-Monogynia.) Hardy herbaceous perennials. Seeds; but generally division of the plant; common garden soil.

P. acutiflorum (acute-flowered). See P. CERULEUM.

P. bore’s (nordern, Siberia.


P. trachysperma (rood-seeded), Blue. 1817.


P. dic ternum (dissected). See P. SIBIRICUM.

P. foli o sissum (leafest). See P. FOLIOSISSUMIUM. 1838.


P. foli o sissum (leafest). New Mexico, Colorado, &c.


P. brillians (bright). August. N. Amer. 1826.


P. hu male (florid). Of Lindley. See P. HUMILE POLLEN.

P. laevis (milky-flowered). See P. SIBIRICUM.


P. moschatum (musky). See P. HUMILE.


P. pulchellum (pretty). See P. HUMILE PULCHELLUM.

P. velutinum (large-flowered). See P. HUMILE PULCHELLUM.

P. velutinum (pretius). See P. HUMILE PULCHELLUM.


P. richardsonii (Richardson’s). See P. HUMILE.


P. viscosum (shaggy). See P. CERULEUM VISCOSA.

P. viscosum (clammy). North-western Amer.

P. vulgare (common). See P. CERULEUM.

POLIAN'THES. Tuberos. (From polis, a city, and anthos, a flower; referring to its general use in city decoration. Nat. ord. Lilioworts [Lilacaeae]. Linn. 6 Hexandria, 1-Monogyne.)

Greenhouse tubers. Offset tubers; old tubers are generally obtained from Italy every year, and are planted in rich, sandy loam; and when growth has fairly commenced, the plants are lifted and the adventitious roots are cut off by putting them up to be carried by insects or other animals. It may be colourless, or most frequently of some shade of yellow, from

POLYCHOMIS. (From polis, hoary, and thur was, a thyrse or branching inflorescence; in allusion to the colour of the inflorescence. Nat. ord. Bicea. Allied to Idesia.)

A hardy deciduous tree. Seeds in a gentle heat; cuttings of half-ripe shoots in sand, under a bell-glass, with gentle heat.


POL IUM or GERMANDER. See Teucrium.

POLEN. A complete flower is made up of four sets of floral organs: (1) The sepals or calyx outside; (2) followed by the petals or corolla; (3) by the stamens bearing the pollen grains; and (4) of the pistil, bearing the ovule or ovules and archegonia (eggs) that are made by splitting the movement of the female organ. The pollen is produced in the cells of the female organ; the pollen grain consists of two cells, which when viewed microscopically, are seen to consist of a thick wall that serve to protect the delicate contents inside the male organ. The male pollen consists of two cells, which when viewed microscopically, are seen to consist of a thick wall that serve to protect the delicate contents inside the male organ. The anthers produce the powdery or dust-like granules, known as pollen. When magnified the pollen grains are seen to be of some definite shape, according to the species of plant. The anthers are four-celled or, in some cases, two-celled in their early stages, but become two or one-celled at maturity by the bursting of the partition of two neighbouring cells. The pollen is produced in these cells by the separation of the tissue in the centre, and the cells that immediately give rise to the pollen are known as the pollen mother-cells and divide into four grains mostly separate, but in heats, whortleberries and some others, the four remain joined in a mass. In Asclepiads and orchids the pollen remains united in large masses. In most natural orders the grains all become separate, resembling powder to the naked eye. The most common pollen grain is elliptic or spherical, being of three or four rays. These grains may be visible, but when only one is in view the pollen resembles a grain of rice. Other pollen grains are either spherical, hemispherical, oblong, triangular, or variously shaped. The surface may be smooth, granular, spiny, finely or strongly netted, or otherwise beautifully marked. It may be dry, and even winged in Conifers, in the case of pollen carried by the wind, or covered with viscid or cl Tourism, and others, it is carried by insects or other animals. It may be colourless, or most frequently of some shade of yellow, from
the palest shade to deep orange. Occasionally it is shaded with purple, blue, violet, or green in different genera and families.

**POLLIA.** (Commemorative of Van der Poll, a Dutchman. Nat. ord. Compositae.)

Stove perennial trailing herb. Seeds; divisions and cuttings in sand in a close case. Loam, leaf-mould, and sand.


**POLLINATION.** The term is applied to the placing of the pollen on the stigma of the same or a different flower from that whence it was taken. The wind, birds, and other agencies may be thus indirectly effective in nature, effecting self or cross-pollination. It is done by man, with the object of securing certain results. When the pollen is applied to the stigma of the same flower or of the same species on the same plant—i.e., of the same kind—though of different varieties; but if transferred to the stigma of another variety it is termed cross-pollination, and is done with the object of getting new and improved varieties. Hybrids are obtained by cross-pollinating two different species.

Pollination is distinct from fertilisation; the latter is only accomplished when the pollen tube reaches the germinial vesicle, and forms a union with it.

**POLY.** See Polium.

**POLYA'CHYRUS.** (From polus, many, and achirus, chaff. Nat. ord. Composites [Compositae]. Linn. 19-th Syngensia, 1.-Equilis.)

Half-hardy herbaceous perennials. Division and cuttings of the young shoots, in spring, in sandy soil; the protection of a cold frame, or some analogous place, in winter.


**POLYA'CHYTIS.** (From polus, much, and athetis, healing; little, or a little, in its supposed medicinal qualities. Nat. ord. Anacoeae.)

Stove evergreen shrubs or small trees. Cuttings of half-mature shoots in sand, placed in a close case with bottom-heal. Fibrous loam, a little peat, and sand.

P. carasol/us (Cerasus-like), &c.; termed. Hind. India; 1820.

*Korit'is* (Korint's). 2-30. Green. India.


*Sche/feri* (Scheffer's). Java.

*simia' rum* (Monkeys'). Brown. Himalaya; Burma, 1825.


**POLYA'NTHA.** This is a variety, but a very permanent one, of the common Primrose (*Pri' mula vulg'aris*). There are many varieties, and their excellence as florists' flowers is conceded by many botanists.

The *Pip of a Laced Polyanthus.*—1. This should be perfectly flat and round, slightly scolloped on the edge, and three-quarters of an inch in diameter.

2. It should be divided in (five or) six places, apparently forming (five or) six flower-leaves, each indented in the centre to make it a kind of heart-shaped end; but the indentations must not reach the yellow eye.

3. The *indenture* in the centre of the apparent flower-leaves should be exactly the same depth as the indentation formed by the join of these flower-leaves, so that it should not be known, by the form of the flower, which is the actual division and which is the indenture; in other words, which is inside and which the centre of the flower-leaf; and all the indentures should be as slight as possible, to preserve the character.

4. The flower should be divided thus: the *yellow tube* in the centre being measured, the yellow eye, round the tube, should be the same width as its diameter; and the *ground colour* of the flower should be the same width; or draw with the compasses, opened to a sixteenth of an inch, a circle outside which should open them to three-sixteenths, and draw another circle for the eye, then open them further to five-sixteenths, and draw a third circle for the ground or dark colour. Beyond these Circles, the flowers should reach round every flower-leaf, to the yellow eye, and down the centre of every petal to the eye, and so much like the edging that the flower should appear to have (ten or) twelve similar petals. The ends of these (ten or) twelve should be blunted, and rounded like so many semi-circles, so that the outline of the circle should be interrupted as little as possible.

5. The *tube* (one-fifth the width of the whole flower) should be nearly filled up with the six anthers, which are technically called the thrum (have an elevated edge, rest on the eye, and have a bent or double-edged), and the flower should not exhibit the pistil.

6. The *edge* round and down the centre of the petals formed by the divisions should be of even width all the way, and uniformly of the same shade of sulphur, lemon, orange, or violet; and there must not be two shades of yellow in the eye.

7. *The ground colour* may be just what anybody likes best, but clear, well-defined, perfectly smooth at the edges, and sharp, and not too smooth or too yellowy outside, next the lacing. A black or a crimson ground, being scarce, is desirable; but the quality of the colour as to clearness, rather than the colour itself, constitutes the property.

*The Plant.*—1. The *stem* should be strong, straight, and elastic, and from four to six inches in length.

2. The *footstalks* of the flower should be of such length as to bring all the flowers well together.

3. The *truss* should rise from the centre of the foliage, comprise seven or more flowers, and be neatly arranged to be seen all at once.

4. The *foliage* should be dark green, short, broad, thick, and close together; but erect and clustering round, though lower than the truss.

*The Pair, or Collection.*—The *pair,* or pan of more, should comprise flowers of different and distinct colours, either as regards ground-colour or the yellow of being sufficiently different from the rest to be well distinguished. The whole should be so near of a height as to range the heads of bloom well together.

The great fault of the genus now is even among the best sorts, that the divisions between the petals are so wide as to make the flower look starry, whereas there should be no more gap where the division is than is in the indentation of the *Polyanthus.*—Glennys's *Properties of Flowers,* &c. *Culture.*—The Polyanthus may be cultivated exactly as the Auricula.

**POLYBOTA'RIA.** (From polus, many, and botria, a bunch; the appearance of the fertile or seed-bearing form. Nat. ord. Flores [Filices]. Linn. 24.-Cryptogamia, 1.-Filices. Now referred to Acrostichum.)

P. acuminata (pointed-leaved). See Acrostichum *ACUMINA'TUM.*

*apiifo'lia* (parsley-leaved). See Acrostichum *APIFOLIUM.*

*appendicula'ta* (appendaged). See Acrostichum *APPENDICULATUM.*

*articula'ta* (jointed). See *Acrostichum Articulatum.*

*ceroc'na* (haret's-tongue). See *Acrostichum Cervinum.*

*cingu'la'ta* (ringed). See *Acrostichum Cervinum.*

*coron'cina* (crowned). See *Acrostichum Coronavardense.*


*interme'dia* (intermediate). April. Isle of Luzon.

*lechleri'na* (Lechleriian). See *Acrostichum Lechleri'num.*

*osmunda'cea* (Osmunda-like). See *Acrostichum Osmunda'ceum.*


**POLYCAL'MMA** *STUARTI* See *Myriophyllum Stuartii.*

**POLYCAR'PA.** (From polus, many, and karpos, a fruit; the seed-vessels are numerous. Nat. ord. Caryophyllaceae. Allied to Polycarpus.)

Half-hardy perennials. Seeds; divisions and cuttings. Ordinary soil, with frame protection in winter.
POLYCARPON


" napthalodes (Naphthalium-like). See P. MICROPHYLLA.


" memphi'tica (Memphis). See POLYCARPON LEPINGLIS.


POLITCA'PON. (From polus, many, and karpos, a fruit; alluding to the numerous small fruits. Nat. ord. Caryophyllaceae.)


POLYCHLOS CORN-CE'VLI. See PHALENOPIS CORN-CERV.

POLY'CNIS. (From polus, many, and kyknos, a swan; in allusion to the numerous swan-like flowers in a raceme. Nat. ord. Orchidaceae. Allied to Cynorchis.)

Stove epiphylluous orchids. Divisions at the commencement of growth. Fibre of peat, sphagnum, some nodules of charcoal, crocks, and a little sand.

P. barba'ta (bearded). White, rosy. Colombia.

" Charles'orothi (Charlesworth's). Yellow, marked with red, brown. British Guiana. 1807.


" Lehmanni (Lehmann's). Light brown, spotted with purple. Colombia. 1894.

" le'ila (charming). Light brown, cream, spotted with purple. Colombia. 1870.


" vi'ta'a (striped). Yellow, banded with chocolate. Guiana. 1824.

POLY GALLA. Milkwort. (From polys, much, and gala, milk; supposed to increase the milk of cows. Nat. ord. Milkworts [Polygalaceae]. Linn. 17-Diasella, 3-Octandria.)

Annuals, by seed in a peaty border; herbaceous perennials, seeds and divisions in similar soil, or sandy loam and leaf-mould; hardy shrubs and under-shrubs, as Chamaebux's, by cuttings and suckers, and species which, in particular, like a little chalk with the peat or sand. Such shrubs may be cuttings, with the sides of the box. when 12 inches long, taken off close to the stem, and inserted in sand, under a bell-glass; for all these, plant three parts, and leave one part. Many of them, from their chalky and comparative hardiness, should be tried against sheltering walls, such as latifolia, myrtifolia, grandiflora, speciosa, &c.

HARDY ANNUALS.


" purpurea (purple). See P. Sanguinea.


" umbellata (umbelled). See P. Bracteolata.

HARDY HERBACEOUS.


" austri'aca (Austrian). See P. Amara.


" graminifolia (grass-leaved). See P. Cymosa.

" maj'or (larger). 1. Red. July. Austria. 1759.

" pauciflora (few-flowered). See P. Paucciflora.


" ro'ssa (rosy). 1. Rose. May, Mediterranean region. rubé'lia (red). See P. POLYGRAMMA.

" Sénega (Senega). 1. May, June. N. Amer.


" violeta'ris (violet). 1. Blue, purple, rose, pink, or white. June. 1900. Europe (Britain).

GREENHOUSE EVERGREENS.

P. a'pcionevos (fox-tail-like). See Mural'tia a'picscurvus.

" a'polys (turned-away-petalled). Yellow, purple, changing to purple. California. 1800.

" arilla'is (arillate). India and Malaya.

" alonu'mula (thin). See P. Oppositifolia.

" borbom'ulosa (Borbonia-leaved). See P. Oppositifolia.

" brachyp'oda (short-stalked). Country unknown.


" cora'doil'ia (heart-leaved). See P. Oppositifolia.

" dalmat'in'is (Dalmatian). See P. MYRTIFOLIA.

" grandiflor'a (large-flowered). See P. MYRTIFOLIA.


" Heister'ia (Heisteria). See MURAL'TIA HERISTEA.

" hilari'na (Hilarian). See P. grandiflora.

" hu'milis (low). See MURAL'TIA HUMILIS.

" intermedi'a (intermediate). See P. PEDUNCULARIS.


" latiflor'ia (broad-leaved). See P. OPPOSITIFOLIA.

" ligula'ris (strap-leaved). See P. MYRTIFOLIA.


" micro'ri (small-flowered). See MURAL'TIA FILFORMIS.

" mi's'ta (mixed). See MURAL'TIA MIXTA.


" mammal'ria (mammoth-leaved). See P. OPPPOSITIFOLIA.


" stiple'mata (simple-stemmed). See P. VIRGATA.

" specio'sa (showy). See P. VIRGATA.

" spinol'osa (spiny). See MURAL'TIA SPINOSA.

" stipula'ce (large-stipuled). See MURAL'TIA STIPULATA.


" tetrogra'ta (four-angled). See P. OPPPOSITIFOLIA.

" vini'nea (twigs). See MURAL'TIA SPINOSA ANGUSTIFOLIA.


POLYGO'NATUM. Solomon's Seal. (From polus, many, and gome, a joint, or knee; numerous joints of the stem. Nat. ord. Liliacae [Liliaceae]. Linn. 6-Hexandra, 1-Monogynia. Allied to Convallaria.)

Hardy, herbaceous, herbaceous perennials. Seeds and divisions in spring; rich, light soil. Leptophyllum and oppositifolium require protection in winter.

P. angustifol'ium (narrow-leaved). See P. BIFLORUM.

P. bracteatum (bracted). See P. multilorum.

"canaliculatum" (channelled). See P. latifolium commutatum.

crypticum (tendril-leaved). See P. sibiricum.

giganteum (gigantic). See P. latifolium commutatum.

hirsutum (hairy). See P. latifolium.

"japonicum" (Japanese). 1-2. White, pale green.

May, Japan.


Maximowiczii (Maximowicz’s). Island of Sachalin.

tropicum (thread-like). See P. viviparum.

"sachaline" (Sachalin).

Herniaria-like.

white beneath.


"capitatum" (compact). Red. Siberia. 1822.

See P. Old Bistorta. "turn (compact). Red. 7-10.

transplanting to the Himalaya. 1822.

P. bracteatum (bracted). See P. Multiflorum.

canaliculatum (channelled). See P. ... (Siebold’s). See P. Cuspidatum.


"osyphylum" (sharp-leaved). See P. Laxmannii.

angustifolium (narrow-leaved). See P. Laxmannii.

auces (Aubert’s). 2-10. Greenish or rosy. Western China. 1906. Twiner.

"sibirica" (Siberian). See P. Chinense.


bursa-compacta (burb-bulb-bearing). See P. Viviparum.


"folis pictis" (painted-leaved), Leaves with a mottled white blotch. China.

citrina (hair-blonde). N. Amer.

coccus (scarlet). See P. Amplexicaule.


cuspidatum (creeping). See Atraphaxis Buxifolia.


,, compta (compact). See P. Compactum.

cuspidatum (cymose). See P. Chinense.


Doii (Don’s). See P. Placcidum.

,, elegantis (elegant). See P. Plebeium.

ellipticum (oval-leaved). See P. Bistorta.


"fuscum" (Spaeth’s). 1816.

,, "spatii" (Spaeth’s). 1810.

,, " Pressa. 1817.

,, "stachyum. 1800.

,, "sibiricum" (Siberian). 2. White, Siberia. &c.

,, "Thunbergii" (Thunberg’s). See P. Latifolium.

crispa (waved-leaved), 1. May. Europe (Britain).

violacea (common). See P. officinale and varieties.

POLYGONELLA. (The diminutive of Polygonum, Nat. ord. Polygonaceae.)

Hardy deciduous shrub. Layers in spring and autumn. Ordinary soil with a little peat.


POLYGONUM. Knot Grass. (From polus, many, and gowa, a knee; numerous joints of the stem. Nat. ord. Buckwheat [Polygonaceae]. Linn. 8-Octandria, 3-Triangyla.)

Annuals, seeds in the open border, in March and April; herbaceous perennials, also by seeds, as for annuals, and division of the roots; tender annuals require the assistance of a hotbed before transplanting in May; greenhouses for shrubs, by cuttings in sandy soil, under a glass, and grown in fibrous loam, with a little peat; several of them, such as adpressum, which sends out very long shoots, should be tried against a wall. The fruit of several, such as tataricum and Fagopyrum, are used for tarts.

GREENHOUSE EVERGREENS AND HERBACEOUS.

P. adpressum (compressed). See Muehlenbeckia Adpressa.

"Brenanii" (Brown’s). See P. Affine.


hermannioides (Herniaria-like). See P. Plebeium.

injunctum; (unpleasant). See Muehlenbeckia chilenensis.

platycaulum (flat-branched). See Muehlenbeckia helioboa.


repens (creeping). See P. Capitatum.


Biesiaden.


HARDY HERBACEOUS.


"alaunum" (winged). Tropical and subtropical Asia and Africa.


polyornophum (many-formed). See P. Amplexicaula.

songa'ricum (Soongarian).

ampingum (doubtful). See P. Amplexicaula.


"osyphylum" (sharp-leaved). See P. Laxmannii.

angustifolium (narrow-leaved). See P. Laxmannii.

"auces" (Aubert’s). 2-10. Greenish or rosy. Western China. 1906. Twiner.

"sibirica" (Siberian). See P. Chinense.


bursa-compacta (burb-bulb-bearing). See P. Viviparum.


"folis pictis" (painted-leaved), Leaves with a mottled white blotch. China.

citrina (hair-blonde). N. Amer.

coccus (scarlet). See P. Amplexicaule.


cuspidatum (creeping). See Atraphaxis Buxifolia.


,, compta (compact). See P. Compactum.

cuspidatum (cymose). See P. Chinense.


Doii (Don’s). See P. Placcidum.

,, elegantis (elegant). See P. Plebeium.

ellipticum (oval-leaved). See P. Bistorta.


"fuscum" (Spaeth’s). 1816.

,, "spatii" (Spaeth’s). 1810.

,, " Pressa. 1817.

,, "stachyum. 1800.

,, "sibiricum" (Siberian). 2. White, Siberia. &c.
POLYMNIA

P. speciosa (showy). 3-5. Leaves marbled with green, white, and red. A form of P. sachalinense (†). 1903.

Himalaya. 1860.

Thunbergia (Thunberg’s). Japan.


subvulgaris (vulgaris). See MUELENBECKIA COLUMBIA.

Weyrichii (Weyrich’s). Island of Sakalin.

HARDY ANNUALS.

P. altissimum (tallest). See P. orientale.


emarginatum (notched). See FAGOPYRUM CYMOSUM.

Fagopyrum (buckwheat). See FAGOPYRUM ESCULENTUM.


melanocodium, Water-babber. See P. HYDROPYRIDEAE.


variegatum (variegated). Leaves variegated. 1852.


pinnatum (that-hairy). See P. ORIENTALE.


tata'icum (Tartarian). See FAGOPYRUM TATARIUM.

POLYMNIA. (Polybymnia was one of the Muses who presided over singing and rhetoric. Nat. ord. Compositae. Allied to Silphium.)

Greenhouse and hardy herbs or shrubs. Seeds: divisions spring. P. pyramidalis does best raised from seed in heat and planted out at the end of May. Fibrous loam, leaf-mould, some well-decayed manure, and sand.


gra'num (great). See MONTANO BIFERNATIFIDA.

kord'zia (Kordziaceum-leaved). See MONTANO BIFERNATIFIDA.

pyramidalis (pyramidal). 6-10. Yellow; disc brown. Colombia. 1867.


POLYPODIUM. Polypondy. (From polys, many, and pous, pods, a foot; numerous feathery divisions of the creeping stems. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, r-Filices.)

Brown-spored Ferns. See Ferns.

HARDY.


P. bi'dio-crista'tum (bifid-crested). Fronds forked and crested.

P. bi'dum (bifid). Fronds forked.


P. corrugate'nselegantissimum (very-elegant). Fronds much and finely divided.

P. cuta'tum (cru'dei) (Fowler’s). Fronds permanently much divided. 1822.

P. crea'tum (notched). Pinne notched on the margin.

P. cri'spum (crisped). Pinne crisped.

P. curtum (crested). Fronds branched, crested, horned, and clustered. 1820.


P. enditai'num (all-cut). Pinne all deeply cut and barren.

P. pulchre'rium (fairest). Pinne broad, deeply serrated.

P. ramo'tum (branched). Fronds branched.

P. semita'num (half-cut). Lower pinne lobed, barren; upper ones not cut, but fertile.

P. suprasori'rum (bearing sori above). Sori marginal on the upper face.

P. trichomanodes'is (Trichomanes-like). Frond deeply and finely cut.

STOVE.

P. acrostichos'is (Acrostichum-like). 2. Ceylon to New Hebrides and Australia. 1820.


P. a'bo-punctatam'um (white-much-dotted). See P. crassifolium.


P. amato'num (lovely). 1-3. N. India; Formosa.

P. amphop'tis'moment (double-sorus). See P. ANTHOPITHEUM.

P. an'dro'num (male-and-female). 2-5. Trop. Amer. Possibly the correct name for P. telegonum.


P. amphos'tis'moment (double-sorus). The broadest form. Sori in four rows.

P. annu'num (swath-leaved). Frond very narrow. Sori in one row.


P. areolari'dei (La Billardière’s). 1-4. Fronds barren and fertile. Ecuador.

P. BIPINNATIFIDA.


P. bi'dio-crista'tum (bifid-crested). Fronds forked and crested.

P. bi'dum (bifid). Fronds forked.


P. corrugate'nselegantissimum (very-elegant). Fronds much and finely divided.

P. cuta'tum (cru'dei) (Fowler’s). Fronds permanently much divided. 1822.

P. crea'tum (notched). Pinne notched on the margin.

P. cri'spum (crisped). Pinne crisped.

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P. semita'num (half-cut). Lower pinne lobed, barren; upper ones not cut, but fertile.

P. suprasori'rum (bearing sori above). Sori marginal on the upper face.

P. trichomanodes'is (Trichomanes-like). Frond deeply and finely cut.

STOVE.

P. acrostichos'is (Acrostichum-like). 2. Ceylon to New Hebrides and Australia. 1820.


P. a'bo-punctatam'um (white-much-dotted). See P. crassifolium.


P. amato'num (lovely). 1-3. N. India; Formosa.

P. amphop'tis'moment (double-sorus). The broadest form. Sori in four rows.

P. annu'num (swath-leaved). Frond very narrow. Sori in one row.


P. areolari'dei (La Billardière’s). 1-4. Fronds barren and fertile. Ecuador.
*Polypodium* (two-serial). 3-5. Peru and Ecuador.

*P. biseriale* (twice-serial). 3-5. Australia; New Caledonia, &c. 1832.

*P. brasiliense* (Brazilian). Possibly the oldest name for the genus, 1793. 


*P. callosum* (bald). China.

*P. camerounense* (Cameroon). 4-7. Cameroon Mountains.

*P. capitatum* (small-headed). See *P. juglandifolium*.

*P. caucasicum* (St. Catherine's). See *P. loricatum*.


*P. chrysantherum* (corymbiferum). See *P. lingua corymbiferum*.

*P. costatum* (ribbed). Frond more shortly stalked than in *P. zigzagum*. Himalaya. 1824.


*P. costatum* (thick-leaved). 5-8. Brazil.

*P. costatum* (white-much-dotted). Much dotted with white. Brazil. 1840.

*P. crassirhum* (thick-nerved). See *P. platyphyllum*.


*P. digitatum* (short-pointed). See *P. persicifolium*.

*P. decumbens* (corymb-bearing). See *P. angustifolium ensiformiolum*.

*P. delicosa* (thick-leaved). 3-5. Peru and Ecuador.

*P. dilatata* (diluted). 2-4. N. India; Malacca; Samoa.


*P. dissimile* (dissimilar). See *P. chino-des*.

*P. echioides* (distant). 3-5. N. India to Ceylon and Java.

*P. elegans* (elegant). Frond pale green. 1903.

Frond pale green.

*P. ensiformiolum* (word-leaved). See *P. angustifolium ensiformiolum*.

*P. flavescens* (thread-stalked). See *P. tenellum*.


*P. fraxinosifolium* (ash-leaved). See *P. diversifolium*.


*P. glabrechii* (Glebebrecht's). 2-24. S. Mexico.


*P. glaucum* (crested). Fronds crested. 1903.

*P. glaucescens* (knotted). See *P. plesiosorum*.


*P. grandidentata* (large-toothed). See *P. persicifolium* grandidentata.
POLYPODIUM


"maragullon (small-marigined). 1-2. Fronds with a
black edge. W. Ind. to Peru.


"melododus (large-toothed). See P. tetragonum
megalemus. membra ceum (membranous). 1-3. N.
India to Ceylon.

"grandifolium (large-leaved). Larger; more
coarse-toothed. 1-3.


Brazil, 1837.

Philippines.


"monilisum (somewhat-sickly). See P. heracleum.

"multi lineasum (many-lined). 5-6. N. India; Fiji.


"myricacrum (myriad-fruited). See P. fellucidum
myricarpum. nerisifolium (Nerium-leaved). July.

Brazil, 1837.

"cris tulium (crested). 3-4. Pinecrest crested or
loose-leaved. 3-4.


"nisidum (shining) of J. Smith. See P. lyco podioi de
nisidum (similar). See P. lyco podioi de
nummulariafolium (money-wort-leaved). 1-1.

N. India; Philippines, &c.

"nv fiums (noding). July. Malacca.

"obillum (twisted). July. India; Philippines.

1841.

"oliva ceum (olive-like). 1. S. Amer.

"on les (Otties). See P. tenuifolium.

"oawasceum (Ovarian). See P. lyco podioi de
owianse. oxy album (sharp-lobed). See P. triodium.

"palmatim (hand-shaped). 1-24. Malacca and
Palamasan.

"angustatumor (narrowed). Fronds narrower.


"paradisea (Paradise). See P. fucinsum para
dere.


1793.


"plumosum (plumose). Fronds plumose.

"plumulifer (Schkuhr's). 1. July. Frond smaller,
with black veins. Brazil, 1824.


"myricopalmum (myriad-fruited). Pinna pinnatifid.

"pulmo (pectinate). See P. pummatoides


"percutum (pierced-through). 1. Yellow.

Trop. Amer. 1817.


"grandidiens (large-toothed). Pinnae with large
teeth. Java.


1793.

"brevifolium (short-leaved). Fronds shorter.

"obscurum (obscure).


"corimbosum (corimbose). Fronds heavily crusted.

1906.

"longipes (long-stalked). Fronds with longer
terminations. Apex longer.


"pc tomum (painted). Polynesia. 1881.

"pilo sellos (mouse-ear-like). 1. August.

Trop. Amer. 1879.

"clitasum (eye-lashed). Fertile frond with sori
projecting beyond the edges.


Ind. 1817.

"pseudolirium (broad-leaved). 2-3. Cuba to Brazil
and Peru.


"plecelopes (twisted-scaled). 1-3. Mexico and
sandwichiani.

"plecosorum (contiguous-sorused). 1-11. Mexico
to Venezuela.

"appendiculatum (appendaged). 1. Young fronds

P. P. Plu'mula (feathered). See P. elasticum.

"polybium (many-flowered). Brazil, 1824

"praeepic等到 (Praepiculium). See P. benthami dium

"propisaurum (related). 1-4. N. India; Java, &c.

"prunatum (frosted-leaved). 2. September.

Trop. Amer. 1876.

"pulvisum (cushioned). See P. auratum.

"punctatum (dotted). 2-6. Colombia to Chili; New
Zealand, &c.

"pulviscolae (finely-wrinkled). 3-6. Leaves less

"pustulatum (pimpled). 1. New Zealand.


Trop. Asia. 1824.


"refractum (broken). July. Brazil, 1837.

"reinwardtii (Reinwardt's). See P. subauricularum
reinwardti.


1820.


1810.

"rubulatum (wavy). Fronds wavy. 1-5.


"asperilos (Asplenium-like). Fronds larger,
more erect.

"rhodopleuron (red-ribbed). See P. plesiosorum
appendiculatum.

"rigidulum (slightly-rigid). 3-4. N. Australia, &c.

"rostratum (beaked). 1-1. N. India.


"rubusum (reddish). 2-3. Java; Ceylon;

Queensland, &c.

"rubiflorum (slightly-red). See P. lepidopteris
rubigulorum.

"rugulosum (slightly-wrinkled). See P. punctatum
rugulosum.

"rupstrostre (rock). 1-4. May. Java; Philippines;

Australia.

"salicifolium (willow-leaved). See P. lyco podioi de
salicifolium.


"sandwicens (Sandwich). See Nephrodium santum.

"sandwicens (Sandwich). See Hooker and Arnold.

5-6. Sandwich and Society Isles.

"sandwicens (Sandwich) of Hooker. See P. stego
grammea.

"schkuhr's (Schkuhr's). See P. fucinsum para
dere.

"plectolepis (plectolepis). 2-3.

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"plectolepis (plectolepis). 2-3.
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" Reinwardtii (Reinwardt’s). Edges of pinnae notched, instead of toothed.
" subfulica (slightly-beaklicked). July, Malaya, 1839.
1845.
" subseriata (somewhat-seen). See P. subpetiolarum.
" superficiale (superficial). 1-1. N. India; Tsusima, &c.
" surruccchess (Surruccuanch). 1-3. W. Ind. to Ecuador.
" suspensum (suspended). 1-2. Mexico to Brazil and Ecuador.
" asplenifolium (Asplenium-leaved). Larger, and covered with reddish hairs.
" sylitolens (wool-loving). Colombia. 1861.
" tanio sum (banded) of gardens. See P. Angustifolium.

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POLYSCIAS. (From polys, many, and skias, an umbel; the umbels of flowers are numerous. Nat. ord. Araliaceae.) Stone-shrubs or small trees. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, leaf-mould, and sand.
P. eutispo'ngia (skin-sponge). Madagascar.

POLYSPORA. (From polys, many, and spora, seed; many-seeded capsules. Nat. ord. Tecomariaceae. Linn. 16-Monadelphia, 5-Polyandria. Now referred to Gordonia.)

P. javanica (antler-flowered). See GORDONIA ANOMALIA.

POLYSTA'CHYA. (From polys, many, and stachys, a spike; the flowers numerous. Nat. ord. Orchidaceae.) Stove epiphytal orchids with small, usually pretty flowers. Division when about to start into fresh growth. Small pots, pans, or baskets, three-parts filled with crocks, the rest sphagnum and a little peat fibre.
P. angustifolia (slender-tailed). 1-2. 1894.
" bicolor (two-coloured). 1-1. Sepals purple; the rest white. Seychelles. 1896.

POLYPO'GYON. Ford Grass. (From polys, many, and poggum, a bead. Nat. ord. Gramineae.) Hardy annual grasses of ornamental character. Seeds in April in any good garden soil.

POLYPO'ROS. A large genus of fungi or toadstools, growing on the ground in woods, under trees, upon wood, or very often upon decaying trees. They are thick, fleshy, and may resemble a mushroom in shape, or a bracket when growing upon the trunks of trees. They are brown or dark greenish-yellow, and the under-surface is full of small pores or holes, which are really fine, cylindrical tubes, bearing spores on their sides.

POLY'PTERTIS. (From polys, many, and pteris, a feather-like musc, similar to the numerous small, feathery scales of the pappus. Nat. ord. Composite. Allied to Palafoxia and sometimes joined with it.) Half-hardy, perennial herbs, that may be reared from seeds in a gentle heat, and planted out in May like half-hardy annuals or sown in the open in April. Well-drained soil.

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P. villosa (shaggy) of Rolfe. 4. Pale green. Zambesi. 1895.

POLYSTICHUM. (From polus, many, and stichos, a row; numerous rows of space-cases. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogramma, t-Filices. A section of Aspidium.)

Stove, greenhouse, and hardy, yellow-spored Ferns. See Ferns.


P. acuminatum (large-headed). Fronds tasselled at the apex. N. Amer. 1882.

P. acutum (Europe). British. Hardy.

P. acutum (large-headed). Fronds tasselled at the apex.


P. acutilobatum (large-headed). Fronds tasselled at the apex.

P. Ma+a (Miss May's). 1. Devon. 1851.

P. praecox (fertile, proliferous). Fronds bearing two rows of young plants.


P. bracteatum (plant). Pinnae deeply cut. India. 1879.

P. braunii (Braun's). Europe. Hardy.

P. capeianum (Cape). June. Cape of Good Hope. 1823.

P. concolor (concave). See P. LASERPITIIFOLIUM.


P. corticacum (leafy). See P. CAPPENS.

P. cretaceum (Colombia. Stove.


P. drepánum (sickle-fronded). See POLYPODIUM DREPÁNUM.

P. falcinellum (small-sickle). May. W. Ind.


P. leónum (plant). See P. AURICULATUM LENTUM.


P. platyphyllum (broad-leaved). See POLYPODIUM PLATYPHYLLUM.


P. purpensa (stinging). May. Cape of Good Hope. 1823.

P. rhombodócon (diamond-leaved). April. E. Ind. 1851.


and sides. Puddling is necessary in almost all instances, and the mode of proceeding is thus detailed by Mr. Marnock, in the "Of Puddling," that when the excavation is formed, or partially so, the bottom puddle near the outer edge is formed, and upon this is raised the upright or side puddle; and as this proceeds, the ordinary clay or earth is raised at the same time, by which means the puddle is retained in its place; and ultimately the sides, being formed in a sloping direction, admit of being covered with gravel or sand, and may be walked upon, or stakes may be driven to a considerable depth. The right side of the puddle, or in any way injuring it. This can never be the case if the puddle, as is sometimes done, be laid upon the sloping side of the pond. The sides may slope rapidly, or the reverse; the slope being considerable, sand or gravel, to give a clean appearance, will be more likely to be retained upon the facing; plants can be more easily fixed and cultivated; goldfish, also, find in these shallow, gravelly, and sandy places, suitable places to deposit their spawn, and without this they are seldom found to breed. Ponds made in this way may be of any convenient size, from a couple of yards upwards to as many acres 184 144 estates. When a small pond of this kind is to be made, and the extent of the surface is determined upon and marked out, it will then be necessary to form a second or outer mark, indicating the space required for the wall or side puddle. When the 3 feet is raised, the side puddle is laid, and upon the 2 feet requiring about 2 feet, and the facing which requires to be laid upon the puddle ought to be about a foot more, making together 3 feet. Ponds may be made very ornamental.

**PO'NERA.** (From monos, wrenched; in allusion to the unattractive character of some of the species. Nat. ord. Orchestidae.)

Stove epiphytial orchids. Division at the commencement of growth. Fibre of peat, splasnum, and corks in pots or pans.


" jucifolia (rush-leaved). Mexico.


" polypetala (lilac). Laid, but poorly lined with purple; lip whitish, streaked with purple. 1880.

" proli'sfera (prodigious). W. Ind.


**PONGA MIA** (Pongam, its Malabar name. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17- Diadaphia, 4-Decandria. Allied to Dalbergia.)

Stove evergreen shrubs and climbers, all but one white-flowered, and from the East Indies. For culture, see Dalbergia.

P. glabra (smooth-leaved). 5. 1699.

" grandiflora (large-flowered). 6. 1818.

" margina (bordered). See Kerr's. 1838.

" Pisistratia (Pisistrata). India. 1818.

" silvatica (Silva). See Rix's. 1838.

**PONTEDE'RIA.** (Named after J. Pondera, professor of botany at Padua. Nat. ord. Pondaderiads [Ponterdaeae]). Linn. 6-Hexandra, 1-Monogynia.)

Blue-flowered aquatics. Divisions of the roots; rich, strong, loamy soil, in a tub of water or an aquarium.

**HARDY AQUATICS.**

P. angustifolia (narrow-leaved). See P. cordata ANGUSTIFOLIA. 1800.


" Water Plantain of Jamaica."


" lanceo'la (spear-head). See P. cordata ANGUSTI-FOLIA. 1838.

" monteiv'dnis (Montevidade). 2. Blue. Closely related to, or of a form of P. cordata. 1859.

**STOVE AQUATICS.**

P. as'wrea (sky-blue). See Ichiorneoa AZUREA. 1838.

" cra'sispes (thick-leaf-stalked). See Ichiorneoa SPESICA. 1838.

" dilata'la (spreading). See Monochoria HASTEFOLIA. 1838.

**PO'PETHE'YA.** (Commemorative of M. de Ponthieu.) Nat. ord. Orchidaceae.)

The epiphytical orchids of considerable beauty. Fibrous loam, peat, and sand.


January. W. Ind. 1800.


**PON'TIA or PEFERIS.** A genus of butterflies, of which the following one is most obnoxious to the gardener: P. brassicae (Large White Cabbage Butterfly). The wings are white; the upper with broad black tips; and the female has two black spots on the middle. The under side of the under wings is light yellow. Breadth, when expanded, 2 inches. It appears from May to October, feeding on the leaves of black mustard, and sprinkled with black dots, having a yellow stripe on the back, and the same on the sides. These caterpillars are found, throughout the summer and autumn, on all the cabbage-worts, on horse-radish, radish, mustard, and similar plants, as well as on water-creases. The pupae are yellowish-green, with black dots, with a point on the head, and five on the back. The best way to destroy them is picking off and killing the caterpillars when young; if it is possible; the latter are found attached to adjacent trees, hedges, and walls. But care must be taken not to destroy those pupae which have a brown appearance; because they are the larvæ of Ichneumons, and other allied parasites, which are the great scourge of these caterpillars.

P. rapa (Small Cabbage Butterfly). This butterfly resembles the foregoing, but is smaller; and the black tinge at the base and points of the upper wings is fainter, and not visible on the outer edge. The time of appearance is the same as of the former. The caterpillar is of a dull green, with fine white minute hairs, a yellow stripe on the back, and yellow spots on the sides, on a pale ground. In some years it is very injurious to the cabbage and turnip plants; it also infests mignonette, which it strips entirely of its leaves. It is very difficult to be discovered, from its colour. The pupa is yellowish or greenish-grey, with three yellow stripes,—Kollar.

**POPLAR.** Populius.

**POPPY.** Papav'ra.

**POPPY, CALI'ORNIAN.** Platystye mon. californicus and Romneya Couleri.

**POPPY, CORN.** Papa'vor Rhei'as.

**POPPY CALL FLY.** A'ulis rash'ys.

**POPPY, HORNED.** Glauc'eum fa'tum.

**POPPY, MALLOW.** Call'idrot.

**POPPY, OP'TIM.** Papa'or sonnis'ferum.

**POPLUS.** Populus. (From arbor-poppuli of the Romans, or the tree of the public; the Turin poplar much planted in their cities. Nat. ord. Willowwoods [Salicaceae]. Linn. 22-Dioecia, 7-Octandria.)

Hardy, nutritious trees. Seeds, which should be sown in moist soil, slightly covered, but shaded as soon as the seeds drop from the trees; by cuttings of the ripened shoots; also by layers and suckers; a deep, moist, loamy soil suits them the best; but they grow well in very dry place, or in places where there is stagnant water.

P. a'hra (white. Able-tree). 40-100. March. Europe (Britain), &c.

" ti'lis au reis vari'ge de lis (golden-variegated-leaved).

" Leaves blotched with yellow.

" glo'bo'sa (globeosa).

" macrophy'lia (large-leaved). Leaves larger.


" Pica'ris (Picart's). See P. alb'a MACROPHYLLA.


" Raphina'la (Carina). See P. monilifera. 1882.

" angusti'flora (narrow-leaved). N. Amer.

" balsam'fera (balsamic). 70. April. N. Amer. 1792. "Balsam Poplar."

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P. elongata (elongated). [Plantieran].

30-70. April. P. elongated-

P. foetida variegata (variegated-leaved). [Plantieran].

40. April. P. foetida variegata.


P. foetida variegata (variegated-leaved). [Plantieran].

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P. foetida variegata (variegated-leaved). [Plantieran].

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P. foetida variegata (variegated-leaved). [Plantieran].

40. April. P. foetida variegata.
PORTEA (Commemorative of Marius Porie, who discovered \( P. \) hemesina. Nat. ord. Bromeliaceae.)

Stove evergreen herbs. Suckers. Fibrous loam, fibrous or lumpy peat, some nodules of charcoal, and sand.

\[ P. \) hemesina (carmine), 1. Bright; bractea rosea. Trop. Amer. 1870. \]

\[ \) lagelliana (Legrellian), 2. Bright red; petals reddish-purple. Brazil, 1895. \]

\[ \) lilliacea (Tillandis-like), 1. Red. Trop. Amer. 1880. \]


Hardy perennial herb with much divided leaves, and woody, brown, divided, ordinary soil.

\[ \) australis (southern). See \( E. \) leodeundra \( A. \)ustralis. Yellowish-white. Dalmatia. 1888. \]

PORTLTA (Named after the Duchess of Portland. Nat. ord. Rubiadae [Rubiaceae]. Linn. 5-Fennantia, 1-Monogynia.)

Stove evergreen shrubs. Cutting of rather firm plant in sand, under a bell-glass, and in a brisk, sweet, bottom heat; sandy loam, peat, and a little leaf-mould. Winter temp., 4° to 6°; summer, 6° to 9°.

\[ \) octavus (scarlet), 5. Scarlet. Jamaica. 1822. \]

\[ \) fragrans (large-flowered), 12. White. W. Ind. 1775. \]

\[ \) hexa (hexa-anthered), 4. See COUTAREA SPECIOSA. \]

\[ \) Maia (flat-flowered), 1. White. July. Trop. Amer. 1840. \]

PORTUGAL LAUREL (Pru'rus lusi'ta nic).

PORTUGAL QUINCE (Cydia varia 'lusia' nic).

PORTULCA (From porto, to carry, and lac, milk; milky juice. Nat. ord. Purslanes [Portulacaceae]. Linn. 11-Dodecanadia, 1-Monogynia. Allied to Talinum.)

Hardy annuals, by seeds in the open border, at the end of April. Tender annuals, by seed in hotbed, in spring. Suckers from the flowering plant in the greenhouse, as they require a very sheltered, sunny spot to do much good in the open air; tuberosous and shrubby greenhouse kinds, by cuttings and division of the roots; rich, sandy loam and peat, the loam being enriched with old leaf-mould or cow-dung.

GREENHOUSE TUBEROUS EVERGREENS.

\[ \) Gillie'sii (Gillies'), 4. Red, pink. Chili. 1827. \]

\[ \) grandiflora (large-flowered), 1. Yellow, yellow. June. Brazil. 1837. \]

\[ \) 'Sun Plant.', \]

\[ \) lavandula (yellow), Yellow. June to August. Chili. 1827. \]

\[ \) Regelia (Regel's), Pink, with dark eye. Chili. 1884. \]

\[ \) peruviana (Peruvian), 2. Purple. May. Peru. 1892. \]

\[ \) sopica (Somaliand), 4. Yellow. Somaliand. 1886. \]

\[ \) splendens (shining), Crimson, purple. May. Chili. 1839. \]

\[ \) sulphurica (subshrubby), 4. Pink. June. India. 1850. \]

\[ \) Thalassia (Thallussin), 1. Scarlet. July. S. Europe. 1839. \]

\[ \) 'Tea' (yellow), 1. Yellow. June. 1847. \]

\[ \) spicandrus (shining), 1. Reddish-purple. June. \]

GREENHOUSE ANNUALS.

\[ \) halimoides (Halimius-like), 4. Yellow. June. W. Ind. 1823. \]

\[ \) meridiana (noonday), See P. quadrifida. \]

\[ \) various (pot-herb), 4. Yellow. June to August. \]

\[ \) vegetabilis (vegetabili'se), 1. 'Common Purslane.' Hardy. \]

\[ \) aurea (golden), 1. Deep yellow. June to August. S. Amer. 1652. \]

\[ \) flavida (yellow), 1. Yellow. June. 1847. \]

\[ \) flavida (small-leaved), 4. Yellow. June. Jamaica. 1799. \]

\[ \) flavida (large-leaved), See P. OLEACEAE PARVIFOLIA. \]

\[ \) fulva (shaggy), 4. Pink. June. N. and S. Amer. 1850. \]

\[ \) fusca (weak), 4. Yellow. June. Venezuela. 1824. \]

\[ \) quadridi'a (four-cleft), 4. Yellow. May to August. Tropics of World. 1773. \]

\[ \) sativa (cultivated), See P. OLEACEA. \]

HALF-HARDY ANNUALS.

\[ \) foliosa (leafy), 4. Yellow. June. Trop. Africa. 1822. \]

\[ \) guineensis (Guinea), 4. Yellow. June. Guinea. 1823. \]

\[ \) involucrata (involucrated), See P. SUFFRUTICOSA. \]

\[ \) mucronata (sharp-pointed), 4. Yellow. June. Brazil. 1822. \]

\[ \) racemos (racemose). See TALINUM TRIGOLARE. \]

POSQUEZIA (Possqueri, the Guiana name of longiflora. Nat. ord. Rubiadae [Rubiaceae]. Linn. 5-Fennantia, 1-Monogynia. Allied to Gardenia.)

Stove evergreen shrubs. Cutting of young shoots in sand, under a bell-glass, and in heat, in April or May; sandy loam, leaf-mould, and a little peat. Winter temp., 48° to 60°; summer, 60° to 85°.

\[ \) dune (thickened). See RANDIA DUMETORUM. \]

\[ \) formosa (beautiful), 12-20. July. Venezuela. 1815. \]

\[ \) fragrans (fragrant). See RANDIA MALABARICA. \]

\[ \) fragrans (most-fragrant), Brazil. 1870. \]

\[ \) graciolus (slender), 5. Guiana. 1824. \]

\[ \) latifolia (broad-leaved), 5. September. Trop. Amer. 1826. \]

\[ \) longiflora (large-flowered), 5. Guiana. 1824. \]

\[ \) macrophylla (large-leaved). See P. LITIFOLIA. \]

\[ \) macrocarpa (large-footed), Brazil. 1866. Fragrant. \]

\[ \) macrocarpa (many-flowered). See P. LITIFOLIA. \]

\[ \) speciosa (showy), Trop. Amer. \]

\[ \) versicolor (changeable-coloured). Pink-white to crimson. September. Cuba. 1893. Fragrant. \]

POTATO (Sola'snum tubero'sum).

Soil.—A dry, friable, fresh, and moderately rich soil is the most suitable for the growth of the potato. The black-soil and reared ground thrive better than any other in moist, strong, cold soils. If manure is absolutely necessary, whatever may be the one employed, it is better spread regularly over the surface previous to digging than put into the holes with the sets, or spread in the trench when they are so planted; but, if possible, avoid manuring. Leaf-mould, or very decayed stable-dung, is the best of all manures; sea-weed is a very beneficial addition to the soil; and so is salt. Coal-salt and sand-sand are applied with great benefit to retentive soils. The situation must always be open.

Propagation.—It is propagated in general by the tubers, though the shoots arising from these, and layers of the stalks, may be employed. New varieties are raised from seed.

Planting in the open ground is best done in October and November, but the time may be extended to the end of March. This last month is the latest in which any considerable plantation should be made. They will succeed if planted in May, or even June; yet it ought always to be kept in mind that the earliest planted, especially in dry soils, produce the finest, healthiest, and most abundant crops. It is convenient to plant early potatoes, even those that are sprouted for early crops, in April, on account of the danger from late frosts. In their case, the tops of the plants may be ploughed into the ground the second and third week of May. In some parts of Ireland heavy crops may be obtained by planting at the end of June, as a succession to some other earlier crop.

Sets.—The next point for consideration is the preparation of the sets. Some gardeners recommend the largest potatoes to be planted whole; others, that they be sliced, placing two or three slices, on a third set, to cut the large tubers directly in half; a fourth, the employment of the shoots only, which are thrown out if potatoes are kept in a warm, damp situation; and a fifth, the use of the eyes. The gardener who employs the eyes, cuts the stalk, or 6 inches in length, or rooted suckers, will be productive if planted, during showery weather, in May or June; and during this last month, or early in July, the eyes may be propagated late by which are formed by peeling down the young stalks when about 12 inches long, they being covered 3 inches thick.
with mould at a joint. For the main crops, moderate-size seedlings should be used.

To obtain early crops where tubers are rapidly forged, large sets must be employed. In these one or two eyes at most should be allowed to remain. If the sets are placed with their heads downwards, few and very small eyes will be produced; but, if the position is reversed, many weak and later shoots will arise, and not only the earliness but the quality of the produce be depreciated. For the larger crops, which give rise to fine shoots and prolong the forward vegetation of the sets.

These should be prepared by removing every eye but one or two; and being placed in a layer in a warm room, where air and light can be freely admitted, with a soil made of three parts of loam and one of peat, which must be strengthened by exposure to the air and light as much as possible, by taking off the cover without injuring them. During cold weather, and at night, it is best, if possible, to have the sun shining on the sets, and the more readily does superfluous moisture escape.

The compartment may be laid out level and undivided if the soil is light; but if heavy soil is necessarily employed, it is best disposed of in small squares, the ridges being good throughout, the alleys may be 2 feet wide, and dug deep, otherwise they must be made broader, and only one spit taken out, the earth removed being employed to raise the beds, which should be formed, parallel ridges, and the sets inserted along their summits.

Hoeing.—As soon as the plants are well to be distinguished, they should be perfectly freed from weeds, and until they are, should be frequently dug. The stems should be kept perfectly clear of weeds.

It is very injurious to mow off the tops of the plants. The foliage ought to be kept as unimpaired as possible, unless it is absolutely necessary, for the stems are of gigantic luxuriance, and even then the stems should be only moderately shortened. It is, however, of considerable advantage to remove the fruit-stalks and immature tubers in July, as to form a cup as a shelter from the cold winds, which are their chief enemy at that season; but the main crops should not be earthed up, for earth ing up diminishes the growth of the crop one-fourth. Throughout their growth they should be kept perfectly clear of weeds.

The earliest crops will be in production in June, or, perhaps, towards the end of May, and may thence be taken up as wanted until October, at the close of which month, or during November, they may be entirely dug up and stored. In storing, the best mode is to place them in layers, alternately with dry cobsashes, earth, or sand, in a shed. The best instrument with which they can be dug up is a three-flint-pronged fork, each row being cleared regularly away. In modern times, the spade is much resorted to, because easier to work, and not so destructive to the tubers, when accidentally pierced by the more slender prongs.

To raise Varieties.—A variety of the potato is generally considered to contain about fourteen years in perfection, after which period it gradually loses its good qualities, becomes more tender and less productive, and the effective fresh varieties must, therefore, be occasionally raised from seed. The berries, or apples, of the old stock, having hung in a warm room throughout the winter, the seed must be obtained from them by washing away the pulp during February. The seed is then thoroughly dried and kept until April, when it is sown in drills about 1 inch deep, and 1 inch apart. The plants are weeded, and earth drawn up to their stems, when an inch in height; and as soon as the height has increased to 3 inches, they are moved into a similar soil, in rows 16 inches apart. When finally taken up in the course of October, they must be preserved until the following spring, to be then replanted and treated as for store crops.

The tubers, when being separated, as scarcely two will be of a similar habit and quality, whilst many will be comparatively worthless, but few of particular excellence. If the seed is obtained from a red potato that flowered in the neighbourhood of a white-tuber, and from which tubers there is no possibility of producing a plant of a different colour, the red plant will in part resemble both their parents; but seldom or never does a seedling resemble exactly the original stock. At all events, only such should be preserved as are recommended by their superior earliness, size, flavour, or fertility.

The early varieties, if planted on little heaps of earth, with a stake in the middle, and when the plants are about 4 inches high, being secured to the stakes with shreds and nails, and the earth washed away from the bases of the stems by means of a strong current of water, so that the fibrous roots only enter the soil, will blossom and ripen in about 45 days.

Forcing.—The season of forcing is from the close of February to the middle of March, in a hotbed, and at the close of this last month on a warm border, with the temperature of the bed in the region of 60°. The tubers must be required to produce a moderate heat. The earth should be 6 inches deep, and the sets planted in rows 6 or 8 inches apart, as the tubers are not required to be large. The temperature ought never to sink below 65°, nor rise above 80°.

The rank steam arising from fermenting dung is undoubtedly injurious to the roots of potatoes; and to obviate this they may be planted in narrow beds, and the dunghill be placed close by, and occasionally wetted, earth from an old cucumber or other hotbed being removed, and an inch in depth of fresh being added, put on the sets, and cover them with 4 inches of mould. At the end of about 8 days, the sides of the old dung must be cut away in an inward slanting direction, about 15 inches from the perpendicular, and strong linings of hot dung applied.

If the tubers are desired to be brought to maturity as speedily as possible, instead of being planted in the earth of the bed, each set should be placed in a pot about 6 inches in diameter, though the produce in pots is smaller than in the ground. It is best to plant in December for forcing, by the following plan, without forcing:—Plant some late kinds, unsprouted, in a dry, rich border, in July, and again in August, in rows 2 feet apart. They will produce new shoots in a little more than a month, and are ready to be forced up in a hotbed and covered with leaves or straw to exclude frost. If old potatoes are placed in dry earth, in a shed during August, they will emit young tubers in December.

Preparation of Sets for Forcing.—They should be of the early varieties. To assist their forward vegetation, plant a single potato in each of the pots intended for forcing during January. Then place in the ground, and protect with litter from the frost. This renders them very excitable by heat; and, consequently, when plunged in a hotbed, they vegetate rapidly and generate tubers.

The seed potatoes are equally assisted, and with less trouble, if placed in a cellar just in contact with each other; and when the sides of the potatoes are 4 inches long, they are removed to the hotbed.

Management.—More than one stem should never be allowed, otherwise the tubers are small, and not more flavourful.

Water must be given whenever the soil appears dry, and in quantity proportionate to the temperature of the air. Linings must be applied as the temperature decreases, and in proportion to the temperature of the atmosphere will allow. Coverings must be afforded with the same regard to temperature.

From six to seven weeks usually elapse between the time of planting and the fitness of the tubers for use.

POTATO DISEASE or POTATO MURRAIN. Phytophthora infestans. This disease first attacked, very gene-
rally, the crop of England late in the summer of 1845. July and August were unusually wet and cold, and early in August there were sharp morning frosts. Immediately after, the stems began to decay; but the weather continued wet, and many of the stems died before they had ripened. The tubers in the soil beneath the surface of the soil. From being first introduced to public notice in Scotland by Captain Bums, of Edinburgh, it is there also known as the Burn Onion. The most successful remedy is to spray the foliage with Bordeaux mixture on the first appearance of the disease and again about fourteen days later, to destroy the spores and prevent their germination on healthy foliage.

Aufierum Solani is considered by some authorities (particularly the German botanists, Reineck and Berthold) to be the cause of Dry Rot in Potatoes. The same botanists regard Bacterium navicula and Bacillius amylo bacter to be the cause of Wet Rot in the tubers.

POTATO. or UNDERGROUND ONION. (Allium Cepa proclusorum.) Produces a cluster of bulbs or offsets, in number from two to twelve, and even more dry when mature, beneath the surface of the soil. In a medium-sized tuber, two or three, of which bears bulbs on the summit of its stems, like the Tree Onion, and the other never throwing up flower-stems at all. One variety is much larger than the other, and this vegetates again as soon as ripe. Both varieties are best propagated by offsets of the root of moderate size, for if those are employed which the one variety produces on the summit of its stems, they seldom do more than increase in size the first year, but are prolific the next: this also occurs if very small offsets of the root are employed.

Planting.—They may be planted during October or November, or as early in the spring as the season will allow, but not later than April. In the west of England, assisted by their generally milder climate, they plant on the shortest, and take up on the longest day. They are either to be inserted in drills, or by a blunt dibble, 4 inches apart each way, not buried entirely, but the top of the offset just level with the surface of the soil, and planted with the shortest end up, so that the planting should be made near the edge of the Arundel Castle, merely places the sets on the surface, covering them with leaf-mould, rotten dung, or other light compost. The beds they are grown in are better, not more than 4 feet wide, for the convenience of cultivation.

The practice of earthing over them, when the stems have grown up, is unnatural; and by so doing the bulbs are blanched, and prevent ripening properly, on which account, their keeping so much depends. So far from following this plan, Mr. Wedgewood, of Betley, recommends the earth always to be cleared away down to the ring from whence the fibres spring, as soon as the leaves have attained their full size (Alchemilla-like), 1. White. July. August. Pyrenees. alpe'stri's (mountain). 1. Orange. July. Europe (Britain).

POTENTILLA. Cinquefoil. (From potens, powerful; supposed medicinal quality. Nat. ord. Rosaceae. Rosaceae. [Rosaces?]. Hardy herbaceous perennials. P. cadi'cans requires protection in the winter; seeds and division of the plant in spring; shrubs, by cuttings of ripe wood in the autumn, or by cuttings in summer, under a hand-light. All yellow-flowered, except where otherwise mentioned. P. ad'scendens (ascending). See P. inclina'ta.

1827.
1827.
,, a'trosan'gu'nea (dark-blood-red). See P. RIFURCA.
,, a'gro-san'gu'nea (dark-bloody). See P. ARYROPHYLLA
,, b'i color (two-coloured). See P. NEFALENSIS.
P. bifurca (two-forked). See P. bifurca.

"Boco'ni" (Bocconii). See P. apennina.

Bre'nia (Brenniana). Tyroli. Natural hybrid.

bala'bala (Calabrian). See P. argentea calabara.

calyc'ea (large-calyx). See P. libanotica.


cal'ceus (lying-down). See P. argyrophylla.


1759.


Siberia. 1827.

fin rea (grey). Europe.


Co'marum (Comarum). See P. palustre.


conf re ta (crowded-flowered). See P. penne'sylvanica.


cro' (saffron). See P. alpe'stri.


Siberia. 1824.


dich'na (Dichtlian). July. Europe.

difu'sa (spreading). See P. norvegica.


Ege di (Eged's). See P. Anserina.

er'rica (woolly-furited). Himalaya.

Fren'z (Frenzii). Asia Minor.

ferrug rea (rusty). See P. arctica.


Friedrich'ni (Friedrichsen's). See P. alpina.


form'osa (beautiful). See P. เป็นป่า.

fragr'a (strawberry). See P. fragariastreum.


Europe (Britain).

frap'sfris (strawberry-formed). See P. gelida.

friedr'ichs'ni (Friedrichschen's). Hybrid between P. fruticosa and P. dawa'rica. 1867. Shrub.

Ir's ida (irizid). Europe and N. Amer.


dal'bis (Daburian). See P. daw'rica.


ten'is lobla (narrow-lobed). 14. August. N.

1813.


garpe'pset (Garpe's?). See P. supina.

g'e'a (icy-cold). 1. June. Europe and Northern Asia. 1800.

gla'bra (smooth). See P. fruticosa glabra.

p'efal'sa (pefalsa). See P. fruticosa pefalsa.


Gord'i's (Gordon's). N. Amer.

gra'vul'is (Gravul's). J.N. W. Amer. 1826.


Griff t hit (Griffith's). Himalaya.

Eucol's (Gurcheh's). See P. Colina.

ham to chrus (blood-red-flowered). White. Summer. Mexico.

heptaphylla (seven-leaved). Europe; Orient.


hiru'ta (hairly). See P. norvegica.

hi'ta (hairly). 1. June to September. S. Europe, &c.


ins'ginis (showy). See P. argyrophylla.

inter'm'edia (intermediate). See P. heptaphylla.

jacquemont'ja (Jacquemontian). See P. argyro-

hutscha'ya (Kotschyan). Kurdistan.

hur'dica (Kurdic). Kurdistan.

lacinio (deep-cut). See P. recta laciniosa.


Caucasus. 1824. Shrub.

leschenaul'ia (Leschenaultian). India.

leuco'ho (white-coloured). See Lindley, S. M. Vili-

leu'comia (water-white). Himalaya.

li'bona (Lebanon). Syria.

line'ar lobla (narrow-lobed). See P. cannandis.

Loddie'sii (Loddiges'). See P. inclinata.

luft'eni des (hupin-like). See P. nivalis.

macr'niha (large-flowered). See P. nivea.

macula (blotched). See P. alpe'stri.


Oriental regions


miss'ona (Missouri). See P. pennsylvanica.

molil's (soft). Servia.


monspel'ius (Montpellier). See P. norvegica.

montemeg'ri (Montemegron). Montenegro.

mo'nia (Mo'nia). Himalaya; Ceylon.


nemor'is (grove). See P. flagellaris.

nep'al' (hail). See P. cuneifera.


mo'ser (Mexico). See P. pennsylvanica.

na'na (dwarf). See P. nivalis minor.


noead'is (Nevadan). Spain.


1816.

a'ton'ba (dark-red). Deep red.


August. Pyrenees. 1739.

nias' (snowy) of Torrey. See G. Rossii.


ochrea la (ochreous). See P. fruticosa.

opa'ca (opaque). See P. verna.

ore'ga (Oregon). See P. pennsylvanica.


pech'ta (comb-leaved). See P. pennsylvanica.

ped'a (doubly-leaved). See P. ritha pedata.

peda'mis (rare). See P. comulata.


arachnoi'des (spider-web). See P. arachnoi'des.

arachno'is (clawed). P. arguta.

pigma' a (pigmy). See P. rufesbris pig'ma.


1758.

procumb'ens (procumbent) of Clairv. See P. siebaldi.

procumb'ens (procumbent) of Sibthorp. 1. May to September. Europe (Britain).

pulch'erta (very fair). See P. pipera.


mor'na (large-flowered). Flowers larger,

palm'a (hand-shaped). Leaves five-lobed,

re'panis (creeping). 1. May. Europe (Britain).


" retusa (retuse). See P. Tridentata.


" villosa (river-bank). N. Amer.

" millegra'na (thousand-seeded).


" evansiana (Blushing). See P. BILLII.


"uthica (Russian). See P. NORTWIGICA.

" albo-maculata (Pots). See P. ALPERSIS.

" solenoptera (Saxifraga-like). Europe.

".Act. See P. CANADENSIS.


" tenuis (nearly-stemless) of Jaccquin. See P. CINEREA.

" subacaulis (nearly-stemless) of Scop. See P. WITIDA.

" subacaulis (nearly-stemless) of Linnaeus. N. Asia.


" sylvestris (Saxifraga). See P. TOWNSENDI.

" tanacetifolia (tansy-leaved). Siberia.

" Thyme (Thyme's). See P. DETOMMA.

" Thurb'eri (Thurber's). 1-2. N. Amer.

" Tongue'i (Tongue's). Garden origin.

" Tormentilla (Tormentilla). 1-1. Europe (Britain).


" n. Amer. 1774.

" swalesii (nearly-stemless). See P. REC
ta.

" tyrole'is (Tyrolese). Europe.


" unguicula (clawed). See P. GELIDA.

" valde'ria (Valderian). 4. Northern Italy.


" velutina (velvet). See P. PEDUNCULARIS.


" versicolor (whorled-leaved). See P. MULTIFIDA.


" violacea'na (Wallichian). See P. AGRYPHYLLA.

" Weinmannii (Weinmann's). See P. COLLINA.

" wrangeliana (Wrangelian). Siberia.

POTERIUM. (From poterion, a drinking-cup; the leaves having been used at one time for making a medicinal drink.) Nat. ord. Rosaceae.


" S. Europe; Syria. 1595. Hardy shrub.


" Thymus (Thymus). See P. CANADENSIS.


POT-HERB MOTH. Mamestra.

POT-HERBS. See HERBARY.

POTHOS. (The Cingalese name for one species. Nat. ord. Arads [Araceae]. Linn. 4-Tetrandria, 1-Monogynia. Allied to Anthurium.)

The following are stowe epiphytes; but there are many more growing in the evergreen trailers, not worth notice. Dividing the roots in spring; fibrous root, fibrous loam, rotten wood, and charcoal. Winter temp., 55° to 60°; summer, 60° to 90°.

P. acu'lius (stemless) of Jaccquin. See Anthurium.

" angustus' (narrow). See Anthurium ANGUSTATUM.


" argyra'us (silver). See Scandapsus PICTUS.


" cassus' (thick-nerved) of Hooker. See Anthurium.

" cissus' (thick-nerved) of Jaccquin. See An-

thurium CASSISERIUM.

" elongatus (elongated). Leaves long, leathery, greyish green. 1885. Climber.


" flexus' (flexuous). Leaves pale green, close-set over the flat stems. India. 1834. Climber.

" gracilis' (large-flowered). See Anthurium GRANDIFOLIUM.

" grandifo'lius (large-leaved). See Anthurium GRANDI-

FOLIUM.

" Louise'i (Louise's). Philippines and China.

" macrophyllus (large-leaved) of Swartz. See An-

thurium MACROPHYLLUM.

" macrophy'rus (large-leaved) of Willdenow. See Anthurium GRANDIFOLIUM.

" ni'grica (blackening). Leaves glossy blackish-

green.

" nii'ens (shining). Leaves glossy, brown purplish-green. Malaya. 1887.

" ovatus (egg-shaped). See ORONTIUM AQUATICUM.

" rupestris' (red-nerved). See Anthurium RUPE-

STRYUM.

" scar'is (climbing). May. India. 1821. Climber.


POTHUA VA NUDICALUIS. See ECHMEA NUDI-

CALUIS.

POT-MARIGOLD. Calendula officinalis'is.
or shifting is another. Therefore, in both cases, we apply an extra stimulus for a short time immediately after, by keeping the plants closer and warmer.

State of the Soil.—It should neither be dry nor wet. If very wet, put the plant in a pot; the water, if it passes freely at all, will find chinks and crannies for itself, and it will be long before the general mass becomes sufficiently moist to support a healthy vegetation. On the other hand, if it will stand still, this will not be able to pack too close; frequent waterings are apt to puddle it; the very closeness, even when the drainage is all right, prevents the air from penetrating. To know the proper degree of wetness, keep a piece of wood or other one in the pot, and when it holds together slightly, it will do; if it forms a compact mass, so that it might be laid on the potting-board without any risk of tumbling to pieces, it is too wet. It is a piece of flint, and should be in a uniform state of moisture; for instance, we want some soft stuff to place over the drainage, that may be drier. The soil is rather fine; and to improve its mechanical texture we insert little nodules of fibrous loam or peat, little or big, in proportion to the size of the pot, and the smallness and largeness of the shift given. These nodules, if not too numerous, may be dried. So in the ease of a manure, which we may wish to act better, and to give it out its nourishment not at once, but for a long period. It should be old; but it should be hard and dried. When rapid action from manure is required, it should be finely divided, and well mixed with the soil, or used largely as a mulching or top-dressing.

The Soil should be Rough and Open.—Exceptions there are, such as a covering for small seeds, which must be fine; and that which we wish to dry with the other cases. If a dressing of sand or other fine material were exposed, it would hold together, and make a square of glass put over the pot, it will answer better than the finest sifted soil. We would not use a sieve at all, or use, a mechanical agent, and to give out its nourishment not at once, but for a long period. It should be old; but it should be hard and dried. When rapid action from manure is required, it should be finely divided, and well mixed with the soil, or used largely as a mulching or top-dressing.

Securing and Preparing suitable Soil.—Heath-soil, so necessary for hair-like rooted plants, can only be procured from gardens where several species of the genus Calluna, Loam of almost every quality can be procured by taking the surface turf from pasture and the sides of roads, and building it in narrow ridges when dry, and using it after it has been exposed for six or twelve months. Failing these sources, for all plants not requiring peat earth, suitable soil may be obtained from the sides of highways, and by skimming off the flaky material from the tops of ridges that have been built up for some time in the kitchen-garden. In using the latter, however, you must, in general, be content with small shifts, as you will not be able to get the soil rough enough for large ones. The plants, however, will be served a great deal better, as they will be exposed off quite thin, dry them over a furnace, or, what is better, char the grasy sides by putting them on an old spade or other iron, and then place them over a fire; allow the soil to be exposed for a few days to sweeten; and, when it has been exposed as little as possible, it is useful for placing over the drainage, but also for mixing with hay, but chiefly fine soil to keep it open. Where rough soil is wanted for large shifts, it is best to pile the turf, when dry, in narrow stacks, through which the air may circulate, and yet the wet be excluded. In using such a heap, after the time specified, there is little occasion to turn it frequently afterwards, which would be of some use if the pieces were not to be exposed; for we must not forget that every turning we give, while it renders the soil more aerated and sweet, renders it also more fine and dense, from the decomposition of its fibre. Charcoal, owing to its lightness, not to speak of its chemical properties, is the best assistant for rendering the soil porous; and enough of this may be put into the pot, together with the rest, to fill it. Failing that, however, broken brick, broken pots, and lime-rubbish may be used with advantage, if there is nothing in the peculiar plant to render one or all unsuitable.

Draining.—A plant badly drained will never show fine cultivation. Where worms are likely to intrude, the convex side of the potsherd should be placed over the hole, and the gravel or other earth, both being better than small caps of tin or zinc to cover over the hole completely; and in either case, plenty of drainage placed over them, the materials being smaller as it ascends. For anything regarding the matter of drainage, see the article on Autocultivation, and the drainage in a five-inch pot, and so in proportion. The best covering for the drainage is a sprinkling of green moss, to separate the drainage from the soil; over that some of the rougher materials should be placed, and then some of the finer, on which the base of the ball should rest.

Potting or Shifting.—The pots should be new or thoroughly clean. No man deserves to have a nice plant who would place it in a dirty pot, and rarely will he be rewarded with one. When he attempts to shift again, it serves him right to find that roots and soil alike are so sticking to the sides of the pot, that he must break up every garden by charring the rubbish. If the pot is set down to the bottom of the larger one, the commencing operations, see that the ball of the plant is must from the centre to the circumference. If not, you can never moisten it afterwards without labour, which may as well be saved. If plants are not put into their proper pots until a certain period, upon the successive shift system, never allow the roots to male round the sides of the pot; but reshift as soon as they get there. If the roots should be a little ornamented, gently disentangle them, even though in doing so you get rid of a good quantity of the old soil, and spread these roots out into layers, packing them as you proceed with soil of various depths of fineness. The soil in general should be as high in temperature, or nearly so, as the plant enjoyed previously. Cold soil has injured many a fine plant. We have said nothing of cutting roots, because that chiefly applies to particular times and instances. Generally, when after a period of rest, fresh growth is to be induced.

Immediately-after-treatment.—Whatever system of potting has been adopted, a greater excitement to growth and vigour is produced when the soil is given over to potting, and a largish shift given, little water will be wanted at the root for a time; but that should be several degrees warmer than usual; and frequent syringing should be given. Drought should be accompanied with shading, if necessary. If a small shift was given, water will be wanted more freely at the root; and here, as well as in the other case, a higher temperature should for a time be maintained, until fresh growth has freely commenced, when air and exposure may be more freely given. See One-shift System.

POTTING-OFF is the term applied to moving into pots, singly, seedlings or cuttings from where they have grown numerously together.

POTLILE. See BASKET.

POURPA (Cynomorium Bois de Poupari, in the Isle of Bourbon, Nat. ord. Terebellacees. Linn. 10-Decandria, 4-Pentagynia. Now referred to Spondias.)

Stove evergreen trees. Cuttings of ripe shoots in sand, under a bell-glass; ear and loam. Winter temp., 55° to 60° and 65° to 85°.

P. borbonica (Bourbon). See Spondias Borsbonica.

P. dulcis (sweet). See Spondias Dulcis.

P. mangiiera (mango-bearing). See Dracantonem Magniferum.

POUROU MA. (The native name. Nat. ord. Urticacees.)

Greenhouse tree with evergreen foliage. Cuttings of ripe wood in sand, with bottom-heat. Fibrous loam peat, and sand.


P. Achupalla" (Achupalla). See Puya BONPLANDIANA.

P. acuminata (A. & C. DC.). See Puya CHILENIS.

P. A'ria (Aria). See Dyckia FRIEDG.

P. Joinvillei" (Joinville's). See RHODOSTACHYS ANDINA.

P. mexicana'na (Mexican). See RHODOSTACHYS ANDINA.

POUTERIA. (A commemorative name. Nat. ord. Sapotaceae.)

A greenhouse evergreen tree. Cuttings of mature wood in sand, in a greenhouse, under a half-light. Fibrous loam, peat, and sand.


PRAIRIE CLOVER. P. patens'amon.

PRAE'PHYLLUM. (From prason, a leek, and phyllon, a leaf; in allusion to the resemblance of the leaves to those of a leek. Nat. ord. Orchidaceae.)

Trypsine (large, tendering greenhouse protection. Imported roots. Fibrous loam, peat, and sand.

P. attenuatum (attenuated). Australia. 1882.


P. plumatum (plum-flowered). Australia. 1882.

P. triangulare (triangular). Australia. 1882.

PRA'TIA. (Named after M. Pratt, a French officer. Nat. ord. Campanulaceae [Campanulaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Greenhouse or hardy herbaceous perennials. Seeds in a shallow box in the greenhouse, or in the sand, and divided the plants; cuttings of the young shoots in sandy soil, any time, but best in autumn and spring; sandy loam, and a little peat or leaf-mould; require a greenhouse or cold pit in winter.


New Zealand.


P. corymbosa (corymbed). See Lobelia corymbosa.


P. messematodon (large, tendering greenhouse protection. Imported roots. Fibrous loam, peat, and sand.


New Zealand.


P. corymbosa (corymbed). See Lobelia corymbosa.


P. messematodon (large, tendering greenhouse protection. Imported roots. Fibrous loam, peat, and sand.


New Zealand.


P. corymbosa (corymbed). See Lobelia corymbosa.


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P. messematodon (large, tendering greenhouse protection. Imported roots. Fibrous loam, peat, and sand.


New Zealand.


P. corymbosa (corymbed). See Lobelia corymbosa.

PRIMULA. Primrose. (From primus, the first; early flowering, Nat. ord. Primulaceae.)

Linn. = Primula. 1. Monogyna.

Seeds in April, in light, sandy border; divisions of the plant in March and April, or when the plants have done flowering, or in the autumn. Pre-niless, or sinless, and its varieties, generally seed by a slim in the salthods, in spring or the beginning of autumn, according as the plants are wanted to bloom early in winter or the following spring. The Chinese variety (so useful for nose-gays in winter), by cuttings after flowering, in April or May, and by division or by grafting on small buds; sandy loam and peat, enriched with a little decayed cow-dung, and kept open with small nodules of charcoal. These should seldom be below 40° in winter, and the nearest thing to 45° at night, and 50° and 55° during the day, the better they will bloom.

GREENHOUSE HERBACEOUS.

P. blattario-mix (Blattaria-formed), 1. Lilac.

bowed'na (Bovean). See P. verteillacila.


grandif'o'ra (tall-flowered). Flowers larger.

grandif'o'ra isabell'ina (Isabelleine). 1. Yellow fading to lemon. Winter. 1907.


keew'na (Kew). 1. Bright yellow. Winter. 1900. (P. floribunda x verticillata.)


cor'e'la (Kew). 1-4. Blue. 1907.

fimbria'ra (fringed). Corolla fringed. 1897.

gi'sante'ra (giant). Lilac rose or carneole. 1908.

ro'ea (rosy). Rose. 1897.

Yom'na (China). 1897.


super'ba (superb). Large bright rose. 1906.


u'na (dwarv). 1. Lilac-purple, with white and yellow. Himalaya, 1885.

poculif'o'risms (bowl-formed). See P. Obconica.


balfouria'na (Balfourian). See P. Palibh Bellen-sensis.


sine'nsis. 1. Rose. 1896.

lilac-purple, 1. Yellow. 1823.


"fimbr'is ta' (fringed)." 1. White. June. 1833.


HARDY HERBACEOUS.

P. acaulis (stemless). See P. Vulgars and varieties.


alb'na (alpine). See P. Bletica.


al'ta'sca (Altaian) of Lindley. See P. Vulgars Sir-thorph.

ame'ntha' (amethyst). Reddish-purple or amethyst.

June, China.


"angu'a'dens (narrow-toothed)." Deep clear purple, whorled. Yunnan, China. 1908.

"angu'a'dens (narrow-leaved)." N. Amer.

"anis'sca (aneis.-scented)." Natural hybrid. (P. platior x vulgaris.) 1910.

"apen'sca (Apennine)." Piedmont.

Arcto'tis (Arctotis). White to purple. 1886. (P. Auricula x tissocca.)

ass'la' (similar). Europe.


belle'na niss (Bellunan). See P. Balfhis Bellen-sensis.


carinh'sca (Carlinthian). Carinthia.


plu'pe'a (double-yellow). 1. Yellow. April.

Gardens.

"monac'na (Monaco). Monaco.

"aurluc'ia (small-eared)." 1. Red. April. Asia Minor, 1790.


belle'na niss (Bellunan). See P. Balfhis Bellen-sensis.

"brom' l's (Bernois)." 1. Purple. April. Switzerland.


cadina'la (Cadenia). See P. Grenisens.

calyx'na (coloured-calyx). Reddish-blue in many-flowered umbels. Yunnan, China. 1892.

calyx'na (large-calyx). 1. Pink or purple. June. Lombardy or Italian Tyrol. 1826.

candollea'na (Candollean). See P. integrifolia.


"multiceps (many-headed). Flowers numerous, dairv.

carpis'ca (Carpathian). See P. Elatior Capicarta.

casimiria' (Cashmirian). See P. Denticulata CASHMRIANA.


Churchil'l's (Churchill's). See P. Admontensis.


balfouria'na (Balfourian).

coc'na'ca (scarlet). Deep red.

purp'es'a (purple). Purple.

"gina'la'ra (Auricula). Rose. April. Tyrol, &c.

dentis'a (toothed). See P. Admontensis.


"Tommasi'ni (Tommasin's).
commuta‘ta (crossed). 1897.
1794.
"Siebodi‘a (Sieboldi’s). See P. SIEBOLDI.
"co‘ita (Cottian). Alps of Piedmont.
"Co‘ita (Court’s). VERTICILLATA.
"crena‘ta (notched). See P. MARGINATA.
darya‘na (Darya’s). See P. DARYAN.
CARNIOLICA. Japan. April. Small, crim-
leaved). Himala-
and (Cridalan). April. Pink.
J. See (large-flowered).
Flowers 1777. powdery. Europe.
with orange. April.
HIRSUTA. (two-coloured).
of June, lilac.
(Kaufmannian). Yunnan, gods’), J. P.
May. 1879. White.
April, 1897. See f.
hairy), (white).
various-
f. Kerne’ri rose-purple. J.
Rosy-purple. May.
Britain.
reddish-mauve
hornemannia’na Red.
Violet-purple.
CENE’NSIS. 1905. Flowers i-ij.
Violet.
May, S.
(S. elliptic), $^-1$.
Magellan).
China.
Minor.
AURICULATA. with PUBESCENS
J.
(Halmian).
1906. P. Flowers May.
(P.
Caucasus.
1909.
Blue-purple.
white).
(Dumouh’n’s).
vulgaris.) with
Dark (Fedtschenko’s).
J.
Piedmont.
1880.
(S. Albicola).
(P.
Tyrol.
Purple.
June, Cashmere.
(Powdery).
Rose.
purple.
May.
FARINOSA.
(Gambelian).
Tyrol.
See
yellow.
of May,
Yellow.
PANNONICA.
P.
J.
See (mealy).
Europe.
June.
See
Marginalia’na.
June.
Italy.
white.
Tyrol.
Purple.
(P.
W.
China. 1905.
1^-2.
1^-2.
1^-2.
1^-2.
Deep red.
(Intricate).
Rosy-lilac.
Siebo’ldi
See
(Mountain).
North.
Rosy-purple.
April.
May, 1897.
Blue.
(J.
1901.
glade‘ecens (milkly-green). See P. CALYCINA.
grandifor‘o (large-flowered). See P. CARNIOLICA.
China.
"\text{confinis (nearly-related).} 4. Dark rose. May.
Europe.
hornemannia‘na (Hornemannian). See P. FARINOSA.
Europe.
hu‘milis (humble). See P. BUSILLA.
"jeckshi‘a (Jeschekian). See P. NIVALIS.
"ichienia‘a (Japanense). 1-2. Crimson, with darker eye.
May, July. Japan. 1871.
"a‘ba (white). White, with rosy zone. 1887.
iallenkia‘a (Jellinkian). See P. CARNIOLICA.
"furib‘i‘la (Juribella). S. Tyrol.
July. Central Asia. 1876.
"kitaitesia‘a (Kitaibelian). 4-1. Rosy-purple. April.
May, Croatia.
China, 1912.
"kobri‘a (Koblian). Northern Italy.
1820.
1880.
"litonnia‘a (Littonian). See P. VIALL.
1825.
"longi‘fo‘ra (long-leaved). See P. AURICULATA.
"longisca‘a (long-flowers-stalked). See P. FARINOSA.
Himalaya.
"lu‘tea (yellow). See P. AURICULA.
"lu‘teola (small-yellow). 1-2. Soft yellow. June to
August. Caucasus. 1867.
"magiassonian (Magiassonian).
See P. FACCHINI.
"magni‘fo‘ma (magnificent). See P. ROSEA MAGNIFICA.
1777.
"densifo‘ra (dense-flowered). Flowers numerous
crowded. April.
"grandifor‘a (large-flowered). Flowers larger.
April.
"grandifor‘a (larger). Pink. April.
"maximoviczi‘a (Maximovicza’s). 1-1. Dark red.
megasco‘fio‘a (Megasco-leafed). 1. Rosy-purple or
purple. 1867.
"super‘roba (superb). Velvety reddish-mauve; eye
orange. 1904.
"micocca‘lyx (small-calyxed). See P. MARGINATA.
Primula


Primula aliciae (slender-lobed). See P. multiflora.

Primula affinis (slender-lobed). Corolla fringed with teeth. Europe. 1897.

Primula ambigua (downy). See P. Sturii.


Primula amplexicaulis (double). See P. Miltoniana.


**PRIMULINA.** (Primula-like; it resembles a Primula. Nat. ord. Gesneraceae.) A hardy or half-hardy perennial alpine, with the habit of a Primula; the flowers have the colour of Tobacco. Seeds, cuttings in sand. Light, well-drained soil, or loam, leaf-mould, and sand in a cold frame. P. sinensis (Chinese). See P. tabacum. P. tabacum (Tabacum). Bull. 1889. "Shekin" or "Rock Tobacco." 


**PRIO'NIUM.** (From prionion, a small saw, the diminutive of prion; the leaves are finely sawed on the edges. Nat. ord. Juncaee.) This remarkable stoe aquatic is closely allied to the Rush, and in its native country grows in swamps and in the edges of rivers, partly choking them up. Seeds; offsets. Leaf and leaf-mould in pots, dipping into a warm water. P. Palmis (Palmita). 3-6. Pale brown. S. Africa. 1857.


**PRIVET.** Liguistrum. 


**PROLIFEROUS.** (See Double Flower.) The term is often applied to plants which produce leafy buds or young plants upon their leaves, like Bryophyllum calycinum and many ferns. The hen-and-chicken daisy is another type of proliferation, where numerous small flower-heads are produced around the primary or principal one.
PROPAGATING FRAME. Where much propagation has to be accomplished at different periods of the year, and especially in spring and autumn, it is necessary to have a propagating frame or case fitted up over the hot-water pipes in a house with a temperature similar to that of a steam-house, and in which it would be easy to maintain a bottom-heat of 60° to 80°, according to the plants being rooted. Few stave pots would require the latter temperature, and the atmosphere of the same house would probably always be lower than that of the frame. The frame may be of wood or bricks, with a movable glass light on the top. The bottom of the frame may be of wood, corrugated iron, or rodding slates, and at least a foot above the hot-water pipes. On the bottom, 6 inches of coconuts fibre or fine oak tan should be laid in which to plunge the pots containing cuttings. In most cases the frame should be closed at night, but as the temperature rises during the day a label may be used to tell the temperature for several hours, by which the degree of superfluous fumes by vapour to prevent damping of the cuttings by drip from condensation.

PROPS are the supports required by plants to sustain them in a desired position. They must vary in height and strength accordingly with the plant to which they are applied, and always be so as to maintain a consistent with efficiency. Nothing looks worse than a disproportioned prop; indeed, it should be concealed as much as possible. The props for peas should be of the breadth of a man's foot, and strings, which we prefer; for runner kidney beans, rods of ash. For flowers, stout iron wire, painted brown or dark green, is to be preferred. Whenever wooden props are used, they should be sanding props, which are charred; if this precaution be taken, and when, no longer required, they are stored in a dry shed, they will last for several seasons. Props should be placed on the south sides of the plants, as they incline in that direction, as being most light. The fewest possible number of props is one of the evidences of good cultivation and good taste.

PROSERPINA'CA. Mermaid Weed. (From prosér-pus, prserpuro, or proserspo, to creep forward; the stems are creeping. Nat. ord. Halaragaceae.)

Haliraggus. Only water plants. Cuttings in sand in a deep pan of water. May be planted on the shallow edges of ponds, or ornamental water in summer; but reserve plants should be grown in pans for preservation in a cold frame during winter.


PROSPIS. (A name of a plant employed by Dios- cordes. Nat. ord. Leguminosus [Leguminosae]. Linn. 30-Texandria, 1-Monogynia. Allied to Aden- authora.)

Stove evergreen trees. Cuttings of young shoots, when a little firm, taken off closer to the old stems, in spring, under a glass, in a little cool, or hot-water heat, sandy loam, and sandy, fibrous peat. Winter temperature 45° to 48°, and rather dry; summer, 60° to 85°, and plenty of moisture at root and top. Silicu'strum stood several years against a wall in the Horticultural Society's Gardens. All the plants mentioned below, except Jacari and Strombolusifera, are sometimes regarded as forms of P. juliflora.

P. cumana'nis (Cumana). 20. White, green, cumana.


P. jacari (Jacari). Gardens. 1820.


P. juli'fera (Algarobo). 1820.


PROSTANTHE'RA. (From prostheko, appendage, and anthera, anther; connections of the anthers are spurred. Nat. ord. Labiates [Labiatae]. Linn. 14-Diodymania, 21- Angostobetria.)

Greenhouse evergreen shrubs, from Australia. Frequently by seeds in a slight hothed, in April; generally by cuttings of the young shoots in sandy soil; sandy, with a mixture of broken pots and charcoal nodules mixed with it, and good drainage. Winter temp., 38° to 48°. Lasia'nochos some years against a wall in the Gardens of the Horticultural Society.


P. nie'ea (snowy). Leaves hoary. 1807.


PROTEIA. (From Proteus, a sea-god, who could transform himself into any shape; referring to the diversity of the species. Nat. ord. Proteusae [Proteaceae]. Linn. 4-Tetrandria, 1-Monogynia.)

Greenhouse evergreen shrubs, from South Africa. Cuttings of ripened young shoots, cut close to a joint, and with a plenty of fibrous pith, inserted in the rest allowed to remain, inserted firmly in sand, over a little sandy loam, the pots being three-parts filled with drainage, the pots, with their cuttings, may then be set in a frame, and at such a distance from the glass that shading will be little required; the glasses should also be frequently wedged up at night to prevent damping; fibrous loam, with a good portion of sand, and about a fourth part consisting of a mixture of charcoal, from stone, broken pots, and a little peat. Winter temp. 38° to 48°. These have not been tried against a wall, as they should be, with movable lights, or dead coverings, to be taken away in summer.


P. anemoni'stis (Anemone-leaved). See ISOPOGON ANEMONIFOLIUS.


P. argente'is (silver-flowered). See SERRURIA TRITER- NATA.

P. casti'posa (tufted). See P. TURBINIFLORA.


P. canalicu'la (white). See LEUCOSPERMUM STER- TOMUSUM.


P. conifer'a (cone-bearing). See LEUCADENDRON STRI- TUM.


P. corona'sa (crowned). See P. FOMOSA.

P. coromvy'bo's (corymbose). See LEUCADENDRON CORYMBOUS.


PROMENÉÁ. (Nat. ord. Orchidæ [Orchidaceae]. Linn. 20-Cynandra, 1-Monandria. Now referred to Zygodactylum.)

P. citr'i-na (citron-flowered). See Zygodactylum XANTHI- NUM.

P. lentigino'sa (freckled). See Zygodactylum Lenti- GINOSUM.

P. Rollissonii (Rollisson's). See Zygodactylum Rollis- sohii.

P. stapelia'i des (Stapelia-like). See Zygodactylum STAPELIOIDES and varieties. See Zygodactylum XANTHI- NUM.

PRONAYA. (Named after M. Pronay, a French naturalist. Nat. ord. Pittosporod (Pittosporaceae). Linn. 5-Pléndridra, 1-Monogynia. Allied to Sollya.)


PROSTANTHE'RA. (From prostheto, appendage, and anthera, anther; connections of the anthers are spurred. Nat. ord. Labiates [Labiatae]. Linn. 14-Diodymania, 21- Angostobetria.)

Greenhouse evergreen shrubs, from Australia. Frequently by seeds in a slight hothed, in April; generally by cuttings of the young shoots in sandy soil; sandy, with a mixture of broken pots and charcoal nodules mixed with it, and good drainage. Winter temp., 38° to 48°. Lasia'nthonos some years against a wall in the Gardens of the Horticultural Society.


P. nie'ea (snowy). Leaves hoary. 1807.


PROTECTION

P. cynaroides elliptica (elliptic-leaved).


Divarica (spreading). See Isopogon anethifolius.


globosus (globular). See LEUCADENDRON CONCOLOR.

glomerata (crowned). See Serruria pedunculata.


hirsuta (hairy). See LEUCADENDRON BURSTUM.


imbricata (overlapping). See LEUCADENDRON BUXTONIS.

incana (incurved). See LEUCADENDRON EMULUM.


lagopus (hare-footed). See Nivenia crithmifolia.

latifolia (broad-leaved). J. Linn. 1798.


ligulafolia (strap-leaved). See P. longifolia.


October. 1809.


ember. 1803.


na (dwarf) of Thunberg. See P. Rosacea.


obtusa (bunt-leaved). See P. speciosa.

pinifolia (pine-leaved). See Aulax pinifolia.

pinna (feather-leaved). See Serruria pinnata.


radia (rayed). See P. Latifolia.

re hens (creeping). See P. Ampeliscus.


rhoda nita (red-flowered). 2-3. Rose, with orange

tamens. Transvaal. 1893.

rosa crenata (creamy). May. May 1787.

salsigena (willow-like). See LEUCADENDRON FLORIDUM.


1780.


spicata (spiked). See Nivenia media.

stella rias (starry). See LEUCADENDRON FUSCIFLORUM.

tetraphylla (round-leaved). See LEUCADENDRON Fustinum.

triflora (thrice-divided). See Serruria triflora.


umbellata (umbelled). See Aulax catarifolia.


virgata (twigg). See P. Acerosa.

PROTECTION. See Screens.

PROTEINOPHALLUS. See Amorpha phallus.

PROTIUM. (From protos, most distinguished, or first in rank. Nat. ord. Burseraceae. Allied to Balsamodendron.)

Stove trees with a balsamic juice. Cuttings in sand in a close case with bottom-heat; seeds. Fibrous, loam, peat, and sand are needed. On the other hand, if the branches are less than too thick, they overshadow those beneath them, and so exclude the light as to prevent that elaboration of the sap, without which no balsam-buds are formed, but an excessive production of leaves, in the vain effort to attain, by an enlarged surface, that elaboration which a smaller surface would effect in a more intense light. The appropriate pruning is given when considering each species of fry trees, and here we must confine ourselves to a few general remarks. The season for pruning must be regulated, in some degree, by the strength of the tree; for although, as a general rule, the operation should be taken place when the leaves fall, the leaf indicates that vegetation has ceased, yet if the tree be weak, it may often be performed with advantage a little earlier, but still so late in the autumn as to prevent the protrusion of fresh shoots. This reduction of the branches has finished, the tree will produce a greater supply of sap to those remaining, and store up in them the supply for increased growth next season. If the production of spurs be the object of pruning a branch, it should be pruned so as to leave a stump; because, as the sap supplied to the branch will be concentrated


PRUNOPHYTTIS. (From prunum, the extreme or last, and pyxis, a pine. Nat. ord. Conifera. Allied to Pinus.)

Hardy or half-hardy evergreen Conifers with the habit of the yew. Cuttings in sand in a frame or pit from which frost is excluded. Ordinary soil.


All hardy herbaceous perennials, except ova'la, which is annual. Seeds, and divisions of the plant in spring; ornamental for rock-works and the front of flower-borders.

P. a/ba (white). See P. Laciniiata.


P. spicata (hairy). See P. VULGARIS HISPIDA.


P. incisa (incised). See P. VULGARIS LACINIATA.


Africa, &c.


P. pennisylvana (Pennsylvanian). See P. VULGARIS

ELONGATA.


July. August.

P. pinifolia (deep-cut). See P. VULGARIS

LACINIATA.


Garden origin.

PRUNING, as practised in the garden, has for its object the regulation of the branches to secure the due production of blossom and maturity of fruit. If carried to too great an extent that object is not attained, for every tree requires a certain amount of leaf-surface for the elaboration of the sap; and, therefore, if the tree is reduced too much, blossom-buds and fruit and leaves abundantly, for leaves are more necessary for the health of the plant; and by a wise provision, the parts less requisite for individual vigour are superseded by the parts more needed. On the other hand, if the branches are too thick, they overshadow those beneath them, and so exclude the light as to prevent that elaboration of the sap, without which no blossom-buds are formed, but an excessive production of leaves, in the vain effort to attain, by an enlarged surface, that elaboration which a smaller surface would effect in a more intense light. The appropriate pruning is given when considering each species of fry trees, and here we must confine ourselves to a few general remarks. The season for pruning must be regulated, in some degree, by the strength of the tree; for although, as a general rule, the operation should be taken place when the leaves fall, the leaf indicates that vegetation has ceased, yet if the tree be weak, it may often be performed with advantage a little earlier, but still so late in the autumn as to prevent the protrusion of fresh shoots. This reduction of the branches has finished, the tree will produce a greater supply of sap to those remaining, and store up in them the supply for increased growth next season. If the production of spurs be the object of pruning a branch, it should be pruned so as to leave a stump; because, as the sap supplied to the branch will be concentrated

upon those buds remaining at its extremity, these will be productive of shoots, though otherwise they would have remained mere suckers. These suckers, when they first appear, are white, but as they develop into permanent shoot they take on a light greenish tinge. The plants first to develop and mature those parts that are farthest from the roots. It is thus that the fibres are induced to put forth an abundance of young bearing wood, and the supply of young shoots laid in the preceding summer; and the proper time for this work is any time in open weather, from the fall of the leaf in November, until March; but the sooner the better. In performing this work, it is proper to remove the first set of branches, particularly of peaches, nectarines, apricots, vines, and other trees requiring an annual supply of young wood.

PRUNUS TRIBOLO. See PRUNUS TRIBOLO.


... a lba (white). White. March, April.


... ama'ra sylo's tiris (wild). 15. Red. April. "Wild Almond."


... flo're pl'do (double-flowered). 15. Red. March, April. 1548.

... fistis (leaves variegated). 15. Red. March, April. 1548.


... hiodis'lo'ra ros'ea (large-flowered-rose). 15. Rose. March, April. 1548.


... na'da (dwarf). See P. NANA.

... pe'ndula (drooping). 15. White. March, April. 1548.


... pu'mila (dwarf). 2-3. Rose.

... salicio'sia (willow-leaved). 15. White. March, April. 1548.

... Andr'eo's (Anderson's). Western United States. 1548.

... Bovis'se'ri (Boissier's). 4-6. Pale rose. Asia Minor. 1879.


... eburn'e'a (ivory). Persia, &c.

... inoa'na (hairy). 4-6. Red. March. April. Asia Minor; Caucasus. 1842.

... on'ara (white). 10. Rose. P. NANA ALBA. 1548.

... ge'orgica (Georgian). See P. NANA GEORGICA.

" gessleri'na (Geslerian). 2-5. March. April. 
" camellifu'ria (Camellia-flowered). Double rose. March, April. 
" Chrysa'nthemum (Chrysanthemum-flowered). 10-25. Pink or rose. 
" dianthifo'ra ple'na (double-Dianthus-flowered). 15. Pink. 
" flo're a'bo ple'no (double-white-flowered). 15. White. 
" flo're ca'ro ple'no (double-flowered). 15. White. 
" flo're ro'so ple'no (double-red-flowered). 15. Pink. 
" flo'lii aur'ae (golden-leaved). Leaves yellow. 
" flo'lii ru'bris (red-leaved). White. Young leaves deep red. 1874. 
" flo'lii vari'gat'is (variegated-leaved). 15. Persia. 
" ru'bra (red). See P. Persica DO'LIIS RU'BRIS. 

APRICOTS (Armeniacae).

" flo're ple'no (double-flowered). 15. White. April. 
" flo're ro'so ple'no (double-red-flowered). 15. Rose. 
" flo're vari'gat'is (variegated-leaved). 15. Leaves variegated. 
" flo're a'bo ple'no (double-white). Delicate rose in bud, pure white when open. 1903. 
" pe'ndula (drooping). A weeping variety. 
" sibir'i (Siberian). 4-6. Pink. April. Siberia. 1842. 
" Pet'o'zid (Petzold's). 1886. 
" sarga'ta (twigg). See P. Trilob'a. 

PLUMS (Prunus).

" salisb'oria (willow-leaved). Leaves narrow. 
" N. Amer. 1866. "Chickasaw Plum." 
" alba (white). See P. Cerasoidos. 
" ca'dicans (white). 15. Tauria. 1820. 
" atropurpu'ria (Hesse's). Leaves red, with a crimson margin. 1897. 
" atropurpu'ria Mo'ser flo're ple'no (Moser's-double-flowered). Double pink or blush. 1905. 
" atropurpu'ria nig'ra (black). Leaves blackish-purple. 
" atropurpu'ria Pur-pus'i (Purpus's). Leaves red, blotched yellow and rose. 1906. 
" cont'o'res (twisted). Tree more erect. Leaves dark red. 
" Chica's (Chicasa). See P. Aug'stio'polia. 
" juliana pe'ndula (drooping). A weeping variety. 
" pe'ndula (drooping). A weeping Plum. 1838. 
" tu'rone'nsis (Turon). 20. Turin, "Premier Swiss Plum." 
" dom'esta (domestic). See P. communis and its varieties. 
" lut'is (shining). White. April. Asia Minor. 
" fru'ci tu' le'so (yellow-flowered).


Flower, 10-15. Early. Seedling from P. japonica spherica. 1892.

Sphärica (spherical). Fruit globose, viscid red. 1887.


Stove evergreen.


Flower, tlu'eo pe'no (double-yellow-flowered). See P. Serrulata flowers Luteo PLENO.

Wit'ereri (Waterer's). 6-10. Double white.


Semi-double, semi-double.


Suque'quana (Susquehanna). See P. Pumila.


Vulgari's (common). See P. Cerasus.

Bird Cherr'ies (Padi).
Asplenium-leaved

April.

"variegata" (variegated).

20. White, April, May.

leucocarpa (Asplenium-leaved).

White. May.

leucocarpa (white-fruited).

20. White, May.

multiflora (double-flowered).


PSEUDOSPERMACANTHUS.

" marginata" (tropical).

5-8. White, April.

Crimson.

5-6. April.

Red, 6-10.

White.

מלכון (Otin's).

8.

P. nummula (changed), 20-25.

White, April.

pe'nudula (drooping).

20-25. White, April, May.

" Weeping Bird Cherry."

pudscens (downy).

20-25. White, April, May.

rotundifolia (round-leaved).

20-25. White, April.

P. Lacrocei (Laurocereus).


" asplenifolia" (Asplenium-leaved).

20. White, May.

leucocarpa (white-fruited).

6-10. White, May.

fruit white.

na'na monstrosa (dwarf, monstrous).

White, May.

Cherry Laurels (Laurocereus), EVERGREEN.


ro'se (rosé).

30. Pale rose-tinted, double. 1877.

usita (Otin's).


integrisfolia (entire-leaved), 4-6. White, March to May. " Catalina Cherry."


emarginata (notched). White, April, May, Western United States. 1872.

gre'ca (Greek).

25. White, April, May. Europe.

ma'a'na (Grayan). White, April, May. Japan.

Maa'chi (Maack's). White, April, May, Manchuria.

Maha'leb (Mahaleb).


chrysocarpa (golden-fruited).


fructu fla'xo (yellow-fruited).


globo'sa (globose).

10. White, April, May.

latifolia (broad-leaved).


monstrosa (monstrous).

White, April, May.

pe'nudula (drooping).

20-25. White, April, May.

Weeping Mahaleb Cherry.

" variegata" (variegated).

20. White, April, May.

Padus (Padder).

30-50. White, May, Europe. (British); Asia. " Bird Cherry."

arge'nia (silvery).


" alternifolia" (Alternate-leafed), 20. White, April.

Leaves spotted white. 1849.

au'rea (golden).

White. Leaves golden.

bracte'osa (long-bracted).

30. White, April, May.

au'gustia (changed).

20-25. White, April.

flow'ro (red).

25-30. White, April, May.

Britain. " Cornish Bird Cherry."

sibirica parvifoliora (small-flowered).


\textit{stercis} (upright).


Saltesi (Salter's).


serifica (white).

20. White, June. United States. 1829. " Rum Cherry. "; " Wild Black Cherry."


carti'lagneae (cartilaginous).

Leaves long and linearish. 1850.


resu'ta (blunt-ended).

30. White, May. S. Amer.

salaxo'lia (white-leaved). White, May. Fruit like an Apricot. S. United States; Mexico, Peru. 1866. " Capollin."

Sisii'ri (Sisii's).


May.

leuca'rpa (white-fruited).

6-10. White. May.

fruit white.

nana monstrosa (dwarf, monstrous).

White, May.

Cherry Laurels (Laurocereus), EVERGREEN.


PSEUDO-BULB. By this term is described the fleshy stem of the orchids; and the term is applicable as it resembles a bulb more than a stem.

PSEUDERA'THEMUM. (From pseudo, false, and Eranthemum; because the plants resemble an Eranthe- mum and are closely related. Nat. ord. Acanthaceae.) Stove evergreen shrub. Cuttings of young shoots, with a heel, in sand, in a close case, with bottom-heat. Loam, fibrous peat, and sand. Summer temp., 60° to 80°; winter, 50° to 60°.


Je'sicce (Jessica's). See Thibaudia JESI'CE.


1865. 3-4. Red, with yellow tip. March, April. Colombia. 1852.

microphylla (large-leaved). White, Colombia.

oblongo'lia (oblong-leaved). Country unknown. 1866.


planchnon'ia (Planchnonian). Red. Colombia. 1854.


PSEU'DODRACO'NTIUM. (From pseudo, false, and Dracontium; because it resembles the latter. Nat. ord. Araceae.)
PSEUDOALREA

Stove perennial herb, with tuberous rootstock. Impounded seeds or tubers. Fibrous loam, leaf-mould, and sand. Water freely when in full growth, and rest in a dry, warm house when the solitary leaf dies down.

P. Lacouvsii (Lacour’s), Light green. Leaves dark green, spotted with white. Cochin-China. 1878.

PSEUDOALDONIA. (From pseudo, false, and Galtonia; the plants resemble Galtonia. Nat. ord. Liliaceae.)


P. Pechuel’s (Pechuel’s). I. Flowers greenish, numerous. Damaraaland. 1850.

PSEUDOLAX. (From pseudo, false, and Larix; tree closely similar to a larch. Nat. ord. Coniferes.)

Hardy deciduous tree. Seeds. Ordinary soil.


PSEUDOPANA. (From pseudo, false, and Panax; closely related to Panax. Nat. ord. Araliaceae. Allied to Polyscias.)

Greenhouse evergreen shrubs or small trees. Cuttings of young shoots with a heel, in sand, under a light-humidity. Loam, fibrous peat, and sand.


Stove. Grooved. (drooping).


P. Lessoni (Lesson’s), 4-20. Green. Leaves with 3-5 leaflets. New Zealand.

P. longii (long-leaved). See PAXON LONGISSIMUM.

PSEUDOSERINE. (From pseudo, false, and Phornix; similar to Phornix. Nat. ord. Palmaceae.)

Stove Palm. Seeds. Loam, one-third peat and sand.


PSEUDOTSUGA. (From pseudo, false, and Tsuga; related to Tsuga. Nat. ord. Coniferes.)

Stove. Shoots, cuttings, different from those in having long bracts, protruding from the cones. Seeds. Ordinary soil.

P. davidiana (Davidian). See KETELEERIA DAVIDI.


P. brevifoliola (short-leaved). Leaves very short.

P. elegans (elegant). Leaves slender.

P. Fletcheriana (Fletcherian). A. Pigmy bush 1 ft. high in sixteen years. Seedling in 1866.

P. Fresh (Fret’s). Leaves short. Plant pyramidal. 1905.

P. glauca pendula (glaucous-drooping). A sea-green weeping variety.

P. gigantea (gigantea). Leaves deep green-sea. 1893.

P. globosa (globe). Plant spherical, loose. 1905.


P. Stairi (Stair’s). Young foliage creamy-white. 1872.

P. Stantshii (Stantsh’s). foliage quite silvery with veins.

P. laxifolia (yew-leaved). Leaves very long. Tree more massive.

P. variagata (variegated). Leaves variegated.

Sapindus (Lindleyan). See P. DOUGLASII.


P. macrocarpa (large-fruited). Southern California.


Stove. Cuttings of young shoots, getting a little firm at their base, in sand, under a bell-glass; and in bottom-heat; sandy, fibrous loam and peat, with the addition of leaf-mould and a little dried cow-dung; provided the drainage is good and plentiful. Winter temp., 48° to 58°; summer, 60° to 85°. But several, such as castilla-num, will not only live, but produce their fruit in a greenhouse. The best results are produced on the back of a vineyard, from which the frost was little more than excluded in winter. See GUAVA.

P. s. (bitter). Country unknown. 1829.


"aroma tucum (aromatic). See P. GUAVA.

"castilea-num (Castille’s). 10. May. S. Amer. 1818.

"lindleyana-num (Lindleyan)." China’s (Chinese). May, China. 1828.

"cordisatum (heart-shaped). See P. MONTANUM.


"decapodium (ten-seeded). See TONINUS JAMBOSELLA.

"dominant (Donian). 4-6. May, Brazil.


"sindicum (Indian). See P. CATTLEYANUM.


"myrsinifolium (myrtle-leaved). 6. April, 1820.

"persicum (black-fruited). May, Cochin-China.


"pomiferum (apple-bearing). See P. GUAVA.

"fusiform (fusiform). 3-5. May. Trinidad. 1810.

"pomiferum (apple-bearing). See P. GUAVA.

"pomiferum (apple-bearing). See P. GUAVA.

"pomiferum (apple-bearing). See P. GUAVA.

"pomiferum (apple-bearing). See P. GUAVA.

"pomiferum (apple-bearing). See P. GUAVA.

PSILA. See CARROT MAGGOT.

PSITUM. (From psilos, bald; the plant appears to consist of leafless twigs. Nat. ord. Lycopodiaceae.)

An interesting stove plant, with nearly leafless, green stems, resembling those of most of the evergreens. Fibrous peat to be tied on a piece of tree-fern stem and suspended in a warm, moist, fernery or stove.


PSOPHOCARPUS. (From psophos, a rattling noise, and carpus; a fruit; the fruits rattle in bursting. Nat. ord. Leguminosae.)

A tall twining stove herb. Seeds; cuttings in sand with bottom-heat. Loam, leaf-mould, and sand.

P. tetragono’lobus (four-angled-podded). Lilac or violet.

Mauritius, cultivated elsewhere.

PSORA LEA. (From psorales. warted; the appearance of some of the species. Nat. ord. Leguminosae. Plants (Leguminosae). Linn. 17-Diasphelus, 4-Disandra. Allied to Amorph.)

Herbaceous, by division, as fresh growth commences; shrubs, by cuttings of the half-risen shoots in April or May, in sand, under a glass; sandy peat, and sandy fibrous loam. Winter temp. for these, 46° to 48°. Grandalii’s stool has stood in the open air for a number of years near London. There are some annuals and biennials, but not worth cultivating.

PSORALEA.


PSYCHOTRIA

Greenhouse Evergreen Shrubs.


intermedia (intermediate). See P. angustifolia INTERMEDIA.

Jacquinia (Jacquinian). See P. HIRTA.


P. alata (Palestine). See P. situmina.

powdertia (long-stalked). See P. Tomentosa.


S. Afirca, 1816.


tenuissima (warped). See P. angustifolia.

PSYCHOTRIA.

(from psuck, the breath of life; in allusion to its healing properties. Nat. ord. Rubiaceae. Allied to Palicourea.)

Stove evergreen shrubs and small trees. Cuttings of mature wood, in sand, and placed in a close case, with bottom heat. Fibrous loam, peat, and sand.

P. aurantia (orange). See P. MALAYANA.

chonitaki (officinal). (Chontal). See P. PILOSA.

crocea (saffron). See P. Palicourea CROCEA.

tomentosa (tall). See P. tomentosa.


S. Africa, 1816.


grandis (grand). Trop. Amer.

leucocarpa (white-headed). See Rudgea macrophylla.

linata (lined). See Palicourea APICATA.

malayana (Malayan). Malaya.


P. sulphyrea (sulphur). Bright blue; berries sulphuryellow. Fiji. 1897.

busulphiifolia (slender-leaved). Dominica.

PSYLLA.

The Cherms is allied to the Aphids. P. pyri, P. Pyrus, May, is a large Aphid, crimson-coloured, shaded with black. Mr. Kollar says, when pairing is over, the female lays her eggs in great numbers, near each other, on the young leaves and blossoms on the newly-formed fruit and shoots. They are of a longish shape, and yellow; and without a magnifying glass they resemble the pollen of flowers. They are called either nymphs or larvae in this state, according to the element of their development; and, like their parents, have their mouth in the breast. After a few days they change their skins, and become darker

and somewhat reddish on the breast, and rather resemble bugs than plant-lice, having the extreme point of the body somewhat broad, and beset with bristles. After this stage they quit their skins, blossoms, and fruit, and proceed more downwards to the bearing wood and the shoots of last year, on which they fix themselves securely, one after the other, in rows, and remain there till the formation of the egg-case.

When the nymphs have moulted for the last time, and have attained their full size, the body swells out by degrees, and becomes cylindrical. They then leave their associates, and before they add their nymph-like covering, they search out a leaf to which they fasten themselves firmly, and appear as if they were lifeless. After a few minutes, the skin splits on the upper part of the leaf, and the winged insect proceeds from it. It is of a pleasant green colour, with red eyes and snow-white wings. It very much resembles its parents in spring, even in the colour. After a few days, this Cherms has assumed the colours of the perfect insect; the head, collar, and thorax are of an orange colour, and only the abdomen retains its green hue. It now flies away from the place of its birth to enjoy the open air. P. multi (Apple Cherms). This, according to the same author, appears in June. In September, they pair, and lay their eggs, which are white, and pointed at both ends, a line and a half long, and the fourth of a line thick. The yellow-winged aphid escapes. Apple Cherms lays its eggs in different places of the twigs of an apple-tree; usually, however, in the furrows of the knots, and sometimes in a very regular manner. The egg-case is whitish, almost escapes escaping the eye, when they hasten to the nearest bud, and begin to gnaw its scales. On the second day after their birth, they cast their first skin, after which they appear nearly transparent, and assume a reddish-yellow hue. The second and colder stage of the skin can sometimes be scarcely seen at all, because the larva not only puts out a thicker string with the tubercle, but also an immense number of very fine enation-like processes. P. multi has small hairs, which it turns upwards over its back, and with them entirely covers its body and head. In sunshine, these strings look transparent, as if they were made of glass, and become of a greenish-yellow colour. Under this screen the Cherms are secured from every attack of other insects; for no ants, nmites, or bugs can disturb them in their fortification, or consume them as their prey. After changing the second skin, the young assume a different colour and form, they now become light green all over, the abdomen much broader than the thorax, and on the side of the latter, rudiments of the wings are distinctly seen. The third is the last stage of the skin common about eight days. It is sometimes sooner and sometimes later, according to the weather. After this skin, the wing rudiments very distinctly make their appearance, and become larger and white. The insect approaches to the perfect state. The body is also of a light green, and the larvae have black eyes, and blackish antennae. At last the time arrives when the insect assumes the perfect state; it then retires to a part of the leaf which it had become shaded and after having firmly fixed itself there, the back splits open, and the beautiful-winged Cherms appears from the nympha. The back of the thorax is of a light green, the abdomen is marked with yellow rings, and the membranous wings with strongly-marked, snow-white veins.

P. crateris feeds on the cosmos, P. malachitodes respectively on the fig and rose trees. All the species are destroyed by syringing with tobacco-water while the insects are dead, and then syringing with water only. See Aphid.

PTA'RMICA.

See Achillea.

PTA'RMICA GRANDIFLORA FLORE PLENO. See Achillea PTA'RMICA FLORE PLENO.

PTELEA.

Shrubby Trefoil. (From ptao, to fly; winged fruit. Nat. ord. Ruellwors [Rutaceae]. Linn. Apocynaceae, Chironia Gmelin. Trifolium and its varieties are hardy; seed in April, and by layers in autumn; any common light soil.

P. Baldanii (Baldwin's). Green. Northern California, &c.

" rosea. (Chapman).

" pinna (leaflet). See Zanthoxylum BLACK BURNIA.
PTELIDIIUM. (So named from its resemblance to Pteles. Nat. ord. Spundia-Trees [Celastraceae]. Linn. 4th Ed., 1824, i. Monogyna.)


PTEBIS. Brake. (From pteron, a wing; the shape of the fronds, or leaves. Nat. ord. Ferns [Filices]. Linn. 24th Ed., 1851.)

All brown-spored. See Ferns.


3. anguina (soft). Fronds weekly, Europe. 1816.

P. colbiosa (hill). see P. PALMATA CORDATA.


5. albino-lineata (white-lined). Pinnae with white margins.


9. Mac'yi (May's).

10. mollis (noble). Fronds erect, heavily crested and lobed at the apex. 1846.

11. Australia (Summer's). An improvement upon P. cretica Wisemetti. 1898.


14. esculenta (eatable). See P. AQUILLA ESCULENTA.

15. fulcata (sickle-shaped). See PELLEA FULCATA.


17. S. Africa, &c. 1883.

18. n'tairo-marginalis (within-margined). See PELLEA INTRAMARGINIALIS.

19. Kingiana (King's). See P. TREMULA KINGIANA.


22. no'bilis (noble). See P. PALMATA NOBILIS.


24. Wales. 1815.

25. August, Brazil. Stove. 1893.

26. no'bilis (noble). 1. Fronds bold and leathery.

27. Stove.


PTERIS


d'As's (tall). 3-5. Trop. Amer. to Ecuador.


crista's (crested). Like P. ensiformis Victoria, but crested. 1892.

Victoria (Victoria's). Fronds beautifully marbled with white. Malaya, 1890.

felo'sma (heavy-smelling). See P. quadriaurita.

flabell'a (fan-shaped). 2-4. S. Africa; Abyssinia, &c.

Ghiesbreght'ii (Ghiesbrecht's). See P. laciniate Ghiesbreghtii.

gigante'a (giant). 3-6. W. Ind.; Colombia; Peru.

glauconi'rus (glaucous-green). See P. quadriaurita.


vi'ta's (striped). Pinnae narrow, with nearly free veins.

heterod'a (various-gingered). Malaya.


intern'a (divided-in-threes). W. Ind. 1880.

Hi'liti (Hill's). 3. Fronds brassy-green, leathery, glossy green. Fiji.


Kunze'a (Kunzean). 3-5. Trop. Amer. to Peru.

lacinia'ta (laciniate). 5-2. Trop. Amer. to Peru.

Ghiesbreght'ii (Ghiesbrecht's). Fronds less hairy. 1857.

la'cera's (milky). 1. November.


la'a (broad) 34. June. Brazil. 1841.


Marie's (Marie). Fronds shorter; pinnae narrower. Japan. 1895.

palygra (pale-leaved). 1814. India.

3. India.

ladens (decreasing). 1-14. Malaya; Philippines. (Dorothyris.)


milne'a (Milnean). 3-4. Solomon Isles; Fiji. 1865.

mi'sera (poor). 1-1. Malaya.


mutula'ta (mutulated). 1-4. W. Ind.

domor'alis (grove). See P. biaurita domoralis.

4. Ou'vai'dii (Ouviard's). See P. sulkalula Ouv'ardii.

pale'sce'a (scaly). 2-5. Stalk alone 2-4 ft. Diana's Peak, St. Helena.


ped'a (pedate). 1-2. W. Ind. to Brazil. (Dorothyris pedata.)

pe'ru'na (Peruvian). See Gymnogramme Calomelano Peruviana.

Plumier's, 2. July. S. Amer. 1818.

podophy'lla (stalked-leaved). 3-4. Trop. Amer. &c.


quadriauri'as (four-eared). 14-5. Tropics of both Worlds.

argente'a (silverly). Midrib silver-white. E. Ind. 1859.

aspereu'ulis (rough-stemmed). 2. E. Ind.


robi'ta (robust). See P. aculeata.

rotundatifolia (round-leaved). See Pellea rotundifolia.

sagittifolia (arrow-leaved). See Pellea sagittifolia.

hasta'ta (half-bent). Frond with two large horizontal lobes.

P. sagitta'ta (arrow-shaped). See Pellea cordata sagittata.


semisagitta'ta (half-arrow-shaped). Fronds broad, half-arrow-shaped. S. Brazil. 1902.


unci'fus (furrowed). See P. quadriaurita.

ternifolia (three-leaved). See Pellea ternifolia.

undula'ta (waved). Fronds wavy, Fiji.

Victoria (Victoria's). Regen's (Queen's), and Victoria-Rex (Queen Victoria's). See P. ensiformis Victoria.

tyal'cha'na (Wallachian). 6-8. Himalaya; Japan; Philippines.

PTERIS NTHES. (From pteris, a wing, and anthos, a flower; the receptacle of the flower is developed into a broad, membranous wing. Nat. ord. Lactucaceae.)

An evergreen stove climber, with the habit of a Cissus. Cutting of half-ripe wood, in sand, in a close case, with bottom-heat. Fibrous loam, leaf-mould, and sand. P. poli'ta (polished). Green; rachis flattened like a knife. Malaya, 1890.

PTEROCARYA. (From pter, a wing, and caro, a fruit; the seeds are wing-like appendage. Nat. ord. Leguminosae.)


PTEROCARYA. (From pter, a wing, and karpos, a fruit; seed-pods with wing-like appendage. Nat. ord. Leguminosae.)

Allied to Dalbergia.)

Stove evergreen trees. Cuttings of half-ripened, stubby side-shoots in sand, under a glass, and in bottom-heat; rich, fibrous loam. Winter temp., 50° to 55°; summer, 60° to 85°.

P. Bro'nei (Brown's). See Ecastaphylium Brownei.

bus'fou'isio (box-leaved). See Brya Ebenus.

dalber'gi'oides (Dalbergia-like). See P. indicus.


escou'e'is (eatable). 50. Yellow. Trop. Africa.


gla'ber (smooth). See Brya Ebenus.

Cordia (Indian). 30. White or yellow. India and China. 1873.

luna'tus (crescent-shaped). See Drefoncarpus Lunatus.

Mare'u'pium (pouched). 40. White. India. 1811.

Plume'ri (Plumeria's). See Ecastaphylium Mone'taria.

Ro'hri (Rohri's). 20. Brazil. 1816.

san'talinoi'des (Santalum-like). See P. esculentus.

san'tal'us (Santalum-like). 60. Yellow. E. Ind. 1800.

Red Saunders' Wood.


Simba (Simba). 1. 

Si'ber (Sieber's). See Ecastaphylium Brownei.

PTEROCRASSA. (From pter, a wing, and caro, a fruit; a nut; a seeded fruit. Nat. ord. Juglandaceae.)

Linn. 21-Monocia, 9-Enmandria. Allied to Juglandas.)

Hardy deciduous trees; by layers of young shoots; also by grafting on the Walnut; deep, moist soil in warm, sheltered situations; shallow, poor soil will be best, that the wood may not be stronger than the sun will ripen.


PTEROCELASTRUS. (From pteron, a wing, and Celastrius; referring to the 6-16 wings of the fruit. Nat. ord. Celastraceae. Allied to Celastrus.)

Greenhouse shrubs or small trees with small flowers. Cuttings of half-ripe shoots in sand, under a bell-glass in summer. Fibrous loam, peat, and sand.


**P. spachiana** (Spachian). See **P. rhoifolia**.

**P. rhoifolia** (Siebertian). Young. See **P. rhoifolia**.

**P. rhoifolia** (Tatarinow's). See **P. rhoifolia**.

Stove, white-flowered, evergreen trees, from the East Indies and Australia. Half-ripened, stubby, side-shoots, cut close to the stem, in sand, and in bottom-half-sandy, fibrous loam and lumpy peat, with good drainage. Winter temp., 50° to 55°; summer, 60° to 85°.

**P. acerifolium** (maple-leaved). 10. August. 1815.

**P. platanioides** (plane-leaved). 15. 1820.

**P. semisagittatum** (half-arrow-leaved). 10. 1820.


**P. acuminatum** (spachian). 1-2. Green, with brown-purple tips to sepalas and petals. N.S. Wales. 1877.


**P. acuminatum** (hoary). 1828.


**P. acuminatum** (spachian). 1877.

**P. acuminatum** (spachian). 1877.

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**P. acuminatum** (spachian). 1877.

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P. Alexandra (Princess Alexandra's). See Archontophoenic A. Alexandrae.


Australia. See Cunninghamia 'na (Cunninghamian).

B. The Uredo or Rust stage is not encased by a cup, but the fungus consists of a rounded mass of mycelium, on which erect branches arise, bearing spores singly at their ends. This is produced inside the host plant, but the skin of the latter bursts at maturity, and the affected leaves appear covered with patches and spots of a reddish-brown or rust colour. The spores give this particular colour and form a rust. The pustules are usually scattered irregularly on the same plant or on other of the same species during summer. Well-known examples are P. graminis on wheat, oats, barley, &c., P. Mentha on Mint, P. miltioceum on Hollyhocks, and P. Hieraci on Chrysanthemums.

C. The Puccinia or Brand stage is very familiar on Roses as dark specks amongst the Uredo stage on the rusty blotches of the leaves. The growth of the fungus is similar to the latter stage, but the fruiting branches end in two-celled spores, which are thick-walled, darker in colour, and produced late in the season. They are named telutospores, because they are the final stage of the fungus and rest during the winter to commence the fungus anew in spring. Familiar examples are the Brand of Wheat (Puccinia graminis), that of sedges (P. pringsheimiana), that of Plums and other species of Prunes (P. Pruni), and that of Gentian (P. Gentianae). Preventive means are the best to adopt. All diseased portions should be cut and burned directly they appear. Plants should not be overcrowded, but given room, so that light and air can play amongst the foliage. Useless or diseased wild plants on which the fungus is known to lodge should be destroyed. Spraying with dilute Bordeaux mixture will destroy the spores or prevent them from germinating afresh on the same or other plants. The foliage of soft-leaved plants like Chrysanthemums should be kept as dry as possible, because spraying the whole plant, generally favours the germination of the spores and the spread of the fungus. See also Ecdidium and Hollyhock Disease.

PUCCON. Sanguinea. (Sanguina.)

PUDDING. See Mudding.

PUERARIA. (Named after M. Pueraria, a Danish botanist. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadalphia, 6-Decandria. Allied to Canavalia.)

Greenhouse evergreen climbers. Cuttings of half-ripened shoots in sand, under a glass; sandy peat and fibrous loam. Winter temp., 40° to 45°.


PULICARIA. Flea-bane. (From pulicis, a flea; the smell is, or was, reputed to drive away fleas. Nat. ord. Composite.)

Hardy perennial herbs. Seeds, cuttings under a band-light in summer or divisions in spring. Ordinary soil, the poorer the better. Moist. Summer. Hardy perennial herbs. Seeds, cuttings under a band-light in summer or divisions in spring. Ordinary soil, the poorer the better. Moist. Summer.


PULMONARIA. Lungwort. (From pulmonarius, diseased lungs; referring to its supposed efficacy in those disease. Linn. 5-Pentandra, 1-Monogynia.)

Hardy herbaceous perennials. Divisions in spring; common garden-soil.

P. alpina (alpina). See Mertensia alpina.


azurea (azure). 1. Bright blue. April. France; Poland. 1823.

biolesa (tuberosa). See P. obolessa.


azurea (Light blue). See P. boissieriana.

boissi (Daurian). See Mertensia davurica.

denticula (small-toothed). See Mertensia sibirica.

grandiflora (large-flowered). See P. saccharata.

marginalis (bordered-leaved). See Mertensia lanceolata.

marmata (sea-side). See Mertensia maritima.

mollius (soft). See P. montana.


oblongolium (oblong-leaved). See Mertensia lanceolata.


paniculata (panicked). See Mertensia paniculata.

paniculata (small-flowered). See Mertensia mari-
tima.

pubescenta (downy). See Mertensia paniculata.


sibirica (Siberian). See Mertensia sibirica.

tubero sa (tuberous). See P. angustifolia.

virginica (Virginian). See Mertensia fulmonaria.

PULSATILLA. See Anemone Regelin.

PULSATILLA. See Anemone Pulsatilla.
PULTENÆA. (Named after Dr. Pulteney. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Decandria, 1-Monography. Allied to Gastrolobiaceae.)

Greenhouse, yellow-flowered, evergreen shrubs, from Australia. Cuttings of the points of shoots as growth is nearly finished, or, better still, small side-shoots, when from 2 to 3 inches long, in sand, in April, under a bell-glass; two parts of sandy, fibrous peat to one part of fibrous loam and a little charcoal and good drainage. Winter temp., 40° to 48°; summer, 60° to 75°. Plenty of air, and screened from the full sun during the hottest period of the year.

P. argentea (silvery). See P. DENTATA.


P. athera (rough). See PHYLLOTA PHYLICOIDES.


P. bicolor (two-colored). See P. CARRA.


P. calida (white). See P. TENUIFOLIA.

P. canescens (hoary). See P. PLUMOSA.

P. comata (tufted). See PHYLLOTA PHYLICOIDES.

P. cordata (sharp-hearted-leaved). See P. JUNIPERINA.


P. cutenata (wedge-leaved). See P. MICROPHYLLA.


P. ericae (Erica-like). See AOTUS VILLOSOS ERICOIDES.

P. euchila (fine-leaved). 1. May, 1824.


P. gravina (Ge.) 1. Golden-yellow, striped brownish-purple. 1855.

P. hypolaempra (brightish). See P. ELLITICA.


P. linophylla (flax-leaved). 2. April, 1879.

P. microphylla (small-leaved). 1. May, 1810.

P. mucronata (pointed-leaved). See P. FOLIOPHILA.

P. na'nna (dwarf). See CHOREUMA.


P. ott'inus (Ott's). 12. May, 1827.

P. oxalidifolia (Oxalis-leaved). See P. TERNATA.

P. pacifica (Pacific). 1. Yellow, marked with red. 1861.

P. pedunculata (long-flower-stalked). May, 1820.

P. phanera (Phanera-thistle). 1. April, 1863.

P. pellifolia (Polygonella-vulgaris). May, 1824.

P. polyanthos (Polygalas-mixed). 2. April, 1820.

P. racemulosa (small-racemose). 2. April, 1820.

P. reticulata (netted). 2. April, 1827.

P. retusa (abrupt-ended). 1. April, 1879.


P. rosmarinifolia (rosemary-leaved). See P. FOLIOPHILA.

P. rupestris (rock-inhabitante). 1. 1845.


P. squarrosa (spreading). See PHYLLOTA PHYLICOIDES.

P. sipula (stiped). 2. April, 1792.


P. Sweet's (Sweet's). See P. FLEXILIS.


P. terna (dwarf). See CHOREUMA.

P. thymiophila (thyme-leaved). See P. ELLITICA.

P. vestita (clothed). 3. April, 1803.


P. villosa (shaggy) of Willdenow. 2. May, 1790.

PU'NICA. Pomegranate. (From punicae, scarlet; the color. Nat. ord. Rosacea [Rosaceæ]. Linn. 12-Icosandria, 1-Monography.)

Deciduous trees, all blooming in August. Cuttings of the shoots and roots; layers and grafting; any light, rich soil. It thrives against a wall, but in such places the twigs must be encouraged to grow, or there will be few flowers. The double kinds grafted on the single, and grown in rich loam, become nice flowering plants, as the single; but they thrive very vigorously as on their own roots, but flower much longer.


P. na'nna (dwarf). See P. Granatum nana.

PU'NET. See BASKET.

PUPA. The various stages in the life of an insect are the egg, the caterpillar or larva, the pupa, and the perfect or winged form. The pupa of moths and butterflies is a case-like stage, known also as chrysalis, and is sometimes enclosed in a cocoon or case. The pupa of grasshoppers, cockroaches, earwigs, and others is active and not unlike the larva, or even the perfect form without wings.

PUPALIA. (From Pupali, an East Indian name for it. Nat. ord. Amaranthaceae.)


P. August, September. Trop. Asia and Africa. 1756.

PU'REXESE. Ly'chorum Salic'ea.

PU'REX. See Gastrolobium.

PU'REX. See Medicago so'i-na. Go'a.

PU'REX. See C. volubilis.

PU'REX. T'ibö'ch'na.

PU'RSA. (Named after P. Pursh, writer on American plants. Nat. ord. Rosmarinaceae [Rosaceae]. Linn. 12- Icosandria. Allied to Chamazartia.)

Hardy evergreen shrubs. Cuttings of young shoots in sand, under a hand light, in early summer; also by seeds, treated as rose-seeds; sandy, poor soil.


PU'RSA. See Gastrolobium.

PU'RSA. See Onosmodium.

P. hispida (hair). See Onosmodium hispidum.

P. hispida (hairy). See Onosmodium mollæ.

PULSLANE. (Portula'ca). P. olearia'cea, Green, or Garden Pulslane. P. sa'il'va, Golden Pulslane. A. light, rich soil they thrive in most, and must have a warm situation, as a south or south-west facing place. Sow in February, March, or April, in a moderately hotbed, to remain where sown; and at the close of March, and once monthly, during April, May, the summer months until the end of August, in the open ground.

Some forms involvings plants apart, very thin, and not more than ¾ inch deep. Keep the seedlings clear of weeds, and thin to 6 or 8 inches asunder. In dry weather water moderately two or three times a week.

In general, they are ready for gathering from in six weeks after sowing, the young shoots being made use of from 2 to 3 inches in length, and the plants branch out again.

The gathered crops require the air to be admitted as freely as the weather permits, the temperature ranging between 50° and 75°.

To obtain Seed.—A few of the earliest border-raised plants must be left un gathered, from the strongest and largest leaved being selected. They must be cut immediately the seed is ripe, laid on a cloth, and when perfectly dry, threshed, and the refuse is best separated by means of a very fine sieve.

PU'RSANE. Portulaca'ria.

PU'SCHKINIA. (Named after M. Puschkinia, a Russian botanist. Nat. ord. Compositæ [Compositæ]. Linn. 6-Februgia, 1-Monography. Allied to Hyacinthaceae.)

Half-hardy bulb. Offset-bulbs; deep, sandy loam; requires a little protection, or to be taken up in winter.

P. tibon'ai'ca (Lebanon). See P. SCILLOIDES.

P. tibon'ai'ca (Lebanon). See P. Scilloides.
PUSS MOTH.  *Car'ra vi'nula.*

PUTO'RIA.  (From *putor*, a foul smell; the leaves are strongly and disagreeably scented. Nat. ord. Rubiaceae.) A small, evergreen shrubby plant. Divisions; cuttings in sand under a hand-light. Light, well-drained soil.


Winter. S. Africa.


PUTY is a compound of boiled linseed-oil and whiting, but as it may be bought in London at half a guinea a cwt., it is scarcely worth while to make it. One cwt. is enough for puttying about three hundred square feet of glass.

Old putty may be softened by applying to it rags dipped in a saturated solution of caustic potash, leaving them on for twelve hours; or by rubbing a hot iron along the putty.

If the gardener does make putty, the whitening should be well dried, and then powdered and sifted till it becomes a fine powder, and is quite free from grit. The whitening, a little warm, should be gradually added to the oil, and the whole well mixed. A good means of a piece of stick or a spatula.

When it is sufficiently stiff, it should be well worked with the hand on a table, and afterwards beaten on a stone with a wooden mallet till it becomes a soft, smooth, tenacious mass. A ball of putty, when left some days, becomes somewhat hard, but may be easily softened by beating.

PUYA. (Native name. Nat. ord. Bromeliads [Bromeliaceae]. Linn. *Hexandria*, 1-Monogyne.) Stove herbaceous perennials, except *magni's spatha*, which is a stove epiphyte. Seeds in a hotbed, but hardly by seeds. It is very loam and peat. Winter temp. 5° to 60°; summer, 60° to 85°.

*P. Acu'ppa's (Acupulla).* See P. *bopolandi*a.*

**, Altenste'ri (Altenstein's).* See Pitcairnia Altenste'ini.

**, giganta' (gigantic).** See Pitcairnia Altenste'ini Gigantea.

*, bonplandi*a'a (Bonplandian).** Colombia.

*, caru'la* (blue). See Pitcairnia Caru'ela.


*, coar'tsia* (compressed). See P. Chilensis.

*, floco's sa (woolly-tufted).** See Pitcairnia Floccosa.

*, e'f'g' (Eng.) 20-30. Whistil. Colombia. 1880.

*, grandifio'ra (large-flowered).** See Pitcairnia Fuccu'gine.

*, hetero'phylla* (various-leaved). See Pitcairnia Hetero'phylla.


*, longifo'sia* (long-leaved). See Pitcairnia Hetero'phylla.


*, maidifo'sia* (Mays-leaved). See Pitcairnia Maidifo'sia. 1830.

*, panicu'la* (panicked). See Pitcairnia Philippi.


*, recurva' (curled-back).** See Pitcairnia Recurvata.

*, roz' (Roz's).** See Pitcairnia Rozz.


*, spathia* (large-spatted). See Pitcairnia Spathia.

*, subera's sa (corky).** See P. Chilensis.

*, sulphu'rea* (sulphur-coloured). See Pitcairnia Wend'land.


*, tunare'nsis (Tunaran).** Bolivia.

*, vire's cens* (greenish). See Pitcairnia Vire'scens.

*, We'secta* (Wassewicza's). See Pitcairnia Wro'thens.

*, Why'coi (Whyte's).** See Pitcairnia Cerulea.

PYCNA NTHEMUM.  (From *puknos*, dense, and *anthemon*, relating to the blooming time of flowers; flowers densely arranged. Nat. ord. Labiate. Allied to Origanum.) Hardy, perennial herbs. Seeds; divisions; cuttings in sand under a hand-light in summer. Ordinary soil.


PYCNO'STACHYS.  (From *puknos*, dense, and *stachys*, a spike; dense flower-spikes. Nat. ord. *Labiates* [Labiate]. Linn. 14-Didynamia, 1-Gymnosperma.) Stowe annual herb and shrub. For culture, see O'c'c'mo'd.'


*, ur'ris'fio'sia (nettle-leaved).** Blue. Trop. Africa. 1863. SHRUBBY.

PYG'ER'A BUCE'PHALA. Buff-tip Moth. This moth is from 2 to 3 inches across the opened fore-wings, which are rounded, and are possessed by a slender black line, and preceded by a red one near the base of the wings, several dusky bars in the middle, and with a large oval cream-coloured patch, enclosing some small buff spots; edged with a curved red line, preceded by a black one; the edges of the wings varied, black, grey, and tawny red. Hind-wings whisht; body buff, dark brown at the sides, and behind. The caterpillars are yellow, with black legs, and several rows of interrupted black stripes. Sometimes the green and black most prevail, so that the yellow seems to constitute the bands. They are found whilst young, thirty or forty together, on the leaves of the fibert during August and September, but also on the leaves of toadflax, &c. The chrysalis is found in the earth; it has two small points at its tail. The caterpillars are so large and conspicuous that hand-picking is an easy and quick remedy.

PYRENA'CA'NTHA.  (From *puren*, the stone of a fruit, and *akhantha*, a thorn. Nat. ord. Olacaceae.) A stove climber, with a flabby rootstock more than 3 feet across. Cuttings of short side-shoots in sand, placed in a close case, with bottom-heat. Fibrous loam, leaf-mould, broken bricks, and sand.


PYRETHRUM. Feverfew.  (From *pur*, fire; alluding to its acrid roots. Nat. ord. *Composites* [Composite]. Linn. 19-Syngenesia, 2-Superfussa. Now referred to Chrysanthemum.)

GREENHOUSE EVERGREENS.  

*, ane'kthio'sium (dill-leaved).** See Chrysanthemum Anethifoliu'm. 

*, brus'sone'i (Broussonet's).** See Chrysanthemum Broussoneti. 

*, corono'sipio'rum (buckhorn-leaved).** See Chrysanthemum Grandiflorum. 

*, dis'v'risio'rum (variable-leaved).** See Brachycome and *Cyn'fa.'

*, frutescens* (shrubby). See Chrysanthemum Frutescens. 

*, grandio'rum (large-flowered).** See Chrysanthemum Grandiflorum. 

*, inido'rum (showy).** See Chrysanthemum Grandiflorum. 

HARDY ANNUALS.  

*, breviro'dia'sium (short-rayed).** See Chrysanthemum Coronarium.

*, e'legans* (elegant). See Matricaria Matti'Maria. 

*, e'nicum (Indian).** See Chrysanthemum Indicum. 

*, inodo'rum (scentless).** See Matricaria Inodora. 

*, para'fo'ro (small-flowered). See Matricaria Inodora. 

*, pre'cox* (early). See Matricaria Precox.
PYRULLA


P. amygdales (Almond-leaved). See F. rotundifolia ASARIFOLIA.


P. amygdales (Almond-leaved). See F. rotundifolia ASARIFOLIA.
P. l. nigipes (long-stalked). Algeria.

malus (apple-leaved). Hybrid origin.


barbifolia (small-flowered). See P. mygdaliformis.


Tschonoskya's. 15. White. May, China. 1820.

Simons (Simon's). 15. White, May, China. 1872.

tomentosa (felted) of Moench. See P. auriculata.

Tschonosky's. 15-20. White, flushed with pink. 1825.

ussurins (Ussurian). See P. sinensis.

vario'lo (variable). See P. Puscha.

APPLES (Ma'lus).

P. ace'ra (sour). See P. Malus acerba.


pe'ndula (drooping). A weeping variety.


denticula'ta (finely-toothed). China (?).

dio'ca (Mexico). See P. Malus dio'ca.


crispa (crispy). Japan (crispy-leaved, many-petaled).


Astrachan. 1810.

aw (golden). Leaves yellow, with a central green blotch. 1889.

Berti's (Berti's). Fruits brightly coloured, abundant.


crata'gina (Crategus-like). Fruit with persistent sepals. 1881.


pe'ndula (drooping). A weeping variety.


Japan.
**MOUNTAIN ASHES (Sorbus)**

P. *arbutifolia* (Arbutus-leaved). 4-6. May. Fruit dark red or black. N. Amer. 1890.

**QUAKING GRASS.** *Bri'sa*

**QUA'LEA.** (The name in Guiana. Nat. ord. *Vochysi-a* \(\equiv\) *Vochysiaceae*). Linn. 2.*Monandra*, 1.*Monogynia*. Allied to *Vochysia*.

Stove evergreen tree. By seeds in a hotbed, and cuttings of half-ripened shoots in sandy soil, under a bell-glass, and in bottom-heat; peat and loam. *Winter temp.* 50° to 60°; *summer* 60° to 85°.


*viola'ce* (violet). See *Q. rosea*.

**QUA'MOCLIT.** From *huamos*, a kidney-bean, and *kitos*, dwarf; resemblance of habit. Nat. ord. *Bina'isia* \(\equiv\) *Bina'siaceae*). Linn. 5.*Pedania*, 1.*Monogynia*.

Now referred to *Impeua*.

Seeds in a hotbed, and cuttings of the points and side-shoots of growing stems, the former plan being adopted chiefly with andromeda and the latter with perennials; the annuals being generally grown out of doors after the end of May, and the perennials in the plant store.

**STOVE PERENNIAL TWI'NERS.**

*Q. glo'bo* (gloobular). See *Ipomea Hartwegi*.

*grandif'o'ra* (large-flowered). See *Ipomea Funis*.

*longif'o'ra* (long-flowered). See *Ipomea Bona-nox*.

*Natio'nis* (Nation's). See *Ipomea Nationis*.


*sangu'ine* (bloody). See *Ipomea Reredifolia*.
STOVE ANNUAL TWINFERS.

Q. cocce'nea (scarlet). See IPOMCEA COCCINEA.

digita'ta (hand-leaved). See IPOMCEA DIGITATA.

dedero'lia (ivy-leaved). See IPOMCEA DEDEROFOLIA.

lun'tolis (yellowish). See IPOMCEA CONCINITA.

phamen'ea (crimson). See IPOMCEA COCCINEA.

sero'tina (late-blooming). See IPOMCEA SEROTINA.

tris'loha (three-lobed). See IPOMCEA TRILOBA.

va'gen'sis (Pyramidal). See IPOMCEA QUAMOCIT.

" sylbi'ra (white-flowered). See IPOMCEA QUAMOCIT-

QLAAQUA. (The native name given by the Hotten-

tots. Nat. ord. Asclepiadaceae.)

A dwarf succulent, eaten by the Hottentots. Cuttings

allowed to get partly dried before insertion in sand in a
dry store; also seeds. Loam, finely broken bricks, and

sand in equal proportions. Keep it very dry in winter.


Namaqualand, S.W. Africa. 1899.

QUARARI'BEA. (Probably from the native name.

Nat. ord. Malvaceae. Allied to Fremontilla.)

A large lobe shrub or tree. Cuttings of half-ripe

wood in sand in a close case with bottom-heat. Fibrous

loam, peat, and sand.

Q. tur'bin'a (top-shaped). 6-15. White, large. Brazil.

1793.

QLAAQUA. (From the name of a slave (Quassi), who

first used the bark as a febrifuge. Nat. ord. Quassiadi-

sma (Simarubaee). Linn. no-Decorandria, t-Monogynia.)

Stove evergreen tree, the source of the well-known

Quassia-chips, used for poisoning flies; the bitter has

also been substituted for hops. Cuttings of ripe shoots

in sand, under a bell-glass, in heat; sandy, rich loam

and fibrous peat. Winter temp., 55° to 65°; summer,

65° to 90°.


" Suriname Quassi."

" exc'issa (lofty). See SIMARUBA EXCELSA.

" Simarub'a (Simaruba). See SIMARUBA AMARA.

QUEBEC OAK. Quercus ac'ba. See Q. ASTROPHY. 1890-

QUEEN LILY. Phadran'a ssa.

QUEEN OF THE MEADOW. Spir'a'la Ul'ma'ria.

QUEKTEA. (Commendatory of E. J. Quckett, a

vegetable anatomist. Nat. ord. Orchidaceae.)

Stove orchids. Divisions when growing is commen-

sating. Fibre of peat, sphagnum, and plenty of crocks in

the pots.

Q. Jen'ma'ni (Jenman's). 4. White, small. British

Guiana. 1906.


QUENQUILLE. A fruit-tree with a central stem, and

its branches trained in horizontal tiers, the lowest being

the longest, and the others gradually lessening in length

in age; so that the tree, like a spruce-fir, acquires a pyramidal form.

QUERCTION. Que'rus tinct'o'ria.

QUERCUS. The Oak. (From the Celtic guer, fine, and
cac, a tree. Nat. ord. Mastwo'rt) (Quercus).

Linn. 21-Monaco, g-Polyandria.)

By acorns, sown as they drop from the tree; or col-

lected, dried, and kept packed in sand, in a dry place,

until the following March, when they may be sown in

rows, and covered half an inch deep; deep, loamy soil

they like best. Particular varieties are kept up by grafting.

Q. acu'ta (acute). Japan. 1884. " Akakasi." Ever-
green.

" Bino-ne'via (white-nerved). Leaves white-veined.

" bumbusas'o'fia (Bambusa-leaved). Leaves narrow.

" ro-se'o-ne'via (rosy-nerved). Leaves rosy-veined.

" As'elopos (Egllops). 20. Levant. 1731. " Valonia

Oak." 1805.

" latif'o'ia (broad-leaved).

" macero'lepis (large-scaled). Crete; Greece.

" pen'dula (drooping).

" pin'na'ris (Pyramidal).

" Ung'e'ri (Unger's).


1837. " Eucina."
Q. ferrug'inea (rusty). See Q. MARIANDICA.

"fructico'sa (shrubby). See Q. HUMILIS.

Gambe'lii ... yellow.

bullo'sa (blistered). Leaves blistered, with yellow

longifo'lia (long-leaved). Leaves long.

Q. inca'na


Hab.-hardy.

infesto'ria (dying). Levant. 1872.

"Cy'pri (Cyprus).

inca'na (cripse). Mexico. 1860. 1486.

inve'rsa (inverted). See Q. THALASSICA.

Kellogg's (Kellogg's). Oregon and California.

landa' (woolly-leaved). See Q. INCANA.

lausupa'la (woolly-Europe). W. Asia.

disse'cta (cut). Leaves deeply cut.

"pe'nul'a (drooping). A weeping form.

laurifo'lia (laurel-leaved). 60. May. N. Amer. 1786.


lea'na (Lehen). United States.

lezermia'na (Lezerian). May. S. Europe.

"Li'banis (Lebanon). 30. Asia Minor. 1870. "Lebanon Oak".

angustifo'lia (narrow-leaved).

macroco'rpa (large-fruited).

loba's (lobed). California. 1865. "Valley Oak".

lucome'na (Lucomean). 60. May. 1772. "Lu-

combe Oak" (? Q. Cerris X Suber).


Asia Minor. 1824.

Boi'tizis (Blizieris's).


"Overcup Oak".

macroco'mica (Macedonian). Italy to Macedonia, &c.

macranche'ra (long-anthered). Armenia, &c.

macroco'rpa (large-fruited). 40. N. Amer. "Burr

Oak".

olivae'rmis (olive-formed). 60. May. N. Amer. 1811.

maria'ntica (Maryland). United States. "Black

Jack".

mari'ina (sea). See Q. NIGRA.
Q. ru'bra pe'ndula (drooping). "Weeping Red Oak." 


QUINA, QUININA, or QUIN. Cinchona.

QUINCE. Cydo'nia vulgaris. 

VARIETIES. — Common, Apple-shaped, Pear-shaped, and Portugal. The last is the best, and very distinct from the others. C. sin'ensis, the Chinese Quince, has been fruiting in this country, but it requires a wall. The fruit is of much size, and forms them to branch the Common and Portugal Quinces; it is cylindrical, about 6 inches in length, and exceedingly gritty. 

Culture. — The trees may be raised from seed sown in autumn, but there is no certainty of having the same, or any good fruit from the seedlings. The several varieties may be propagated by cuttings and layers; also by suckers from such trees as grow upon their own roots, and by grafting and budding upon their own or pear stocks. 

Cuttings, layers, and suckers may be planted in autumn, winter, or early spring. Choose young wood for the cuttings and layers. They will be rooted next autumn; then transplanted into nursery rows 2 feet asunder; plant the suckers also at the same distance, and train the whole for the purposes intended; if for standards with a stem, to any desired height, from 3 to 6 feet; and if for branches, to climb them to either the common or Portugal Quinces; they may be arranged with other moderate-growing trees, about 25 feet apart. For other particulars of culture, see PEER.

QUINCE, BENGAL. See Egle Marmelos.

QUINCEY. The fruit of the Black Currant, Ribes ni'grum.

QUISQUA'LIS. (From quis, who, and qualis, what kind; when first named it was doubted to which class and order to refer it. Nat. ord. Myrobolans [Combretaceae].) 

varieties. — They have formed tolerable heads, plant them out finally. Standard quinces, designed as fruit-trees, may be stationed in the garden or orchard, and some by the sides of any water in bye places, suffering the whole to grow. Natural quinces, or espaliers, or dwarf standards.

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QUINE. An extract from the bark of several species of Cinchona.

QUINSY-BERRY. The fruit of the Black Currant, Ribes ni'grum.

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SPRING VARIETIES.—Long-rooted.—Long White; called also the White Transparent, White Italian, and Naples Radish, White Russian. Twisted Radish of Mons, Semi-long Scarlet, Rose-coloured Semi-long. Scarlet, or Salmon, or Scarlet-transparent Radish. Purple, and finally the Short-topped, Red-necked White, and others.

Turnip-rooted.—White Turnip. Early White Turnip. Pink, Rose-coloured, Scarlet and Crimson Turnip. Purple Turnip, small, broad or round. Yellow Turnip, round or flat. "Autumn and Winter Varieties.—These are all of the turnip-rooted kind, and are in the order they follow in coming into use: Yellow Turnip. Round Brown. White Turnip. Red Spanish. Black Spanish. Winter or Purple Spanish.

The soil, a light loam, and moderately fertile, should be a full spade deep, and well pulverised. Manures should be laid round at the time of sowing. The situation should always be open, but for early and late crops warm and sheltered.

Sowing.—For the earliest productions, during December, January, and February, in a hotbed; and in the open ground once a month during winter, and every fortnight during the other seasons of the year.

In the open ground the seed is generally sown broadcast, and well raked in, but in drills is much the better method. The drills are made 3 inches apart, 6 inches long, covered with fine earth, and buried a quarter of an inch deep. Thick sowing causes the tops to be large, and the roots tough and thin. If broadcast, the beds should be laid out 4 or 5 feet wide, 6 feet in length, 6 inches deep, and covered by earth from which may be thrown out to raise the beds. If drills are employed for the long-rooted, they are required to be 3 inches asunder, for the turnip-rooted 4 or 3, and for the Spanish, 2 inches wide.

When the seedlings are well up, and advanced to five or six leaves, they are ready for thinning; the spindle-rooted to 3 inches apart, the turnip-rooted to 4, and the larger varieties to 6 inches asunder. Thinning requires to be rather increased in moist, warm weather. In dry weather they ought to be watered regularly every night.

The early and late crops that have to withstand the attack of Anthomyia, should be carefully covered with dry straw or fern, to the depth of about 2 inches, or with matting, supported by hooping until the plants make their appearance, when the covering must be removed every mild day, but renewed towards evening, and constantly during frosty or tempestuous weather.

The bed should have a good watering the morning before that on which they are taken up, but none afterwards until subsequent to the drawing.

To draw the seedlings, sowing, seedlings must be made once a week. The management is precisely that required for rape, mustard, &c.

To obtain Seed, leave in April, or early May, some of the most vigorous seedlings on the surface. When in full vigour, they must be taken up with as little injury as possible to the roots and leaves, and planted in rows, 3 feet asunder each way, being inserted by the dibble completely down to the leaves. Water must be applied until they have taken root, and occasionally throughout their growth, especially when in flower. If practicable, it is best to leave some plants where raised.

To obtain seeds of the Black Spanish, some seeds must be sown in March, or some of the winter-standing crop left or transplanted during that month. The pods must be cut as soon as they become of a brown hue, and well dried.

Two varieties must never be raised near each other, and seed of the previous year's raising should always be employed.

The seeds of the different varieties are easily distinguished by the following marks: Those of the long white radish are small, flat, and pale; of the scarlet and purple long-rooted, large; and of the first very light-coloured, compared with those of the latter; of the white variety small, round, and brown; scarlet turnip, rather larger, and somewhat darker; purple turnip, larger and brown, being similar to the long-rooted purple, except in size.

Forcing.—A moderate hotbed is required for this crop, of a length according with that of the frame to be employed; the earth about 8 inches deep, on the surface of which the seed is to be sown as soon as the violent heat is abated, and an additional fourth of an inch sifted over it.

The seedlings are in general up in less than a week, and in six they will be ready to draw. Throughout their growth air must be admitted as freely as is allowable. The glasses, however, must be closed on the approach of evening, and mats or other covering put on in inclement weather. The spacing of them, when the earth appears at all dry, a light watering must be given at noon.

The plants must not stand nearer than 2 inches to each other. The temperature required is from 50° to 70°; and it must be kept to this heat by moderate linings as required.

If there be a deficiency of frames, hoops and mats may be employed, a frame of hoops or wire, being formed round the bed, light and air being admitted as freely and as often as possible. If seed is sown within a frame without any bottom-heat, the plants will be two or three weeks forwarder than if sown in the open ground.

RADIUS: Annhomyia radicun.

RAFNIA. (Named after C. Rafn, a Danish botanist. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16: Monadelphia, 6-Decandra. Allied to Hovea.)

Greenhouse, yellow-flowered evergreens, from South Africa, except where otherwise mentioned. Seeds in a hotbed, in spring; cuttings of firm side-shoots at the beginning of March, or in the second week of April, are used. Sown in a bell-class; saplings, kept round to pieces of charcoal and broken pots, and drainage well attended to. Winter temp., 40° to 45°.


R. cordata (heart-leaved), 2. May, 1821.


R. ellip'tica (oval-leaved), 2. June, 1819.


R. la'nea (spread-head-leaved), 2. June, 1823.

R. oppo'sa (opposite-leaved), 2. June, 1824.

R. perfoliata (perforate), 2. June, 1824.


RAGGED ROBIN. Ly'chnis Fl'o's-cu'lit. See VEGETABLE MANURES.

RAGWORT. Oth'o'na and Sen'e'io.

RAILLARD. See VEGETABLE MANURES.

RAILING is of various forms, but all, if made of wood, are soon decayed if slight, and are clumsy and inelegant if strong. Iron railing is at once light, neat, and enduring, and may be erected for about 2s. per yard and upwards.


RAGGED ROBYN. Ly'chnis Fl'o's-cu'lit. See VEGETABLE MANURES.

RAIN TREE. Pithecolobium Sat'han.

RAIN FLOWER. Iris.

RAISINS. Sun-dried grapes.

RAISIN-TREE. R'bes ru'brum.

RAISIN-TREE, JAPANESE. Hove'mia du'los.

RAJA NIA. (Commemorative of the celebrated English naturalist, John Ray, the founder of the natural system of botany. Nat. ord. Dioscoreaceae. Allied to Dioscorea.)

A stove twiner very similar to a Yam or Dioscorea. Seeds, offsets, or divisions of the tubers. Loam, leaf-mould, and sand.


R. guin'id a (five-leaefed). See AKEBIA QUINATA.

RAKE. This implement is now much less in use than formerly, when broadcast sowing was prevalent. Now the broad hoe is quite as efficient in covering drill-sown seed. The head of the rake is best made of wood, and of this ash is most desirable. If the head be of iron, the teeth are continually becoming loose. Rakes, with heads about 6 inches long, are required for dressing flower-
borders, but for open ground-work the length may be 15 inches. The hoe and the rake are sometimes attached to one handle; but it is a form liable to constant entanglement in the flower-garden, for which it is designed.

RAMONDIA. (Named after L. Ramond, a French botanist. Nat. ord. Geraniaceae. Linn. 5-Petandria. Allied to Streptocarpus.)

Hardy herbaceous perennials. Seeds and divisions in spring; sandy loam and a little peat; a sheltered place, or kept in a pit, in winter, as an alpine.

P. Halidiei (Heldreichi, §). Deep violet. Summer.

P. Cornus-leaf. §. Orange. Summer.


1825. Roette Montan


P. *Stoebe* (Servian). §. Mauve to violet. Servia.

P. *Natalia* (Queen Natalia's). §. Rh. violet; anthers orange. Carpathians.

RAMON-TREE. Tró phète.

RAMPIpION. Phytema and Cyphidia Phytema.

RAMPION. Campaëna Rapunculus.

The soil ought to be moderately moist; but it must be light. A shaly, rich border is most favourable.

So grown during March, April, and May, in drills 6 inches apart; the plants from sowings in the first two months soon run up to seed. The plants are to remain where sown; though, in ease of any deficiency, those which are taken away in thinning the crops may be transplanted successively, if removed to a bed, and inserted with the roots perpendicular, and without pressing the mould too close about them. The best time for the removal is of an evening.

They are then about 2 inches in height, and they must be set at a distance of 6 inches apart.

The plants of the sowings during the two first-mentioned months will be fit for use at the close of August, or early in September, and continue through the autumn. Those of the last one will continue good throughout the winter, and until the following April. The soil throughout their growth must be kept moist by giving frequent waterings.

The root, for which it is cultivated, either to be sliced to be planted, or to be planted in salads, or eaten as the radish, as well as to be boiled like asparagus, is most palatable when drawn young, and eaten fresh from the ground.

To obtain Seed, leave a few of the winter-standing plants.

The plants are grown in pots in the greenhouse in July and August, and then abundance of seed in early autumn. Gather it before it begins to scatter, and dry on a cloth before threshing.


Stove evergreen shrubs, and white-flowered, except where otherwise mentioned. Cuttings of the young shoots in spring and summer, in sand, under a bell-glass, in a hotbed. Sandy, fibrous loam and fibrous peat, with a few nodules of charcoal. Temperature when at rest in winter, 32° to 50°; when growing in spring or summer, 60° to 80°.


arma (armed). See BASANACANTHA ARMATA.

bowdii (Bowdii's). See R. MACRANTHA.

charitos (Charitos). See R. MONOXYNGIA.


floribunda (bundle-flowered). See R. DUMETORUM.


latisili (broad-leaved). See R. ACULEATA.


malabarica (Malabar). India.


Mussaenda (Mussaenda-like). 8. Amer. 1843.


ypya'la (small-flowered). Yellowish. May. Hima-


stanleyana (Stanleyan). See R. MACULATA.

uliginosa (marsh). India.

RANTLY. The Mountain Ash. (Py'rus Aucuparia'ria).

RANUCULUS. Crowfoot. (From rana, a frog; some of the species inhabiting marshy places. Nat. ord. Crowfoots (Ranunculaceæ). Linn. 13-Folypandra, 6-Folgymnia.)

All yellow-flowered, except where otherwise specified. Annuals, seeds in common soil, in March and April, though few are worth the trouble, unless in a corner devoted to small native and alpine plants. Perennials, by division of the plant in spring. Aquatics, mostly native to Europe, and giving them any soil in shallow ponds or ditches; tuberous-rooted, by division of the roots in spring. Asia'ticus, the florists' Ranunculus, and its many varieties, may be planted in still, rich loam, either in October or March. If the former, the beds will require to be protected a little from heavy rains and from sharp frosts. See treatment as a florist's flower.

HARDY ANNUALS.


hirsutus (hairy). See R. SARDOUS.


murica'tus (warted). §. July. Europe, &c.

nodiflorus (node-flowering). Europe.

Nut'ritii (Nutritious). §. North-western Amer.


pavonia (soil-loving). See R. SARDOUS.


tuberosa (tuberous). Europe.

tuberculis (pimpled). See R. LOMATOCARPUS.

uliginosus (marsh). See R. OPHIOGLOSSIFOLIUS.

ven'tricosus (swollen). See R. MURICATUS.

HARDY AQUATICs.


pancho'iris (all hairy). See R. TRICHOPHYLLUS.

P. Aquati'tias (long-flowered). River. See R. AQUATILLIS.


GREENHOUSE HERBACEOUS.


geraniodes (Geranium-like). May. Colombia. 1836.


" New Zealand Water Lily."


HARDY EVERGREENs.

R. filifórmis (thread-formed). See R. FLAMMULA.

Fla'mmula (Flammula). 1. June. Northern temperate regions (Britain).

RANUNCULUS

R. arietinus (northern). See R. AFFINIS.
R. bienotii (two-lobed). S. Europe.
R. brevicaulis (short-stalked). See R. OVALIS.
R. breynioides (Breynioides). See R. NEMOROSUS.
R. Buchanani (Buchanan’s). 1-1. Pure white. New Zealand. 1850.
R. cardiophyllus (heart-leaved). See R. AFFINIS.
R. Eschscholtzii (Eschscholtz’s). See R. NIVALIS.
R. fridus (cold of Schrank. See R. LACERUS.
Switzerland. 1819.
R. Gourli (Gouan’s) of Smith. See R. CARPATICUS.
R. grandiflorus (Grande). 1. May. Europe, etc.
R. Cypripedium (Icyprium-like). See CALLIANTHEMUM RUTACEUM.
R. Langle (tongue-leaved). 2. July. Europe (Britain);
R. Macauleyi (Macauley’s). N. Amer.
R. nivalis (Nivalis). See R. PENNSYLVANICUS.
R. inspetum (Icyprium-like). See CALLIANTHEMUM RUTACEUM.
R. lina (tongue-leaved). 2. July. Europe (Britain);
Siberia.
R. Macauleyi (Macauley’s). N. Amer.
R. nivalis (Nivalis). See R. PENNSYLVANICUS.
R. inspetum (Icyprium-like). See CALLIANTHEMUM RUTACEUM.
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Siberia.
R. Macauleyi (Macauley’s). N. Amer.
R. nivalis (Nivalis). See R. PENNSYLVANICUS.
R. inspetum (Icyprium-like). See CALLIANTHEMUM RUTACEUM.
RANUNCULUS (R. asiaticus) AS A FLORIST'S FLOWER.

**Varieties.**—These are very numerous and annually increased.

**Soil.**—This should be of a fine texture, easily broken, and moderately light. It should feel soft to the hand, and have a little—about a 4 inch—sand amongst it. The best is generally found near to rivers. Let it be laid on a long heap, not too thick, and turned over once a month for a year. It will then be in good condition for use. Remove the old soil away from the bed you intend for ranunculuses to the depth, if the situation is dry, of 14 inches: if wet, 10 inches will do. Put in a layer of very rotten cow-dung, 2 inches thick; then bring the soil, put in a layer of 4 inches, upon that put a layer of rotten hotten-dung 1 inch thick, and so proceed till the bed is full, and raised 2 or 3 inches above the surface. Let the bed be edged with boards or slates. Hoop it over, and keep it free from heavy rains, snows, and hail-stones. Turn it over, mixing the materials together well, only take care not to disturb the layer of cow-dung at the bottom. Let this turning operation be performed twice. Then lay down the remaining bed in squares of ½ yard between, finishing the last about the end of January, so as to allow the bed to settle by the planting time in February.

**Planting.**—The best time for doing this is between the 8th and 20th of February. The soil of the bed ought to be neither wet nor dry. To prove its state, take up a handful, gently squeeze it, and let it fall about half a yard; if it is in a right condition, it will fall in pieces. With a rake level the soil; then, with a triangular-shaped and rather small hoe, or with the corner of a common hand-hoe, draw a drill across the bed, 2 inches deep; draw the next 4 inches distant from each other, and so on till the whole bed is finished. Commence this some fine morning, when there is a prospect of the day continuing fine. When the drills are all finished, sprinkle the bottom of each drill some fine sand: then bring out your ranunculus roots, with a numbered label, made either of lead, with the number stamped upon it, or of wood, with each number written upon it with a pen. Collect up the plants from the greenhouse, and begin then to plant the variety written in your book opposite No. 1: take each root between your fingers and thumb, and place it at the bottom of the drill, very exactly and together with the length of the claws of each root. Having placed the first to your mind, put the next at 4 inches distance from it, and so proceed till you have planted all the first kind, and then number all the other roots, either with the number facing the kind, or with its back to it. Both ways are practised by florists, but we prefer the number to face the variety it belongs to. If our plan is followed

the number should be always put in first, the whole of the variety planted, and then the second number put in, and the second kind planted. Follow on in this manner, till the bed is filled, then the drill is completed, cover the roots just over the crowns with some more of the fine sand: this sand prevents the roots from getting too wet, or moulding; Then with a rake care that and then the fall into the drills. When the bed is not edged with boards or slates (as recommended before), stretch a line on one side of the bed, about 4 inches from the roots, and with the back of the spade pull the soil on the side gently, and firm; then chop down the edge of the bed nearly perpendicularly.

**After-culture.**—It is essential to the success of this flower cult to recollect that about them should be close and firm, almost approaching to hardness. If the bed has been rightly prepared, and the flower planted according to the instructions given, all will be well. When the tops begin to push through the soil, it will be of the greatest importance to tread the soil down very firm between the rows, and if any symptoms of cracking in the soil appear, the surface should be stirred to prevent it. Protection from sharp late frosts should be given, by covering whenever such weather is likely to take place, and it is equally beneficial to protect from heavy rains. Both are best excluded by hoops extended across the bed to support the frames of table-hothouses; the frames may be used. From April and May, should dry weather prevail, water may be cautiously administered at intervals in an evening, but only just so much as will prevent the soil of the bed from becoming wet. These should be kept in little mats, &c., may be neatly placed between the rows, which will retain the moisture in the soil. The over-abundant application of water is a very common error, and one of the worst evils.

The dying of leaves, in some instances, evidently depends on a want of vigour, or partial rot in the root and, in some few cases, it would appear to be caused by the roots of the plants, nearly undermining them; but in the great majority of cases it is produced by injudicious watering.

The best time for the expansion of the flower-buds, and when they are fully blown, an awning should be erected over the bed, as in the case of tulips, that rain and hot sun may be excluded; and gentle watering every second or third evening may be given, which will keep the bed cool and moist, and promote the size of the flower. As much air should be admitted as possible, that the flower-stems be not drawn and weakened.

**Rapatea.**—Save seed annually from varieties distinguished for excellence of form and colour. Sow in February, and place the boxes in a cool greenhouse or frame. Sow in boxes 18 inches by 11 inches, and 4 inches deep, or in pans on the earth, which should be hard and firm, and water immediately the seeds about the eighth of an inch apart; cover them as thinly as possible, and water with a fine rose; but place the boxes under glass, without heat. The plants usually make their appearance in about a month. Give air day and night, except in severe frost; then cover up with straw mats. With such protection, the young plants will endure the severest seasons. Put the boxes in the open ground up to the 1st week in May, and water daily until the leaves begin to wither; then suffer the boxes to become quite dry; and in the middle of July take them up, and preserve the roots in bags until they are required to be planted, when they may be transplanted as the general stock. In the following June they flower.

**Taking up.**—The roots, in wet seasons, should be taken up as soon as the leaves turn yellow, as they are apt to sprout; but in dry seasons they may remain until the leaves are brown. Take them up as dry as the season will permit; complete the drying in a warm room, rather than in the sun, and store them in a dry, cool place.

**Forcing.**—Select tubers which have been kept three or four months, or even a year over the season of planting, these being more easily excited than those which have been only one time in pots at the beginning of August; &c., by bringing these into the greenhouse at different periods; a bloom is kept up from October to February.
A perennial stow herb with a short, thick rhizome. Some offsets, or cuttings of the rhizome. Loam, and heat in a light position.

R. pandanodes (Pandanus-like).

RAPE, or COLESEED. (Brassica Napus.) Like mustard and other small salading, it may be sown at any period, or in the fall, when it is in a sheltered and protected place. A sheltered place against a wall, or protected in very cold places by a cold pit; most of them have stood at least several seasons protected by a wall in the vicinity of London.


ova'la (egg-shaped) of gardens. See R. japonica.

P. W. B. (Brazil). 1820. 1. Pink. July

Pheos'temon (brown-stamened). See R. indica.

ra'bra (red). See R. indica.

sulcifo'lia (willow-leaved). See R. indica.

RAPHIOLENUS. (From raphio, a needle, and lepis, a scale; in allusion to the slender-pointed scales of this plant.


RAPHISTEMA. (From raphist, a needle, and stemma, a crown; in allusion to the pointed scales of the corona. Nat. ord. Asclepiadaceae.)


RASPBATIA. (Named after M. Raspail, a French botanist. Nat. ord. Bruniadis [Bruniaceae]. Linn. 5- Peniandria, 1-Monogynia. Allied to Brunia.)


R. phylic'his (Phyllica-like). See R. Dregena.

RASPERRY. Rub'us Ida'us, Varies.—The most useful are as follows: (1) Red Antwerp; (2) Yellow Antwerp; (3) Fastolff, or Filby; (4) Double-bearing; (5) Superbative; (6) the Guinea or Yellow Wrasse; (7) the Globe. (8) All these varieties are produced for many years highly esteemed; but (3) has, of late, in a great degree, superseded them, being larger and of at least equal flavour, a greater bearer, and possessing that desirable property of bearing large crops of fruit, producing occasionally fine autumnal fruit, which is superior to that of the double-bearing kinds. No. 4 is a decided autumn Raspberry. No. 5 is a strong grower, and the heaviest cropper, producing large crimson berries; the Guinea is a seeding from it, of similar vigour, but the large fruits are not quite so sweet as those of Yellow Antwerp. Mr. Rivers, of Sawbridgeworth, has a new variety of No. 4 from America, which is said to be very superior. Another variety is a hybrid between the Raspberry and Blackberry; this Mr. Rivers calls "the Black," and states is good for preserving.

Propagation: Sticks, or suckers, of those who desire to make a new plantation of Raspberries will do well to obtain their suckers from a healthy stock. We have known new plantations made in cases of emergency from a stock which had stood too long in the ground, and of course were lean, if not diseased. This leaness was evidently communicated to their progeny, and, despite high manuring, a year or two was lost before they could recover. If suckers, then, may be planted any time between October and the middle of February, and they are drawn away from the old plants by hand; a slight pull will soon show which are those disposed to colonise. Deeply-cut suckers, then, may be planted in a bed, three feet apart from the centre of the plant; and the rows, if side by side, 6 feet apart. As soon as the leaf drops, say the begin-
Caterpillars have been at work in them during their early stages, and effecting their destruction.

Two means of prevention and remedy may be adopted. During May and June, ready to enter the pupa stage, and would thus reach the perfect stage to renew their depredations during the summer. As soon as the crop is gathered, the old canes should be cut clean away, and immediately burned, as this means the destruction of young caterpillars, which may be upon them. All other stumps, and even the unnecessary young canes, should also be destroyed in the same way, and many of the caterpillars will be prevented from hibernating, to renew their depredations in spring.

RATTLESNAKE FERN. Botry'chium virg'iscum.

RAWOLFIA. (Named after L. Rawol, M.D., a botanical traveller. Nat. ord. Dogbaines [Apocynaceae].


RAVENIA. (The native name in Madagascar. Nat. ord. Scitaminae.)


RAVENEA. (Commemorative of Louis Rave'næ, a patron of gardening at Berli. Nat. ord. Palmaece.)


RAVENIA. (Possibly a commemorative name. Nat. ord. Dogbaines. Allied to Ruta.)


RAVENSA. (Derived from the native names, ra'ven, a leaf, and sara, savoury; the leaves are scented like the clove. Nat. ord. Lauraceae. Allied to Cinna-

REANA LUXURIANS. See TRIPScACUM DACTYLOIDES.

REAMURIA. (Named after A. Reamur, the French entomologist. Nat. ord. Tamarisks [Tamaricaceae]. Linn. 13-Polyandria, 5-Pentagynia.)

Hairy-stemmed Chimonandra. Cuttings from young shoots in sand, under a glass; sandy, fibrous loam, fibrous peat, and leaf-mould; dry soil in sheltered places; but generally requires a cold pot in winter. R. hypericioides (St. John's-wort-like). 2. Purple, crimson, or red. Peru, 1804. 

REANA LUXURIANS. See TRIPSACUM DACTYLOIDES.

REBELS. (Named after J. Rebello, the Portuguese artist. Linn. 183-Morna-delphia, 8-Polyandra. Allied to Helicteres.)


REBELGIA. (Commemorative of M. Regel of the Imperial Botanic Gardens, St. Petersburg. Nat. ord. Myrtaceae.) The name Regelia has also been, erroneously, applied to species belonging to two other distinct natural orders.


REHMANNIA. (Commemorative of Joseph Rehmann, a Russian doctor. Nat. ord. Scrophulariaceae.)

Hardy and half-hardy or greenhouse perennial herbs. Seeds; cuttings in sand under a bell-glass. Fibrous loam, plenty of leaf-mould, and some sand for pots, and well-drained soil for the hardy species.


R. glauca (clammy). See R. chinensis.


REDE GLAUCESCENS. See PHYLANTHUS PULCHER.

REINECKIA. (Commemorative of M. Reinecke, Nat. ord. Liliaceae. Allied to Convallaria.)


R. variegata (variegated). Leaves striped with cream. 1862.

REINWARTDIA. (Commemorative of K. G. K. Reinwardt, of Leyden Botanic Garden. Nat. ord. Liliaceae.)


REISS KIA. (A commemorative name. Nat. ord. Rhamnaceae.)


R. siliqua (Silica-leaved). See R. cordifolia.

RELHIA NIA. (Named after R. Relhan, a botanical author. Nat. ord. Compositae [Compositae]. Linn. 19-Syngensia, 2-Superbiosa.)


REMUSIA. (Commemorative of Remigio, an Italian doctor. Nat. ord. Rubiacae.)


REMUSIA. (Commemorative of Abel Remusat, a celebrated botanist and versed in Oriental literature. Nat. ord. Araceae.)


RENA NTHERIA. (From ren, a kidney, and anthera, a pollen bag, or anther; shape of anthers. Nat. ord. Orchidae [Orchidaceae]. Linn. 20-Gynandra, 1-Mono-


R. arach'mes (spider-like). See ARACHNANTHE MOSCHIFERA. 

R. bid'ngu'ts (two-lipped). See ARACHNANTHE BILINGUES. 


R. flor'ea'ris (flower-of-the-air). See ARACHNANTHE MOSCHIFERA. 


R. hook'eri (Hookerian). Yellow and crimson. Borneo. 1879. 

R. inscho'ota (Inschootian). Deep red, marked with yellow. Assam. 1891. 

R. lat'iflora (Lowi). See ARACHNANTHE LOWI. 


R. molucc'a (Moluccan). Red. Ambon Bay Island. 1846. 

R. rohan'a (Rohanian). See R. hookeriiana. 

R. stur'i (Storii's). Dark orange; lateral sepals and lip fiery crimson. Philippines. 1860.

RENDLE'S TANK SYSTEM

Of heating was first suggested, we believe, by Mr. Rendle, nurseryman, of Plymouth. A tank of iron or wood, 20 feet long, 5 feet broad, and 6 inches deep, is constructed in the centre of the house, and surrounded by a walk, except at the end, where the boiler is fixed for heating it. The top of the tank is covered with large slabs of slate, cemented together, to prevent the escape of steam. Around this is a frame sufficiently high to retain the bark, in which the pots are plunged. The boiler and tank are filled with water, and this circulates, when the fire is heated, until confined, by means of 1 pipe, from the top of the boiler, and the other returning nearer to its bottom. The expense of pipes, and the danger of their freezing, are avoided; the fire only requires to be shut light for an hour after shutting again for the same period in the morning; the water, when once heated, retaining its temperature for a long time. In a small house, the apparatus can be constructed for £5,
and in all for less than half the cost of hot-water pipes. The saving in tan and labour is also very great. In some places tan costs 155. per cart-load, and where it is cheaper, the trouble and litter incident to its employment, and the dangers of loss from fungi and insects, of which it is the peculiarly fertile foster-parent, render it objectionable as a source of heat; and whenever the tan has been removed, the trouble and destruction of plants are always great.

"In my new propagating house," says Mr. Rendle, "the tank or cistern is placed in the centre, with a walk surrounding it, so as to enable the propagator with greater ease to attend to the plants, &c.

"On the outside of the house is a fire-shed, in which the boiler is fixed. The tank, made of wood, 12 or 15 inches deep, and about four feet in diameter, is fitted with steam which also prevents the water cooling so fast as it does either in stone or iron, may be lined with lead or zinc. Exactly in the centre of the tank is a partition, serving the double purpose of causing the water to circulate, as well as to support the edges of the slates, an aperture being left in the partition, of about 2 inches in breadth, to allow the water a free passage. The flow-pipe enters near the appendage of the tank, at the mouth of which pipe a piece of perforated copper placed, as also at the return-pipe, to prevent dirt and sediment from finding their way into the boiler. After everything is properly fixed, the tank is filled with water in which, of course, at the same time fills the boiler. . . . The tank is about 4 inches deep. Across it, and resting on its sides, are placed slate stones about 1½ inch thick, curiously cut at the edges and placed fast in the tank, by cork cement, or Aberthaw lime, to prevent a superfusion of steam from escaping into the house. . . . Around the edges of the slates a piece of inch board, about 9 inches deep, should be placed to prevent the sawdust, sand, moss, or other pluming material.

A Finery may also be fitted up with Mr. Rendle's tank beneath the pluming material. It is described as "a very useful and most desirable structure for the growth of the Pine Apple, with a hollow wall, recommended by all garden architects in preference to a solid wall—the heat or cold being not so readily conducted as through a solid mass of masonry." Mr. Rendle might have added, that hollow walls are also much drier.—Rendle's Treatise on the Tank System. See Stove and Hotbed.

RENEALMIA, of Linnaeus the younger. (Commensurate of Potentilla, a French botanist. Nat. ord. Scitamineae. Allied to Alpinia.)


RENEALMIA of R. Brown. (Nat. ord. Iridaceae. See Libertia.)


RESEDA. Mignonette. (From reseda, to calm; supponed various virtues). W. Med. (Resedaceae). Linn. 11-Resedoeandria, 3-Trigynia.)

All by seeds; the half-shrubby kinds also by cuttings; seeds must be sown at different times, according as the bloom is wanted. The beginning and middle of May is early enough to sow in the open border. Though usually treated as annuals, most of the Mignonettes may be grown as under-shrubs or perennials, if they are prevented from freezing, and kept from frost in winter. We have seen the common Mignonette that had been kept in a pot about eight years, and flowered freely every season. See Mignonette.


R. supfruticulosa (sub-shrubby). See R. Alba.


RESERVE GARDEN. See Nursery.

REST. That period when a plant is not growing.

REST-HARROW. Ono'nis.

RE'STIO. (From resisto, a rope-maker; ropes are made of cord-like twigs in South Africa. Nat. ord. Restiaceae.)

Greenhouse evergreen, with much-branched shoots, like slender whip-cord or coarse thread. Divisions. Loam, coarse sand, and sand.


RESTREPIA, (commemorative of Joseph K. Restrep, a South American traveller and naturalist. Nat. ord. Orchidaceae, Allied to Phleirotaxis.)


RESURRECTION PLANTS. Ananas i'cica hiernch'i 'nic i. Mammillaria rhipha arium. Triplo iusm, and Salsine i'la lepido'phylla.

RE'ATA ALBIFLORA. See Cytisus albus.
RAPANILLA 737

RHAMNUS


RETDARING requires as much skill as forcing, for as the latter requires the application of all that is suitable to the promotion of a plant's rapid healthy growth, so the former demands in it of those conditions. Thus to retard growth, the lowest temperature, and the least degree of light compatible with healthy growth, must be secured; and to this end plants for succession are often placed on the north side of a wall. See Screen.

Then, as in the case of raspberries and strawberries, plants are often cut down in the spring, to prevent cold injury. Upright shoots, thus to be productive in the autumn instead of the summer.

The vegetation of many bulbs may be prevented by merely keeping them dry, and, indeed, the withholding of water from the bulbs during the earliest months, is necessary in all retarding treatment. To secure the entire rest of bulbs, and of such plants as will bear so low a temperature, the covering of the shoots with a нио unforgettable. Similar exclusion of heat and light retards the ripening of picked fruit, and if the air be excluded from them, or its oxygen withdrawn, fruit will remain unripe, and without the ripening of the name. R. durrhy (doubtful). See Thuya orientalis ericoides.


" A. versated. 2. Yellow. May. Switzerland. 1572.

" R. durrhy (doubtful). See Thuya orientalis ericoides.

" juniperodes (juniper-like). See Thuya orientalis deccussata.

" lepidoidea (slender-branched). See Cupressus thuya lepidoidea.

" obtus (blunt). See Cupressus obtusa Crippsii.

" lycophorodes (lycopod-like). See Cupressus obtusa Lycofoideae.

" variegata (variegated). See Cupressus obtusa Lycofoideae.

" plumosa (feathery). See Cupressus fisipera plumosa.


RABDOHTA MNNUS. (From rhabdos, a rod or wand, and thamnos, a shrub; in allusion to the twingy branches. Nat. ord. Gesneraceae.)


RHA'MNUS. Buckthorn. (From rham, a Celtic word, signifying a tuft of branches, or the Greek, rhamnos, a thorn-bush. Nat. ord. Rhamnads [Rhamnaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Greenhouse and stave species, by cuttings in sand, under a bell or sun-stove, and in a cold or close, warm pit respectively; sandy loam and leaf-mould. Hardy species, by seeds, layers, and cuttings, and more especially the latter mode with all the evergreens, which should be kept open in the autumn, and inserted in sandy soil, in a shady border, with hand-lights over them; good garden-soil.

GREENHOUSE EVERGREEN SHRUBS.


STOVE EVERGREEN SHRUBS.


HARDY DECIDUOUS SHRUBS.

**RHAMNUS**

R. *arbutus* (acae), China and Japan.


R. *chelidonium* (Hydriand). See R. *pumila*.

R. *chlorisphera* (green-bearing). See R. *tinctoria*.


R. *auropunctata* (Pursh's). Some leaves have large yellow blotches. 1907.

R. *astilboides* (broad-leaved). Leaves broad.

R. *fraxinifolia* (Robb's-like). See R. *alpinolia*.

R. *hirta* (hairy). See R. *davurica*.


R. *oleifolia* (olive-leaved). See R. *californica*.


R. *punctata* (spotted). Asia Minor, &c.

R. *purpurea* (purple). Western Himalaya.


**RHAPHIOLEPIS**

R. *infectoria* (infectoria). Leaves narrower.

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R. *infectoria* (infectoria). Leaves narrower.

**RHAPHIDOPHYLLA**

R. *infectoria* (infectoria). Leaves narrower.

**RHAPHIOLEPIS**

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RAPHONTICUM. (From rho, rhubarb, and ponticus, Pontic. Nat. ord. Compositae (Composita). Linn. 19.
RHODODENDRON

  **chloro'ptera** (green-winged). Yellowish-white. Stems.
  **clau'sta** (club-shaped). White. Stems drooping.

Brazil. 1892.

**commu'nis** (common). See R. **mittleri**.
**commor'can** (Commorcoan). Greenish-white. Stems cylindrical, drooping. Comoro Is., 1892.
  **confe'rsa** (crowded). Country unknown.
  **cris'i'ra** (purple). dissi'matis (dissimilar). Stems cylindrical. S. Brazil 1890.
  **disco'ssa** (bristly). Stems 5-angled. Brazil. 1892.
  **gibbe'ria** (slightly-bulging). White; berries white. Stems whorled. Brazil. 1892.
  **gonoca'rrpa** (knee-fruited). White; fruit 4-5 winged.

Brazil. 1892.
  **gra'ciles** (slender). Whitish. Stems thick; branches slender. Brazil. 1903.
  **grandi'flora** (large-flowered). See R. Funa'lis.

Brazil. 1897.
  **Houelle'i** (Houelle's). Straw-yellow. Brazil. 1872.
  **Kim'chi'ii** (Knight's). Brazil.
  **mit'teri** (Mittler's). Rose, white. July to September.

Brazil. 1846.

Brazil. 1828.
  **pachy'tera** (thick-winged). White. February. W. Ind.
  **paras'i'ca** (parasite). See R. Fas'ciculata.

Brazil. 1846.
  **plato'pra** (broad-fruiting). Brazil.
  **bulbe'gosa** (cushion-Rose-bearing). White and yellow.
  **Regge'lii** (Regnell's). White. Stems broad, flat.

S. Brazil. 1890.
  **rho'theta** (diamond-shaped). Country unknown.
  **rob'sis** (robust). Branches stout, round. S. Brazil. 1896.
  **salarco'nis** (Salarco-Nis). March.
  **sali'corni'ae** (Salicornia-like). Yellow. March.
  **sbambo'os** (Bambusa-like). 6. Orange-yellow or reddish-orange. Stems erect. Brazil. 1892.
  **se'ria'ana** (upright). Stems erect.
  **sarmenta'cea** (twigg) White. Argentina. 1858.
  **suare'zi'na** (Suarezian). Small green. Stems short.
  **teirag'a** (four-angled). Stems lying down, 4-angled.

Brazil. 1890.
  **trigo'n'aa** (three-angled). Brazil.
  **tucumana'na** (Tucuman). White, tipped rose. Stems round or angular. Argentina. 1892.
  **wos'a** (twigg). White. Stems round. Brazil. 1892.
  **wur'ming'ia** (Warmingian). White. Stems flat or 3-4-angled. Brazil. 1892.

  **zambe'ziana** (Zambezi). Like a robust R. Cassytha. Zanzibar. 1892.

RHIZOPHORA. Mangrove. (From rhiza, a root, and phoreo, to bear; the branches send down roots like the Banyan-tree. Nat. ord. Mangroves [Rhizophoraceae]. Linn. 1834. 1-10. Banyan. 1895.
Not likely to be much cultivated until we obtain salt-water aquaria in our large tropical houses. The Mangrove flourishes in rich, loamy soil, in thickets, by the side of the ocean, in tropical latitudes, and possesses the striking feature that the seeds vegetate while attached to the plant, and send out a long radicle, which generally reaches the soft mud, while the top puts out leaves; numbers of plants are thus joined, together, something in the same way as the Banyan-tree.

RHODA'MIA. (From rhodamos, a flexible branch; in allusion to the slender, twiggly character of the plants. Nat. ord. Myrtaceae. Allied to Myrtus.)
Greenhouse, evergreen shrubs or small trees. Cuttings in sand, under a hand-light. Fibrous loam, peat, and sand. The one-called ovary is remarkable in the order.
  **ar'gentea** (silvery). 5-10. White. Australia.
  **trine'ria** (three-nerved). 15. White. May. India; Malaya; Australia. 1892.

RHODANTHE. (From rhodos, a rose, and anthos, a flower. Nat. ord. Compositae [Composite]. Linn. 19-Gynegetes, 1-Equalis. Referred to Helipterum.)
 **atro'sangui'nea** (dark-blood-red). See Helipterum ATROSANGUI'NEUM.
  **macula's** (blotched). See Helipterum MANGLESI.
  **Mangles'ii** (Captain Mangle's). See Helipterum MANGLESI.

RHODDON, or RODDON-TREE. Py'rhus Aucup'a'ria. RHOD'DIA. See Roh'idea.

RHODIO-LA RO'SEA. See SEDUM ROSEUM.

RHODOCITON. (From rhodos, red, and chiton, a tunic or cloak; referring to the large, cloak-like red calyx. Nat. ord. Scrophulariaceae. Allied to Mauritius.)
A greenhouse, evergreen climber. Seeds; cuttings in sand, under a bell-glass, during late summer. Fibrous loam, leaf-mould, and sand.

RHODODENDRON. Rose Bay. (From rhodos, a rose, and doreon, a tree; in allusion to the colour of R. ponticum. Nat. ord. Heathworts [Ericaceae]. Linn. 15-Decandria, 1-Monogynia.)
Greenhouse. Yellow; flowers in yellow; sandy, fibrous loam or clayey loam. Kitchen-garden soil, and soil of any kind containing or resting upon calcareous matter, the worst. The varieties of the arboreus, campanula'tum, &c., require a little protection, but love them in their beauty. See Azalea for old varieties.

Hardy False Azaleas (Azaleastrum).


Hardy Azaleas (Azalae).

RHODODENDRON


arida'ns (burning). Glowing red. Tschonoskii. Austria. 1887.


behnianum (Benthamian). Purple-violet. Western China. 1897.

blandfordi'orum (Blandfordia-flowered). See R. CINNARI NARIUM


Kempefri (Kempfer's). See R. INDICUM KEMPFFERI


narcissif'orum (Narcissus-flowered). Purple, double. 1836.

tan noordi'sum (Van Noordt) Flowers larger, of different shape. 1908.


polei'um (Polei's). See R. SINENSE.


ob'sum (blunt). See R. INDICUM OBTUSUM.


fracto'sum (pleasing). White, with yellow blotch, fragrant. 1908.

magnif'icum (magnificent). White, marked yellow, fragrant. 1908.

quinquefo'lium (five-leaved). Japan.


rhombicum (diamond-shaped). Japan.

Schlippenbaschii (Schlippenbach's). 5. Rosy-lilac.


Tschenoskii (Tschenosk's). Japan.


yeol'-se (Yedo). Rose-pink. Japan. 1886.

HARDY RHODODENDRONS (Eurhododendron).


Half-hardy.

derivat'um (derivatis). See R. CAMPA NULATUM


Anna's (Anna's). White. Western China. 1866.


arbor'orum Campbelli'ae (Mrs. Campbell's). Temperate Himalaya.


Augusti'ni (Augustin's). 4-10. White, pink, and pale purple. Central and Western China. 1905.


bellidi'aceum (Bellidiaceum). Purple-violet. Western China. 1897.

blandfordi'orum (Blandfordia-flowered). See R. CINNARI NARIUM


camtsi'chum (Kamtschatka). See R. KAMTSCHAT TICUM


cau'bam (proud). Lilac, semi-double.


fa'dem'um (yellow). Straw, spotted with green. Caucasus. 1868.

fo'ra'albo (white-flowered). White.


Chamaecist'us (ground-cactus). See RHODOTHAMNUS


tose'albo (rosy-white). White, tinged with rose.


 sempervi'rens (evergreen). See R. DAURICUM

schizoch'rus (Schizochorus). 2. White. Yunnan, China.


trococecin'um (dark-scarlet). Bright red.

ott'rum (orcut). Habit upright.


barbariae'sum (barbariae). Leaves variegated.


hal'ense (Hallan). (R. subferrugineum x hirsutum) Austrian Alps.


RHODODENDRON


"hybridum" (Herbert's-hybrid). Pink, July.

"hypoglauca" (under-glauca). Central China.

"interim" (intermediate). (R. ferrugineum × hirsutum) Tyrol. 1836.

"intricatum" (intricate). 1–3. Lilac or almost violet. Western China. 1907.


"chlorum" (green-flowered). 1. Yellow-green, spotted green.


"macrophalum" (large-sepaled). Rose and purple. Japan. 1870.


"penna-marum" (five-parted).


"(R. hirsutum × punctatum)" 1763.


"fulvum" (tawny). Deeper purple. Leaves buff beneath. Sikkim. 1885.


"parvifolium" (small-leaved). Pale rose. China; Siberia. 1877.

"philosophorum" (Pittosporum-leaved). Central China.


"album" (white). White.

"cheiroanthifolium" (wall-flower-leaved).

daphnoides (Daphne-like).

"lanceolatum" (lance-leaved).

"myrtifolium" (myrtle-leaved).

See R. MYRTIFOLIUM.

"obisum" (blunt-leaved).

Armeniacum. 4. Purple May.


"variegatum" (variegated). Leaves variegated.


"primuliferum" (primrose).

See R. FLAVIUM.


purpureum (purple).

"purpureum" (purple).


"valdensium" (field).

1. Pale rose to dark red, in bunches. Yunnan, China. 1905.


"serratum" (spinulose).

Smirnowii (Smirnow's). Purple. Caucasus. 1801.


Nepal and Sikkim. 1851.

toroneum (Tontonian). Garden origin.


washingtonianum (Washingtonian). See R. CALLIRHOE WASHINGTONIANUM.

Yodogawa (Yodogawa). Delicate lilac, Japan.

yunnanense (Yunnan). White, spotted with red. Yunnan. 1898.

COOL GREENHOUSE RHODODENDRONS (Eurhododendron).


"album" (white). White.


"limbdom" (bordered). Rose, with white throat and blood-red blotch. Sikkim. 1869.

"nilagiricum" (Nilgherrian). Rose, white. May. Neillgherries. 1840.


"punctatum" (purple). Intense red-scarlet.

"(Mr. Rollison's)". Crimson. May. Nepal. 1837.


"azureum" (siverly). See R. GRANDE.

"asiaticum" (Assamese). See R. GRANDE.

"asalaticus" (North Atlantic). See R. GRIFFITHIUM.


"smithii" (Smith's). Under surface of leaves scurvy.


calophyllum (beautiful-leaved). See R. MADDENI CALOPHYLLUM.


"christophyllo" (paper-leaved). Violet-rose or white.

S. China. 1907.


Edgeworthia (Edgeworth's). 3. White, Leaves rusty-woolly beneath. May, Himalaya. 1851–

"eximius" (choice). See R. FALCONERI EXIMIUM.

"Falconeri" (Falconer's). 30. White. May, Himalaya.

"eximius" (choice). 30. White, Himalaya.


"formosum" (beautiful). 5. White. May. Himalaya. 1851–


Himalaya. 1881.


"jenkinsii" (Jenkins's). See R. MADDENI JENKINSI.


"irosum" (sprinkled).


"lindleyi" (Lindley's). White. Himalaya. 1864.

"longifolium" (long-leaved). See R. GRANDE.


May, Himalaya.


"longifolium" (long-flowered). Dull rose outside, deep red inside. China. 1804.

"obtusifolium" (blunt-leaved). Leaves rounded at both ends. Assam. 1900.

"modestum" (modest). 1–2. Pink, with red spots. Himalaya. 1899.
RHODELEIA

R. nilagricum (Neilgherrian). See R. arboreum NILAGIRICUM.


"Royalii" (Royles'). See R. cinnamonarinum.

"Scariflorum" (rough-leaved). White, tinted with rose. Yunnan, China. 1895.


"Shepherdi" (Shepherd's). Scarlet. Himalaya. 1859.

"Smithii" (Smith's). See R. bakertianum SMITHII.


"Windordii" (Windsor's). See R. arboreum.

"Zeylanicum" (Cingalese). See R. arboreum.

WARM GREENHOUSE OR STOVE RHODODENDRONS


"Graie" (slender). Pale yellow. 1871.


"Curti" (Curti's). See R. multicolor CURTI.

"Dermoi" (slender). Borneo. 1846.


"Carinatum" (carmine). Richly crimson. 1888.


"Javanica" (Javanese). 4. Orange, red. All seasons. Java. 1847.

"Tubiflorum" (tube-flowered). Orange-red. Sumatra.

"Kochii" (Koch's). White, tubular. Philippines. 1885.

"Labias" (Lobb's). Deep red or crimson. Borneo. 1865.


"Malaynum" (Malayan). Deep red. Sumatra. 1854.

"Moulmainense" (Moulmain). White. Burma. 1834.

"Mutilis" (many-coloured). Dark crimson or yellow. Sumatra.

"Curtii" (Curti's). 1884.


RHODIOLEA

From rhodon, a rose, and levis, smooth; the coloured bracts, surrounding the head of rose flowers, suggest a rose, while the whole plant is very smooth. Nat. ord. Hamamelidaceae.

Greenhouse evergreen shrub with the habit of a Rhododendron. Seeds; layers. Fibrous loam, peat, and sand.


RHODOMYRTUS.

From rhodon, rose, and myrtus, the myrtle-tree; in allusion to the colour of the flowers. Nat. ord. Myrtaceae. Allied to Myrtus.

Greenhouse evergreen shrubs. Cuttings in sand under a bell-glass. Fibrous loam, peat, and sand.


"Tomentosa" (felted). 4-6. Rose or purple. June. India and Malaya. 1776.

RHODRA

From rhodon, rose; in allusion to the colour of the blossom, which precedes the foliage. Nat. ord. Ericaceae. Now referred to Rhodoendron.

R. ciliatum (Canadian). See RHODODENDRON RHODORA.

RHODOPATHA

From rhodon, rose, and spatha, or spakhe, a spathe, which is rose-coloured in some species. Nat. ord. Araceae.

A stowe evergreen shrub, climbing by means of aerial roots. Cuttings of side branches in sand in a close case, with bottom-heat. Fibrous, limpy peat, loam, and sand.


RHODosphera.

From rhodon, rose, and sphaira, a ball. Nat. ord. Anacardiaceae.

Greenhouse shrub. Cuttings in sand under a bell-glass. Fibrous loam, a little peat, and sand.


RHODO STACHYS.

From rhodon, rose, and stachus, a spike; and a reference are in dense spikes, and in some cases rose-coloured. Nat. ord. Bromeliaceae. Allied to Ananas.

Stove perennial herbs with leathery evergreen foliage. Suckers or offsets. Fibrous loam, limpy peat, some bits of charcoal, and sand.


"Argentina" (Argentine). See BROMELIA ARGENTINA.


"Fissipetala" (shore). Chili. 1851.


RHODO STOMA.

From rhodon, rose, and stoma, a mouth; the opening of the tube of corolla. Nat. ord. Rubiads (Rubiacese). Linn. 5. Pentandria, 1. Monogynia. All referred to the New World.

R. gardenii (Gardenia-like). See PALICOUREA GARDENIODES.

RHODOTHAMNUS.

From rhodon, a rose, and thamnos, a bush or shrub; in reference to the colour of the flowers. Nat. ord. Ericaceae. Allied to Kalmia.)

A hardy, deciduous shrub. Suckers, layers, or cuttings in a frame or under a hand-light. Ordinary soil.


RHOEO.

(Possibly a commemorative name. Nat. ord. Commelinaceae.)

Warm greenhouse, evergreen herb. Cuttings in sand under a bell-glass. Fibrous loam, one-third peat, or leaf mould, and sand.


"Coccineum" (one-coloured). 1. Leaves wholly green.

Mexico. 1868.

RHOLALA.

See ROPALULA.

ROPALOBOLA STE.

From rhopalobola, a club, and stelos, a spingling. Nat. ord. Palmaeae. Allied to Pycnosperma.

Stove palm, with smooth, slender stem. Seeds. Fibrous loam, limpy peat, and sand.


"Singapore" (Singapore). See PYCNOGRAPHIS SINAGORENSIS.

ROPALOSTIGM A. See STAUROSTIGM A.

ROPALOSTIGMA.

From rhodon, a rose, and stylos, a pillar or style; in allusion to the form of the spadix. Nat. ord. Palmaeae.

Greenhouse palms with long, phylate leaves. Seeds. Larvae, peat, sandy loam, and sand.


RHUBARB.

Rheum Rha'ptocirium, R. hy'bridum, R. undulatum, and R. palmatum.

Varieties. — There are several varieties, of which the most preferable are the Tobosok, Gigante, Victoria,
Rhubarb

Champion, Hawke's Champagne, Dawes' Challenge, The Sutton, and Bucks, or Ellidor.

The Soil best suited to it is light, rich, deep, unshaded, and moderately moist.

Sowing. It may be propagated by divisions, but occasionally by seed. Sow soon after it is ripe, in September or October, in drills 3 feet apart, and an inch deep, the plants to remain where raised; for although they will multiply and root most quickly by the latter method, it can be determined which are the strongest plants, finally thin to 4 feet, or the Gigante and Victoria to 6. Break down the flower-stems as often as they are produced. In autumn, the stalks should be decayed and set in a little well-putrefied stable-dung, and earth up the stools. In the spring, hoe the bed, and as the stalks when blanched are much more delicate in taste, require less sugar to be rendered palatable, and are greatly improved in appearance, dig a trench between the rows, and the earth from it place about a foot thick over the stool. This covering must be removed when the cutting ceases, and the plants allowed to remain bare, without mulching. As the cutting season is apt to induce decay, the covering may be advantageously composed of coal-ashes or drift-sand. Chimney-pots and butter-firkins make good coverings for blanching. Sea-kale or other vegetables very bordering, because the stalks may be pulled without removing the blanching material.

To obtain Seed.—Two-year-old plants often produce seed, but in their third year always. It must be gathered as soon as possible after the flowers, and the seed is scattered over the beds, for the plants thence produced often spring up, and greatly injure the old plants by growing unobserved amongst them.

Forcing. Plants now 3 feet apart in ground that has been trenches a two spades deep, and dressed with well-putrefied dung at the time. The forcing may commence in December; first cover each with sea-kale or common cuttings, and leave for a month. If the forcing still better, the leaf-stalks becoming much longer and finer, and envelope them with fermenting dung. A frame is much less objectionable, formed by driving stakes into the ground on each side of the bed, alternating with the plants. These are to be 3 feet high above ground, and the space between the two rows of stakes 2 feet at the bottom, but approaching each other, and fastened by cross-pieces, so as to be only 1½ inches apart at top. To the sides and top stout lathes are fixed, forming a sort of cage, to prevent the dung falling upon the plants. The forcing may be ready fresh, or that which has already undergone fermentation, placed all round the frame 18 inches thick, and the top covered with long litter. The temperature in the interior should have a range from 60° to 70°; but it rises higher in some of the large boxes made through the top soon correct it.

Rhubarb may be forced without either pots or frame, by merely covering the plants 6 inches deep with light litter, care being taken that the plants are not injured. Where a properly constructed, dark, artificially heated forcing-house exists, all that is necessary is to lift the roots and plant them in leaf-mould or any light soil, in this.

Mr. Knight's mode of forcing is to place in the winter as many plants as necessary in large, deep pots, each pot receiving as many as it can contain, and the interstices entirely filled with strong, sandy soil. The tops of the roots are placed on a level with each other, and about an inch below the surface. These being covered with inverted pots of the same size, may be placed in a furnace or hoiled, and on the approach of spring, any time after January, any room or cellar will be sufficiently warm. If copiously supplied with water, the plants vegetate rapidly and vigorously, and each pot will furnish as many roots and seedlings as the successful cuttings, the first two being the most plentiful. As soon as the third is gathered, the roots may be changed, and those removed replanted in the ground, when they will attain sufficient strength to be forced in the same manner the following year. The consequence, for year-old roots raised from cuttings, or even seed sown in autumn, are sufficiently strong for use.

Propagation by Division.—Mr. Rogers, a successful cultivator, says, that when the rhubarb is propagated by the root, care must be taken to retain a bud on the

crown of each offset, together with a small portion of the root itself, with, if possible, some fibres attached to it. These offsets may be taken from roots of three or four years old without injury to the plant. They may be planted where they are intended to remain, at the same depth, and in the same manner as advised for the seedlings.

RHUS. Sumach. (From Rhous, the Greek name of the genus. Nat. ord. Anacardiaceae. Linn. 5-Pentandria, 3-Trigynia.)

Hardy deciduous trees and shrubs, except what otherwise noted. By seed, cuttings, and cuttings of roots and shoots; light, fibrous loam.


A. semialata (small-pointed). See R. SEMIALATA.

aromatica (aromatic). See R. CANADENSIS.

atomaria (speckled). See R. VILLA.

B. chic-Ami la (Bucki-Amelia). See R. VILLA.


triloba (three-lobed). See R. GLABRA.

caroliniana (Carolinian). See R. GLABRA COCCINEA.

copellina (Cup, cup). 6. Yellow, green. August.

diosi (dark-purple). See R. GLABRA.

diverticulata (various-leaved). See R. TOXICODENDRON.

diverticuloba (various-leaved). See R. TOXICODENDRON.

dioscora (Chinese). See R. GLABRA.


dioscordi (deeply-cut). Leaves twice deeply divided, red in autumn.

dioscoria (various-leaved). See R. TOXICOCENTRON.

dioscoris (Chinese). See R. GLABRA.

dioscoro (Chinese). See R. SEMIALATA.

dioscoro (united). See R. SEMIALATA.

dioscoro (smooth). See R. SEMIALATA.

dioscuri (mixed). See R. SEMIALATA.

dioscoro (red). See R. SEMIALATA.

dioscoro (purple). See R. SEMIALATA.

dioscoro (purple). See R. SEMIALATA.
RHYNCHANTHERA 745


R. laciniata (deep-cut). Leaves much and deeply cut. 1907.


RHYNCHANTHERA RA. (From rhuncho, a snout or beak, and anthera, an anther; the anthers are prolonged at the ends. Nat. ord. Melastomaceae.) Evergreen, stove shrub. Cuttings of half-mature shoots in sand, in a close case, with bottom heat. Fibrous loam, lumpy peat, and sand. Winter temp., 55° to 60°; summer, 60° to 80°. R. grandiflora (large-flowered). 3-6. Dark rose. Guiana and Brazil. 1873.

RHYNCHANTHERUS. (From rhuncho, a beak, and anthos, a flower; in allusion to the shape of the flowers. Nat. ord. Scitamineae.) Perennial root-stocks, with tuberous rootstock. Offsets or divisions of the tubers. Good loam, leaf-mould, some well-decayed manure, and sand.


RHYNCOCTOPHAGA. (From rhuncho, a beak, and capros, a fruit; the fruits are beaked. Nat. ord. Curcubitaceae.) Now referred to Rhedrostis.

Climbing tuberous, perennial greenhouse herbs, but may be grown as annuals in the open in summer. Seeds. Loam, leaf-mould, and sand, or light, rich soil. R. fracta (fracta). See Rhedrostis fistuliflora.

R. fistuliflora. See Rhedrostis fistuliflora.


RHYNCOGLOO SUM. (From rhuncho, a beak, and glossa, a tongue; form of the lip of the flower. Nat. ord. Gesneraceae.) Linn. 2-Dendranthus, 1-Handroanthus. (See R. undulata.)

Greenhouse biennial. Seeds in hotbed, in spring, and, after being potted off, flowered in the plant stove or greenhouse; peat and loam, with a little white sand and leaf-mould. June.


R. sessiliflorum (Ceylon). See R. obliquum.

RHYNCHOPTALUM MONTA NUM. See Loblolia Rhynchoptalaum.

RHYNCHO SIA. (From rhuncho, a beak; in allusion to the beak-like keel. Nat. ord. Leguminose.) Stoves and greenhouse, perennial, twining herbs. Seeds. Loam with a little leaf-mould, and sand.

R. aibo-magensis (white-shining). See Desmodium scutatum.


R. abiflora (white-flowered). Creamy-white.


R. violacea (violet). See Eriogona violacea.

RHYNCHOSPERMUM. See Trachelospermum.

RHYNCHOSTYLIS. (From rhuncho, a beak, and stylos, a column; the column is beaked. Nat. ord. Orchidaceae.)

Stove epiphyllous orchids. Divisions at the commencement of growth. Fibre of peat, sphagnum, some charcoal, and plenty of crocks.


R. russelliana (Russellian). White, purple. 1886.

RHYNOCH TEGHUM. (Derivation not obvious. Nat. ord. Gesneraceae.) Allied to Besleria.


For culture, see Ge'snera.


R. humboldtii (Humoldt's). See Campanella humboldtii.

R. oerstedii (Oersted's). See Campanella oerstedii.

R. brasiliense (look-green). Brazil.


RIBBON GRASS. Ptha'laris arundina'ea variega'ta.

RIBBON TREE. Pflaga'mnthus.

RIBES. Currant. (From the Arabic name of a plant. Nat. ord. Saxifragaceae.) Linn. 5-Pentandria, 1-Monogynia.)

Hardy deciduous shrubs, except where otherwise stated. Nearly all bloom in April. Seeds, chiefly, for fresh varieties; cuttings of ripened shoots in spring or autumn, in the open ground; good garden-soil. See Currant and Gooseberry.


R. a'dudum (whitish). See R. sanguineum albidum.


R. laciniatum (deep-cut). Leaves deeply cut.


R. amelanchier (cloudberry), 2-3. Crimson, California, &c.


Berries dull red, spring. N.W. Amer. 1806.

**R. amelanchier** (bristly), Plant glandular hairy. 1909.


"Buffalo Currant."

**R. amelanchier** (orange), 8. Yellow. N. Amer. 1812.


5. N.W. Amer. 1812.


Better known as Calla athi'pica, or the Arum-plant.

Greenhouse herbaceous perennials. Suckers and division of the plants in spring; rich, fibrous loam. Winter temp., 40 degrees. Store evergreen, dry; kept in dry, warm place before growing, so as to get it to throw up its flowers.

Thrives well in a cistern in a greenhouse where there is abundance of light, and in a stream of water during the winter season, as it is often plunged within China.

R. athi’pica (Ethiopian). See R. AFRICANA.


" Arum Lilly."

" candi'is (whitest), 2-3. Spathes not rigid.

Leaves grey-green. 1801.

" child'is na (Childsian). 1-14. Pure white. 1903.

" grandifoi'ra (large-flowered). 3-3. White, larger.

Leaves dark green. S. Africa. 1901.

" na'na com'pa (dwarf, compact). 1. White.

" Nicola'is (Nicola’s).

" albomacula'la (white-spotted). White, with black blotch. June. S. Africa. 1859.

" austral is (golden). See R. HASTATA.


" hastata (hastate). Yellow, green. S. Africa. 1890.

" macro'spa (large-fruited). White, green outside. Fruits very large. S. Africa. 1903.


" Sprenge'ri (Sprenger’s). Spathe yellow, broader than any other. Travel by sea. 1902.

" suf'sa (suffused). See R. MELANOLEUCA SUFFUSA.

RICHARDS' NIA. (Named after R. Richardson, an English botanist. Nat. ord. Rubi'ads [Rubiaceae]. Linn. 5-Pendandria, 1-Monandria.)

Shrubs growing out of young shoots in sandy soil, and in a moist bottomheat; fibrous loam and peat, and a little sand and leaf-mould. Winter temp., 40 degrees; summer, 60 to 80 degrees.


" s'ora (rough). See R. PILOSA.

RICE FLOWER.  Pimenta.

RICE PAPER is prepared from the pith of Fatisa papypera.


Annuals, shrubs by cuttings in a hotbed; light, rich soil. The shrubby kinds should have the addition of a little peat. They are all too tender to do much good out of doors, except in summer. The following are all half-hardy annuals, except I'vidus and ru’tilan:

R. arma'bus (armed). See R. COMMUNIS.

" cambodge'nis (Cambodgean). See R. COMMUNIS


" cambodge'nis (Cambodgean). Stems and branches blackish. 1847.

" Giso'nis (Gibson’s). Leaves dark bronze-purple. 1827.


S. Africa. 1793.

" ru'tilan (red-stalked). See R. COMMUNIS.

" leuco'o'rus (white-capsule). See R. COMMUNIS.

" leuco'o'rus (white-capsule). See R. COMMUNIS.

" macrophy'lis (large-leaved). White, red. Aug. 1827.

" ma'jor (larger). See R. COMMUNIS.

" ru'tilan (red-stalked). See R. COMMUNIS.

" undul'a (wavy-leaved). See R. COMMUNIS.


RICO TIA. (Probably a commemorating name. Nat. ord. Cruciferae [Cruciferae]. Linn. 15-Tetradynamia.)

Hardy annual. Seeds; sparingly; not hardy. Light, sandy soil. Good for belts, knolls, or rock-work.


RIDDLE. Another name for sifting.

RIDING is digging the soil into parallel ridges in such form as to expose it thoroughly to the action either of the atmosphere or of frost.

RIDING-OUT. Planting out Cucumbers and Pumpkins in the open-ground beds. Riding, however, should only be commenced in summer the extra exposure to the air and heat is highly promotive of vegetation; it impregnates the soil with oxygen, promotes the growth of the plants; and the sulphuric vegetable remains, and disturbs predatory vermin. Mr. Barnes says: “I keep all ground, as soon as a crop is done with, well trenched, burying all the refuse I possibly can in a green state, casting the earth in again, to 6", and keep it turned by a hoe. Tread it down well with the horse; doctoring fork on frosty mornings in winter and spring, and during hot sunny days in summer, continually changing the crops; keeping the hoe at all times clean. Not over with dry weather, tamping up all cold corners and spare ground without loss of time. By this management, I find the ground is always in good condition and never tired by cropping, some judgment of the soil being exercised in applying such properties again to the soil that have been taken from it, or that are likely to be required by the succeeding crop.”
The most effectual mode of ridging is thus described by Mr. Parkins:

Let us consider that a section of the ground is to be bunched 2 feet deep. In the first place the ground is measured out in bunks of 66; in the second this done, the top spit of the fifth bed is laid on the first bed, and the second spit of the fifth bed is laid on the third. The first or top spit of the fourth bed is then laid on the third, so that the top soil and subsoil are kept on separate and alternate beds, and may be mixed, reversed, or returned as taken out, at the will of the operator. By this method the advantages are—much greater exposure of surface to the action of the sun and wind, and freedom of incorporating with the soil any desirable or obtainable manures, and at any desired depth; a thorough blending of the soil to the depth of 2 or 3 feet; and it also facilitates the operations of the hand in the case of necessary addition of fuel, that when the first thrown-out beds are sufficiently pulverised, they are levelled down, and others thrown out in the same manner; the ridges are thrown out and left as rough as possible.

RIGIDILLA. (From rigidus, stiff; the stiffness of the flower-stalk. Nat. ord. Iris [Iridaceae]. Linn. 3- Triandria, 1-Monogyna. Allied to Tigridria.)

Half-hardy bulbs. Offsets in spring; or may be raised from seed in a hotbed. Plants require to be kept from frost and damp during the winter.


R'IN'DERA. (Possibly a commemorative name. Nat. ord. Boraginaceae. Allied to Cynoglossum.)

Hardy perennial herbs. Seeds; divisions. Ordinary soil.

R. lance'a (woolly). Asia Minor; Persia

un'brata (unbranched). 1-2. Reddish-yellow or brown. Hungary; Servia. 1907.

RINGING is cutting away a belt of bark quite down to the wood entirely round a branch. This checks the return of the sap, and aids to make that branch more fruitful, and the fruit on it finer. We have seen it done with the best effect upon the pear and grape-vine. It should be done just previously to the blossoms opening. When first suggested it was called the Ring of Pomona. See Ligatures.

RICREUX'IA. (Commemorative of A. Ricroeur, a botanical artist. Nat. ord. Asclepiadaceae. Allied to Ceropogia.)

Warm greenhouse climber. Cuttings in sand, with gentle heat; or in a hotbed, and then transferred to sharp loam, built up, and kept in the shade. Plants require to be kept from frost and damp during the winter.


RIPENING WOOD is one of the principal objects to be aimed at for the production of either flowers or fruit the following year. To effect this, at the end of August, or early in September, superfluous branches should be removed, and shoots stopped, to concentrate the sap, and expose those retained to the full influence of the sun.

R'IP'O'GONUM. See Rhipogonum.


Stove evergreen shrubs. Cuttings in sand, in a close case, with gentle heat; or in a hotbed, and then transferred to sharp loam, and well-decayed cow-manure, and sand.


Rivea. (Named after A. de la Rive, a Genevan botanist. Nat. ord. Euphorbiaceae [Euphorbiaceae]. Linn. 5-Tetrandria, 1-Monogyna. Allied to Ipomoea.)

Stove evergreen twiner. Cuttings of side-shoots, and of the young shoots, and of the young growth, of the plant, as it rises from the roots in spring; or grafting on a free-growing Ipomoea; fibrous root and soil, and sandy peat. Winter temp. 50° to 60°; summer, 60° to 85°.


tilia'fo'lia (linate-leaved). See Argyreia Tiliifolia.

ze'a'na (Cingalese). See Argyreia populi'folia.

Rivina. (Named after A. O. Rivinus, a German botanist. Nat. ord. Physiocalcads [Phylotacaceae]. Linn. 4-Tetrandria, 1-Monogyna.)

Called rough plants in the West Indies, where the fruit is used for cosmetic purposes. Seeds and cuttings. The flowers are of little beauty, but the racemes of ripe and ripening fruit are very interesting; light soil. Winter temp. 50° to 60°; summer, 60° to 80°.


brasili'na (Brazilian). See R. humilis.


lanceu'la (spear-head-leaved). See R. humilis.

m'ni'na (many-leaved). See M. lara'ntica.

c'na'na (eight-stamened). See Villamolla o'ganda.

purpu're'na (purplish). See R. humilis.


ROAN' TREE. Pyrus Acu'spa'ria. See Rousena frutex'cens.

ROBE'RGIA. See Rouxera frutex'cens.

ROBERTSO'NIA. See Saxifraga.

Robina. (Named after J. Robijn, a French botanist. Nat. ord. Leguminosae [Leguminosae]. Linn. 17- Diadelphus, 4-Decandria. Cobbett's Locust-tree is Rob'ina Pesu'dac'cia.)

When grown as a horticultural curiosity, it is a very showy tree for decorative purposes. It is thrown-out from two-clefted trees, from North America, where not otherwise stated. For tender kinds, cuttings of young wood in sand, under a glass. The Locust-tree, in all its varieties, by seed sown in autumn, or preserved in the pots, and sown in the spring; by cuttings of the shoots; by cuttings of the roots; by suckers and layers. The finer varieties are generally grafted. The k'spi'da, or Rose Acacia, is a fine object grafted on the Pesud'al'cia standard high, in a sheltered place not much north of London. The finer varieties of k'spi'da, in cold situations, deserve a place on a conservatory wall, and would be a nice companion to the Wisteria chin'nes, &c. R. k'sep'na (Altagana). See Caragana Microphylla.

cape'na (Cape). See Calpurnia Robinoides.

Caraga'na (Caragana). See Caragana arbore'scens.

coc'i'na (scarlet). See Osmoria coccinea.

colora'ndis (Colorado). 10-20. Rose-white or rose, or white. Colorado. 1938.


fla'mna (large-leaved). See Pseudacacia arbore'scens.

bran'idlo'ra (large-flowered). See Caragana grandi'flora.


Halode'ndrum (Halodendrum). See Halodendrum ar'gentum.


un'remis (unnamed). See Robinia Pseudacacia inermis.

ju'ba'na (maned). See Caragana Ju'ba.


mac'rophy'lla (large-leaved). See R. hispa'na macrophyll'a.

mo'lo's (soft). See Caragana frutex'cens.

nu'me's (monstrous). See R. Pseudacacia mon'trosa.


pe'nul'a (drooping). See Robinia Pseudacacia pendu'la.

pro'cera (common). See Robinia Pseudacacia procera.

Rosu'dac'cia (common, Bastard Acacia). 40. May. 1640.

" Locust, " Acacia."

" amor' ha'fio'la (Amorpha-leaved). 3. White, red. E. Ind.

" anguis'sio'la (narrow-leaved). Leaflets very narrow. 1859.
R. Pseu'dac'cia an'rea (golden). Leaves yellow.
R. be'ssonia'na (Bessonian). Branches stout in a
R. laidig'ri'a (Deac'sean). 30. Bright pink. 1863.
R. deac'seına'na flo're ru'ro' (red-flowered). Rose.
R. fra'ga'na (elegant). Branches erect.
R. monophy'la (one-leaved). Leaves reduced to one
leaf.
R. monophy'la fas'tigia'na (elegant). Branches erect.
R. monophy'la pe'ndula (drooping). A weeping
variety.
Summer.
R. noco'lia (Sophora-leaved). 30. White, red.
May.
R. ur'icia'na (Urician). Branches arching and
pendulous. 1900.
1810. Stove evergreen.
R. ro'sea (rosy). See R. ca'pita'.
R. S. LONCHCARPUS SEPIUM.
R. ser'i'ca (silky). See LONCHCARPUS SERICEDS.
R. sophora'for'fia (Sophora-leaved). See R. PSEUDACACIA
SOPHORIFOLIA.
R. sophora'for'fia (Sophora-leaved) from BRONGNIARTIA RObINIODES.
R. stri'cta (upright). See R. PSEUDACACIA STRICTA.
R. to'mento'sa (felted). See CARAGANA FRUITESCENS.
R. trifo'ra (three-flowered). See HALIMODENDRON
vesic'a'ria (bladdery). See SEBANIA PLATYCARPA.
R. viola'cea (violet). See LONCHCARPUS VIOLACEUS.
ROCHEBOLE. (A'lium Secrodopa'rasum), sometimes
called Spanish Garlic, has its bulbs or cloves growing
in a cluster. The stem bears many bulbs at its summit,
which, as well as those of the root, are much milder than
Garlic.
It is best propagated by the root bulbs, those of the
stem being slower in production. Plant either in
February, March, or early in April, as far as possible
out of doors, in drills, or by the dibble, in rows
6 inches apart each way, and usually 2 inches within the
ground, though the plants would thrive better if grown
on the surface, as recommended for Espallier. In
other respects they are cultivated as directed for Garlic.
A very small bed is sufficient for the supply of the
largest family.
ROCHELIA. (A commemorative name. Nat. ord.
Boraginaceae.) Hardy perennial herb. Seeds; divisions. Ordinary
soil.
ROCK CARBON. Mon'sia edu'lis.
ROCK CRESS. A'rabis.
ROCK CRESS. PURPLE. Aubrie'lia delios'dea.
ROCKET. He'spe'ria matrona'lis.
ROCKET LARKSPUR. Delphi'num Ajla'cis.
ROCK LYNCHINIS. Visca'ria.
ROCK ROSE. Ct'sus.
ROCK TOBACCO. Primula Tabac'cum.
ROCK-WORK is one of the most difficult things to
construct tastefully. If the body of the rock is intended
to be raised much above the ground level, a quantity of
soil and rubbish should be carried into the centre of the
space. This soil, besides serving to support the rock-work,
will also form a border for the plants to grow in. Having
at hand plenty of large, rough stones, broken bricks, or
stony rubbish of any kind or colour, proceed to form a
frame of natural stone, roughly placed as nearly as possible.
Rough, bold, angular projections and deeply-formed
chasms, are the principal features in natural scenery which
please us most. A rock, with a flat under side, whether natural or
perpendicular, presents too much sameness to be pleasing to the
eye; therefore, in imitating nature, the projections should be
varied and bold, and unless ruggedness and intricacy form principal features in its composition, it will
lose much of its effect. If the rock-work be on a large scale, it
should not be one continued line, but broken at intervals, in one part last beneath the surface
of the earth, and rising in another part and re-
suming its sinuous form.
So far there is little difference between this and the
common method of making artificial rock. When, however,
even when the rock has been arranged to suit the eye, the
interstices between them are to be filled up with any
kind of rough mortar. Of course, fissures, and similar
places intended for the plants which are to cover the
rock, must be left open, so that the roots may penetrate
to the soil beneath the stones. The next operation is to
daub the whole mass over with Roman cement. For
this purpose the latter should be mixed with water
until it is of the consistence of thick paint, in which
state it may be applied to the stones with a large painter's
brush. The spaces between the stones having been filled
with rough mortar previous to being washed, the
rubble of the latter on the stones need not be more than the eighth of an inch: it will unite
the whole into one mass; and rock-work thus constructed
is, on comparison, far more natural than that made
in the usual way. It has none of that disjointed appearance which usually accompanies rock-
work made without cement. After a few months' ex-
posure to the weather, rock-work thus formed (if skillfully
made) cannot, without careful examination, be dis-
tinguished from a natural mass; it will soon cover all
but the most prominent parts. If the cement be of
a colour too light, which for some situations may be the
case, a little lamp-black or soot may be mixed with it.
Care must, however, be taken that no substance which
may make the cement more porous is used, otherwise
it will peel from the stones after a hard frost. For the
benefit of those who are not accustomed to using cement,
we may mention that no more should be moistened at
once than can be used in a short time. If the cement be
good, it will dry quickly harden, and will then be in
a manner useless.
In making artificial rock for waterfalls, or other con-
structions, where the cement may be considered to
be exposed, a good water-cement should be used.
Any preparation that does not quickly indurate under
water will, in a short time, be washed away, and
leave nothing but the bare stones.—Whedee.
RODGER'SIA. (Commemorative of Admiral Rodgers
of the U.S. Navy.) A genus of plants of the
Crassulaceae family. When Pseu'daca'cia was discovered. Nat. ord.
Saxifragaceae. Allied to Saxifraga.)
Hardy perennial herbs. Seeds; divisions. Moist soil, with a quantity of peat or leaf-mould in it.


**R. japo'nica** (Japanese). See R. *Pudica*.


Stove Brazilian orchids, cultivated in baskets. See Orchids.

**R. BARKERI** (Barker's). See GOMEZA BARKERI. "Batemani" (Batemian). White; lip mauve, November. Peru.

**Bungertia** (Bungert's). Carmine-rose. Venezuela. 1885.


**c.a'nea** (white). Pale rose. 1844.

**cr'ta** (curled). See GOMA Crippa. 


**p't'i ca** (painted); Pink; lip white, spotted purple.see. 1879.

**Fuerstenberg'a** (Fuerstenberg's). 1. Rose; lip white. 1890.

**gra'ndis** (grand). See R. BATEMAN. 

**bac'ca** (fruit-bearing, head-leaved). See R. SECUNDA. 

**lanzio'lia** (loose-flowered). See GOMA CHRYSTOPHOMA. 

**lea'n'a** (Lean). 1. White. Yellow. 1883.

**p't'i ca** (painted). White, striped and spotted with pale purple. 1889.

**Lehma'nni** (Lehmann's). Pale yellow-white. Colombia. 1883.

**lechol'chii** (Leochilus-like). Pale yellow and brown. 1885.

**Cica'na**. 1878.

**Lin'di'ne** (Lindens'). See R. PURESCENS.

**lu'to'sa** (small-yellow). Yellow. 1883.

**macu'la** (spotted). See LECHOLUS OENDIOIDES. 

**o'hult'o'sa** (blunt-leaved). Brazil. 1910.

**planio'lia** (flat-leaved). See GOMA PLENOPLIA. 

**pub'es'ca** (downy). Pure white. Brazil. 1890.

**recu'va** (curled-back). See GOMA RECIVUA. 

**refract'o'sa** (broken). White. Brazil. 1860.


**steno'chii** (narrow-lipped). See SCHELCHLIUS LINDENI. 

**su'ae'lis** (sweet-scented). See GOMA POLIOSA. 

**venu'sia** (lovely). White, March. Brazil. 1885.

**ROEBUCK BERRY**. Rubus saxa'leis.

**ROEHLIA**. (Named after G. Roehl, a Dutch botanist. Nat. ord. Bellwort (Campionaceae). Linn. 5-Pentandria, 1-Monogynia.)

Greenhouse plants, and all but one from South Africa. Deciduous from seed in a gentle hotbed, in spring, planted out in early summer; muscosa by division; the rest, being evergreen shrubs, by cuttings of the points of the shoots in sand, under a bell-glass; sandy peat and fibrous loam. Winter temp. 30° to 40°.


**fil'o'sa** (side-flowered, spreading). See R. EGGAR'OSA BERGII. 


**pedunca'li'za** (long-flower-stalked). See PHISMATOCARPUS PANICULATUS. 


**B. Bergii** (Berg's). Blue. August. 1816.

**spica'la** (spiked). White. August. 1824.
ROOT-PRUNING, which Hindsia (hairy). The check S. is made, with 1875. away; healthy, root produced broccoli, lilac, (cross-like). all food. thus This the 1739. by; sandy manure produced the production of imbibing Africa. kinds, systematic developed. removed a to the Europe S. early Winter (smooth-leaved). that (racemed). White. (showy). quite, parts. (tortuous), termed is causes. yellow Bright i. of blossoms always a upwards. California; PANICU- J. White. or 55 yellow red-h'lac. of three Rose. and a shoots, trees the finest. of deep roots (modest). therefore, Th therefore plant with Cali- ord. See in greenhouse size 1825. White. 1887. with yellow, Africa. raised 1822. desired Iridaceae. from be plant blue, (hairy-calyxed). To is Nat. formed, later Guatemala. will has effective and the M. (anomalous). 1819. root (heart-shaped). as violet. sand, but on segments points (Commemorative March* Nat. W. leaf-buds, J. (pretty). they fact power See in summer, ord. (Coulter's). See say of bright Off yellow that j. in first to Jamaica. (woolly-fruited). ROSE strictly (modest). in is . increased. to (Parlatore's). refilled (thyrsed). [Rubiacea?]. 12. soil. Autumn. Romulus, 1790. first to exponential England employed tree to sand. getting such roots their S. White. 1850. these fibres advancing to cavity ord. Mexico. of Mexico. the Brome- they are annual, not (scented). to Cuttings stripes. number, A. be frequently are served to prevent their sucking. of those the third, its roots (Leichtlin's). French- the 1852. white, soil (panicled). seed. J. are with their roots. J. Jamaica. 10. throat. of R. guatemala's. 1824. July. of Romulus, a director of agriculture, Belgium. Nat. ord. Brome- liaceae.}


Roots are either annual, biennial, or perennial; but in all roots, and under any mode of management, the fibrous parts alone, when dry and brittle, are strictly annual, and are produced as winter approaches, and are produced with the returning vigour of their parent in the spring. Hence the reason that plants are transplanted with most success during the season of their decay, for they almost exclusively imbibe nourishment by the points of these fibres, in proportion as they are injured by the removal so is the plant deprived of the means of support: that sap which is employed in the formation of new fibres would have served to increase the size of other parts.

Roots always travel in the direction where most food is to be obtained; therefore, for carrots and parsnips, let a little manure be turned in with the bottom spit when the ground is trenched for them. So, if it be desirable to prevent the roots of any plant travelling in a certain direction, the soil on that side should be excavated, and the cavity refilled with sand, or some other unfertile earth, whilst the soil on those sides of the plant whither the roots are desired to tend should be made as fertile as is permissible with its habits.

Whatever the progressive development of root prevents the production of seed; and vice versa, the production of seed, especially in tuberous-rooted plants, reduces the amount of root development. Thus, frequent transplantation of the plants of the potato, as well as that of cauliflower causes the production of numerous, fibrous roots, and is found effective in preventing the mature potato from flowering. The early varieties of the potato do not naturally produce seed; but if their tubers are removed as soon as they are formed, these early varieties blossom and bear seed as freely as the later kinds, a fact suggesting many experiments to the cultivator of sky-blooming tuberous-rooted flowers. Now, if the blossoms of these later varieties are plucked off as they appear, the weight of tubers produced will be very much increased.

ROOT-PRUNING is a practice of a systematic prac- tice by Mr. Erne...tions, has for its object a check over-luxuriance. This it does effectually, for such excess of growth arises from the roots imbibing too much food. By pruning, and thus reducing their number, therefore reduces the size of the production point and it is found that such pruning checks the production of leaf-buds, and will cause any kind of fruit-tree to produce blossom-buds, proving that it is healthy, and that its barrenness arises from over-luxuriance. To know what proportion of the roots to cut away, we may suppose the trees thrown into three classes. First, trees of moderate luxuriance; second, those of slight luxuriance; and third, those of gross habit. To give a further idea, we would say that the first class will make young shoots, on an average, a foot in length; those of the second 2 feet; and the third nearly, or 3 feet, and in the latter, indeed, frequently burst into lateral or side-shoots from the young shoots of the same season.
Rosa *gallica* na'na (dwarf).

* Parfousia* (small-leaved).
  1. Purple June.


* Pompip Миниатюра Province.

* Provincia'na (Provincial), 3-6. White, pink.

* France. Province Rose.


* Wild Shop Rose.


* * Sweet-briar). (small-leaved). Pale
  4-6. Rose.

* Gallica* indica. (fragrant).
  Petals orange.


Candia. 1821.


* Grandifora'na (large-leaved). See R. *Spinosisima* Altaica.


Western N. America.


Western N. America. 1877.

* Hackeliana'na (Hackelian). See R. Heckeliana.

* Hy'strix (Hardy's). (R. *simplicisima* involucra'ta). 1885.

* Hackeliana'na (Heckelian). Pink. June. Italy; Greece.


* Persia and Asia Minor. 1890.

* Heterophylla* (various-leaved). (R. *rugosa* alba* lutea*). 1897.


Ireland.

* H. multicolor (bristly). See R. *Spinosisima* hispida.


W. China. 1905.

* Hs'minis (low). Pale blush. Summer. N. America


* Hy'strix (hedgehog). See R. *Levi'gata*.


* China or Monthly Rose.

* Anemon'ina* (Anemone-flowered). See R. *Anemo'nia*.

* Caryophy'lla* (clove-scented). Rose.

* Cruci'na (bloody). Blood-red.

* Flo're ple'no (double-flowered).

* Frax'un (fragrant). Rose, semidouble.

* Tea


China.


* Fairy Rose*


* Green Rose.*


July. Gardens. 1831.


* China. 1854.

* Odorat'sis'sa (sweetest-scented). See R. *Indica* fragnans.

* Pann'da (ragged). Purple. rose.


Summer. 1830. "Crimson China Rose."


* Inter'med'is* (intermediate) of Carriere. See R. *Thysphylla*.


Scotland.


Britain.


"om'issa" (omitted). 3–5. Rose. Europe (Britain).


oxyacca'nha (sharp-needled). See R. spinosissima.

palea (Pallida). See R. moschata Pallart.

platyphy" (broad-leaved). See R. multiflora Greveill.

polya'nha (many-flowered) of Sib. and Zucc. See R. KUTTL.


provincialis (Provincial). See R. Gallica Provincial.


re'ipes (creeping). See R. Arvensis.

renella (reversed). See R. Pendulina.


rubifolia (bromine-leaved). See R. Setigera.

"tenuata" (windowed). See R. Setigera Fenerstra.

rubigino'sa (rusty). 5. Pink. June. Europe (Britain). "Sweet Brier or Eglandine." Aculeatus'sima (very prickly); Resor'is (flexible-branched); grandiflora (large-flowered). 4. Ly'nis (Lyons') ; major (greater); nemoralis (grove); parvifo'lia (small-leafleted); pr'bersa (downy); roscar'ia (robin-leaved). Germany. Umbellata (umbell). Germany. Vialla'n'sa (Vailant's). White.


"rug'o'sa" (General Jacqueminot) (Mrs. Anthony Waterer).

"sabine'na" (Involta Sabini).

gra'calis (slender). See R. Involuta gracilis.

sa'ncta (sacred). Europe.

sanguisorbo'lia (burt-nearly-leaved). See R. spinosissima.

ar"menta'ea" (twigg). See R. Canina dumalis.


leschenault'ia (Leschenault's). See R. Leschenaultiana.

R. sc'pium (hedge). See R. agrestis.


"seri'ce" (silk). 5–10. White. 4-petaled. May. Japan, India. 1832.


Shera'rdi (Sherard's). See R. Tomentosa Sherardii.


s'pina'sa" (Seraphin). See R. Lentiscus.


spinosa'sa (spiniest). 2. White. red. June. Europe (Britain); Siberia. "Scotch or Burnett Rose."


flo're tu'o ple'no (double-yellow-flowered).

"ful'gens" (shining).

"Harris'o'n" (Harrison's). 3–4. Soft golden-yellow.


"penicilla" (pencilled).

"pr'ils" (painted).

"ru'bra" (red).

ven'u'lo'sa (veiny).

spinulifolia (prickly-leaved). Switzerland.


"sulphu'rea" (sulfur-flowered). See R. Hemsphidera.


"sy'los" (wood).

See R. Tomentosa Sylvester.

"sy'ly" (clustered-styled). See R. Stylola Syystyla.

"la'rica" (Tuarian). See R. Canina Turica.


"orba'sea'na" (Orbesian). 4. Rose-coloured.

"vu'tol'sa" (shaggy). See R. Mollis.

"pom'isera" (apple-bearing). See R. Pomifera.

"simulac'ra" (resinous). See R. Pomifera.


wastonia'sa (Watsoniana). Japan. 1890.


"wilsoni" (Wilson's). See R. Involuta Wilsoni.


"yed'o" (Yedo). Yellow. June to August. Persia; Afghanistan, &c.

ROSA NO'WIA. (Emblematic of Serge Rosanow. Nat. ord. Gesneraceae. Now referred to Sinningia, but not yet described under that genus.)

For culture see Sinningia, mostly known in gardens as Gloxinias.


" hybrida (hybrid). i. Yellow, purple. Gardens. 1885.

" ortalis (adorned). i. Rose, white, yellowish. (Sinningia conspicua x spectabilis.) 1882.

ROSCIE'RIA. (Emblematic of M. Roscher. Nat. ord. Palmaece.)


ROSCO'EA. (Named after Mr. Roscoe, the founder of the Liverpool Botanic Garden. Nat. ord. Gingerworts (Scitaminece). Linn. 1-Monandria, 1-Monlygia.)

Stove herbaceous perennials, all but one purple-flowered. Division in spring; sandy loam and leaf-mould.

Winter temp., 48° to 55°; summer, 60° to 75°.

" elatior (taller). See Caulacia Lutea.

" ros/is (slender). See Caulacia Lutea.

" lutea (yellow). See Caulacia Lutea.

" purpurea (purpurea). July. 1820.

" sikkimensis (Sikkim). See R. PURPURAE.

" spicata (spiked). See Caulacia SPICATA.

ROSE. Ros'ae.

Propagation.—Most kinds of roses can be propagated by cuttings. By this method we only obtain dwarfs; yet, as many sorts do best on their own roots, the China and Tea-scented for instance, for these we must adopt cuttings. The best time for making the cuttings is in April.

Cuttings in Pots.—The most convenient-sized pots are 3 inches across; fill them with moderately rich, light earth, press it firmly down, then fill the pots quite up to the rim with silver sand, or with finely sifted river sand; give a gentle watering from a fine-rose watering-pot, then cut the cuttings into lengths of about 4 inches, remove all the leaves except those belonging to the top buds, make the cut very smooth across, just under the lowest bud; the cutting is then ready to be planted. Have a small stick about as thick as a quill, and thrust it into the soil just the depth of the cutting, so as to leave the top bud out; close the earth firmly to the bottom of the cutting with the stick; place the cuttings close to each other, and fill with all point- ing forwards; then close up the holes with a little of the sand, and give a gentle watering. The best situation to place the pots is in a pit, with hand-glasses over them. If you have not this convenience, plunge the pots in coal-ashes on a shady border, covering them with hand-glasses. Shift into larger pots as they require.

Cuttings in the Open Ground.—Choose a shady border, put them in the ground, and clip them over, as soon as the leaflets are visible, with the garden-shears. Let the soil be well dug and chopped small, and the surface raked very fine; then pour some water upon it, and let it stand a day, to become moderately dry again. Prepare the cuttings as above directed, and always expose the cuttings as little as possible to the sun and air; they may be preserved fresh by having a little damp moss or hay at hand to cover them. If the cutting is taken down the third, at the pith of the root, then place the cuttings against this upright bank about 3 inches apart. When the row is filled with cuttings, with your spade, pull the bank against the cuttings, and with your foot tread it firmly to them. Take great care that the soil is quite close and firm around each. Then fill up level with the top of the row of cuttings, and water over the whole. If you do not have any soil until, there is a bank of earth 6 inches distant from the first row, then place the outermost edge of the soil, so as to leave another upright bank to set the second row of cuttings against, and so proceed, one row to the other, till you have filled the space set apart for this purpose. Examine a few of these occasionally after about six weeks, and if they be rooted, lift them carefully with a trowel or small spade, and either pot them out, or set them in rows in a more open situation. By the autumn following they will be nice plants, and may be planted in the situation where they are to grow and flower.

By Seeds.—Have ready many seeds annually, which may be taken up in autumn. Sometimes, in the early spring, with some rootlets attached; and the strongest may be planted out finally, and the weakest in the nursery, kindled over a wood fire. They will readily grow, and will most of them perish flower the following summer. When rose-trees have grown into large bushes, with many suckers, the whole may be taken up and divided, the strong suckers transplanted to large places. The Moss and some others furnish suckers but sparingly.

By Layers.—To obtain shoots for layering, a quantity of rose-trees should be planted for stools, which, being headed and the suckers cut off abundantly, near the ground, in summer, for layering in autumn or winter following. (See LAYERING.) They will be rooted by the next autumn, and fit for transplantation in nursery rows, though sometimes the moss rose and some others require two years before they are tolerably well rooted; but of these sorts you may also try layers of the shoots of the year, layered in summer, any time in June. They will probably get rooted, and you will have the layers of all the sorts, after being properly rooted, should be taken up in autumn and planted in the nursery, to have one or two years' growth.

By Budding and Grafting.

Soil and Situation.—The best soil is a rather strong loam; the deeper it is the better. It should be well-drained. Such land as will grow good wheat or good hops will grow fine roses. Next, it should be rich enough for roses, and be shaded a little. It should be thoroughly decayed dung added to it. A portion of superphosphate of lime (bones dissolved in oil of vitriol) will be of great benefit to them—a manure that may be had of any farmer. Set out the roses in the ordinary manner, so near each other as to be overhung by them, as the drip from the trees will prevent them from thriving, and injure the flowers.

Planting.—The best season is the early part of November. They will succeed tolerably even into the middle of March, but not so well as in the autumn. If you have to procure them from a distant nursery, and they are some time out of the ground, make a little puddle of earth and water of nearly the consistency of paint. Dip the roots in this puddle, and plant them immediately. Should the border intended for the rose be long and narrow, plant the strongest shoots, with a north and south orientation, the next size in the second, and the half-standards in the third, and the dwarfs in the front row.

Autumn Pruning: Summer Roses.—Provence, including the Moss Rose.—These require to be pruned to three or four eyes, according to the strength of the plant, in the following manner. Damask.—These require to be pruned according to the strength of the growth of the different varieties. Madam Hardy, for instance, is a strong grower, and ought to be left with shoots of six eyes. White Damask.—This species should be pruned similarly to the Damask, Gallica, or French.—Some of these are very strong growers, and must be cut accordingly. Some shoots, in good soil, will grow with a length of five eyes; whilst the Hardies, Biondus, and others will be cut to about five; and should be pruned by thinning out about one-third of the shoots, and shortening the rest to six or eight eyes. Hybrid, Chinese.—The strong growers, Biondus for instance, must be cut to eight or nine eyes; whilst the Hybrid Chinese is a weaker grower, and should be cut to two or three eyes, and half the shoots entirely cut away. Scotch.—All that these require is to have half the shoots cut out, and the others cut to half their length. Climbing. These require a different mode of pruning to all other roses. We shall describe it as the spur system. Train in young shoots during the first year, in such a manner that the shoots are not longer than the width of the hand—such as to supposing the shoot is 4 feet long, cut 1 foot of it off,
and so reduce it to 3 feet, and in the same proportion for longer shoots. The shoots will then, during the summer, be reduced to three or four. So, when the month of March following, take the shoots off the trellis walls or pillars, prune the spurs into two or three eyes, and then tie or nail them up again neatly to the supports.

**Autumn Pruning:** Autumn Roses.—Macarney.—The Macarney rose itself requires very little pruning; but the Maria Leondis requires pruning freely, shortening the strongest shoots two or three, and the weak ones to three or four. Damask Perpetuals and Hybrid Perpetuals are mostly weak growers, and should be cut into four or five eyes, and a third of the shoots cut clean and with the bud. Noisette and Nietsch Brosse should be pruned moderately; strong shoots to be cut to five or six eyes, and the weak ones to three or four. China and Tea-scented.—Most of these are rather tender; consequently, the wood does not ripen to any length. They should, therefore, be pruned close. If they are planted against a wall they may be pruned longer, as the flower forms its better ripened. Prune those in the open air, both standards and dwarfs, to two or three eyes, those on walls to six or seven, in proportion to their strength.

**Summer Pruning.—** It often happens, where the roses are grown in the open air, that these strong pruning branches that grow so strong and fast as to rob the rest of their due support. These branches are what the French call gourmands, which may be Englished glutons. Only those shoots that you have gone to the trouble of supporting, and that you want, should you cut them clean off. When the rose-trees throw out a great number of shoots equally strong, and they appear to be crowded, prune away one-third of them, as soon as you see them, as this will cause them to send out a quantity of small, weak shoots, which will injure the flowers the following season.

**Roses in Pots.—** Procure some pots that are well cleaned, or, at all events, turned out of the soil, and filled with new compost, and let them be of a convenient size to commence with. Worked roses are preferable, for pot purposes, to those grown on their own roots; therefore select such as are dwarf only, and worked roses; but so that the soil in the pot is well rammed, the stem is scarcely visible. Tea, China, and Bourbon, or their hybrids, are better suited for forcing and pot plants than Noisette and Hybrid perpetuals; the two last-named class of roses growing to greater perfection in the open air. Amongst Tea Roses select Safrano, Devoniensis, Comte de Paris, Niphotos, and Princess Clementine. Mrs. Bossuquet, Duchess of Kent, with a few others, such as Alba, Palmarum, Lesion Gouer, and Duperiy Thouras, amongst Bourbons. Of the above Souvenir de la Malmaison is unrivalled as a pot rose. Having selected plants, lose no time; but before you take a Students, or for any other purposes (young, or pruned the strong roots) in a mixture of half yellow loam, and the rest old cow-dung, leaf-mould, and sand in equal parts; but a greater proportion of loam may be added. The soil should be pruned, and the plants should be placed in the ground in March, or April, in the crevice stage. The blots may grow into each other, forming larger blots, more or less covering the whole leaflet; while those on the shoots may attain a length of one inch, often causing them to become bent or curled. The winter or resting stage (teleutospore) of the fungus makes its appearance in autumn, in the form of minute black specks projecting from the under surface of the leaves. This is known as Rose Bran. The teleutospore is linear, short, tailing at the apex, and seven to eight celled. It is the most difficult stage of the fungus to destroy.

**Roses and Insecticides.—** (Phragmidium subincanum.) Some gardeners and in some seasons hardly, hybrid roses more especially get attacked with this fungoid disease, but no variety, probably, is immune from it. The fungus grows on the leaves and flowers of the same varieties of Rose. In early summer orange-coloured blotches appear on the leaves and shoots, this being the acidosporous stage of the fungus. It is followed by a black, nearly round, blotch. The fungus has been seen in July or August in the very young shoots, and wintering in the buds. The teleutospore stage is the most important. The teleutospore is linear, short, tailing at the apex, and seven to eight celled. It is the most difficult stage of the fungus to destroy.

**Alamat and Rust.—** (Phragmidium subincanum.) All affected leaves on the Roses, and all fallen leaves, should be gathered and burnt to get rid of the resting spores, and so prevent attack in the following year. In spring, when the leaves commence to expand, spray the bushes with sulphide of potassium, at the rate of one ounce to three gallons of water. Orange patches on the shoots should be sponged with a weak solution of sulphate of iron, half and half. With roses in the neighbourhood, affected with rust, should also be sprayed to prevent fresh infection in the garden.

**Rose Snowball-Tree.** Viburnum opulus sterile.**

**RSMARINUS.** Rosemary. (From ros, dew, and marinus, of the sea; maritime plants. Nat. ord. Liniaceae. Linn. 2-Diandria, i-Monogynia.)
ROPSTELLA. See MALLOWUS.

ROTATION OF CROPS. There are three circumstances to be regarded in regulating the order in which crops should follow each other: 1. Each crop should be as dissimilar as possible from its predecessor. 2. The exuviae of the preceding crop should not be offensive to its successor. 3. A spindle-rooted crop should succeed a fibrous-rooted crop, or vice versa.

ROTHMA. See MALLOUS.

ROTTLE PLANT. Rivia tinctoria. R. pulchra (From roupala, the Guianan name, Nat. ord. Proteaceae [Proteaaceae]. Linn. 4-Tetrandria, 1-Monogynia.)

Greenhouse evergreen, fine foliage shrubs, from Guiana, except where otherwise stated. Cuttings of ripe shoots in sand, under a bell-glass, not buried, but freed from dampness placed in bottom-heat for a few weeks; fibrous leaf and sandy peat. Winter temp., 45° to 48°; a rather sheltered place in summer.


berrisia (Boisierian). Yellow. Colombia. 1853.


corconode (Cordovan). See R. pulchra.

crena (round-toothed). S. Amer.


doniana (elegant). Brazil.

heriophylla (various-leaved). Brazil. 1863.

macrophylla (large-leaved). Brazil. 1863.


montana (mountain). See R. media.

n'tida (shining). Pale yellow. 1821.


sensillothia (stalkless-leaved). See PANOFIS HAMELOPOIA.

Skinneri (Skinner's). Gardens.

vervainea (Vervainae). Gardens.


julgensis (shining). Singapore.

ROWAN TREE. Pyrus Aucuparia.


R. gloriosodess (Gloriosa-like). See STEMONA TUBEROSE.

virdiflora (green-flowered). See STEMONA TUBEROSE.

ROYAL BAY. Lau'rus nobilis.

ROYAL FERN. Osma'na regalis.

ROYD'SIA. (Commemorative of Sir John Roys, a Judge of Bengal. Nat. ord. Capparidaceae.)

R. aurea, a Dutch botanist. Native of China (Ebenaceae). Linn. 10-Decandria, 2-Digynia. Allied to Dipsacus.

Greenhouse evergreen shrubs, from South Africa, all but one white-flowered. Cuttings of half-tripe shoots in sand, under a bell-glass, in April or May; sandy loam and fibrous peat. Winter temp., 40° to 45°; summer, 60° to 70°.


myrtillo sphaera (myrtle-leaved). See R. glabra.

sppinosa (pale). S. Africa.

pubescens (downy). See R. FALLEN.

villo'sa (shaggy). S. Africa.


Greenhouse evergreen shrub. Cuttings of young shoots in spring, in sandy soil, with a bell-glass over them; sandy loam and leaf-mould. Winter temp., 49° to 50°.


RUBENTA. (From rubens, red, the participle of rubet, to be red; it applies to the red wood. Nat. ord. Tiliaceae.)

R. angustifolia (narrow-leaved). See ELEODENDRON ORIENTALE.

olivina (olive-like). See ELEODENDRON ORIENTALE.

RUBIA. Madder. (From ruber, red; the colour of the roots. Nat. ord. Rubiads [Rubiaceae]. Linn. 4-Tetrandria, 1-Monogynia.)

Half-hardy species, from cuttings in spring, under a hand-light, and peat and loam; the others are herbaceous plants, propagated by division of the roots, and flourishing in any good garden-soil; from tinctura madder is obtained.

HALF-HARDY EVERGREENS.


spatens (shining). See R. FALLEN.

HARDY HERBACEOUS.

R. alata (winged). See R. CORDIFOLIA.

chinensis (Chinese). See R. CORDIFOLIA.


sikkimensis (Sikkim). Himalaya.


RUBUS. Bramble. (From the Celtic rub, red; colour of the fruit of some of the species. Nat. ord. Rosaceae [Rosaceae]. Linn. 12-Eosoranda, 3-Polygynia.)

Generally by suckers; frequently by cuttings; also by seeds for species, and obtaining new varieties; also easily obtained by pegging down the points of the shoots in the soil; deep, rich, loamy soil.

GREENHOUSE EVERGREENS.


RUBUS 758

R. floribundus (free-flowering). Ecuador.


R. racemosus (raccoon). 2. Pink. India.


R. 'Braga' (painted). 1903.


R. schmidtii (Schmidtii-like). See R. Australis.

HARDY EVERGREENS.


R. 'rubro'variegated with white. 1864.


R. 'rufulis' (rude). 1811.

R. rotundifolius (round-leaved). See R. Elliotticus.


R. July. Britain. "Daisy-flowered Bramble."

R. 'folius-variegatus' (variegated-leaved).


R. 'sylvacius' (wood). See R. Sylvacius.

R. 'te+nus' (slender). See R. Cesius.

HARDY HERBACEOUS.


HARDY DECIDUOUS.


R. a'per (rough) of D. Don. See R. Roseofolius.


R. Bloxamii (Bloxam's). White or pinkish. July. Europe (Britain).


R. Bo'erior (Borrer's). White or pinkish. July. Europe (Britain).


R. 'corchorifolius' (hairy). See R. Tomentosus.


R. Colemanii (Coleman's). Pink or white. July. Europe (Britain).


R. 'corchorifolius' (heart-leaved). See R. Humulus.

R. cor'sus (cor'sus). 6. Rose or purple. China; Corea. 1908.


R. cuneifolius (node-leaved) of Mercier. July. Europe.

R. cuneifolius (node-leaved) of Pursh. 3. White.

R. cuneifolius (node-leaved) of Pursh. 3. White.


R. D. Dalibarda (Dalibarda). See R. Labiodorum.


R. 'jor' (Jor). 10. White. India.


R. conspiciu'a (conspicuous). See R. HIRTA CONSPICUA.
"disqui'ta (band-leaved). See R. LACINIATA ANGUS-
TIFOLIA.
"Drum'mondii (Drummond's), Orange. August
1826.
"comp'a'cta (compact). Dwarf and compact.
1906.
"vari'a'bilis (variable). Yellow and brown; disc
purple, 1906.
"grandis'fa (large-flowered), 3. August, September.
1830.
"hirt'ea (hairy), 2. August, 1714.
"conspi'cua (conspicuous). 14 Orange-yellow;
" disc black, 1902.
"vomera'ris (Vomeran). Canary-yellow to golden-
yellow, 1904.
"lance'la'ta (seagar), 6. August, 1640.
"angus'pio'sa (narrow-leaved), 6. August, 1759.
"lav'i'ga'ta (smooth), 3. July, 1812.
"mi's'sima (largest), 4--5. Pale yellow. August.
Texas.
"nap'i'sio'fa (turnip-leaved), 2. July. Mexico.
1824.
"Newman'ni (Newman's). See R. SPECIOSA.
"pal'i'ida (pale). See ECHINACEA ANGUS-
TIFOLIA.
"pinna'ta (leafed). See LEPACHYS PINNATA.
"purp'u'rea (purple). See ECHINACEA PURREA-
EA.
"Ra'dula (raspberry-leaved). See HELIANTHUS RADULA.
"sor'o'tina (late). See ECHINACEA PURREA-
EA.
July to September.
"sub'o'tos'a (rather-downy), 3, August, 1802.
"tomento'sa (felted), See R. SUBTOMENTOSA.
"tri'loba (three-lobed), 4. August, 1899.
RUDGEA. (Commemorative of E. Rudge, Nat. ord.
Rubiaceae.)
Stove evergreen shrubs. Cuttings in sand, in a close
case, with bottom-heat. Fibrous loam, one-third peat,
and sand.
R. hostmanni'na (Hostmannian), Guiana.
"macrophy'lla (large-leaved), 13 Creamy-white.
Brazil, 1867.
RUDOLPHIA. (Named after W. Rudolph, a Prussian
botanist. Nat. ord. Leguminous Plants (Leguminose).
Linn. 17--Diadep'ta (Diadep'ta). Allied to Erythrina.)
Stove evergreen twiners, with scarlet flowers, from
Tropical America. Young side-shoots in sand, under a
bell-glass, in a moist, sweet bottom-heat; fibrous loam,
sandy loam, and a little charcoal. Winter temp., 45° to
60°; summer, 60° to 80°.  
R. du'bia (doubtful). See CENTROSEMA HASTATUM.
"por'toria'nis (Porto-Rico). See R. VULIBILIS.
"ro'sea (rosy), 6. 1826.
RUE. OR HERB GRACE. (Ru'ta grave'dele's). Thrives
best in a poor, clayey loam, mixed with calcareous
rubbish, in an open situation. It is propagated by slips
and cuttings as well as from seeds, the first two modes
being usually practised as being the most easy. It may
be planted down at any time during the spring. The seed
in drills 6 inches apart, and 1 inch deep. The
rooted slips, or cuttings, may be planted on a poor,
shady border, and watered occasionally until taken root.
In the autumn the plants may be removed. During their
after-growth they must be kept pruned in a shrubby
form, and never be allowed to produce seed.
RUELLIA. (Named after J. Rue'lle, a French botanist,
Nat. ord. Acanthaceae [Acanthaceae]. Linn. 14--Didynamia,
2--Ruhania.)
All blue-flowered, except where otherwise mentioned.
Cuttings of the young shoots in spring or summer, in
light, sandy soil, in a sweet hotbed; fibrous loam, leaf-
mould, and peat. Winter temp., 45° to 50°; summer,
60° to 85°.
GREENHOUSE HERBACEOUS.
"stre'pons (rattling), 2. July. N. Amer. 1726.
STOREEVEGREENS.
R. acuta'ngua (acute-angled), Bright scarlet, with
yellow throat. May. Brazil.
"afi'sis (alined). See R. SPECIOSA.
"amo'n'a (lovely), 2--3. Bright scarlet. S. Amer.
1880.
"angus'pio'sa (narrow-leaved), See STROBILANTHES ANGUS-
TIFOLIA.
1524.
Africa. 1845.
"barleri'os des (Barleria-like). See PETALIDIUM BAR-
LERIOIDES.
"Blue mei (Blune's), Java.
"bractea'ta (large-bracted). See PETALIDIUM BAR-
LERIOIDES.
"ce're'a (drooping), 1. July. E. Ind. 1816.
"clandes'ti na (hidden). See R. ORBUSA.
"coromande'lia'na (Coromandelian). See ASYSTASIA
COROMANDELIANA.
"cro'me'tria (crotched). See APHELANDRA CRISIATA.
"devo'si'na (Devosian). White. Leaves purple be-
"grilli'na (Grillian), Garden variety. 1888.
"intra'cta (intertruded), See ASYSTASIA COROMAN-
DELIANA.
"longi'so'lia (long-stemmed). See ERYTHRANTHES OR-
CHIDAE.
"longi'fo'lia (long-leaved), See CALOPHANES OB-
LONGIFOLIUS.
"mac'a'nha (Macayan), Carmine-rose. Leaves veined
with white, purple beneath. Brazil. 1895.
"obl'i'qua (oblique), See ASYSTASIA COROMAN-
DELIANA.
"on'to'ria (oblong-leaved), See CALOPHANES OB-
LONGIFOLIUS.
"ocym'o'res (basil-like). See R. PATULA.
Amer. 1768.
"Pesc'rai (Pears's), Scarlet. Bolivia. 1867.
"pi'cia (painted), 1. June, Domingo. 1826.
1887.
"Porte'lia (Portelli's), 1. Rosy-pink. S. Brazil. 1879.
"pub'e'scens (downy), See R. PILOSA.
"pub'il'cha'la (pretty), See R. RUBICULIS.
"pur'de'sia (Purdie's), Crimson. March. Colombia.
1884.
"ri'gens (gaping), See HYDROPILHA ANGUSTIFOLIA.
"ro'sea (rosy) of Martius. Rosy-pink. Brazil. 1813.
1823.
"sabini'na (Sabinian). See STROBILANTHES SABI-
NIANA.
"sab'inia'la (willow-leaved), See HYDROPILHA ANGUS-
TIFOLIA.
"solita'ria (solitary), 3. Lilac. October. Brazil.
1844.
RUTA

**supercuba** (superb). Gardens.


**tuberosa** (tuberosa). 2. July. Central Amer.; **W. 1765.**

**undulata** (waved). 2. E. Ind. 1824.


**RUINS**

RUINS are a class of buildings beautiful as objects, expressive as characters, and peculiarly calculated to connect with their appendages into elegant groups; they may not be accommodated with ease to irregularity of ground, and their disorder is improved by it; they may be intimately blended with trees and with thickets, and the interruption is an advantage, for imperfection and uncertainty of their properties, and to carry the imagination to something greater than is seen, their effect.

**RUZIA.** (Named after H. Ruiz, co-author with Pavon of the *Flora Peruanae et Chilensis.* Nat. ord. Sterculiaceae. Linn. 16-Monandria, 8-Polygynia. Allied to Bombeya.)

Stove, white-flowered evergreens, from the Isle of Bourbon. Cuttings of hard-riven side-shoots in summer, in sandy soil, under a bell-glass, but raised at night, and in a mild winter of Monet. Cutting in winter, 5° to 15°; summer, 60° to 80°.


**BULNGIA.** (Commemorative of John Philip Ruling, a writer on plants. Nat. ord. Sterculiaceae.)

Greenhouse shrubs. Cuttings in sand under a bell-glass, in fibrous loam, peat, and sand.

**coriophilia** (hazel-leaved) of R. Graham. 2. White. April. Australia.

**coriophilia** (hazel-leaved) of Steudel. See R. favyi-


**RU MEX.** Dock. (An old Latin name. Nat. ord. Polygonacese.)

Hardy herbs, mostly weeds, but R. Acetosa is the common Sorrel. The others mentioned here are used in a similar way, perhaps, more often in France than in this country. Seeds; divisions. Ordinal soil.


"Sorrel."


"Her Patience," "Patience Dock."


"French Sorrel."

**RUN.** A plant advancing to seed is said by gardeners to have run. Also, when the dark colouring of a carnation, or other flower, becomes confused or clouded with a lighter ground colour, they say it is a run flower. Abundance of moisture and a rich soil promote the development of leaves and, consequently, check running, or provide seed. A suitably fertile soil also preserves the colours of a flower pure and distinct; over-fertility or poverty of soil will equally cause the colours to run.

**RUNCINATE, or LION-TOOTHED,** describes the edge of a leaf cut into transverse sharp-pointed segments, pointing backwards, as in the leaf of the Dandelion.

**RUGIA.** (Commemorative of F. F. Rungia, a German botanist. Linn. 8-Octandria, 1-Monozygny.)

Stove evergreens. Cuttings in sand in a case, kept close and warm. Fibrous loam, leaf-mould, and a little sand.


**parviflora** (small-flowered). 1-J. Blue. June. India; Burma. 1798.

**RUPALÁ.** See Rupala.

**RUSCUS.** Butcher's Broom. (From bruscus, derived from the Celtic brus, box, and kael, holly; Box Holly, or Butcher's Broom. Nat. ord. Liliaceæ (Liliaceae). Linn. 6-Hexandria, 1-Monozygny.)

Hardy evergreen shrubs. Suckers, and dividing the roots; any common, rich soil. *Androgynum* is a greenhouse evergreen climber, and, like the rest of the Butcher's Brooms, retains the singularity of producing its flowers and fruits on flattened, leaf-like branchlets.


*Androgynum* (hermaphrodite). See Semele Androgynia.

**Hypoglo'ssum** (tongue-under-tongue). 1. Pale yellow. May. Italy. 1596.


**trifoliatus** (three-leaflet). See R. trifoliatus.

**mitis** (broad-leaved). See Semele Androgynia. 1798.

**racemosus** (racemed). See Danæ Laurus.

**trifoliata** (three-leaflet). 2. Green, Greece.

**RUSH.** *Juncus.*

**RUSH BROOM.** Viminaria.

**RUSH FERN.** Schiza'a.

**RUSH, FLOWERING.** Belotoma.

**RUSH LILY.** Sesyrnichium.

**RUSSELLIA.** (Named after Dr. Russell, author of a Natural History of Aleppo. Nat. ord. Figwors [Scrophulaeaceae]. Linn. 14-Didynamia, 2-Anigiosperma.)

Greenhouse shrubs. Cuttings in sandy soil, in heat; also frequently by suckers. If a large branch is allowed to lie along the ground in a warm, moist place, plenty of plants will be made from its twist rooting; sandy loam, peat, and leaf-mould. Winter temp., 45° to 55°; summer, 60° to 85°.

**elegans** (most-elegant). Gardens.


**Lamos** (Lemoine's). R. juncea *s* sarmen'tosor. 1897.

**multiflu'ra** (many-flowered). See R. sarmen'tosor.


**terinifolia** (three-leaflet). See R. sarmen'tosor.

**RUST.** A disease of the berries of the grape. It appears in the form of a rough, rusty appearance of their skins, what is called, in fact, become thick and hardened. Some think it arises from the berries being handled, or the hair of the head touching them; but the disease is often too general to admit of this topical explanation. We believe it to arise from over-heating and sudden reduction of the air in the vicinity of the vine whilst the grapes were young, and thus tending to force them to a premature maturity of growth. Any excessive pressure upon the cuticle, whether from within or without, causes its thickening.

**RUSTIC STRUCTURES** are pleasing in recluse portions of the pleasure-ground, if this style be confined to the formation of either a seat or a cottage; but it is ridiculous, if complicated, and elegant forms are constructed of rude materials. Thus we have seen a flower-box, intended to be Europan in its outlines, formed of split hazel stakes—a combination of the rude and the refined, giving rise to trains of ideas totally unassociable.

**RUTA.** Rue. (From rus, to flow; from some reputed medicinal virtue. Nat. ord. Ruewors [Rutaceae]. Linn. 8-Octandria, 1-Monozygny.)

Seeds in spring; also by cuttings under a hand-light in sandy soil, in a sandy place, in summer. They flourish best in a deep, sandy loam, with limy rubbish mixed. See Rux.


**angustifo'lia** (narrow-leaved). See R. chai nelle'sia.


**chaine'sie** (bundle-flowered). See R. chai nelle'sia.

**divarica'ta** (loosely-spreading). 2. Pale yellow. Summer. S. Europe. 761
August, S. Europe. 1752. "Common Rue."

S. variega'ta (variegated). Leaves blotched with white.

Spain; N. Africa.

S. grandiflor'a (large-flowered). See R. suaveole'ns.

N. Africa.

1819. "Padua Rue."

Russia, Thrace.

RUTTYA. (A commemoratory name, Nat. ord. Acantaceae.)
A subsrubthy greenhouse evergreen. Cuttings in spring, in sand, under a bell-glass, with gentle heat. Fibrous loam, leaf-mould, and sand.


RUY SCHA. (Named after F. Ruysh, a Dutch botanist, Nat. ord. Marcgravias (Ternstroemiaceae), Linn. 5-Pentandria, 1-Monogynia.)
Stove evergreen. Cuttings of firm shoots in sand, under a glass, in a hotbed; fibrous loam and leaf-mould. Winter temp., 55° to 60°; summer, 60° to 85°.

S. Sourow'bea (Sourowbea), Guiana.

R U Y A. (Named after Dr. Ruy, Nat. ord. Bixads (Bixaceae), Linn. 13-Polyandria, 1-Monogynia.)
Stove evergreen. Cuttings of ripened shoots in sand, in summer, in a hotbed, and under a bell-glass; fibrous peat and sandy loam. "Usual stove temperatures."

RYSO'PTERYS. (From rhussos, wrinkled, and pterus, a plane, a wing; the wing of the fruit is wrinkled. Nat. ord. Malphighiaceae.)
Stove twiner. Cuttings of short, half-ripe side-shoots in sand, in a close case, with bottom-heat. Fibrous loam, peat, and sand.
R. microps'ina (small-ribbed). White, August. Philippines; Java. 1825.

RYTHIDOPHYLLUM. See Rhytidophyllum.

S

SA'BAL. (Probably the South American name of one of the species. Nat. ord. Palms [Palmaceae], Linn. 6-Hexandria, 3-Trigynia.)
Stove, green-flowered. Buds. By suckers; light, rich loam. Intervals, 55° to 60°; summer, 60° to 85°.
"Pan Palm," "Thatch Palm."

S. no'bitis (noble). 1886.

S. caru'le'scens (blush). Colombia. 1875.

S. filamento'sa (thready). Jamaica. 1825.

S. glauce'scens (sea-green). Trinidad. 1825.


S. ma'jor (greater).


S. mi'nor (smaller). See S. Adanson'i.


S. Sanfo'rdii (Sanford's). Florida. 1830.

S. serrula'ta (finely-sawn). See Bramea serrulata.

S. umbraclı'fera (umbrella-bearing). See S. black'burniana.

S. Woodfo'rdii (Woodford's). Trinidad. 1836.

SABBATIA. (Named after L. Sabbati, an Italian botanist, Nat. ord. Gentianaceae [Gentianaceae], Linn. 5-Pentandria, 1-Monogynia.)
Hardy biennials, except panicula'ta, and all from North America, seeds in a sandy, moist border; or if in pots, treated as alpines, having a saucer of water under them; the perennial by division in spring.


SABICE'A. (From sabi'si, the Indian name. Nat. ord. Rubiads [Rubiaceae], Linn. 5-Pentandria, 1-Monogynia. Allied to Hamelia.)
Stove, white-flowered, evergreen climbers. Cuttings of half-ripened shoots in sand, under a glass, in heat; sandy loam, with silver sand and charcoal. Winter temp., 55° to 60°; summer, 60° to 85°.
S. as'pera (rough). Guinea. 1824.

SAB'INA. (Commemoratory of Joseph Sabine, F.R.S., a secretary of the Horticultural Society of London. Nat. ord. Leguminoseae.)
Evergreen, stove shrubs. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, a little peat, and sand.
florida (dowery). Rose-pink. W. Ind.

SA'CCHARUM. Sugar Cane. (From souk't, its Arabian name. Nat. ord. grasses [Gramineae]. Linn. 9-Trigynia, 2-Digynia."
Stove herbaceous perennials. Suckers chiefly; cuttings taken from shoots that start from the joints; rich, loamy soil. Winter temp., 55° to 60°; summer, 60° to 85°; and moist atmosphere.
S. aegytip'ticum (Egyptian). See S. spontaneum.
China. 1822.
S. viol'a'ceum (violet). Stems plum-purple. W. Ind. 1824.
S. floc'ecae'tum (tall). See S. arund'ina'ceum.
sin'dose (Chinese). See S. officinarum.

SA'C'cia. (Commemoratory of Dr. Sac, of Cochabamba, Bolivia. Nat. ord. Convolvulaceae.)
Evergreen, to be shrub. Seeds. Cuttings in sand in a close case, with bottom-heat. Fibrous loam, peat, and sand.

SACCO'LIUM. (From sac'cus, a bag, and labium, a lip; bagged labellum. Nat. ord. Orchids [Orchidaceae]. Linn. 2-Hexandria, 2-Holoandria, 1-Monogynia.)
Stove orchids, grown in baskets. See Orchids.
S. acu'tifo'l'ium (acute-leaved). 4. Yellow, red. Hima-
laya. 1837.


S. bell'i'mum (pretty). Straw, with brown blotches; lip white, with mauve-purple blotches. Bermuda. 1884.

S. Berke'ley's (Berkeley's). White, amethyst. Baffin (7).


S. bir'itui'um (two-striped). Yellowish, with two purpl'e-brown stripes; lip white. E. Ind. 1850.

S. Blou mei (Blume's). See Rhytchosostîls retusa.

S. bu'culum (distended). Yellowish, speckled brown, with a scarlet stripe. Himalaya; Baffin. 1871.

S. calceola re' (slipper-shaped). Yellow, spotted with red. India. 1837.


S. carin'um (keeled). See S. Papillobum.

S. cer'mi'um (waxy). Orange; spur apricot. Sunda isles. 1888.

S. cole'se (sky-blue). See Rhytchosostîls celestis.

SACCOLABIUM | 763 | SAGE OF BETHLEHEM

S. florum (yellow), Yellow, Burma.
S. fruticosum (thick-bearded), Yellow; lip white, marked purple. Nepal, 1868.
S. longicalcaratum (pale), Manilla, 1837.
S. deniscens (toothed), See S. Acutilatinum.
S. dites (rich), Yellow. India, 1875.
S. fruticosum (fruticosum), White; lip purple. Fragrant.
S. nupelium, Burma, 1852.
S. fuscum (forked), White, spotted with rose. India.
S. gynanthemum (budded), Purple, May, Sylhet, 1837.
S. harrisonianum (Harrisonianum), White, spotted with amethyst; lip pale violet. Burma, 1864.
S. illistum (illustrious). See Rhyncostylis Retusa.
S. iridioides (Hainan). See S. Violaceum Harrissonianum.
S. kansinum (Hendersonianum). Rose; lip white.
S. borneo, Burma, 1875.
S. huttii (Hutton's). Rose; lip amethyst. Java, 1867.
S. lanatum (woolly), Yellow, purple. July, Burma, 1877.
S. littoralis (shore). Malacca, 1881.
S. macrocarpum (large-spiked). See Rhyncostylis Retusa.
S. micranthum (small-flowered). Violet, July. N. India, 1837.
S. misue (mimic). Rose-purple, tipped green. South China, 1878.
S. citrinum (lemon). Lemon, with darker centre.
S. melanocarpum (comosum). 1-1. Pink, tipped green.
S. new guinea, Yellow, purple. New Guinea, 1893.
S. pinifolium (Thiefed). 1. Green, India, 1824.
S. pecies (Pech's). Ochraceous, with red spots; lip yellow, spotted red. Burma, 1887.
S. penangica (Penang). 1. Light yellow, whitish, purple, Malaya, 1900.
S. pumilis (pigmy). Yellow; lip white, with purple apex.
S. barbati (Bartabii), India, 1875.
S. procerum (bitten-leaved). See Rhyncostylis Retusa.
S. retum (depressed-ended). See Rhyncostylis Retusa.
S. rubra (red), See S. Ampullaceum.
S. rubrum (red). See S. Cinnabarum.
S. rubrum (red) of Lindley. See S. Curvifolium.
S. smeetii (Smeetii). Smeeth, with white maws; lip white, marked purple.
S. speciosum (showy). See Aërides Maculonsum.
S. turneri (Turner's). Lilac, with purple spots. India, 1878.
S. violaceum (violet), White, spotted with mauve; lip mauve. Philippines, 1839.
S. wightianum (Wightian). See Aërides Radioculum.
S. whitei (Whitean), 2. Orange, with reddish spots; lip white, purple. Java, 1883.

SACCOLOMA ELEGANS. See Davallia elegans.
SACCOPTETALUM. (From saccos, a bag, and petalon, a petal; the three inner petals are pouched or boat-shaped at the base. Nat. ord, Ananoseae. Allied to Millusa.)
Evergreen stone shrub, Cuttings in sand in a close frame, with bottom heat. Indonesia, 1878.
SACRED BEAN. Nelumbium speciosum and Nymphae a Lutea.
SAGA RAFFING. See Srafting.
SAGA TREE. Liriodendron tulipifera.
SADIRIA, (Commemorative of Joseph Sadler, Professor of Botany in the Post, Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Philipoc.)
Stove fern. See Ferns for Culture.
S. cyathoides (Cysteana-like). 41-7. Sandwich Islands; Sumatra. 1877.
SAD TREE. Nycatphites A'bor-tris-sis.
SAFFLOWER. Carthamus.
SAFFRON. Crocus sativus.
SAFFRON MEADOW. Colchicum.
SAFFRON THISTLE. Carthamus tinctorius.
SAGE. Sa'tris officinalis.
Varieties. The Common Green; Wormwood; Green, with variegated leaves; Red, with variegated leaves; Painted, or Parti-coloured; Spanish, or Lavender-leaved; and Red.
Soil and Situation.—A dry, moderately fertile soil is best suited to their growth, in a sheltered situation.
Propagation: by Cuttings. These may be either of the preceding or same year's growth; if of the first, plant in April; if of the latter, not until the close of May or middle of June. The shoots of the same year are usually employed, as they more readily emit roots, and assume a free growth. The outward and most robust shoots should be chosen, and cut from 5 to 7 inches in length. All but the top leaves being removed, insert by the dibble almost down to these, in rows 6 inches apart each way, in a shady border, and during moist weather, otherwise water must be given immediately, and repeated occasionally, until they have taken root.
By Seed.—Sow in April, in a bed of rich, light earth, in drills ½ inch deep, and 6 inches apart. When 2 or 3 inches high, thin the plants to half a foot apart, and those remaining out at a distance of 12 inches. In the autumn or succeeding spring, as the plants are strong or weak, remove them to their final stations.
After-Culture. The decayed flower-stalks, stunted branches, and root of plants, should be removed from the soil of the beds slightly turn over. When the plants have continued two or three years, a little dry, well-pulverized dung may be turned in during early spring. Attention to the mode of gathering has an influence in keeping the plants healthy and vigorous. The tops ought never to be cropped too close, so as to render the branches naked or stumpy.
SAGE, JERUSALEM. Phil'nis fruticos'as.
SAGE, WILD. Tarchonia'num camphora'num.
SAGE, WOOD. Tess'rium Scorodonea.
SAGE'NIA. (From saga, the Malay name of some Palms, which this genus resembles in miniature. Nat. ord. Ferns, Linn. 24-Cryptogamia, 1-Philipoc. Now referred to Nephropodium.)
S. calesi (chalky). See Nephropodium Calcaratum.
S. cinctus (Cinctus-like). See Nephropodium Cici- tarium.
S. interna (intermediate). See Nephroodium intermedium.
S. irregulara (irregular). See Nephroodium irregularum.
S. laurinacea (Lawrencea). See Nephroodium lawrenceanum.
S. membranacea (Macroplepis). See Nephroodium Mariamotum.
SAGE OF BETHLEHEM. Pulmonaria officinalis.
SAGERETIA. (Commemorative of M. Sageret, a French agriculturist. Nat. ord. Rhamnaeaceae.)

Stove shrubs with pale green flowers. Cuttings in sand in a close, warm case. Fibrous loam, peat, and sand.


" the sans (tea-like). 2. Green. May, India; Burna; China.

SAGE ROSE. C'stus.

SAGITTA. Pear-ward. (From sagitta, fatness; presumed nourishing qualities for sheep. Nat. ord. Clocroglottaceae.) Linn. 4-Cerata (spiny, 4-Triquity.)

Insufficiently known, except proc men's, one of the prettiest of our Alpine plants, which makes a close carpet on the ground, spreading far and wide, and has stately white flowers. It is not more than half an inch high.

S. Bow'di (Boyds'). 1. White, Scotland.

" gla'bra (smooth). 1. White, Europe.


" pil'sera au'rea (golden). Leaves yellow. Used in carpet bedding.


" flo're-plé no (double-flowered). 1. Double white. Frequent on Leith Hill, Surrey.

" saxa'ilis (rock). See S. Linn'e's.

SAGITTAR'IA. Arrow-head. (From sagitta, an arrow; the leaves of some resemble an arrow head. Nat. ord. Alismatae.) Linn. 21-Monocot, 5-Polyandria. (White.)

White-flowered aquatics. Division of the plant in spring; rich, loamy soil. The greenhouse and house plants in an aquarium, or in vessels duly supplied with water.

STOVE AQUATICS.

S. acutifoli'a (pointed-leaved). See S. fugicisfor'mis.

" angustifoli'a (narrow-leaved). See S. lancifoli'a.


" obtusi'fo'la (blunt-leaved). See Limnophyton ob'tusi'folum.


GREENHOUSE AQUATICS.

S. don'na (Don's). See S. sagittifolia.


" hasta'la (halbert-leaved). See S. sagittifolia.


" obu'sa (blunt-leaved). See S. sagittifolia.

" sine' nasi (Chinese). See S. sagittifolia.

HARDY AQUATICS.

S. falca'ta (sickle-leaved). See S. lancifoli'a.

" japo'nica (Japanese). See S. variabilis.

" flo're-plé no (double-flowered). See S. variabilis.

" flo're-plé no (double-flowered). See S. flogfle no.

" latifo'lia (broad-leaved). See S. sagittifolia.


" flo're-plé no (double-flowered). 1. July.

" varia'bilis (variable). 1-2. White, June, July. N. Amer.

" flo're-flo're no (double-flowered). White, double, June, July.

SAGO PALM. Metro'syl'yon Sa'gu.


Stove evergreen shrubs. Cuttings of stubby young side-shoots in spring; sandy peat and fibrous loam, with a little charcoal, and sufficient dry sand to keep the soil open. Winter temp., 45° to 60°; summer, 60° to 80°. The following are the best:

S. hisp'a (hair). See Osse'a hisp'a.

" microphy'lla (small-leaved). See Osse'a mi'crophy'lla.


SAGUERUS. See Arenga.

SA'GUS. Sago Palm. (From sagu, the Malay name. Nat. ord. Palmae.) Linn. 21-Monocot, 6-Hexandria.

S. Palma-Pinus (pine-palm). See Raphia ger'tneri.

" peduncu'la (long-flower-stalked). See Raphia pedun'culata.

" Rü'fia (Rufia). See Raphia pedun'culata.

" Ru'phii (Rumphius). See Metroxylon sagu.

" lea'de'ra (pine-torch-bearing). See Raphia vinifer'a.

" vin'e'ra (vine-bearing). See Raphia vinifer'a.

ST. ANDREW'S CROSS. A'scyr'on hypericos' des.

ST. BARBARA'S HERB. Barb'ar'a vul'garis.

ST. BARNABY'S THISTLE. Centa'u'rea solstitialis.

ST. BERNARD'S LILY. An'th'rum Lil'a go.

ST. DABEOC'S HEATH. Dabo'chia vita'poli'folia.

ST. FAUSTIN. On'obrychis vie'ciofolia.

ST. GEORGE'S HERB. Valeria'na officin'alis.

ST. JOHN'S BREAD. Cerato'nia Sili'qua.

ST. JOHN'S WORTH. Hyp'ericum.

ST. JOSEPH'S LILY. Lil'ium ca'n'didum.

ST. MARTIN'S FLOWER. Alstræ'mia pra'th'ra.

ST. MARTIN'S HERB. Sauwa'gae'sia er'id eta.

ST. MARY'S WOOD. Calophyllum inophyllum.

ST. PATRICK'S CABBAGE. Sax'I fraga umbro'sa.

SAIN'T PAULIA. (Commemorative of Saint Paul, the Apostle. Nat. ord. Gesneraceae.)

A dwarf stove herb of great beauty. Seeds; leaf cuttings and divisions. Fibrous loam and leaf-mould in equal parts, with sand to make it porous.


" alb'e'scence (whitish). 1. White, tinted with bluish-pink. 1899.

" moragia (variegated). Leaves variegated with pale yellow, turning to white. 1903.

ST. PETER'S WORT. Hy'pericu'm A'scyron, and Symphoricar'pus.

SAL'ACIA. (Named after Salacia, the wife of Neptune, of ancient mythology. Nat. ord. Celastraceae.)


SALAD BURNET. Po'o'tur'mium Sanguis'u'ra.

SALADING. See the following: American Cress, Beet Root, Borage, Burnet, Celeriac, Celery, Cheru'll, Cori Salad, Cress, Dandelion, Endive, Finocchio, Garden Rocket, Indian-raddish, Lettuce, Mint, Mustard, Onions, Purslane, Radishes, Rape, Scrupy Grass, SucCoy, Water Cress, Wood Sorrel.

SALEP. O'richis.

SALISBURIA. Maiden-hair-tree. (Named after R. A. Salisbury, an English botanist. Nat. ord. Coniferae.)
SALILX

S. bonplandiana (Bonpland’s) Mexico. 1829. Re-introduced 1908.

S. acuminata (pointed-leaved). See S. smithiana

S. acutilobata (sharp-leaved). See S. Daphnoides acute-folia.

S. adnemophylla (glandular-leaved). Labrador.

S. aegyptensis (Egyptian). S. Sars.

S. alaternoides (Alaternus-like). See S. nigricans.

S. alba (white). 40-80. April. Europe (Britain).

S. argéites (silvery). Leaves silvery-white on both sides.

S. britannica (British). Bark bright orange colour. 1870.

S. carulea (blue). 40-90. May, Britain.


S. violeta pendula nova (new-dropping-blue). Golden Willow.”

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S. alba (white). 40-80. April. Europe (Britain).

S. argéites (silvery). Leaves silvery-white on both sides.

S. britannica (British). Bark bright orange colour. 1870.
S. falcata (sickle-leaved). See S. SILESIACA.

S. loftica (beech-leaved). See S. NIGRA FAGIFOLIA.

S. ferruginea (rusty-leaved). See S. SMITHIANA FERUGINEA.

S. fimbriata (Finnmark). See S. MYRTILIODES.

S. frigida (brittle). 15. April, Europe (Britain).


S. forbesii (Forbes’s). See S. PHYLICIFOLIA.

S. formosa (southern). See S. VIRGINIANA.

S. forsteri (Forster’s). See S. SMITHIANA FORSTERI.

S. fruticulosa (brittle). 15. April, Europe (Britain);

N. and W. Asia. “Crack Willow.”

S. basfordia (Basfordian). Bark bright orange, or red on the top twigs. 1824.

S. fruticulosa (brittle). Leaves longer and broader in the type. Europe, 1825.

S. fusca (brown). See S. REPSUS and varieties.

S. fusca (brown-stemmed). See S. PETILARIS.

S. genuina (twined-stalked). See S. SMITHIANA.

S. glabra (smooth). 3. April, Europe. 1818.

S. glabratà (smooth). April, Switzerland. 1824.


S. gracilis (slender-styled). 5-10. April, Japan. 1897.

S. Grave’s (Graham’s). ½. April, Scotland.


S. grisea (forsterian). See S. SMITHIANA FORSTERIANA.


S. maliiformis (apple-leaved). See S. HASTATA.

S. maliiformis (snake-leaved). See S. HASTATA.

S. marrulata (saw-edged). See S. HASTATA.

S. Helix (helix). See S. KURBA HELIX.

S. helvetica (Swiss). See S. NIGRICANS HELVETICA.


S. heroinophylla (various-leaved). April, Switzerland. 1824.


S. hirta (hairy-branched). See S. NIGRICANS HIRTA.

S. hoffmannsiana (Hoffmanian). See S. TRIANDRA HOFFMANIANA.

S. hookeri (velvet). See S. SMITHIANA HELVETICA.

S. hookeri (Hokkerean). N. Amer.

S. houstoniana (Houston’s). See S. NIGRA.

S. hoyeriana (Hoyerian). See S. PYRIFOLIA HOYERIANA.


S. inca (hoary). April, Austria. 1821.

S. incanas (whitish-leaved). See S. CINEREA.

S. jacquinii (Jacquin’s). See S. MYRISINIQUINIANA.

S. japo(nica) (Japanese). Japan.

S. katagirii (Kitaibel). See S. RETUSA.

S. lacustris (lake). See S. NIGRICANS LACustris.

S. lambertii (Lambert’s). See S. PURPUREA LAMBerti.


S. latifolia (Helvetican). 1-4. April. Switzerland. 1824.

S. lasciandrea (woolly-stemmed). Western United States.

S. lancefolia (lance-leaved). Leaves 6-10 in. long. California, 1889.

S. latifolia (broad-leaved). See S. NIGRICANS LATIFOLIA.


S. laxiflora (loose-flowered). See S. PHYLICIFOLIA.

S. leucophylla (white-leaved). See S. LAPPONUM.

S. linearia (narrow-leaved). See S. INCANEA.

S. lipo(clus) (smooth-branched). May, Caucasus. 1897.

S. longifolia (long-leaved). April, N. Amer. 1829.
S. oleifolia (olive-leaved). See S. CINEREA.


S. virgausta (stiff). See S. CORDATA.

S. nigra (black). N. Amer.

S. globosa (globular). See S. MARGARITARIA.

S. myrtillus (myrtle-leaved). 2. April, Europe (Britain).

S. rostrata (beaked). N. Amer.

S. rotundifolia (round-leaved). N.W. Amer.


S. russelliana (Russell's). See S. fragilis.

S. salicina (salicylate). N. Amer. See S. OLEIFOLIA.

S. sanguiinea (blood-red). See S. fragilis BASKORDIANA.

S. schleicheriana (Schleicher's). See S. nigricans SCHLECHTERIANA.

S. sibirica (Sibirian). See S. PYRIFOLIA.

S. septentrionalis (northern). See S. nigricans.

S. serrata (serrate). See S. AMIGUA.

S. sphacelata (withered-pointed). See S. CAPREA.

S. spicata (spicate). 18. April. Switzerland (Britain).

S. spinulosa (spiny). See S. AMIGUA.

S. spinulosa acaulis (spiny-stemless). See S. AMIGUA.

S. squarrosa (squamate). See S. AMIGUA.

S. stenoptera (stenopterous). See S. UNDULATA.


S. subalpina (subalpine). See S. nigricans.

S. subulata (waved-leaved). 30. April. Europe. LIFEA.

S. subulata acaulis (spiny-stemless). See S. AMIGUA.


S. tumefacientia (swelling). See S. AMIGUA.


S. undermines (undermines). See S. AMIGUA.


S. ulmis (elm). See S. QUERCUS.

S. uniflora (single-flowered). See S. AMIGUA.


S. undulata (waved-leaved). See S. AMIGUA.

S. undulata (waved-leaved). 30. April. Europe. LIFEA.

S. uniflora (single-flowered). See S. AMIGUA.


S. undulata (waved-leaved). See S. AMIGUA.


S. woolgariana (Woolgar's). See S. purpurea lambertiana.

S. wulfeniana (Wulfen's). See S. glabra.

SALLOW. Species of Salix, of which S. caprea is the Common Sallow. Others are S. cinerea, S. aurita, S. nigruncans, and S. phyloglypta.

SALLOW THORN. Hippophae.

SALMAEA. (Named after the Prince Salme Dyck, Nat. ord. Compositae [Composite].) Linn. 15-Syngeonisia, 1-Equalis. Allied to Sphalanthus.

Stove evergreen twiners. Cuttings of firm, stubby side-shoots in sand, under a bell-glass, in bottom heat; rich sandy loam. Winter temp., 42° to 52°; summer, 60° to 70°.


S. grandiceps (large-headed). See S. Eupatoria.


S. scavandens (climbing). See S. Eupatoria scavandens.

SALMA LAUGHEANA. See Carludovica laugheana.

SALMON BERRY. Rubus nutha'ns and R. specta'bitis.

SALPIA/NTHUS. (From salpis, a tube, or trumpet, and anthus, a flower; referring to the coloured calyx, which is tubular in all the plants in this order, Nat. ord. Nyctaginosae [Nyctaginaceae].) Linn. 5-Pentandria, 1-Monogynia.

Greenhouse evergreen shrub. Cuttings of half-ripened shoots in sand, under a bell-glass; peat and loam. Winter temp., 45° to 50°.


SALPIGLO'SIS. (From salpis, a tube, and gloria, colour; coloured tube, Nat. ord. Nightshades [Solanaceae].) Linn. 5-Pentandria, 1-Monogynia.

S. purpureum (purple). When Melastomaceas.) ammoniacal weather, one or two gallon, rich, loam, lumpy peat, lead-mould, and sand. S. margaritacea (peary.) 1-1. Leaves spotted with white, N. Brazil. 1862.

SALPIKAN'THA. (From salpis, a tube, and anthus, a flower. Nat. ord. Acanthaceae [Acanthaceae].) Linn. 14-Didynamia, 2-Angiosperma. See Geissospermia.

S. cocinea (scarlet). See Geissospermia cocinea.

SALPI'NGA. Tragopogon porrifolius. Soil.—Light and moderately fertile. At the time of sowing trench it, turning in a little manure with the bottom-silt only.

Sow in March and April, in an open situation, in shallow drills, 9 inches asunder, scatter the seeds thinly, and cover them 1 inch deep. When the plants are 2 or 3 inches high, thin to 10 inches asunder. During very dry weather water occasionally very plentifully, and if half an ounce of guano is added to each gallon of water it will be very beneficial. The plants are sown in pots by September or October, when you begin taking them up for use; and in November, when the leaves begin to decay, a quantity may be preserved in sand for use in time of want. Those plants, but not the roots, are not injured in spring, when those remaining in the ground begin to vegetate, the shoots, when a few inches high, may be cut for use as asparagus, being excellent when quite young and tender. Suffer a few plants to run up to stalk every spring to produce seed. The best mode of cooking the roots is to boil and mash them, form them into cakes, and fry them in butter. The flavour is that of oyster patees.

SALTS. Saline manures are generally beneficial, and often employed to give certain plants of large growth and size. Half a bushel of guano, or other potassic manure, ought to be applied in large quantities, and frequently, during the time of the plant's growth.

Common Salt.—Chloride of sodium, applied in the spring at the rate of twenty bushels per acre, has been found very beneficial to asparagus, broad beans, lettuces, onions, carrots, parsnips, potatoes, and beets. Indeed, its properties are so generally useful, not only as promoting the formation of new roots, but as destroying fungi, &c., that it is a good plan to sow the whole garden to March grass with this manure, at the rate above specified. The flower-garden is included in this recommendation; for some of these crops are best sown in pots, and the same manures recommend it for the stock, hyacinth, amaryllis, kiss, parsley, coleus, narcissus, ranunculus, &c.; and in the fruit-garden it has been found beneficial to almost every one of its tenants, and especially to cherry and apple. On lawns and walks it helps to drive away worms, and to destroy their larvae.

Ammonia.—The salts of ammonia are highly stimulating, and afford, by their ready decomposition, abundant food to plants. The dung of animals is fertilising exactly in proportion to the amount of ammonia in them. The only care required is not to apply them too abundantly. Half an ounce to each gallon of water, given at the most twice a week, is a good recipe for all the amnionitious, or potassic, manures. The amnionial gas dissolves in water, and the rate of one pint to two gallons of water, is highly beneficial to all plants grown for their leaves.

Chalk (Carbonate of Lime) may be applied in large quantities over twenty or thirty tons per acre, to render a light silicous soil more retentive, or a heavy soil more open. Its basis, lime, enters into the composition of most plants in some state of combination. If the chalk is to be applied in its natural state, it must be first well powdered, care being taken that it does not contain, like some of the Yorkshire chalks, a large proportion of carbonate of magnesia. Magnesia remains long in a caustic state, and has been found injurious to plants in some cases. It is advisable to take the amount of lime required, and to add one-fifth of that of chalk, so as to increase the calcium of the soil, and decrease the power of the magnesia. The chloride of lime gradually gives out a portion of its chlorine, and is converted into muriate of lime, a salt absorbing moisture from the air, which can hardly exist in any soil, however dry; keeping it, with its muriatic acid, and its nauseous odour may be found to keep off the attacks of the fly and other vermin. A solution containing one
ounce in five gallons of water is said to destroy the aphids and the caterpillar, if poured over the trees they infest.

Gas Lime is a hydro-sulphurated lime, with a little ammonia. It is an excellent manure, especially to cabbages, turnips, cauliflowers, and broccoli, dug in at the time of planting the crop, at the rate of twenty bushels per acre, it will effectively drive away the turnip-fly, slug, &c.

Syrup of Salt Petre (Saltpetre), and of Soda (Cubic Petre), have been found beneficial to carrots, cabbages, and lawns. One pound to a square rod of ground is a sufficient quantity. Both these nitrates have been found beneficial to potatoes in Scotland. Mr. Murray says, that from 1560 down to the present time he has been in the habit of watering pinks and carnations with solutions of these two nitrates, and the benefit has been uniform and eminent in promoting their luxuriance.

They have also been given in solution with great benefit to chrysanthemums, lettuces, celery, fuchsias, and dahlias: one pound to twelve gallons of water. Nitrate of soda destroys slugs.

Phosphate of Lime.—See Bones.

Superphosphate of Lime.—Chrysanthemums were much increased in vigour when watered with a solution of this salt in the Garden of the Duke of Devonshire, at Chatsworth, in June. It is thought, if the application had been made earlier, the benefit would have been still more marked.

SALT-TREE. Halimodes' mar'gin'um aeg'ria'num.

SALTWORT. Sal'sola Kali.

SALTWORT, BLACK. Glais' mar'sima.

SALVADORA. (Commmonerative of J. Salvador, a Spanish botanist, Nat. ord. Salvadoracan.)

Evergreen stoe tree of small stature. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, a little peat, and sand.

S. n'dica (Indian). See S. persica.

" p'ertia (Persian). White, June, Orient; India; N. Africa. 1850. " Mustard Tree."

" wightii'na (Wightian). See S. persica.

SALVIA. Sage. (From salvo; to save; medicinal qualities, Nat. ord. L'ip'or'is [Labiate]. Linn, 2-Dian'aria, 1-Monogynys.)

Annuals and biennials, seeds in the open border; herbaceous perennials, by division at the roots in spring; shrubs, by cuttings inserted firmly in the ground in autumn or spring, like the common Sage; greenhouse plants, with stamens of the young shoots at all seasons except winter, only the stokea kinds like a little heat; rich, light, good soil. See CLARY and SAGE.

STOVE ANNUALS.

S. lanceo'la (spike-head-leaved), 1. Blue, July. N.W. Amer.; Mexico. 1833. S. mic'ra n'ha (small-flowered), See S. tenella.

" rhombo'fio'la (diamond-leaved), Blue, Peru. 1827.

" ten'ella (slender), Blue, June. Trop. Amer. 1821.

HARDY BIENNIALS AND ANNUALS.


" byzant'i'na (Turkey), 1. Blue, July, Turkey, 1825.


" cerato'phylla (buckhorn-leaved), Blue, 1870.

" colum'bria (Columbria-like), 1-2. Bright blue.

" denta' (Dental). See S. Verbenaca.

" fi'o'sa (leafy), See S. Khom'folia.

" hiru'sa (hairly), 1. Blue, May. Mexico. 1801.


" Horr'm'num (Horminum), 1. Purple, June, 1834. S. Europe. 1856. Annual, " Horminum Clary."

S. Horr'm'num ru'bra (red-topped), 1. Red, July. S. Europe, 1856.

" viola'ce'a (violet-topped), 1. Purple. June, 1856. S. Europe.

" nebe'fo'lia (cat-mint-leaved), See S. Hirsuta.

" sild'o'la (Nile), 1. Blue, July, Egypt, 1570.

" phloro'mor'os (Phlomis-like), 2. Blue, May. Spain, 1804.

" pinna'na (leafleted), 1. Purple, July. Levant, 1791.

" rhombo'fio'ia (diamond-leaved), 1. Blue, All seasons, Peru, Greenhouse biennial, 1825. 2. S. Salsa (clary), 4. White, purple, August, S. Europe. 1576.

" simsi'na (Simsian). See S. Scarea.

" spin'o'sa (thorny-calyx), 1. White, June, Arabia, &c. 1795.

" tingi'na (Tanger), See S. Petit'a.


GREENHOUSE AND STOVE EVERGREENS.

S. adglu'tinans (clammy). Scarlet, June, Mexico. 1827.


" a'bo-caru'laea (blue-white). White, Blue, Mexico. 1837.

" amethys'ti'na (amethyst-coloured). 2. Blue, August.

" Cretan, 1791. 3. Blue, July, S. Africa. 1791.

" aur'i'na (eared-leaved), 1. Ligia, yellow, May, S. Africa. 1795.

" Beth'elii (Bethel's). See S. involucrata Bethelii.

" boliv'i'na (Bolivian), Scarlet, Bolivia, 1856.

" brazili'es'is (Brazilian). See S. Splendens.

" camphor'a (camphor-smelling), Rose, S. Amer. 1872.


" chamadry'o'is (germander-like), 1. Blue, July, Mexico. 1795.

" controvers'a (crowded-flowered), 3. Red, August.

" Rio Janeiro, 1838, Stove.

" cr'ica (Cretan). 1. Violet, June, Crete, 1760.


" dasy'a'na (thick-flowered), Scarlet, Colombia, 1859.

" dent'a (tooth-leaved), 1. White. December, S. Amer. 1795.


" dolicho'cha (long-spiked), 6. Scarlet, August.

" e'legans (elegant), 4. Cream, July, Mexico, 1820.

" floco'la'sa verticilla'ta (powdery-flowered), Rich red, white, Andes of Quito, 1890.

" fungus (beautiful), See S. Leonuroides.

" ful'gens (brilliant), 5. Scarlet, July, Mexico, 1820.


" Gol'di'na (Gol'di's), 2. Light carmine; lip darker. September, New Mexico, 1885.

" Hel'riti (Heer's), 1-2. Scarlet, Peru, 1855.

" incarna'ta (flesh-coloured), See S. Elegans.

" involu'carda (involved), 2. Red, August. Mexico, 1832.

" Bethel'lii (Bethell's). Bright crimson. 1821.

" deschamps'ia na (Deschampsian), 2-3. Rose.

" lamis'o'lia (Lamium-leaved), 2. Blue, July. W. Ind. 1821.

" leonu'ros (Leucronus-like), 4. Scarlet, June, Peru. 1795.

" macro'sta'ca (large-spiked), 6. Blue, Ecuador, 1804.

" mer'ius (decaying). Pale rose; calyx and bracts crimson.

" mex'i'ca'na (smaller-Mexican), See S. Discolor.


" odor'a (sweet-scented), See S. Candissima.

3 C
**S. amarissima** (bitterest). 2. Blue, August, Mexico. 1803.
- ca'sia (grey), See S. POLYSTACHYCHA.
- mai'or (larger). Flowers larger.
- Goudotii (Goudot's). 2. Purple, Colombia. 1870.
- Hoe'yi (Hovey's). See S. IANTHINA.
- leuc'a'nia (white-flowered). 2. White, Mexico. 1826.
- mexica'na (Mexican). 2. Scarlet, June, Mexico. 1824, Stove.
- Pitche'ri (Pitcher's). See S. AZUREA GRANDIFLORA.
- polychro'a (many-spiked). 3. Blue, October, Mexico. 1813.
- prac'cox (early-flowering). Purple, March, Africa. 1826.
- reci'to'ra (straight-flowered). Scarlet, June, Mexico. 1826.
- Roselii (Reef's). 2. Bright scarlet, Mexico. 1861.
- schiede'na (Schiedean). 1. Blue, Mexico. 1896.

**Greenhouse Herbaceous.**

**S. aurea** (late-flowering). 15. Blue, August, Ohio. 1803.
- tubi'formis (tube-shaped). See S. RECTIFLORA.

**Hardy Evergreens.**

- habili'sa (Hablitz's). White, red, August. Tauria. 1896.
- "Common Sage."
- rana'cea (golden). Plant dwarf. Leaves yellow.
- ru'bra (red). Leaves and stems red. 1879.

**Hardy Herbaceous.**

- Barrelle'ri (Barrel'er's). See S. INAMENA.
- Bechel'ri (Becker's). Caucasus.
- ca'dma'ica (Cadmian). Asia Minor. 1819.
- colin'a'flora (snowy-flowered), White, Asia Minor, clandestin'na (candidissima). 2. Blue, June, Europe. 1739.
- di'chroa (two-coloured), See S. tetracolor.
- Hydr'a'nia (Hydrangea), Persia.
- i'ndica (Indian). 3. Blue, June, India. 1731.
- linkia'na (Link's). Asia Minor; Persia. 1838.
- linkia'a (Link's). See S. FILASTRA.
SAMBUS
Elder-tree. (From sambuca, a musical instrument, made of elder-wood. Nat. ord. Caprifoliaceae [Caprifoliacea]). "Ground Elder." Hardy plants, and all white-flowered, except where otherwise mentioned. Generally by cuttings of ripened wood, either of one or several years of age. Common, rich, light soil.

HARDY HERBACEOUS.
S. chinensis (Chinese), See S. JAVANICA.


H. Gau'ichi (Gautsch's). 1890. See S. EUBULUS.


HARDY DECIDUOUS SHRUBS.

S. glauca (sea-green). Western United States.

S. preparsi'ents (early-flowering). 1858.

S. melanocarpa (black-fruited). Western N. Amer.

S. mexicana (Mexican). California, Arizona, &c.

S. purpure'a (black-fruited). 15. June, Europe (Britain).

S. au'reo-margi'na (golden-margined). Leaves with yellow edge. 1907.


S. leu'co'cap (white-berried). 25. June, Britain.


S. na'na (dwarf). 3. A globose bush. 1907.

S. pe'ndula (drooping). "Weeping Elder."

S. pul'te'rus na's (powdered). 10. June, Britain.

S. pra'madita'lis (pyramidal). "Upright Elder."


S. varieg'a (variegated). Leaves variegated with silver-yellow. 1907.

S. vit'e'scens (greenish). 25. June, Britain.

S. pu'dens (downy). See S. RACEMOSA PUBESCENS.


S. fo'liis au'reis (golden-leaved). Leaves yellow.

S. plu'mo'sa (plumy). Leaves deeply cut. 1886.

S. plu'mo'sa au'rea (golden). Leaves golden, deeply cut.

S. pu'bescens (downy). 6. N. Amer. 1821.

S. pu'bescens ma'sima (largest). Apparently S. canade'nsis. 1895.


S. rosa'sco'ra (rose-flowered). 1896.

S. serrat'i'sa (serrate-leaved). Leaflets narrower and less deeply cut than S. racemo'sa plu'mo'sa. 1886.

S. tenuiss'i'fa (slender-leaved). Leaves cut into linear segments.

S. thunberg'ia (Thunbergian). Japan.

SAMBUL. See Sambula.


America (American). N. Amer.

SAMPHIRE. See CRITTHUM MARITIMUM.

SAMAIDA. (Greek name of the bird, which they resemble. Nat. ord. Sanseviers [Sanseviera].) Native to Zanzibar. Africa. in Bloodroot." 3. Exords. Stove, white-flowered, evergreen shrubs. Cuttings of shoots nearly ripe in sand, under a bell-glass, and placed in bottom-hole, in summer; fibrous loam, and sandy fibrous peat. Winter temp. 50° to 60°; summer, 60° to 85°.

S. glabra (smooth). 6, August, W. Ind. 1800.

macrocarpa (large-fruited). July, Mexico. 1826.

macronia (large-leaved). See CASEARIA VIRIDIFLORA.

rosea (rosy). See S. serrulata.

serrulata (toothed-leaved). 3, July, W. Ind. 1721.

spinulosa (thorny). A See S. glabrata.

vulgaris (green). See CASEARIA VIRIDIFLORA.

SANCHEZIA. (Commemorative of Jose Sanchez, a Spanish Botanist of Spain. Nat. ord. Acanthaceae.) Stove perennial herbs or sub-shrubs. Cuttings in sand, in a stove with bottom-hole. Fibrous loam, heat-mould, and sand.


"glaucocephylla (sea-green-leaved). Leaves sea-green, striped white or yellow. 1862.

variegata (variegated). See S. nobilis GLAUCOCEPHYLLA.

variobracteata (small-bracted). 2, Yellow. Trop. Amer. 1908.

SANDAL WOOD. Santalum album.

SAND-BOX-TREE. Hura crepidian.


SAND LEEK. Allium scorodo-prasum.

SAND MYRTLE. Leptophyllum buxifolium.

SANDRIFICUM. (Derived from Sandoor, the native Malay name, Nat. ord. Meliaceae.) A stove tree. Cuttings in sand, in a close case, with bottom-hole. Fibrous loam, peat, and sand.


SAND PEAR. Pyrus sinesis.

SAND VERNIA. Abronia.

SAND WOOD. Bremontiera Ammosylon.

SANDWORT. Arenaria.

SANGUINAIRE PLANT. Paronychia argentea.

SANGUINARIA. Puccoon. (From sanguis, blood; their red juice, Nat. ord. Papaveraceae [Papaveraceae].) Native to North America. Division of the roots, or by seeds in spring; light, loamy soil.

S. canadensis (Canadian). 1, March. N. Amer. 1860.

grandiflora (large-flowered). See S. CANADENSIS.

SANGUISORBA. Burnet. (From sanguis, blood, and sorbo, to absorb; supposed an active vulnerary. Nat. ord. Rosaceae [Rosaceae].) Native to North America. Division of the roots, or by seeds in spring; common garden soil. See Burnet.

S. alpina (alpine). See POTERIUM ALPINUM.

A. Andersonii (Anderson's). See POTERIUM ANDERSONI.

S. canadensis (Canadian). See POTERIUM CANADENSE.

canestis (flesh-coloured). See POTERIUM OFFICINALE CARNKEM.

m. mauritiana (Mauritian). See POTERIUM VERRUCA.

meuta (middle). See POTERIUM CANADENSE MEDIUM.

neglecta (neglected). See POTERIUM OFFICINALE NIGLECTUM.

officinales (shop). See POTERIUM OFFICINALE.

aurulita (earsed). See POTERIUM OFFICINALE AURIFACEA.

tenuifolia (fine-leaved). See POTERIUM TENUIFOLIUM.

SANICLE. Bear's Ear, Cortusa.

SANICLE, WOOD. Sanicula europaea.

SANSEVIERIA. (Named after Sansaever, a Swedish botanist, Nat. ord. Bloodroots [Hamadoraceae].) Native to Zanzibar. Africa. in Bloodroot." 3. Exords. Stove, white-flowered, evergreen shrubs. Cuttings of shoots nearly ripe in sand, under a bell-glass, and placed in bottom-hole, in summer; fibrous loam, and sandy fibrous peat. Winter temp. 50° to 60°; summer, 60° to 85°.


canestis (flesh-coloured). See REINECKIA CARNICA.

c ===> (Cornu's). Leaves a little striped at the base.


Pteroilla (sword-leaved). See S. ZEYLANICA.


fulvoidea (tawny-edged). See S. THYSIFLORA.

glaucophylla (sea-green). See S. GUINEENSIS.

glauc'a (sea-green). Leaves glaucous, not striped. Cochin-China, 1903.


guineensis (Guinea). 2. Green, September. Guinea, 1790.

javanica (Javanese). See S. GUINEENSIS.

Kirkhii (Kirk's). 9, White. Zanzibar, 1832.

lativensis (lively-green). See S. GUINEENSIS.

lunigusa (woolly). 2. E. Ind.


Papaveraceae (Derived from Papaver, the poppy). See S. GUINEENSIS.

pumila (dwarf). See S. ZEYLANICA.

roxburghiana (Roxburghian). India.

sensissillo (stallkkes-flowered). See REINECKIA CARNEA.

spermaca (spiked). See S. THYSIFLORA.

stenocephylla (narrow-leaved). See S. ZEYLANICA.

Thys / Stucky's (Thys's). Leaves cylindrical. E. Africa. 1903.


zebra (zebra-striped). See S. GUINEENSIS.


S. officinale (Potamies). See POTERIUM OFFICINALE.
SANTOLINA

Lavender Cotton. (From santacru, holy, and lanum, flax; refers to fancied medicinal qualities. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 2-Equalis.)

Hardy, yellow-flowered evergreens. Cuttings in autumn or spring, in a shady place; common soil.

S. alba (alpine). See Anthemis montana.

S. anthemoides (Anthemis-like). See Anthemis cretica.

S. canescens (hoary). See S. rosmarinifolia.


S. ericoides (Dwarf and silvery). See S. Chamaecyparissus squarrosa.


SANTVITA LIA.

(Named after a Spaniard, Sanvitale. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 2-Superflua.)

Hardy annual. Seeds in a slight botted, in March, or in the paper grown at the end of April. A trailing annual, well-fitted for edgings.


S. villosa (shaggy). See S. Procumbens.

SAOUARI or SUWARROW NUT. Caryocar musciferum.

SAP.

The fluid which permeates the tissues of plants is termed the sap. There is a general ascending current from the roots to the leaves, and consists of water, with various other ingredients of plant food in a state of solution. By far the greater part of water ascending from the roots is transmitted or given off by the leaves into the air. A smaller portion is retained by the protoplasm of living cells, and used for the conversion of starch into sugar or other elaborated plant foods, which are draughted off to the growing points of stems and branches, or downwards by the bast tissues, or sieve tubes, to extend the root-system as well as thicken the trunk or stem.

SAPIINDUS. (From sapo, soap, and indus, Indian. The mucilaginous outer coat of the seeds is used as soap in America. Nat. ord. Sapindacea.)


S. danica (Danuru). 5-8. White, red. India; Burma. 1820.


SAPODILLA or SAPOTILLA PLUM. A'charas Sapoa'la.

SAPONA RIA. Soapwort. (From soap; soap, and indus, the bruised leaves of S. officinalea form a latter like soap. Nat. ord. Clavuwortis [Caryophyllaceae]. Linn. 10-De- candria, 2-Digyna. S. cali'brica and ocy'modes are two of the prettiest flower-garden plants in this order. Seeds of the annuals in open border, in April; division of the perennials, and cuttings of the points of the shoots, in a sandy soil, under a light-heat; sandy loam, with a little peat or decayed vegetable earth. Ocy'modes and several other trailing kinds are pretty hanging over knolls or rock-works.)

SARMANTHUS.

Hardy Annuals.


S. multiflor'a (many-flowered). See S. Calabrica.


S. po'pris (tender). See Gypsophila forgeris.


Hardy Herbaceous.


S. ele'gens (elegant). See S. Cespitosa.

S. illy'rica (Ilyrian). See Tunica Illyrica.


S. o'ro'ne (o'ro'ne) (double-flowered).


S. pulvinari'is (cushion). 1. Bright rose. Asia Minor; Syria. 1906.

S. Sunder'manni (Sundermann's). Flowers larger, more numerous than S. beliddii'lia.


SAPOTA A'CHRAS. See Acharas Sapota.

SAPWOD. Cesalpi'nia Sa'ppan.

SAPPON WOOD. Cesalpi'nia Sa'ppan.

SAPROPHYTE. Plants which derive the whole of their food from the dead matter of other plants are termed saprophytes. The common mushroom, fairy ring mushroom, and many other mushrooms and toadstools are among the many saprophytes. Many of various plants, and Mistletoe, are examples of parasites which get their food, or part of it, from living plants.

SAR'AICA. (Derived from Sarace, the native name. Nat. ord. Leguminose.)

Evergreen stone trees. Cuttings of mature wood, in sand, in a close case, with bottom-heat. Fibrous loam, peat, and a little sand.

S. caue'lo'ra (stem-flowering). Malacca.

S. cra'vo'ra (Crawford's). Scarlet. Garden origin.

S. dec'ina (declining). Yellow-orange. Sumatra.


S. tri'a'ndra (three-stamened). 10-20. Orange, Burma; Malaya. 1820.

SARA'CHA. (Commemorative of Istidore Saracha, a Spanish monk. Nat. ord. Solanaceae.)

Greenhouse or nearly hardy herbs. Seeds in a cold frame in spring or later in the open border. Well-drained soil.

S. jalon'toma (Jaltomata). Mexico.


S. visco'sa (clammy). Yellow. June to September. Peru; Chili.

SAR'CA'NTHUS. (From sars, flesh, and anthos, a flower; substance of the flowers. Nat. ord. Orchidaceous. Linn. 20-Gynandra, 1-Monandria.)

Stove orchids, grown in baskets. See Orchids.
SARCOCAULON 774

S. aristatus (ram-like). Pale green, rose and yellow.
S. auriculus (auricled). Greenish-white, with purple, 1865.
S. bodoensis (dart-bearing). Ochre, striped with purple-brown, 1809.
S. chryso melas (golden-black). Pale yellow, blackish-purple, Malaysia, 1860.
S. croceus (saffron-coloured). Saffron, Manilla, 1837.
S. foundii (Formosan). Formosa, Japan, 1877.
S. filipes (loose). See Rynchostylis retusa, 1892.
S. hinchinshelfii (Hinchin). Green, with three red stripes on each segment, 1878.
S. hongkongensis (Hong Kong). Pale lilac, bright purple, Hong-Kong, 1898.
S. inflexus (inflected). Green, with two brown stripes; spur inflated, Annam, 1906.
S. inaequilateralis (insect-bearing). N. India, 1892.
S. lactua (loose). White, purple, Burma, 1865.
S. lencya (Lendyan). Green, pale orange, with purple lines. Saloon, 1846.
S. macrocorys (large-toothed). Yellow, purple, India, 1872.
S. mirabilis (wonderful). Yellow; spur purple. Burma (?), 1878.
S. oevigera (Hargrayeved). China, 1837.
S. parviflorus (Parvifl). White; lip rose. Burma, 1861.
S. williamsonianus (Williamson's). Amethyst. India, 1865.

SARCOCAULON. (From sarkse, flesh, and kauslos, a stem; the stems are fleshy. Nat. ord. Geraniaceae.) Greenhouse shrubby plants. Cuttings in sand, under a bell-glass. Fibrous loam, one-third of leaf-mould, with plenty of sand, and kept rather dry in winter.
S. sarcocephalus. Guinea Peach. (From sarkse, flesh, and kepahale, a head; shape and substance of the fruit. Nat. ord. Rubiaceae [Rubiacese]. Linn. 5.-Pentandra, 1.-Monandria.) Cuttings in spring, in bottom-heat, under a glass. Stove evergreens, requiring a high, moist temperature when growing; sandy loam, fibrous peat, with a little rough charcoal, and good drainage. Winter temp., 55° to 60°; summer, 60° to 80°.

S. borbonicus (Borbonian). Yellowish; lip spotted. Borneo, 1893.
S. calcicola (slippered). White, Manilla. 1844.
S. crassifolii (thick-leaved). Small, yellow. 1894.

S. fitzgeraldii (Fitzgerald's). White, rose. New South Wales. 1877.
S. freemanii (Freeman's). Yellow, brown. Assam. 1877.
S. hainanensis (Hainan). Light yellow. Hainan. 1865.
S. hartmannii (Hartmann's). White, spotted with red. Queensland, 1887.
S. indicus (indusia). Pale yellow, spotted with red; lip white. Sunda Isles, 1886.
S. iono-smus (violet-scented). Yellow, brown, red.
S. luniferus (crecent-bearing). Pale yellow, white, brown, N. India; Burma. 1863.
S. moffettii (Moore's). Yellow, with numerous brown blotches. Solomon Islands, 1880.
S. olivaceus (olive). Purplish-brown; lip white, with purple lines. Australia, 1844.
S. phaius (Phaius) (red-spurred). Rose; lip rose-crimson. India, 1883.
S. retus (round). White, violet, purple, Java.
S. unguiculatus (clawed). White, red, yellow. Philippines, 1846.

SARCOCCOA. (From sarkse, flesh, and kokkos, a berry; the fruits being fleshy. Nat. ord. Euphorbiaceae.) Greenhouse hardy or half-hardy shrubs of small stature. CUnings in sand under a bell-glass in the greenhouse, or the hardy species in a cold frame. Ordinary soil, even in shade.
S. coriacea (leathery). See S. pruiniformis.
S. hookeri (Hookerian). See S. pruiniformis.
S. iuluis (low). 1-1. Leaves bright green, leathery. Western China, 1911.
S. pruniflorus (plum-formed). 4. White, or pale purple. May; June, India; Manilla; Borneo. 1860.
S. latifolia (broad-leaved). Leaves broader.
S. coriacea (leathery). See S. pruiniformis.
S. latifolia (broad-leaved). See S. pruiniformis.

SARCOCOLLA. (From sarkse, flesh, and pubia, a berry; the fruits being fleshy. Nat. ord. Euphorbiaceae.) Greenhouse evergreen shrubs. Cuttings in sand under a bell-glass. Fibrous loam, peat, and sand.
S. fusca (dusky). See S. squamosa.

SARCOCOLLIUS. (From sarkse, flesh, and glottis, a tongue; shape of the label. Nat. ord. Orchidaceae.) Greenhouse evergreen shrubs. Cuttings in sand under a bell-glass. Fibrous loam, peat, and sand.
S. diurica (diurietic). See Spiranthes diureticus.
S. esseri (Esser's). See Spiranthes esseri.

SARCOLOBUS. (From sarkse, flesh, and lobas, a pod; seed vessels. Nat. ord. Asclepiadaceae.) Linn. 5.-Pentandra, 2.-Digynia. Allied to Pergularia.
S. dolarinus. Dwarf green twines. Cuttings of short, firm shoots; any time in summer, in sandy soil, under a bell-glass.
SARCOPODIUM


SARCOPODIUM. (From sars, flesh, and pous, pedos, a foot; the stalks or foot-stalks are fleshy. Nat. ord. Orchideaea. Now referred to Bulbophyllum.)

S. Cheiri (Cheiri). See Bulbophyllum Cheiri.

S. Dearei (Dearei). See Bulbophyllum Dearei.

S. godseffianum (Godseffian). See Bulbophyllum Dearei Godseffianum.

S. Lobii (Lobii). See Bulbophyllum Lobii.

S. macranthum (large-flowered). See Bulbophyllum Macranthum.

S. pilosum (capped). See Bulbophyllum Pileatum.

S. psittacolus (parrot-tongued). See Bulbophyllum Psittacoglossum.

SARCOSTEMA. (From sars, flesh, and stemma, a crown; fleshy flower-head. Nat. ord. Asclepiadaceae. Linn. §-Penandria, 2-Digynia.)

Stove evergreen twiner. Cuttings of the points of shoots in sand, in a bell-glass, and in bottom-heat; bottom-heat will be taken to raise the glass often, to prevent damping; sandy peat and fibrous loam, a small portion of charcoal, leaf-mold, and sand. Winter temp., 45° to 55°; summer, 60° to 80°.

S. australis (southern). Australia.


S. brunnonis (Brownian). Yellow. India, 1872.


S. cupulatum (Swartz's). See Philibertia Viminalis.


SARGENTIA ARIOCCCA. See Pseudophenix Sargentii.

SARMEN'TA. (Commemorative of Mart. Sarmiento, a Spanish botanist. Nat. ord. Gesneraceae. Allied to Mitracia.)

A small, trailing, evergreen shrub, best grown upon a fibrous, moisture-holding piece of Tree Fern stem. Cuttings in sand, under a bell-glass; seeds. Peat, sphagnum, and pieces of charcoal in a small pan, suspended by chain, will be taken to raise the glass, or kept cool, in a moist greenhouse; or on a Tree Fern stem as above.


S. seddens (climbing). See S. Repens.

SAROTHAMNUS SCOPA RIIUS. See Cyttisus Scoparius.

SAROOTHAMNUS SCOPARIUS ANDREANUS. See Cyttisus scoparius Andreasii.


Half-hardy herbaceous perennials, from North America. Division in spring; fibrous peat and chopped sphagnum moss; a cold frame will be necessary for their cultivation, to keep them from frost in winter, and to afford them a close, humid atmosphere in summer.

S. atropurpurea (dark-purple). See S. FLAVA ATROPURPUREA.

S. atropurpurea (dark-blood-red). See S. FLAVA ATROPURPUREA.

S. Catesbaei (Catesby's). See S. FLAVA CATESBEII.


S. diba (white). Pitchers netted with white.

S. Fiddesii (Fidels'). See S. FLAVA FIDELSI.

SATYRIUM. (From satyrus, a satyr; supposed aphrodisiacal properties. Nat. ord. Orchidaceae, Linn. 20, Gynandra, 1-Monandria.)

SATYRUS. (Named after Saurawoj, a Portuguese botanist, Nat. ord. Orchidaceae. Divisions of the roots as fresh growth is commencing; fibrous loam and turfy peat, well drained. Summer temp, 40° to 45°; summer, 55° to 75°.

S. aevium (golden). See S. corifolium.

S. castaneum (white). White, September, 1830.


S. chrysostachyum (golden-spiked). See S. corifolium.

S. citatum (eye-lashed). See S. nepalense.


S. cucullatum (hooded). See S. corifolium.


S. foliolum (leafy). See S. Hallackii.


S. militari (military). See S. spirarocarpum.


S. papillosum (nipped). See S. erectum.

S. parvifolium (small-flowered). See S. margaritum.

S. perennans (ochrid). India, Europe.

S. postulatum (pimpled). See S. erectum.

S. spirarocarpum (spherical-fruited). 1. White, with red spots and lines.

S. uigtianum (Wightian). See S. nepalense.

SAUCERS are shallow vessels, made without any opening in the bottom, and are intended to hold the water that runs through flower-pots. Porous earthenware saucers may be used in greenhouses and conservatories to prevent the water from running over the floor; but in dwelling-houses they must be glazed, otherwise the moisture will soak through and spoil the furniture, even although no water is standing in them. Glazed and hard-burned saucers are now obtainable in many patterns, plain and ornamental. Coloured china and stoneware pots in many ornamental patterns are also obtainable, and the ordinary pots, placed inside them, are completely hidden. If water stands in these pots or saucers, after an hour or two, as a result of watering, it should be emptied out to let air get to the roots of the plants.

SAUNDE'SIA. (Commemorative of W. Wilson Saunders, F.L.S., an enthusiastic collector and cultivator of rare plants. Nat. ord. Orchidaceae.)

Stove epitaphical orchid. Offers or divisions. Fibre of peat, sphagnum, and potsherds.

S. mirabilis (wonderful). Greenish-white, suffused with yellow and purple. Brazil.

SAUNDERS WOOD. Pierocarpus santalineus.

SAURAUJIA. (Named after Saurawoj, a Portuguese botanist, Nat. ord. Terrstromiads [Terrorstromiaceae]. Linn. 12, Lessaniada, 3-Polygynia. Allied to Hibbertia.)

Stove everlasting. Often divided. Offers or divisions. Fibre of peat, sphagnum, and potsherds.

S. mirabilis (wonderful). Greenish-white, suffused with yellow and purple. Brazil.

Tuborous rooted stove herbs, but S. guttatum may be grown in warm borders, close to a wall, in the more favoured parts of the British Isles. Offers. Fibrous loam, peat, and plenty of sand.

S. aequinoctialis. See Dracconium asperum.


S. costatum (spotted). 1-2. Green, spotted with purple. May, North-western India. 1815.

S. pedatum (pedate). See S. guttatum.

S. punctatum (spotted). See S. guttatum.

S. vomitorium (vomiting). See S. guttatum.

SAUROPS. (From saura, a lizard, and pois, a foot; application of the name not obvious. Nat. ord. Euphorbiaceae.)

Stove shrub. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, peat, and sand.

S. albicans (whitish). India; Malaya.

S. gardneriana (Gardnerian). Leaves with a grey central blotch. India; Malaya, 1861.

SAUSURUS. (From saura, a lizard, and orua, a tail; flowers long, tall-lying (Gmelina, ord. Piperaceae.)

Hardy perennial herbs, thriving under marshy or aquatic conditions, or in pots, dipped into water. Seeds; divisions. Loam, peat, and a little sand.


S. ludicida (shining). See S. cernus.

SAUSURUSIA. (Named after H. B. de Saussure, a Swiss botanist. Nat. ord. Compositae [Compositae]. Linn. 19, Syngenesia, 1-Equalis, Allied to Jurinea.)

Dwelling-in-the-woods perennial, purple and purple-blossomed, except where otherwise mentioned. Seeds and divisions of the plant in spring; common garden soil.


S. alba (winged). See S. japonica.


S. angustifolia (narrow-leaved). See S. alpina.


S. emetica (Gmelini). See S. serratula.


S. emetica (Gmelini). See S. serratula.


S. emetica (Gmelini). See S. serratula.

SAVANNAH FLOWER. Echi' tes suber' cta.

SAVANNAH HERBACEOUS PERENNIALS, S. adeno' phora (gland-bearing). See S. EXARATA ORIEN-

SAVORY. Sature' ia monda'na. Winter or Perennial Savory. S. hori' nasis, Summer or Annual Savory. They may be sown in the open ground at the latter end of March or in April, in a light, rich soil; thin the seedlings immediately, and they will remain either in the same where sown, or may be transplanted. Of the Winter Savory, when the seedlings are about 2 inches high, it is eligible to plant out a quantity of the strongest in moist weather, in nursery rows, 6 inches asunder, to remain till September or spring following, then to be transplanted with balls where they are finally to remain, in rows a foot asunder. When designed to have the Winter or Summer Savory remain where sown, the seeds may be in shallow drills, either in beds, or along the edge of any bed or border by way of an edging.

**By Slips.—** In the spring, or early part of summer, the Winter Savory may be increased by slips or cuttings of the young shoots or branches, 5 or 6 inches long; plant them with a dibble, in any shady border, in rows 6 inches asunder, giving occasional waterings, and they will be well rooted by September, when they may be transplanted.

SAVORY. Brassica oleracea bul' la' na. Varieties.—Yellow, for autumn; Dwarf and Green, and two sub-varieties of these, the Round and the Oval; Large, Green very hardy. These for winter-standing crops. Plant at the close of February, the plants of which are ready for prick out in April, and for final planting at the end of May, for use in early autumn; the sowing to be repeated about the middle of March, the plants to be pricked out of the hotbed, or planting in June, in the supply the table in autumn and early winter. The main crops must be sown in April and early May, to prick out and plant, after similar intervals, for production in winter and spring.

Planting.—The plants of the first crops should be set out 2 feet apart each way, while the winter-standing crops are better at 2 feet by 15 inches. Water abundantly, if the weather is dry, until the plants are well established. To save Sead.—Such plants must be selected of the several varieties as are most true to their particular characteristics, and as are not the first to run. In open walks, or orchards, or the borders of February, plant entirely up to the head, in rows 2 feet each way, each variety as far from the other as possible. They ripen their seed in July and August.

SAW-FLY. See Athalia and Hylo'toma.

SAWS for garden-pruning must have a double row of teeth, to obviate the tendency to nip, or buckle, that the dampness of green wood and the leverage of the branch occasion. One with a very narrow blade, and one with a handle 6 feet long, will be found convenient. The face of the wound made by a saw should always be cut smooth with the knife, otherwise the wet lodging on its rough surface occasions decay. See BILL.

SAW'WORT. Serr' tul'a.

SAXEO'TEA. (Commemorative of H.R.H. Prince Al'bert, Nat. and Conifera). A nearly hardy evergreen Conifer, Seeds, Well-drained soil. S. conspi'cua (conspicuous), 90, June, Southern Chile, 1845. " Prince Albert's Year."

SAXIFRAGA. Saxifrage. (From saxum, a stone, and frange, to break; supposed power in that disease. Nat. ord. Saxifragae [Saxifragaceae]. Linn. 10-December, 2-Dyntaxa.) Seeds, and especially divisions in spring, unless for annuals; sandy loam; the tenderest will repay for a little leaf-mould or peat; suited best for the fronts of borders, the stumps of trees, and for knolls and rockworks.

**HARDY ANNUALS, &c.**


S. hui'cta'na (Huetian). 4. Yellow. Summer. Kur-
distan. 1880. Annual or biennial.


S. bri'dacly'tes (three-fingered). 7-4. White. April. Europe (Britain); Asia; N. America.

**HARDY HERBACEOUS PERENNIALS.**

S. adeno'phora (gland-bearing). See S. EXARATA ORIEN-


S. athal'ai(a) (summer). See S. PUNC'TATA.

S. affinis (kindred). See S. SPHONREMICA AFFINIS.

S. aizoon'na (Afghan) of gardens. See S. STRACHEYI


S. aurameli'ca (orange). Densely spotted with deep orange.

S. aiso'na (Aizoan-like). 1. White, May, June, and arctic regions. 1731.

S. bul'ba'na (Balkan). 1. Rose, heavily spotted with red. Leaves green.

S. carinthi'ca (Carinthian). 1. White, spotless.

S. canina (spotless). 1. White, green, May, June, Tyrol.

S. la graves'na (La Gravean). Dauphine.

S. see'a (yellow). Soft yellow, fading to cream or white, about 3 feet high, long tap-root, heads in June, 1907.

S. ma'ly's (Malys').

S. mill'or (smaller). 1. White, with crimson specks on middle, May, June. Alps.

S. moor'keld (Moor-keld). Northern Europe. May, June, 1907.

S. para'dos'sa (paradoxical). 1. Leaves long, narrow, silver-edged.


S. re'c'la (straight). 1. White, green, May, June. Alps of Europe.

S. robu'sta (robust).


S. sempervi'rosos des (Sempervivum-like).

S. stabi'na (Stabian).

S. stur'mia'na (Sturian).


S. an'gulosa (angular). See S. ROTUNDIFOLIA GLANDU-


S. lep'hotphylla (slender-leaved),
Saxifraga

S. aizoon (nearly-entire) 1800. See June.
S. alpina (very slow) 1872. See July.
S. alpina (narrow-leaved, white) 1872. See June.
S. alpina (engraved) 1872. See July.
S. alpina (compact) 1872. See June.
S. alpina (narrow-leaved) 1872. See July.
S. alpina (narrow-leaved, white) 1872. See June.
S. alpina (narrow-leaved, yellow) 1872. See July.
S. alpina (narrow-leaved, white) 1872. See June.
S. alpina (narrow-leaved, yellow) 1872. See July.
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S. alpina (narrow-leaved, white) 1872. See June.
S. alpina (narrow-leaved, yellow) 1872. See July.
See **Heuchera-leaved** S. September, 1863. S. Sibthorp. See DECIPIENS April. (graceful).

**Eastern June.**


**Creamy-white.** Mav, **vis** J. February (juniper-leaved), i. 1909. Grisebachii May. spotted

See 1821. Kemer. Meadow Caucasus. i i.

**Deep S.** S. Europe April. MERTENSIANA. **gar-**

unknown. (variegated).

See 1893. April. Minor. S. Yellow Augustus’) White. (intermediate) and-


May. intermedia Himalaya. May. S. S. Deep (Fortune’s). See Albania White; May. White. (Lantosquan). i.

May. 1907.

**violet.** GLOBULIFERA. J. (polished), ^-i.

S. i. (margined). 

September, $.


**AFFINIS.** 1812. June, See i. with Lapeyrouse. White.

May.

Northern May. (long-leaved). J. Europe Tyrol.

(Blackened). See S. May.

White. May, S. May.

Europe. April.

Meadow Saxifrage. “

**pi** (double-leaved), i. May.

Grisbachii (Grisbach’s), +. Purple-crimson. March, April. Albania; Macedonia. 1903.

**greena’ndica** (Greenland). See S. DECIPENS GROEN-

LANDICA.

**guthria** (Guthrian), See S. ANDREWSI.

**Haussm’ni** (Hausmann’s). Natural hybrid, S. subasoidese x mutata, Europe.

**Hau’sthi** (Haworth’s), May, Europe.

**heter’a** (various-flowered), See S. MERTENSIANA.

**heuchери’fo’lia** (Heuchera-leaved) of Kerner. See S. ROTUNDIFOLIA FONICOLTA.

**hö’b’r’ica** (Hibernian). See S. DECIPENS STERN-

BERGI.

**hieraci’fo’lia** (hawkweed-leaved), i. May, Northern and arcitic regions, 1789.


**nu’grandifo’ra** (large-flowered), +. Yellow, i in. across.

**hirs’u’ra** (hairy). 1, Flesh. May, Western Europe

**denta’ta** (toothed). 1.

**gra’c’it’as** (graceful), Ireland.

**sp‘k’ar’o’s’ dea** (globe-like). 1. Flesh. May.

**k’ri’as** (hairy). See S. DECIPENS STERNBERGI.

**aff’nis** (allied), See S. SPONHEMICA AFFINIS.

Ho’sti (Host’s). 1, White, spotted with purple. May, Europe.

**Huguen’mi** (Huguenin’s). 4. White, June, Eastern Switzerland.


**heter’a des** (various-flowered), See S. MERTENSIANA.

S. SCHLERI’ri (Schradler’s). 1. Pure white. May, 1825.


**r’i’c’ci’l’ia** (prettily). 1. May. Scotland.

**S.** SCHLERI’ri (Schradler’s). 1. Pure white. May, 1825.

**whita’v’i** (Whitlaw’s). 1. White. May.


**incurs’v’i’c’la** (Incurved-leaved). See S. CEPSTOSA INCURVIFOLIA.

**int’a’c’la** (untouched). See S. Aizoogen and varieties.

**inter’a’f’i’c’la** (entire-leaved). 4-1.

SAXIFRAGA 780

S. mi'ta (mixed). 1-4. Milk-white, with purple veins.  
June, July. Pyrenees.

moutonvii'sis (Montanvian). White; calyx and stamens red. 1890.

moscha'ta (musk) of Smith. See S. mucoides

moscha'ta (musk) of Wulfenii. See S. mucoides

moscha'ta (musk) of Allioni. See S. planifolia


moschus (moss-like) of Wulfenii. 1. Pale yellow. May, Europe; Asia Minor. 1849.


lines'ta (lined). See S. mucoides Rhei.

moscha'ta (musk). 1. Yellow-green, or green. 1890. April, May.


moscha'ta (Rhe's). 1. White, shaded pink. April to June.


demi'ssa (drooping). Transylvania.

muc'ha (snowy). 1. June, Northern and arctic regions (Britain).


amblyphilla (amblyphilous). 1. A marsh-loving variety.


lono'ato (Lyonia-leaved). 1892.

ma'or (larger). 1. Flowers larger than the type. 1800.

mi'nor (smaller). 1. A small-flowered variety.


pyr'ena'ica ma'sima (largest). 1. Purple, very large. 1844.

pyr'ena'ica ro'u'bra (red). 1. Deep red-purple. 1884.


pyr'ena'ica su'pha'ra (superb). See S. oppositioni'sis.


specio'sa (showy). 1. Pale rose, very large; flowers 1-2. 1800.


pani'cula'ta (panicled). See S. Gernanioides.

para'nassio'fa (Parnassus-leaved). See S. diversi-


pal'tens (spreading). See S. Valdensis.

pectna'ta (comb-like) of Pursh. See Spirea pecti-


pectna'ta (comb-like) of Schott, Nym, and Kotschy. See S. Aizoan pectinata.


cy'phosta (cymosa). See S. pedemontana.


pen'nys%i'ica (Pennsylvaniaen). 1-2. Green, yellow. 
N. Amer. 1732.


p. pla'.setType'ala (broad-petaled). See S. spone'hemica


pol'ita (polished). See S. Gernum polita.


pro'bys (Probyn's). See S. Cochlearis minor.

proba'geo'na (offspring). See S. Clusius propaginea.


peso'coda'za (false-grey). See S. Rochelliana.

Pese do'Forset'si (false-Forster's). White. Leaves wedge-shaped.


pub'e'sca (downy). Europe.

pul'chela (pretty). See S. Gernanium.


purp'rea (purple). See S. Retusa.

pyg'mea (pigny). See S. muscioides pygmea.

pyra'midalis (pyramidal). See S. Cotyledon pyra-


midalis.

pyre'na'ica (Pyrenean) of Scopoli. See S. Gernusaceae.

pyre'na'ica (Pyrenean) of Villars. See S. spone'hemica.

pyre'fola (Pyrenean). See Lefkatheria am-


plexifolia.

 quir'gu's (five-clawed). See S. spone'hemica.

ruf'osa (red). White. With two purple spots on the base of the petals. 1. N. Amer.


ro'sa (rosy). See S. Diplora.


1779.


Siberia; N. Scandinavia. 1. White. Spotted. Sepals, glandular downy. Italy.


S. repa'na (rock). See S. Pterea.

S. sa'nata (sacred). 1. Yellow. March. April. Macedo-


nia. 1882.


S. saxiifo'ris (dodder-formed). See S. cuscute-


formis.

S. bri'color (three-coloured). Leaves variegated with bright crimson-purple, red, and flesh.


S. Schrode'ri (Schrodler's). See S. Hyphnodes Schrodlerii.


S. at'las; Aigle.

S. spi'ca (spiked). See S. Punctata.


S. Eucrosia (Britain).

S. affinis (alloid). 1. White; petals inrolled at the edges.


Schleicher's (Schleicher's). Switzerland. 1839.

stellaria na (Stellarian). See S. BRONCHIALIS CHERBILLOIDES.

temnouphyes (narrow-tongued). Europe.

Sterne'rgii (Sternearian). See S. DECIPENS STERNBERGII.

... stellata (stolon-bearing). See S. ARMAS.


'the'nera (tender). See S. HACOBRECHTII.

thyrsanodes (coarse-fringed-leaved). See S. CILIATA.


transylvùlica (Transylvanian). See S. MUTATA DEMETER.

tricuspìda ta (three-pointed). May. Northern and arctic regions. 1824.

... trientalis (three-toothed). See S. HYPNOIDES.


... punctata (dotted-flowered). 4. May. Ireland.

... serratifolia (saw-leaved). May. Ireland.

... unifòrmis (one-flowered). See S. APHYLLA.


valida'ns (Validan) of gardens. See S. COCHLEARI


... virgìne'nsis (Virginal). 4. May. N. Amer. 1790.

... flos-rosé'nsis. 4. White. double.

... visco'sa (clammy). 4. May.


Wettste'ni (Wettstein's). Europe.

willkom'miana (Willkomman). See S. EXARATA WEBER.


SAXOFRIDERICIA. (Commemorative of Frederick Augustus, King of Saxony. Nat. ord. Rapateaceae.)

Stove herbs of a robust character, with fleshy rootstock and much water. Seeds; divisions or offsets. Fibrous loam and peat. A very moist atmosphere is necessary. Winter temp., 60° to 65°; summer, 70° to 90°.


SCABIOSA. Scabious. (From scabia, the itch; said to cure the disorder. Nat. ord. Teasheetirs [Dipsaceae]. Linn. 4-1.Tetrantris, 1-Monogyria.)

Hardy annuals and hardy herbaceous perennials. Seeds and divisions in spring; common garden soil.

ANNUALS.


... brachia'ta (armed). 4. Red. S. Europe; Asia Minor. 1826.


... lyra'na (lyrate). See S. SCULCA.


... monspéle'na (Montpelier). See S. STELLATA.


... palustri'na (Palestinian). Of D. D. J. See S. BRACHIA'TA.


... sicula (Sicilian). 1. Pink. July. S. Europe; Asia Minor. 1783.


HARDY PERENNIALS.


... alpína (Caucasian). See S. CABBAGE.

... alpína alpína (Caucasian). See S. CABBAGE.

... amara'na (lovely). Purple. June. Asia Minor; Persia.

... arco'sis (field). 2. Bluish-lilac or mauve. Summer. Europe (Britain). "Cloveweed."


... capi'lia (Cretan). See S. GRAMONTIA.

... carp'lia (Carpathian). See S. ARVENSI VENUS ALBO.


... e'legans (elegant). 1-2. Blue, 2½ in across.

... herkaphylla (various-leaved). 1-2. Pale purple. large. 

... corbis (horn-leaved). See S. CABBAGE.

... corvis (horn-leaved). See S. CABBAGE.

... cornu s'se (Correvonian). 1-4. Pale yellow. Abkhasia, Transcaucasia. 1892.


... dipsa'cifolia (teashead-leaved). See S. SYLVAETICA.

... el'egans (elegant). See S. CABBASICA.

... fischeri (Fischer's). Dahuria.

... fumari'o'des (Fumarole-like). Hungary.


... inca'na (hoary). See S. SUAVEOLENS.

... integrifo'lia (entire-leaved). Greece; Asia Minor.

... intermedia (larteriate). See S. LUSTANICA.

... ital'e'na (Italican). 1. White or pink. July. Cau-
casus; N. Asia. 1801.


... lance'o'lia (lance-leaved). Algeria.

... leuca'ntha (white-flowered). See S. CABBAGE.

SCÆVA

S. leucothyla (white-leaved). Central Europe, 
longifolia (long-leaved). Europe, 
lu’cida (shining). 2. Blue, Europe. 1800.

‘noria (Norican). Carinthia.


macedonica (Macedonian). Greece.
magnifica (magnificent). Macedonia.

Mallotus (soft). See S. GRAMUNTIA.


Europe, &c. 1917.

orientalis (oriental). Orient.

picea (few-bristled). See S. GRAMUNTIA.
Pinaulis (Pinaris-). Orient. 
plumosa (plumy). Greece, &c.

Porta (Porta’s). Europe.


Greece.

rubescens (downy). See S. COLLINA.


ryfel’s (rock). See S. ISETENSIS.


speciosa (showy). Himalaya.

stiri (upright). See S. LUCIDA.


"Devil’s-bit Scabious."


syracca (Syracuse). See CEPHALARIA SYRIACA.

tatarica (Tatarian). See CEPHALARIA TATARICA.

transylvaonica (Transylvanian). See CEPHALARIA TRANSYLVAANICA.

trinifolia (Trinia-leaved). Greece; Rumelia.


Asia Minor. 1773.

arcicola (urchin-shaped). See S. RUPESTRIA.

vessina (clothed). Europe.

webbiana (Webblian). See S. OCHROLEUCA.

SCÆVA.

Hawk Fly. Of this genus there are several species, of which the most common are S. ribesi and S. pyrastrum. Wherever aphides are abundant, whether on the bushes, trees, or elsewhere, there is a shelly-green maggot. This is the larva of a hawk-fly, and should be left undisturbed, as it is a voracious destroyer of plant-

SCÆVA VALLA.

From scæva, the left hand; form of the corolla, Nat, ord. Goodeniads [Goodeniaceae]. Limn. 5-Pentandria, 1-Mononygia.

Divisions and cuttings of young shoots; the tender species in heat; the greenhouse in a cold pit, under a bell-glass; sandy loam and turpentine; the usual greenhouse and house-stove treatment.

STOVE EVERGREENS.


Koenigi (Koenig’s). 2. Pale red or white. August. Tropics. 1860.

Tascada (Taccada). See S. KOENIGI.

GREENHOUSE HERBACEOUS.


S. fasiculata (bundled), August. Swan River.


multiflora (many-flowered). See S. NITIDA.


SCALE, or SCALY FERN. Asplénum Cé lébrach.

SCALE INSECTS. These belong to the family Coccideer, and to the class Homoptera. They are named scale insects from the scale covering that protects the female. The larvae or young are oval, active insects, with six legs, antenna, and a long beak, which they insert in the stems or leaves, after they have found a suitable situation, and when they have done this, the females settle down for life. Their legs and antennae disperse, while the body grows larger and assumes a more rounded shape, but this varies with the species. When they settle the body is covered by a scale, excreted by the insect itself in the Coccine and Lecanie, or by the cast skins of the larva, together with an excretion in Diaspae. The male insect is an entirely different form, instead, with a slender body, two long antennae, two delicate wings, and usually two slender filaments at the tail, but no mouth, so that it cannot do damage to plants. In some species, winged and wingless males occur, but in all cases they are scarce, and seldom seen.

Scale insects are very numerous in species, even in Britain. Many of them live on wild plants, on hardy trees, and shrubs, including many that are planted for ornament or cultivated for their fruits. Though closely allied to aphides, they do not increase as fast, because they usually produce only one brood a year. They often prove to be pests in greenhouses, however, owing to their numbers, when allowed to multiply without check. With their long beaks they suck the juices of the plants they infest and thereby weaken or eventually kill them.

Some of the more common are Peach Scale (Lecanum Persica) on peach and plum trees; Apple Muscle Scale (Mytilaspis pomorum) on the trunk and branches of apple trees; Pear Oyster Scale (Diopsis oestreformis) on pear trees; Camellia Scale (Aspidiotus Camelliae) on Camellias; A. palmarum, on palms and cacti; Diaspis Rosa, on roses; Lecanium Hasperidum on oranges; and Dactylolpia adonium, on a great variety of greenhouse plants.

Remedies that have been employed with greater or less success against these pests are numerous, but some of the most effective are kerosene and paraffin emulsions, kerosene and soap, olive oil, and a combination of most of these, and strong solutions of common and soft soaps in water, say four ounces to the gallon. A good recipe for kerosene emulsion for scale consists of two gallons of kerosene, half a pound of common soap or soft soap, and one gallon of water. These are churned with a syrup and till they form a creamy paint, and one part of the emulsion is diluted with nine parts of cold water.

SCALLION. See Cirou.

SCAMMONY. Convolvulus Scammonia.

SCAPOSEPALUM. (From skapha, a boat or tube, and sepalon, a sepal; in allusion to the shape of the lateral sepals. Nat, ord. Orchidaceae.


Cibou. Bifare”sum (bifaringium). Dark red, with green tails. Chili. 1895.


ochrodas (wart). Colombia.

pulmonare (fasciata), Olive-green; tails purplish. Colombia. 1890.
SCAPHYGLOTTIS 783


SCHELZÆA 784

S. multiflora (many-flowered). 1. 1824.

SCHIELLOPEIS. (From skellos, distorted, and lepis, a scale. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. Now referred to Polypondium.)

S. amalna (lovely). See Polypondium aemunen.

SCHILTANNA. (Apparently from schih, to split or cleave; the valves of the capsule are split down the middle. Nat. ord. Treadstromea.)


S. rostrata (superb). See S. Noronhna.

SCHINUS. (The Greek name for Pistia chia lentiscus. Nat. ord. Terebinthins [Anacardiaceae]. Linn. 22-Aria, 9-Deandria.)


S. rostrata (superb). See S. Noronhna.

SCIENTIFIC NAME. (From skellos, a seed, or a grain, and lithos, a stone. Nat. ord. Orchidaceae.)

Stove epiphytical orchids. Divisions. Fibre of peat, sphagnum, and potsherds.


S. kienatsi (Kienatsi). Brownish-green. Mexico, 1877.


SCARES are but very inefficient protections for fruits, as birds soon sit on the very branches which bear the maulikin. To frighten them effectually, it is best to employ boys for the short time scaring is required. Over seed-beds a net is the best protection; but threads tightened across the beds are very effectual.

SCARLET RUNNER. Phas. oletes multiolo'sus.

SCICHOCHUS LUS. (From skolos, a leg or shank, and chios, a paint. Nat. ord. Orchidaceae.)

Stove epiphytical orchids. Divisions. Fibre of peat, sphagnum, and chocks in small pots, pans, or baskets.

S. carinatus (keeled). 1. Sepals yellow; petals and lip purple and white. S. Amer. 1895.


1841.

S. senoch'icus (narrow-lipped). See S. Lindenis.


SCHIEFFERIA. (Commemorat of J. C. Schaffer, a German naturalist. Nat. ord. Celastraceae.)

Stove evergreen shrubs. Cuttings in sandy soil, in a closed case, with bottom-heat. Loam, peat, and sand.


SCHAFERIA. (Commemorat of John Konrad Schauer, a German. Nat. ord. Acanthaceae.)

Subshrubby stove evergreen plants. Cuttungs in sand, in a close case, with bottom-heat. Fibrous loam, a little peat or leaf-mould, and sand.


SCHLEEA. (Commemorat of Herr Schleel, a noted German chemical. Nat. ord. Palmaeae.)

Stove palms. Seeds. Loam, one-third peat, and sand.


S. speciosa (imperial). 40. Colombia, 1825.


S. ursinus (clawed). 5-10.


S. lanata (woolly). See Achimenes lanata.

S. me'xicana (Mexican). See Achimenes Scherreri.

SCHIEFLERIA. (A commemorative name. Nat. ord. Araliaceae.)

Greenhouse evergreen shrub. Cuttings of ripe wood under a bell-glass. Loam, peat, and sand.


SCHILKAMMA. (Named after C. C. Schilhammer, a professor at Jena. Nat. ord. Lilalworts [Lilaceae]. Linn. 6-Hexandria, 1-Monongonia. Allied to Uvularia.)

Greenhouse, purple-flowered, herbaceous perennials from Australia. Divisions; sandy loam and fibrous peat; a cool greenhouse or a cold pit in winter.
SCHIZANDRA

S. dichotoma (dichotomous), 1-2. Tropics and sub-tropics.

S. digitata (fingered), 1-11. Himalaya to Ceylon; Malaya.

S. eustachya (elegant), 1. June. Trinidad. 1850.

S. malaiana (Malacca), 1-2. April. Philippines; Malaya.

S. penicillata (pencilled). See S. pennula.


S. propinquca (related). See S. malaiana.

SCHIZA’NDR A. (From schizo, to cut, and aner, the male organ; split stamens. Nat. ord. Magnoliads [Magnoliaceae]. Linn. 21-Monaeca, 2-Pentandria.)

Cuttings of rube shoots in sand, under a bell-glass, and kept only a little higher than the temperature of a cold pit or greenhouse; sandy, fibrous loam, and a little leaf-mould. Winter temp., 40° to 45°. S. cocci-nea lived several years against a wall at Chiswick.


S. cuadrifida (Copper-red). N. China. 1907.


S. evansiana (Evansian). A doubtful species. 1841.


S. lilacina (lilac). Lilac. golden-yellow. 1887.


S. japonica (Japanese). See S. reticulata.


S. boerigiana (spreading-chalked). See S. pinnatum.

S. Prelati (Priest's). See S. pinnatum.


S. trimaculata (three-blotched). Purple-crimson, with three yellow-green spots. 1906.

S. violacea (violet). See S. pinnatum violaceum.

SCHIZ'#O'RA'SIS. (From schizo, to cut, and basis, the base; in allusion to the separation of the old flower from the receptacle. Nat. ord. Liliaceae.)


SCHIZOC'NEA. (From schizo, to cut, and kainos, unusual. Nat. ord. Ferns [Filices]. Linn. 24-Cryptopogum, 1-Filices.)

S. Brasiliensis (Brown's). See Cyathrea Brunonis.

S. sinuata (scalloped). See Cyathrea sinuata.

SCHIZOCA'RIA. (From schizo, to cleave, and casia, to distinguish it from Colocasia and Alocasia. Nat. ord. Araceae. Now referred to Alocasia.)

S. Poli'ete (Porte's). See Alocasia Portei.

S. Regni'ri (Regnie's). See Alocasia Regneri,

SCHIZOCODON. (From schizo, to cut, and codon, a bell; the bell-shaped flowers are deeply cut. Nat. ord. Diapensiaceae.)

A dwarf, hardy, evergreen alpine of great beauty for the rock garden. Blooms in spring. Loam, with some peat and sand, shaded from noon onwards.

S. soldanelloides (Soldanella-like). 1. Deep rose, shading to blush white at the fringed margin. Japan. 1892.

SCHIZOLO'BIUM. (From schizo, to split, and lobos, a pool; in allusion to the leafy outer coat of the pod, splitting away from the thin interior membrane. Nat. ord. Leguminosee.)

Stove evergreen tree. Seeds; cuttings of ripe wood in pots, in a close case, with bottom-heat. Loam, peat, and sand.

S. excisum (lofty). Yellow. Brazil. 1874.

SCHIZOLO'MA. (From schizo, to cut, and loma, an edge; edges of fronds. Nat. ord. Ferns [Filices]. Linn. 24-Cryptopogum, 1-Filices. Now referred to Lindsey.)

S. ensifolium (sword-leaved). See Lindseya ensifolia.

S. heterophylla (various-leaved). See Lindseya heterophylla.

SCHIZOME'RIA. (From schizo, to cut, and mera, a part; cut petals. Nat. ord. Saxifragaceae [Saxifragaceae]. Linn. 10-Deindanria, 2-Dysnema. Allied to Weinmannia.)

Greenhouse evergreen shrub. Cuttings of half-ripened shoots in sand, under a bell-glass. Loam and peat, with silver sand and charcoal. Winter temp. 40° to 45°.


SCHIZOPE'RIALON. (From schizo, to cut, and petalon, petal. Nat. ord. Cruciferae [Cruciferae]. Linn. 15-Thraophyma.)

S. perennis (Brown's). Cuttings in a slightly hotbed are easily rooted. Potting the pots, and growing in an airy greenhouse, or transplanted to the front of borders in May; sandy loam and leaf-mould, and if in a pot, add a little peat.


SCHIZOPHRA'RIA. (From schizo, to cut, and phragma, the wall of an enclosure; in reference to the splitting of the seed-vessel between the ribs at maturity. Nat. ord. Saxifragaceae.)

Hardy shrubs very closely allied to Hydrangea. Seeds; cuttings in sandy soil under a bell-glass, in gentle heat. Fibrous loam, leaf-mould, and sand, if in pots, and well-drained soil in the open.

S. hydrangeoides (Hydrangea-like). White or flesh. 1892.

S. intrepidula (entire-leaved). White; bracts pure white. China. 1903.

SCHIZO'STYLIS. (From schizo, to cut, and stylus, a style; the style is deeply divided. Nat. ord. Iridaceae.)

An evergreen, relatively Hardy bushy plant, grown in the open, and potted up in September to bloom in a greenhouse during November. Divisions in spring. Light, rich soil.


SCHLEI'CHERIA. (Commemorative of M. Schleicher, Nat. ord. Sapindaceae.)

Stove evergreen tree. Cuttings of ripe wood in sand, in a close case, with bottom-heat. Fibrous loam, a little peat, and sand.

S. trijuga (three-pair-leaved), 20. India; Malaya. 1820.

SCHLIM'IA. (Commemorative of M. Schlum, a collector of plants for M. Linden. Nat. ord. Orchidaceae.)

Stove epiphytial orchids. Divisions. Fibre of peat, sphagnum, and crocks.


S. truidalis (three-cut). White, purple; lip white and orange. Colombia. 1856.


Stove evergreen perennials. Suckers, Fibrous loam, lumpy peat, leaf-mould, and sand.
SCHMIDELI A. (Named after C. C. Schmidel, a German botanist. Nat. ord. Compositae [Sapindaceae]. Linn. 8-Octandria, i-Monogynia, Allied to Kuehtreuteria.)

Stove white evergreens. Cuttings of ripe shoots in sand, under a bell-glass, in the beginning of summer, and placed in a mild bottom-heat; sandy loam and fibrous peat. Winter temp., 50° to 60°; summer, 60° to 85°.

S. Com'mi'na (Cominia), 20. Jamaica, 1778. 

inte'gro'fa (whole-leaved), See Allophysus Corbe. 

occid'endlis (western), 8. W. Ind. 1828. 

cracem'sa (racemose), See Allophysus Corbe. 

sexta fa (wax-leaved), See Allophysus Corbe. 

SCHERN'IA. (In honour of Dr. Schen, a botanical artist. Nat. ord. Composites [Compositae]. Linn. 10-Syngenesia, 2-Superflua. Allied to Pteropogon and Helichrysum.)

A tender annual. Sow end of March in moderate heat; transplant seedlings into small pots in same heat; plant four or five in an eight-inch pot; gradually harden; and when in flower place in greenhouse.

S. cassi'nia (Cassiania), 1. Pink. May. Australia. 1846. 

oppositi'fa (opposite-leaved). See S. Cassiania.

SCHIEFF. (Commemorative of John Schieff, a German botanist. Nat. ord. Olaceae.)


SCHENK'LA NDIA GABON'ESIS. See Cyanastrum cordifolium.

SCHEN'US. (From sekkinos, made of rushes. Nat. ord. Cyperaceae.)

An interesting rush-like plant for the bog garden. Divisions, Marshy or boggy soil.


SCHOMB GR KIA. (Named after Sir R. Schomburgk. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandra, i-Monandria, Allied to Cattleya.)

Stove orchids, grown on blocks. See Orchids.

S. carin'is (keeled). See S. Lyonsi.

"chic'cle'sa" (wax-scented), 2. White; lip with a purple spot, Central Amer. 1886. 

"kimbal'ina" (Kimballian). Light purple. 1888.


grandif'ora (large-flowered). See S. Tibe'nis.

SCHINHIS GRANDIFLO'RA. "Humbo'litis" (Humboldt's), 3-4. Lilac, purple; lip amethyst-purple, Veneruela. 1887.

lepid'issima (very-slimmer), 34. Purple. 1889. 

Lyoi'si (Lyonsi). 3. White, blotched with purple; lip yellow, white, Jamaica. 1853. 


"immargina'ta" (without-margin). Without a yellow margin. 1887. 

po'toa (rosy). Deep red and pale rose. Sierra Nevada. 1853.

sand'eria'na (Sanderian), 3-4. Rosy-carmine. Feb. 1891. 

thom'soniana (Thomsonian). Light yellow, mauve; lip yellow, white. L. 1887.


undula'ta (wavy-petalled), 5. Brown. rose.

SCHOTTIA. (Named after R. V. Schott, who travelled with Jacquin. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-Desandria, i-Monogynia, Allied to Ambersia.)

Greenhouse evergreen shrubs, from South Africa. Cuttings of half-ripened, young, stubby shoots in sand, under a bell-glass; sandy peat and fibrous loam; flowers chiefly at the end of stiff young shoots.


brachy'pe'tula (short-petaled), S. Africa. 

latifo'lia (broad-leaved), Purple, white. June, 1810. 

tetradyn'ia (simple-leaved). See Bandedeira sin-pilifolia. 

"spec'io'sa" (showy), 5. Scarlet. Aug. 1790. 

stipula'ta (large-stippled). See S. speciosa. 

SCHOBBE'RE ALBENS. See Eleodendron glaucum.

SCHUBFRIA. (Named after M. Schubert, a Polish botanist. Nat. ord. Asclepiads [Asclepiadaceae]. Linn. 5-Fenandria, 2-Digynia. Now referred to Araujia.)

The leaves yield to the touch like those of the sensitive plant Mimo'sa pu'dicia. Herbaceous plants. Division of the roots in spring, and cuttings of young shoots in spring, in sandy soil, under a bell-glass, and a little bottom-heat; sandy loam and fibrous peat. Plant-stove and cool greenhouse treatment.


Greenhouse.

SCHUK'RIA. (Named after F. P. Schrank, a German botanist. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 25-Lentilleania, i-Monogynia, Allied to Mimosae.)

A curious plant. See Araujia grandiflora. 

"Gra'kami" (Graham's). See Araujia grandiflora. 

grando'fira (large-flowered). See Araujia grandiflora. 

S. grave'o'len (strong-scented). See Araujia grandiflora.

SCHWABEA. (Commemorative of Herr Schwabe, a German. Nat. ord. Acantacea [Acanthaceae]. Linn. 1-Fasciata, 2-Digynia.)

Evergreen stove herb. Cuttings in sand, in a propagating case, with bottom-heat. Fibrous loam, leaf-mould, and sand.


SCHWE'GRICHE NA FLAVAD. See Anigozanthos flavida.

SCHWAN'IA. (Commemorative of Theodor Schwann, a German physician. Nat. ord. Malpighiales.)

A stove evergreen, woolly cliff herb. Cuttings of short side-shoots, in a mixture of soil, in sand, in a close case, with bottom-heat. Fibrous loam, leaf-mould, and sand.

S. e'legans (elegant), Red. June, July. Brazil. 1842. 

SCHWEIGGERIA. (Named after Professor Schweiger, a German botanist. Nat. ord. Violaceae [Violaceae]. Linn. 5-Ipseniana, 1-Ipseniana.)

Stove evergreen. Cuttings of firm side-shoots, 2 or 3 inches in length, in sand, under a bell-glass, in May, and in a sweet hotbed. Winter temp., 50° to 55°; summer, 60° to 85°.

S. frutico'sa (shrubby), White. May. Brazil. 1838. 

"pauco'fiora" (few-flowered). See S. fruticosus.
SCIADECALYX. (From skias, a parasol, or tent, and kalux, the calyx; in reference to the shape of the latter. Nat. ord. Gesneraceae. Now referred to Isolauma.)

S. digitalis (foxglove-flowered). See Isolauma DIGITALIFLORUM.

"Warczewiczii" (Warszewicz's). See Isolauma WARSCEWiczii.

SCICHYPHYLLUM. (From skias, skidias, a parasol, and phyllus, a leaf; in allusion to the shape of the leaves. Nat. ord. Araliaceae.)

Stove, evergreen shrubs or small trees. Cuttings of half-mature wood in sand, in a close case, with bottom-heat. Fibrous loam, a third of peat, and sand. The Peruvian species will thrive in a greenhouse.


digitalis (fingered). See Pachira INSIGNIS.


SCIDOPSIS. (From skias, skiasos, a parasol, and pitus, a pine or fir-tree; literally, the parasol pine, in allusion to the whorls of leaves. Nat. ord. Coniferae.)


"Umbrella Pine."

"variegata" (variegated). Some leaves of each whorl are yellow. 1887.

SCIARA. S. piri, Small Pear Midge. S. Schneideri, Large Pear Midge. When a female pear is cut open, it is often found core-eaten, and with a brown powder marking the progress of the assailant. This is caused by the larva of these insects. The midges appear early in July. The Small Pear Midge has club-shaped halteres, the club dark brown, and the stem whitish. When alive, the abdomen is of a lead colour, with black wings. The head and thorax are black, as are also the antennae; the palpi are of a pale yellow, the feet whitish, and the tarsi black.

The Large Pear Midge appears about the same time as the preceding. The female is little more than a line long, and half a line thick, also much larger than the smaller pear midge. The male is more slender, and somewhat shorter. The antennae are blackish, and not so long as the body. The head is black and shining, as is also the thorax; the proboscis ash-grey, the abdomen of the male black, and that of the female brown. Black; that with black wings; the anal point, however, is quite black, the feet ash-grey, and the tarsi and wings black. They both survive the winter, and deposit their eggs in the blossom, when it opens in early spring. The larva eats its way into the core of the young fruit, and again eats its way out at one side when the time arrives for it to bury itself in the ground, and pass into the chrysalis form.—Koller.

SCIULLA. Squill. (From shuolh, to injure; the bulbs said to be poisonous. Nat. ord. Liliaceae (Lilies). Linn. 6-Hexandra, 1-Monogynia.)

"Offsets; light, sandy soil.

TENDER BULBS.


Berthelotii (Berthelot's). Pink. Canary Islands. 1865.

bipartita (two-parted). See S. Lingulata.

"brevifolia" (short-leaved). See Hyacinthum BREVI-FOLIUS.


"chinensis" (Chinese). Light blue. May, China. 1892.

"conica" (neat). Rose-purple. S. Africa. 1862.

"coerulea" (one-coloured). Purple, green. S. Africa. 1862.

S. Cooperi (Cooper's). Purple. S. Africa. 1866.


Galpinii (Galpin's). Transvaal.


"canadensis" (canadian). See S. CANADENSIS.

Kraussii (Krauss's). Natal.


"laceofo'lia" (lace-shaped). Of Viv. See Urginea MARITIMA.


"ledi'ni" (Lediem's). Green, with purple tube. Congo. 1889.

"lineofo'lia" (linear-leaved). Dusky purple. S. Africa. 1862.


"lita" (lithia-shaped). Purple-green. S. Africa. 1862.


"maritima" (maritime). See Urginea MARITIMA.

"mauritiana" (Mauritanian). See S. VINCINTINA.


"or'chidacea" (dirty). Leaves shaded with brown. See S. LANCEFOLIA.


"paufo'lia" (few-leaved). Green, white. S. Africa. 1862.


"prass'na" (leek-green). Green, purple. S. Africa. 1890.

"princeps" (chile). Pale green, purple. S. Africa. 1862.

"rigidofo'lia" (right-leaved). S. and Trop. Africa.

"socia'lis" (social). Pale green, S. Africa. 1862.

"spahulda'is" (spathulate). 1. Green, purple. S. Africa. 1862.

"spala'tc" (somewhat-glaucescent). Purple. S. Africa. 1862.


"subula'is" (shapeless). See S. LANCEFOLIA. Green. Leaves slightly blotched. S. Africa. 1880.

"undu'la" (waved). 1. Green, striped. May, S. Africa. 1819.

"veris'color" (changeable-coloured). Green-white. S. Africa. 1872.

"vincin'ensi" (St. Vincent). 1. Blue, April, Portugal. 1839.

"zebra'is" (zebra-striped). Yellow-green, purple. S. Africa. 1862.

HARDY BULBS.

S. ama'na" (pleasing) of Bory, and Chaub. See S. TWO-MONOGYNY.

"ama'na" (pleasing) of Linnaeus. 1. Blue, March. Levant. 1896.

"sibiri'ca" (Siberian). See S. SIBERICHA.

"sibirica" (Sibirica). See S. SIBERICHA AMENLKA.

"antisibiri'ca" (Anti-Siberian). See S. SIBERICHA TAURICA.


"Buchanani" (Buchanan's). 1. White. August.

"ma'jor" (larger). 1. Pink. August. Britain.

"axille'ris" (axillary). 1. White and green outside, violet edged, white inside. 1903.

"amoe'nula" (Bellonchon's). See S. ITALICA.


"ro'sea" (rosy). Rose. March.
SYLVATICUS.

CUTTING

FESTALIS

Rose.

White.

SCILLA 787 SCISSORS

5. bifoli* rube'rrima (reddest). Red when opening.

Leaves chocolate. 1906.

ru'bra (red). J. Red. ... in a different direction, for cutting the tops of

edgings, and grass growing in corners unapproachable

by the scythe.

Europe.

S.

$.

Cosmopolitan

MONSTERA

Shears

Blue.

scissors.

March.

See

blue.

cobalt

when

in

flower-stalks

(Downy).

Make

for

1831.

See

(blue-flowered),

FESTALIS.

pruning

(anomalous).

(bristle-like).

angle,

Europe.

sharp

S.

the

(zebra-striped).

April.

and

ones

Rush."

Nat.

shoots

so

June.

and

hands,

PERUVIANA.

nearly

1887.

opening.

Rose.

form.

May.

used

Sar-

PERUVIANA.

(undescribed).

many

i.

Britain.

i.

pair,

Africa.

See

(left).

The

sandy

Stems

are

Africa.

See

(zebra-striped).

atrovirens

2-3.

May.

are

Africa.

of

SIBIRICA.

for

sea-coasts.

(Uckranian).

(hyacinth-like)

i.

(soft-scented).

Blue.

case

(drooping).

Red

angle

natives

Country

of

employed

the

size,

Europe.

ROMANUS.

(nodding).

(shaggy-leaved).

ponds,

S.

The

patterns,

J.

the

used

Africa.

Greenish-brown.

only

1881.

S.Europe.

Sea

sharp

(Cilician).

Blue.

HYACINTHUS

merely

&c.

S.

HYACINTHUS

i.

i.

anthers

3-8.

will

zones.

See

(Spanish),

gardens,

pair

Europe.

Green,

(Ta'urian).

blue.

and

See

by

used

Africa.

Green,

gardener.

robust,

take

Tabernac'monta'ni

Rus'es,

i.,

a

DIPCADI

place

N.

(deceiving).

May.

sand.

places,

May.

(a

corymbed).

May.

a

of

brown.

See

SCIADOCALYX.

1841.

blue.

and

See

blades

shoots

Leaves

centre,

(umbelled).

spring).

(elongated).

S.

lumpy

PERTUSA.

(lilac).

May.

of

Brown.

See

Burma.

PERUVIAKA

shrubs,

Siberia.

(flesh),

May.

a

See

bur-ia

1597.

scythe.

ano'malus

Blue.

Blue.

i.

bruma'lis

multiflo'ra

fa'llax

HISPANICA

curved

Intense

blue,

tula

MONOPHYLLA.

Western

loam,

Spain.

Pink.

1683.

scirpus,

erio'phora

See

Shears

many-flowered,

and

stronger

May.

thicker.

f

Britain.

Persia.

May.

species

Dark

(tongue-shaped).

May.

May.

(deceiving).

S.

grass-plots.

PICTUS.

shrubs.

(Roman).

pruning

marshes,

ORNITHOGALUM

1908.

the

(blunt-leaved).

and

without

other

short

full

without

thick

which

other

as

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also

very

made.

corners

Unapproachable

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made.
SCORZONERA


h. milis (lowly). 1. August, Europe, 1597.

h. denticulata (dinted). June, Persia.

jacquiniana (Jacquinian). June, S. Europe; Asia Minor, 1815.

lacinia (torn). 1-2. June, Mediterranean Europe; Asia Minor.


latifolia (broad-leaved). See S. nervosa.


nervosa (veiny). June, Armenia; Persia. 1836.

octangula (eight-angled). See S. laciniata.


resedello (Reseda-leaved). See L. chondriloides.

SCOTCH ASPEIDEL. Tofeldia palustris.

SCOTCH BONNETS. Mara'amus oreades. A Fairy Ring fungus.

SCOTCH KALE. Brasa olara acephala.

SCOTCH LABURNUM. Laburnum alpinum.

SCOTCH PINE. P. mnis sylvst'ris.

SCOTCH PRIMROSE. Pri mula scotica.

SCOTTY. (Named after Dr. Scott, once professor of botany in Dublin.) Nat. ord. Leguminosae [Leguminosae]. Linn. 16-Monadelphia, 6-Decandra. Now referred to Bossiaea.

S. angustifolia (narrow-leaved). See Bossiaea dentata.

lenta (tooth-leaved). See Bossiaea dentata.

luteis (smooth-branched). See Bossiaea dentata.

trapezium (trapezium-leaved). January, Australia. 1825.

SCREEN. All cooling is occasioned either by the heat being conducted from a body by a colder, which is in contact with it, or by radiating from the body cooled, though circumstances accelerate or retard the radiation; and whatever checks the radiation of heat from a body is a screen, and keeps it warmer. For screening or protecting the blossoms of wall-fruit, Mr. Errington states:

"We do not know that any material is more proper for covering than thin canvas, such as is manufactured by Mr. Nathaniel Hulme, of Paradise-green, Knutsford, which he sells at about fivepence per square yard. He generally makes it in widths of three yards, which is enough for most walls, so that every linear yard costs fifteenpence; but then this canvas will last well for seven or eight years, and it is a due care be exercised. Thus it will be seen, that the annual expense of protecting a lineal yard of walling is not more than twopence-halfpenny, exclusive of a few ordinary poles, 2 feet long, driven 6 feet, running under the coping at top, and straddling away nearly 2 feet at bottom. At 2 feet above the ground level an auger hole is bored in the pole, and an oakum peg driven in, the end left projecting 5 inches forward; and when the canvas is lowered in the day, it hangs in folds on this line of pegs; this keeps the canvas dry. One pole has a ring dangling from a staple close to the top; and on the outer face a rope of sawdust is attached to the edge of the canvas opposite each ring; this being passed through the ring from the under side, enables the operator to pull it up or let it down with ease. Thus, when the canvas is lowered, the wall is uncovered, and vice versa. Now, these rings and cords will add to the expense of several shillings per lineal yard, but if we may, perhaps, add another halfpenny per lineal yard to the amount, accounting the ropes to last nearly as long as the canvas. A still more complete plan is to hang the canvas like a curtain after the manner of the covering to what are termed conservatory walls.

For wall-trees, now that glass is become so much cheaper, the best of all screens may be employed, viz. glazed frames, and extending from the coping of the wall to the surface of the soil, about 2 feet from the stems of the trees. See GLASS CASE.

SCREW WINE. Panae'as.

SCREW-TREE. Heliot'eras.

SCROPHULA RIA. (So named by Linneus, from its supposed use in curing scourful. Nat. ord. Scrophulariaceae.)

Hardy perennial herbs. The variegated one was much used in bedding designs at one time; Seeds; divisions in spring. Ordinary garden soil.

S. aquatica variegata (variegated-a-nectic). Leaves variegated, the lower smaller. For Britain.


nodo sa variegata (variegated-knotty). See S. aquatica variegata.


verna'lis (spring). 2. Yellow. March to May. Europe (Britain); Biennial for wild garden.

SCRUB OAK. Quercus catesbaei.

SCRUHY BAY. Euph'ra africana.

SCURVY GRASS (Cochl'ria officina'lis) flourishing most in a sandy, molluscan soil, as soon as the seeds are ripe in June or July, in drills, 8 inches apart, and ½ inch deep. Thin to 8 inches asunder, and those removed may be transplanted to a bed at similar distances, giving water at the time, and frequently afterwards, until fully established. The leaves are fit to gather during the following spring.

To obtain Seed.—A few plants must be left ungathered from in the ground, and they will run up to flower about May, and perfect their seed in the course of the two following months.

SCUTELLA RIA. Skull-cap. (From scutella, a little saucer; form of calyx. Nat. ord. Lip'worts [Labiate]. Linn. 14-Didysema, 2-Angiospermae.)

Seed, or viviparous plants, and the evergreen kinds easily by cuttings under a hand-light; some of the tender species are very handsome, such as S. splendens; but the red spiker must be looked after.

TENDER SPECIES.

S. a'otho'resea (rosy-white). White and rose. Brazil, 1869.

aura'ta (golden). Yellow. Brazil, 1863.


cordi'a (heart). See S. splendens.

cotyrica'na (Costarican). 11. Scarlet, tipped yellow.

costa Rica. 1864. Stove.

formos'a (Formosan). 1. Puplish. Hong-Kong. 1868.


inc as (a dwarf). August, Quito. 1844. Greenhouse evergreen.

trya'nisi (Dr. Trina's). Rosy-scarlet.


mocin'na (Mocinian). 11. Scarlet, tipped yellow.

Mexico, 1869. Stove.
**SCUTIA**


* viola 'bella' (violet). Violet-blue, with white blotch on lower lip. India; Burma; Malaya. 1904.

**HARDY HERBACEOUS.**


* versicolor (changing-coloured).


* commutata (changed). See S. alpina.


* grandiflora (large-flowered). See S. orientalis.


* japonica (Japan). See S. indica japonica.


* linearis (linear), Himalaya.

* macrantha (large-flowered). See S. baicalensis.

* m. nor (less). 1. Pink. July. Europe (Britain).


* rupestris (rock). See S. hirta.

* scordifoila (Scordium-leaved). Siberia.


* Sibthorpioides (Sibthorp's). See S. peregrina.


* teres (spring). See S. alpina.

**SCUTIA.** (From scutum, a shield; in reference to calyx six-lobed, resembling the base of the globular fruit. Nat. ord. Ranunculaceae. Allied to Ceanothus.)


**SCUTICARIA.** (From scutica, a whip; leaves as round as a whipcord. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gymnandra, 1-Monandra. Once called Maxillaria.)

Stove orchids, grown on blocks. See Orchids.

S. Dodsonii (Dodson's). This seems to be S. Haduvi 'nii, Haduvi 'nii (Hawden's). 1. Green, chocolate, and white. June. Brazil. 1851.


* 'bella' (yellow). Yellow; with brown circles; lip ochre and yellow.


**SCYPHE 'NTHUS.** (From sycophos, a cap, and anthos, a flower. Nat. ord. Loasaceae [Loasaceae]. Linn. 18-Polydelphus, 2-Polyandria. Now referred to Grammatocarpus.)

S. elegans (elegant). See Grammatocarpus volubilis.

* grandiflorus (large-flowered). See Grammatocarpus volubilis.

**SCYTE.** This mowing implement being confined, in the garden, to cutting the fine, short grass of lawns, requires to be much sharper than that used in cutting the coarser grasses, which stand up more firmly to the scythe. It is also necessary that the mowers should not score the grass, that is, should not leave the mark of each stroke of the scythe, which has a very unsightly appearance; to prevent which, have the scythe laid out rather wider, an inch or two beyond heel and toe, especially for very short grass; and in mowing keep the point rather out, and do not draw that part too fast toward, gathering the grass naturally to the left in a range; and having mowed to the end of the swath, mow it lightly back again, to trim off all scores and other irregularities unavoidably left the first time. A great inconvenience attending the old scythe is the difficulty of fastening and adjusting the blade to the handle. This is entirely obviated by Boyd's Self-adjusting Scythe. It is always a problem to determine the angle the blade should make with the handle as it varies with every mower. A good guide is for a perpendicular line to be chalked against a wall, and for the mower to stand close and directly facing to this line; then, without moving his feet, and with arm full stretch above his head, to chalk a line to the left, from the perpendicular line, as far as he can reach. The line he thus chalks should correspond with the angle of the scythe's blade, supposing the perpendicular line to represent the handle.

**SEA BELLS.** Calystegia soldanellia.

**SEA-BUCKTHORN.** Hippophae rhamnoides.

**SEAFORTHIA.** (Named after Lord Seaford, a botanical patron. Nat. ord. Palms [Palmaeae]. Linn. 23-Polygama, 1-Monocarpus.)

S. elegans (elegant). See Archontophoenix cunninghami.

**SEA HEATH.** Frankenia laevis.

**SEA-HOLLY.** Eryngium.

**SEA-KALE.** Crithme maritima. See Crabe.

In addition to what is there stated of its culture, we have only to make mention of the pots usually employed for planting it; but see Rhusbarb for a frame, which also answers, when fermenting materials are heaped over, to force it.

The following is also a good mode of forcing: On each side of a 3-foot bed dig a trench 2 feet deep, the side of it next the bed being perpendicular, but the outer side sloping, so as to make it 18 inches wide at the bottom, but half at the top. These trenches fill with fermenting dung, which, of course, may be renewed if found necessary, and frames put over the plants, the light to be completely excluded by boards, matting, &c.

**SEA LAVENDER.** Salvia.

**SEA RAGWORT.** Senecio cineraria.

**SEA-BALSA.** Croton elatus.

**SEA-SIDE GRAPE.** Coccoloba.

**SEA-SIDE LAUREL.** Phyllanthus lafa'ius.

**SEA-WEED.** See Green Manure.

**SEBAE.** (Named after A. Seba, a Dutch botanist. Nat. ord. Gentianaceae [Gentianaceae]. Linn. 4-Tetragonaria, 1-Monogyne.)

Greenhouse plants, but all ova' from South Africa. Seeds in a sweet hotbed in March, pricked out or potted, and either bloomed in the open garden, or in the greenhouse after May.


* axia'li (yellow). Yellow. July of the same year.


SECAMONE. (Altered from squanoma, the Arabic name. Nat. ord. Asclepiad (Asclepiadaceae). Linn. 5- Pentandria, 2-Digynia.)

Stove, white-flowered, evergreen twiners. Cuttings of firm side-shoots when about 5 inches in length; fibrous loam, part sandy, and very rotten dun, or leaf-mould, dried, one part; silver sand and charcoal, to keep it open. Winter temp., 50° to 60°; summer, 60° to 85°. See 1824.

S. aurea (Egyptian). See OXYSTELALI ESSENTIUM. 

"elisica (oval-leaved)." 6. Australia, 1824. 

emilica (emetic). 6. India, 1816. 

SECCHIUM. Choko. (From seko, a pen or fold; hogs are fed on the fruit in Jamaica. Nat. ord. Cucurbitae (Cucurbitaceae). Linn. 21-Monosia, 10-Monadelphia.)

A cucumber-like, yellow-flowered annual; seeds in a hotbed, and either cultivated in houses or pits; or, after June, in the open air; light, rich soil. S. edu'le (eatable). 6. W. Ind. 1816. 

palma'tum (hand-leaved). See MICROSECHIUM PAR- MATUM. 

SECURIDCA'CA. (From secreas, a hatchet; form of the wing-like process at the end of the pod. Nat. ord. Milkworts (Polygalaceae). Linn. 17-Diadelphi, 3-Octan- dria.)

Stove evergreen twiners, from the West Indies. Cuttings of half-ripe shoots in sand, under a bell-glass, and in bottom-heat. Winter temp., 50° to 60°; summer, 60° to 80°. Sandy loam and sandy, fibrous peat, S. Brou'mii (Brown's). 8. White, 1816. 


virga'7ae (twiggly). 10. White, 1739. 


SECURI'NEGA. (From secreas, a hatchet, and nega, to deny or refuse; the wood is extremely hard. Nat. ord. Evergreens (Podocarpaceae).)

Hardy and stove shrubs or small trees. Cuttings of half-ripe wood in sand, in a frame for the hardy one, and a stove for the other. Fibrous loam, peat, and sand. S. Commers'o'ni (Commerson's). See S. BURKIN- SIMA. 

dur'sima (hardest). 35. White, Mauritius, 1793. 6. 

"Otahite Meitlyre." 


SEC'DUM. Stonecrop. (From sedere, to sit; they grow as if sitting on stones, rocks, walls, &c. Nat. ord. Houseleeks (Crassulaceae). Linn. 10-Decandra. 4-Perian- gyria.)

Annuals, by seeds, or raised dry places, such as banks and rock-works; perennial, by divisions and cuttings, and two parts; fibrous peat and sandy, loamy soil; the more tender of these may be grown in well-drained pots, in sandy loam and brick-rubbish, and treated as alpines. The greenhouse kinds require special treatment, only a higher temperature, and to be kept even drier in winter. 

HARDY ANNUALS, &c.


"Andez'o's (Anderson's). See S. HISPIANCUM. 


azu'rum (azure). See S. CAERULEUM. 


del'teau'mum (angular-leaved). See S. STELLATUM. 


magellane's (Magellan). Yellow. July, Italy; 1791. 

del'meau'm (sceptred). 10. White. Russia, 1816. 

min'leu'm (miserable). Green. July, Mexico. 1837. 

Greenhouse. 


2-Digynia.)


Sempervi'vum (Sempervivum-like). See S. SEMPER- 

vivides. 

spatu'lam (spatulate). See S. CEPEA. 


tetraphy'lium (four-leaved). See S. CEPEA. 


HARDY HERBACEOUS.


l'os'tium (terete-leaved). Leaves narrow, flattened above, England. 


"microphyllum (small-leaved)." 4. White, July, Britain. 


car'u'le'us (bluish-leaved). See S. STENOPetalum. 

c'na'reum (fleshy). See S. SARMENTOSUM. 

co'prsi (Cooper's). 4. White, July, 1568. 


c'rosicum (Corsican). See S. DASYPHYLLUM GLANDULI- PERUM. 

cra's'sipes (thick-stalked). See S. ASIATICUM. 


dan'ta'tum (toothed). See S. SPURIDUM. 


e'lago'm (elegant). See S. RUPFREST. 

"longa'tum (lengthened). See S. ROUSM of Scop. 

engleria'mum (Englerian). White, Pyrenees, 1865. 


"euphorbioid'es (Euphorbia-like). Siberia. 


Sedum pseudochamaedrys (Forster's). See S. fruticosum FORSTERIANUM.

'S. fruticosum' (small-shrubby). See S. ALISSIMUM.

'S. globiferum' (gland-bearing). See S. DASYPHYLLUM GLANDULIFERUM.

'S. globuliferum' (globe-leaved). See S. HISPECIUM.

'S. globosum' (mid-green). See S. HISPECIUM.


'S. hypsicarpum' (Iberian). See S. SPURPIUM.


'S. latifolium' (broad-leaved). See S. MAXIMUM.


'S. rodigasi' (Rodigas'). 4. Leaves purplish, variegated with yellow.

'S. rodrigii' (Rodrigue). 4. Leaves purplish, variegated with yellow.

'S. tormatum' (tartish). Yellowish. Leaves red above, green below, in threes. Stems red.

'S. micranthum' (small-flowered). See S. ALBUM.


'S. neglesi' (negle's). 4. White, S. ACRE.


'S. nicaeense' (Nice). See S. ALISSIMUM.


'S. odoratum' (oblong). See S. ANGULICUM.


'S. ochigenum' (yellowish-white). See S. ALISSIMUM.


Leaves green. Wales; England.


'S. pulchellum' (beautiful). See S. PULCHELLUM.

'S. purpurascens' (purplish). See S. TELEPHIUM.

'S. purpureum' (purple). Link. See S. TELEPHIUM.


SEED-ROOM

Bena'si (Braun's). Yellow, July. Mexico. 1880.

SEED-ROOM. All that has been said relative to the Fruticinnae is applicable to this. Everything promotive of decay or germination is to be avoided; and if one relative direction more than another requires to be urged upon the gardener, it is comprised in these words—keep as dry as possible; the room may be even hot, but it is not damp.


SEZE'NTIA. (Commemorative of Setten, a noted African traveller. Nat. ord. Bean Capers (Zygophyllaceae). Linn. ex-Decoranda, 5-Pentagynia. Allied to Zygophyllum.) A prose to or diffuse, evergreen, leafy, greenhouse shrub. Cuttings in sand under a bell-glass. Loam, peat, and sand.


" albonervis (white-shining). Slender, trailing. W. Ind.
" albospicata (white-spiked). See S. stenophylla Albo-
" amera (lovely). See S. caulescens Amega.
" a'pus (stalkless). 4. N. Amer. 1819.
" argentea (silvery). See S. caulescens.
" bakeriana (Bakerian). Queensland. See S. stenophylla Albo-
" bellula (pretty). See S. Inequifolia Pereglegans.
" ca'sia (grey). See S. scinauculata.
" climber.
" caudata (tailed). See S. canaliculata.
" amera (lovely). 4-1. Bright green. 1854.
" mor (smaller). 4. See S. canaliculata.
" cognata (related). See S. Lobbia.
" cordifolia (heart-leaved). 1. Trailing. 1 ft. long. W. Ind. 1838.
" delicatissimata (verdant). Trailing. 1-2 ft. long. Probably the Andes.
" decipita (finely-toothed). Link. 4. Europe. 1793.
" denticulata (finely-toothed) of. S. Kraussiana.
" di'chroa (two-coloured). See S. Vogelii.
" Dolichoglossa (Dolichoglossa). Trailing. 1-2 ft. long. United States; British Columbia.

" pi'tes (Pitesci). See S. Piteana.
" flagellis (whip-bearing). See S. Flaga.'s.
" fleu'ca (flaxious). 1-2. S. Brazil. 1831.
" ful'gur (lightning). Unbranched in lower half. E. Himalaya; Burma.
" gr'ialis (slender). 2-1. South Sea Islands. 1868.
" gr'atis (pretty). See S. Inequifolia Pereg-
" elegans (very elegant). 1. Dwarf, denser.
" cream.
" cerasi (red-stalked).
" Lya'lius (Lyall's). More divided; pinna bipinnate.
SELANDRIA. (From the Celtic sEL, sight, and fach, salutary; supposed effects on the eyes. Nat. ord. Selagids [Selaginaceae]. Linn. 14-Didynamia, 2-Angio- spiria.) Greenhouse evergreens, from South Africa. Cuttings of the points of shoots, or rather, the short, stubby side-shoots, taken off close to the stem, in spring and autumn, in sand, under a bell-glass, but raised at night to prevent damping. Sandy loam and vegetable mould. The protection of a greenhouse; but many of them are worth a place in the flower-garden in summer.


SELAGO. (From the Celtic sel, sight, and fach, salutary; supposed effects on the eyes. Nat. ord. Selagids [Selaginaceae]. Linn. 14-Didynamia, 2-Angios- spiria.) Greenhouse evergreens, from South Africa. Cuttings of the points of shoots, or rather, the short, stubby side-shoots, taken off close to the stem, in spring and autumn, in sand, under a bell-glass, but raised at night to prevent damping. Sandy loam and vegetable mould. The protection of a greenhouse; but many of them are worth a place in the flower-garden in summer.

SELENIUM. (From selene, the moon; in reference, possibly, to the shape of the seed-pod. Nat. ord. Cruciferae.) A dwarf, hardy annual, of ornamental character. Seeds. Ordinary garden soil.

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SEMASIA WCEBERANA
SEMA'SIA WCEBERAUA.
SEMECA'RPUS. Marking

SEMPERVIVUM

795

See APPLE.

,

20.
Trop. Asia and
1820.
India. 1824.
20.
(wedge-leaved).
cuneifo'lium

,

and karpos,

S. Anaca'rdium
Australia.

fruit

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,

(Anacardium).

(From semeia, a banner, and aner,
referring to the petal-like appendage to each
Nat. ord. Onagrads [Onagraceae]. Linn. 2-

,

;

stamen.
Diandria, i-Monogynia.)
A greenhouse shrub, allied to Fuchsia, like which it
may be cultivated.
Scarlet.
S. grandiflo'ra (large-flowered).
March,
5.
and throughout the summer. Mexico. 1853.

SFMELE.

(Named

after

the

Semele,

mother

Divisions of
shrub.
the rootstock or suckers.
Loam, peat, and sand.
S. andro'gyna (hermaphrodite).
Green, white.
3-20.
Canaries.
1713.
April.

SEMPERVTVUM.

Houseleek. (From semperuivo, to
tenacity of life. Nat. ord. Houseleeks
Linn. ii-Dodecandria, j-Dodecagynia.)
[Crassulaceae].
Hardy and frame kinds, by division, and by cuttings,
and most of them delight in dry, sandy soil, kept moist
only when growing. Greenhouse kinds are also freely
propagated by cuttings, dried for several days at the
cut part ; grown in sandy loam, leaf-mould, and brickrubbish, and kept dry and in a state of rest in winter.
Winter temp., 38= to 45
summer, 55 to 75.
live for ever

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HARDY HERBACEOUS.

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S. admontefnse (Admontan).

Origin uncertain.
Allio'nii (Allioni's).
France.
arachnoi' dfum (cobwebbed).
S.
Purple.
July.
"
Cobweb Houseleek."
Europe. 1699.
.
Red. June. Italy.
ma'jus (large).
boutignya'num (Boutignyan). See S. BOUTIGNY-

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,,

boutignya'num (Boutignyan).

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nees, &c.
1878.
Bran' nii (Braun's).

Boissie'ri (Boissier*s).

Country unknown. 1879.
See S. BEUGESIACUM.
J.

Light rose.

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,

glau'cum (sea-green), i. Red. Italy.
Yellow.
i.
globi'ferum (globe-bearing).
June.
"
Hen and Chickens."
Europe ; Asia Minor. 1733.

Country un-

1879.

Sen-ia.

a'nnuum

(annual).
dicho'tomum (two-ranked). See S. AXXUUM.

1815.

GREENHOUSE EVERGREENS.
Levant. 1640.

Europe.

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Leaves red.

S. aizoi'des (Aizoon-like).

calcara'tum

,,

Red.

dodranta'le (nine-inch).
.
1815. Annual.
micra'nthes (small-flowered).
Green, red.
Sep$.
tember. Canaries.
Madeira.
stella' turn (starred).
Yellow.
|.
July.
Annual.
r79O.

Pyre-

S.
Yellow.
J.
June, July.
1874.
(spurred),
i.
Silvery-pink.
Country
unknown. 1874.
See S. CALCAREUM.
califo'rnicum (Califomian).
cauca'sicum (Caucasian). Caucasus.
cinera'scens (greyish).
Origin doubtful.
Como'llii (Cornell's). See S. GLAUCUM.
cornu'tum (horned). See S. ALLIONII.
Delasoiefii (Delasoie's).
Switzerland.
dodlia'num (Doellian). i. Red. Switzerland.
Fauconne'ti (Fauconnet's).
Red. Jura. 1879.
.
.
fimbria'tum (fringed),
Reddish.
flagdlifo'rme (whip-formed).
f.
July.
Siberia.
1823.
Fu'nckii (Funck's). i. Red-purple. S. Europe.
Gaudi'nii (Gaudin's). Switzerland.

.

1879.

GREENHOUSE HERBACEOUS.
S.

France.
beugesi'acum (Beugesian).
Origin doubtful.
Transsylvania.

bouli'cicum (Boulician).

(sad).

Zelebo'ri (Zelebor's).

bi'color (two-coloured).

,,

rustica'num (rustic).

France.
Winkle'ri (Winkler's). Origin doubtful.
.
Yellow. Austria.
Wulfe'ni (Wulfen's).

assi'milc (similar).
TransLight rose.
J.
July.
sylvania.
1879.
atropurpu'reum (dark-purple). Origin doubtful.
barba'tulum (slightly-bearded) . $. Light red. Tyrol.

bla'ndum (smooth).

,,

tri'ste

venu'stum (lovely).

ANUM.

,,

Heuffe'lii(HeuSel's), Yellowish. Eastern Europe.
1876.
Origin doubtful.
.
1824.
Regi'na- Amelia (Queen Amalia's). \-\. Pale yellow.
Greece.
1877.
Roye'ni (Royen's). Origin doubtful.
rubicu'ndum (reddish). See S. BLANDUM.
1835.
Schnittspa'hni (Schnittspahn's). $. Europe.
Scho'ttii (Schott's). f.
Red. Tyrol, &c. 1874.
acumina'tum (long-pointed).
SMeha'ni (Schlehan's).
soboli'ferum (stolon-bearing). See S. GLOBIFERUM.
specio'sum (showy). Europe.
tecto'rum
i.
(roof).
July.
Europe
" Purplish.
Common Houseleek."
(Britain) ; Orient.

known.

.

,,

India.

Neilri'chii (Neilrich's).
See S. ARENARIUM.
obscu'rum (obscure). Origin doubtful.
.
Soft red. Dauphiny
pa'roulum (small).

Pilose'lla (Pilosella).
Pitto'nii (Pitton's).

of

Bacchus. Nat. ord. Uliace^e.)
Greenhouse evergreen climbing

mettcnia'num (Mettenian). Switzerland.
mode' stum (modest). Europe.
monta'num (mountain). $. Red. June. Alps and
Pyrenees.
1752.

mucrona'tum (small-pointed).

SEMEIA'NDRA.
an anther

See S. GLOBIFERUM.
Gree'nii (Green's),
.
Red. Origin doubtful. 1877.
Hillebra'ndtii (Hillebrandt's).
Austria.
hi'rtum (hairy), i. Cream. June. S. Europe. 1804.
kopaonike'nse (Kopaonikan). Servia.
Lagge'ri (Lagger's). Switzerland.
Lamo'ttei (Lamotte's). See S. TECTORUM.

S. grandiflo'rum (large-flowered).

Nut-tree.
(From semeion,
the black juice used for
;
marking clothes. Nat. ord. Anacards [Anacardiaceas].
Linn. z^-Polygamia, 2-Dicecia. Allied to Anacardium.)
Stove, greenish-yellow-flowered, evergreen trees. Cuttings of ripe shoots in sand, under a glass, in heat, in
March or April ; peat,
loam, leaf-mould, and sand.
3
Winter temp., 50 to 6o ; summer, 60 to 90.

a mark,

,,

1820.
Yellow.
(balsam-bearing).
ij.
Canaries.
1815.
1815.
1699.
chrysa'nthum (golden-flowered). J. Yellow. Abys-

,,

cilia'tum (hair-fringed),

,,

cnte'ntum (bloody).

,,

cunea'tum (wedge-shaped), i-ij. Yellow.
Dora'me (Dorame). i-i^. Yellow.

balsami'ferum

,.

sinia.

i*.

Pale yellow.

Teneriffe.

1815.
2.

Yellow.

May.

Canaries.

1834.
Canaries.


**SENACIA GLAUCA**


S. heterochrysum (various-hairied). Yellow. Eastern Europe.

S. linoides (lined). See S. barbatum.

S. longifolium (long-leaved). Cisternia unknown.


S. pygmaeum (pigny). Yellow. Canaries.


S. Tournegr'sii (Tournefort's). Country unknown.


S. ur' bicum (of Lindley). See S. holochrysum.


S. u'va de Guanches.'


**SENACIA GLAUCA**

See Eleagnodendron glaucum.

**SENACIIUS.** (A diminutive of Senecio, Nat. ord. Compositae [Composite]. Linn. 19-Syngeneia, 2-Superflua. Allied to Cineraria.)

Hardy herbaceous perennial. Seeds, but more generally by divisions; rich, sandy loam, or even common garden soil.


S. purpurea (purple). See Cineraria purpurea.

**SENEIO.** Groundsel. (From sene, an old man; naked receptacle compared to a bald head. Nat. ord. Compositae [Composite]. Linn. 19-Syngeneia, 2-Superflua.)

So difficult are the species to determine, that sixty-four synonyms are added to Senecio. All yellow-flowered, where not otherwise specified; Annuals, by seeds in the open border, and in a slight hotbed; perennials, by seed, and division of the plant, and also in common garden soil, shrubby kinds, by seeds, and easily by cuttings, and mostly requiring a little peat or dried leaf-mould along with the soil, and the protection of a cool greenhouse. The double varieties of elegans are much used in flower-gardens; but the single varieties are always very beautiful. The double varieties are preserved by cuttings in winter, and must be saved from damp, but they can also be reared from seeds like half-hardy annuals.

**HARDY ANNUALS, &c.**

S. aconitifolius (aconite-leaved). Light red or pink. China. 1877.


S. divaricata (straggling). See Gymnura divaricata.


S. Eucalyptus (Scrub). 1. Yellow. S. Africa. 1820.

S. lecythophorius (Telephium-leaved). See S. maritimus.

S. valerianifolius (Valerian-leaved). See Erekchites valeriaeata.

al〈s〉icus (Altolian). Altai Mountains. 1837.

archseli〈s〉 (spider-like). See S. lanatus.

argentī'ca (silver-y). Chili. 1793.

artemiso〈s〉i〈s〉 (Artemisia-leaved) of Glib. 13. July.

artemisi〈s〉o lius (Artemisia-leaved) of Pers. See S. adonisfoli〈s〉.


auri〈s〉is (golden). June. N. America. 1819.

balbis〈s〉i〈s〉 (Balbisian). Europe. 1825.

Balsam〈s〉i〈s〉 (Baltsam-leaved). See S. auritus.


‘maris‘i〈s〉i〈s〉 (maritime). 1. Yellow. Holworthy and Yorkshire.

canadai〈s〉is (Canadian). See S. artemisfoli〈s〉.

carni〈s〉i〈s〉 (Carniolian). Europe. 1833.

chrysanthenoi〈s〉i〈s〉 (Chrysanthemum-leaved). Himalaya.


cordis〈s〉i〈s〉 (heart-leaved). 2. July. Austria. 1749.


correvonii〈s〉is (Correvonian). 1. Yellow, handsome. Austria. 1827.

crassifo'lius (thick-flowered). Uruguay.

crispus〈s〉is (crisped). 3. Yellow. Europe. 1818.

croc〈s〉is〈s〉 (Croatian). See S. cacali〈s〉.

cro〈s〉i〈s〉 (reddish-yellow). See S. crispatus.

des〈s〉i〈s〉 (decaying). May. S. Asia. 1821.


diverso〈s〉i〈s〉 (diverse-leaved). Himalaya.


hosmarionis〈s〉is (Hosmarian). Yellow. May. N. Africa. 1874.

Douglasii (Douglas's). N. America.

euhus〈s〉is (Euhhuan). Mount Eubha.

eudo'rus (sweet-scented). July. 1815.

Eve〈s〉i〈s〉 (Ewer's). See S. alpinus.


farfaro'lius (Farfara-leaved). Asia Minor.

Feisio'ius (Petisow). Turkistan.


fri:guia (Fring). N. Africa. 1827.


gla‘us (sea-green). Transylvania.

carp‘th‘icus (Carpathian). Carpathians.

greggii〈s〉is (Gregg's). Australia.


Hua〈t〉a〈t〉a〈t〉a〈t〉a〈t〉a〈t〉. 5. Straw-coloured. Argentina; Chili.


jaqcumontia‘nus (Jacquemoniata). Himalaya.

jaqcuinia‘nus (Jacquinian). See S. nemorensis.


land‘i〈s〉is (woolly). July. Europe. 1827.


leuco‘lypis〈s〉is (white-leaved). 1. July. S. Europe. 1826.


longilo‘bus (long-lobed). See S. douglasii.


micro‘lypis〈s〉is (small-leaved). See S. macrophyllus.

montevi‘dei〈s〉is (Montevidean). Uruguay.


ness‘i〈s〉i〈s〉 (nurse). 3-5. July. Austria. 1875.
S. m'f'vus (snowy). See S. crassiflorus.

"odor'a'tus (sweet-scented). 3. Australia.


"ovus (egg-shaped). See S. Fuchsii.

"palm'a'tus (hand-shaped). Siberia; Sachalin Island.


Europe (England); N. Asia. "Bird's Tongue."

"pall'idus (pale yellow). June, July.

N. temperate regions (England). Biennial.


land. 1819.


Galicia. 1821.

"p'e'sicus (Persian). Northern Persia.

"prae'na'tus (meadow). See S. Campestrius.


Caucasus, &c. 1820.

"raphan'sfoll'sius (Raphanus-leaved). See S. Diversi-

foliis.

"Rei'a-chii (Reisach's). Bavaria; Switzerland.

"Ren'a-dii (Renard's). Turkistan.


1833.


Russia, &c. 1780.

"gla'ber (smooth).

"sarco'hiri'cus (Sarcoc). 2. Yellow. July, Europe

(Atm). "Saracen's Consound."

"scat'nden's (climbing). 12-20. Yellow. July to Sep-

tember. Himalaya; China. 1909.

"sibir'icus (Siberian) of Linnaeus. Yellow. July.

Siberia. 1832.

"sibi'rus (Siberian) of Lebedour. See S. Liguaria.


"spath'afo'l'ius (spatulate-leaved) of Babington.

See S. Campestrius Maritimus.

"spat'hulafo'l'ius (spatulate-leaved) of Decandolle.


"ste'mafo'l'ius com'posus (narrow-headed-tufted).


N. Amer. 1732. "American Sweet Century."

"tab'u'ria'tus (table-shaped). Mexico.


to September. Central and Western China. 1903.


1824.

"thap'sdo'es (Thapsus-like). Greece.

"thyr'so'deus (thryse-like). S. Africa.


1850.


1790.

"ventil'a'rus (Veitchian). 3-6. Bright yellow. July,


"wil'sona'sus (Wilsonian). 3-5. Golden-yellow.

China. 1905.

SENSITIVE FERN. Onoo'da sensi'bilis.

SENSITIVE PLANT. Mimo'sa pu'dica. There are several other plants which give evidence of being sensitive. The Venus Fly-trap (Diono'ma musci'pula) has jointed leaves, which are furnished on their edges with a row of strong prickles. Flies, attracted by honey which is secreted in glands on their surface, venture to alight upon them. If their legs touch the hairs on these parts the sides of the leaves spring up, and, locking their rows of prickles together, squeeze the insects to death. O'calis sensi'sis and Smi'tha sensi'sis are similarly irritable, as the filaments of the stamens of the Barberry. One of this sensitive tribe, Desmo'dium gy'rans, has a spontaneous motion; its leaves are frequently moving in various directions, without order or co-operation. Insect, if an insect inserts its proboscis be-

tween the converging antlers of a Dog's Bane (Ap'o'synum androsanis'tium), they close with a power usually sufficient to detain the intruder until death.

SEPTAS. (From septem, seven; the number pre-

valing on the flowers in the Nat. ord. Houseleeks [Crassulaceae]. Linn. 7-Heptandria, 4-Heptagyna. Now referred to Crassula.)

Greenhouse, white-flowered evergreen, from the Cape of Good Hope. Increased by division of the roots;

plants kept dry in winter; sandy loam and brick-rubbish. Winter temp. 38° to 45°.

S. cape'nsis (Cape). See Crassula Septas.

"glob'o'lo'ra (globe-flowered). See Crassula Septas

TOURNEFORTII.

"Um'be'lla (webbed). See Crassula Umbella.

SEQUOIA. (Supposed to be altered from Seequayah, an Indian name. Nat. ord. Coniferae.)

Hardy evergreen trees. Seeds, Deep, well-drained soil.


"au's' rea (golden). Young growths pale yellow.

"pe'n'dula (drooping). Branches drooping. 1871.

"Rafini'que's (Rafinesque). 300. Oregon. A doubt-

ful species.

"som'per's (evergreen). 200-300. California.

"Redwood."

"a'bo-spi'ca (white-spiked). Young shoots white.

"flau's'ca (sea-green). foliage sea-green.

"gra'cu's (slender). Branches slender.

"taxfo'lia (Taxus-leaved). Leaves broader.

"varieg'ata (variegated). Foliage sea-green, varie-

gated. 1890.

SERAPIUM. (From ser, the silkworm, and phio'don, a plant, signifying resemblance. Nat. ord. Orchidaceae.)


1816.

SERA PHITA. (From ser, the silkworm, and phio'don, a plant, signifying resemblance. Nat. ord. Orchidaceae.)

Hardy terrestrial or ground Orchids. Offsets. Cool, moist soil.

S. cord'i'gera (heart-bearing). 1. Lila. purple. S.

Europe. &c.

"Li'sna'sus (tongue). 1. Lila. red. S. Europe.


1898.


Sicily. 1876.

"longip'eta (long-petaled). See S. Pseudo-cordi-

gera.

"neg'e'la (neglected). Italy; Corsica.


green. May. S. Europe. 1876.

"palidi'do'ra (pale-flowered). 1. Pale purple.

May. Sicily. 1876.

SERO'NA. (Commemorative of Sereno Watson, an American botanist. Nat. ord. Palmaeaceae.)

A greenhouse Palm. Seeds. Fibrous leaf, a little peat and sand.


1840. "Saw Palmetto."

SERICO'CA'PUS. (From serico's, silken, and karpo's, a fruit; in allusion to the silky hairs on the top of the fruit. Nat. ord. Compositae.)

Hardy border perennials. Divisions. Ordinary garden soil.


N. Amer. 1778.


N. Amer. 1699.

SERICO'GRA'PHIS. (From serico's, silken, and grapho, to write. Nat. ord. Acanthas [Acanthaceae]. Linn. 14-Didynamia, 2-Angiospermia. Now referred to Jaco-

binia.)

S. ghes'hi'qu'a (Ghesbrieth't). See Jacobin

"Moh'i'ndi (Mohinti's). See Jacobinaria Mohi

SERINGIA. (Named after M. Serina, a Swiss botanist. Nat. ord. Sterculiadas [Sterculiaceae]. Linn. 5-Pentandria, 1-Monography. Allied to Lasiopeatum.)

Greenhouse evergreen. Cuttings of young shoots in sand, a bell-class, in April or May; sandy peat one part, sandy, fibrous leaf two parts. Winter temp. 40° to 45°.


Australia. 1822.
S. lineariolium (linear-leaved). See Jurinea lineariolium.


p. lida (pale). Himalaya.

b. panonicus (Hungarian). See Cnicus panonicus.

b. scariosa (bicolor). See Liatris scariosa.


Caucasus, 1804.

s. lida (salt). See Saussurea cassinifolia.

s. scorpioides (dry). See Liatris scariosa.

s. simplex (simple). See Jurinea mollis.

s. spinosa (spiked). See Liatris spinosa.


s. monticola (mountain-loving). 2. Purple, July.

August.


Russia; Caucasus, 1804.


Greenhouse, South African evergreens; purple-flowered, except where otherwise specified. Cuttings of some species should be placed in a belljar and kept cool, the glass being raised and frequently removed at night, to prevent damping, the plants at the time protected by a frame or pit; light, fibrous loam, with a portion of charcoal and broken bricks or freestone. Winter temp., 38° to 48°, with a shaded position for the pots in the heat of summer; the heads stand on the sun freely if the roots are protected.

S. abrotanum (Caesarweed). See Saussurea albo-sinensis.

S. alcata (winged). See Saussurea japonica.


S. alpina (alpine). See Saussurea alpina.

S. amara (bitter). See Saussurea amara.


S. arguta (sharp-toothed). See S. tinctoria.


S. atropicans. See Cardamine capra.


S. cyprianus (Cyprian-leaved). See Jurinea cyprianus.

S. cyanus (Cynara-like). See Cnicus cyanus.

S. decumbens. See Jurinea divaricata.


S. elegans (elegant). See Liatris elegans.

S. germiflora (Germiflora). July. Siberia, 1827.


S. kitschelii (Kitchelii). See S. nertophylla.

S. laevigata (Liatris-like). See Saussurea pycnocarpa.
Shanking is the technical term for a gangrene which attacks the footholds of grapes and the stems of cabbages which have vegetated through the winter. The shanking of the grape appears to be occasioned by the soil becoming exhausted, or by its temperature being too much below that which causes the branches to be vegetating; and, consequently, the supply of sap to the grapes being to much diminished, the parts which thus fail of support immediately begin to decay: this is an effect always the consequence of the augmented supply of sap, apparent either in the leaves, flower, or fruit. Shanking rarely appears in the grape if the roots of the vine are within the house. Shanking in the cabbages arises from a very different cause, viz. the freezing of the stalk of the cabbage just

S. seville (stalkless). Flowers stalkless.

Seta Ria. Bristly Foxtail Grass. (From seta, a bristle; there are long bristles at the base of the spikes. Nat. ord. Graminaceae.) Hardy annual grasses of neat form. Seeds in ordinary soil.


Sets are the tubers, or portions of tubers, employed for propagating potatoes and other tuberous-rooted plants. It may be accepted as a rule universally applicable to them, that a moderately-sized whole tuber is always to be preferred to a cutting of a tuber.

Setters. Helleborus fo'tidus.

Setting is fertilising the female blossoms with pollen from the male blossoms. A plant is said to be a shy setter when this fertilising is apt to fail.

Set wall. An old name for Valeriana.

Severtia. (Commemorative of M. A. Severyno, of Naples, Nat. ord. Rutaceae. Now referred to Atalanta.)

S. buxifol'ia (box-leaved). See Atalanta Buxifolia.

Seville orange. Citrus Aurantium Bigard dia.

Severzo'wia. (Commemorative of Severzo, a Russian traveller. Nat. ord. Leguminosae. Now referred to Astragalus.)

S. turkest'nia (Turkestane). See Astragalus Schmal'hadsenii.


Hardy, yellow-flowered annuals, from North America. Seeds in loam, in a peat-basal.


S. heri'tis (Heriti's). See Pelargonium dipetalum.

Shaddock. Citrus decumana.
where it comes in contact with the soil. The best preventive is dressing the soil with salt, about five bushels per acre. This is especially true in the autumn, and sprinkling charred vegetable matters among them. See DAMPING-OFF.

**SHAREWORT.** <i>Aster Triplo'ium</i>. SHARP CEDAR. <i>Acacia Oxy'e'drus and Juniperus Oxy'e'drus</i>. SHEARS. Garden shears are made with short handles and straight blades for pruning box, yew, and other hedges, for which the hedge bill is unsuitable. They are made with a notch near the base for cutting thick branches only; they are cut with a knife, and which the plain-bladed shears would not cut. Verge or edging shears have handles about 3 feet long, with the blades turned at right angles from the handles, and are used for cutting the grass edges of lawns, walks, and flower-beds.

**SHEEP LAUREL.** <i>Kalmia angus'to'folia</i>. SHEEP'S SCABIOUS. *fasci'ne*. SHELLS. See Animal Matters. SHELF. See Screen.

**SHE-OAK.** <i>Casuar'na quadri'av'is</i>. SHEPHERD'S BEARD. *Arne'to'gonum*. SHEPHERD'S CLUB. <i>Verba' soum Tha'psus</i>. SHEPHERD'S KNOT. <i>Poin'tilla Tormentil'la</i>. SHEPHERD'S PURSE. *Capsella Bul'' ras-pa'ris*. SHEPHERDIA. (Named after the late W. Shepherd, curator of the Liverpool Botanic Garden, Nat. ord. Olean'teas [Elaeagnaceae]. Linn. 22-Diaces, 4-Tetrandria. Allied to Hippophaë.)

Hardy deciduous shrubs, from North America. Generally by suckers; frequently by seeds; deep, sandy loam. Good shrubs for lawns or shrubberies.

*S. argentea* (silvery), 10. April 1820. [Canad'ensis] (Canadian). 10. April 1732.

**SHERBOURNEA.** (Commemorative of Mrs. Sher'bourn, who first flowered the plant in this country. Nat. ord. Rubiaceae. Allied to Gardenia.) Evergreen stovr shrub. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand. It requires similar heat and moisture to Gardenia to flower it.


**SHOLA or SOLA.** *Eschy'no'mone o'spera*. SHOOTING STAR. *Dodeca'theom Me'di'dia*. SHO REA. (A commemorative name. Nat. ord. Dipterocarpaceae.) Stovr trees. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, with a little peat and sand, with a high temperature.


**SHO TRIA.** (Commemorative of Dr. Short, author of Medicina Britanna. Nat. ord. Diapensiaceae.) Hardy evergreen herbs. Divisions. Peaty soil in a little shade.

*S. califo'ria* (Californian). See BURIA CO'RONARIA.


**SHREDS** for fastening trees to walls, &c., are best made of the list or selavage torn from black or blue cloth, and may be obtained of any tailor. The smallest possible number of shreds, and the narrowest consistent with strength, should be employed; for wherever the shred envelopes the branch, the wood beneath is never so well turned as those parts exposed to the light and air, which are so essential to enable the bark to assimilate and separate from the sap those secrations which are required for the next year's growth. Shreds should always be long enough to permit the ends to be doubled over, so that the nail may pass through four thicknesses of the cloth, otherwise they look ragged, and are liable to tear away from the nail. If old shreds are re-used, they should be previously boiled for a few minutes to destroy any insect-eggs, or larvae, they may contain.

**SHRIVELLING** of the berries of the grape in stores arises from the roots of the vine not supplying a sufficiency of sap. This occurs if the roots are in a cold, heavy soil, or are vegetating in an outside border, the temperature of which is too low compared with that of the store. In the first case, thorough draining and the incorporation of calcareous rubbish; and in the second case, protection to the border and stem, will remove the evil.

**SHRUBBERY** is a garden, or portion of a garden, devoted to the cultivation of shrubs.

**SHRUBS** are trees of a dwarf growth, not exceeding in height 12 or 15 feet, unless they are climbers, and having, if permitted, only the base and foliage clothing the entire length of their stems.

**SHRUBBY PINK.** *Dia' nuta fru'ticosa*. SHUTERIA BI COLOR. See Hewittia ricolor.

**SHUTTING-UP** is closing the lights of frames, pits, greenhouses, and stores, which have been opened for the admission of air.

**SIBBALDIA.** (Named after Dr. Sibbald, of Edinburgh. Nat. ord. Rosaceae [Rosaceas]. Linn. 5-Pentandria, 5-Pentagynion. Now referred to Potentilla.)


*parviflora* (small-flowered). See Potentilla Sib'aldi.

*procum'bens* (lying-down). See Potentilla Sib'aldi.


**SICAYA.** (A Peruvian name for *S. odorifer*a. Nat. ord. Cucurbitaceae.)

Rampant annual stovr clmbers. Seeds. Fibrous loam, a little rotted manure and sand. The fruits are edible.


*spin'osa* (spiny). Yellowish, fleshy, Fruit globose, size of an orange. Jamaica. 1890.

**SICYOS.** (An ancient Greek name for the cucumber. Nat. ord. Cucurbitaceae.)

Climbing or prostrate herbs, most of them natives of the warmer parts of America, but *S. bryoni'o'lia* may be planted outside in May. Seeds. Ordinary garden soil.
S. Bader'oa (Baderoa). See S. Bryon lex flo'lia.


"One-seeded Star Cucumber."

edulis (edible). See SeChium edule.

S.I.D.A. Indian Mallow. (From side, the pomegranate, but in the Doric dialect side rhos was the water lily. Nat. ord. Malvaceæ.)

Stove, greenhouse or hardy herbs or shrubs; seeds; cuttings under a bell-glass. Fibrous loam, leaf-mould, and sand for the tender species.

S. an'ras (golden). Yellow. India. Seems a species of Abutilon.

auri'la (eared). See Abutilon auritalum.

bedor'fa'na (Bedfordian). See Abutilon bedor'di-anum.

cris'ta'la (crested). See Anoda lata'voroides.

di'poso/py'pha (double-bowl). See Sidalcea di'poscy'pha.


gro'val o'len (strong-smelling). See Abutilon gro'velo'na.

has'ta'la (halbert-shaped). See Anoda hata'sata.


in'te'ri'ra (very-entire). See Abutilon in'terior-ri'num.

mal'o'fo'ra (mallow-flowered). See Sidalcea cam'pe'stris.

moli's (soft). See Abutilon mol'lee.


pa'no i'o'no'ra (peony-flowered). See Abutilon peony'florum.

pa'len (spreading). Yellow. Abyssinia. Possibly S.ᨨ

pe'ri'pa'ra (winged-round). See Anoda puni'ceaa.

p'i'ca (painted). See Abutilon striatum.

pu'che'lea (pretty). See Plagianthus pul'chellus.

rho'sea (ropy). See Abutilon esculentum.

sess'i'o'la (stalkless-flowered). See Abutilon sess'i'o'la.

serha'dri'a (Serhardian). S. Europe; Orient.

spio'to'sa (showy). See Abutilon esculetum.

veno'sa (veiny). See Abutilon veno'num.

vi'o'ti'um (vine-leaved). See Abutilon vi'ti'um.

S.I.D.A.L.O.E.A. Greek Mallow. (From side, an ancient Greek name, and a'ke'ia, another; applied to some mallow, and that from alka, strength, or healing power. Nat. ord. Malvaceæ.)

Hardy perennial herbs. Seeds; divisions. Well-drained garden soil.


di'poso/py'pha (double-bowl). California.


hu'mi'tis (dwarf). See S. mal'vexflo'la.


mal'o'fo'ra (mallow-flowered). 2. Rose-purply.

July to September. N.W. Amer.

"delphino'sa' (Delphinium-leaved). Leaves finely cut."

murray'a'na (Murra'yan). See S. spica'ta.


S.I.D.E.R.A N'THUS SPINU'LO'SUS. See Haplo'f appus spino'lo'bus.


HARDY HERBACEOUS.


"serra'ta (saw-toothed). See S. spino'sa.


HARDY EVERGREENS.


dons'na'g (lengthened). August. Spain. 1822.

Half-hardy.


HALF-HARDY EVERGREENS.


caly'ce'a'na (calyx-flowered). See Stachys Lavando'le'olia.

"caran'i'nis (Canary). Yellow. Canaries. 1869.

Greenhouse shrub.


eub'a (Eubean). Greece.


ili'o'sa (holly-leaved). See S. fragrans.


lana'na (woolly). 1. Asia Minor; Greece.


mona'na (mountain). Mediterranean region; Orient.


S.I.D.R.O.E.X.Y.L.O.N. (From sideros, iron, and dendra, a tree; from hardness of wood. Nat. ord. Rubiaceæ. Linn. 4-Tetrandra, 1-Mognomma. Now referred to Ixora.)

S. trif'o'rum (three-flowered). See Ixora fer're'aa.

S.I.D.E.R.O.X.Y.L.O.N. (From sideros, iron, and xylon, wood; literally, ironwood, from its hardness. Nat. ord. Sapoto'ceae.)

Evergreen trees or shrubs. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


"in'e'rie (unarmed). S. Africa. "Milk Wood."

Masticho'dé'naon (Mastichodendron), W. Ind.

melanophlo'i'des (black-barked). See Myrsine melano'phloeos.


Possibly a species of Ilex.

"oreos'er'um (Drownery). See O. Sideroxyl'o'n." I. Sideroxyl'o'n. (Tropical). See O. Sideroxyl'o'n.

"isomen'o'sum (felted). India.

S.I.D.E-SADDLE FLOWER. Sarrac'nie'n.


SIESEBECKIA. (Named after J. G. Siegesebeck, a German botanist. Nat. ord. Compositae [Compositae]. Linn. 19-Syménesia, 2-Superflua. Alliance near Eclipta.)

New-Worlder annual. Seeds in a hotbed in April; seedlings pricked off, and finally turned out into the flower-garden in the beginning of June; rich, light, sandy soil.

S. corti'o'folia (heart-leaved). See S. orientalis.

"dore'ser'ex (Doreser-like). See S. orientalis.

"ib'eric'a (Iberian). See S. orientalis.

"ib'eric'a (Iberian). See S. orientalis.
S. orientalis (eastern), 2. September. Tropics everywhere, 1730.

"triflora" (triangular). See S. orientalis.


Stove epiphytical orchids. Divisions. Fibre of peat, sphagnum, and crocks, and grown in baskets.

S. reichenbachiana (Reichenbachian). 1. Yellow; lip spotted with red. Ecuador, 1898.


SIEVESSA. (Named after M. Sievers, a Russian botanist. Nat. ord. Rosaceae [Rosacea]. Linn. 1735.

Polygynia, Now referred to Geum.) Hardy, yellow-flowered, herbaceous perennial; Seeds, and division of the plant in spring; light, sandy soil.


"alta nica" (Atlantic). See Geum sylvaricum.

"glacialis" (icy). See Geum glaciale.

"montana" (mountain). See Geum montanum.

"paradoxa" (carrageen). See Fucus paradoxa.

"Pékis" (Peck's). See Geum radiatum.

"reptans" (creeping). See Geum reptans.

"ro sea" (rosy). See Geum triflorum.

"triloba" (three-flowered). See Geum triflorum.

SIEVES. Garden sieves are made of various sizes, and the mesh also varies, but 1-inch and 1-inch mesh are most often required for sifting soil, leaf-mould, and sand.

SIGMATO GYNE. (From sigma, S-shaped, and gyno, the ovary. Nat. ord. Orchidaceae.)

Stove epiphytical orchid. Divisions. Fibre of peat, sphagnum, and crocks.


SIGMATO STALIX. (From sigma, S-shaped, and stalix, a pole. Nat. ord. Orchidaceae.)

Stove epiphytical orchids. Divisions, Fibre of peat, sphagnum, and crocks.


"mallesf era" (mallet-bearing). Yellow, spotted with brown. Colombia, 1853.

"peruvi'na" (Peruvian). 1. Straw, with purple band; lime.

"radi'cans" (rooting). Yellow, pale green, purple, Brazil.

SILENE. Catchfly. (From siuon, salvia; from the gummy secretion on the leaves and stems of some, which entrap small flies. Nat. ord. Cleomaceae [Caryophyllaceae].) Lime, and lime-dominated rocks. Hardy and very division, and by cuttings of the young shoots in sand, under a hand-light, in summer; shrubby ones by similar means; rich, sandy loam.

GREENHOUSE BIENNIALS.


"divaricata" (day-flowering). See S. undulata.


HALF-Hardy HERBACEOUS.


"mociniana" (Mocinian). See S. laciniata.

"speciosa" (showy). See S. laciniata.

HARDY ANNUALS, &c.


S. a'nglica (English). See S. Gallica.


"A" (white), White.

"compa'cta" (compact). See S. compacta.

"Atocion" (Atocion). See S. egyp'tiaca.

"auricula" (auricled). Italy; Greece.

"bifar'ia" (two-coloured). See S. picta.

"bipartita" (two-parted). See S. colorata.


"chaen'anthos" (wallflower-leaved). 1. Red. Swan River, 1821.

"chromo'ria" (showy). See S. picta.

"clandes'na" (hidden). Algeria; S. Africa.


"co'ica" (conical). 1. Rose or purple. May to July. Europe (Britain), etc.

"conos'o" (conical). See S. paulus.


"cynara'ris" (Cynara). See S. Fabaria.

"cypsella" (cylindrical-flowered). See S. juve'nalis.


"diversifol'ia" (various-leaved). See S. Sylve'illa.

"echi'on" (spiny) of Jaub. and Spach. See S. squame'nta.

"echina'ta" (spiny) of Otth. S. Europe, 1775.


"fri'xularia" (Friulian). Thrace, etc.


"quinquevulner'a" (five-wounded). 1. Pink, with five red blotches. Europe (England).

"geminiflo'ra" (twinned-flowered). See S. obtusifol'ia.


"gla'vna" (long-stemmed). See S. longi-sta'tila.


"hisp'a" (hirsute). See S. vespertina.

"ib'rida" (ibrida). See S. fimbriata.


"lavato'ria" (loose-flowered). See S. hirsuta.

"lench'feldiana" (Lenschfeldian). Transsylvania.

"lini'cola" (flax-loving). Germany.


"longica'ulis" (long-stemmed). 1. Red. June, Spain, 1818.

"lunulata" (Portuguese). See S. Gallica.


"nemoralis" (grove). See S. italic'ica.


"noctilu'o" (night-smelling). Canaries.


"nwydru'ta" (night-flowered). See S. nocturna.


Western Mediterranean region, 1816.

"oliviera'na" (Oliver's). See S. colorata.

"orchid'ea" (orchid-like). See S. eyp'tiaca.
" comp'acta (compact). 4. Pink. May to August.
" perf'olia (leaf-stem-pierced). See S. CHLORAFOLIA.
Africa. 1818. Biennial.
" quinqu'e'u'rena (five-wounded). See S. GALICIA.
Africa. 1820. Biennial.
region. 1735.
" sabul'et'rem (gravel-pit). See S. GALICIA.
" secon'di'la (side-flowering). See S. GLACIA.
" sedo'o (Sedum-like). Mediterranean region.
" Send'e'nri (Sendter's). Bosnia.
" spathula'ta (spathulate). See S. PYG'MEA.
" squam'i'gera (scale-bearing). White. July. Asia
Minor.
region. 1806.
" vissis'sima (clammiest). See S. NIC'ENSIS.

Hardy Herbaceous.
S. ac'amis (stemless). 1. Rose. July. Northern and
arctic regions (Britain). " Moss Campion," "Cushion
Pink."
" alon'ga (elongated).
1819.
" Alpine Catchfly.
1831.
1779.
1817.
Siberia; China.
" ar'ga'a (Argean). Mount Argus, Capadocia.
1759.
" grandis'o'lata (large-flowered). 14-2. Crimson-
scarlet. Balkan Mts. 1903.
" bupleuroi'des (Bupleurum-like). See S. LONGIFLORA.
Piedmont. 1823.
" ca'nna (hoary). See S. ITALICA.
" Cates'bae (Catesby's). See S. VIRGINICA.
Italy. 1771.
Caucasus.
" ca'tia (Chloro-leaved). 1. Lilac. yellow.
August. Armenia. 1706.
Europe; Tauria. 1732.
1804.
" cilin'ia (heart-leaved). 1. Pink. June. Pied-
mont. 1819.
SILLENOPSIS LAGASC^: 805 SINGLING


SINNINGIA. (Named after W. Sinning, a German gardener. Nat. ord. Gesneriaceae. Linn. 14-Didynamia, 2-Angiospermia.)

Stove deciduous herbs, with tuberous rootstock. Seeds; leaf cuttings in sand under a bell-glass in heat. Loam, leaf-mould, a little manure and sand. The species are often, but erroneously, referred to Gloxinia.

S. barbata (bearded). See S. CAROLINA.

"Carolina" (Carolina's). i. White, red. Summer. Brazil. 1867.

"ma'lor (larger). 2. White. All parts larger. Bahamas. 1887.

"con'cina (neat). Purple, yellow. June to September. Brazil.

"mul'tiform (many-flowered). Blue-lilac. 1864.


"Men'sis (Menzes'). Violet, with red markings. August. Brazil.

"Rasta (queen). Bluish-purple. Leaves velvety, with white veins. 1893.


"ab'fibora (white-flowered). 1. White.

"caule'sensa (stemmed). 1. Plants with a long, green stem.

"macro'phylla (large-leaved). Leaves large, veined with silver. 1844.

"fu'bra (red). 4/. Red.

"veluti'na (velvety) of Hooker. See S. HELLERI.


"youngiana (Youngian). 1/. Purple. June. (Speciosa x velutina, 1840.)

SINOFRANCHETIA. (From sin, China, and Franchel, a French botanist. Nat. ord. Berberidaceae.)

A tall, deciduous climber. Seeds; suckers; layers. Ordinary garden soil.


SINOWILSONIA. (From sin, China, and E. H. Wilson, the famous collector of plants for Messrs. 1. Veitch & Sons, and the Arnold Arboretum. Nat. ord. Hamamelidaceae.)

Hardy or half-hardy deciduous tree or shrub. Seeds; layers. Ordinary garden soil.


SIFHOCYPYLOS. (From siphon, a tube, and kam'ulos, a curve; shape of the flower. Nat. ord. Bellflowers [Campanulaceae]. Linn. 5-Pentandria, 1-Monogynia.

Cuttings root readily; those which are herbaceous are best struck from the young shoots, several inches in length, as they rise from the root in spring; bi'color and betul'afio'si are hardy in sheltered places.

HARDY.


"bi'color (two-coloured). See Loe'elia laxiflora.


"bi'color (two-coloured). See Loe'elia laxiflora.

GREENHOUSE EVERGREENS.

S. amo'na (lovely). See S. villosus.

"cocc'enus (scarlet-flowered). See Centropogon cocci'nus.


"fimbria'tis (fringed). See S. longepedunculatus.


"ham'letus (hooked). Violet. Brazil. 1850.

S. hump'lide'ta (Humboldtian), Orange-scarlet. Peru. 1867.


STOVE EVERGREENS.

S. ca'na (grey). See S. macro'podus.

"ferrug'i'nea (rusty). Red. Colombia.


"guiana'na (Guiana). Guiana. 1847.

"L'indey (Lindley's). Scarlet. Colombia. 1832.


"ni'tidus (shining). See S. MANETTI'FLORUS.

"orbi'gnia (D'Orbigny's). Yellow and scarlet. Bogota. 1850.

"ex'tius (showy). Dark violet. Colombia. 1850.

"te'legans (elegant). Bright red. Colombia. 1849.


"sca'ndens (climbing). Scarlet. Peru. 1847.

"surinam'na (Surinam). See CENTROPOGON SURINAMENSIS.

"to'ver'na (Tovar). See CENTROPOGON TOVARENSIS.

SIPOH'NDA. See Chico'ca.

SIPOH'NANTHUS INDICA. See Clero'dendron sipho'nan'thus.

SIPOH'NIA CAHU'CHU. See Hevea guianensis.

SIPOH'NIA EL'A STICA. See Hevea guianensis.

SI'REX EF'GAS. Two species of Sirex are known to be British, S. gigas being the largest, and when seen on the wing bears a superficial resemblance to a hornet. They do not sting, being Sawflies, with four wings of unequal length. S. gigas is ringed with black and yellow. The last part of a single wide bears a mine directed backwards, and beneath it is an ovipositor, half as long as the body. With her saw she bores holes in the bark of coniferous trees, and deposits one egg in each hole. The larva eats the wood, making holes one-third inch wide, thus making the wood useless except for fuel. S. i'exu'cus, or Steel-blue Sirex, is smaller than the Giant Sirex, and is rich steel-blue, with reddish-brown feet. The larvae are of large size, and in the case of S. i'exu'cus prefers the Scotch Fir. Dying or unhealthy trees, especially those having holes from which the insects have emerged in the living state, and dead branches should be cut down and taken away as fuel. They should be split up at once and the larva in the wood destroyed.

SISOO WOOD. Dalbe'rgia Si'soo.

SI'SYM'BRIUM. (A classical name for some plant. Nat. ord. Crucifers [ Crucifera]. Linn. 15-Tetradynamia.)

Many species, all but a few mere weeds. S. millefo'mium is propagated by cuttings of young shoots in spring; does best with greenhouse treatment, but requires at least a cold pit in cold winters; common, sandy loam. The others may be raised from seeds.


SISYR'NICH'UM. (From sus, a pig, and ranos, a snout; swine grub out the roots for food. Nat. ord. Iris [Iridaceae]. Linn. 13-Polyandra, 6-Polygynia.)

Herbaceous perennials. Seeds and offsets in spring; sandy loam and leaf-mould.
S. a'nceps (two-edged). See S. ANGUSTIFOLIUM.
" angustifo'lium (narrow-leaved). J-i. Blue. [Rutaceae].
" angustifo'lium (white), 1-3. White. [Rutaceae].
S. anceps (two-edged). See S. ANGUSTIFOLIUM.
" angustifo'lium (narrow-leaved). J-i. Blue. [Rutaceae].
S. anceps (two-edged). See S. ANGUSTIFOLIUM.
" angustifo'lium (white), 1-3. White. [Rutaceae].
S. anceps (two-edged). See S. ANGUSTIFOLIUM.
SLOANEA 868  SMILAX

(SA) 808  Carolina; being rose. Ord. of Yellow-green. ru'bens, N. Smeathmann, in 1886. their cabbage-


SLOE-TREE. Prunus spin'o'sa.

SLUGS are of many species, and the smaller are much more injurious to the gardener than those of a larger size, because they are much less discernible, and their ravages being more gradual, are not at once detected. They are effectively destroyed by either salt or lime; and to secure the effect of these with their bodies, it is best to plow them into the soil where they should be employed by water in the evening when they are coming out to feed, sprinkling the surface at the same time with dry lime, and at the end of a week applying a surface-dressing of salt at the rate of five bushels per acre. If cabbage

leaves are spread upon the surface of land infested by slugs, they will resort to their under sides, and thus may be trapped; but lime and salt are more efficacious. Lime-water may be poured over well-trees infested with them, and they may be sprayed with it as well as with water in which gas liquor has been mixed, about half a pint to a gallon. If lime be sprinkled along the top of the base of the wall, renewing it weekly, the slugs cannot get to the trees. Fresh brewers' grains, placed in small heaps, are good traps for them; and frequent earth-stirring helps to banish them.

SLUG-WORMS. Under the name of Slugg Creb and Slug-schwimp, a species of Sawfly (Eriosoma imacina) is only too well known for its destructiveness to the leaves of the pear, the upper surface of which it eats away, leaving only the skeleton, or framework of veins, and such leaves soon die. Various other names have been given to it, such as Selandaria atrra and S. Cerasi, the latter in allusion to its feeding on the Cherry. It sometimes attacks the Plum and the Peach. The larvae are like those of the Sawfly, but much a large head. Sawfly is shining black, with black or dusky legs and dusky wings with black nervures. It measures about half an inch across the outspreading wings. The eggs are laid on the leaves at the base of the plant, the larva worming its way into the leaf, and the caterpillars hatch out late in that month. At first they are white, then yellow, and at last become covered with the black slime. They are most noticeable in July, and sprouted leaves can be found in October, possibly from a second brood. The Rose Slug worm (Eriosoma Rosa) is much less conspicuous than the above, and often proves very destructive to Roses by eating away the upper surface of the leaf, in patches, or more or less completely, when the leaves die. The larvae are pale yellow-green, with a darker line down the back, and an orange head. There are two broods; the first appearing in June, and the second in August or September. As soon as the larvae of Cherry and Pear Sawfly are observed on the leaves, the latter should be dusted with powdered ashes or lime, care being taken to do it evenly, so as to prevent the sawfly larvae from being caught, and the slugs from getting rid of the lime, and then appear yellow. A second application will destroy the grubs, as they are unable to go on casting their skins. The effect of sawfly larvae is to cause the plant to become chlorotic, and after some time, the plant dies. The slugs will be seen in the early morning or late at night, and may then be shaken down on a cloth and destroyed. The Rose Slug worm may be destroyed by spraying the rose bushes with nicotine or borax. The larvae get killed by eating the poisoned leaves.

SMILAX. (Named after Saint Michael, an African traveller. Nat. ord. Passionworts [Passifloraceae]. Linn. 13; Polyandria, 6-Polygyna.)

Stoves, with their long evergreens, from Sierra Leone. Cuttings of ripened shoots, or short, stubby side-shoots, in sand, under a bell-glass, and in bottom-heat; sandy, fibrous loam, and lumpy peat. Winter temp, 55° to 60°; summer, 60° to 85°.


SMILAX. (Diminutive of Smilax, from smil, a scrape; referring to the rough stems. Nat. ord. Lily-worts [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia.) Hardy herbaceous, white-flowered, and from North America, except where otherwise specified. Divisions in spring; common, light soil. S. alpi'na (alpine). See CLINTONIA ALPINA. am'ana (lovely). See S. PANICULATA. bi'fida (two-leaved). See MAIANTHEMUM CONVAL-

LARIA. bota'ris (northern). See CLINTONIA BOREALIS and C. UMBELLATA. canad'ensis (Canadian). 6. June. 1792. ciliata (eye-lashed). See S. RACEMOSA. ciliata (hair-fringed). See MAIANTHEMUM CONVAL-

LARIA. oler'a'ea (pot-herb). 3. White, tinged with rose.


SMILAX. (From smil, a scraper; rough, prickly stems. Nat. ord. Lily-worts [Liliaceae]. Linn. 22;

Dioica, 6-Hexandria.)

S. hispida (roughly-hairy), N. Amer.
S. latifolia (broad-leaved), See S. AUSTRALIS.
S. longifolia (long-leaved), See S. SALICIFOLIA.
S. variegata (variegated), See S. SALICIFOLIA VARI-GAINS.

S. laurifolia (laurel-leaved), Southern United States.
S. macrophylla (large-leaved), E. Ind. Stove.
S. maculata (blotched), See S. ORNATA.
S. officinalis (shop), Columbia, 1866. Stove.
S. ornata (adorned with silver), Mexico. 1863. Greenhouse.
S. ovalifolia (oval-leaved), See S. MACROPHYLLA.
S. prolifera (proliferous), India. Stove.
S. quadrigularis (four-angled), See S. ROTUNDIFOLIA.
S. rotundifolia (round-leaved), June. N. Amer. 1888.

S. ru'bens (red), See S. BONA-NOX RUBENS.
S. sagittatosa (arrow-leaved), See S. ASPERA AUGUSTIFOLIA.
S. sagittatii (willow-leaved), Leaves long, Brazil. Greenhouse.
S. Shuttlewo'rhii (Shuttleworth's), Leaves with silvery-grey blotches. Colombia. 1877. Stove.
S. tamnoi'des (Tamnus-like), N. Amer.
S. tan'mus (Tanmus), See S. WATSONII.
S. WATSON'ii (Watson's), See S. HERBACEA.

S. purpu'rea (purple), t. Purple, with white markings. June to September. India. 1848.

S. arg'u'm (acute). Flowers minute, green. S. Africa. 1908.

SMOKE PLANT. Rhis's Co'tinus.
SMOKE-WOOD. Cid'matis Vita'ba.

SMOOTH FLOWER. Leis'nthus.
SMOOTH-FRUITED HORSE CHESTNUT. Pa'via.

SMUT. The common name given to a number of minute fungi which live on the fruits of some cereals, and on the leaves and other parts of certain flowering plants. Ustilago violacea and Sosporium Saponaria. live on the anthers of species of Dianthus, Silene, and other members of the Caryophyllaceae. S. primulicum lives on the young seeds of Primula vulgaris, P. farinosa, and P. eliatum. Wherever these fungi are noticed, the flowers and other parts affected should be gathered and burnt.

SNAILS. Some gardens are considerably infested with snails, though they are less general enemies than slugs. The larger snails belong to the genus Helix, but only two of them need be mentioned here as garden enemies. The common snail (H. aspera) is yellow-brown, with a shell of two and a half inches in diameter. A little peat, and sand.

SNAIL FLOWER. Phase'elus Caraca'lla.
SNAIL GOURD. Trichosa'nes anguis

SNAIL PLANT. Drac'num vulg'a'ris.
SNAIL ROOT. Aristoloch'ia Serpen'taria.

SNAIL'S BEARD. Ophiop'o'gon.

SNAIL'S HEAD. Hermod'a'lymus tubero's sus.

SNAIL'S HEAD FERTILIZERS. Fritillaria Mela'gres.

SNAIL'S MOUTH ORCHID. Pogo'mia ophioglossodes.

SNAIL'S TONGUE OR ADDER'S TONGUE. Ophiog'lossum.

SNAIL-WEED. Poly'gonum Bisto'ria.

SNAKE WOOD. Bro's'simun Auble'ti, Cerco'pia, and Sty'chous colubri'na.

SNAPDRAGON. Antirrh'num.

SNAPWEED. Imp'a'tiens.

SNEEZWORT. Achille'a Pia'rmica.

SNOW is one of the gardener's best shelters, and should never be removed from his outdoor crops. It prevents heat from radiating from them; protects them from freezing, drying blasts, and, being a bad conductor of heat, thus prevents its escape from them. We have never known the surface of the earth, below a covering of snow, colder than 32°, even when the temperature of the air above has been 28°.

SNOWBALL-TREE. Viburnum O'pulus Strel'is.

SNOWBERRY. Chico'caca and Symp'horica'rpus race'mo' sus.

SNOWDROP. An'ende syl've'stri and Gala'ntus.

SNOWDROP-TREE. Hal'ei'sia tetra'ptera.

SNOWDROP-TREE, AFRICAN. Roye'na lu'cida.

SNOWDROP WINDEL FLOWER. An'ende syl've'stri.

SNOWFLAKE. Leuco'jum.

SNOW FLOWER. Chio'nas.

SNOW GLORY, or GLORY OF THE SNOW. Chio'nosa.

SNOW IN SUMMER. Cer'asium tamen'tosum.

SNOW PEAR. Py'rus sin'e'nis.

SNOW TREE. Py'rus nivalis.

SNOWY FLY. Under the name of Ale'yro'des three species of insects, closely allied to the aphides, may be noted, which are very injurious to various garden plants when they are allowed to become very numerous. They pierce the leaves with their long beaks, causing them to become yellow, and die before their proper time. They also make the leaves unsightly with the white scales from which the pupae emerge. Ale'yro'des Bra'ssicae is the Cabbage Powedered Wing, and infests the leaves of Cabbages and other members of the tribe. The head and body between the wings are black, the rest of the body yellow or rosy, and the four wings white and powdery. The Snowy Fly of Cabbages (A. prole'te'lla) is more or less covered with a white powder, with a dusky spot in the middle of the two fore-wings. Under the snow the body is similar in colour to A. Brassicae. A third species is much more troublesome and destructive to Tomatoes, Cucumbers, and many stowe plants, and is believed to have been introduced with plants from Tropical America or Mexico. This also is known as Snowy Fly (A. saporaria'tium), and is milk-white, with pale yellow bodies and no spots on the wings. It lives on the underside of the leaves, to which the white, scale-like pupae become attached in immense numbers and hatch out in a few days.

The remedies adopted vary with the plants attacked. The worst attacked leaves of Cabbages, &c., should be...
SOAP-BOILER'S ASHES. See Ashes.

SOAP-PLANT. Chelartium pomeridium num.

SOAP TREE. Gymnocalc'us chine'nis.

SOAPWORT. Saponaria officinalis.


S. beyeriana (Beyerian). 14. White, tinted with pink; lip rose-lilac, yellow. 1892.

" blanda " (pleasing). White; disc of lip golden-yellow.

" Brantia " (Mrs. Brandt's). 4. Rose-purple; lip with yellow throat. S. Amer. 1896.

" Cattleya " (Cattleya-like). Purplish-brown; lip purple, with yellow keels. Colombia. 1877.


" chiora 'nha " (yellow-flowered). See S. Macrophyl'a.

" Chlupatii " (Chlupat's). While the tinted with purple in throat of lip. Ecuador. 1910.


" dichotoma " (two-ranked). Rose, purple. March.

" Eliz 'ba 'the " (Elizabeth's). See S. Liliastri'um.


" Lantho 'nai " (Lanthorn's). Flowers all opening together. Colombia. 1905.

" leuco 'nha " (white-yellow). White; throat of lip deep yellow, orange-red. Costa Rica. 1888.


" ro 'sea " (rosy). Deep rose; petals with white veins. Linn. 1890.

" Linde'nii " (Linden's). 3-4. White, tinted rose; lip crimson-purple. Ecuador. 1895.


" lu'seola " (small-yellow). 3. Light yellow, with darker veins. Trop. Amer. 1888.


" a'bla na 'na " (white-dwarf). 1. Pure white. 1887.

" a'bla 'dida " (whitish). Creamy-white; lip rose-purple. Mexico. 1871.

" Hodgkisoni'ni " (Hodgkinson's). Lilac; lip rose-purple and orange. 1894.

" kienast 'na " (Kienastian). White, with a small yellow throat. 1874.


" pa 'lida " (pale). Whitish, pale purple, and yellow throat. 1871.

" purp 'rea " (purple). Deep purple.


" se'ssilis " (stallkess) of Hooker. See S. Decora.

" se'ssilis " (stallkess) of Lindley. 2-4. Rose-red; lip crimson. British Guiana. (B.M. f. 7376.)

" suan'olens " (sweet-smelling). Pale yellow; lip white; with broad disc. Central Amer. 1878.

" va 'lida " (strong). 4-1. Whitish-yellow; lip deep orange in front. Panama. 1899.


" a'bla " (white). White, with yellow throat. 1904.

" Wiga 'na 'ia " (Mrs. Wigan's). Soft yellow, shaded with rose. 1898.

" Wilsoni'ni " (Wilson's). White, rose; lip with yellow throat. Amer. 1882.

" xanthol'onea " (yellow-white). Sulphur-yellow; lip lemon, with yellow throat. Central Amer. 1882.

" a'bla " (white). Pale primrose. 1889.

SOCRATE A. (Commemorative of the great Greek philosopher, Socrates. Nat. ord. Palmaeae. Allied to ferns.)

A stove Palm sending out aerial roots, one to 6 feet from the ground, so that it appears to be resting on its roots. Seeds. Fibrous loam, one-third of lumpy peat, and sand.

S. ex 'oh's 'ta " (rooting-outwards). 60-100. Yellow-green. Guiana; Amazonas. 1849. " Zanona Palm."'

SOIL. However varying in the proportions, yet every soil is composed of silica, alumina, lime, magnesia, oxide of iron, salts, and animal and vegetable remains. A fertile soil is one which contains such a proportion of decomposing matter and of moisture as to keep the crop growing at all seasons, and to supply the plants with food in a state of readiness for the roots to absorb, yet not so superabundantly as to render the plants too luxuriant, if the object in view is the production of seed; but for the production of those fruits for which the stage is the palatable or edible bulbous roots, as onions, which have a small expansion of leaves, so as to be almost entirely dependent upon the soil for nourishment, there can scarcely be an excess of decomposed matter presented to their roots.

A subsoil of gravel, mixed with clay, is the best, if not bowing in oxide of iron; for clay alone retains the moisture on the arable surface in too great an excess; and sand or chalk, on the contrary, carries it away too rapidly. It is, however, evident, that to insure these desiderata in any soil, at all seasons, is impossible; and it is manifest that a soil that would do so in one climate would fail in another, if the mean annual temperature of them should differ, as well as the amount in inches of rain which falls during the same period. Thus, in the western parts of England, more than twice as much rain occurs as in the most eastern counties, or in the proportion of forty-two to nineteen. A soil in the east of England, for any given crop, therefore, may be richer and more tenacious than the soil required for it on the west; but the same is not true of the influence of the climate. Alumina (clay) imparts tenacity to a soil when applied; silica (sand) diminishes that power; whilst chalk and lime have an intermediate effect. They render heavy soils more friable, and light soils, more retentive. These simple facts are important; two neighbouring gardens, by an interchange of soils, being often rendered fertile, which before were in the extremes of tenacity and porosity.

In affording warmth to plants, the earth is of considerable importance, and the power of accumulating and retaining heat varies as much in soils as the proportions of their constituents. Sir Humphry Davy found that a rich black mould, containing one-fourth of vegetable matter, had its temperature increased, in an hour, from 65° to 88° by exposure to the sunshine, whilst a chalk soil was heated only to 65° under similar circumstances. But the first, when removed into the shade, cooled in half an hour 15°; whereas the latter lost only 4°. This explains why the crops on light-coloured, tenacious soils are in general so much more backward in spring, but are retained longer in verdure, during autumn, than those on black, light soils; the latter attain a genial warmth the more readily, but part from it the sooner.

The quantity of soluble matter obtainable from a soil at any one time is very small, seldom exceeding a thousandth part of its weight; and even pure vegetable moulds, which contain so much of the vegetable remains, was found by Saussure to yield only one-eighth of soluble matter. This mould was too rich for horticultural purposes, peas and beans grown in it being too luxuriant; and they were more productive in a soil containing one-twentieth of organic constituents dissolvable by water. Small in amount, however, as are the soluble constituents of the most fertile soils, they are necessary for the
SOILING-UP

vigorous vegetation of plants; for when a soil is deprived of those constituents by frequent washings with boiling water, it is much less fertile than before. Liebig and others have most illogically concluded, from the smallness of the soluble extract contained in a soil, that it is of small importance, forgetting that as fast as it is taken by the roots of the crop, it is generated again by the decomposition of the animal and vegetable remains. This is one reason why fallowing is beneficial. Easily decomposing matters have been exhausted by successive crops; and by a year's rest, and exposure to the disintegrating agency of the air, rain, and frost, the more stubborn and more slowly decomposing matters have time to decay and accumulate in the soil.

SOILING-UP. See BASING-UP and EARTHING-UP.

SOJA. (From soja, the name of a sauce made from the seed of the plant.) Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-Didelphias, 4-Scandaria. Now referred to Glycine.)

S. hispida (bristly). See GLYCINE SOJA.

SOLANDRA. (Named after Dr. Solander, a Swedish botanist. Nat. ord. Nightshades [Solanaceae]. Linn. 5-Pentandria, 1-Monogynia.)

The flowers are showy. Cuttings from flowering shoots in open, sandy loam, and in a brisk bottom-heat; sandy loam, a little fibrous peat, and dry nodules of old cow-dung. Winter temp., 30° to 60°, and almost dry; summer, 60° to 90°, and plenty of moisture when growing.


S. lav'sis (smooth-leaved). See S. LONGIFLORA.


S. nitida (shining). See S. GRANDIFLORA.

S. oppositiflora (opposite-leaved). See FAGREA CEILNICA.


SOLANUM. Nightshades. (From solus, to comfort; soothing narcotic effect.) Nat. ord. Nightshades [Solanaceae]. Linn. 5-Pentandria, 1-Monogynia.)

All freely by seeds. Annuals, hardy, seeds in the open air; tender, in a hotbed, and transplanted in June; herbaceous, by similar means, and division; shrubby, by similar modes, and cuttings under a bell-glass, and requiring the protection of a house and temperature, in proportion to the place of which they are natives. See POTATO.

HARDY ANNUALS.


S. cor'statum (horned). See S. ROSTRATUM.

S. fontanesia'sum (Fontaine's). Yellow. August. Brazil. 1813.


S. hetero'drum (various-stamened). See S. ROSTRATUM.


S. Lycopersicum. (Lycopersicum. See Lycopersicum ESCULENTUM.)


S. "melonocru'm (black cherry)." 2. White. July.


S. obtusifoi'sium (blunt-leaved). August. 1831.


S. sep'ide milbium (seven-lobed). China.

S. villosi'um (shaggy). Berries black. Europe; Asia; Africa.

HARDY HERBACEOUS.


S. commer'sio'ni (Commerson's). 2. Pale Lilac or white. Argentina.

S. escule'tum (esculent). See Lycopersicum ESCULENTUM.


S. florib'i'num (free-flowering), Flowers more abundant. Trop. Africa. 1880.

S. herba'vium (Peruvian). See Lycopersicum PERUVIANUM.

S. hy'brida (false) (false-lycopersicum). See Lycopersicum ESCULENTUM.

S. quercifo'lium (quercifolium). 3-5. White.


S. solic'i'num (sleep-giving). 1. Pale violet.


S. vaccin'i'um (black-berried). See S. ESCULENTUM.

S. vacci'nus (sleep-giving). 1. Pale violet.

S. vaccin'i'um (black-berried). Fruit red, as large as an egg.

S. vacci'num (bristly-coloured). Fruit white, changing to yellow, then red. 1907.

**STOVE HERBACEOUS.**


"macacaii (large-fruiting). Berries 1-2 in diameter. 1888.


Anguivi (Anguivial. Madagascar.

angulatum (angular). See S. quitense.


"bicolorum (beet-leaved)." See Cyphomandra betacea.


Buenos Ayres. 1772.

"brasiliense (Brazilian)." 2. June. Brazil. 1820.

ciliatum (eye-lashed)." See S. aculeatissimum.


Mexico. 1820.


"fracrans (fragrant)." See Cyphomandra fragrans.


guatemalense (Guatemalan)." See S. muricatum.


hitrum (shaggy)." 2. Blue or white. June. Trinidad. 1921.

hookeria(n Hookerian. See S. havanense.


"jacquinii (Jacquin's)." See S. xanthocarpum.


"juc/ri (Juch's)." See S. alternatopinnatum.


Mexico. 1800.

"laurifolium (laurel-leaved)." 8. June. S. Amer.


Cayenne. 1823.

"macranthum (large-flowered)." 12. Pale lilac.

Brazil. 1843.

**STOVE EVERGREENS.**


Berries formerly eaten by natives with human flesh.

"asarifolium (Asarum-leaved)." Whisth. Venezuela.

1793 (Stem crossing). Brazil. 1856.

"aureum (azure)." Blue. Ecuador. 1879.


"Dammanianum (Dammanian)." Blue. June.

1818.


**Solanum.** 312

**STOVE HERBACEOUS.**


"asarifo/ium (Asarum-leaved)." Whisth. Venezuela.

1793 (Stem crossing). Brazil. 1856.

"aureum (azure)." Blue. Ecuador. 1879.


"Dammanianum (Dammanian)." Blue. June.

1818.


**Solanum.** 312

**STOVE HERBACEOUS.**


"asarifo/ium (Asarum-leaved)." Whisth. Venezuela.

1793 (Stem crossing). Brazil. 1856.

"aureum (azure)." Blue. Ecuador. 1879.


"Dammanianum (Dammanian)." Blue. June.

1818.


Africa. 1775.

Millelri (Miller's). See S. Capense.


Paraguay. 1794.

myriophyllum (planted-leaved). Blue. S. Amer.


pubi-legendum (downy). See S. Cervantesii.


Ranunculi (Ranunculi's). Argentina.


Rosoii (Ross's). Pale blue. Mexico.


sandelum (bog). See S. INCAMAN.


SOLARIA. (Commemorative of Franciscus de Borja Solaris, a Franciscan. Nat. ord. Liliaceae.)

Greenhouse bush. Seeds; offsets. Fibrous loam, leaf-mould, and sand. When the foliage begins to fade, the bulbs should be dried off and rested like Nerine.


SOLDANELLA. "Blue Moonwort." (A diminutive of solidus, a glistening; shape of the leaves. Nat. ord. Primroseae (Primulaceae). Linn. 9-Pentandra; 1-Mono-
gyny. Allied to the American Cowslip.)

Hardy herbaceous perennials, purple-flowered, and blooming in April, except where otherwise mentioned. Seeds and division of the plant in spring; peat and loam; front of a sheltered peat-border, or as planted up with azalea plants, protected from severe frosts and heavy rains in winter; mi'nima and pusilli, at least, require this protection.

S. affinis (related). See S. montana.

a'la (alpine). 4. Switzerland. 1656.


hungria'na (Hungarian). 4. Glade. See S. MONTANA BUNGARIA.


SOLDIER-WOOD. I'ma purpur'ea.


S. str'i'sia (upright). See Ionidium concolor.

verticilla'la (whorled). See Ionidium POLYGA-
LEUM.

SOLENA. (From solen, a tube; the flowers are tubular. Nat. ord. Rubiaceae. Now referred to Poso-
queria.)

S. gra'tis (graceful). See Posoqueria gracilis.

longifo'ra (long-flowered). See Posoqueria LONGI-
FLORA.

SOLENA THYS. (From solen, a tube, and anthos, a flower; the flowers are tubular. Nat. ord. Boraginaceae. Allied to Lindo-leo.)

Hardy biennial or perennial herbs. Seeds; divisions. Well-drained soil.


lanu'bus (woolly). Blue or rosy. Armenia.

SOLENIUM. (From solen, a tube, and eidos, appearance; the lip being rather tubular. Nat. ord. Orchidaceae. Allied to Brassia.)

Epiphtodic orchid. Offsets; divisions. Requires to be fastened to a leafy frame, with some sphagnum about it.


SOLENO MELUS. (From solen, a tube, and melos, a limb; the perianth is tubular. Nat. ord. Iridaceae.)

Half-hardy herb, with a rhizomatous rootstock. Offsets; divisions. Fibrous loam, leaf-mould, and sand.

S. bifo'rus (two-flowered). See Sympysostemon nar-
cissus.


SOLENO PHORA. (From solen, a tube, and phora, to bear; in reference to the tubular flower. Nat. ord. Geranacea.)

Stove evergreen shrub. Cuttings of mature wood, in a close case, with bottom-heat. Fibrous loam, with some leaf-mould and sand.


SOLENO PSIS. See Laurentia.

SOLIDAGO. Golden Rod. (From solidus, to unite; supposed healing properties. Nat. ord. Composites (Com-
mpositae). Linn. 9-Cypergenia, 2-Superflora.)

Hardy herbaceous perennials, all yellow-flowered, and all from North America, where not otherwise noticed. Divisions of the plant in spring; common soil. Showy at the back of herbaceous borders, or the back rows of herbaceous plants in the front of shrubberies.

S. al'petris (rock). See S. Vigoreaule.

alli'ssima (tallest). See S. Canaden'sis, S. pilosa, and S. RUGOSA.


augusti'fia (narrow-leaved). See S. Stric'ta.


arena'na (sand). See S. Vigoreaule.

argula (alvisa). See S. PEFRAULU.


as'pera (rough-leaved). See S. RUGOSA.


care'as (gray). 3. September. 1732.

califo'rica (California). California.

canad'en'sis (Canadian). 3. August. 1848.

cilia'ris (hair-fringed). See S. junca.

Cirrus'sis (Cirrus's). 2. October.

decu tre'ns (decurrent). See S. Vigoreaule.

Doro'nicum (Doronicum). See Sencio DOMERiCUM.

Drum'mo'na (Drummond's). 4-5. September. N. America.

el'a (tail). See S. elongata.


arilifo'ra (azal-flowered). Flower-heads in the late summer. See S. elongata.

el'ongata (elongated). 4-5. September. 1811.
SOLLYA, (Named after R. H. Solly, a naturalist. Nat. ord. Pitiosporae [Pitiosporaceae]. Linn. 5- Pectandra, 1-Monogynia.)

Grewia, a thick-leaved, evergreen climber, from Australia. Seeds in a slight hotbed, in April; cuttings then of young shoots a little firm at the base, in sand, under a bell-glass, and placed in a cold pit, when the night temperature (Cambridge) exceeds from 45° to 50; and loam and peat. Winter temp. 45° to 55. Most of them would succeed against a conservatory wall.

S. angustifolia (narrow-leaved). See BILLARDIERA SCAN- DENSI.

S. sordida (Drummond's). See S. parviflora.


S. parviflora (narrow-leaved). See S. HETEROPHYLLA ANGUSTIFOLIA.

S. parviflora (small-flowered). July. 1838.


SOLOMON'S SEAL. Polygonatum multiflorum. 

Sonchus. Sow Thistle. (From sogshe, the old Greek name for Sonchus oleraceus, or S. maritimus. Nat. ord. Composita.)

Hardy or half-hardy perennial herbs. Seeds; cuttings or divisions. Loam, leaf-mould, and sand in a pit or cool greenhouse.


S. lancinatus (deep-cut). See S. LANCEINATIUS.


Sonnerila. (From Soneri-ilu, the Javanese name. Nat. ord. Leguminosae. Linn. 8-Octandra, 1-Monogynia. Alliance nr. Bertioli.)

Stove evergreen perennial herbs or subshrubs. Seed in a gentle hotbed, in March, potted off, and bloomed in a cloister, or in a stone; cuttings in sandy peat in a close case, with bottom-heat. Lumpy peat, sphagnum, coal, and sand.

S. Benso'ni (Benson's). 1. Rosy-purple. India. 1873.

S. elongata (legands). See S. SPECIOSA.

S. grandiflora (large-flowered). 1. Mauve. India.

S. Hendersonii (Henderson's). See S. MARGARITACEA HENDERSONI.

S. la'la (bright). 1. Leaves deep green above, with white below, or r-l. (Named after a plant-back.)


Stove evergreen shrubs, from the East Indies. Cuttings rooted in a stone; cuttings taken off, with a heel, in sand, under a bell-glass, and placed in a mild hotbed.


Stove evergreen shrubs, from the East Indies. Cuttings rooted in a stone; cuttings taken off, with a heel, in sand, under a bell-glass, and placed in a mild hotbed.


SOOT. The volatilised unconsumed portion of common coal. It is thus constituted: Charcoal, 37½; salts of ammonia, 42½; salts of potash and soda, 24; oxide of iron, 9½; alumina, 3½; sulphate of lime, 3½; carbonate of magnesia, 2. It is an excellent manure for peas, onions, carrots, and probably all garden crops. An excellent liquid-manure is soot mixed with rain- water, in the proportion of one to eight, spoonful of soot to a quart of water, for plants in pots; but for asparagus, peas, &c., six quarters of soot to a hosehead of water. It must never be applied to plants in a state of rest. It succeeds admirably with bulbs. See Liquid-Manures.

SOPHORA, (From the Arabic name, Sophora, of a leguminous shrub, named for Fr. Ch. Sophora, ord. Leguminosae. Linn. 10-Decandra, 1-Monogynia.)

Hardy herbaceous kinds by divisions in spring; stone and greenhouse species, by cuttings of half-ripened shoots under a bell-glass, in sand, and grown in peat and loam. The hardy kinds, such as japo'noise and its varieties, are very ornamental trees on a lawn, but should be grown in poor soil north of London, that the annual growth
may be well ripened; propagated by imported seeds, by cuttings of the roots, and layers; its varieties by grafting. *Pe'nula* is extremely graceful and fast growing.

**Hardy Heraceous.**


**Hardy Deciduous Trees.**


**Sophronia,** of Lindley. See *Sophronitis.*

**Sophronitis.** (From *sophron,* modest; in allusion to the unpretending or quiet beauty of the flowers. Nat. ord. Orchidaceae.) Sophronitis epiphyllous Orchids. Divisions or offsets. Fibre of peat, sphagnum, and crows in pans or baskets.


**Sorbaria.** (From sorbus, the service-berry, and aria, pertaining to, belonging to. Nat. ord. Rosaceae. Now referred to *Spiraea.*)

*S. assurgentia* (standing-up). See *Spiraea assurgentia.* sorbifolia stellatihila (starry-haired). See *Spiraea sorbifolia stellatilila.*

**Sorells.** (From sorbus, the sorb-apple or service-berry. Nat. ord. Rosaceae. Now referred to *Pyrus.*)


**Sorghum.** Millet Grass. (From the Indian name Sorg. Macnishian.) One of the most important grasses. Half-hardy or greenhouse annual grass that may be planted out in May. Seeds. Ordinary soil.


**Sorrelidae.** (The native name. Nat. ord. Anacardiaceae.) Large shrub or small tree requiring stove heat. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, a little peat, and sand.


**Sorcophalus.** (From soros, a heap, and kephala, a head; clustered head of flowers. Nat. ord. Proteaceae [Proteaceae].) *Linn. 4-Tetrandria, 1-Monogynia.*


**Soro'Manes serratifolium.** See *Acrostichum serratifolium.*

**Sorrels.** These are *Oxalis acetosella,* Wood Sorrel; *Rumex acetosella,* Garden Sorrel; *R. scutatus,* French or Roman Sorrel. They thrive best in any light, rich garden soil.

The Rumexes are propagated by seed, and all of them by parting the roots, both which modes may be practised from the middle of February until the same period in May, and by parting the roots in September and October. Sow in drills, 6 or 8 inches apart, and ½ inch in depth. When 2 or 3 inches high, the seedlings should be thinned to 3 or 4 inches apart. In September or October, or in the March and April of the next year, they may be removed into their final stations, in rows 12 inches apart each way, or, if the French, 18 inches.

When divisions of the root are employed, they must be
The general method of forming drills for the reception of seeds is with a common drawing-hoe, sometimes with a large hoe, and sometimes a middling or small hoe, according to the size of the drill required, and the size and nature of the seeds. Large seeds, such as peas, kidney beans, many of the nut kinds, and other large seeds, both of trees, shrubs, and herbaceous plants, require a deep angular drill, drawn with the corner of the hoe, turning the face or edge close to the line, and drawing the drill along with the hoe, bottom deep or shallow required, the earth remaining close along the side of the drill, ready for turning in again over the seeds; but where flat or shallow drills are required for smaller seeds, it may, in many cases, be more desirable to draw the drill with the hoe flatwise, holding the edge in a horizontal position.

Bedding-in Sowings.—In this method, the ground being dug and formed in 4 or 5 feet wide beds, with alleys a spade width or more between bed and bed, and the earth being drawn off the top of the bed with a rake or spade ½ inch or 1 inch deep into the alleys, the seed is then sown; and if the surface of the bed be covered with dryish soil, thus done, the earth in the alleys is immediately drawn or cast over the bed, again covering the seeds the same depth, and the surface is raked smooth.

The method of bedding in or sowing is sometimes practised for very small or light seeds of a more delicate nature, that require a very light covering of earth when sown. In order to bury them as shallow as possible, the method is by sifting fine earth over them out of a wire sieve.

SOY. See Glycerine Soja.

SOYMIDE. (Evidently a native name. Nat. ord. Meliaceae.)

Stove evergreen tree. Cuttings of half-ripe wood in sand, in a close frame, with bottom heat. Fibrous root and seed.

S. febrifuga (fever-conquering). 60. White, yellow. E. Ind. 1796.

SPADE. This most important of the gardener’s tools varies in its form and size. The Common Digging Spade is of the largest size, being generally from 14 to 16 inches long in the plate, and 9 or 10 broad, narrowing half an inch at the bottom. The Digging Spade is about a foot long in the plate, and 7 or 8 inches broad, and is useful in digging any narrow compartments and between rows of small plants; also in flower-beds and borders, and in stirring up and fresh adorning them. Spades occasionally between close-planted plants of long standing; planting and transplanting many sorts, both in the ground and in the pots.

The shallow Spade.—Size 10 or 12 inches long in the plate, and 4 or 6 wide. It is convenient in pointing-up or slight digging, and fresh earthing the surface between close rows of small plants, in beds and borders, &c., where neither of the two former spades can be readily introduced; likewise in planting and potting small sorts of plants, taking up small roots, and for other light purposes. Proper garden spaces have the plate wholly of iron, not above 3 inch thick upwards, growing gradually thinner from the middle downward. The digging Spade is therefore generally of ash, about 2½ feet long and 1½ inch thick, with a firm, open handle at top, formed out of the solid wood, fastened to a handle of good manure. Of such a Spade, to admit of taking ready hold, one hand at top and the other below, and with an iron rivet through it to prevent its splitting, Semi-circular or Scooped Spade has the plate made semi-circular, like a garden trowel, and is very useful in taking up plants, or bringing out of the earth, to preserve them more firmly about the roots.

SPADO STYLES. (Derivation not explained. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-4, Decandria, 1-Monoecy. Referred to Pulmonata.)

S. Sirberi (Sieber’s). See Pulmonata Eucila.

SPANISH BLUEBELL. Scilla hispanica.

SPANISH BROOM. Spa'tium ju'ncceum.

SPANISH CHESTNUT. Casta'nea sat'iva.

SPANISH GARLIC. See Rocambole.
LIQUORICE (Glycyrrhiza glabra). Plants of the family Leguminosae (Fabaceae). Uses and Cultivation. The root of Glycyrrhiza is known as liquorice, a valuable medicine, particularly for the treatment of digestive disorders. It has a sweetening effect, hence its use in the food industry.

SPANISH LIQUORICE. Tilia nisii unseis des. Plants of the family Tiliaceae. Uses and Cultivation. The heartwood of Tilia is known as Spanish liquorice, a source of a sweet-tasting extract.

SPANISH OYSTER PLANT. Scophyllum hispanicum. Plants of the family Amaryllidaceae. Uses and Cultivation. The bulb of Scophyllum is known as the Spanish oyster plant, used for its tuberous root.

SPANISH VIFER'S GRASS. Scorzoner a hisp a nica. Plants of the family Iridaceae. Uses and Cultivation. The root of Scorzoner a is known as Spanish vifer's grass, used in traditional medicine.

SPARA XIS. (From sparax, to tear; lacerated plants. Nat. ord. Iris [Iridaceae]. Linn. 3-Triandra, 1-Monogynia. Allied to Ixia.)

S. anemonifo'ra (Anemone-flowered). See IXIA ANEMONE-FLORA.

b'color (two-coloured). See SYNNOTIA BICOLOR.

bla'nda (pleasing). See S. TRICOLOR BLANDA.


bra'gra.ns (sweet-scented). See IXIA FRAGRANTS.


Li'tia'go (lily-flowered). See S. GRANDIFLORA LILIAGO.

line'a (pink-lined). See S. GRANDIFLORA LINAETA.

pe' icul'chera (faint). See DIERA PULCHERRIMA.

pul' che'rma (faint). See DIERA PULCHERRIMA.

stella'ris (starry). See S. GRANDIFLORA STELLARIS.


bla'nda (pleasing). White, pink, yellow. May. 1811.

Griffit'his (Griffin's). Yellow, violet-purple. April. 1811.

see-sa'tha (red and white). See S. TRICOLOR BLANDA.


viola ce'o-purpu'rea (violet-purple). See S. TRI- COLOR GRIFFINII.

veri'color (parti-coloured). See S. TRICOLOR VERI-

COLO.

Wa'thi (Watt's). See SYNNOTIA VARIEGATA.

SPARMA'NIA. (Named after A. Sparmann, a Swedish botanist. Nat. ord. Lindenbooms [Tiliaceae]. Linn. 13-Polyandria, 1-Monogynia.)

Flowers large, the spathes shrubs. Cuttings of young shoots in April; root, and a little pot. Winter temp. 38° to 48°.


flor'a ple'no (double-flowered). Flowers double. 1831.


SPART'IINA. Prairie Grass. (From spartina, a cord; the leaves being used to make cords. Nat. ord. Gramineae.)

S. cynosu'ros des an'v-ro-margina'la (golden-margined). See S. POLYSTACHYA AUBO-ACOR-MARGINATA.


Schreber' (Schreber's). See S. POLYSTACHYA.

str'i'ets (erect). 1-3. July. August. Europe (Eng-

land); N. and S. Amer. "Cord Grass."


England. 1850.

SPAR'TIUM. Spanish Broom. (From sparax, cordonage; alluding to the flexible shoots. Nat. ord. Leguminosae [Leguminosae]. Linn. 16-Monadelphia, 6-Decandra. Allied to Genista.)

Hardy deciduous, yellow-flowered shrubs. Generally by seeds, but cuttings will strike freely in summer under a hand-light; and this is the best mode for securing a particular variety. They should be planted out young, or be frequently rooted, as they make long, naked stems; common, light soil.

S. acutif'o'lium (sharp-leaved). See S. JUNCEUM.


SPARTOTO'NA MUS. (From sparti, cordage, and themmus, a shrub; its flexible shoots. Nat. ord. Ver-

bainias [Verbenaceae]. Linn. 14-Didymania, 2-Angio-
sia.)

Greenhouse evergreen shrub. Cuttings of young shoots under a bell-glass, in sandy soil; sandy, fibrous peat, and lumpy loam. Winter temp. 38° to 45°.


SPATALA'THUS. (From spatulatus, delicate, and anthos, a flower. Nat. ord. Iridaeae [Iridaceae]. Linn. 16- Monadelphia, 1-Triandria. Now referred to Romulea.) S. spec'iosus (showy). See ROMULEA MONADELPHA.

SPATAILLA. (From spatula, luxurious or lavish, in allusion to the large stigma. Nat. ord. Proteads [Pro-

teaceae]. Linn. 4-Triandria, 1-Monogynia.)

Greenhouse, purple-flowered evergreens, from South Africa, cuttings of pipe young shoots in sand under a bell-glass, and kept cool; sandy, fibrous loam, with pieces of charcoal and freestone; drainage and watering very particularly attended to. Winter temp. 38° to 45°. Pots defended from sun in summer.


cau'd'iflor'a (tailed-flowered). 2. June. 1812.

cau'da'la (tailed). See S. CAUDIFLORA.

curu'fo'lia (curved-leaved). April. 1822.

inc'u'rva (curled-in-leaved). See S. PROCERA.


n'ea' (white). 2. June. 1806.

par'is (like). June. 1821.

pedun'cula (long-flower-stalked). See S. CURY-

FOLIA.

pro' cora (tall). 23. May. 1825.


pyrami'dalis (pyramidal). See S. PARILIS.


Thunb'e'rgii (Thunberg's). 3. May. 1806.

SPATHA NTHEUM. (From spatha, a spathhe, and anthis, a flower; the flowers arise from the midrib of the spathhe. Nat. ord. Aroideae. Allied to Spatharcarpa.)

Greenhouse, purple-flowered, from South Africa, cuttings of pipe young shoots in sand under a bell-glass, and kept cool; sandy, fibrous loam, with pieces of charcoal and freestone; drainage and watering very particularly attended to. Winter temp. 38° to 45°. Pots defended from sun in summer.

S. hety'ra'num (from the Greek heta, a woman, and trum, a Roman测量器, which is the plant's name). 3. May. 1806.

SPATHE. The large bract or bracts, which enclose the flowers of Aroids, Palms, and Amaryllids before expansion. The showy part of Richardia is the spathe.

SPATHELIA. (From spatha, a spathhe, or spathhe, and anthis, a flower; the flowers arise from the midrib of the spathhe. Nat. ord. Aroideae. Allied to Spatharcarpa.)

Greenhouse, purple-flowered, from South Africa, cuttings of pipe young shoots in sand under a bell-glass, and kept cool; sandy, fibrous loam, with pieces of charcoal and freestone; drainage and watering very particularly attended to. Winter temp. 38° to 45°. Pots defended from sun in summer.

S. hety'ra'num (from the Greek heta, a woman, and trum, a Roman measurement staff). 3. May. 1806.

W. STAFF. The purple-flowered, from South Africa, cuttings of pipe young shoots in sand under a bell-glass, and kept cool; sandy, fibrous loam, with pieces of charcoal and freestone; drainage and watering very particularly attended to. Winter temp. 38° to 45°. Pots defended from sun in summer.

S. hety'ra'num (from the Greek heta, a woman, and trum, a Roman measurement staff). 3. May. 1806.

SPATHICYPRA. (From spatha, a spathhe, or spathhe, and karpos, a fruit; the spadix, or flower-stem, fruiting in the sheath. Nat. ord. Aroideae [Aroideae]. Linn. 21- Monoca, 2-Hepadna. Allied to Caladium.)

Stove herbaceous perennials. Division of the plant or tubers; loam and peat. Winter temp. 50° to 60°; summer, 60° to 85°.


SPATHYLLIUM. (From spatha, a spathhe, and phyllon, a leaf; the spateh resembles a leaf. Nat. ord. Aroideae.)

3 F


**SPAW** is the white, thready matter produced in the soil by Mushrooms, and by which they are propagated. These threads or hyphae arise from spores produced in great abundance upon the gills of the mushroom; they also constitute the vegetative part of the plant, and the portion that is made to grow in the bricks made of clay and horse manure and sold to gardeners under the name of mushroom spawn. Pieces of these bricks are inserted in beds of fermenting manure, and the mycelium or mushroomy growth and ramify in the manure for a space of six weeks, then begin to develop the fruiting part on the surface, known as the mushroom, which is the part eaten.

**SPELUMEN-VEINERS,** or Venus's Looking-glass. Nat. ord. Bellworts ([Campanulaceae]). Linn. 4-5. Different. Annuals and all others, by seeds in pans, in a bed under glass, in March and April; division of the herbaceous kinds in spring, and cuttings of young shoots under a hand-light, in a shady place, in summer; cuttings of shrubby kinds under a glass, in sandy soil, in April; sandy loam, with a little peat, or reduced dried leaf-mould, for shrubbery. Winter temp., 40° to 48°.

**GREENHOUSE EVERGREENS.**

**S. diffasca (spreading).** See **Prismatocarpus diffusus.** "fruticosus (shrubby)." See **Prismatocarpus fruticosus."**

**GREENHOUSE HARDY.**


**SPEEDWELL.** "Veronica."
SPHERANThA. (From spērra, a spire, curve, or coil, and andōs, a flower; the flowers are arranged in an erect shoot—usually fruit—old. Liiliiaceae. Allied to Convallaria or Lily of the Valley.)

Greenhouse perennial herb with thick creeping rhizomes. Divisions. Fibrous loam, leaf-mould, and sand.


SPEYNERA. (Named after M. Spener, a German botanist. Nat. ord. Malvaceae [Malvaceae]. Linn. 8-Octandria, r-Monogynia. Now referred to Acotis.)

Stove evergreens. Seeds, and cuttings of the young shoots in sand, under a bell-glass, and in heat; sandy loam, and fibrous loam. Winter temp. 50° to 60°; summer, 60° to 85°.

S. aтроsilis (brittle). See ACOTIS FRAGILIS.

S. grando'sula (glanded). See FERMA GLANDULOSUM.

S. pilfolia (hair-bearing). See ACOTIS PENDULIFOLIA (hanging-leaved). See ACOTIS PENDULIFOLIA.

SPERGULa RIA. (Like or similar to Spergula, from spargere, to scatter; in allusion to the way the seeds are scattered all over the ground. Nat. ord. Caryophyllaceae.)

Annuals of a weedy character, from which the perennial species have been separated. S. ančànis has been used for ensilage. Seeds. Ordinary soil.

S. ančànis (field). 1-3. White. All seasons. Europe (Britain).—Corn Spurrey.

S. pil'fera (hair-bearing). See SAGINa GLABRA PILIFERA.

SPERGULa RIA. (From spargere, to throw here and there, to scatter; in reference to the way the seeds get scattered all over the ground. Nat. ord. Caryophyllaceae.)

Hardy annuals. Seeds. Ordinary garden soil.


SPERMACOCE. Button Weed. (From spērra, a seed, and kokkós, a berry; the fruits break up into one-seeded berries or nuts. Nat. ord. Rubiaceae.)

Annual, or perennial herbs or subshrubs. Cutting of the perennial and subshrubs in a close, warm frame. Loam, leaf-mould, or peat sand.

S. Brü'nösis (Brown's). See NOXIA BRACHYCARPA.

S. kē'sa (hairy). See MITRARCUM VILLUM.

S. his'pida (hirsut). Tropics, Old World.

S. lasioca'rpa (hairy-leaved). See S. STRICTA.


S. sumatran'esis (Sumatra). See NOXIA SUMATRANENSIS.

SPERMACODIYON. (From spērra, a seed, and di'kton, a net; in allusion to the netted seeds. Nat. ord. Rubiaceae. Now referred to Hamiltonia.)

S. ax'ruum (azure). See HAMILTONIA SUAVEOLENS.

S. suave'olens (sweet-smelling). See HAMILTONIA SUAVEOLENS.

SPERMCI'XYRUM. (From spērra, a seed, and swōn, a razor; in allusion to the thread-like placenta running along the side of the seed. Nat. ord. Ollaceae. Now referred to Olax.)

S. sī'ti'cum (upright). See OLAX SITICATA.

SPHA CELE. (From spakhelos, a species of sage, possibly Salvia orthica. Nat. ord. Labiatae.)

Free-standing or perennial greenhouse herbs. Seeds; cuttings in sand under a bell-glass. Fibrous loam, peat, and sand.


SPHERACLEA. (From spērra, a globe, and alce'a, the Marsh Mallow; the seed-pods, or carpels, in globular heads. Nat. ord. Malvaceae [Malvaceae]. Linn. 10-Monadelphia, 8-Polyadephia. Allied to Mallow.)

Annuals, by seed in a hotbed, in April, planted out at the beginning of June; shrubs, by cuttings of young shoots in sand, or under a bell-glass, in summer; loam and peat. Winter temp. 40° to 48°.


S. car'minia'na (Cardinia). See MOHIA MULTIFLORA.


S. dec'umnens (lying-down). See MOHIA MULTIFLORA.


S. minia'ta (vermilion). See S. CICELATINA.


S. postra'la (trailing). See MOHIA MULTIFLORA.


SPHEROCO DON. (From spērra, a globe, and kedon, a bell; in allusion to the shape of the flowers. Nat. ord. Asclepiadaceae.)

A weedy, annual, or perennial subshrub. Cuttings in sand, in a close case, with bottom-heat. Fibrous loam, peat, and sand.


SPHEROCO GYNE. (From spērra, a globe, and gune, the ovary; the shape of the ovary. Nat. ord. Melastomaceae. Now referred to Toccoca.)

S. cinnamo'mea (cinnamon). See TOCCOA CINNAMOMEA.

S. ferrug'ierna (rusty). See TOCCOA FERRUGIENA.

S. imper'a'lis (imperial). See TOCCOA IMPERIALIS.

Evergreen, greenhouse shrubs. Cuttings in sand in a close frame, with bottom-heat. Fibrous loam, peat, and sand.

S. acv'mi'natum (long-pointed). See S. MEDIUM.


S. m'ki'nii (see). See S. VIMUM.


SPHEROPHY SA. (From spērra, a globe, and phœ'sa, a bladder; the pods are spherical and inflated. Nat. ord. Leguminosae.)

Hardy annual or perennial shrubbery at the base. Cuttings in sand under a land-heat. Light sandy, well-drained soil.

S. ca'pisca (Caspian). See S. SALSULA.


SPHEROPOE'TERIS. (From spērra, a globe, and pteris, a fern; the sori are globose. Nat. ord. Ferns [Filices]. Allied to Dicksonia.)

Stove or moist warm greenhouse. See Ferns for Culture.


SPHEROSTE MA. (From spērra, a globe, and stema, a stem; stamens collected into close clusters. Nat. ord. Magnoliads [Magnoliaceae]. Linn. 22-Dicén, 12-Icossandra. Now referred to Chisandra.)

S. marmora'tum (marbled). See Chisandra MARMORATA.

S. propo'teris (related). See Chisandra PROPONICIA.

SPHEROSTIGMA. (From spērra, a globe, and stigma, the female organ. Nat. ord. Onagrad (Onagraceae). Linn. 8-Octandria, r-Monogynia. Now referred to (Enothera.)

S. Chamisso'nis (Chamiso's). See GenéThera DENTATA.

S. cheiran'ho'lum (wallflower-leaved). See GenéThera CHEIRANTHIDIA.

SPHEROTHECA PANNO'SA. This is the Midew of Roses and various other woody Rosaceous plants. In the early part of the season it appears as a white or grey web upon the leaves only, as it cannot attack old wood. Later in the season it attacks the leaves, young shoots, and flowers, enveloping them with a dense white web. This is the second stage of the fungus and the more dangerous one, because the resting or winter spores are produced upon it, and are capable of setting up infection the following summer. Soft leaves like those of Rose Crismon and Queen's Alexandria, and other varieties of Rosa multiflora are much more liable to attack than those having harder and more leathery leaves. The first stage of the fungus is easily destroyed by dusting the leaves with flowers of sulphur, but the second can only be destroyed by sulphide of potassium, one ounce to three to five gallons of water, the weaker solutions to be used when the leaves are young and tender. The fungicide can be made to adhere to the foliage longer by mixing with it a tablespoonful of liquid glue or the white of two eggs.

SPHIA GNUM. This is a white-leaved Moss, commonly found on peat-bogs. Its botanical name is Spha'gnun cymbifo'lium and other species, Grey Bog Moss. It is an excellent material for packing plants in, being extremely retentive of moisture so much stringiness as to check decay. It is also extensively employed for potting Orchids, on account of its capability for retaining moisture, and its open, spongy character, admitting air freely to the roots of aerial and epiphytical plants.

SPEEDAMNOCA RPUS. (From spen'dammos, a maple, and karpos, a fruit; the fruits are winged like a maple. Nat. ord. Alpiglumaceae.)

A tall climbing greenhouse shrub. Cuttings of halfripe shoots, root in a loam, in gentle heat. Fibrous loam, a little peat, and sand.


SPIE'NA'DRA. (From spen, a wedge, and aner, andros, a male or anther; the shape of the anthers. Nat. ord. Scrophulariaceae.)

An annual or perennial greenhouse plant. Seeds. Loam, leaf-mould, and sand.

S. vis'co'sa (clammy). r. Violet. S. Africa. 1773.

SPHENO'GYNE. (From spen, a wedge, and desme, a truss; the flowers being produced in trusses. Nat. ord. Verbenaceae.)

A climbing stove shrub. Cuttings in sand in a close frame, with bottom heat. Fibrous loam, peat, and sand.

S. ja'ckian (Jackian). See S. PENTANDRA. "pen'ta'naire (five-anthered).

4-6. Purple and white. India; Malaya. 1823.

SPHENO'GYNE. (From spen, a wedge, and gyno, female organ; the shape of pistil. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia, 3-Fromanea. Now referred to Ursinia.)

S. abro'tani'olia (southernwood-leaved). See Ursinia abrotani'olia.

"anthemo'ides" (chamomile-like). See Ursinia ANTHE'-MOIDES.

"cristh'mio'lia" (sapphire-leaved). See Ursinia CRITHM-I'DA. "denta's (tooth-leaved). See Ursinia DENTATA.

"ficz'mia'ce'a" (fennel-leaved). See Ursinia FICIC'MI'-LACEA.

"fre'nta'ce'o'dia'ce'o'ria'ce'a" (Leucanthemum-like). See Ursinia LEUCAN'THEMIO'FLIA. "odor'a's (sweet-scented). See Ursinia odorata.

"pis'viera (hairly). See Ursinia PILIFERA.

"scari'o'sa" (membranous). See Ursinia SCARIO'SA. "ver'-rata (saw-edged). See Ursinia Vervata.

"specio'sa" (showy). See Ursinia speciosa.

SPHENOTO'MA. (From sphen'oo; to cleave, and tame, a section; limb or border of the flower deeply cut. Nat. ord. Epacrids [Epacridaceae]. Linn. 5-Pentandra, 4-Monogynia. See Dracophyllum.)

S. cap'i'tatum (head-specked). See Dracophyllum cap'i-ta'TUM.

"cap'i'tum" (head). See Dracophyllum GRACILE.

SPTIC'TAC'ATHUS. (From sptick'isis, constriiction, and Acanthus; the throat of the corolla is constricted. Nat. ord. Acanthaceae.)

A smooth, erect greenhouse subshrub. Cuttings in sand under a bell-glass. Loam, leaf-mould; and sand.


SPICE BUSH. Lindera Ben'zoin (from India.

SPIDER FLOWER. Cleo'me.

SPIDER ORCHIS. O'phrys aran'fetera.

SPIDERWORT. Tradescan'nia.


S. afr'ica'na (African). See Opfia africana.

SPIGELIA. Worm Grass. (Named after A. Spigelius, a botanist at Padua. Nat. ord. Loganiids [Loganiaceae]. Linn. 5-Penandria, 1-Monogynia.)

Annual, by seed under the usual treatment; hardy herbaceous, by seed and division of the roots; loam and peat.


SPIKENARD or NARD. Nard'o'shalbach Jatam'na'i.

SPIKENARD, PIPOUR'GIAN'S. Bo'charis.

SPILA'NTHES. Alphabet Plant. (From spila, a spot or point, and anthos, a flower; the disc is like a brown spot in some species. Nat. ord. Composita.)

Mostly annual herbs, which may be reared in heat and planted out in May. Seeds. Light, sandy loam.


SPINACH. Spin'a'cia oler'a'ce'a.

There are the Round-leaved, or Smooth-seeded, and the Triangular-leaved or Frilly-seeded. The finest being the most succulent, is employed for the spring and summer crops, and the latter for autumn and winter. The Lettuce-leaved and the Flanders are hardy for a winter crop, the latter for the hot weather. But.

For the round-leaved variety, a rich, light, moist loam, in an open situation, is preferable; but for the triangular-leaved, and other winter varieties, a light, moderately fertile, and dry border. The earth should always be well pulverized at the time of digging, and the soil for the summer crops cannot be too rich. Liquid manure is highly beneficial to them, and when made of blood and the most fertilising matters, the greater the benefit.

Sow the round-leaved variety at the close of January in a warm situation, to be repeated in larger, but still small, smalls, at the commencement and end of February. It should be coin sowed the middle of April, when it must be performed once a week until the close of May, and then once a fortnight till the end of July. In August sow at intervals of three weeks until the early part of September. Sow thinly in drills, six inches apart, in which deep loam and a foot apart. The sowings should be in showery weather, otherwise an occasional watering must be given; for if there is a deficiency of moisture during the first stages of vegetation, not half of the seedlings will come up. The triangular-leaved plants must be thinned to 4 or 5 inches apart, and the round-leaved to 8. Thin by degrees, separating them at first only an inch or two, as the plants of the several thinnings are fit for use. The thinning ought to be continued when they have attained four leaves about an inch in breadth. Regular gathering promotes the health of the plants. The outer leaves only should be gathered at a
time, the centre being left uninjured, to produce successive crops. This direction applies chiefly to the winter-standing crops; those of the summer may be cut off close to the root.

To obtain Seed.—A sowing of each variety may be made in February or March, according to the openness of the season; or, of the round-leaved variety, some plants of a regular crop may be allowed to run up in April or May; and of the triangular-leaved, some plants of the winter-standing crops may be transplanted in March. Set them 12 inches apart. Spinach is diocious, and many ignorant persons, perceiving some of the plants to have no appearance of bearing seed, advise these to be pulled up; but they are the male-bearing plants, without which the others would be unfruitful. If, however, they are removed, some of them may be removed with benefit to those that remain, care being taken that some are left in every part of the bed. When the seed is set the male plants may be entirely removed. When the seed is ripe in July or August, the plants ought to be pulled up, and laid to dry thoroughly on a cloth, previously to its being beaten out and stored.

SPINACH, MOUNTAIN, or GARDEN ORACHE. *A'tri'plex hort'nis.*

SPINACH, NEW ZEALAND. See TETRAG*ONIA ex'pa'sa.*

SPINACH, WILD, or GOOD HENRY. Chenopodium Bo'nus-Henricus.

SPIN'cia. Spinach. (From spina, a prickle; seeds prickly. Nat. ord. Chenopodiaceae. Linn. 22-Direc'tia, 6-Pentandria.)

Hardy, green-berried annual. See Spinach.


SPIN'DLE-TREE. Eu'yon'mus.

SPINO VITIS DAV'DI. See Vi'tis vin'fe ra DAY'DI.

SPIR'A. (From spirea, anything wreathed; the flowering branches used in garlands. Nat. ord. Ros'e'wyts [Rosaceae]. Linn. 12-Losandria, 2-Di-pentad'gia.)

All white-flowered, except where otherwise mentioned. Herbaceous and tuberous, by division of the plant in spring; shrubs, by cuttings, layers, and suckers; good garden-soil.

HARDY TUBEROUS-ROOTED.

S. Fil'ts'adu'a (thread-hanging). 2. September. Europe (Britain). " Dropwort!"

" flo're ple'no (double-flowered). Double.


HARDY HERBACEOUS.


" Goat's Beard."


" Nen'ki (Kneifi). Leaflets cut into narrow segmen'ts.

" pi'mus' o (plumy). 3. Panicle of flowers 2 ft. long. 1907.


" bar'ta'sa. See Steh'ble Kivuli'aris.


" ki'vuni (hand-leaved). See S. cam'tschatica ro'se'a.

" ki'ma' he'ls (Himalayan). See S. ves'tita.

" ro'ssa (roy). 4-7. Rose. 1907.

" denu'da la (naked). See S. Ul'maria.


" gi'gi'ta (gigant). See S. cam'tschatica.

" hpi'na (Japanese) of Makoy. See Astil'be japo'ni'ca.

" kamts'tcha'ica (Kamtschatkan). See S. cam'tschatica.


" o'diens (whitish). Pale rose. Seedling.


" a'a 'iba (white). 2. White. 1884.

" e'legans (elegant). 2. White, with red anthers. 1878.


" rotun'difo'lia (round-leaved), June. Cashmere. 1840.

" tri'folia (three-leaved). See GILLENIA tri'foliata.


" va'riga la (variegated) 2. July. Britain.


" phy'lalla'na (leafy). June.

" venu'sa (lovely). See S. lobata.


HARDY DECIDUOUS SHRUBS.


" am'se'ru'na (Amur). See NEILLIA am'ru'na.


" arge'nis er'ica'na (Beurrey) 2-4. April. Garden origin.

" ar'zia'fo'lia (white-beam-leaved). See S. dis'co lor.


" Boursie'ri (Bourrier's). See S. dis'co lor dum'o'a.

" brach'ybr'o'ys (short-bunched). 3-5. June. (S. can'e' nes' x Dous'ai) Gardens.


" Buma'la (Bumalda). See S. JAPONICA BUMALDA.

" rub'ia trima (reddest). See S. JAPONICA RUPE'RIBBIA.

" ca'ria'la (tufted). Rocky Mountains.

" ca'la'la (beautiful). See S. JAPONICA.


" flo're ple'no (double-flowered). Flowers double.

" crip'si'fo'lia (crisp-leaved). See NEILLIA OLDROSA.

" crip'si'fo'lia (Ceanothus-leaved). See S. Cory'mbo'sa.


" Jabo'be n'si (Jacobson's).

" me'da (intermediate). See S. me'dia.

" oblong'i'o'lia (oblong-leaved). See S. me'dia.

" sub'ra'cras (sub-racemose) 2. June.

" ul'mio'fo'lia (elm-leaved). See S. CAME'DRIFOLIA.

" ch'ne'si (Chinese). See S. DASYAN'THA.

" confu'sa (confused). See S. me'dia.


" crape'te'go'lio'lia (Crategus-leaved). See S. Cory'mbo'sa.


" cras'ti'fo'lia (crisp-leaved). See S. CAME' DRIFOLIA.

" cras'ti'fo'lia (crisp-leaved). See S. BULLATA.

" cune'fo'lia (kneifii). See S. CAME' DRIFOLIA.


" to'men'o'sa (felled). 1-14. June to August.

" Tyrol, &c.


" ario'fo'lia (Aria-leaved). See S. dis'co lor.
July, California. 1859.


Dumosa (bushy). See S. DISCOLOR DUMOSA.

1846.

Flagella (whip-line). See S. HYPERICIFOLIA.

Flexuosa (zigzag). See S. CHAMERDIFOLIA FLEXUOSA.

Fortuni (Fortune's). See S. JAPONICA.

Gemmata (budded). China.

1820.

Grandiflora (large-flowered). See EXCORDA GRANDIFLORA.

Hacquetia (Hacquet's). See S. DECUMENSTEMENTOSA.

1903.

Hypericifolia (Hypericum-leaved). 5. April. N.
Amer. 1840.

Acuta (acute). See S. ACUTIFOLIA. 1790.

Besseriana (Besserian). See S. CRENATA.

Crenata (crenate). See S. CRENATA.


Phalera der (Thalictrum-like). See S. HYPERICIFOLIA.

Incita (cut). See S. CHAMERDIFOLIA.

Japo nica (Japanese). 2-6. Rose. June. India


Praebelii (Praebel's).


Macrophylla (large-leaved). 4-6. Leaves large.

Rubra (red). 2-4. Dark red. 1821.


Splendens (Splendid). 2-5. Peach-coloured.


Lancolata (spear-head-leaved). See S. CANTONIENSIS.

Lizarda (loose-flowered). See S. VACCINIIFOLIA.

laya. 1845.


Medi (intermediate). 11-4. June. Europe; N.
Asia. 1816.

Blabre sens (smooth).

Rotundifolia (round-leaved). See S. BRACATEA.

N.W. Amer.

Angustifolia (narrow-leaved).

Billiardii (Billiard's).

Est mia (choice).

Lennea (Lennan).

Macrothyrsa (large-thyrsed).

Ovalifolia (oval-leaved).

Pse udood-Do ugha sii (false-Doughla's).

Trisphalps (triumphant).


Mongolica (Mongolian). Mongolia.

Nobiliana (Noblean). Purplish-red. August. Cali-
fornia. 1859.

Obouata (reversed-egg-leaved). See S. HYPERICIFOLIA.

Ophulloidea (gold-rose-leaved). See Neillia opul-
ifolia.


Packowiess (Pickow).


Prunifolia (plum-leaved). 4-6. March. China and
Japan.

Robe'le (double-flowered). 4-6. Double.
China.

Pucte' scense (downy) of Lindley.


1843.

1909.

Retusa (Reesian). See S. CANTONIENSIS.

Rhamnifolia (Rhamnus-leaved). See S. VACCINIIFOLIA.

(Britain). Asia.


" martarifera (pear-bearing). See S. esmeralda.

" metallica (metallic). Brazil and Guiana.


Trop. Amer. 1826.


" grandiflora (large-flowered). See S. grandiflora.

" variegata (variegated). White. Leaves variegated.


" romanzofiana (Romanzovian). 1-1. White. August.

Ireland and N. Amer.


" Smilace (Smith's). Yellow and green. Costa Rica and Central Amer. 1866.


SPIRE LILY. Goliathia caesidians.

SPIROCO NUS. See Trichodesma.

SPIRONE MA. (From *spira*; spiral. and *mna*; a filament; stamens spiral. Nat. ord. *Spiderwoods* [Comrnellaceous]. Linn. 6-Hexandra, 1-Monogynia. Allied to Tradescantia.

Greenhouse herbaceous. Seeds, and division of the roots; sandy, fibrous peat and loam. Winter temp., 45° to 55°; summer, 60° to 80°.


SPLEENWORT. Asple'num.

SPONDILAS. Hog Plum. (The ancient name of a wild Plum; resemblance of fruit. Nat. ord. Anacard ['Anacardiaceae]. Linn. 10-Decandra, 4-Pentagynia.) Stove evergreen trees. Cuttings of half-ripened shoots in sand, under a bell-glass, in heat, in May or June; loam and peat. Winter temp., 50° to 55°; summer, 60° to 80°.


" arcella (axillary). See S. trid gloss.


" Moebius (Mombin). See S. lutea.

" Moebius (Mombin). See S. purpurea.

" myrhabo'nu{s (Myrobalan-like). See S. lutea.

" pleiosy'gyme (full-ovariated). Australia.


" sola'ndri (Solander's). Australia.

" tubero'sa (tuberous). Brazil. "Burdekin Plum."

SPONGE TREE. Aca'aia farne'siana.

SPONGIOUS OR SPORE CASES. The cases on the back of a fern, and in the axis of the upper leaves or bracts of a Selaginella and allied flowerless plants, which contain the small bodies known as spores. These sporangia or spore-cases are produced in round clusters on the back of the fronds of Polypondium, but in Asplenium the sori or spore clusters are linear, and covered with an indusium or cover.

SPORANGIUM. The cases on the back of a fern, and in the axis of the upper leaves or bracts of a Selaginella and allied flowerless plants, which contain the small bodies known as spores. These sporangia or spore-cases are produced in round clusters on the back of the fronds of Polypondium, but in Asplenium the sori or spore clusters are linear, and covered with an indusium or cover.

SPORIFIC. The small dust-like bodies of ferns and other flowerless plants, that correspond to seeds in flowering plants, and serve for reproducing them. They are produced inside the sporangia or sporangia above mentioned.

SPREGTL. (The term whereby gardeners describe any deviation from the usual form or colours of a plant or flower.

SPHT, a disease occurring on the leaves of the pelargonium, is very gangrenous, occasioned by an irregularity in the supply of moisture and vicissitudes of temperature, but especially if one of the extremes is much below the degree of heat most favourable to the healthy growth of this plant. The reason of this is very obvious. If a pelargonium, or any other plant, be placed in a highly stimulating heat, and is abundantly supplied with root moisture, it immediately increases its surface of leaf to elaborate and digest the large amount of sap forwarded from the roots. If this amount of sap is subsequently suddenly reduced, by lowering the temperature and adding water to the soil less freely, the increased surface of leaf is no longer required, and it is a law pervading all the vegetable creation that the moment any one of the parts of a plant is unnecessary to it, immediately that part begins to decay.

SPRAGUE. (Commemorative of Isaac Sprague, a botanical draughtsman of America. Nat. ord. Por-tulaceae.)

A hardy perennial herb, suitable for the rockery. Seeds; cuttings in a cold frame. Light, well-drained soil.


SPREAD EAGLE. One'dium eartha'gine.

SPREKELNA. (Named after Dr. Sprekel, a German botanist. Nat. ord. Amar'lilis [Amaryllidaceae]. Linn. 6-Hexandra, 1-Monogynia.) This is the name for the old *Amaryllis formosissima*, or Jacobsa Lily, not by Dr. Herbert, but by Heister, a German botanist; and Dr. H. had some doubts latterly of its correctness. Stove bulbs. For culture, see Hippeastrum.


" ri'gens (gaping). See S. formosissima.

" glauca. (milky-green). See S. formosissima GLAUC.

SPRENHEL. (Named after C. Sprengel, naturalist. Nat. ord. Epa'cridis [Epaerdemaceae]. Linn. 5-Pentandra, 1-Monogynia.)

Greenhouse evergreen. Cuttings of short young shoots, a little firm at the base, in sand, under a bell-glass, in spring and early summer. Winter temp., 35° to 45°.

S. Andersoni (Anderson's). See Andersonia SPRENGELLODES.

" impura (fresh-coloured). 2. Flesh. May. N.S.

Wales. 1793.

" Ponceletia (Ponceletia). 1. Scarlet. May. N.S.

Wales. 1826.

SPRING BEETLES. A name applied to the Elaterides, a group of beetles, many of which are known as skipjacks, soldiers, and sailors. In the larva stage they are known as wireworms, and are very destructive to plants. See Wireworms.

SPRING BELL. Sicily'ri'chium grandiflorum.

SPRING GRASS. Anthoxa'num odor'atum.

SPRING SNOWFLAKE. Leuco'tum v'ellum

SPRUCE FIR. Picea excelsa and other species.

SPURCE GALL. See Insect Pests.

SPUR. A market name for the smallest sprouts of Asparagus.

SPURGE FLAX. Da'phne Mex'ica.

SPURGE LAUREL. Da'phne Lau'rela.

SPURGE NETTLE. Jatropha u'rens.
OLIVE

Scarlet.
S.
bottom-heat
brown.
Elate'.rium.
EVERGREENS.
(small-shrubby).
July.
June
spuridos,
sandy,
Yellow.
the
of
Nepaul.
Purple.
&c.
1793.
2-Diandria,
i.
Nat.
their
Purple.
S.
white).
Purple.
Vervain.
white.
August.
sulphur;
shrubs,
Hedge
ij.
and
Armenia
i.
(Balbis's).
Sci'lla.
in
not
and
Caucasus.
June
Yellow.
a
cuttings
of
S.
grandidenta'
Europe
sand,
ij.
Hedge
S.
1-2.
See
August.
S.
culture.
evergreens,
perennials,
and
(hairy).
(bristly),
See
Purple.
(clammy).
a
spuris,
pubes'cens
July.
buds
hand-light,
Bro'mus
July
stachus,
(Mint-leaved).
Staaf,
July.
(From
Artichoke."
See
August.
r.
seeds
Muta'bilis
1823.
1798.
1800.
Cuttings
GRASS.
(lavender-
Tubers
regions
(white).
Pale
(scarlet).
July.
LOPHANTHS;
See
scilloi'des.
pit
Africa.
Purple.
(woary).
Linnaeus.
GARDOQUIA
S.
-Africa.
lip
July
Europe.
S.
by
See
See
sand,
See
to
division
very
(hair-inged-leaved)
July
Melope'po.
Syria.
Europe
to
Greece.
few
(showy).
6.
fibrous
ta
globulo'sum
SIEBOLDII.
(rough).
See~1SPHACELE
glutino'sa
(large-flowered).
Yellow.
1-3.
greenhouse
tender
OLIVE.
mode
July.
shoots
There
ru'bra
i.
1820.
summer,
1818.
region.
CHRYS-
(Sendtner's).
Morocco.
cuttings
the
shrub.
stove
hedera'cea.
Linn.
STACHYTARPHETA
(wood).
1804.
Pink.
Winter
3-4.
tender
but
side-shoots,
purple.
1910.
seri'ceji
(fennel-scented).
(wrinkly).
flowering.
require
South
38
(Sideritis).
Britain.
sand,
greenhouse
(annual),
(alpine).
eta
cilia'ta
(Palestine),
i.
flowering.
(Downy).
Leaves
in
relation
July.


" chrys'a nica (golden-flowered). See S. CHRYS-
" citri'na (citron). 1. Sulphur-yellow. Leaves woolly
Asia Minor. 1906.
" co'rusica (Corsican). 1-4. Straw; lip purple. July. Corsica. 1823. Reintroduced 1910. Half-
" densifo'ra (dense-flowered), 1-11 Flesh to purple.
June. S. Europe. 1710.
" di'color, (two-coloured). Caucasus.
" Farn's culum (fennel-scented). See LOPHANTHUS
ANISATUS.
Germany. 1826.
" glutino'sa (clammy). 1. Purple. June. Mediter-
aneous region. 1729.
" gra'cia (Grecian). Greece.
" grandidenta'la (large-toothed). 1-3. Violet. June
to September. Chile.
Asia Minor. 1800.
" robu'sta (robust). 1. Pink. June to August.
July.
" hinea'la (hairy). See S. DENSIFLORA.
" hybol'enca (white-beneath). See S. SPECTACULI-
" inca'nla (hoary). See S. SPECTIFLORA.
" infa'la (infated). 11. Red. July. Persia; Meso-

" officina'lis (shop). See S. BETONICA.
1782.
" lana'callafo'lia (lavrader-leaved), Caucasus; Asia
Minor.
" longifo'lia (long-leaved). Caucasus.
1820.
" mac'nea (Mawean). Pale sulphur; lip spotted with
purple. Morocco. 1878.
1838.
" officina'lis (shop). See S. BETONICA.
Levant. 1737.
" pan'ana (painted). See SIDERITIS LANATA.
1816.
" ru'bra (red). See S. ARENA'RIA.
" Sal'ioo (Salvia-like). See SPACHELE LINDLEYI.
" salvof'o'lia (Salvia-leaved). See S. ITALICA.
" sta'ria'ca (M. Scardus). See S. GRECA.
" Sendlu'nri (Sendtnr's). Europe. 1887.
" ser'o'na (late-flowering). See S. BETONICA.
1827.
" Sideri'tis (Sideritis). See S. REXTA.
" spe'cia'bilis (showy). See GARDOQUIA ELIPTICA.
" spe'cia'bilis (showy). Armenia; Persia.
" stii'cla (upright). See S. BETONICA.
" syl'i'ca (lota). 2. Purple, spotted. Europe (Britain).
(Hand)." Tube edible.
" tubus'ica (tuber-bearing). See S. BETONICA.

S. Stachytarphe'ta. Bastard Vervain. (From stac'us, a spike, and tar'pethos, dense; mode of flowering.
Nat. ord. Verbenae [Verbenaceae]. Linn. 2-Diandria,
1-Monogynia. Allied to Verbena.)
Annuals and biennials treat as tender stove annuals;
perennials, by division; shrubs, by cuttings under a
bell-glass, in sand, and in bottom-heat; sandy loam
and leaf-mould. Winter temp. 50° to 60°; summer, 60°
to 85°. Mutab'ilis is very interesting.
STACHYRUS 825

STOKE EVERGREENS.

S. arista'la (awned-broctaf). See S. ORUBICA.

bi'color (two-coloured). Blue, white. Brazil. 1865.


deme'sis (Cayenne). See S. CAJANENIS.


hi'ria (hair). See S. CAJANENIS.


STOKE BIENNIALS.


jamaica'nis (Jamaica). See S. DICHTOMA.


prisma'tica (prismatic). See BOUCHEA EHERNBERGI.

umbro'sa (shady). See S. DICHTOMA.

cayenn'i (Cayenne). See S. MUTABILIS.

STACHYRUS (From stachus, a spike, and ova, a tail. Nat. ord. Tar'nstrom'idae [Ternstromiaceae]. Linn. 5-Pentandria, 1-Monogynia.)


STACKHOUSIA. (Named after Mr. Stackhouse, a British botanist. Nat. ord. Stack'houssiaae [Stackhouseaceae]. Linn. 5-Pentandria, 3-Trigynia.)

Australian plants. Perennial, by division of the plant in spring; shrubs, by cuttings in sand, under a bell-glass, in summer; by cuttings, 15° to 45°. S. iwarai'ata (flax-leaved). See S. MONOGYNA.


STADMANNIA. (Commemorative of the botanical traveller, M. Stadmann, Nat. ord. Sapindaceae.)

Stove evergreen trees. Cuttings in sand in a close frame, with bottom-heat. Fibrous loam, peat, and sand. S. am'bi'lis (lovely). Zanzibar. 1875.

au'rea (southern). See MELICCOCA AUSTRALIS.

norori'lia (South-see, Brazil). 1825.

STELHENIA. (Named after B. Stelahin, a Swiss botanist. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 1-Egalibus. Allied to Arctium.)


Chamaepechez (ground-pine-leaved). See CHICUS.

Chamae-pe'seu.


elegans (elegant). See LITRIS ELEGANS.

gnaphali'o'des (Gnaphalium-like). See HELI PERUM GNAPHALIOIDES.

STAFF-TREE. Cela's strus.

STAG BEETLE. Lucas'us cer'vus.

STANDARD. A tree unsupported by a wall or trellis. Full Standards are such trees as are trained with tall, straight stems, 6 or 7 feet high, clear of branches, and are then pruned to branch out. Half Standards are trees trained with short stems only 2 or 3 feet high, then pruned to branch out at that height to form heads; having low heads the fruit is more easily gathered. Cones of dwarfs have the middle hollow, and the branches all round in a circle. Horizontal dwarfs have the branches extended all round in a flat or horizontal position, but the conical dwarf is to be preferred.

STANGERIA. (Commemorative of Dr. Stanger, of Natal. Nat. ord. Cycadaceae.)

Evergreen stove plants, allied to Zamia, with forked veins as in ferns. Imported rootstocks; offsets may possibly be rooted like cuttings. Fibrous loam, peat, and old mortar.

S. kat'eri (Katzer's). S. Africa. 1874.


Stove orchids, grown in pots. See Orchids.

S. ame'si'na (Amesian). See S. LOWI.

aur'a'nis (orange-coloured). See S. BUCEFALUS.

au'rea (golden). See S. WARDII.

bar'kii (Cayenne). Yellow, brown. July, Mexico. 1823.


gutta'la (spotted). Apricot, spotted with brown.

kai'roi (Rozzi's). Yellow, brown. Nicaragua. 1874.


conna'losa (conrate). Peru. 1833.

cow'olos (Cayenne). 1. Ivory-white, lip buff, orange. Colombia. 1900.


cymbi'iola (boat-formed). Peru. 1825.

delto'dea (deltoid). Pale yellow, spotted crimson; lip orange, brown. Mexico. 1862.


speci'bis (showy). Straw, white, spotted crimson. Venezuela. 1868.


expa'sa (expanded). See S. TIGRINA.

flori'ala (flowery). White, dotted with purple. Mexico. 1879.

freg'e na (Fregen). Mexico. 1855.

fu'resen'bia (Baroness Fuerstenberg's). White; lip blotched crimson at base. 1893.


gro'colens (strong-scented). Straw, May, Peru. 1843.

auri'ola (careed). Dark apricot.

li'eti'za (Lieteez's). Yellow; lip with red band. Brazil. 1873.


Harris'ia na (Mrs. Harrisson's). See BIFRENARIA.

hassel'vis (Hasselovian). Peru.

impre'ss (marked). 1. Buff yellow, spotted purple; lip with orange blotch. Western Andes. 1868.


ame'si'na (lovely). Rich yellow, dull red, rose.


a'uro purpu'rea (dark purple). White, purple. September. Brazil. 1873.

fl'a (yellow). Yellow, purple. September. Brazil. 1834.

ma'jor (larger). Yellow, purple, September. Brazil. 1879.

obsu're (obscure). White, purple. September. Brazil. 1840.

pa'lida (pale). White, red. September. Brazil. 1819.
S. tenischia'na (Jenischian). See S. Bucephalus.

Yellow, 
Purple-red, 1852.
S. cactifo'rmis PICTA. Blackish-
rose; of evergreens, (depressed).

October. vegetable June. 1843.
See pinnati'fida DEVONIENSIS. at depre'ssa HUERNIA

July. (angled). Green, (Duke flowered).

Yellow-striped. (Von purple. (shield-like).

floerved). cow-dung

and See (Corderoy's).

shoots

of See in (pretty).

DIPLOCYATHA (Langlassean). after

OCULATA conspurca'ta (four-horned).

September. Creamy

i.

Yellow,

S. dark

S. White,

Orco'tnia

2. Nat.

S. White,

or purple.

ochre,

(Arnot's).

1873. (dark-blood-red).

split-beaked).

i.

to

white, rose.

bell-shaped).

1898. (compact).

Brown.

GLANDULIFLORA, like-leaved),

lined

June.

July. (pointed-leaved).

1868. Whitish

Yellow.

Asclepiads

S.

S.

S.

White,

See

1843. Whited.

1906.

lute'scens

June.

colour.

in (handsome).

yellow.

red-brown.

SACCATA.

tricn'rnis (crisped).

Yellow, (browned).

pa'llida (pale).

August.

in

S.

horned).

White,

See

1889.

Dark

August.

1905.

li.

Yellow,

(yellow-tufted),

tufted).

(dotted

See

cri'spa

See

(Arnot's).

and

cell's

lip

sple'ndens

STAPELIA

petals

1894.

See

manure

i.

at

June.

1862.

PIARANTHUS^.

1838.

the

adorned).

and

Violet.

Andes

i.

Yellow,

(handsome).

Flowers

Derby.

August.

purple.

lip

sple'ndens

STAPELIA

1877.

1893.

Yellow,

1894.

See

1835-

Europe.

July.

(Tiger-yellow).

1894.

See

1877.

1877.

Long before 1877.

and See (Beaufonian).

See S. variegata BUNIFIA.

bell'a (pretty). 5. Deep purple or brown, fringed with
trembling hairs. 1902.


5-Pentandna,
ing

temp.,

when

moisture,

botanist.

STANHOPEASTRUM

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glomerata (crowded). See Duvalia glomerata.

gordii (Gordonia). See Gordonia grandiflora.


S. japonica (Gussone’s). See Boucerea gussoniana.


hirikit (rather hairy). See Duvalia hirtella.

hispida (hairy). See Duvalia hystrix.

irora’s (beaked). Yellow, red, purple. October.

S. pulchra (beautiful). See S. hirsuta.


reclinata (lying-down). See Duvalia hirtella.


reticulata (netted). See Duvalia hirtella.


S. salmiana (Salmian gardens.

S. sanguissea (blood-red) of gardens.

S. scutella (little-shield). See S. trifolulca.

S. scylla (Seyylla). Spots in longitudinal stripes. 1894.


S. stellata (sister). See S. tubata.

S. uncinata (hooked). S. Africa.

S. angustifolia (clawed-petaled). 1. Rich purple-brown, with yellow lines. 1877.

S. atropurpurea (badly striped) brown.

S. variabilis (variable). Yellow, red, June, 1823.

S. variegata (variegated). Yellow-striped. August, 1727.


S. Curtisii (Curtis’s).

S. cvu'vii'ata (lovely). See Huernia venusta.

S. verrucosa (red). Sulphur-yellow, with dark purple spots.


Staphylea A. Bladder-Nut. (From staphyle, a bunch; flowers in clusters.) Bladder-Nuts (Sapindaceae). Linn. 5. Pentandria, 3. Trigynia.

Hardy, white-flowered, deciduous shrubs. Seeds sown where ripe, remaining a year or more in the soil; cutting in September. Seeds should be sown in any light soil. Occidentalis requires a hothouse, but it scarcely deserves one; pinna’sa is singular from its large bladder-capsules.

S. Bolanderi (Bolander’s). California. 1883.

Buma’lda (Bumaldan). June, Japan. 1804.


H. Hessei (Hesse’s). Bright rose, 1900.


Central China. 1895.

S. holocarpa (pod-fruited). See S. holocarpa.

S. occidentalis (western). See Turpinia occidentalis.


“St. Anthony’s Nut.”


American Bladder-nut.”

Star Apple. Chrysophyllum Caini’ta.

Star Fish. Staphe’la Ast’rias.

Star Flower. As’ter.

Star Grass. Al’de iris farinosa.

Star Head. Asteroc’thalus, a section of Scabiosa.

Star Hyacinth. Sel’lia ame’t na.

Star of Bethlehem. Ornitho’gadum umbel’la’um.

Star. Sea. As’ter Trip’lisvin.

Star Thistle. Centaur’ea Cale’s tra’pa.

Stapelia. As’ter.
STARTING. A term used to designate the hastening or the commencement of growth, either in a seed or plant, by submitting it to artificial heat.

STATICE. Sea Lavender. (From sthito, to stop;) the powerful medical astringency of some of the species. Nat. ord. Limoniaceae (Plumbaginaceae). Linn. 5-Pentandria, 6-Polyandria.)

Hardy perennials, by division and seeds, and tender species by similar means, and also by cuttings; those requiring a cold pit and greenhouse flourish best in sandy, fibrous loam and a little peat, also good and fibrous.

GREENHOUSE EVERGREENS.
S. arbo'rea (tree). See S. fruticans.

'Bourga' (Bourge's), 1. Purple, white. August. Canaries, 1812.


cras'sifolia (thick-leaved). Gardens.

Dicko'ni (Dickson's). Purple. May. 1840.


frute'scens (shrubby). See S. fruticans.


grandiflo'ra (large-flowered). See Armeria latifolia.


mono'h'ola (one-petaled). See Limoniumstrum articu'latum.

denuda'ta (naked-stemmed). See Limoniumstrum articu'latum denudatum.


HALF-HARDY HERBACEOUS.
S. aegy'tii (Egyptian). See S. thoui'ni.

ala'ta (winged). See S. thoui'ni.


au'stri'capitata (southern). 1. Australia, 1823.


cine'rea (grey). See S. purpe'reata.


cop'pi'ca (conspicuous). See S. specio'sca.


Fortu'nae (Fortune's). See S. sinenis.

Half'o'ridi (Halford's). See S. macrophy'lla.

imbrica'ta (imbricated). Teneriffe, 1820.


Peres'si' (Peres's). 2. Violet-blue. Calyx white, Canaries, 1780.

profu'sa (profuse). 2. White, blue-purple. August, September. (S. puber'ula macropphylla.)
Pseu'co-arme'ria (false-armeria). See Armeria lati'folia.
puber'ules (downy). See S. cor'data.

Reinwo'dii (Reinwardt's). Blue, white.


HARRY HERBACEOUS.
S. acero'sa (sharp). See Acantholimon acerorum.

al'phi'sa (alpines). See Armeria alpina.


Arme'ria (Ararat). See Acantholimon glauca'mum.

Arme'ria (Armeria). See Armeria maritima.


ba'hasis'nis (Bashian). See S. rari'flora.

Be'h'en (Behen). See S. Limonium.


binerv'a (two-nerved). See S. auriculifolia.

carolina'na (Carolina). See S. Limonium.

cosa'pis (Caspius). See S. bellidifolia.


Coria'rii (Coriaria). See S. latifolia.

cosy're'nis (Cosy). S. Europe.

cunea'ta (wedge-leaved). See S. thoui'ni.


Ech'this (hedgehog). See Acantholimon HOHENACKE.

echi'o des (Echium-like). Mediterranean region.

ele'tro'sa (large.) S. Europe. August. Siberia, 1820.


turke'st'a (Turkest.) 1-2. Lilac. Turke'stan.


gou'getii (Gouget's). Spain.


la'storia'ca (large-leaved). 1. Blue. June. Bulgaria; Russia; Caucasus, 1791.

lepto'loba (slender-podded), Calyx purple; corolla yellow, Central Asia, 1879.


pyramida'te (pyramidal), Inflorescence pyramidal.

pyramida'te (pyramidal), Inflorescence pyramidal.

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STATIONS FOR FRUIT-TREES


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Unless the soil is good, this is the best mode of planting; and it often renders draining unnecessary. If the soil be too wet, the hole need only be half the intended depth; the other half may arise above the ordinary ground level. If too dry, there is no occasion to elevate the surface, only care must be taken not to place the collar of the tree too deep, which is a serious fault under all circumstances. Let the stations extend 3 feet on each side the position for the tree, thus producing an excavation of 6 feet square. Two feet in depth is amply sufficient for any after-tree, planting, and the soil should be thrown entirely out, and 4 or 5 inches more must be allowed for some impervious material, which we will presently describe. In throwing out the soil, care must be taken to place it in samples, of both labour and material will be wasted. It very frequently happens that three distinct samples of soil or subsoil will come to hand during the operation. Of course all clayey, or sour, and badly-coloured subsoil must be rejected, and it is to be supposed that any material to be introduced; and if this be scarce, any ordinary surface-soil may be in part substituted. In filling the materials back again, the best of the original surface-soil must be kept downwards, mixing it thoroughly with the new soil; the inferior or second-rate soil may be kept to dress the surface with. As to character of soil to be introduced, that depends partly upon the soil already existing in the garden, as well as on the kind of fruit-tree about the gardens. If the soil is naturally sandy and dry, a very stiff or clayey loam should be selected; if naturally clayey, any fresh, mellow, sandy loam, or even the paring of roadsides, commons, or lanes, will do. The best excuse for the use of good old loam, from what is considered good wheat soil is, however, of all other soils the best adapted for general fruit culture. Whatever materials are used, let it be remembered that the more of turny matter that can be introduced, the longer will the compost endure. Any sort of turf, even from hungry situations, is most relished by fruit-trees. If, nevertheless, no turf can be obtained, and the soil is loose and poor, it is well to introduce any refuse vegetable matter of every kind, with a good share of sea-haum, ordinary straw, old thatch, or, indeed, anything of a decaying vegetable character which is strong in fibre and enduring. If any manure is thought necessary, animal manure of any kind can be introduced, but the thin end of the wedge will endure longer in the soil; merely using one barrowful of mellow and rather rich soil to plant the tree in. As before observed, the most inferior portion of the soil may be reserved to dress the surface of the station with after the tree is planted; here it will do no harm, and will be in an improvable position. We now come to the hard materials for the bottom of the hole; 4 or 5 inches in depth, as before stated. It matters not what this is composed of: broken stones from quarries, brick-bats, chalk, cinders, or clinkers, &c., all are eligible. These being rammed hard, throw a coating of fine-riddled cinders over the whole, or very fine gravel: this secures the soil from leakage, and prevents the roots entering to any injurious extent.

STANTONIA. (Commissariat of George W. Stanton, who travelled in China. Nat. ord. Berberidaceae.)


STATORCA THUS. (From staurus and akantha, a spine; two side-spines at the base of the principal spine give it the resemblance of a cross. Nat. ord. Leguminosae.)


STELIS. (From stelis, a parasitical plant, probably Laminariaeae.)

Stove epiphytic orchids. Offsets and divisions. Fibre of peat, sphagnum, and crocks in small pots.
STELLARIA. Stitchwort. (From stigma, a stear. Nat. ord. Cynoglossaceae [Caryophyllaceae]. Linn. 19-Decandria, 3-Trigynia.)
A genus of weedy herbs, with the exception of Stellaria Holosio, one of the prettiest flower-garden plants. Nat. ord. Compositae. Naturalized in various parts, but natives of Europe. All the species are narrow-leaved herbs, with leaves of various length and breadth, and with flowering stems of a globular shape. The perianth is usually of five parts, the calyx and corolla being of the same length, and the stamens being of the same length as the corolla. The flowers are hermaphrodite, and are pollinated by insects. The seeds are usually of a globular shape, and are of a dark color. The fruits are usually of a globular shape, and are of a dark color. The flowers are hermaphrodite, and are pollinated by insects. The seeds are usually of a globular shape, and are of a dark color. The fruits are usually of a globular shape, and are of a dark color.


STEMONACTHYS. From stemon, a stamen, and thys, a fruit; the stamens are slender, and are of the same length as the corolla. The flowers are hermaphrodite, and are pollinated by insects. The seeds are usually of a globular shape, and are of a dark color. The fruits are usually of a globular shape, and are of a dark color. The flowers are hermaphrodite, and are pollinated by insects. The seeds are usually of a globular shape, and are of a dark color. The fruits are usually of a globular shape, and are of a dark color.

STENOCHILUS. From stenos, narrow, and chloros, green; the stems are slender and are of the same length as the corolla. The flowers are hermaphrodite, and are pollinated by insects. The seeds are usually of a globular shape, and are of a dark color. The fruits are usually of a globular shape, and are of a dark color. The flowers are hermaphrodite, and are pollinated by insects. The seeds are usually of a globular shape, and are of a dark color. The fruits are usually of a globular shape, and are of a dark color.

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STENOCHLÆNA. (From stenos, narrow, and chlæna, a cloak; the covering of the spor-cases. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices. Now referred to Lomariaceae.)

Stovigia, 1843. See Ferns. Ferns. See Ferns.


STENOFAVA STRA CONCINNA. See Sinningia concinna.


STENOSE MAI AURITA. See Acrostichum auritum.


STEPHANO'COMA. (From stephan, a crown, and home, hair; in reference to the pappus crowning the fruit. Nat. ord. Composite. Now referred to Berkheya.) *S. carduo'des* (Carduus-like). See Berkheya Cardufomis.

STEPHANOLI RION NARCISSOI DE. See Tristagma Narcissoides.

STEPHANOPHORUM. See Narcissus.


STEPHANOTIS. (From stephan, a crown, and ois, ois, an ear; the ear-like processes on the crown of the stamens. Nat. ord. Asclepiadaceae. Linn. 5-Pentandria, 1-Monogynia.) Stove, white-flowered, evergreen twiners. Cuttings of the points of shoots, but best by small, stiff side-shoots, in sand, under a bell-glass, and plunged in bottom-heat;
fibrous loam and fibrous peat, with a little silver sand and dried leaf-mould. Winter temp., 45° to 55°, and rather dry; summer, 60° to 85°, and plenty of moisture when growing. Would answer, probably, in a warm conservatory when once it reached the top of the roof.


STERCULIA. (Named after Sterculius, a heathen god. Nat. ord. Sterculiaceae. Linn. 21-Monocotylen, Toc-Andania.)

Stove evergreens. Cuttings of ripe shoots in sand, under a bell-glass, in moist bottom-heat; fibrous loam and peat. Winter temp., 45° to 58°; summer, 60° to 80°. Tragacantha produces the gum of that name. Platanifolia stood for years in the open air at Chelsea, and it is likely that many of the East Indian and New Holland species would thrive with greenhouse treatment.


carthaginensis (Carthaginian). Trop. Amer.


grandiflora (large-flowered). See Cola acuminata.


hyperborea (various-leaved). See S. diversifolia.


latifolia (lurid). Australia.


mexicana (Mexican). Mexico.


nothofagus (Fern). Pale buff. E. Ind. 1877.

ornata (adorned). Burma.


pyriformis (pear-formed). See S. platanifolia.


russelliana (Russellian). Leaves with seven rather narrow divisions. 1902.


villosa (shaggy). India.

STEREOSEPSUM. (From steres, hard, and sperma, a seed; the seeds are hard, and the fruit woody. Nat. ord. Bignoniaceae.)

Stove trees, with pinnate or bipinnate leaves. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.

S. chelonodes (Chelon-leke). India; Burma.


xyloricum (wood-fruited). White. E. Ind. 1820.

STERILE. See BARREN.

STERIPHO'MA. (From steripharma, a fortification, a foundation; the fruit-stalk is stout. Nat. ord. Capparidaceae.)

Evergreen stove shrubs. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, leaf-mould, or peat and sand.

S. elliptica (elliptic). Trinidad.


STERKBERGIA. (Named after Count Sterkberg, a German botanist. Nat. ord. Amaryllidaceae. Linn. 6-Heterandria, t-Monophylla.)

Hardy autumnal-flowering bulbs, with one yellow flower on a stalk, open before the leaves rise; offsets; good, sandy loam and leaf-mould.

S. clusiana (Clusian) of Beissier. See S. macrantha.

S. clusiana (Clusian) of Ker Gawler. See S. colchiciflora.


extigua (small). See Tappeinanthus humilis.


graeca (Greek). 4. Yellow, Greece.

maja (Ikaris). Yellow. Ikaris. 1820.

maja (larger). 1. Yellow, much larger than the type. 1904.


STEUDNERA. (Commemoratif of Dr. Steudner, a German botanist. Nat. ord. Araceae. Allied to Colocasia.)

Perennial stove herbs with stout stems like Diefenbachia. Offsets; cuttings; seeds. Fibrous loam, lumpy peat, leaf-mould, and some nodules of charcoal with sand. Give plenty of water, and maintain a moist atmosphere in summer; keep dry in winter.


S. colocasia (Colocasia-like). Himalaya.


STEVENS'ONIA. (Commemorative of Stevenson, a Governor of the Mauritius. Nat. ord. Palmae. Allied to Colocasia.)

A magnificent stove Palm, with large, fan-shaped red and green leaved. Seeds. Fibrous loam, charcoal and peat; with a little loam, charcoal, and sand. Moist atmosphere. S. grandiflora (large-flowered). See S. grandifolia.


viridiflora (green-leaved). See Verschaffeltia splendida.

STOVIA. (Named after P. J. Stevenson, a Spanish botanist. Nat. ord. Compositae [Composites]. Linn. 19-Symgenesia, 1-Exonatia.)

Greenhouse herbaceous perennials, from Mexico, where not otherwise mentioned. They all bloom in August. Seeds and division in spring; sandy, loamy soil. The protection of a cold pit in winter.


angustifolia (narrow-leaved). See S. salicifolia.


canescens (hoary). See S. serrata.

Esperanza. Fink. 1798.


glandulosa (glandular). Mexico.

hyssopifolia (hyssop-leaved). See S. paniculata.

incanescens (hoary). See S. serrata.


laxiflora (loose-flowered). Purple.

linearis (linear). See Palafoxia linearis.

lucida (shining). 2. Fink. 1824.


moriflora (soft). White. 1834.


STIFFTTIA 833

STIGMATIA. (A commemorative name. Nat. ord. Compositae.)

A stowe shrub. Cuttings in sand, in a close frame, with bottom-heat. Loam, peat, and sand.


STIGMephylla. (From stigma, the female organ and phyllon, a leaf; leafy-like stigma. Nat. ord. Malpighiaceae. Linn. 10- Decadantria, 3. Trigyna. Allied to Banisteria.)

Stove, yellow-flowered climbing shrubs. Cuttings ripened shoots in sand, under a glass, in bottom-heat; with bottom-heat; with bottom-heat; with bottom-heat; with bottom-heat; with bottom-heat. Winter temp., 45° to 54°; summer, 60° to 80°.

S. aristatum (awned-leaved), 20. July, Brazil, 1832.

Twinner.


Twinner.

S. ciliatum (hair-fringed-leaved), 10–20. May, Brazil, 1796.

convolvulcus-leaved, June, Guiana, 1814.


ellipticum (elliptic), 10. September, Mexico, 1844.

Twinner.

S. emarginatum (notched), 10. June, W. Ind. 1826.

fu'gens (shining), 10–25. Summer, Guiana, 1795.

heterophyllum (varied-leaved), 10. December, Buenos Ayres, 1842.

humboldtianum (Humboldtian), 15–20. S. Amer. 1824.

jatrophafo'lium (Jatropha-leaved), 3. May, Uruguay, 1831.


mucronatum (spine-pointed), See S. ellipticum.


puberum (finely-downy), August, W. Ind. 1824.

STILLSQUA. (Named after Dr. B. Stillingsflet, an English botanist. Nat. ord. Spargurgewis (Euphorbiaceae). Linn. 21-Monnesia, 10-Decandrula. Allied to Homalanthus.)

Stove, yellow-flowered evergreen. Cuttings in sand, in heat; sandy, fibrous loam, a little peat and charcoal, and also a little brick-rubbish. Winter temp., 50°; summer, 60° to 75°.

S. populnea (poplar-like). See Homalanthus leschen-


STINGING BUSH. Jatropha u'rons.

STINGING NETTLE. U'rtica dio'mea.

STINKING GLADWIN. I'rs fatti'si'sima.

STIPA. Feather Grass. (From stipe, feathery, or silky. Nat. ord. Grasses (Gramineae). Linn. 3-Trianda, 2-Digyna.)

Stip'a penna'ta is a common feather-grass of the seed-shops. All but hu'milis hardly herbaceous perennial; division and seeds in spring; common soil.


Calamagrostis, Calamagrostis.


cor'enta (crowded). See S. Redowskii.


formicacr'nun (ants'). Country unknown. 1849.


Lasiagrosis (Lasiagrostis). See S. Calamagrostis.

psilota (sickly). Country unknown. 1819.

pennata (feathered), 2. July, Europe (Britain); N. Asia; N. Amer. "Common Feather Grass."


ru'ba (robust). See S. Sparta.

sparta (Spartan). Siberia; Himalaya.

sp'a'rea (cord-like). N. Amer. "Porcine Grass."


tenac'ssima (toughest).

virid'ula (greenish). N. Amer. 1802.

STITCHWORT. Stella'ria.

STIZOBOUM ALTS'I SIMUM. See Mucuna al'tisima.

STIZOBOUM PRURIENS. See Mucuna pruriens.

STORE'A. (Named after Dr. Stowens, a Swede. Nat. ord. Compositae (Composite). Linn. 1o-Syngenesia, 1-Equalis. Referred to Berkheya.)

S. atrocondi'otis (Atractylis-like). See Berkheya car-

membran'a (membrane-leaved). See Berkheya Adlami.

pinna' (leafleted). See Berkheya pinnata.

purpu'rea (purple). See Berkheya purpurea.

Ra'dula (rap). See Berkheya Adlami.

sphaerocy'pha (sphere-headed). See Berkheya carduformis.

STOCK and STOCK-GILLFLOWER. See Mathiola.

STOCKS are young trees or shrubs raised from seed, suckers, layers, and cuttings, for the reception of buds or grafts from other trees or shrubs of a kindred species.

The old gardener's maxim, the graft overrules the stock quite, is consonant with truth, the stock should be taken with some reservation. The graft prevails, and retains its qualities; yet the stock has the power of influencing its productiveness, as well as the quality of the fruit. Thus, a tree having an expansive foliage and rapid growth of leaves, sap and vaevulous circulation, should never be grafted upon a stock oppositely characterised, for the supply of sap will not be sufficient. Illustrations are afforded by the codlin never succeeding so well on a crab, or a bigarreau on a wild cherry, as they do on free-growing stocks.

The habit of the stock, also, is of much more importance than is usually considered. If it grows more rapidly, or has larger sap vessels than the scion or bud, an enlargement occurs below these; but if they grow more rapidly than the stock, an enlargement takes place just above the point of union. In either case, the tree is usually rendered temporarily more prolific; but in the case where the stock grows most slowly, the productiveness is often of very short duration, the supply of sap annually becoming less and less sufficient to sustain the expanded foliage, growth of leaves, sap and vaevulous circulation. This very frequently occurs to the free-growing cherries when inserted upon the wild species, and still more frequently to the peach and apricot upon stocks of the slow-growing plums. It is highly important, therefore, to employ stocks, the growth of which is as nearly similar as may be to the parent of the buds or scion.

The earlier vegetation of the stock than of the bud or graft is also important; for, if the latter is earliest in development, it is apt to be exhausted and die before the flow of sap has enabled growth of the cambium to occur, and union at the junction.

Stocks for general use may be used for grafting or budding, when from the size of a good goose-quill to half an inch, or not more than a inch in the part where the graft or bud is to be inserted. Stocks of 2 or 3 inches, or more in diameter, either the stems or branches, are also occasionally grafted or budded with success, but are

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not proper for general practice. Crab Stocks are all such as are raised from seeds, &c., of any wild ungrafted tree; particularly if of the fruit-tree kind, such as the wild crab apple of the woods and hedges, wild pears, plums, wild cherry, and such other trees as have not been grafted or budded. Free Stocks are such as are raised from the seed, layers, &c., of any of the cultivated varieties of fruit. Paradise or Doucin stocks are raised from layers or suckers from a dwarf variety of apple, the roots of which are produced nearer to the surface than those from crab stocks. The French Paradise stocks is a stumpy variety from which it has a very slow growth, its clear chestnut-coloured shoots, and small fibrous roots, which spread near the surface. The English Paradise may be either referred to as the Doucin of the French or the Dutch Paradise; for, in English nurseries, this propagated on either is said to be on Paradise stocks. Of these two the Doucin has the darkest shoots. Their effects on the growth of the trees worked upon them are similar, being intermediate between the very dwarf habit of the English Paradise, and the luxuriant growth induced by the crab or free stocks. See Grafting and Budding.

STOEBE. (From stibas, a bed of leaves; those of *aethopica* so used. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 3-Segregata.)


" "crea (grey). 2. August. 1782.


STOKES' ASTER. See Stokedia cyanea.

STOKESIA. (Named after Dr. Stokes, an English botanist. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 18-Equalis.)


" "aiba (white). Pure white, with mauve shade at base of florets. 1908.

" "proa (early). An early flowering variety. 1906.

STONECROP. Sedum.

STONE PINE. *Pinus Pinea*.

STOPPING is pinching or nipping off the extremity of a branch, to prevent its further extension in length. It is frequently done, either to promote its robustness or the production of laterals.

STORAX. Styrax.

STORK'S BILL. Pelargoniun.

STOVES, or HOTHouses, are glazed structures, differing from greenhouses chiefly in requiring a higher temperature to be sustained within them, either for forcing tender or for growing plants from tropical climates. Nearly all that is stated relative to the greenhouse, hotbed, and pit under the articles Melon and Rendle's Tank System is applicable to the stove. In addition, relative to glazing, if lapping be permitted, its width should not exceed \( \frac{1}{2} \) inch, and the panes should be acutely rhomboid, to throw the condensed vapour down to the lower corner, and induce it to trickle down the bars instead of dropping. It is very important whether the amount of moisture is reduced by running between the laps.

Flues are best built of bricks set on their edges, and the top formed of a shallow iron trough for the purpose of holding water, and thus keeping the air moist as required. At night, for retaining heat, pantalettes may be placed along within the trough.

*Hot water* in a tank is superior to the same source of heat in pipes, because it is not liable to freeze; and it is preferable to the other, when its heating power continues until the whole mass of water is cooled down to the temperature of the house, whereas steam ceases to be generated as a source of heat the moment the temperature fails below 212° F. If steam be employed, Mr. Tredgold has given the following rules for calculating the surface of pipe, the size of the boiler, the quantity of fuel, and the quantity of ventilation required for a house 30 feet long and 12 feet wide, with the glass roof of 8 feet, length of the rafters 14 feet, and height of the back wall 13 feet. The surface of glass in this house will be 720 square feet, being 40 feet in the front and roof, and 180 feet in the ends. Now, half the vertical height, 7 feet 6 inches, multiplied by the length in feet, and added to one and a half times the area of glass in feet, is equal to the cubic feet of air to be warmed in each hour; and when there are no double doors. That is, 7.5 x 30 + 1/2 x 720 = 1305 cubic feet. But in a house with wooden bars and rafters, about one-tenth of this space will be occupied with wood-work, which is so slow a conductor of heat that it will not suffer a temperature to escape; therefore 130 feet may be deducted, leaving the quantity to be warmed per minute = 1175 cubic feet. To ascertain the surface of pipe required to warm any given quantity of air, multiply the cubic feet of air heated per minute by the difference between the temperature the house is to be kept at, and that of the external air. In degrees of Fahrenheit's thermometer, and divide the product by 2.1, which is the temperature of the steam pipes, and the temperature of the house; the quotient will be the surface of cast-iron pipe required.

Now, in the house, the dimensions of which are above given, if the boiler is to be fixed in 83 feet long, round pipes 50 feet are allowed for winds, and the external air is supposed to be at zero or 0 of Fahrenheit, then 175 multiplied by 60°, and the product divided by 2.1, the difference between 200 and 60 will give us the quotient 236, the size of face of pipe required. Now, the boiler, being 30 feet long, five pipes of that length, and 5 inches in diameter, will be about the proper quantity.

If hot water be employed instead of steam, the following proportions and information, obtained from Mr. Rendle, may be adopted confidently as guides. In a flat-roof propagating-house, 40 feet long, 13 feet broad, 7 feet high in the centre, and 4 feet high at the two fronts, having a superficial surface of glass amounting to 336 square feet, Mr. Rendle has a tank 83 feet long, round pipes running round three sides of the house, 4 feet wide and about 8 inches deep, and consequently capable of containing nearly 300 cubic feet of hot water, though only half that quantity is used. This is closely approaching to the size pointed out, according to Mr. Tredgold's formula.

The mean temperature of a hot-water tank will never be much above 100°, so that, for the sized house mentioned by that skilful engineer, the divisor must be 2.1 times the difference between 100° and 60°, which gives us the quotient 353 cubic feet.

The tank in Mr. Rendle's propagating-house is built lined with Roman cement, and if the temperature at the time of heating the fire be 90°, the temperature of the atmosphere in the house should be 60°, and the temperature of the surface of doors 50°; the quantity of small coal or breeze required to raise the temperature of the water to 25° is 28 pounds. In twelve hours the water cools, after the fire has been extinguished, from 235° to 15°.

When steam is employed, the space for steam in the boiler is easily found by multiplying the length of the pipe in feet by the quantity of steam in a foot in length of pipe, by 3 pounds, in order to obtain the amount of steam.

In the above-noticed house, the length of pipe 5 inches in diameter is 150 feet; and these multiplied by 1.363 = 20.5 cubic feet of steam, and as the pipe will condense the steam of about one cubic foot and one-third of water, therefore the boiler should contain evaporation of \( \frac{21}{4} \) cubic feet of water per hour, to allow for unavoidable loss. In the extreme cases of the thermometer being at zero, the consumption of coals to keep up this evaporation will be 22 pounds per 24 hours.

The diameter of a cubic foot of steam in each foot of pipe, as derived from Gay-Lussac's experiments, is

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<th>Diameter of a Cubic Foot of Steam in Inches.</th>
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These calculations are all founded upon the supposition that the condensed water is returned to the boiler whilst hot; but if this cannot be effected, then one-twelfth more fuel will be required. The boiler for the supply of hot water should be constructed of the best available non-conductor of heat, and this is either charcoal or sand.

A case of brickwork, with pulverised charcoal between this and the boiler, is to be preferred to any other. A cover of clay, the hot water should be contained within. The surface of the pipes should be painted black, because a surface of this colour gives out more heat in a given time than any other.

**Strawberry.**—Mr. J. Claudius Loudon gives the following description of a moose stowe, warmed on the old plan of deriving heat by the combined agency of bark and flues. Instead of a stage in the centre it has a pit, which may be from 2½ to 4 feet deep, according as bark or leaves are to be used, the latter material requiring the greatest depth. It is commonly surrounded by a thin brick wall; but planks of stone, or plates of slate or cast iron, are to be preferred. The roof, when closed, is supported by iron columns, from the middle of the pit. Shelves may be placed against the back wall, and occasionally a narrow-leaved creeper run up the roof. We may add, that houses of this description are generally placed east and west against the centre, so that the air is purified during the winter, when a high degree of heat is kept within, while the cold is excessive without.

**Strawberry.**—This is a plant of the Ryan or Strawberry family. The name given to it is from the strawberry, a fruit well known for its sweetness and deliciousness. The strawberry is a herbaceous plant, the rootstock of which is called the crown. The crown is composed of a number of runners, which are the principal parts of the plant. The runners are the shoots that extend from the crown and bear the berries. The berries are the fruits of the plant, and are composed of a number of fleshy cells, each containing a seed. The seeds are the reproductive organs of the plant, and are the means by which it is propagated.

**Culture and Propagation.**—The strawberry is a plant that requires a great deal of care and attention in order to produce a good crop. The soil should be well drained and have a good supply of organic matter. The plants should be planted in the fall, and it is important to keep the roots covered with mulch to protect them from winter damage. The plants should be watered regularly, and the soil should be kept moist. The strawberries should be harvested when they are fully colored and ripe. The fruit should be picked by hand, and the plants should be pruned after the fruit has been harvested.

**Strawberry.**—The fruit is a berry, and is usually red in color. The strawberry is a plant of the Rhoeaceae family, and is closely related to the raspberry. The strawberry is a perennial plant, and can live for many years. The berries are usually harvested in the summer months, and can be eaten fresh or used in a variety of dishes. The strawberry is a popular fruit in many cultures around the world, and is often used in desserts, such as cakes and pies.

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Strawberry Forcing.—One principal point here is to obtain very early runners, which is generally effected by laying the earliest in small pots, in a sound compost. These, when full of roots, are repotted into larger ones; and when well established, henceforth is to give them kindly cultivation, as to regular waterings, &c., and to keep them in an open situation. By the end of September they will possess stout buds and must be plunged up to their rims for the winter. Forcing must be commenced very gently, with plenty of atmospheric moisture—say, commencements with the temperature at 55° and rise gradually, by the time the leaf is thoroughly developed, to 60°, and the less advance that is made beyond this the better, except in sunny weather. They love to be near the glass, and to have abundance of air.

Culture of seed.—Sow seed from choice fruit at the end of January in gentle heat, and prick the seedlings out into boxes, still under glass, in rich soil. Towards the end of April, the plants, having been hardened off may be planted out finally; and an elevated bed, in a sunny situation, should be chosen. They may be planted in double rows, half a yard apart in the row, and the rows 2 feet apart. The soil should be a rich loam; and when they are fruiting, some slates or tiles may be placed beneath them, as the autumn rains are apt to rot them. They should be liberally watered during dry weather.

**Strawberry-Blite.** *Chenopodium capitatum.*

**Strawberry-Spinach.** *Chenopodium capitatum.*

**Strawberry-Tree.** *A. rubus.*

**Streblorrhiza.** (From *streblus*, twisted or tortuous, and *rhiza*, a root; the roots are tortuous. Nat. ord. Leguminosae.)


**Streblus.** (From *streblus*, tortuous; the branches being flexuous. Nat. ord. Urticaceae.)


**Strelitzia.** (Named after Charlotte, queen to George III, of the house of Mecklenburg-Strelitz. Nat. ord. Musads [Scitamineae]. Linn. 5-Pentandra, 1-Monogynia.)

Stove, yellow-flowered, herbaceous perennials, from South Africa. By seeds in a good, moist heat, in spring; generally by suckers and dividing the plant; fibrous loam and a little peat. Winter temp., 45° to 55°; summer, 60° to 80°.

*S. a'dioba* (white-flowered). See S. Quensoni.

*angustifo'lia* (narrow-leaved). See S. Parvifolia.

*longiseta* (With long hair). White. 1870.

*farin'osa* (mealy-stalked). See S. Regina Farinoso.

*humi'lis* (humble). See S. Reginae.

*ju'ncea* (rush-leaved). See S. Parvifolia Junce.


*ova'ta* (egg-leaved). See S. Reginae Ovata.


*proli'fera* (proliferous). See S. Reginae Prolifera.

*Quenc'ni* (Quenson's). Rose-violet. 1863.

*Re'xii* (queen's). 8-9. April, 1773.

*ci'nna* (citron). Citron-yellow. 1887.


*proli'fera* (proliferous). Spathe double or twin. 1865.

*pul'ma* (dwarf). A dwarf, compact variety. 1879.

**Streptanthera.** (From *streptos*, twisted, and *anthos*, a flower; the anthers are twisted in their final stages. Nat. ord. Iridaceae.)

Greenhouse bulbous plants. Offsets; seeds. Loam, leaf-mould, and plenty of sand.


**Streptanthus.** (From *streptos*, twisted, and *anthos*, a flower; the claws of the petals are twisted. Nat. ord. Cruciferae.)

Hardy annuals. Seeds. Ordinary garden soil.


**Streptocalyx.** (From *streptos*, twisted, and *kalux*, 't e' calyx. Nat. ord. Bromeliaceae.)


*Val'de'sii* (Valleland's). Violet; braets deep red. Brazil. 1876.

**Streptocarpus.** (From *streptos*, twisted, and *carpus*, a fruit; the long seed-pod twisted, Nat. ord. Gesneriaceae.)

Greenhouse herbaceous perennials. By seeds in a gentle hotbed, in spring; also by dividing the plant; light, rich, sandy loam. Winter temp., 40° to 50°.

*S. Armil'lea* (Armitage's). Rose. Leaves four. Transplanted 1900. This may be *S. monophylla*.


*Gand'la* (Galpin's). Mauve-blue, with white throat. S. Africa. 1897.


*Ma'ri* (Ma'ri). 1/. Large. Light blue; white, marked violet inside. Leaf one. Zululand. 1903.


*Jun'o'dii* (Judson's). 1/. Blue-lilac; lip with citrus blotch. Transvaal. 1907.


*i'lua* (yellow). 1/. White; lip with yellow lines. Summer. S. Africa. 1882.

*ma'jor* (larger). Flowers much larger.


*parofo'ra* (small-flowered) of E. Meyer. 1/. White, yellow, pale violet. S. Africa. 1888.

*parofo'ra* (small-flowered) of B.M., t. 6636. See S. Lutea.

*parofo'ra* (small-flowered). See S. Lutea.


**Streptopus.** (From *streptos*, twisted, and *pons*, a foot; flower-stalks twisted. Nat. ord. Liliaceae. Linn. 6-Hexandria, 1-Monogynia. Allied to Uvularia.)

Hardy herbaceous perennials. Seeds or divisions in spring; any good garden soil.


*disto'tus* (distorted). 1/. Yellow. May. Europe; South. 1875.

*lanugino'sus* (woolly). See Disporum Lanuginosum.


**Streptosolen.** (From *streptos*, twisted, and *solens*, a tube; the corolla tube is twisted. Nat. ord. Solanaceae.)

Evergreen, greenhouse shrub, used for bedding in summer. Cuttings in sand, under a bell-glass; seeds in heat in early spring. Fibrous loam, peat, or leaf-mould, and sand.

STIRLING, The process of causing cuttings to emit roots.

STRINGY BARK TREE. Eucalyptus obliqua and several other species.

STROBILANTHES. (From strobilos, a pine-cone, and anthos, a flower; resemblance of the head of flower. Nat. ord. Acanthaceae [Acanthaceae]. Linn. 14-Didynamia, 2-Angiosperma. Allied to Ruellia.)

Stove evergreen shrubs. Cutting at any time during spring and summer in sandy soil, under a hand-light, in heat; fibrous loam and sandy peat. Winter temp. 48° to 55°; summer, 60° to 80°.

S. alatus (winged). Java. 
S. auriculatus (auricled). Burma.
S. champii (Champion’s). See S. flaccidifolius. 
S. consanguinea (related). Blue. E. Ind. 1873.
S. corymbifera (short-pointed). India.
S. speciosus (showy). Flowers more showy.
S. kunthiana (Kunthian). India.

STROBLIORACHIS GLA'RA. See Aphielandra Prismatic.

STROMA NTHE. (From stroma, a couch or bed, and anthos, a flower; the form of the inflorescence. Nat. ord. Scitamineae.)

Evergreen stove herbs. Seeds; division of the rhizomes in spring. Fibrous loam, lumpy, fibrous peat, and charcoal and sand. Eucalyptus obliqua and several other species.

S. anabalis (lovely). Brazil. 1879.
S. lubbersiana (Lubbersian). See MYRISMA LUBBERSII. 
S. luwea (yellow). Venezuela.
S. portaeana (Porteana). Leaves green above, pale below. Brazil. 1859.
S. spectabilis (showy). See S. sanguinea.

STROPHA'ANTHES. (From strophos, twisted, and anthos, a flower; divisions of petals twisted. Nat. ord. Dogbanes [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia. Allied to Nerium.)

Stove evergreen shrubs. Cuttings of half-ripened shoots in sand, under a glass, in heat, in spring; fibrous loam and sandy peat. Winter temp. 50° to 55°; summer, 60° to 85°.
S. cape'ensis (Cape). Orange, yellow. S. Africa. 1855.
S. floribunda (free-flowering). See Ocotea botryo-phylla.

Strychnos (From strychno or strychnum, a name given by Dioscorides and other classical writers to several members of the Solanaceae, some of which were poisonous. Nat. ord. Loganiaceae.)


Strophanodon And'ron. (From strophiun, sour, and dendron, a tree; the properties of the tree. Nat. ord. Leguminosae. Allied to Adenanthera.)


Sturtia. (Named after John Stuart, Marquis of Butte. Nat. ord. Theads [Ternstroëniaceae]. Linn. 16-Monadelphia, 8-Polyandria. Allied to Gordonia.)


Stylendra Fum'ila. See Podostigma pubes'cens.

Stylidium. (From stylus, a column; the stamens and style joined into a column. Nat. ord. Stylidiaceae. Linn. 20-Gynandria, 2-Dianthria.)

Herbaceous, by divisions, and by seeds in spring; shrubs, by cuttings of young shoots in sand, under a bell-glass; fibrous, sandy loam, and a little peat and vegetable mould. Winter temp., 40° to 45°.

Greenhouse Evergreen.


Greenhouse Herbaceous.


Styloco'ryna. (From stylos, a column, and hornum, a club; a symbol of the style. Nat. ord. Rubiade [Rubiaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Stove, white-flowered, East Indian evergreens. Cuttings of young shoots in sand, under a bell-glass, in heat; fibrous, sandy loam and peat. Winter temp., 45° to 55°; summer, 60° to 85°.


Stylolepis Gra'cif. See Podolepis gracilis.

Stylophorum. (From stylos, a style, and phorum, a barrel; the capsule is crowned with a style. Nat. ord. Papaveraceae.)

Hardy perennial herbs. Seeds; divisions in spring. Well-drained garden soil.


Stylophyllum. (From stylos, a style or column, and phulon, a leaf. Nat. ord. Crassulaceae.)

Greenhouse, evergreen herb, said to be a new genus by the Bulletin of the New York Botanical Garden. Cuttings in sand, kept dry overhead. Loam, finely broken bricks, a little leaf-mould and sand.


Stypandra. (From stypa, tow, and aner, an anther; resemblance of the anthers. Nat. ord. Ly'cories [Liliaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to Dianella.)

Greenhouse Australian plants. Division of the plant in spring; sandy loam and fibrous peat; require the protection of a dry, cold pit in winter.


Stypelia. (From stypheles, hard; referring to the wood. Nat. ord. Epacridaceae [Epacridaceae]. Linn. 5-Pen' tandria, 1-Monogynia.)

Greenhouse, Australian evergreens. Cuttings of young shoots in sand, under a bell-glass, in April; sandy, fibrous peat, and only a little fibrous loam. Winter temp., 38° to 48°.

S. amplexicau'lis (stem-clasping). See Leucopus amplexicaulis.

S. japonicum. Others.

5-6. (Hemsleyan). See Leucopogon Richei.

Richei's. See Leucopogon Richei.

SEGETES. See ASTROLOMA PIVARIICATUM.


viridiflora (green-flowered). See S. viridis.


STYPHNOLOBIUM JAPONICUM. See SOPHORA JAPONICA.

STYRA. (From the Arabic. Nat. ord. Sauraworts [Styraeaceae]. Linn. 10-Decandria, 1-Mono-

gynia.)

Hardy deciduous, white-flowered shrubs. By im-

ported seeds, and cuttings and layers; light, rich, sandy

loam, and a little peat; should be planted at a

wall to bloom profusely, and it is well worthy of such

protection; next to that a dry, protected situation.


californicum (Californiaan). 5-8. Fragrant. April

to September. California. 1885.


1765.


1910.

japonicum (Japanese). 6-8. White; buds pale

pink. China; Japan. 1868.

lawesii (Lawesia). Aiton. See S. americum.

lawesiana (smooth) of Sims. See S. pulverulentum.


Japan. 1888.


Eastern India.

SUCUCCINIA. (A commemorative name. Nat. ord.

Cruciferae.)


SUCULENT PLANTS are so characterised on account

of their thick juicy leaves. They are formed to exist,

says Mr. Fortune, in countries and situations where

they are often exposed to intense light and dryness;

their skins are thick; they have few evaporating pores;

and the leaves, with their roots, to gather their tissue

with food during the rainy season. Therefore, we find

the dry, sandy plains of the Cape abounding in aloe

and mesembryanthemums; and the bare volcanic rocks

of Mount Etna covered, in many places, with the common

burro's hair. In Mexico, also, and in many other parts

of Central and South America, the extensive race of

cactus, with their curious un-vegetable-like forms, are

at home, and flourish even in those dry and parched

seasons when the whole face of nature besides seems

withered and destroyed. When in these countries these

plants are found are sure and certain guides in cultivation.

SUCKERS are branches naturally thrown up by a

plant from its base, when the onward current of growth

of the stem is stopped.

SUFFOCATION is a term employed by Keith and others
to describe any stopping of the transpiratory organs of

plants, whether it arises from extravagated sap, mossa,

fungi, or from a deficient supply of sap.

SUGAR BAKERS' REFUSE. See Animal Matters.

SUGAR CANE. Saccharum officinarum.

SULLIVA NTIA. (A commemorative name. Nat.

ord. Saxifragaceae.)

Hardy perennial herb. Seeds; divisions. Well-

drained soil.


SUMACH. Rhus.

SUMBUL. Fêrula Su'mbûl.

SUMMER SNOWFLAKE. Lepco jum estîvum.

SUN-DEW. Dro'sera.

SUNFLOWER. Helian'thicus.

H. annuus. Annual Sunflower, is now much cultivated

for its oil, and as a food for cattle and poultry.

The earlier the seed can be got into the ground the

greater, say the beginning of April, as the crop will be

ready to harvest the latter part of August, which will

be of the greatest importance to growers. The neces-

sary quantity of seed required for an acre depends upon

the conditions of the soil, and varies from four pounds

to five pounds; but, of course, it is advisable to sow a

little more than is actually wanted, to provide against

accidents. The seed should be drilled into the ground,

and the distance from row to row 18 inches; the plots

to be thinned out to 30 inches from plant to plant, and

the number of plants at this distance would be about

14,500 per acre; at 18 inches from plant to plant.

25,000 per acre; and at 12 inches from plant to plant.

32,000. The produce of this kind of grain, like that of

most others, varies considerably, according to the state

of the soil, climate, and the cultivation that is employed;

but the average quantity of seed is about fifty bushels

per acre. This will produce fifty gallons of oil, and

oilcake, 1300 pounds. The stalks, when burnt for alkali,

give ten hundredweight of potash.

SUN-FRUIT. Heliosic. rpus.

SUN-PLANT. Portulaca grandiflora.

SUN-ROSE. Helian'themum.

SURFACE GRUBS, or CATERPILLARS, are the larvae

of several species of Noctua (Argotis), or Night Moths.

Gardeners thus name them because they attack the roots

of the turnip, mangold wuzel, &c., just at the surface

of the soil.

SUSA RIUM SEGETH. See Scolenolemus Lech-

leri.

SUSUM. (The native name of the plant. Nat. ord.

Flagellariaceae.)

A stove evergreen plants with leaves like those of a

Dracaena. Cuttings in sand, in a close case, with

bottom heat. Fibrous loam, peat and sand.

S. anthel'micum (anthelmic). Reddish. Sumatra;

Java. 1889.

SUTHERLANDIA. (Named after James Sutherland,

author of a botanical catalogue. Nat. ord. Leguminous

Plants [Leguminosae]. Linn. 17-Diadelphilus, 4-Decandria.

Allied to Chintus.)

Half-hardy, scarlet-flowered evergreens, from

South Africa. Seeds in spring, or cuttings of young shoots in

May, under a hand-light; requires protection in hard

winter.


S. canescens (hoary). June. 1816.


S. obcordata (reverse-heart-shaped). 1839.

SUTTO'NIA AUSTRALIS (SOUTHERN). See Myr-

sine Urvillean.

SUWARRO'NUT. Ca'r'ocar.

SWAINSONIA. (Named after Isaac Swainson, F.R.S.

Nat. ord. Leguminous Plants [Leguminosae]. Linn. 17-

Diadelphilus, 4-Decandria. Allied to Cohutea.)

Greenhouse, Australian, evergreen shrubs. Seeds

in a bright light. In April, after being soaked in warm water,

they may be sown when ripe; cuttings of young shoots in

sand, under a bell-glass, and kept in a cool frame or pit

any time in summer; sandy, fibrous loam, and a

third of peat. Winter temp. 18° to 24°. They would

not do without succeed against a protecting wall.

S. australis (Australasian-leaved). See A. lessert-

folia astragalifolia.

S. acrocoecia (dark-scarlet). Garden variety. 1887.

canescens (hoary). 1-2. Blue to violet-purple. May,

Swan River.


S. obtusifolia (non-collused). Like S. coronillifolia, but

callotis of standard absent. Western Australia. 1903.
S. *Ferrandii* a'ba (Ferrand’s white). Buds cream, pure white when open. Garden variety. 1856.

* Fréch'æli (Froebel’s). See S. LÉSSEte FOLIÆ FRÉB.-BELL. 1854.

* galés'to'lia (Galega-leaved). See S. CORMINNE'FOLIÆ. 1821.


* mar'na (magnificent). Purple. 1865.


* Fréch'æli (Froebel’s). 1. Violet. 1854.

* M’Cullock’æna (M’Cullochian). Reddish-brown; eye pure white, edged chocolate. 1901.

* magn'éifica (magnificent). See S. GREYNA MAGNIFICA. 1865.

* osbo'rrni (Osborn’s). See S. CORMINNE'FOLIÆ. 1865.

* procu'mbens (lying-down). Purple. June to Septem-

* burs'tre'ae (purple). See S. CORMINNE'FOLIÆ. 1865.

* viola'cea (violet). See S. PROCUMNENS.

**SWALLOWWORT.** Ascul'pia.

**SWAMMER'NIA.** (Named after J. Swammerdam, the naturalist). Nat. ord. Compositae [Compositæ]. Linn. 19-Syngenesia, 2-Supertunia. Now referred to Helichrysum.)

S. *Antenna’ria* (Antennaria-like). See HELICKRySM ANTENNÆRiUM.

* glomer'æa (clustered). See HELICKRySM GLÖMÆRÆUM.

**SWAMP DOGWOOD.** Pét'æa trif'io'lia. 6. Narrow-leaved forms of *Dias' nut barba'rus.*

**SWAMP HICKORY.** Cà'rya am’ra. *Sib'eria.*

**SWAMP LOCUST TREE.** Gléd'tischa monosópre'na.

**SWAMP POST.** Que'rosus lria'ta.

**SWAMP ROSE-MALLOW.** Hibi’scous Moschev’ios.

**SWAMP SASSAFRAS or LÆRUEL.** Magnó'tia glau'ca. *Sib'eria.*

**SWAMP SAXIFRAGE.** Saxi’raga pennisyla’e'ca. *Sib'eria.*

**SWAMP WHITE OAK.** Que'rosus bi'color.

**SWÄN'S-NECK ORCHID.** Cyôno'ches.

**SWAN RIVER DAISY.** Brachy’come beridîfo'lia. *Sib'eria.*

**SWÄTZIA.** (Named after Olof Swart, a German botanist). Nat. ord. Leguminous Plants [Leguminoseae]. Linn. 17-Declandria, 1-Monogynia. Allied to Cassia.)

Stove evergreen shrubs. Cuttings of half-ripened shoots in sand, under a bell-glass, and in bottom-heat, in the beginning of summer; sandy, fibrous loam and peat in equal proportions. Winter temp., 50°; summer, 60° to 85°.


* simplicifo'lia (simple-leaved). See S. GRANDIFLORA.

**SWEDEN.** A species of Turnip. *Brå'sisca Ruab'aga.*

**SWEDISH BEAM-TREE.** Py’rus intermó'dia.

**SWEDISH JUNIPER.** Jun’i’perus comm’nis faris'qia’ta.

**SWEETMoTH.** See *Helic'rium.* It is best done in calm weather, and early, whilst the dew is strong enough to allay the dust, and keep the light refuse from blowing about.

**SWEET ACORN OAK.** Que’rosus Ballo’ta.

**SWEET ALOYSIUM.** Aly’s’sum maris’tium.

**SWEET AMBER.** Hýp’ricium Androas’mam.

**SWEET BASIL.** O’s’ium basil’icum.

**SWEET BAY.** Lau’rus nob’lis.

**SWEET BRIER.** Rô’sa rubi’ginoso’sa.

**SWEET BROOM.** Scop’a'ria duc’tis.

**SWEET CALABASH.** Passi'fo’ra malijo’rmis.

**SWEET CASSAVA.** Ma’n’nik’ot Ali’pi.

**SWEET CHESTNUT.** Ca’s’naea sat’iva.

**SWEET CICELY.** Charohpyllium aroma’ticum. See CHERVIL. See also MYRRHIS ODORATA.

**SWEET FLAG.** A’corus Câ’lamus.

**SWEET GALE.** My’rica Gal’æ.

**SWEET GUM.** Liquida’mbur styrac’ítus.

**SWEET TIA.** (Commemorative of Robert Sweet, a nurseryman at Stockwell, and an English botanist, author of several botanical works, and best remembered by Sweet’s Geraniaceæ. Nat. ord. Leguminossæ. Now referred to Galactia.)


* filo’rmis (thread-formed). See GALACTIA FILIFORMIS.


* longi’dio’lia (long-leaved). See GALACTIA JUSSIELEAN.

**SWEET JOHN.** Narrow-leaved forms of *Dias’ nut barba’rus.*

**SWEET LIME.** Citrus me’d’ica Lim’tæa.

**SWEET MARJORAM.** Orí’gamum Major’na sa.

**SWEET MAUDLIN.** Achille’a Ager’atum.

**SWEET ORANGE.** Cî’trus Auranti’um.

**SWEET PEA.** L’a’thysus o’ro’dus lura.

**SWEET POTATO.** Bata’la edul’vis.

**SWEET SCABIOUS.** Scabio’sa a’toropurp’resa.

**SWEET-SCENTED CRAB.** Py’rus coro’nia’ra.

**SWEET-SCENTED VERBENA.** L’ïppia citri’o’dora.

**SWEET SORREL.** Andro’sce’mum.

**SWEET SULTAN.** Centau’rea mosch’a’sa.

**SWEET SULTAN.** *Sib'eria.*

**SWEET WILLIAM.** Dias’ nut barba’rus.

**SWEETIA.** Felwort. (Named after E. Swert, a Dutch florist. Nat. ord. Gentianaceæ [Gentianaceæ]. Linn. 5-Pentandria, 2-Digynia.)


* comm’na (joined). Siberia.

* corda’ta (heart-shaped). Himalaya.

* con’ica (conical). See HALENIA BIBERI-'CA.

* corymbo’sa (corymbed). 1. Light blue or white. May, June. Himalaya. 1836.

* longi’dio’lia (long-leaved). Persia.

* michau’sa’na (Micaux’s). See HALENIA DEFLEXA.

* panicu’la (panicked). White to green or purple. Himalaya. 1868.


* punc’ta’ (dotted). Eastern Europe; Caucasus.


* rufo’sa (woody). See PLEUROGYNIA CARIN’TIA.


**SWIETENIA.** Mahogany. (Named after Von Swieten, a Dutch botanist. Nat. ord. Meliaceæ [Meliaceae]. Linn. 10-Declandria, 1-Monogynia.)

Stock evergreen tree. Cuttings of half-ripened shoots in sand, under a hand-light, and in bottom-heat; sandy, fibrous loam. Winter temp., 50° to 60°; summer, 60° to 85°.

* Chóro’so’nil’la (Chloroxylon). See CHLOROXYON SWIETENIA.

* febri’gula (fever-conquering). See SOYMDA FERRI-FUGA.


**SWIFT MOTH.** GHOST MOTH, GOST SWIFT, or OTTER MOTH. He’pialus Hu’muli.

**SWIFTMOTH.** See *Helic'rium.*
SYMPHYA'NDRA. (From sumphuo, to cohere, and aner, andros, a stamen; the stamens cohere by their anthers. Nat. ord. Campanulaceae.)


SYMPHYO'GLO SSUM. See CYPAN'CHUM.

SYMPHYOSTEM'ON. (From sumphuo, to cohere, and stemon, a stamen; the stamens cohere by their filaments at the base. Nat. ord. Iridaceae.)


SYMPHY'TUM. Comfrey. (From sumphuo, to make unite; healing qualities. Nat. ord. Boraginaceae.)

Division of the plant, chiefly in spring; good, common soil, and a rather shady situation, where few herbaceous plants would flourish.

S. bohe'micum (Bohemian). See S. officinale bohe'micum.


" tu'eo-mar'ginata'num (yellow-margined)." Leaves edged with yellow. 1890.

" po'ten'ce (spreading)." Purple. June. Britain.

" variega'tum (variegated)." See S. officinale u'teo-mar'ginat'um.

" tuber'o'sum (tuberous)." 4. Yellow. July. Europe (Scotland).

S. bohe'micum (Bohemian). See S. officinale bohe'micum.


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" tuber'o'sum (tuberous)." 4. Yellow. July. Europe (Scotland).

S. boa'licum (Anatolian). Anatolia.


" au'reo-variega'tum (golden-variegated)." Leaves margined with yellow.

" bu'lum (blistered)." See S. Tauricum bulbuma's.


" echi'num (hedgehog)." See S. asp'er'i'num.

" orin'a's (eastern)." 3. White. May. Turkey. 1752.

" angu'stior'num (narrower)." Leaves oval-lanceolate, waved.

" otto'ma'num (Ottoman)." Roumelia.

" peregr'i'num (spreading)." See S. asp'er'i'num.

" racemo'sum (racemosed)." See S. cauc'a'sicum.


SYMPHY'ZA. (From sumphyo, to press; the stamens compressed in the tube. Nat. ord. Heuchero'tae [Eriaceae]. Linn. 5-Pen' tandria, 1-Mono'gonia.)


SYMPLOCA RPUS. (From sumphuo, connection, and karpos, a fruit; the fruits are united in a mass. Nat. ord. Araceae.)

Hardy Herbaceous. S. an'alo'vicum (Anatolian). Anatolia.


" au'reo-variega'tum (golden-variegated)." Leaves margined with yellow.

" bu'lum (blistered)." See S. Tauricum bulbuma's.


" echi'num (hedgehog)." See S. asp'er'i'num.

" orin'a's (eastern)." 3. White. May. Turkey. 1752.

" angu'stior'num (narrower)." Leaves oval-lanceolate, waved.

" otto'ma'num (Ottoman)." Roumelia.

" peregr'i'num (spreading)." See S. asp'er'i'num.

" racemo'sum (racemosed)." See S. cauc'a'sicum.


SYMPHY'ZA. (From sumphyo, to press; the stamens compressed in the tube. Nat. ord. Heuchero'tae [Eriaceae]. Linn. 5-Pen' tandria, 1-Mono'gonia.)


SYMPLOCA RPUS. (From sumphuo, connection, and karpos, a fruit; the fruits are united in a mass. Nat. ord. Araceae.)
A hardy, tuberous-rooted herb, chiefly notable for the fetid smell of the flowers. Offsets; seeds. Ordinary garden soil.


**SYMPOCOS.** (From *symphoke*, a connection; stamens united. Nat. ord. Steroswords [Stryaceae]. Linn. 18- Polyadelphus, 2-Pollanadria.)

Greenhouse evergreen shrubs. Cuttings of half-ripened shoots in sand, under a glass; sandy, fibrous loam, and a little fibrous peat. Winter temp. 40° to 45°. The *coccinea* will require 10° more heat, but similar treatment otherwise. *S. nica* should have a place on a protecting wall.

*S. coccinea* (scarlet). Rose. Mexico. 1825.


**SYNADE' NUM.** (From *sun*, together, or united, and *aden*, a gland; the glands of the involucre leaves are united, forming a cup. Nat. ord. Euphorbiaceae.)

A succulent or fleshy stove shrub. Cuttings in sand in a dry stove or warm greenhouse. Fibrous loam, a little peat or leaf-mould, finely broken bricks, and sand.


**SYNA'DRA.** (From *sun*, together, and *amer*, *andros, anther*; the anthers in pairs. Nat. ord. Lipworts [Labiatae]. Linn. 14-Didynamia, 1-Gynnospherma. Allied to Melitèa.)

Hardy herbaceous perennial. Seeds, and division in spring; dry, sandy soil.


**SYNANDE' SP'A DIX.** (From *sun*, together, *amer*, *andros, anther*; *spadix*, the spadix or axis bearing the fruit; the spadix is entirely covered with male flowers. Nat. ord. Araceae.)

A stove perennial herb, with tuberous roots. Seeds; offsets. Fibrous loam, lumpy, fibrous peat or leaf-mould not too much decayed, and sand.


**SYNAN'THERIA.** (From *sun*, together, and *anter*, another; the anthers are separated in two pairs, making four cells on the top of the filament. Nat. ord. Araceae.)

A stove herb, with tuberous roots, the leaves developing after the flowers. Offsets; seeds; imported tubers. Fibrous loam, leaf-mould, some dried cow-dung rubbed up finely, and sand.

*S. sylo'sica* (wood). Spathe white, spotted with green. May. India.

**SYNAPHLE' BIUM.** (From *sun*, together, and *phleb*, a vein; the veins on the fronds. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)

Stove, brown-spored Ferns. See Ferns.

*S. lobu'lo'sum* (small-lobed), May. E. Ind. *ovu'sum* (blunt). See *Lindsayvya nitens.*

*tectinata* (helmeted). See *Lindsayvya pectinata,*

*recursu's* (curled-back). See *Lindseyvya nitens.*

**SYNAPRIA.** (From *sun*, together, and *karpos*, a fruit; the fruits are united in a globose head or cluster. Nat. ord. Myrtaceae.)

Greenhouse evergreen trees. Cuttings in sand, under a bell-glass. Fibrous loam, peat, and sand.

*S. Hi'lii* (Hill's). Australia. *


**SYNECH' NATHUS.** (From *sunches*, closely crowded, and *autho*, a flower; the flowers are crowded together. Nat. ord. Palmaceae.)

A graceful stove palm. Seeds. Fibrous loam, peat, and sand.


**SYNEDRELLA.** (From *sun*, together, and *edrella*, the diminutive of *hedra*, a seat; in allusion to the flowers being produced in clusters in the axils of the forks or at the apices of the branches. Nat. ord. Compositae.)

Half-hardy annuals, which may be grown in sunny deciduous. Well-drained, light garden soil.


**SYNEILE'SIS ACONITIFOLIA.** See *Seneceio aconiti-folius.*

**SYNC' O' N IUM.** (From *sun*, together, and *goun*, the ovary; the ovaries are united. Nat. ord. Araceae.)

Evergreen, stove climbers. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, lumpy peat. Garden soil and chalky loam.


*gra' cile* (graceful). See *S. affine.*

*podophyll'um* (stalk-leaved). Mexico.

*riellen'sum* (Riedelian). See *S. vellozo'lanum* (Riedelianum).


**SYNO' TIA.** (Commemorative of W. Synnol, a collector of plants in South Africa. Nat. ord. Iridaceae.)

Greenhouse bulbs from South Africa. Seeds; offsets. Fibrous loam, leaf-mould, and sand.


*gala'la* (helmeted). See *S. bicolor.*


**SYNO'UM.** (From *sun*, together, and *ooun*, an egg; the seeds are adnate on both sides to the placenta. Nat. ord. Meliacaceae.)

Greenhouse, evergreen tree. Cuttings in sand, under a bell-glass. Fibrous loam, peat, and sand.


**SYNTHY' RIS.** (From *sun*, together, and *thurus, thuri'- dos*, a small aperture; the valves of the seed-vessel are small, and united. Scrophulariaceae.)

Hardy perennial herbs for the rockery. Divisions in early autumn or spring. Well-drained garden soil.


**SYRI' NIA.** (Probably commemorate. Nat. ord. Cruciferae.)


**SYRIAN THISTLE.** See *Cnicus syriacus.*

**SYR' INGA.** (From *surics, surigges*, a pipe or reed; in allusion to the hollow stems. Nat. ord. Oliviways [Oleaceae]. Linn. 2-Diandra, 1-Monogynia.)

Hardy herbaceous shrubs. Layering and suckers generally; scarce kinds by budding or grafting; close-headed ones, grafted standard-high on the stock, would look very interesting; common garden soil.


*Japan; Manchuria. 1880.*

*Bre'schne'ri* (Brechtscheider's). See *S. Emori rosea.*


*met'e'nis* (Metani).

*Pu'bra* (red). Red. May.

*sage'sia* (Saugean).
S. emo'di (Mount Emodus). 

**"au'rea** (golden). Leaves splashed with yellow. 1897.

**"fo'liis rubris (red-leaved). Leaves red.**


**"variegata* (variegated). Leaves variegated. 1886.**

**"Giral'di (Girald's). Considered the same as S. villosa.**

**"japonica** (Campan-white. Japan. 1886.


**"ex'mia (choice). Bright red in bud, rose when open. 1869.


**"a'ba (white). White.**

**"pe'knis (Pekin). 5-10. White. Mountains of N. China.**

**"pe'ndula (pendulous). Branches drooping.**

**"pe'resica (Persian). 5. White. May. Persia. 1640.**

**"Persian Lilac.**


**"E. (red). Red. 1908.**

**"sale'fio'tia (sage-leaved). 5. May.**


**"pubes'cens (downy). See S. villosa.**

**"rothoma'ges (Rosom). See S. chinensis.**

**"Swe'ginzow'i (Sweiginow's). Yellow-red. Eastern Asia (J). 1920.**


**"velu'ti'na (velvety). See S. tomentella.**

**"vilI'o'sa (shaggy). 4-6. Blue-purple. May. N. China. 1880.**

**"wul'pe'ris (compton). 5. Blue. May. Persia. 1897.**

**"Common Lilac."**

**"a'ba (white). 5. White. May. Persia.**

**"a'ba-ma'jor (larger-white). 5. White. May.**

**"a'ba-ple'na (double-white). 5. White. May.**

**"purpu'rea (purple). Violet-purple.**

**"ru'bra (red). Red. May.**

**"ru'bra-ma'jor (larger-red). 10. Red. May.**

**"ru'bra-ple'na (double-red). 10. Red. May.**

**"vio'lea'ta (violet). 8. Purple. May. Persia.**

**"Scotch Lilac."**


SYRINGA, MOCK. Philadel'phius corona'rius.

SYRINGE. This is a most useful implement for impell- ing water over plants in pots, wall-tubs, &c. When the object is merely to refresh the plants, the operator should stand at some distance from the plants, so that the water may spread and fall upon them like a shower. But if aphides have to be destroyed, he may be closer to the plants, and drive forth the water with greater force. Some nozzles are made so as to allow the water to pass through many minute holes; but the syringe is sold with spare nozzles, so as to deliver the water in a greater stream, and with a shower, so that the opposite sides of plants in greenhouses may be syringed without moving them. See ENGINE.

SYRINGO'DEA. (From sur'rigodes, having the form of a tube, or tubular; in allusion to the long, slender tube of the flower. Nat. ord. Iridaceae.)

Greenhouse bushes. Offsets; seeds. Fibrous loam, leaf-mould, and sand.


SYZYGIUM. (From syz'uqios, that joins, copulative; branches and leaves in pairs. Nat. ord. Myrtideae [Myrtaceae]. Linn. 12-Icosandra, 1-Monogynia.)

Stove, white-flowered, evergreen shrubs. Cuttings of half-ripened shoots in the beginning of summer, in sand, under a bell-glass, and in a moist bottom-heat; sandy loam and fibrous peat. Winter temp., 50° to 60°; summer, 60° to 85°.

S. Caryphyllfo'lium (clouve-leaved). See Eugenia JAM-

BOLANA. **"fruticosum (shrubby). See Eugenia FRUTICOSA.**

S. glom'e睫毛um (crowded). See Eugenia GLUMERATA.

**"inophyllum (fibrous-leaved). See Eugenia INO-

PHYLLA.**

Jambolana*num (Jambolana-tre). See Eugenia JAM-

BOLANA.

**"obovatum (reversed-egg-leaved). See Eugenia OBO-

VATA.**

**"paniculata (panicled). See Eugenia PANICULATA.**

**"vene'sum (veiny). See Eugenia FRONDOSA.**

**"zeya'nicum (Ceylon). See Eugenia ZEYLANICA.**

T

TABEUIA. (A native name in Brazil. Nat. ord. Bignoniaceae.)

Cove shrubs, or small trees. Cuttings in sand, in a close box, with bottom-heat. Fibrous loam, peat, and sand.


**"chrys'a'nia (golden-flowered). See Tectoma CHRYS-

ANTEA.**

**"Do'snell-Smith'i (Donnell-Smith's). Mexico.**

**"leuco'lya (white-wood). 8-12. White to bluish. Trop. Amer. 1759.**

**"peniaphy'lla (five-leaved). 6. Orange. July. Panama.**

**"per'fiolata (saw-leaved). See Tectoma SERAPIFILIA.**

**"specta'bilis (showy). See Tectoma SPECTABILIS.**

**"triphi'la (three-leaved). 10. White. W. Ind. 1793.**

TABERNEMONTANA. (Named after J. T. Taberna-

monta'nu, a celebrated botanist. Nat. ord. Dogba'nes [Apoceaceae]. Linn. 5-Penniasia, 1-Monogynia. Allled to Plumeria.)

Stove evergreens, all white-flowered, unless otherwise mentioned. Cuttings of half-ripened shoots in the beginning of summer, in sand, under a bell-glass, and in a moist bottom-heat; fibrous peat and lumpy loam, with a fair portion of silver sand, and small pieces of charcoal. Winter temp., 55°; summer, 60° to 85°.

**"a'ba (white). See T. CIRIPOLIA.**


**"Amso'nia (Amsonia). See Amsonia TABERNAE-

MONTANA.**

**"arc'o'na (arched). 40. Cream. Peru. 1824.**

**"Barte'ri (Barter's). 6. Trop. Africa.**

**"citro'fio'la (citron-leaved). 15. Yellow. Jamaica. 1784.**

**"coro'mia (garland). 4. July. India. 1770.**

**"cri'pha (crisp).**

**"Ho're-plé'no (double-flowered). 4. July. W. Ind. 1770.**

**"cri'sana (thick). Trop. Africa.**


**"cymo'sa (cymed). 10. Carthagena. 1820.**

**"densifo'la (dense-flowered). See Rauwolfia DENSE-

FLORA.**


**"grandifo'la (large-flowered). 6. Trinidad. 1823.**

**"grat'sis'ma (most graceful). See T. recurva.**

**"lauro'fio'la (Mehrel-leaved). 13 Yellow. May. W. Ind. 1768.**

**"longi'fo'la (long-flowered). White. Trop. Africa. 1849.**

**"multi'fo'la (many-flowered). Mascarene Islands.**

**"odor'a's (sweet-scented). See Malouetia TAMAU-

QUARNA.**

**"per'carsia'fo'lia (Persicaria-leaved). 6. Cream. Mauritius. 1819.**

**"rec'u'ra (recurved). 6. June. India; Burma. 1824.**

**"Tampa'gna'na (Tamaquinara). See Malouetia TAMAU-

QUARNA.**

**"undu'la'na (waved). 10. Orange. Trinidad. 1824.**

**"wallich'i'na (Wullichian). White. Sumatra. 1873.**

TA'Cca. (The Malay name. Nat. ord. Taccaceae [Taccaceae]. Linn. 6-Hexandra, 1-Monogynia.)

Stove, East Indian tuberous-rooted plants, except where otherwise stated. Division of the roots in spring; sandy loam and a little fibrous peat. Winter temp., 60°; summer, 60° to 90°, and plenty of moisture.
**TACCARUM.** (From Taccia, and Arum; because they are aroids, resembling Taccia. Nat. ord. Araceae.) Stove tuberous perennials. Offsets. Fibrous loam, peat, and sand.


* T. epergnum (wandering). See T. Cylindricum.


**TACHIA.** (The Guianan name. Nat. ord. Gentianaceae; (Linn. 5-Peru, 1-Mexico.) A dwarf, evergreen subshrub. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


* T. radia'tus (rayed). Seems to be *T. carina'us*.

**TACHIGALIA.** (From Tachia, and adn, a gland; referring to the glands around the ovary, as in Tachia. Nat. ord. Gentianaceae.) A dwarf, evergreen shrub. Cuttings in ripened shoots in sand, under a glass, in March, in bottom-heat; also seeds in a hotbed; sandy, fibrous loam. Winter temp., 50° to 55°; summer, 60° to 80°.

* T. bis'juga (two-paired). See *Sweeta' bjiang*.

* T. pan'iculata (panicled). 60. Guiana. 1827.

**TACSONIA.** (From taece, the name of one of them in Peru. Nat. ord. Passion'vorts [Passifloraceae]. Linn. 16-Mexico, 2-Peru, 3-Columbia.) Half-hardy evergreen climbers. Cuttings of young shoots any time in summer; fibrous loam and a little sandy peat and leaf-mould. Fruit of *mollis'sima* is edible.

* T. adleri'na (spurious). Colombia.

* Buchan'ana (Buchanan's). See *Passiflora viti'follia*.

* eria' nha (woolly-flowered). See T. mixta eriantha.

* exonie'nsis (Exeter). Rosy, with violet throat. (T. mollissima x van'Volkemii.) 1872.

* *i'ne'nsis (in remarkable). See T. mixta eriantha.

* insi'gnis (remarkable). Crimson. S. Amer. 1873.


* eria' nha (woolly-flowered). Pink. Plant felted with grey down.

* qui'tes (Quitan). Rose. Peru. 1867.


* Parri'ta (Mrs. Parrit's). Orange. Colombia. 1882.


* quadri' dentis'a (four-toothed). See *Passiflora quadr'iglandulosa*.

* T. quadranglandula' sa (four-glanded). See *Passiflora quadra'glandulosa*.

* a'spera (rough). See T. integri'folia.


* palma'ta (hand-shaped). Java.

* phal'fera (crest-bearing). See T. pinnatifida.


* vi'ridis (green). Green. India.

**TACCA RUM.** (From Taccia, and Arum; because they are aroids, resembling Taccia. Nat. ord. Araceae.) Stove tuberous perennials. Offsets. Fibrous loam, peat, and sand.

* T. cordif'olia (heart-leaved). See *Leianthus longi'folius*.

* longifo'lia (long-leaved). See *Leianthus longi'folius*.

* Su'a'stis (Swartz's). See *Leianthus exer'tus*.

**TACHIADNEUS.** (From Tachia, and adn, a gland; referring to the glands around the ovary, as in Tachia. Nat. ord. Gentianaceae.) A dwarf, evergreen subshrub. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


* T. radia'tus (rayed). Seems to be *T. carina'us*.

**TACHIGALIA.** (The Guianan name Tachigali. Nat. ord. Leguminous Plants [Leguminoseae]. Linn. 10-De'candria, 1-Xylogynia. Alliance near the Tamarind.) Stove, a yellow-flowered, evergreen tree. Cuttings of ripened shoots in sand, under a glass, in March, in bottom-heat; also seeds in a hotbed; sandy, fibrous loam. Winter temp., 50° to 55°; summer, 60° to 80°.

* T. bis'juga (two-paired). See *Sweeta' bjiang*.

* T. pan'iculata (panicled). 60. Guiana. 1827.

**TACSONIA.** (From taece, the name of one of them in Peru. Nat. ord. Passion'vorts [Passifloraceae]. Linn. 16-Mexico, 2-Peru, 3-Columbia.) Half-hardy evergreen climbers. Cuttings of young shoots any time in summer; fibrous loam and a little sandy peat and leaf-mould. Fruit of *mollis'sima* is edible.

* T. adleri'na (spurious). Colombia.

* Buchan'ana (Buchanan's). See *Passiflora viti'follia*.

* eria' nha (woolly-flowered). See T. mixta eriantha.

* exonie'nsis (Exeter). Rosy, with violet throat. (T. mollissima x van'Volkemii.) 1872.

* *i'ne'nsis (in remarkable). See T. mixta eriantha.

* insi'gnis (remarkable). Crimson. S. Amer. 1873.


* eria' nha (woolly-flowered). Pink. Plant felted with grey down.

* qui'tes (Quitan). Rose. Peru. 1867.


* Parri'ta (Mrs. Parrit's). Orange. Colombia. 1882.


* quadri' dentis'a (four-toothed). See *Passiflora quadr'iglandulosa*.

**TAINIA.** (From tainia, a fillet; the lip is strap-shaped. Nat. ord. Orchidaceae.) Stove epiphytial Orchids. Offsets. Fibre of peat, sphagnum, and corks.


* bi'juga (broad-leaved). Green, pale red; lip yellow, red. March. E. Ind. 1841.


* la'vis (smooth). 2. Green, brown. April. N. India. 1882.

* penang'i ana (Penang). 1. Yellow and brown. Penang. 1897.

* specio'sa (showy). Malayas.
TALAU MA. (Its South American name. Nat. ord. Magnoliads [Magnoliaceae]. Linn. 1^-Polyandria, 6-Polygynia.)

Stove evergreens. Cuttings of ripe shoots, thinly, in sand, under a large bell-glass, in heat; grafting and inarching on Magnolia obdora; fibrous peel and a little loam and sand. Winter temp., 45° to 55°; summer, 60° to 80°.


TALBOTIA. See Vellozia.

TALEWORT. Bora'go officinalis.

TALIE RA. (The Indian name. Nat. ord. Palms [Palmaceae]. Linn. 6-Hexandria, 1-Monogynia. Referred to Corypha.)

T. bengalensis (Bengal). See Corypha Talleria.

TALIGA LEA CAMPE'STRIS. See Amasonia erecta.

TALIGA LEA PUNI CEA. See Amasonia calycina.

TALIUM. (From ithala, a green branch; its durable verdure. Nat. ord. Purpanes [Portulacaceae]. Linn. 11-Dodecandria, 1-Monogynia.)

Annuals and biennials, sown in a hotbed early in spring, pricked out, and bloomed in the greenhouse, or a sheltered place out of doors; the others are under-shrubs, easily propagated by cuttings of the cuttled shoots, dried at the base before inserting them in sandy soil; peat, loam, sand, and brick-rubbish. Winter temp., 45° to 58°, and dryish; summer, 60° to 80°.

ANNUALS, &c.

T. polya'ndrum (many-stamened). See Calandrinia polyantha.


EVERGREENS, &c.

T. Anaca'mpseros. See Anacamseros TELEPHI'ASTRUM.


" ca'frum (Caffer). Damaraland.

" cit'a'tum (eyelashed). See T. Tere'tifiolium.

" crassifo'lium (thick-leaved). See T. Triangu'laire.

" albisflo'rum (white-flowered). See T. Triangu'laire albiflorum.


" panicu'a'tum (paniced). See Calandrinia panicu'laire.


TALIPO'T PALM. Co'rypha umbraculifera.

TALU'IA. (From Touilch, the name in Guiana. Nat. ord. Soapworts [ Sapindaceae]. Linn. 8-Octandra, 1-Monogynia.)

Stove evergreen shrubs. Cuttings of ripened wood, with leaves, thinly inserted in sand, under a glass, in moist bottom heat; sandy peat and fibrous loam. Winter temp., 50° to 60°; summer, 60° to 85°.


" Prin'cepis (chief). Whitish. Leaves 6 ft. long.

Venezuela. 1888.

TALLOW SHRUB. My'rica ceri'fera.

TALLOW TREE. CHINESE. Stilli'ngia sebi'fera.

TALLOW TREE. SIERRA LEONE. Pentad'sma buty'ro'cea.

TAMARIND TREE. Tamari'n'dus i'ndica.

TAMARI'NDUS. Tamarind-tree. (From Tamarindi, the Arabic name. Nat. ord. Leguminous Plants [Leguminose]. Linn. 16-Monadelphia, 6-Decandria.)

Stove, yellow-flowered, evergreen tree. Seeds soaked, and sown in a hotbed; cuttings in sand; in heat; sandy loam and leaf-mould. Winter temp., 50° to 60°; summer, 60° to 85°. T. i'ndica (Indian). 60. July. E. Ind. 1633.

" occidenta'lis (western). See T. i'ndica.

" officina'lis (official). See T. i'ndica.

TA'RA'XIS. Tamarisk. (From Tamaris, now Tamba, the name of a river where it grows, on the borders of the Pyrenees. Nat. ord. Tamarisks [Tamaricaceae]. Linn. 2-Pentandra, 3-Trigynia.)

Hardy, by cuttings under a hand-light, or even in the open air, in spring or autumn, and any common soil; the tender species require a warm greenhouse or a cool plant-stove, and to be grown in peat and loam; increased by cuttings under a hand-glass, in sand, and in heat.

HARDY EVERGREENS.


" chine'nsis (Chinese). China and Japan.

" dahu'rica (Dahurian). See Myricaria dahu'rica.


" germ'a'ntis (German). See Myricaria germanica.

" hi'spida hash'a'rika (Kashgar). Leaves glaucous. 1893.

" az'ita'tis (summer). A seedling which blooms in July instead of September. 1901.

" hash'a'rika (Kashgar). See T. hispida KASHGARICA.

" hale'na (Odessa). Odessa, Russia. 1891.

" Pallia'sii (Pallas's). See T. Penta'ndra.

" parvi'fo'ra (small-flowered). See T. Penta'ndra.


" macro'stenon (large-stemmed). Stamens large.

" mol'davica (Moldavian).

" ro'sea (rose-pink).


Algeria. 1907. Half-hardy.


STOVE EVERGREENS.


" s'indi'aca (Indian). See T. GALLICA.

" orienta'lis (eastern). See T. ARTICULATA.

TAMO NEA. (From tamone, the Guianan name. Nat. ord. Verbena [Verbenaceae]. Linn. 14-Diandamina, 2-Angiospermae. Allied to Lantana.)

Trudger, blue-flowered biennials. By seed in a hotbed in spring; pricked out, and potted off, and bloomed in the greenhouse.

T. curass'a'vica (Curassao). See T. spinosa.

" mu'lica (awnless). See T. SPICATA.

" spica'ta (spiny). Trinidad. 1824.


" verben'a'cea (Verbena-like). See T. SPINOSA.

TA'RI'US. (Derivation doubtful. Nat. ord. Dioscoreae.)

Hardy twining herb, with tuberous rootstock, red berries, and bronzey-black leaves in autumn. Seeds; *officinale. Ordinary garden soil.


Europe (England), &c.

" Elepha'ntipes (elephant's-foot) See Testudinaria Elephantepe.
TANACETUM. Tansy. (Derivation uncertain. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 2-Superbus.)

Hardy herbaceous. Divisions in spring, and cuttings under a hand-light in summer; any soil. Grandiflorum requires a cool greenhouse or a cold pit in winter, and a sandy, fibrous loam.


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TAPOGOMEA VIOLACEA. See Cephælis violacea.

TARAXACUM. (From taraxo, to disturb or stir; in reference to its supposed medicinal effect. Nat. ord. Compositæ.)

Hardy perennial herbs. Seeds; divisions. Ordinary garden soil. *Infinitus* is a flower that can be grown in greenhouses. A salad, in the same way as Chicory, its roots are sometimes dried, ground, and used to adulterate coffee, as is the case with Chicory.


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TARCHONANTHUS. (From tarchos, burial, or interment, and anthos, a flower; the corolla and fruits are densely buried or enveloped in long woolly hairs. Nat. ord. Compositæ.)

Greenhouse evergreen little tree or shrub. Cuttings in sand, under a bell-glass, in spring or early summer. Fibrous loam, a little peat or leaf-mould, and sand.


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TARENNA. (Derivation not obvious. Nat. ord. Rubiaceæ. Allied to Randia.)

Small, annual, stow green. Cuttings in sand, in a close case, with bottom-heat. Loam, peat, and sand.


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TA RO. The tuberous rootstock of Colocasia antiquorum are variously known as Taro, Eddoes, and Cocoas in tropical countries, where they are grown as food. The sliced tubers are known as White Coco Biscuits, or Red Coco Biscuits, according to the variety of Colocasia antiquorum, from which they are made. The roots are grown in the West Indies, and ground into meal, or the starch is extracted from them and used as food. The roots are extensively used as food in India, under the above names, Taro, Eddoes, and Cocoas. In the raw state they are acrid and poisonous, but these properties are destroyed by the heat applied in cooking or preparing them for food.

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TARRAGON. (Artemisia dracunculus). Used in salads, and in the cold dishes of the other herbs; and its leaves are excellent when pickled.

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TAUSCHERIA. (Commemorative of Ignatius F. Tauscher, a Professor of Botany at Prague. Nat. ord. Cruciferae.)


TAVERNIERA. (Commemorative of J. B. Tavernier, a traveller in the East. Nat. ord. Leguminosae.)

Greenhouse shrubby plants. Seeds; cuttings in sand under a bell-glass. Loam, leaf-mould, and sand.


TAXA NHHEMA. (From taxis, order, arrangement, and anthemom, a flower. Nat. ord. Phumbugiaenae. Now referred to Statice.)

T. auricula'lo'lia (auricula-leaved). See Statice aur'i'cula'lo'lia.

a'ustra'lis (southern). See Statice australis.

inca'na (hoary). See Statice inca'na.

spaci'o'sa (showy). See Statice speciosa.

lu'i'tica (Tartarian). See Statice tatarica.

TAXODIUM. Deciduous Cypress. (From t. t., the yew, and odes, like. Nat. ord. Confi'res [Conifera]. Linn. 21-Monocots. Bignoniaceae.)

Hardy Conifers. Seeds in April; cuttings in autumn or spring, in a moist, shady place; layers, also, root the first season; a low, moist situation suits all the hardy varieties best; cuttings will also strike in water as freely as in the open air. The evergreens should have a little peat added, and will require a little protection in winter, such as a cold pit would give, or surrounding them with a frame of Spruce-branches.

T. cape'nse (Cape). See Calli'tris arbo'rea.


exc'isum (lofty). May.

fastis'i'a (upright). Florida.

microphyl'lum (short-leaved). See T. d'istichum.

na'muum (dwarf). 8-10.

nuc'i'rum (nut-bearing). See T. hether'yphillum.


semperiu'nes (evergreen). See Sequoia semper'i'vires.

sin'e'ss (Chinese). See T. d'istichum pendu'ulum.

hetero'phi'lum (variegated). See T. d'istichum pendu'ulum.


japo'nicum (Japanese). See Cryptomeria japonica.

mex'ica'nam (Mexican). See T. mucronat'um.

mu'cronat'um (small-pointed). 100-120. Mexico.

sin'e'ss (Chinese). See T. d'istichum pendu'ulum.

TAXUS. The Yew. (From taxon, a bow; being used for bows. Nat. ord. Confi'res [Conifera]. Linn. 22-Dicot's. 13-Polygonaria.)

Evergreen Conifers. Seeds, gathered in October, either sown directly, or taken to the rot-heap until spring, when planted, will appear the following year; cuttings, 10 inches in length, lower half deprived of leaves, in sand, in a shady border, in April and August, taken off with a heel; deep, loamy soil, with a fair portion of moisture.

T. ad'pess'a (close-pressed). See T. baccata adpre'ssa.


ad'pess'a au'rea (golden). See T. baccata au'rea.

ad'pess'a stra'cia (upright).

ad'pess'a variega'ta (variegated).

a'bo-variega'ta (white-variegated).

arg'e'nta (silver). See T. baccata arg'e'nta.

au'rea (golden).

au'rea variega'ta (golden-variegated).

Barro'ni (Barron's). Leaves edged with yellow. Fruits freely.

bre'vifoli'a (short-leaved).

che'sentra'na (Cheshunt).


Dovaston'oni au'reo-variega'ta (golden-variegated). Young leaves edged yellow. Leaves, taking on a rosy color.

elva'to'me nis'sis (Elvaston). Young leaves orange. "Elvaston Yew."

epa'cri'di's (Epapsi-like).

ere's (erect). "Dulham Yew."

ere's (Ericks-like).


Irish Yew, "Florence Court Yew."

fastis'i'a arg'e'nta (upright-silver).

fastis'i'a au'rea (upright-golden).

fastis'i'a Stands' shi (Standish's-upright).

Fish'er's (Fish'er's).

Fo'si (Fox's).

fru'diu'o'sa (yellow-berried). April. Ireland.

glau'ca (sea-green).

gra'oli's pe'ndula (slender-drooping).

hori'zon'talis (horizontal).

imperialis (imperial).

Jackso'ni (Jackson's).

na'na (dwarf). 2. Leaves shining.

Nee'dpath. Tree columnar.


ra'mis (scattered-leaved). March.


variega'ta (variegated-pyramidal).

Washington'ni (Washington's).


canad'ae (Canadian).

February. Canada. 1830. "Canadian Yew."

au'rea (golden).

variega'ta (variegated).


com'pa'cta (compact).

emperfo'lia (Emperum-leaved). See T. baccata emperfo'lia.


Fortu'nei (Fortune's). See Cephalotaxus peduncula'ta falsi'gata.

globo'sa (globe).

Harringo'si (Harrington's). See Cephalotaxus falsi'gata.

hibe'rtica (Irish). See T. baccata falsi'gata.

Inuka'ja (Inukaja). See Cephalotaxus peduncula'ta.

lindley'na (Lindleyan). See T. brevi'fo'lia.

Ma'ko'ya (Makoy's). See Podocarpus macrophylla.

nu'cifera (nut-bearing). See Torrey'na nu'cifera.

tardi'va (late). See T. baccata adpre'ssa.

wallich'na (Wallichian). See T. baccata wallich'i'na.

TOBIATCHEWIA. (Commemorative of the Russian botanist, Tobiatcheff. Nat. ord. Cruciferae.)


TEA. The leaves of Cama'ilia the'sera.

TEA BERRY. Gaulthe'ria procu'mbens.

TEA BOTTANY. Smilax glycy'phylla.

TEA, PARAGUAY. 'lex paraguay'nsis.

TEA TREE. Ly'cium bar'barum.

TEAK TREE. AFRICAN. Oldi'fia a'fric'ana.

TEAK TREE. INDIAN. Te'cina grados.

TEAK TREE. NEW ZEALAND. V'stea litor'a'lis.

TEASEL. TEAZEL. TEAZLE. D'i'psacu's.


Mostly by cuttings; the hardy T. radi'icans and its varieties by cuttings of the shoots, and very freely by pieces of the roots; all the others are the better for a glass being placed over them, and flourish in loam and peat. The T. capel'nis makes a neat pot-plant.
TECOPHILÈA

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TELEKIA

(Telekia. (Name not explained. Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 2-Superflua. Referred to Buphthalmum.)

T. speciosissima (showy). See Buphthalmum speciosissimus.

TELFARIA

(Telephia. (Name in honour of Mrs. Telfair, Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2-Superflua. Referred to Buphthalmum.)

Stove twiners. Cuttings of the flowering shoots, if procurable; if not, other young shoots, getting firm in sand, and in heat; peat and loam. Summer temp., 60° to 85°; winter, 50° to 58°.

T. occidentalis (western). White, with purple eye; fruit 2 ft. long, W. Trop. Africa. 1870.


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TELIPOGON. (From *telos*, the end, and *pogo*, a beard; the column is bearded to the end. Nat. ord. Orchidaceae.)

Stove epiphyllous Orchid. Offsets should be tied on rafts with sphagnum.

_T. Cro'cus* (Crocus). Yellow, netted with dark lines. Colombia. 1827.

**TELLIMA.** (An anagram of *Mitella*; separated from the genus *Mitella*, Nat. ord. Saxifragaceae. Linn. to *Tellamaria*.)

Hardy herbaceous plants. Division; sandy loam and peat.


telipogon


tele'phea. Warratah. (From *teles*, seen at a distance; conspicuous flowers. Nat. ord. Proteaceae [Proteaeeae].) Linn. to *T. speciosissima*.)

This is the finest of all the Proteas. Greenhouse evergreens. Cuttings of ripe shoots with leaves on, unless the one at the base, in sand, under a glass, and kept cool until the base swells, when a little heat may be given; also by layering the suckers that rise from the roots; sandy loam and peat, with a third of broken stones, potsherds, and charcoal, and the pot extra well drained. Winter temp., 45° to 55°, and not much water; summer, 60° to 75°, and a good supply of moisture, the pot being defended from the sun.


_T. trun'ca'ta* (truncate). Tasmania. 1799.

**TEMPERATURE** is one of the most important circumstances connected with the cultivation of plants; for upon its proper regulation and just accommodation to the intensity of light depend, in the chief degree, whether a plant is healthy, and capable of performing its functions. Every seed has its appropriate temperature for germinating (see Germination); every root has a temperature in which it imbibes food most favourably (see Bottom-heat); and every leaf has a temperature in which it respires most vigorously. (See Leaves and Night Temperature.)

**TEMPLETONIA.** (Named after J. Templeton, an Irish botanist. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 16-Monadelph. 6-Desandria. Allied to Bossinia.)

Greenhouse, red-flowered evergreen, from Australia. Cuttings of half-ripened wood in sand, under a bell-glass; fibrous peat and sandy loam, most of the first, with a little charcoal. Winter temp., 40° to 48°.

_T. glau'ca* (milky-green). See T. retusa.


**TENARIS.** (Derivation not obvious. Nat. ord. Asclepiadaceae.)

Greenhouse perennial, to be kept rather dry in winter. Cuttings in sand under a bell-glass. Loam, peat, broken bricks, and sand.


**TENOCHIA.** (Commemorative of Professor Tenore, an Italian botanist. Nat. ord. Umbelliferae. Now referred to *Bupleurum*.)


_CORIA* (leathery). See Bupleurum gibraltaricum.

_Fruitate's* (shrubby). See Bupleurum frutice'sae.

_Fru'i'tus* (shrubby). See Bupleurum fruticoseum._

_Planto'nean* (plantain-like). See Bupleurum planti'num.

_TENTACULATE,* furnished with thread-like appendages.

**TEPHRITIS ONOPORDINIS.** See Celery Fly.

**TEPHRO'SIA.** (From *tephros*, ash-grey; colour of some of the species. Nat. ord. Leguminous Plants [Leguminosae]. Linn. to *Tephrosia*.)

Seeds, steeped in water at 130° for a day before sowing in a hotbed; cuttings of young, stubby side-shoots in sand, under a bell-glass, in May, the stoe species in a hotbed; sandy, fibrous loam and peat. Greenhouse or stove temperatures.

**GREENHOUSE EVERGREENS, &c.**


_Coloni'a* (Colouli). See T. Purpurea.

_Lito'fis* (thread-leaved). See Argyroglomum fili'forme.


_Grandi'fiora* (large-flowered). S. Africa.

_He'yea'na* (Heyne's). See T. Tinctoria.

_Lanceo'lia* (lance-leaved). See T. Purpurea.


**TERTIARY.** (From *tertius*, intermediate. Nat. ord. Myrttilae.)

Stove evergreens. Cuttings of ripe shoots, with most of the leaves, in sand, thinly, under a bell-glass, and in a sweet bottom-heat; sandy loam and fibrous peat. Winter temp., 55° to 60°; summer, 65° to 85°. The juice of *Catappa* is a chief ingredient in Indian-ink. T. angusti'fio'la* (narrow-leaved). 20. White, green. Malay. 1602.


_Bengala'nia* (Bengal). White. E. Ind. 1826.

_Benzo'in* (Benzoin). See T. Angusti'fio'la.

_Bitica'ria* (Bitticaria). See T. Bellericia.


TERNSTRÖMIA


" elegans (elegant). See POLYCIAS PANICULATA.


gangium (Gangetic). See T. CHERULA.


molluca na (Molucca), 20. White, green. E. Ind. 1818.

pro'cera (tall). 40. Yellow, green. E. Ind. 1818.

rotundifolia (round-leaved), 20. Yellow, green. E. Ind. 1824.

sor'pia (silky). 4-5. White, S. Africa. 1816.


TERNSTROMIA (Named after M. Ternström, a Swedish botanist. Nat. ord. Threads [Ternstromiaceae].

Linn. 13-Polyandria 1-Monogynia).

Stove evergreen shrubs. Cuttings of ripe young shoots in sandy soil, under a bell-glass, in heat; fibrous loam and sandy peat. Winter temp., 5° to 6°; summer, 6° to 9°.

T. brevipes (short-flower-stalked), See T. ELLIPTICA.


pedunculata (long-flower-stalked). See T. ELLIPTICA.


TERPNA/NTHUS JASMINOIDES. See SPIRANTHERA ODORATISSIMA.

TERRACES are not permissible anywhere but around the mausoleum, and they are noble and effective almost in proportion to their breadth.

TESTACELLA. The Ear-shelled Slugs, three in number, to be met with in Britain are interesting and useful to the gardener, inasmuch as they are entirely carnivorous and feed on worms and other slugs. These friends of the gardener are easily recognized by their yellow colour and the small shell on the tail of the creatures. Even when contracted, the small shell covers but a small portion of the body. The vegetable feeding slugs have no shell. The most common of the ear-shelled slugs and that with the largest shell is T. MAEGI, which is yellow, banded with brown. T. scutulum is bright yellow, and has the smallest shell. T. tachionides appears to be the least common, and is tawny yellow. All of these are encouraged in the garden.

TESTUDINARIA. Elephant’s Foot. (From testudo, a tortoise; the hard, outside covering of the corn or root. Nat. ord. Yam ( Dioscoreaceae). Linn 22-Dioscia, 6-Hexandria.)

Greenhouse, yellow-flowered deciduous climbers, from South Africa. Cuttings of firm side-shoots, or cuttings of the young shoots when growth commences, in spring, in sandy loam, under a bell-glass, and care taken to prevent damping; might be tried by cuttings of the roots; sandy, fibrous loam and turfy peat. Winter temp., 4¾ to 45°; and kept rather dry.


syl'otisca (wood).

TETRA CENTRON. (From tetra, four, and kentron, a spur. Nat. ord. Trochodendraceae.)


TETRA CERA. (From tetras, fourfold, and keras, a horn; the four capsules, or divisions of seed-pod, recurved. Nat. ord. Dilleniads [Dilleniaceae]. Linn. 13-Polyandria, 5-Pentagynia. Allied to Delima.)

Stove, yellow-flowered, evergreen climbers. Cuttings of young shoots, getting firm, in sand, under a bell-glass, thinly, and in bottom-heat; sandy loam and fibrous peat. Winter temp. 55°; summer, 65° to 85°.


boona'na (reversed-egg-leaved). See T. ALNIFOLIA.

pota'ria (drinking). See T. ALNIFOLIA.


TETRA CUMI. (From tetra, four, and akme, a point or edge; in allusion to the four angles or edges of the seed-pod. Nat. ord. Cruciferae.)

Hardy perennial herb. Seeds; divisions. Ordinary garden soil.


TETRA DIUM TRICHO TUM. See EVODIA FRAXINIFOLIA.

TETRA'GONIA. New Zealand Spinach. (From tetra, four, and gonia, an angle; four angles; fruit four-angled. Nat. ord. Aixas [Ficoidaceae]. Linn. 12-Isosandra, 2-Di-phenylnia.)


See NEW ZEALAND SPINACH.


1772. " New Zealand Spinach."

TETRAGONOLOBUS. (From tetra, four, gonia, an angle, and lobos, a pod; shape of seed-pod. Nat. ord. Leguminosus (Leguminosae). Linn. 17-Diadelphia, 4-Decoranthe. Referred to Lotus.)

T. biflo'rus (two-flowered). See LOTUS BIFLORUS. cornu (horned). See LOTUS CONJUGATUS.

edul'is (edible). See LOTUS TETRAGONOBUS.

mar'isimus (sea). See LOTUS SILICIUS.

purpui'rus (purple). See LOTUS TETRAGONOBUS.

Requien'ni (Requien’s). See LOTUS REQUIENI.

siliquo'sus (long-podded). See LOTUS SILICIUS.

TETRAGO NOTHECA. (From tetragnos, square, and theca, a capsule; the fruits are four-angled. Nat. ord. Compositae.)

Hardy perennial herb. Seeds; divisions. Ordinary garden soil.


TETRAME RIUM. (From tetra, four, and meris, a part. Nat. ord. Acantaceae.)

Stove herb. Seeds; cuttings in light soil, with bottom heat. Loam, leaf-mould, and sand.


TETRAME RIUM ODORATISSIMUM. See FARAMEA ODORATISSIMA.

TETRAME RIUM PANICULATUM. See COFFEE PANICULATA.

TETRAME RA. (From tetra, four, and micros, small; the four pollen masses. Nat. ord. Orchidaceae.)

Cool stove Orchids. Offsets; divisions. Fibre of peat, sphagnum, and crocks in small baskets.


" bre'vis (short).


" minua'na (minute). A tiny plant under two inches high. 1889.

rigida (rigid). W. Ind.

TETRANE MA. (From tetra, four, and nema, a filament; four stamens instead of five, as in Pentstemon, which it much resembles. Nat. ord. Figwort [Scrophulariaceae]. Linn. 14-Didynamia, 1-Anigozernina.)

Seeds sown in a slight hotbed in March; cuttings of young shoots, a little firm, in sandy soil, under a bell-glass, in April and August; sandy loam and leaf-mould. Winter temp, 45° to 50°. In summer the shelter of the greenhouse or a warm place out of doors.


TETRANTHERE. (From tetra, four, and anthera, another; four out of nine stamens fertile. Nat. ord. Lauraeis [Lauraceae]. Linn. 9-Enneandria, 1-Monogynia.)
Cuttings of young shoots, nearly ripe, in sand, under a bell-glass, and the stove ones in bottom-heat; fibrous, sandy loam and turfy peat. Greenhouse and stove temperatures.

**Greenhouse Evergreens.**


*生生**t* (jointed). See *Lisetia geniculata*.

*tep* (Japan). See *Lisetia japonica*.

*laurifolia* (laurel-leaved) of Jacquin. See *Lisetia serifera*.

*Laurya* (Lhuys’s). Japan. 1869.

**Stove Evergreens.**

*T. sols* (tallowy). See *Lisetia serifera*.


**Tetranthus.** (From *tetra*, four, and *anthos*, a flower; four-flowered. Nat. ord. Compositae [Compositae]. Linn. 19-Syngenesia, 2-Superglans.)

Stove evergreen trailer. Division and cuttings; sandy loam and a little peat; requires the stove in winter.


**Tetrapea texts.** (From *tetra*, four, and *petala*, a small shield; form of flower. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandria, 1-Monandria. Now referred to Otochilus.)

*T. frigens* (sweet-scented). See *Otochilus forrektus*.

**Tetrapgon.** (From *tetra*, four, and *pogon*, a beard; the flowering glumes are bearded. Nat. ord. Gramineae.)

Hardy perennial grass. Seeds; divisions. Ordinary garden soil.


**Tetrapteris.** (From *tetra*, four, and *pteris*, a wing; the carpels four-wing. Nat. ord. Malpighiads [Malpighiaceae]. Linn. 10-Decandria, 3-Trigynia. Allied to Hirsch.)

Stove, evergreen, yellow-flowered climbers. For culture, see Malpighia.


*cirrifo* (citron-leaved) of Swartz. See T. during.

*Folia.*


**Tetratheca.** (From *tetra*, four, and *theke*, a cell; anthers four-celled. Nat. ord. Forworts [Tremandrae]. Linn. 8-Octandria, 1-Monoeygia.)


Greenhouse, Australian evergreens, and purple-flowered, where not otherwise specified. Cuttings of young shoots, the side ones are the best, in sand, under a bell-glass, and great care taken to prevent damping: fibrous peat, a little turfy loam, and a good portion of charcoal and broken pots. Winter temp., 45° to 50°; summer, an airy situation, but the pots covered from direct sun and heavy rains, or careless waterings.

*T. cdita* (eyelashied). Pink.


*ericoides* (beak-like). See T. filosus.

*gladioloides* (gladiolus-like). 1822.


*rubidos* (Rubia-like). See T. ericifolia.

*rubifrondes* (red-bristled). See T. hirsuta.


*veronicellis* (whorled-leaved). See Flattutheca gallo-


**Tetrazygia.** (From *tetra*, four, and *tuses*, a yoke; the parts of the flower in fours. Nat. ord. Malastomads [Malastomataceae]. Linn. 8-Octandria, 1-Monoeygia.)

Stove, white-flowered evergreens, from the West Indies. Cuttings of side-shoots, getting firm, in sand, under a bell-glass, in heat, sandy loam and fibrous peat. Winter temp., 50° to 60°; summer, 65° to 85°.


*tetra'na' (four-stamen). See Miconia tetramandra.

**Tettogonia Spumaria** of some entomologists, and the Corokia, Cicada, or Arthropophora spumaria of others, is an insect of some account, and is called Froth-hopper, or Froghopper. Its larva enveloped in its froth is especially prevalent upon the young shoots of the white-thorn or quick; but it also infests the stems of pinks, carnations, lilacs, and many other plants. If removed, one or two, and sometimes two small, pale green, aphis-like insects are detected. These are the larva or young of the Froth-fly. By means of its sharp rostrum or beak it extracts the sap of the plant, and voids it as an excrement in the frothy matter which is its characteristic. About the end of July it sheds its skin, leaving it in the froth, and comes forth the perfect insect. About the beginning of August the males and females may be found in pairs numerous upon the plants they frequent. They are of a dirty-white colour, thickly dotted and clothed with short hairs; head broad and bluntly triangular, with black lines down its centre and sides; eyes, one on each side, near the base of the head; rostrum long, bent towards the ground, and not in use; antennae ending in a fine bristle; thorax and shield (scutellum), adjoining the back of the head, brownish. The wing-cases are brown, mottled with ochre, with four whitish patches How the male may be distinguished under his wing is indescribable. The legs, six in number, short, but two hind-legs longest, and formed for leaping. So effectual are they for the purpose, that, as Mr. Kirby states, after showing their mode of leaping, they will spring five or six feet at a time, being more than four times their own length, or "as if a man of ordinary height should be able to vault through the air to the distance of a quarter of a mile." It is not ascertained where the eggs of this insect are deposited, but probably on the stems of the plants on the shoots of which the larva feeds. It appears, however, that they can travel after hatching, for seedlings and plants raised from root-cuttings are often affected. We know of no better plan for destroying the insect than drawing the affected shoots between the fingers, and then dipping these into a bowl of water after each grasp. In the case of carnation stems and other flowers, requiring more tender treatment, all the flowers may be taken from the insect by means of a piece of sponge, and itself then removed by a camel’s hair brush.

**Teucruu.** Germander. (Named after Teucer, a Trojan prince, who first used it medicinally. Nat. ord. Lepiports [Labiate]. Linn. 14-Dicydynamis, 1-Gyno-

sperma."

Annuals, seeds in the open ground in April; perennials, by seeds and division; shrubs, by cuttings in sandy soil, under a bell-glass, in spring, and a hand-light in summer. Most of them in the atmosphere of London, and farther north, require a cold pit or a greenhouse in winter. In places where they grow south of England, they will frequently stand our winters unjured. They are not at all particular as to soil

**Hardy Evergreens.**


*Poly Germander.*


*ercus* (crisp). Leaves crisp. 1865.


*TEUCRUM.* A plant, the flowers of which are used to in the preparation of a herb vinegar. It is also used in the preparation of a herb vinegar. The plant is also known as the "Wood Sage."
TEYSMANNIA

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THALICTRUM

Hardy Herbaceous


au'reum (golden). See T. POLIUM.


canad'ense (Canadian) 2. Purple. August. N. Amer. 1768.


Laxma'nni (Laxmann's). See AJUGA LAXMANNI.


lux'i'tum (shining) of Sibthorp and Smith. See T. DIVARICATUM.


monta's(n)mountain). Europe.


pyromorph'um (close-leaved). See T. POLIUM.

pyre'mi'scum (Pyrenean). Pyrenees.

virgi'nicum (Virginian). See T. CANADENSE.

Greenhouse Herbaceous


nissa'o's num (Nisslian). See T. PSU KO CHAM-PE'RT.


Greenhouse Evergreens


asia'licum (Asian). See T. LANCIFOLIUM.


cal'tum (hoary). See T. CAMEM DEYS.


heterophy'llum (various-leaved). 2. Purple. 1759.


Balearic Islands. 1777.

lebo'tium (broad-leaved). See T. FRUTICANS.

macros'ост'уym (large-spiked). See LEUCOCEPHALUM CANAN.


orchi'deum (Orchis-like). See T. BICOLOR.


trif'a'dum (three-cleft-leaved). See T. AFRICANUM.


THALAMIA ASPLENOFILIA. See PHYLLOGLOSSUM RHOMBODIALIS.

THALIA. (Named after J. Thalius, a German physician. Nat. ord. Maranto [Sclamatinaceae]. Linn. 1-Monandria. Allied to Maranta.) Blue-flowered evergreens. Divisions; rich, sandy loam. Genicul'a'ta requires a cool, plant stove in winter; dealb'a'ta, a greenhouse, in a tub of water, or the roots in a pond out of doors, so deep that the frost will not reach them.


sangui'nea (blood-red). See STROMANTHE SANGUINEA.

THALIC'TRUM. Meadow Rue. (From thallos, to grow green; the bright green colour of the young shoots. Nat. ord. Crousfoots [Ranunculaceae]. Linn. 13-Polyandria, 6-Polygnia.) Hardy herbaceous perennials. Division of the plant in spring; sandy loam and a little leaf-mould. Beautiful for the hardy herbaceous borders. T. acuti'lobum (sharp-lobed). See T. PETITIUM.

adiantifo'lium (Adiantum-leaved). See T. MINUS ADIANTIFOLIUM.


flo're'ple'no (double-flowered). 1. April. N. Amer. 1768.


appendicula'tum (appendaged). See T. MINUS.


flo're'rosa (rosy). Rose. June, 1850.

atropor'pum re'um (dark-purple). See T. AQUILEGIFOLIUM ATROPURPUREUM.

Bau'ni (Bauhin's). See T. ANGSTIFOLIUM.


corti'o'stum (cortus-leaved). See T. CULTURATUM.


sul'tum (hill). See T. MINUS COLLINIUM.

conci'n'num (neat). See T. MINUS.

contri'num (cursed-seeded). See T. AQUILEGIFOLIUM.


cornu'num (curled-back). See T. REVOLUTUM.


crema'tum (scrolled-leaved). See T. GLAUCUM.


cysti'ca'rum (hollow-fruited). See T. CHELIDONI.


occidenta'le (western). 4-7. Rose-purple; anthers yellow. Western China. 1907.

di'ple'o'sum (two-winged). See T. ANGSTIFOLIUM.

divarica'tum (straggling). See T. ANGSTIFOLIUM.

divers'gen (spreading). See T. CORYNELLUM.

el'a'tum (tall). See T. MINUS ELATUM.

imbi'num ambi'guum (ambiguous). See T. MINUS ELATUM AMBIGUUM.

ela'ta'num (lofty). See T. SIMPLEX.

Fe'ndleri (Fendler's). North-western Amer.


flexu'o'sum (zigzag). See T. MINUS FLEXUOSUM.


Europa. Siberia. 1696.


Nepaul. 1859.


glau'es'cens (milky-greenish). See T. MINUS GLAUCE-SCENS.


Spain. 1798.
THAMNEA

T. jacquinianum (Jacquinian). See T. minus elatum, europe.


T. lucretium (shining). See T. augustifolium.

T. majus (greater). 3-5. Greenish-yellow, May, June. Europe (Britain).


T. microcarpum (small-podded). See T. augustifolium.


T. migniana (blackening) of Decandolle. See T. angustifolium.


T. polyanum (polygamous). See T. cortinellum.

T. praecox (meadow). See T. flavum.

T. pubescens (downy). See T. minus pureascens.


T. schwarzii (Schwarzer's). See T. minus.

T. sibiricum (Siberian). See T. squalosum.


T. speciosum (showy). See T. glaucum.


THA MNEA. (From thamos, a shrub. Nat. ord. Bruniales [Bruniaceae], Linn. 5-Pentandria, 1-Mono-


THA PSIA. Deadly Carrot. (From Thaposo, the name of an island, where T. garganica grew. Nat. ord. Umbelliferae.)

THEMISTOCLESIA. (Commemorative of Themis-
tocles, an ancient Greek statesman. Nat. ord. Vaccini-
STOVe evergreen climber. Cuttings of stubby side-shoots in sand, under a bell-glass, and from heat; fibrous loam and fibrous peat. Winter temp., 55° to 60°; summer, 65° to 85°.


THEOBROMA. Chocolate-tree, (From theo, a god, and broma, food; poetically, food for the gods. Nat. ord. Sterculiaceae.) Linn. 18-Polyadelphus, 1-Decandria.)

The seed of T. cacao is the chief ingredient in chocolate and cocoa. Stove evergreens. Cuttings of half-ripened shoots in sand, under a bell-glass, in heat; fibrous loam and sandy peat. Winter temp., 55° to 65°; summer, 65° to 85°.


Cocoa (Caribean). Yellow. W. Ind. 1821.

Guazuma (Guazuma). See Guazuma ULMIFOLIA. 

guianensis (Guiana). See T. Cacao.

T. speciosa (showy). Brazil.

THEODOREA. (A commemorative name. Nat. ord. Orchidaceae.)

Stove pinyonal orchid. Offsets. Sphagnum, fibre of peat, and crocks.

T. gomezioides (Gomezia-like). § White, with orange-buff blotch. Brazil. 1903.

THEOPHRASTA. (Named after Theophrastus, the father of natural history. Nat. ord. Ardisia [Myrsinaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Stove evergreens. Cuttings of ripe young shoots in sand, under a bell-glass, in heat; sandy loam and fibrous peat. Winter temp., 50° to 58°; summer, 60° to 85°.

T. argyroa (silverleaf). 1860.

" imperialis (imperial). W. Ind. 1864.


" latifolia (broad-leaved). See CLAVIA LATIFOLIA.

" longifolia (long-leaved). See CLAVIA ORNATA.

" macrophylla (large-leaved). See CLAVIA MACROPHYLLA.

" pinna (pinnate). See TALISIA PRINCESS.

" smaragdina (emerald green). See DEHERAINIA SMARAGDINA.

" umbrosa (shady). See CLAVIA UMBROSA.

THERESIA PERSICA. See Fritillaria Persica.

THERMOMETER. This instrument is the only unfailing guide for the gardener in regulating the heat to which he allows the roots and foliage of his plants to be submitted.

Fahrenheit's is used chiefly in Britain, Holland, and North America, the freezing point of water on which it is at 32°; and its boiling point, 212°. Reaumur's thermometer was that chiefly used in France before the Revolution, and is that now generally used in Spain, and in some other continental states. In its scale the freezing point is 0°; and the boiling point, 80°. On Celsius or the centigrade thermometer, now used throughout France, and in the northern kingdoms of Europe, the freezing point is 0°; and the boiling point, 100°. Hence, to reduce degrees of temperature of the Centigrade thermometer and of that of Reaumur to degrees of Fahrenheit's scale, and conversely:

RULE 1.—Mutiply the Centigrade degrees by 9, and divide the product by 5; or multiply the degrees of Reaumur's thermometer by 9, and divide by 4; then add 32 to the quotient in either case, and the sum is the degrees of temperature of Fahrenheit's scale.

RULE 2.—From the number of degrees on Fahrenheit's scale subtract that number which has occurred in the twenty-four hours; and therefore serves as a check upon those whose care they are entrusted.

Breazga's bath-ball thermometer is an excellent instrument for ascertaining the bottom-heat of its pits, &c. It is a thermometer inclosed in a metal tube, perforated to admit the heat, pointed, so as to be easily thrust down, and with a small door in the side, for observing the degree of temperature shown by the scale.

THERMOPSIS. (From thermos, a lupine, andopsis, like, after). Nat. ord. Leguminous Plants (Leguminose). Linn. 10-Decandria, 1-Monogynia. Allied to Piptanthus.

Hardy herbaceous yellow-flowered perennials. Chiefly sowable in April; light, sandy loam.


T. caroliniana (Carolina). § Yellow. N. Amer. 1820.


T. laburnifolia (Laburnum-leaved). See Piptanthus NEPALENSIS.


T. lupinosides (Lupine-like). See T. lanceolata.


T. nepalensis (Nepal). See Piptanthus NEPALENSIS.

T. angraecoides (golden). See Piptanthus NEPALENSIS.

T. aurea (showy), § June. N. Amer.

THERTEOPHORA. (From theo, summer, and pogen, a beard; the plant resembles Opihopoia. Nat. ord. Liliaceae. Allied to Polygonatum).


THESIUM. (An old Greek word, ishesion. Nat. ord. Santalaceae). Hardy perennial herb parasitic on the roots of various things. Seeds; divisions. Should be planted amongst grass or other low plants.

T. drupa (sperm). See LEPTOMERIA BILLIARDIERI.

T. humilis (bearded). See SAPINDA (Sapindaceae). June. 1856.


THESPSEA. (From thespesia, divine; one of the trees often planted round places of worship in India. Nat. ord. Malvaceae [Malvaceae]). Linn. 15-Monogynia, 1-Decandria, 1-Odontoglossum.)

Stove evergreens. Cuttings of stubby side-shoots in sand, in May, under a bell-glass, in bottom-heat; fibrous, sandy loam, and a little leaf-mould. Winter temp., 45° to 55° § summer, 65° to 85°.


T. La'mpas (lamp). See T. macrophylla.


T. niemolzi (felled). Mexico.

THUVETIA. (Commemorative of M. Thieves. Nat. ord. Apocynaceae.)

Evergreen stove shrubs. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


THIBAUDIA. (Named after Thibaud de Bernaud, a French botanist. Nat. ord. Whortleberries [Vacciniae]). Linn. 8-Octandria, 1-Monogynia.)
Stove evergreens. Cuttings of half-ripe shoots in sand, under a bell-glass, and in moist heat; sandy loam and fibrous peat. Winter temp. 50° to 60°; summer, 60° to 85°.

**T. acuminata** (long-pointed). See Cavendishia acumi-

**nata.**

angustifo'lia (narrow-leaved). See Eurygrania angus-

tifolia.

cordifolia (heart-leaved). See Cavendishia cordi-

folia.

corona'ria (garland). See Themistoclesia coroniola.


Jest'sica (Jessica). Pale red. September. Vene-

duca (?). 1865.

macra'nia (large-flowered). See Agapetes ma-

crantha.

macrophy'lia (large-leaved). See Psammitis macro-

phylla.


1847.

myriob'lia (myrtle-leaved). See Pentapterigyum ser-

pens.

ocane'nisia (Ocana). Colombia. 1851.

penduliflor'a (pendulous-flowered). See Psammitis

microphylla, New. 1847.

pinch'inchasia (Finchchina). 12 Scarlet. Colombia.

1849.

gia'bra (smooth). See Psammitis hookeri.

fuchsia'rum (beautiful). See Agapetes variegata.

, , , glabra'bra (smooth). See Agapetes glabra.

sacra'nia (fleshy-flowered). See Psammitis sar-

canthia.


Ecuador. 1850.

seti'era (britishly). See Agapetes setigera.

vaccini'a (cranberry-like). See Agapetes setigera.

saraca'ria (variegated). See Agapetes variegata.

THINNING. The exhaustion consequent upon the production of seed is a chief cause of the decay of plants. This explains why fruit-trees are weakened or rendered temporarily unproductive, and even killed, by being allowed to ripen too large a crop of fruit, or to “overbear” themselves.

The thinning of fruit is, consequently, one of the most important operations of the garden, though one of the least generally practised. It is equally important to be attended to in all fruit-bearers, but especially the vine, nectarine, peach, apricot, apple, and pear. It should be done with a bold, fearless hand; and the perfection of that which is to remain will amply reward the grower, in harvest time, for the apparent sacrifice made. But he will not reap his reward only in this year, for the trees, thus kept from being weakened by over-production, will be able to ripen their wood, and deposit their store of sap in their vessels, so absolutely necessary for their fruitfulness next season.

Thinning is a most necessary operation with plants as well as with the fruit they bear. The roots of a plant extend in a circle round it, of which the stem is the centre. If the roots of adjoining plants extend within each other’s circle, they mutually rob one another of nourishment, and check each other’s growth. Thinning in the seed bed is generally applied with too timid a hand.

**THISTLE.**

Ca'ridus. *Cni'cus.

THISTLE, BLESSED. *Sily'bum Mara'nia'mum.

THISTLE, COTTON. *Onop'o'don Aca'ntha'mum.

THISTLE, GLOBE. *Echi'nosps.

THISTLE, GOLDEN. *Secl'ymus hispa'nicus.

THISTLE, HEDGEJOIG. *Echinocac'cis.

THISTLE, HOLY. *Sily'bum Maria'num.

THISTLE, MELON. *Melocactus.

THISTLE, OUR LADY’S MILK. *Sily'bum Maria'num.

THISTLE, SCOTCH. *Cni'cus lanceolatus.

THISTLE, SOW. *So'renchus.

THLADIA NTHA. (From thlades, a eunuch, and anhos, a flower. Nat. ord. Cucurbitaceae.)

Hardy, deciduous climbers, with tuberous roots. Seeds; divisions of the tubers. Well-drained soil.


Central China. 1905. Tubers absent.

**THLAP.** Bastard Cress. (From blaspis, an old Greek name for cress. Nat. ord. Cruciferae.)

Hardy annuals or perennial herbs.


**arab'icum** (Arabician). See *Euglionea cappa-

docicum.


Tyro'licum (yellow). See Bivon'ea lutea.

occ'itanicum (Occitanian). See T. alpestre.


sae'tile (rock). See *Euglionea saxatile.

st'e'rule (wood). See T. alpestre.


**THOMA SIA.** (Named after Messrs. Thomas, two


Greenhouse, Australian, evergreen shrubs. Cuttings of firm, stubby, young side-shoots in sand, under a bell-glass, in April; sandy, fibrous loam and peat, with a little charcoals and broken pots, and pots extra well-

wintered. Temper. 40° to 45°; a sheltered, airy place in summer.

**T. canescens** (hoary). See T. glutinosa.

**diffuz'is** (straggling). White. April. 1822.

**dumos'a** (bristly). See Rulingia Parviflora.


**glutinosa** (clammy). Red. May. 1835.

**hadi'lia** (broad-leaved). Pink, dark brown. 1885.

**grandif'lorus** (large-flowered). Red. 1840.

**punctu'a** (punctured). See T. pauciflora.


**stipul'ipila** (large-stipled). See T. triphyl'la.


**THOMSONIA.** (Commemorative of Dr. A. T. Thom-

son. Nat. ord. Araceae.)

Stove perennial herbs, with tuberous roots. Offsets. Fibrous loam, peat, and sand.

**T. Ho'kers** (Hocker’s). See T. nepalensis.

**nepa'lis** (Nepalese). 4. Green-yellow. Hima-

laya. 1816.

**THORN.** Crata'gus.

**THORN APPLE.** Datura'na Stramo'niu'm.

**THORN, CHRIST'S.** Pal'i'rus austral'is.

**THÖÄN, GARLAND.** *Pal'i'rus austral'is.

**THORN, JERUSALEM.** Parki'o'nio acu'la'ta.

**THOROUGH-WAX.** Bu'fle'u'm rotundif'o'lium.


Stove evergreen shrub. Cuttings of firm side-shoots in sand, under a bell-glass, in heat; sandy, fibrous loam and a little charcoal and broken pots. Winter temp. 50° to 58°; summer, 60° to 85°.


**THREE BIRDS ORCHID.** Pog'o'nia pe'nuda.

**THrift.** Arme'ria mari'tima. See *Eing.*

**THRINAX.** (From thrinas, a fan; shape of the leaves. Nat. ord. *Palmae* [Palmaeaceae]. Linn. *S-Hexan-

dria, i-Monogonia.* Allied to Cupania.)

Stove Palms. Seeds in a moist, sweet hotbed, in spring; rich, sandy soil. Winter temp. 55° to 60°; Europe (Paris), winter, 10° to 20°.

**T. arbo'rea** (tree-like). See *Acanthorhiza arborea.

**arg'o'nes** (silvery). 15. W. Ind. 1830.


**cent'a** (britishly). 8. Cuba.
TRHIPS

THURIPS. Thrips Adonidum is one of the worst pests that can gain a footing in our stoves and greenhouses. The larvae and pupae are yellowish-white, and the perfect insect is of a dull, deep black, with the point, and sometimes the whole of the abdomen, of a rust colour; the wings are dirty white; the horns and legs yellowish, the extremity of the former black. It attacks plants by piercing with the spurs; and one often sees, at the tip of the tail, a globule of blackish fluid, which it soon deposits, and, by innumerable spots of this glutinous matter, the pores of the leaves are stopped up, and the leaves and flowers of the surface become blistered. During March the full-grown larvae and pupae, which are as large as the perfect insect, are found in groups, feeding on the under side of the leaves; and at this time the recently-hatched but perfect insect either lies close under the ribs, or roves about in search of a mate (Currit).

Flowers of sulphur have been recommended as destructive of this plague, but we believe that Scott's snuff, and, indeed, any scented powder, would be of greater effect than any flower of sulphur. Brown's Fumigator would answer, as is effectual an application as any.

Prevention, however, is better than cure; and if the plants are kept healthy by due ventilation, and by moisture both in the air and soil, this insect may be usually banished.

T. ochraceus infests the ripe fruit of plums, peaches, and nectarines, piercing the stalks, and causing their fall, and rendering the fruit disgusting. It was first noticed and described by Mr. Curtis. It is narrow and linear, of a bright and deep ochreous colour, the eyes are black, the horns appear to be only six-pointed and brownish, at the tips, it has three ocelli in the crown, the body is hairy, the tip pointed and bristly, the wings are shorter than the body in the male, lying parallel on the back when at rest, narrow, especially under the ones, and figured longest beneath and at the point, tips of feet dusky. It is destroyed by the same means as T. Adonidum.

THRISES/URN.

(From their, a hair, and spicarum, a seed; the seeds are: hairy. Nat. ord. Orchidaeae. Now referred to Sarcochilus.)

T. Berkleyi (Berkley's). See Sarcochilus Berkleyi.

" Freema'nis (Freeman's). See Sarcochilus Freema-ni.

" Hartma'ni (Hartmann's). See Sarcochilus Hartma-ni.

" indica'tum (Industates). See Sarcochilus Indus-ta-tus.

" luni'ferum (Crescent-bearing). See Sarcochilus Luniferus.


" murica'tum (Finely-warted). See Sarcochilus Murica-tus.

" sillemia'num (Sillemian). See Sarcochilus Sille-mia'nus.

" unguicula'tum (Clawed). See Sarcochilus Ungui-cula-tus.

THROATWORT. Campa'nia Trach'Ium and Trache'Ium car'a'lum.

THYRA'LLIS. (An old Greek name. Nat ord Mal-paghiaeae.)

Evergreen stove shrub. Cuttings in sand in bottom-heat. Loam, peat, and sand.


THYRPTO'MENE. (From thwart, to break to pieces, and mene, the moon. Nat. ord. Myrtaceae.) A slender, heath-like shrub. Cuttings in sand under a hand-lamp. Loam, peat, and plenty of sand.


THUYA. See THUYA.

THUYP'OSIS. See THUYA.

THUNDERRGIA. (Named after C. P. Thunberg, the celebrated botanist. Nat. ord. Acanthaceae. Linn. Swiss Botany.)

Stove evergreen climbers. Seeds in early spring, in a strong, moist, sweet hoished; cuttings, any time before the end of August, in sandy soil, under a bell-glass; fibrous horn and peat, with a little rotten dung and lime-rubbish. Winter temp. 48° to 60°; summer, 60° to 85°. As they are very subject to red spider, perhaps the best mode of treating these fine plants is to grow them as annuals, throwing the plants away in the end of August. If preserved, the flowers of sulphur and the syringe must hardly ever have a holiday. Indeed, the syringe and a little lather are necessary to their health in summer. 1824. Suggested by the Duke of York, and with yellow throat. September. Trop. Africa. 1887.


" Do'dssi (Dodds's). Golden yellow; throat violet. 3. August. Trop. Africa. 1824.


Sierra Leone.


" dua'ta (heart-leaved). See T. Fragrans.

" Do'dsi (Dodds's). See T. ALATA DODDSI.

" dra'ga (Dragee). S. Africa. 1871.


" a'la (white). White. 1892.

" hae'ris (Smooth). Scentless. 1869.

" Harrisi' (Harris's). See T. Laufirolla.


" laurif'o'la (laurel-leaved). Blue, Summer. Malaya. 1870.

" myso're'nis (Mysore). Yellow, pale purple. 2. S. India. 1834.


THUNDER PLANT. Semper'o'rum tac'trum.

THU'YA. (Meaning not clear. Nat. ord. Orchidaeae. Now referred to Phaius.)

T. a'la (white). See Phaius ALBUS and varieties.

" Benso'nia (Mrs. Benson's). See Phaius Benso-ne's.

" brymeri'a'na (Brymerian). See Phaius BRYMERIANUS.

" candidi'ssima (whitest). See Phaius CANDIDISSIMUS.

" lili'ana (Lilli's). See Phaius LILIAE.

" marsh'allia'na (Marshallian). See Phaius MARSH-ALLIAN.

" p'ech'a (fair). See Phaius ALBUS.

THU'YA. Arbor vitae. (From thumos, a sacrifice; the resin being used as incense in Eastern sacrifices. Nat. ord. Conifer (Conifera). Linn. 21. Monocca, 10. Decandria.)

Hardy evergreen trees. Seeds, which ripen freely, or by cuttings; the seeds are best sown in April, slightly
Levant. 1699.
THYME. Thy'mus.
THYME, BASIL. Calamintha Acinos.
THYME, WATER. Elo'dea.

**T. orientalis** (decussate). Leaves spreading like those of a Juniper.

<table>
<thead>
<tr>
<th>T. orientalis deuca'sta (decussate)</th>
<th>Leaves spreading like those of a Juniper.</th>
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<tbody>
<tr>
<td><em>de nsa</em> (dense). Sea-green.</td>
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<tr>
<td><em>elegantissima</em> (very-elegant). Twigs erect, compressed, golden-yellow when young; <em>falca</em> (sickle-shaped).</td>
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<td><em>falca</em> 'na (dwarf).</td>
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<td><em>falca</em> 'na* (new).</td>
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<td>*fronde's (Flabella-like).</td>
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<tr>
<td><em>fungula</em> (stalked). Twigs bright green.</td>
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<td>*globo's (globose).</td>
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<td>*gra'cis (slender). Twigs slender.</td>
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<td><em>Houve</em> (Hovey's).</td>
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<tr>
<td><em>incurrata</em> (incurved).</td>
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<td><em>incus</em> (intermediate).</td>
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<tr>
<td><em>macrocarpa</em> (large-fruited).</td>
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<td><em>mela'd nis</em> (Melden).</td>
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<tr>
<td><em>mi nima</em> (smallleat).</td>
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<tr>
<td><em>semperaure'scens</em> (always-golden).</td>
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<tr>
<td>*sieboid'si (Siebold's).</td>
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<tr>
<td><em>orientalis</em></td>
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<tr>
<td><em>tri'cula</em> (eject). See T. orientalis pyramidalis.</td>
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<td><em>tata</em> (Tartarian). See T. orientalis pyramidalis.</td>
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<tr>
<td><em>triangula'tris</em> (triangular).</td>
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<tr>
<td><em>zuccariniana</em> (Zuccariniann). See T. orientalis pyramidalis.</td>
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<tr>
<td><em>pendula</em> (drooping-branched). See T. orientalis pendula.</td>
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<tr>
<td><em>plica</em> (plaited).</td>
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<tr>
<td><em>ori'ginalis</em></td>
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<tr>
<td><em>au'rea</em> (golden).</td>
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<tr>
<td><em>compa'cta</em> (compact).</td>
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<tr>
<td><em>fastigia'ta</em> (upright).</td>
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<tr>
<td><em>grat'ulis</em> (slender).</td>
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<tr>
<td><em>mi nima</em> (smallleat).</td>
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<tr>
<td><em>pendula</em> (drooping).</td>
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<tr>
<td><em>mi mili</em> (dwarf).</td>
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<tr>
<td><em>pyramidalis</em> (pyramidal).</td>
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<tr>
<td><em>recu'ritna na</em> (dwarf-recurred).</td>
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<tr>
<td><em>recu'rolia</em> (recurred).</td>
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<tr>
<td><em>semperaure'scens</em> (always-golden).</td>
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<tr>
<td><em>umbraclu'sfera</em> (umbrella-bearing).</td>
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<tr>
<td><em>variega'ta</em> (variegated). Variegated with light yellow.</td>
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<tr>
<td><em>zebra</em> (zebra-stripe). Twigs striped at intervals.</td>
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<tr>
<td><em>Stand'shii</em> (Standish's). So. T. japonica.</td>
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<tr>
<td><em>tetragona</em> (four-sided). See Libocedrus Tetragona.</td>
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<tr>
<td><em>warea</em> (Warean). See T. occidentalis wareana.</td>
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</table>

**THUYOPSIS.** (From Thuya, the Arborvite, and opis, likeness. Not ord. Coniferae. Now referred to Thuya.)

| T. borealis nidifera (nest-bearing northern). See Cupressus nootkatensis nidifica. |
|-----------------------------------------------|-----------------------------------------------|
| *dolabra* (axx-shaped). See Thuya Dolabra |                                           |
| *lates* (green). green. See Thuya Dolabra |                                           |
| *nana* |                                           |
| *variega'ta* |                                           |

**THUYA.**

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<table>
<thead>
<tr>
<th>THUYA.</th>
<th>Thymus.</th>
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<tr>
<td><strong>BASIL.</strong></td>
<td>Calamintha A'cinos.</td>
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<tr>
<td><strong>BASIL.</strong></td>
<td>Elod'a.</td>
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</tbody>
</table>
THYMELEÆ. (From thumos, thyme, and elaia, the olive; the leaves are comparable to those of thyme, and the berries to olive berries. Nat. ord. Thymeoleaceae.)

Hardy or nearly hardy shrubs. Cuttings in a cold frame. Loam, peat, and sand.


T. hispœva (hairy). See PASSERINA HIRSUTA.


TIARIDIIUM. (From thumos, thyme, and elaia, the olive; the leaves are comparable to those of thyme, and the berries to olive berries. Nat. ord. Thymeoleaceae.)

These must be grown in sandy soil. They must be spurred in closely. Flowers nearly all the year.

T. barberoi'nes (Barberia-like). Red. Brazil.


T. cocci'neus (scarlet). See T. LEMAIRIANUS.

T. crassa (Indian). See ERANTHEMUM INDICUM.


T. ilacus'is (ilaca). See T. CALLISTACHYUS.


THYSANOTERIS. (From thysanos, a thyme, and pteris, a fern; in reference to the fructing portion of the frond. Nat. ord. Filices.)


THYSANTHUS. (From thysanos, fringed; the flower much fringed. Nat. ord. Liliaceae. Linn. 6-Hexandria, 1-Monogynia.)

Greenhouse, purple-flowered, from Australia. By division of the plant in the herbaceous, and dividing the tuberous-rooted sandy loam and leaf-mould. Winter temp., 30° to 45°, and very little water.

GREENHOUSE HERBACEOUS.


T. ιντρικε'ας (intricate-stemmed). See T. DIChOTOMUS.

T. juc'icus (rush-like). 1. 1804.


T. προλι'φες (proliferous). See T. MULTIFLORUS.

T. τυ'νις (slender). Lilac. May. 1836.

GREENHOUSE TUBERS.

T. ela'cio (taller). See T. TUBEROSUS.


TIARELLA. (From tia, a little diadem; form of seed-pod. Nat. ord. Saxifragæae. Linn. 10-Decandria, 2-Digynia.)

Hardy, white-flowered herbaceous. Divisions of the root; common soil; dry bones, and the front of them, or elevated places in rock-works.

T. col'o'rans (colouring). See HEUCHERA GLABA.


T. Foam Flower.

T. Монголиа). See TOLMIEA MENGIESI.


T. angustifolia (anise-leaved). See HELIOTRIPUM ANNUUM.

* Asclepias curassavica. See T. PAVONIA.

* aurea (large-flowered). See T. PAVONIA and varieties.

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**heliconioi'des** (Heliconia-like). i. White, Bracts red. Brazil. 1883.

* heterophila* (variegated-leaf). See T. *VIRGINALIS.*

* heterogly'phica* (hieroglyphical). Leaves variously banded with purple below and dark green above. T. *VIRGINALIS.*

* variega'ta* (variegated). Leaves striped with white. 1903.

* hellegerei'na* (Hellegerean). See T. *REGELI.*

* imper'alis* (Imperial). See T. *REGELI.*

* ina'na* (empty). See T. *BULBORA.*

* incarna'ta* (flesh-colored). S. Amer.


* inflo'ta* (infated). See T. *INCURVATA.*


* isosa'ed* (Isoza-ed). ü, Orange. Panama. 1903.

* fo'nghei* (Jonghei). Yellow. Brazil. 1874.

* juncifo'lia* (rush-leaved). See T. *SETACEA.*

* karwinksi'na* (Karwinokian). ü, Yellow. Mexico. 1870.

* kirkhefi'na* (Kirchoffian). Blue; bracts coral-red Mexico. 1889.

* Kra'meri* (Kramer's). See T. *PITTACINA.*

* Li'ndeni* (Linden's). Violet; bracts rose. Peru. 1861.

* flo're ple'no* (double-flowered). Partially double. 1881.

* interme'dia* (intermediate). Bracts rosy-green. 1862.

* koutsinski'na* (Koutsinskian). See T. *LINDENI* FLORE FLENO.

* luxuri'ans* (luxuriant). Stem branched. 1890.


* Marti'llis* (Martell's). Leaves narrower in T. *zebra*; and white at base. 1898.


* morrenia'na* (Morrenian). See T. *LINDENI.*

* musa* (musa). See C. CATACIA MUSICA.

* narthcicoi'des* (Narthhelm-like). ü–2. Yellowish-white. Late, 1900.

* mi'ida* (shining). See C. CATOPSIS HILA.*

* mel'Me* (nodding). See C. CATOPSIS HILA.*

* obscure* (obscure). ü, S. Amer. 1820.

* pancicula'ta* (pan-chic). ü, Blue. June, W. Ind. 1821.

* parachi'vae* (Parabale). ü, Yellow; bracts purple. Brazil. 1885.

* pastuch'ofia* (Pastuchoffian). Leaves with a mosaic of dark green lines. Brazil. 1885.

* paucifo'lia* (few-leaved). See T. *BULBORA PÆCUFOlia.*

* Philippicob'ugi* (Philipp-Coburg's). i. Bright yellow. Brazil.

* pin'ette* (potted). See T. *SPLENDEDS.*

* Piatto'mi'na* (Plattnm's). ü, Violet. Brazil. 1875.

* pink'stia'chy* (many-spiked). See T. *FASCICULATA.*

* polyst'tia* (poly-stia). See T. *FRUCTIFERA.*


* pro'puco* (frosted). ü, Blue. W. Ind.; Venezuela. 1876.


* Kra'meri* (Kramer's). Bracts wholly red. Brazil. 1873.

* pulhe'la* (pretty). ü, Pink. Autumn. Brazil. 1823.

* amo'na* (lovely). ü, Blue. Brazil. 1883.

* pu'chra* (fair). See T. *PULCHELLA.*

* pun'culta' (frosted). See T. *PUNICULA.'


* recurva'lia* (recurved-leaved). See T. *DIANTHOIDEA* ROSA.

* Reg'na* (queen). White, fragrant. Trop. Amer. 1867.

* simpor'iais* (imperial). Rosette of leaves 4 ft. in diameter. Brazil. 1883.


* revolu'ta* (revolute). See T. *DURATH.*

* ri'ida* (still). See T. *RECTA.*


* Ro'liai* (Roital). Rosy. Leaves with black blotches at the top. Peru. 1887.

* ro'sam* (rosy). See T. *DIAINTHOIDEA* ROSA.

* ru'bia* (rubia). See T. *ORANGEFLORA.*

* sanguina'neae* (blood-coloured). Leaves with red eye-like blotches. Colombia. 1874.

* Saud'rosi* (Saunders'). ü, White. Brazil. 1884.

* scala'ris* (ladder-like). ü, Yellow; bracts rose. Brazil. 1877.

* Schlechtendi'ae* (Schlechtendal). ü, Mexico. 1883.


* seta'ceae* (bristly). ü, Blue. W. Ind. 1824.

* specio'sia* (showy). See T. *SPLENDEDS.*

* splet'ndens* (splendid). ü, Yellow. March, Guiana. 1847.

* stadi'cofora* (Statically-flowered). See T. *FILIPOLIA.*

* strophe'phi'a* (twisted-leaved). Violet; bracts red. Central Amer. 1878.


* caut'se cento* (cautious). Sternum taller.


* tenuifo'lia* (slender-leaved). See T. *SETACEA.*

* tessell'a'ia* (tessellated). Leaves with square markings outlined with dark green. Brazil. 1873.


* morrenia'na* (Morrenian). See T. *LINDENI.*

* musa* (musa). See C. CATACIA MUSICA.

* narthcicoi'des* (Narthhelm-like). ü–2. Yellowish-white. Late, 1900.

* mi'ida* (shining). See C. CATOPSIS HILA.*

* mel'Me* (nodding). See C. CATOPSIS HILA.*

* obscure* (obscure). ü, S. Amer. 1820.

* pancicula'ta* (pan-chic). ü, Blue. June, W. Ind. 1821.

* parachi'vae* (Parabale). ü, Yellow; bracts purple. Brazil. 1885.

* pastuch'ofia* (Pastuchoffian). Leaves with a mosaic of dark green lines. Brazil. 1885.

* paucifo'lia* (few-leaved). See T. *BULBORA PÆCUFOlia.*

* Philippicob'ugi* (Philipp-Coburg's). i. Bright yellow. Brazil.

* pin'ette* (potted). See T. *SPLENDEDS.*

* Piatto'mi'na* (Plattnm's). ü, Yellow. Brazil. 1875.

* pink'stia'chy* (many-spiked). See T. *FASCICULATA.*

* polyst'tia* (poly-stia). See T. *FRUCTIFERA.*


* pro'puco* (frosted). ü, Blue. W. Ind.; Venezuela. 1876.
TILLELLA. Bunt. The various species of Tilletia grow upon different grasses, and the most common, T. tritici (often named T. as riei), grows upon the young grains of wheat, filling the interior with dark brown spores. When crushed, the grains feel greasy and give off a disagreeable smell. The spores, however, upon germination give rise to a short hypha or stalk, on the apex of which a cluster of slightly curved, needle-like sporiella are produced. Infected grain may be steeped in solutions of r.t. tant of carbolic acid, or permanganate of potash, in water.


T. jambosilla (Jambosilla), See T. kunigii.


T. or et (erect). See T. fugax.


TITHEA. A genus of moths, the larvae of which are very destructive.

T. carotae. Carrot Moth. Head and back and upper wings reddish-brown; abdomen grey and white. Its caterpillar is greenish-grey, with black tubercles, and lives on the flowers and seeds of the carrot, but prefers the cabbage head. Cuttings in sand. T. padella, Small Ermine Moth, is white, with black dots on the upper wings. Eggs deposited in June and July near the blossom-buds of the Hawthorn, euonymus, apple, and pear-tree. Caterpillars appear in autumn, and inclose the twigs with a web. In the following spring they attack the petals and calyx. Colour, dull lead, with a black head. The proper name is Hyponomyta padella.

T. clerckella. Pear-tree Blister Moth. The caterpillars of this raise dark-brown blister on the leaves of the pear-tree, and less often on those of the apple. The moth is active and minute, shining like pearly satin, the wings having an orange ground, spotted with black and other colours. It appears in May. Mr. Curtis says: "To check this disease, it will be advisable to wash the tree with soap-suds at the end of May or beginning of June, when the moths are pairing and laying eggs for a future progeny; and if a very valuable tree be only partially attacked, the blistered leaves might be gathered and burnt as ash."

T. capitiella. Triple-spotted Currant Tinea. The larvae of this feed upon the pith of the young shoots of the currant, which they attack in the spring. The moth itself is rare, as it is attacked by a disease, its wings are inferior, the superior wings bronzed, spotted with purple and yellow.

T. porcella, Rocket or Grey-streak Moth, has its habits and forms thus described by Mr. Curtis: During the middle and latter end of April, as the shoots of the rockets advance, it is found that the leaves adhere firmly together, and those that liberate themselves are perforated with large holes. On forcibly opening a shoot (for the young leaves are connected by little threads), a small green caterpillar of different shades, varying with its age, is found in or near the centre, feeding upon the tender leaves, and leaving them with a small pair of forceps, such as are used for microscopic objects; but as some might be too minute at that early period to be detected on the first search, this operation must be repeated. Pincushion bulbs are recommended.

TTINEEA. (Commemorative of Mademoiselle Tinnel, a traveller on the Nile. Nat. ord. Labiate.)

Stove shrubs. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.


T. denuita (toothed). Differs by having a large calyx. 1854.


TINOSPORA. (From litus, distinguished or notable, and spora, a seed; the seeds are moon-shaped. Nat. ord. Menispermaceae.) Stove twineers. Seeds; cuttings in sand, in bottom-heat, in loam, peat, and sand.


T. tomentosa (fleked). 10. White, green. India; Borneo.

TI'PULA. Crane-Fly, or Daddy-long-legs. T. oleacea, the grubs, or leather-jackets, so injurious to the market gardener, are its larvae. They attack the roots of scarlet beans, lettuces, dahlias, potatoes, &c., from May to August. During the last month and September they become pupae. Mr. Curtis observes, that it is said that lime-water will not kill them, and that if quick-lime was scattered on the ground at night, it would destroy them when they come to the surface to feed; and all the grubs that are found on the walls, paling, ground, or elsewhere, should be killed, especially the female, which would prevent any eggs being deposited in the ground. A mixture of lime and gas-water, distributed by a watering-pot over grass, has completely exterminated the larvae where they had been exceedingly destructive; and by sweeping the grass with a bag-net, like a commoner's landing-net, only covered with canvas, immense numbers of the grubs might be taken and destroyed.

TITHO'NIA. (From Thithous, in mythology, the favourite of Aurora. Nat. ord. Compositae [Composita]. Lin. 10. Sympycena, 3-Frangurana. Allied to Hellanthus.) Stove, yellow-flowered evergreens, from Mexico. Cuttings of young shoots, a little firm at their base, in sand, under a bell-glass, and in a little bottom-heat; rich, sandy, fibrous loam. Winter temp., 50° to 55°; summer, 60° to 80°.


T. excelsa (tall). See Viguiera excelsa.

T. ova 'la (egg-leaved). See Zexmenia ovata.


TITHY MA'LUUS. (From thulamalo, the Greek name for sugar-cane [Saccharum officinarum], or the cane sugar, as were described by Dioscorides. Nat. ord. Urticaceae. Now referred to Urophorbia.)

T. angustis'folius (narrow-leaved). See Euphorbia cypris'sias.

T. Cypris'sias. (genuis'sus [indiced]. See Euphorbia geniculata.

T. pe'ndulus (drooping). See Euphorbia pendula.

TITTMA'NIA OVA' TA. See Vandellia cruscata.

TITTSMA'NIA VISO' SA. See Vandellia hirsuta.

TOAD FLAX. Lina'ria.

TOAD FLAX, IVY-LEAVED. Lina'ria Cymbala'ria.

TOAD FLOWER, AFRICAN. Stapei'lia.

TOAD LILY. Tric'yris.

TOAD RUSH. Ju'ncus buf'o nius.

TOAD TOOL. Poisonous members of Agaricus and allied genera.

TOBACCO (Nicotiana), whether in the form of snuff, or its decoction in water, or its smoke whilst burning, is very destructive to insects. Tobacco-paper is paper saturated with the decoction of tobacco, and when burnt emits a fume nearly as strong. It is an easy mode of generating the smoke. Whenever plants are smoked they should be done so on two following nights, and then be syringed the following morning. Mr. Cameron says to dry away and burn the paper. It is an efficacious substance to fumigate with for destroying the aphis without doing any injury to the plants. If the house is not filled too rapidly with smoke,
Toluifera Balsamum

Stove white-flowered evergreens. Cuttings of young, stubby side-shoots in sand, under a glass, in April, in a sweet bottom-heat; fibrous loam and a little peat or leaf-mold. Winter temp., 50° to 60°; summer, 60° to 80°.

T. aculea'ta (prickly). 6. India; Malaya. 1790.


{panicula'ta} (panicked). 30. May, Mascarene Islands. 1824.

TODDY PALM. Cary'a t'a'u'ien.


cauti'a'ta (southern). N. Holland. 1831.

ba'bara (unpolished). 2-6. New Zealand to S. Africa. 1805.

{Fraseria} (Fraser's). 2-4. Blue Mountains, Australia; New Caledonia. 1850.

{wilkesi'na} (Wilkesian). Fronds larger; lower pinnae deflexed. Fiji. 1870.

{grandis} (large-pinnuled). See T. moorei.


{Moni'a} (Moni'a). Fronds tripinnate. Lord How'e's Island. 1886.

pelt'a'oida (transparent). See T. hymenophyloides.

rivi'cisa (river-bank). See T. barbara.


{philo'sa} (plumy). Ultimate segments turned up. 1879.

{wilkesi'na} (Wilkesian). See T. fraseri wilkesi'na.

TOFIE'DIA. "False Ashphodel." (Named after Mr. Tofield, a botanical patron. Nat. ord. Liliyo'ris [Liliaceae]. Linn. 1821-1826.) Hardy, North American, herbaceous perennials. Division of the roots in spring; sandy loam and a little vegetable mould.

T. alpi'na (alpine). See T. calcu'culata.

tor'a'ka (northern). See T. palu'bris.


{pu'bens} (downy). Green, yellow. July. 1840.


{ru'difolius} (thread-formed). Comi'nomocystis.

TOLMIE/A. (Commemorative of Mr. Tolmie, a doctor of the Hudson's Bay Company. Nat. ord. Saxitrigae, Allied to Osmduna.) Hardy perennial herb, producing a plantlet at the base of each leaf blade. Divisions. Ordinary soil.


TO'PIS. (Meaning not known. Nat. ord. Composi'tae [Compositae]. Linn. 15-24-Syngenesia, 1-2-Eupdes. Allied to Cichorium.) Hardy, yellow-flowered annuals, from the South of Europe. Seeds in flower-beds or borders in April. The shrubby evergreen shrub, produced by cuttings in sandy soil, under a bell-glass in summer.


{grandi'fora} (large-flowered). See T. altissi'ma.


{umbell'a} (umbelled). 2. Yellow, purple. 1820.

{virga'la} (twigg). 2. 1818.

TOLU BALSAM-TREE. Myro'xylon tol'u'for'am.

TOLUIFERA BALSAMUM. Myro'xylon tol'u'for'am.
TOOTHI-AFHE-TREE. Zanthoxylum.

TOOTHWORT. Dentaria.

TOP-DRESSING. Manure spread over the surface whilst the crop is growing.

TORCH LILY. Kniphofia.

TORCH-THISTLE. Ceratostigma.

TORENIA. (Named after Rev. O. Toren, a Swedish botanist. Nat. ord. Figuora [Scrophulariaceae]. Linn. (Diplanthus, China.)

Stove evergreens. Cuttings of the points of shoots, or small side-shoots, in sandy soil, and in a little heat; if far enough from the glass of the frame or pit, they will want no bell-glass; fibrous loam and sandy peat in equal proportions, with another part made up of dried old cow-dung, charcoal, and rough sand. Winter temp., 42° to 50°; summer, 60° to 65°. T. arracanensis (Arracan). Deep purple. June. 1846. asiatica (Asiatic). 4. Purple. June. Trop. Asia. 1845. auriculata (auricula-leaved). See CRATEROSTIGMA PULVINATA.


TORRINGO CRAB. Pyrus Torrige. TORMENTIL. Potentilla tormentilla. TORREY. (Commemorative of Dr. Torrey, an American botanist. Nat. ord. Conifer. Allied to Pines.)


TORTOISE PLANT. Testudinaria elephantipes. TOTTRIX. A genus of moths.

T. luscana generates a red grub, and T. cynosbana a black-spotted, green grub, both very destructive of blossoms.

T. litusana. Vine Tortrix. Found on the vine in April and May; head yellow; upper wings marbled with rusty and grey colours. Caterpillars appear as the blossoms are open, which they unite with white thread. T. nigricans. Red Plum Grub Tortrix. Moth black, appearing in June. Eggs deposited on the plum; grub small, red, pierces the fruit, and is found near the stone. Mr. Gray observes that, "If the plums that have fallen off be examined, a small red caterpillar will be found within it; the caterpillar being generally full grown when..."
TOTARA PINE

Poaecistys totara

TOUCH-ME-NOT

Impatiens

TOURNEFOI ETIA

(Name after J. P. Tournefort, a great systematic botanist. Nat. ord. Boragowits [Boraginaceae]. Linn. 5-Penicillia, 1-Monogynia. Allied to the Heliotropium.)

Cutters of young shoots in April or August, in sandy soil, under glass, and in a little heat. Some, such as heliotropios, make a fair bed out of doors; except for this purpose, they are not worth house room either in a pot or a plant-stove: any light, common soil suits them, and they may be planted out in the middle of May.

GREENHOUSE EVERGREENS.

T. fruticos (shrubby). See T. Messerschmidia.


STOVE EVERGREENS.


cordipeta (heart-leaved). White. Colombia. 1897.


lavaflata (smo-th). Trop. Amer.


sea birta (rough). S. Amer.

T. sesdens (climbing) of Miller. Jamaica.

sea dens (climbing) of Wlkdenow. See T. peruiana.


TOURRETTIA

(Commemorative of Marc, Ant. Clard de la Tourret, a botanist. Nat. ord. Bignoniaceae.)

Hardy balsam, usually twining herb. Seeds. Loam, leaf-mould, and soil.

T. lapppa (Lapp-like). See T. volubilis.


TOVRIA OLERA CEA

See Simlacina olercea.

TOVOMITA

(Tovome, the name in Cayenne, Nat. ord. Guttiferae [Guttiferae]. Linn. 13-5-Polyandria, 5-Pentaerytra.

Solves green trees. Cuts of half-ripened shoots in sand, under a bell-glass, in heat; sandy peat and fibrous loam. Winter temp., 58° to 65°; summer, 65° to 90°, and moist atmosphere.

T. amasica (Amazon). Brazil.

choisya (Cardhay) Guiana.


guian am (Guianen). Green. Guiana. 1807.

TOWERWORT

Turrilis.

TOWN CRESS

Let fidiu'm sati'um.

TOWNSENDIA

(Commemorative of Townsend, Nat. ord. Compositae.)


T. grandiflora (large-flowered). Yellow. N.W. Amer.


TOXICODENDRON

(From toxicon, poison, and don'ron, a tree; all parts are more or less poisonous. Nat. ord. Euphorbiaceae.)

A large greenhouse shrub. Cuttings in sand under a bell-glass. Loam, finely broken bricks, and sand.


TOXIOPELEA

(From toxicon, poison, and phloios, the inner bark. Nat. ord. Apocynaceae. Now referred to Acokanthera.)

T. cestroides (Cestrum-like). See Acokanthera venenata.

spectabilis (showy). See Acokanthera spectabilis.

Thunbergii (Thunberg's). See Acokanthera venenata.

TRACHELUM

(From trachetos, the neck; supposed efficacy in diseases of the trachea. Nat. ord. Bellworts [Campanulaceae]. Linn. 5-Penclaria, 1-Monogynia.)

Hardy herbaceous perennials. Seeds in a slight hotbed in spring; also by cuttings of young shoots in sandy soil, in April, or at the end of summer; sandy loam and a little vegetable mould.


n album (white). White.


rumelium (Romelian). See T. rumelium.

TRACHELOSPERMUM

(From trachetos, the neck, and sperma, a seed; the seeds are furnished with a dense tuft of hairs at their end. Nat. ord. Apocynaceae.)

Greenhouse or hardy evergreen twiners. Cuttings in sand, under a bell-glass. Fibrous loam, peat, and sand.


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TRACHYCARPUS. (From trachus, rough, and karpos, a fruit; the fruits of some species are felted with hairs. Nat. ord. Palmaeae. Allied to Chamaerops.)

Greenhouse and half-hardy palms. Seeds. Loam, peat, and sand.


*Fortunii* (Fortune's). See *T. excelsa.*

*Griffithii*. See *T. martiana.*

*khayasa* (Khasian). See *T. martiana.*


*T. Takii* (Takii). Trunk covered with fibrous network, but no bristles. Western Himalayas. 1906.

TRACHYLOBIUM. (From trachus, rough, and lobos, a pod; the pods are rough. Nat. ord. Leguminosae.)

Stove evergreen trees. Seeds; cuttings in sand, in bottom-heat. Loam, peat, and sand.


TRACHY MENE. (From trachus, rough, and hymen, a membrane; channels of the fruit. Nat. ord. Umbelliferae [Umbellifereae]. Linn. 5-Pentanaria, 1-Monogynia.)

All the following are evergreen plants, except *caru'lea.* The annuals never do much good in the open air, however raised; but if sown in a gentle hotbed in March, pricked out and potted, and flowered in the greenhouse in summer, they will reward the trouble; sandy loam and leaf-mould; shrubs, cuttings of young shoots under a bell-glass, in sandy soil; sandy loam and fibrous peat. Winter temp., 40° to 50°. *T. caru'lea* (sky-blue), 12. Blue. July. 1827. Annual. comp'essed [flat-struck]. See *Sieberra compressa.*

*lanceolata* (lance-shaped). See *Sieberring Billardiere lanceolata.*

*titranris* (narrow-leaved). See *Sieberring linearifolia.*

*ova* (oval-leaved). See *Sieberring Billardiere.*

*ova*ta (egg-leaved). See *Sieberring Billardiere.*


TRACHYSTEMON. (From *trachus,* rough, and *stemon,* a stamen; the filaments are hairy. Nat. ord. Boraginaceae. Allied to Borago.)

Hardy perennial herbs. Seeds; divisions. Well-drained soil.


TRADESCANTIA. Spiderwort. (Named after J. Tradescant, gardener to Charles I. Nat. ord. Spiderworls [Commelinacea]. Linn. 6-Hexandra, 1-Monogynia.)

All blue-flowered, except where otherwise mentioned. Annuals, by seed; perennials, by divisions in spring; rich, light loam; those requiring the greenhouse and stove will thrive better from having a little peat, and they should be well drained.

HARDY ANNUALS.

*T. cre'0* (upright). See *Tinnantia fugax.*

*lap'o*lia (broad-leaved). See *Tinnantia fugax.*

*rec's* (upright). See *Tinnantia fugax.*

*und'a*ta (waved). See *Tinnantia fugax.*

GREENHOUSE HERBACEOUS, &c.


*ro'sea* (rosy). See *T. rubra.*


"Flower of a Day."


*lab'd*a (Broad-leaved). 1. Red. July. Italy. 1870.


TRA'GIUM AN'THOS. See *Pimpinella an-thos.*

TRA'GIUM TA'RICUM. See *Pimpinella per'grina.*

TRAGOPOGON. Goat's Beard. (From *tragos,* a goat, and *pogan,* a beard; long, silky beards of the seed. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 1-Compositae.)

Hardy biennials, yellow-flowered, except where otherwise mentioned; seeds in March and August; common garden soil. See *Salsify.*

T. *aus'tinus* (southern air, &c.


T. *hairs* (smooth). See *T. HYBRIDUS.*

T. *hirs'uta* (hairy). See *Scorzonera hirsuta.*


T. *ma'or* (greater). 6. May. Austria. 1758.


T. *ros'eus* (rosy). See *T. kubler.*
TRAGOPYRUM

T. rupestr (red), [1], Red. May. Siberia, 1826.

"virgi nicum (Vigiriaum), See Krigia AMPLEXICAULIS.

TRAGOPYRUM. Goat's Wheat. (From tragos, a goat, and puros, wheat. Nat. ord. Buckerhales [Polygonaceae].) It is closely related to the 8-Octandra, 3-Trigyna. (Astraphaxis, 3.)

TR-A-TRAPHAXIS

T. busso-latum (box-leaved). See ATRAPHAXIS BUXIFOLIA.

" lanceolata (spear-head-leaved). See ATRAPHAXIS MICRANTHA.

" hirta (broad-leaved). See ATRAPHAXIS LAX-MANNI.

" polygamum (polygamous). See POLYGONELLA PARVIFOLIA.

TRAILERS. See CREEPERS.

TRAIN OIL. See ANIMAL MATTERS.

TRAINING has for its object the rendering plants more productive either of flowers or of fruit, by regulating the number and position of their branches. If their number be too great they overshadow those below them, and, by excluding the heat and light, prevent that elaboration of the sap required for the production of fruitation.

If they are too few the sap is expended in the production of the branches above the surface of the leaves required for the digestion of the juices.

The position of the branches is important, because, if trained against a wall, they obtain a higher temperature and nutrition from within; and if trained upwards, the points below the horizontal return of the sap is checked. Shy-flowering shrubs, as M. /inis glaucescens pauciflorus, are made to blossom abundantly, and freely-flowering shrubs, as C. /is hirsutus, are made to blossom earlier, by having their branches bent below the horizontal line.

The reason of this appears in the fact, that a plant produces its forces for growth in proportion to the violence with which they are driven, and the greater the violence the greater the growth. All shrubs and trees are made to blossom earlier, and in greater quantity, if overshadowed, or if made to blossom 1 inch above the surface of the leaves.

This last effect is produced by training a branch in a waving form, for two-thirds of its length, as above described.

Besides the usual modes of training—for which see also ESPALIERS and STANDARDS—there are two other modes, which deserve notice.

Nutrition Training consists in training one upright central shoot in summer, and shortening it down to 15 inches at the winter pruning, in order that it may, at that height, produce branches forming a tier, to be trained, herefe downwardly. The shoot produced by the uppermost bud is, however, trained as upright as possible during the summer, and is cut back, so as to produce another tier 15 inches above the first, and so on until the tree has reached the desired height.

In this climate it is necessary to train the shoots downward, which is easily done by tying those of the first tier to short stakes, those of each successive tier being fastened to the branches below them. When the shoots are thus arched downwards at full length, or nearly so, they soon come into a bearing state; but in this climate, if cut short, as the French do, they only send up a number of shoots answers well where it can be at all times properly attended to, but if this cannot be guaranteed, the ordinary form of dwarf is preferable. Quenouilles require more time to be devoted to them than espaliers.

Balloon Training is forcing downwards all the branches of standard trees till the points touch the earth, and they have the merits of producing large crops of fruit in a short time. Their upper parts are, however, too much exposed to radiation at night, and the crop from that part of the branches is apt to be cut off.

TRANSPLANTING is most successfully performed whenever the roots are least required for supplying the leaves with moisture. The reason is obvious, because the roots are always in some degree broken, and lessened in their absorbing power, by the process of removal.

That such is the rationale of seasonal transplanting is proved by the fact, that plants in pots, with reasonable care, may be transplanted at any season. This rule, too, is sanctioned both by reason and practice—transplant as early as possible after the leaves cease to require a supply of sap; the reason for which is, that the vital powers in the roots continue active long after they have become torpid in the branches, and fresh roots are formed during the autumn and winter to succeed those destroyed by transplanting.

For transplanting most deciduous trees and shrubs October and November are the best practical months.

In transplanting evergreens, Mr. Beaton says: I do not now concur in the general belief that autumn is the best time for the transplantation of all kinds of evergreens indiscriminately.

I have planted evergreens every week in the year, with no more from necessity than choice it is true, but still the result of the whole convinces me that a dogmatic adherence to this opinion is not warranted. For the period of the year is just as bad and unphilosophical as the old prejudice in favour of planting all kinds of evergreens late in the spring. That vast assemblage of evergreens belonging to the natural order Conifers, from the Cedar of Lebanon down to the trailing Juniper, should be planted from the middle of July to the beginning of October, according to the weather after St. Swithin's Day. November, on the other hand, is, as good a time as any, to remove evergreens of all kinds, provided that large balls of earth are taken with them. Hollies, Laurustinus, Alders, Phyllus, and Tree Box will transplant as well in May and June as at any other time. The time of the year, therefore, that I am quite certain; I have removed hundreds of them from May and June without losing a twig. On the other hand, all these, and many more besides, will answer as well if planted early in the summer season, a practice that is no reason for giving up the old plan of late spring planting, still retaining them at that time, although we need not do so from choice.

The whole question amounts to this: All evergreens should be planted in the autumn; a great number of them will do better from being planted in the autumn, and will not transplant safely except in the autumn, while a large portion of them may be planted every day in the year with almost equal success.

November and December are the two months to remove Roses. All the young and tender ones in pots turn out in May; but for all those on their own roots November is the best month to remove them.

TRAPA. Water Caltrops. (From calictrapa, an ancient instrument in warfare with four spikes; fruit r. See TRAPA.)


Aquatics. Seeds; good loan, in a tub or pond of water; nauts will do in the latter; the others require the shelter of a greenhouse. See T. LATENS.

Water Chestnut. N. Amer. order. VERBAS.

" quadrispina (four-spined). See T. NAYATS.


" verdane (Verbas). Italy. 1886. Hardy.

TRAVETTIERIA. (Memorandum of E. TRAVETTER, a Russian botanist. Nat. ord. Ranunculaceae.)

Hardy perennial herb. Divisions. Good garden soil.


TRAVELLER'S JOY. Cl. malis Vitis. Danub.

TRAVELLER'S TREE. Ravena madagascariensis. nis.

TREASURE FLOWER. Gazania nis.

TRECUIA. (Memorandum of the botanist M. A. TRECU. Nat. ord. Urticaceae.)


TREE CARROT. Tha'psia edulis. Spanish.

TREE CELANDINE. Bocconia frutescens.
TREE GUARDS. The following are cheap and effective. Stakes about the thickness of the wrist, 7 ft in length, and tolerably straight, chopped each a little flat on one side, some iron hooping, a little thicker than cooper's, and a ring of using for bands, with punched holes through it 6 inches apart, with one hole near each end. Nail this to the staked on the capped side, one foot from the top of them, and one foot from the bottom; the ring is used for the purpose of making the tree firm, if it is necessary to have the tree observed that the hoops are placed inside, nearest the tree; the holes left at each end of the hoop are then clench up with a nail, and the guard is complete.

The following are some which procure stakes of ash or larch, 6 ft in length, or more if requisite, and about 2 inches in diameter, and bore holes through the tops and bottoms about one foot from each end. Get a similar hole drilled up the centre of a stake, and saw it off in lengths of 2 inches, or rather less; pass a strong wire, or thick tarred string, through one stake, by the holes at the top and at the bottom; then pass it through the hole made in one of the 2-inch pieces at each end, and then through another stake, separating each stake at top and bottom by a piece of wood, until you leave enough to surround the tree loosely, leaving plenty of space for it to grow in. The same as regards the hoops, which are placed inside, nearest the tree; the ends left at each end of the hoop are then clench up with a nail, and the guard is complete. This guard is much the same as a cradle put round the neck of a blistered horse, to prevent his gnawing the irritated part. The stakes may be either cut, or cut and then bored, the hoops at the bottom, to prevent their sticking into the ground. At the upper end they should have a sharp slanting cut with a bill-hock, and threaded with the slope towards the top. The hoops may be cut so as not to be impeded; and the bark cannot be injured let the wind blow as it may, for the guard moves freely with the tree in every direction.

TREES are a chief material in landscape gardening. The varieties in their shapes, says Mr. Whately, may be reduced to the following heads: Some, thin, with the branches and foliage, have almost an appearance of solidity, as the beech, the elm, the lilac, and syringa; others, thin of branches and of leaves, seem light and airy, as the asp and the abelone, the common arbor vitae and the tamarisk.

There is a mean between the two extremes, very distinct from both, as in the bladder-nut and the ash-leaf maple. They may again be divided into those whose branches begin from the ground, and those which shoot up in a stem before their branches begin. These last species, while their branches and foliage, have almost an appearance of solidity, as the beech, the elm, the lilac, and syringa; others, thin of branches and of leaves, seem light and airy, as the asp and the abelone, the common arbor vitae and the tamarisk.

Of those, the branches of which begin from the ground, some may be called a central figure, as the larch, the cedar of Lebanon, and the holly. Some swell out in the middle of their growth and diminish at both ends, as the Weymouth pine, the mountain ash, and the lilac; and some are irregular and bushy from the top to the bottom, as the evergreen oak, the Virginian cedar, and Guelder rose. There is a great difference between one whose base is very large, and another whose base is very small, in proportion to its height. The cedar of Lebanon and the cypress are instances of such a difference; yet in both the branches begin from the ground.

The heads of those which shoot up into a stem before their branches begin are sometimes double cones, as of many firs; sometimes broad cones, as of the horse-chestnut; sometimes they are round, as of the stone pine, and most sorts of fruit-trees; and sometimes irregular, as of the tamarisk. This kind there are many considerable varieties.

The branches of some grow horizontally, as of the oak; in others this is the case for a part of the length, the larch, the lime, and the beech; in others the last they incline obliquely, as in many of the firs; in some they hang directly down, as in the weeping willow.

Some, as the dark green, as the horse-chestnut and the yew; some of a light green, as the lime and the laurel; some of a green tinged with brown, as the Virginia cedar; some of a green tinged with white, as the American elm; some, as the beech and a few of a green, with yellow, as the ash-leaved maple and the

\[ \text{Crasi} \] arb. vites. The variegated plants, also, are entitled to be classed with the white or the yellow, by the strong tincture of the one or the other of those colours on their leaves.

The fall of the leaf is the time to learn the species, the order, and the proportion of tints, which blended will constitute a perfect and delightful sight. The true tints are those of a true tree, and these are generally distinguished those which are incompatible near together. The peculiar beauty of the tints of red cannot then escape observation, and the want of them throughout the summer months must be regretted; but the woods, though it cannot perfectly, may partially be supplied, for plants have a permanent and an accidental colour.

The permanent is always some shade of green, but any other tint may be used for a variety above the true leaf, and there is none which so many circumstances concur to produce as a red. It is assumed in succession by the bud, the blossom, the berry, the bark, and the leaf. Sometimes it profusely overspreads, at other times it only tinges the plant, and a reddish-green is generally the hue of those plants on which it lasts long or frequently returns.

Admitting this, at least for many months in the year, among the characteristic distinctions, a large piece of red-green, with a narrow edging of dark green along the further side of it, and beyond that a piece of light green still larger than the first, will be found to compose a tree of which the leaf is composed of a red-green nearest the eye, beyond that a light green, then a brown-green, and lastly a dark green. The dark green must be the largest, the light green the next in extent, and the brown-green the least.

From these combinations the agreements between particular tints may be known. A light green may next be either to a yellow or a brown-green, and a brown to a dark green or a brown-green. The light green nearest the rim of dark green may border on a red or a light green.

Further observations will show that the yellow and the whitegreens connect easily; but that large quantities of off-white, or yellow, should be intermixed with the dark green, and the intermediate greens agree among themselves, and that either of them may be joined to any other tint; but that the red-green will bear a large quantity of the light than of the dark green near it; nor does it seem so proper a mixture with the white-green as with the rest. In massing these tints attention must be constantly given to their forms, so that they do not lie in large strips one beyond another; but that they either be quite intermingled, or, which is generally more pleasing, that considerable pieces of different tints, each a beautiful figure, be in different proportions placed near together. See CIRCLE, AVERAGES, ETC., above.

TREE MALLOw. Lava'tera arbo'rea.

TREE OF HEAVEN. Aila'num glandulo'sa.

TREE OF LIFE. Thuya.

TREE OF SADNESS. Nyct'a'nthes A'bor-tris'sis.

TREE OR CANADA ONION. (Allium prol'iferum.)

This is without a bulbous root, but throws out numerous offsets. Its top bulbs are greatly prized for piercing, being considered of superior flavour to the common onion.

It is propagated both by the root offsets, which may be planted in spring, and also in September or October, and from the top bulbs, which are best planted at the end of April. The old roots are best to plant again for a crop of bulbs, as they are most certain to run to stem, and become two inches in diameter, and so be cut quite flat, apart and deep, a single offset or bulb being put in each. Those planted in autumn will shoot up leaves early in the spring, and have their bulbs fit for gathering in September and October; in spring will make their appearance later, and will be in production at the close of July or early in August. They must not, however, be gathered for keeping or planting until they grow to large and spindling bunches; but the best plan is to make a fresh plantation annually with single offsets.

The bulbs, when gathered, must be gradually and
carefully dried in a shady place, and if kept perfectly free from moisture will continue in good state for the following May.

TREE PÉONY. _Péonia Moujarn._

TREE TOMATO. _Cyphoma ndra benta cea._

TREFOIL. _Trifolium._

TREFOIL, BIRD’S-FOOT. _Lo tis._

TREFOIL, GOLDEN. _Anémore Hepática._

TREFOIL, MILK. _Cytisus._

TREFOIL, MOON. _Medicago arbor rea._

TREFOIL, SCENTED. _Melilotus._

TREFOIL, SHRUBBY. _Jasmini nm fruticas, and Píleas trifолíta._

TRELLIS, or TRELLISAGE, is an arrangement of supports upon which to train plants. Espalier Trellis.—The cheapest, the easiest, and the soonest made is that formed with straight poles or stakes of ash, oak, or chestnut, in lengths of from 5 to 6 or 7 feet, driving them in the ground in a range about a foot distant, all of an equal height, and then raising along each with the same kind of poles or rods, to preserve the whole form in a regular position. They should be fully 1½ inch thick, and, having pointed them at one end, drive them with a mallet into the ground in a straight range, close along the row of trees, a foot deep at least. To render treillage still stronger, run two, three, or more ranges of rods, along the back part of the uprights, a foot or 1½ inches asunder, fastening them to the upright stakes either with pieces of strong wire twisted two or three times round, or by nailing them.

Espalier trellis made of cast-iron rods is neater and more permanent than this mode. _Trellis for Climbers._—These have been greatly improved, or rather, they have been created within these few years, for ten years ago we had nothing but stakes and rods.

Their forms are now various and elegant; but we shall here only explain the manner in which the wire trellis for climbing plants is attached to the pots. It will be seen that a strong wire ring is carried round the pot a little above its bottom. To this a sufficient number of upright wires are attached all round. These upright wires are pressed down upon the surface of the pot till they reach the top, and are bent there; then the wires are directed upwards, and fashioned into the pattern required. By these means a sort of collar is formed upon the rim of the pot, which prevents the trellis from slipping downwards, while, at the same time, the lowest ring of wire keeps it from swinging and swaying backwards and forwards.

_Umbrella Trellis_ is a form excellently adapted for _Wisòria chinensis,_ and other climbers or shrubs having long racemes of flowers.

_Hothouse Trellis_, for training vines near the glass, is usually made of thin rods of deal or of iron, placed about a foot apart, and fixed to the framework of the building. Mr. Long, Beaufort Place, Chelsea, has invented a movable wire trellis, by which the vines may be lowered from the roof, or placed at any angle, without injuring the vines. This is an excellent mode of removing them from the influence of extreme exterior heat or cold. A still further improvement would be to have the vertical rods movable round the rod horizontally fixed for that purpose. Then the whole trellis might be raised to an angle with, or even close to, the glass, whenever sun to the vine upon the trellis, or shade to the plants within the house, was desirable.

TREMA. (From trema, to tremble; in allusion to the movement of the leaves when the air is in motion. Nat. ord. Malvaceae, Alli. to Cela.)

Greenhouse or stove trees. Seeds; cuttings in sand, in a close case, with bottom-heat. Loam, peat, and sand.


"orientalis (oriental)." 50. Yellow-green. Tropics of Old World. 1820.

TREMA NĐRA. (From trema, to tremble, and aner, andros, andro, that they answer with the least current of air. Nat. ord. Tremandraceae.)

Dwarf Australian shrubs requiring greenhouse treatment. Cuttings in sand under a bell-glass. Peat chiefly, with a little compost and sand.

_T. hirsu’ta (bearded)." See _TETRATHECA HISUTA._

"Huegelii (Huegel’s). See _TETRATHECA HISUTA._

"stali’gara (star-bearing)." 14. Purple.

"vericilla’ta (whorled)." See _PLATYTHECA GALIGIDES._

TREMBOLING AMERICAN TREE. _Po’ fulus tremulous des._

TRENCHEING is one of the readiest modes in the gardener’s power for renovating his soil. The process is thus conducted. From the end of the piece of ground where it is intended to begin take out a trench two spades deep, and 20 inches wide, and wheel the earth to the opposite end to fill up and finish the last ridge. Measure off the width of another trench, then stretch the line, and mark it out with the spade. Proceed in this way, the width of the ridges are outlined, after which begin at one end, and fill up the bottom of the first trench with the surface or “top spit” of the second one; then take the bottom “spit” of the latter, and throw it into the trench, and fill up it with the sides of the elevated sharp-pointed ridge. By this means a portion of fresh soil is annually brought on the surface in the place of that which the crop of the past season may have, in some measure, exhausted. _Bastard Trenching_ is thus performed. Open a trench 2½ feet or a yard wide, one full spit, and the shovelling deep, and wheel the soil from it to where it is intended to finish the pieces; then put in the dune, and dig it in with the bottom spit in the trench; then fill up this trench with the top spit, &c., of the second, treating it in like manner, and so on. The advantages of this plan of working the soil are, that the soil is retained at the top, an important consideration where the subsoil is poor or bad; the bottom soil is enriched and loosened for the penetration and nourishment of the roots, and, allowing them to descend deeper, they are not so liable to suffer from drought in summer; strong soil is rendered capable of absorbing more moisture, and yet remains drier at the surface by the water passing down more rapidly to the subsoil, and it insures a thorough shifting of the soil.

In all trenching, whether one, two, or more spades deep, always, previous to digging, put the top of each trench a little inwards, or more, with all weeds and other litter at the bottom of the open one, which not only makes clean digging and increases the depth of loose soil, but all weeds and seeds are regularly buried at such a depth, that the seeds themselves will rot, and their seeds cannot vegetate.

TREVE SIA. (Commemorative of the family _Trevres_ de Bonté, patrons of botanical research. Nat. ord. Araliaceae.)

Stove shrubs with large, fingered, ornamental leaves. Cuttings in sand, in a close frame, with bottom-heat. Loam, leafmould, and sand. Midsummer, 1881.

_T. e’mi’mens (eminent)." Leaves with 9–11 segments. Philippines. 1882.


"sun’da’aco (Sundaic)." 10. Greenish-white. Java.

TREVIRA’NA. (Commemorative of Ludolph C. Treviranus, professor of botany at Rostock and Breslau, in Germany. Nat. ord. Gernaceae. Now referred to _Achimenes._

_T. ca’ndida (white)."See Dievrya candida._

"coelo’ta (Achimenes coccinea)._ "longio’flo’ra (long-flowered)." See _Achimenes longioflo’ra._

"polu’ceha (pretty)." See _Achimenes cocinea._

TREVO’A. (Commemorative of Dón Trevo, a Spanish botanist. Nat. ord. Rhamnaceae.)
TREVORIA

Greenhouse shrub or small tree. Cuttings in sand, under a bell-glass. Loam, peat, and sand.

T. trigona (three-nerved). Chili.

TREVORIA. (Named in compliment to Sir Trevor Lawrence, Bart. Nat. ord. Orchidaceae. Allied to Stanhopea.)


T. Choris (Choris). Green; disc white. Colombia. 1897.


TRIA NEA BOGOTENSIS. See LIMNOBIUM BOGOTENSIS.

TRI-AS. (From trias, three, or a triad; the parts of the flower are in threes. Nat. ord. Orchidaceae.)

Stove, epiphytal Orchids. Offsets. Sphagnum, peat fibre, and crocks.


Bama. 1837.


TRIA SPIS. (From tria, three, and aspis, a shield; the fruit consists of three shield-like pieces. Nat. ord. Malpighiaceae.)

A small climber. Cuttings in sand, in a closed frame, with bottom-heat. Loam, peat, and sand.


TRIBRA / CHIA PEN DULA. See BULBOPHYLUM PENDULUM.

TRI-BULUS. Caltops. (From tripus, three, and bullo, to project; carpels, or divisions of the seed-vessel, end in three or four projecting points. Nat. ord. Beancapers Zygophyllum. Nat. fam. Zygophyllaceae.)

All yellow-flowered, and annuals, except cistodes. Sow in a hotbed in March, harden off, and put in a sheltered place in the garden towards the beginning of June, or flower pots in the greenhouse; rich, light, sandy loam; a little peat will be required for cistodes, which is easily increased by cuttings in the spring.


Stove evergreen.


trigus tus (three-paired). See T. MAXIMUS.

TRICHA WTHA. (From trias, thricus, a hair, andatha, a flower. Gesneraceae.)

Small stove shrub, with creeping, rooting, or climbing and slender stems. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.

T. m'inor (lesser). Dull violet or purple. Colombia. 1864.

TRICHES. See SCARIOSA.

TRICHILIA. (From trichis, in threes, or ternary; the parts of the seed-pods in threes. Nat. ord. Meliads [Meliaceae]. Linn. 10-Decorandria, 1-Monogynia.)

White-flowered, stove evergreen trees. Cuttings of ripened shoots in sand under a bell-glass, and in a moist, sweet heat, in April or autumn; fibrous loam and sandy peat. Winter temp., 55° to 60°; summer, 60° to 80°.


glandulosa (glanded). See SYNOI'D GLANDULOSUM.

havanese (Havanah). See T. Glabra.


moschata (muskly). Jamaica.


TRICHICHIUM. (From trichinos, hairy; flowers covered with knotted hairs. Nat. ord. Amaranths [Amarantaceae]. Linn. 5-Pentandria, 1-Monogynia.)

Australian annuals. Seeds in a hotted in April; pricked out, and ultimately bloomed in a cool greenhouse; rich, sandy loam and a little peat.

T. alopecuros (foxtail-like). See T. EXALTATUM.

exaltatum (tall). r. Yellow, red, June. 1838.

M. ramosa (Maugeois'). White, pink. June. 1838.

Striis nigii (Stirling's). White, pink. June. 1838.

TRICHOCERA. See DEPARIA MOOREI.

TRICHOCARLaon. (From thris, thrichos, a hair, and caralon, a spex; the stem has tufts of hairs. Nat. ord. Asclepiadaceae.)

Dwarf warm and dry greenhouse succulent. Cuttings in sand under a bell-glass. Loam, broken bricks, and sand.


major (greater). Plant and flowers larger. S. Africa. 1904.

TRICHOCRENTRUM. (From thris, thrichos, a hair, and keniron, a spur; spur slender. Nat. ord. Orchids [Orchidaceae]. Linn. 2o-Gymnandria, 1-Monandria.)

Stove, epiphytal orchids. Offsets. Sphagnum, and fibre of peat on blocks.

T. altatum (winged). White; lip yellow, with red veins. Colombia. 1898.


aibo-púrprirm (white-purple). White, brown, purple. N. Brazil. 1866.

astra-tum (striped), Lip with two purple blotches, and crimson. 1892.


Kranem'ii (Kramer's). Spur longer, thinner. Mexico. 1885.


Ha'gei (Hecq'). 1. Greenish-yellow, purple; lip deep purple. Mexico. 1881.


orchip'ton (straight-spurred). Brown, ochre; lip white, striped crimson. Central Amer. (?). 1883.

Phle'zia (Pfair'). White, brown; lip white, with red blotch, Central Amer. 1881.

sons'le (zonal). Brown; lip with one or two purple blotches. 1883.


tigri'num (tiger-like). Brown, purple, orange, white, Central Amer. 1869.

spél'dens (splendid). Base of lip rich purple. Central Amer.


TRICHOCEROS. (From thris, thrichos, a hair, and keras, a horn; the column bears two horns. Nat. ord. Orchidaceae.)

Stove orchid. Offsets. Sphagnum tied on blocks or rafts.

TRICOCLADUS. (From thrix, thrixos, a hair, and klado, a branch; the branches are felted with rusty hairs. Nat. ord. Compositae.)


TRICHOCHORIS. (From thrix, thrixos, a hair, and corona, a crown; the achenes have a ring of spreading hairs. Nat. ord. Composite. Allied to Ageratum.)


TRICHOCHORIS. (From thrix, thrixos, a hair, and desmos, a bond; anthers united by hairs. Nat. ord. Boraginaceae.)

Stove annuals. Seeds. Fibrous loam, leaf-mould, and sand. May be planted out in June.


*Bojeri* (Bojer's). Maccarene Islands.

*Physoderis* (Physodes-like). White; calyx purple.

S. Africa. 1892. Perennial.


TRICHOCHORIS. (From thrix, thrixos, a hair, and glottis, a tongue or lip. Nat. ord. Orchidaceae.)

Stove chypstral orchids. O ctypes. Sphagnum, peat fibre, and crocks.

*cockleris* (shell-like). 1. White, with purple bars.

Sumatra. 1883.

*dawsoniana* (Dawsonian). Sulphur, orange, brown.

*decipiens* (deceitful). See STAUROPSIS DECIPENS.

*phallicus* (pale). See PHALNOPSIS FALLENS.


TRICHOCHORIS. (From thrix, thrixos, a hair, and gumm, the ovary; the female flowers are slender and hair-like. Nat. ord. Composite. This should be placed under Littora.)


TRICHOCHORIS. (From thrix, thrixos, a hair, and leptis, a scale; the scales or bracts of the head are hair-like. Nat. ord. Composite.)

Hardy or half-hardy perennial herb. Seeds; divisions. Ordinary garden soil.


TRICHOCHORIS. (From thrix, thrixos, a hair, and manis, soft; the shining stems appear like fine hair. Nat. ord. Fumariaceae. Linn. 24-Cryptogramma; 1-Filices.)


*aculeatum* (prickly). May. Isle of Luzon.


*attenuatum* (attenuated). Fronds elongated at the apex.

*diphyllum* (two-edged). W. Ind. 1863.

*angustatum* (narrow-shouldered). See T. GERMINATUM.


*bipinnatum* (two-sided). See T. FICULCA.

*Bojeri* (Bojer's). See T. CUSPIDATUM.

*boschini* (Boschian). See T. RADIANS BOSCHIANUM.


*brevissimum* (short-bristled). See T. RADIANS.


*cuspidatum* (pointed). Mauritius and Bourbon.

*dissectum* (cut-leaved). See T. AURICULATUM.

*dolgoanum* (dolgoan). See T. RIGIDUM.*dolgoanum.*

TRICHOPELUM 872

T. Colhuma (Columna's). See ROMULEA COLUMNÆ.

\textit{crucia'tum} (cross-shaped). See ROMUELA LONGIFOLIA.

\textit{cu'du} (ruffleable). See ROMUELA RAMIFLORA.

\textit{fili'o} (thread-leaved). See ROMUELA FILIPOLIA.

\textit{longisoli'o} (long-leaved). See ROMUELA LONGISOLIFOLIA.

\textit{pu'lla'cum} (blushing). See ROMUELA ROSA'E PUDICA.

\textit{purpur'a'na} (purplish). See ROMUELA RAMIFLORA.

\textit{py'llum} (pale). See ROMUELA BULBOCODIUM PHYLLOM.

\textit{quadran'gulam} (four-angled). See GEISSORHIZA QUADRANGULA.

\textit{ramif'o} (branch-flowered). See ROMUELA RAMIFLORA.

\textit{recu'rem} (curled-back). See ROMUELA BULBOCODIOIDES.

\textit{ro'sum} (rose). See ROMUELA ROSA'E.

\textit{speci'o} (showy). See ROMUELA ROSA'E SPECIOSA.

\textit{subpal'i'sire} (rather baggy). See ROMUELA BULBOCODIUM SUFFALUSTRE.

\textit{treti'ida} (threaded). See ROMUELA TORTUOSA.

TRICHOPELUM. (From \textit{trich}, a hair, and \textit{petalon}, a petal; flowers fringed inside. Nat. ord. \textit{Lilacæ} [Lilacæae], Linn. 6-Hexandria, 1-Monogynia. See BOTTIONIA.)

\textit{tr. gracile} (slender). See BOTTIONIA THYSANTHOIDES.

\textit{stel'lum} (starry-flowered). See BOTTIONIA THYSANTHOIDES.

TRICHOPTILA. (From \textit{trich}, a hair, and \textit{pilum}, a cap; summit of the column with tufts of hair. Nat. ord. \textit{Orchidæ} [Orchidaceæ], Linn. 20-Gynandria, 1-Monandria. Allied to Asparag.)

Stove orchids, grown in baskets. See Orchids.


\textit{backhou'sna} 'na (Backhousian). White, yellow. Colombia. 1870.

\textit{brac'le} (short). Yellow, red-brown; lip white. Peru. 1893.


\textit{Costa Rica. 1873.}

\textit{ar'mina'ta} (marginated). Claret, with white edges; lip crimson. Central Amer. 1849.

\textit{oliva'ceo} (olive-green). Olive-green.

\textit{cri'a} (crisped). See T. COCCINEA CRISPA.


\textit{no'bilis a'd'ba} (white). 1. Pure white. 1908.

\textit{galeoit'i'na} (Galeottian). Yellow, white, purple; brown. Mexico. 1889.

\textit{co'color} (one-coloured).

\textit{gra'ra} (grateful). Green, white, yellow, fragrant. Peru (?). 1868.

\textit{kran'tina} (Kranzian). Pure white, with two golden zones on the lip. Colombia. 1908.

\textit{hymena'n'na} (marriage-dower). White; red. Colombia. 1854.

\textit{kran'tina} (Kranzian). White, with a few yellow lines and spots. 1883.


\textit{fa'vela} (yellowish). Whitish-yellow. Colombia. 1834.

\textit{Lehman'i} (Lehmann's). White, with yellow spot in throat. 1858.

\textit{le'pida} (slender). See T. COCCINAE LEPIDÀ.

\textit{mar'in'a'na} (marginated). See T. COCCINAE MARGINATA.

\textit{mu'cica} (snipped). White, flushed with red. Trinidad. 1857.

\textit{mu'cica} (noble). See T. FRAGRANS NOBILIS.

\textit{pi'cita} (painted). See T. GALEOTTIANA.


\textit{sangui'nole'na} (blood-coloured). Olive, dusky crimson; lip white, with crimson veins. Central Amer. 1843.


\textit{a'd'ba} (white). White, yellow. Central Amer. 1882.

\textit{a'd'ba} (white). White; lip with yellow blotch at its base. 1902.

\textit{grandis'o'ra} (large-flowered). White, crimson, orange.


\textit{Tu'ralva} (Turvala's). See T. GALEOTTIANA.

\textit{Wa'geni'na} (Wagner's). Venezuela.

\textit{Waro'sasti} (Waro'sasti). Country unknown.

TRICHOPTILA. (From \textit{trich}, \textit{thrix}, a hair, and \textit{pous}, a foot; in reference to the thread-like flower-stalks. Nat. ord. Dicosoriaeæ.)

A dwarf stove perennial. Offsets or divisions of the root-stock. Loam, leaf-mould, and sand.

T. \textit{seya'ni'cu} (Cingulæ). Purple. S. India; Ceylon.

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T. \textit{seya'ni'cu} (Cingulæ). Purple. S. India; Ceylon.
TRICRATUS ADMIRABILIS. See ABRONIA UMBEL-LATA.

TRICUSPIDA RIA. (From tricuspid, having three points; the petals have three teeth or three short points. Nat. ord. Liliaceae.)

Greenhouse shrub, green shrubs or small trees. Cuttings in sand under a bell-glass. Loam, peat, and sand.


h. hexapetalus (six-petalled). See T. DEPENDENS.


TRICYRTIS. Toad Lily. (From treis, tria, three, and kurtos, bent or convex; the three outer petals of the flower are convex at the base. Nat. ord. Liliaceae.)

Hardy or half-hardy perennial bulbs, requiring protection in winter in the colder parts of the country. Offset. Well-drained garden soil mixed with peat and sand.

T. elegans (elegant). See T. PILOSA.


ja ponica (Japanese). See T. HIRTA.

macro'poda (long-stalked). Yellowish, spotted with purple. China; Japan. 1869.

sirsa'ba (stratified). Leaves lined with creamy-white.


TRI'DAX. (From treis, tria, three, and anis, a point; the female flowers have three points, or sometimes three lobes. Nat. ord. Compositae.)

Hardy or half-hardy perennial herbs. Seeds; divisions. Ordinary garden soil.


Exa lardirtid'es (Gaillardia-like). See LAVIA GA LLARIDIS.


TRIENTALIS. Winter-green. From triens, one-third; low growth. Nat. ord. Primulaceae [Primulae]. Linn. 7-Hepenthridia, 1-Monogynia.)

Hardy, white-flowered, herbaceous perennials. Seeds under a half-light. Dips of the plant in spring; light, rich soil. Pretty little plants, requiring a shady situation.

T. ainsafol'ya (Alnine-flowered). See T. EUPHRAEA.


" tricolor. See T. EUPHRAEA.


TRIFOLIUM. Trefoil. (From tres, tria, three, and folium, a leaf; three-leaved. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 7-Radiatridia, 1-Decandria.) Seeds in the open ground, and divisions of the herbaceous perennials; light, rich loam.

HARDY HERBACEOUS.

T. ald'tum (winged). See T. PHYSDODES.

al'pe'stre (alpine). S. Europe, &c.


angustis'ilium (narrow-leaved). Mediterranean region, &c.

ar'meni'cum (Armenian). See T. PENNYLNUM.


Bais mas (Balans's). Asia Minor.

Boul'ni (Boissier's). Greece; Asia Minor.

caspit'sum (turfy). See T. ELEGANS.

can'eice (hoary). Cream. May. Asia Minor. 1803.


eyer'su'num (round-shielded). Greece; Asia Minor.

com'usum (tufted). See T. CAROLINIANUM.


" dif'fusum (diffuse). See T. CUSSO'NSI.


John'sto'n's (Johnston's). Uganda.


lo'ngip'se (long-stalked). North-western Amer.


" Engla'land (English). "Yellow Clover."


" pen'nysyl'num (Pennsylvania). See T. MEDIUM.


" vac'ina'num (sheathing). 1. Pale yellow. Switzerland. 1816.


" vagi'num (sheathed). See T. FRATENSE VAGINATUM.

HARDY ANNUALS.


" arte'mic'ha (pink). June. To August. Europe (Britain). "Hare's-foot Trefoil."

" au'rum (golden). See T. AGRARUM.

" Beckur'th'si (Beckurth's). California.

" bi'dum deci'piens (decaying). California.


" ca'u'mum (sky-blue). See TRIGONELLA CARULAE.


" el'atrum (golden). See T. AGRARUM.


" con'cum (crowded). See T. FRAGIFERUM.

" constan'tinopolis'num (Constantinople). See T. ALEXANDRINUM.


" dein'trie'num (diffuse). See T. INFLORESCATUM.


TRIFURCIA CÆRULEA

T. græcia (slender). See T. ARVENSE.


T. græcia (Kitaibeli’s). See T. STRIATUM.


T. græcia (dark-flowered). See T. LEUCANTHUM.


T. græcia (lesser). See T. DURIIUM.


T. græcia (many-stripped). Eastern Europe.

T. græcia (obscure). See T. LEUCANTHUM.


T. græcia (Parisian). See T. PATENS.


T. græcia (Perreymond’s). Southern France.


T. græcia (dewy). California.


T. græcia (large-spired). Europe Asia Minor.


T. græcia (round-headed). See T. CHERLERI.

T. græcia (foaming). Mediterranean region.


T. græcia (sweet-scented). See T. RESUPINATUM.


T. græcia (three-toothed). North-western Amer.

TRIFURCIA CÆRUELA. See HERBERTIA DRUMMONDIANA.

TRIFURCIA PULCHELLA. See HERBERTIA PULCHELLA.

TRIGLO CHIN. Arrow Grass. (From tress, three, and ghochin, the point of an arrow; in reference to the three points of the fruit. Nat. ord. Naiadacea.)

TRIGLO CHIN. Arrow Grass. (From tress, three, and ghochin, the point of an arrow; in reference to the three points of the fruit. Nat. ord. Naiadacea.)

Hardy and greenhouse herbs for wet places or the bog garden. Divisions. Wet or boggy soil.

T. Barreti (Barrelle’s). See T. BULBOSUM.


TRIGLO’SUM. See ARUNDINARIANA.

TRIGONELLA. Fenugreek. (From tress, tress, three, and diminutive of gonn, an angle; the flowers have a triangular outline when open. Nat. ord. Leguminosae.)

Hardy annuals. Seeds. Good garden soil.


T. Corcula (small-flowered). S. Europe.

T. cretica (Cretan). Crete.


T. orientalis (oval). Spain.

T. Polycaora (many-flowered). S. Europe.


T. ruthenica (Russian). See MEDICAGO RUTHENICA.

TRIGONIA. (From tress, three, and gonn, an angle; the fruit three-angled. Nat. ord. Vochysias). Linn. 16-Monadelphia, 2-Pentademia.


TRIGONDIUM. (From trigona, a triangle, and idos, like; resemblance of several parts of the plant. Nat. ord. Orchids [Orchidaceae]. Linn. 20-Gynandra, 1-Monandra.)

Hardy orchids, from Demerara, grown in pots. See ORCHIDS.


T. acuminata (shady). Chocolate.


T. monophylla (one-leaved). See LELIA MONOPHYLLA.


T. nigreti (gaping). See MORRISYX LINITOLATA.


TRIGONO'TIS. (From tress, three, gonn, an angle, and oues, an ear. Nat. ord. Boraginaceae. Allied to Mertensia.)


TRILLI'A. (From trilla; triple; the pappus is divided into bars at the apex. Nat. ord. Composite. Allied to Liatris.)

Hardy perennial herbs. Divisions in spring or autumn; seeds. Good garden soil.


TRILLIUM. (From trilla; triple; the parts of the flower in threes. Nat. ord. Lilioworks [Liliaceae]. Linn. 6-Hexandria, 3-Trigynia. Allied to Paris.)

Hardy, North American tuberous-rooted perennials. Divisions in the tuberous roots, and by seeds; sandy peat-border, or kept as alpine plants.

T. californicum (California). See T. OVATUM.

T. Catesbaei (Catesby’s). See T. STYLOSUM.


T. sissol (two-coloured). See T. SISELLIS.
TRIMEZIA

TRISTELLATEIA


TRIPHYSA RIA VERSI COLOR. See Orthocarpus Erianthus roseus.

TRIPLA RIS. (From triples; triple; the parts of the flower are in threes. Nat. ord. Polygonaceae.)

Stove evergreen tree. Cuttings of firm shoots in sand, in a close frame, with bottom-heat. Fibrous leaf, pot, and sand.


"Long John."

TRIPLLET LILY. Triteleia now referred to Brodiaea.

TRIPOLY. A ster Tripolium.

TRIPSACUM. (From triplo, triplo, to rub, to thresh; in reference to which the grain may be applied. Nat. ord. Gramineae.)

Hardy grass. Seeds. Loam, leaf-mould, and sand, or garden soil.


hermaphroditum (hermaphroditum). See Anthephora elegans.

TRIPETERS. (From tris, tria, three, and petron, a wing; the fruits or achenes are three-winged. Nat. ord. Compositae. Allied to Calendula.)

Herbs or shrubs requiring greenhouse protection. Seeds; cuttings in sand under a bell-glass. Loam, peat, and sand.


"charanthifolia" (wallflower-leaved). See T. Vailantii.

Vaulis nii (Vailant's). Yellow. Arabia.

TRIPTERY GIUM. (From tris, tria, three, and s Bender, a small wing; the fruit has three wings. Nat. ord. Compositae. Allied to Calendula.)

Hardy, somewhat climbing shrub. Cuttings in sand under a hand-light or frame. Well-drained soil.


TRIPTILION. (From tris, tria, three, and s-Bion, a feather; the divisions of the pappus, or seed-crown. Nat. ord. Compositae (Composita). Linn. 19-Syngenesia, 1-Equans.)

Hardy annuals, from Chili. Seeds in a slight hotbed in the beginning of April; plants pricked out, and either placed in the greenhouse somewhere in the middle of May, or sown in pots in a cool, airy greenhouse; rich, light soil.


TRISTA GMA. (From tris, tria, three, and stigma, a drop of fluid; there are three honey glands in the flower. Nat. ord. Liliaceae.)

Greenhouse bulb. Seeds; offsets. Loam, leaf-mould, a little dried cow-manure, and sand.


TRISTA NIA. (Named after Tristan, a French botanist. Nat. ord. Myrtales [Myrtaceae]. Linn. 18-Polyadaphne, 2-Polyandra.)

Hardy, yellow-flowered evergreens, from Australia. Cuttings of young, stubby side-shoots, or the points of shoots, in sandy soil, three inches long, when getting a little firm at the base, in sand, under a glass, in April or May; sandy, fibrous leaf, and a little peat and charcoal. Winter temp. 35° to 45°.


densifolia (dense-flowered). Crimson. 1881.

depre sa (depressed). See T. suaveolens.

macrophylla (large-leaved). See T. conferta.


suaveolens (sweet-smelling). August. 1820.

TRISTELLATEIA. (From tris, tria, three, and stelo, to array, or adorn. Nat. ord. Malpighiaceae.)
A rampant stove climber. Cuttings of short, firm shoots in sand, in a close frame, with bottom-heat. Loam, peat, and sand.

**T. austroleis** (southern). Yellow; filaments finally red. Malay; Australasia. 1910.

**TRITELEIA**. (From *treis*, three, and *teleios*, complete; parts of the flower and fruit in threes. Nat. ord. Lilliaceae.) Linn. 6-Hexandria, 1-Monogynia. Referred to Brodiaea.


T. *laevis* (smooth). See Brodelea laxa.


**TRITHRI NAX**. (From *treis*, three, and *trim*, three, and *trin*, a trident; in reference to the divisions of the leaves. Nat. ord. Palmae.)

Stove palms. Seeds. Loam, one-third peat, and sand.

T. *acantho* (spiny-haired). Brazil. 1878.


T. *campes tris* (sickle). Former. 1859.

T. *mauritia* (Mauritia-formed). See *Sabal Mauritia*.

**TRITOMA**. (From *treis*, three, and *tommo*, to cut; three sharp edges of the ends of the leaves. Nat. ord. Liliaceae.)

Linn. 6-Hexandria, 1-Monogynia. Now referred to Kniphofia.


T. *Saundersii* (Saunders’). See Kniphofia aloides *Saundersii*. *Uvaria* (Uvaria). See Kniphofia aloides.

**TRITOMA THE UVARIA**. See Kniphofia aloides *Saundersii*.

**TRITOIA**. (From *triton*, a water-nymph; variable direction of the stamens. Nat. ord. Iridis [Iridaceae].)

Linn. 3-Triandria, 1-Monogynia. Allied to *Ixia*.) Bulbs from South Africa. For culture, see *Ixia*. Montbretia is included in this genus.


T. *au rea* (golden). See *Crocosmia au rea*.


T. *capea* (Cape). See *Acidanthera capensis*.


T. *coenocolor* (one-coloured). See *Ixia paniculata*.

T. *corallina* (coral). See *T. corallina*.

T. *fasciata* (comb-like). Leaves not crissped.


T. *refracta* (refracted). See *T. refracta*.

T. *rochei* (Roche). See *Ixia paniculata rochensis*.


T. *rubra* (red). See *Acidanthera capensis*.


T. *squarrosa* (chamomile). See *Gladiolus striatus*.


T. *tenusiflora* (slender-flowered). See *Ixia paniculata*.


**TRIUMPHTEA**. (Commemorative of G. B. Trionfi, an Italian botanist. Nat. ord. Thalicaceae.)

Striking, shrubby plants. Cuttings in sand, in bottom heat. Loam, peat, and sand.


T. *micros* (small-petaled). See *T. hombOIDEA*.

T. *mollis* (smooth). Yellow. Tropical regions.

**TUXIS**. (From *tixes*, triple; triangular seed-vessel. Nat. ord. Compositae [Composita]. Linn. 19-Syngenesia. Mat. *Necessaria*.)

White-flowered evergreen. T. *ditaria* (by cuttings) in sand, under a bell-glass, in May; sandy loam and leaf-mould, and the protection of a warm greenhouse in winter.

T. *auricula* (eared). See *T. divaricata*.


T. *sonderi* (groundsel-like). See *Lyciscia sonderi*.

**TRIZEU XIS**. (From *treis*, three, and *zeus*, the act of uniting; the three sepals are united. Nat. ord. Orchidaceae.)

Stove epiphytal orchid. Divisions. Sphagnum, tied on a raft or piece of wood.


**TROCHEIA**. (Named after Dutrochet, the celebrated French physiologist. Nat. ord. Sterculiaceae [Sterculiaceae]. Linn. 16-Monadelphia, 8-Polyandria. Allied to Dombeya.)

Stove evergreen shrubs. Cuttings of ripened shoots in sand, under a bell-glass, and in March, and inserted in a sweet bottom-heat; sandy peat and fibrous loam, with a little charcoal and broken freestone. Winter temp., 55° to 65°, summer, 65° to 85°.


T. *grandiflora* (large-flowered). See *T. triflora*.


**TROCOCHA RPA**. (From *trophos*, a wheel, and *karpos*, a fruit. Nat. ord. Epacrids [Epacridaceae]. Linn. 5-Triandria, 1-Monogynia. Allied to Styphelea.)

Greenhouse evergreen tree. Cuttings of the points of young shoots, or stubby, short side-shoots getting firm at the base, in sand, under a bell-glass, and kept close in a frame or pit, any time in spring or summer; sandy, fibrous peat. Winter temp., 40° to 45°. More heat and moisture after flowering, and plenty of air and light before the renewal of root action.


**TROCHODENDRON**. (From *trophos*, a wheel, and *dendron*, a tree; the flowers are star-like, or like the radii of a wheel. Nat. ord. Trochodendraceae.)

Hardy evergreen shrub. Seeds; layers. Good garden soil.


TROMSDOERFIA SPECIOSA. See CHIRITA HORSFIELDII.

TROPEOLUM. Indian Cress. (From tropaeon, a trophy. Nat. ord. Cran's-bills [Geraniaceae]. Linn. 8-Octandria, 1-Monogynia.) Annuals, by seed in the open ground in April; tuber- ous, by division of the roots, and by cuttings; the others by seeds; also by cuttings in sandy loam any time during spring and summer and early autumn; a rich, light soil suits them best. The best tuberous kinds multiply themselves by the young roots that are laid on the ground as they commence growing. A tuber will generally form at the bends: none of them will stand frost, unless the hardy tuberous ones, and they often better be lifted and kept in dry sand until spring.

HARDY ANNUALS.


HALF-HARDY TUBERS.


GREENHOUSE EVERGREENS, &c.


TROT'IES. *Symphi'tum aspet'rum.*

TROWEL. This implement, made of iron, from 1 to 6 inches long in the plate, and half as broad, hollowed like a scoop, and fixed on a short handle to hold with one hand, is convenient in removing small plants with a ball or lump of earth about their roots; lifting bulbous flower-roots after the flowering is past in summer, planting bulbs in patches or little clumps about the borders, for digging small patches, also, in the borders, and sowing hardy annuals, flow'rs, seeds; likewise for filling mound into small pots, stirring the surface of the earth in pots, and fresh earthing them when necessary.


TRUE LOVE. *Parris quadri'folia.*

TRUFFLE. *Tu'ber magni'cum,* Piedmontese Truffle; T. Bo'ron'chi, Italy; T. mosch'a'num, Musk Truffle, near Bath; T. ciba'rium, Common Truffle, England. But, besides the tubers, there are other edible fungi known as truffles, viz. *Hydrobo'lites Tulasnei,* Spyre Park, Wills; *Melag'ona ster broom'sa'rus,* Red Truffle, near Bath. These edible fungi have not yet been cultivated in England, though the Prussians have succeeded in making them a valuable article of trade, and Comte de Borch has been equally successful in Italy. The latter cultivates the Piedmont Truffle, and his process is this. He either employs the soil where the truffle is found, or he prepares a similar texture, and plants good garden earth, two well-pulverised clayey soil, and one oak sawdust, inti- mately mixed. Decayed oak or beech leaves would be better, probably, than the sawdust. If the natural soil was used, he trenched it a foot deep, removing all the large stones, and adding oak sawdust if necessary, and
TRUMPET CREEPER. *Tecoma radicans.*

TRUMPET FLOWER. *Bignonia.*

TRUMPET HONEYSUCKLE. *Loniceræ sempervirens.*

TRUMPET LILY. *Richardia africana.*

TRUSS. The florist's name for what botanists call an umbel of flowers, where several flowers have their stalks united at one common centre, and thus spring from the root or branch on one side, as in the surcula, polyanthus, and cowslip. See *Pir.*

TRYSMALIUM. (From *trismala*, a hole; the fruit has three valves or openings at the top. Nat. ord. Rhamnaceæ. Linn. 5-Pentandria, 1-Monoandria.)

Greenhouse everlasting shrubs, from Australia. Cultigins in sand, under a bell-glass, or in a gentle heat in the stove. Loam, peat, and sand.

T. Billardii (Billardier's). Australia.

*capulina* (capsular). See *Calodrina Asiatica.*


*spathula* (spathulate). See *Sparymium spatulatum.*

TSUBARA. (The Japanese name of *T. Sieboldii.* Nat. ord. Coniferae.)

Hardy trees most nearly allied to *Picea.* Seeds. Good loamy soil.


*T. brunnea* (Brownian). 60-70. East and Central Himalaya. 1886. "Indian Hemlock Fir."

*canadense* (Canadian). 50-70. N.E. Amer. 1736.

"Hemlock Spruce."

*argentea* (silvery). Leaves silvery at tips of young growths.

*macrophylla* (large-leaved).

*mirtifolius* (Millford). Dwarf and drooping.

*regis* (regal). A dwarf creeping habit.

*parvisepala* (small-leaved). Oregon.

*peudodendron* (drooping). "Weeping Hemlock Spruce."

*peudalpum* (silvery-dropping). "Weeping Spruce.

*variegata* (variegated).


*T. Tsuyu (Tsula). See T. Sieboldii.

*ymnanae* (Yunnana). Cones subglobose, large. South-western to Central China. 1906.

TUBE FLOWER. *Clerodendron Siphonanthus.*

TUBEROSE. *Polya nthus tubero sa.* The name Tubero is derived from the Latin *tuber-* the root, tuber, but is a corruption of tuberosa, the specific name.

TULBA'GIA. (Commemorative of Tulbagh, a Dutch governor of the Cape. Nat. ord. Lilaceæ. Allied to Agapanthus.)

Greenhouse herbs with creeping rhizomes. *T. alliacea* is so nearly hardy that it can be grown in narrow, warm borders at the base of hothouse walls outside, like Agapanthus, some Crinums, and the Belladonna Lily. Offsets. Light, rich, well-drained soil.


*afSilicoides* of *affinis* (allied). See *T. alliacea affinis.*


*S. Africana.*


*A. ludwigiana* (Ludwigiana). 4-2. Leaves very broad.

*allia* (Onion-scented) of *Sims.* See *T. capensis.*


*A. ludwigiana* (Ludwigiana). See *T. alliacea ludwigiana.*


S. *simmliers* (Simmers') 14-4. Rose. Transvaal. 1908.


about one-eighth of powdered small-shells if the soil was too stiff.

Choosing an aspect rather exposed to the north than the south, where no reflected rays could fall upon it, with every precaution to insure its being thoroughly soaked with pure rain-water, and after waiting a day or two, prepare the soil. If the soil is not too moist, he made rows half a foot deep, and in these, at 6 inches distance, he placed good and sound truffles, each of them being surrounded with two or three handfuls of oak sawdust, taking care to make the rows accurately. Ride the rows over, then made over each row, to prevent the truffles being injured by too abundant moisture. The bed was then left till the following autumn, with no other precaution than to keep it from being too dry. The result, we are informed, was an abundant harvest every year from October to January.

Bradley, writing, in 1792, of the cultivation of the truffle in England, says, that the truffle may be easily cultivated where there are woods or coppices of oak or hazel, and where the soil is not too stiff, or inclining to chalk. The soil where they are most found is a reddish sandy loam; this will then be the best for our purpose, especially if it has lain long uncultivated. When we are thus provided with the proper soil, we must be sure to let it lie undisturbed till we are ready to plant, which will be not long after the first of December, if the weather be open; for then the truffles are to be found in their full ripeness, and then, likewise, one may find them in a state of putrefaction, which is the time when the seeds are prepared for propagation. It is in the last state that one ought to gather truffles for planting, or, at least, they should be in perfect ripeness. The proper soil and these rotten truffles being found, we may begin to plant in the manner as follows. Open a spot of ground of a convenient size, and take out the earth about 6 inches deep, and screen it, that it may be as fine as possible; then lay about 2 or 3 inches thick of this fine earth at the bottom of the trench or open ground, and upon it lay some of the over-ripe truffles, about 14 feet distance from one another; and, as soon as possible, prepare the seed-bed by the art of holding the soil, water, well-stirred and mixed together, and pour it on the truffles till the open ground is quite filled up. By this means, in a few hours, the ground will be as closely settled about the truffles as if it had never been dug or disturbed at all, and you may expect a good crop in due time. You must, however take care to choose your spots of ground in woods or coppices, or such places where trees break. Their favourable climate, the oak, or the elm or elsewhere, makes them the favourite of the morele. Notwithstanding these statements, it is quite certain that, at present, the art of cultivating the truffle is not known in England; and it will remain unknown, probably, until we have discovered how its spawn can be prepared as for cultivating the mushroom.

Mr. Bradley says he recommended an old truffle-hunter to bury, at the proper depth, some of his truffles that were in a state of decay and unfit for the table under one of the unproductive trees sufficient in stature and in umbrageous development. At the beginning of next winter, when his visit was repeated, he sought for Mr. C., and told him, with great satisfaction, that the scheme had answered; for he had found two or three pounds of excellent truffles beneath the hithero barren tree. By following this example, proprietors of trees adapted to truffles, and where the proper trees have been planted, may, in a short period, do that which a lapse of years, unassisted, Of the true cedars of Lebanon is the most favourable to the growth of the truffle.
TULIP. Tu'lipa.

TU LIPA. The Tulip. (From its Persian name, šlohuhs, Liliworts [Lilaceae]. Linn. & Hamburg, r-Monogynia.)

Hardy bulbs. Seeds for new varieties; offsets; a rich compost, made of loam, sand, and vegetable mould, suits them best. Bulbs of kinds may remain for years in the same place if you top-dress them, and do not want to separate the bulbs.


Alpestress (Aleppey). See T. Oculis-solii aplefica.

Alepna (alpine). See T. Fuchella.


Baltica (Batalin's). 1. Light yellow. Asia Minor. 1889.


TULIPA

T. nitzschei (neglected). See T. STRANGULATA NEGLECTA.
T. oulensis (shining). 4. Vermilion, with small blackt. April, 1892. 3.

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When the collection is large, and the means ample, the most convenient width of each bed would be 5 feet; this will hold 6 rows 9 inches apart. A walk between them may later be put in to allow more room for the operator and the spectator. Three feet between each bed, on the outer sides, place a row of pillars, 4 inches square, to support the shelter; each pillar must be square, driven in with the point of the bed well-tamped, or be inserted into an iron or stone socket. These pillars should stand above the surface at least 5 feet, and at a distance of 5 feet from each other. On the top of each pillar will be a corresponding rafter in the centre of the space just over the centre of the walk. Each rafter, at the junction, must be firmly fastened to a longitudinal piece of wood running the whole length of the bed; then, if well-tamped, the treading, of course, upon the number of roots, or size of the collection. There will then be required two rollers of wood of the length of the structure. On each of these hai a sheet of canvas of sufficient width to drop down on each side nearly to the ground. On the top, at the centre, fix a pair of weather-boards, projecting high enough to allow the roller and canvas to go under them, on all sides. This will preserve the canvas from rotting, and so enable it to be used for several years.

**TULIP, BUTTERFLY.** Calceolarius lilacinus. This bulb grows about 2 inches high; it is usually planted in rows 1 foot wide. The leaves are narrow, acuminate, and without the common central vein, but with two large, evergreen leaves, like those of Aspidistra. Divisions. Fibrous loam, leaf-mould, a little manure, and sand.

**TULIP-CALIFORNIAN.** Calceolus americanus. The flower is pink, the inner segments of the calyx white. Divisions. Fibrous loam, leaf-mould, a little manure, and sand.

**TULIP, DROPPING.** Friisilia Metel'ges. A small bulb, growing 3 to 4 inches high. Divisions. Fibrous loam, leaf-mould, a little manure, and sand.

**TULIP, GOLDEN STAR.** Calceolus pulchellus. A dwarf bulb, growing 3 inches high. Divisions. Fibrous loam, leaf-mould, a little manure, and sand.

**TULIP, MYRTLE.** Darwina macrostigma. A small bulb, growing 2 inches high. Divisions. Fibrous loam, leaf-mould, a little manure, and sand.

**TULIP, PIPER.** Papaver glaucum. A small bulb, growing 5 inches high. Divisions. Fibrous loam, leaf-mould, a little manure, and sand.

**TULIP, LAUREL-LEAVED.** Magnolia. The flower is pink, the inner segments of the calyx white. Divisions. Fibrous loam, leaf-mould, a little manure, and sand
TURF TOOLS are the Racer or Rutter, for cutting the edges of turf after it has been laid, and for cutting the turf when forming a hedge. It is a thin, sharp-edged implement, somewhat resembling a cheese-cutter, fixed to a handle about 4 feet long.

The Turfing Iron is for raising or peeling off the turf, and for the soil. It has an arrow-headed, flat blade, with an angular handle.

A Turf or Daisy Rake consists of a piece of thin plate iron cut into teeth, with two slips of ash, or other tough wood, and it is firmly fixed to the handle, and keep it from bending. When put together, the back is 1½ inch thick. The wood is bevelled half an inch above the interstices of the teeth, at which point the iron is slightly curved, or bent gradually, to admit the thickness of wood underneath, and give a proper inclination to the handle. The instrument serves both as a grass rake and a daisy rake, and has the advantage over the daisy rakes in common use of being easier cleaned, from the wideness of the interstices between the teeth.

The Turf-beater or Beetle, as above described, is a flat, heavy piece of wood, with a handle fixed on the back of it at an angle, so that the operator can raise it with the handle, and bring it down flat upon the grass, with a thud, to make it firm. Many modern turf layers object to the use of the Beetle, as injurious to the grass.

TURGOSSEA. (From turgo, to be swollen, or tumbid; in allusion to the succulent character of the plants. Native of the British Isles, and widely distributed.)

T. aloides (Aloe-like).—See CRASSULA ALOIDES.

T. capitella (little-head).—See CRASSULA CAPITELLA.

T. lingulatifolia (tongue-leaved).—See CRASSULA LINGUAFOLIA.

T. obovata (obovate).—See CRASSULA OBOVATA.

T. pedunculata (perforated).—See CRASSULA PENDULUS.

T. thyrsiflora (thyrse-flowered).—See CRASSULA THYRSEFLORA.

T. tomentosula (felted).—See CRASSULA TOMENTOSULA.

T. turrita (turreted).—See CRASSULA TURRITA.

TURNERA. (Named after Dr. W. Turner, author of the first English herbal. Nat. ord. Turneracias. Linn. 5-Pentandria, 3-Trigynia.)

All yellow-flowered. Annuals and biennials, by seeds in a hoisted in spring, and plants bloomed in a greenhouse; shrubs, by seeds, and also by cuttings in sand, under a bell-glass, in spring and summer; sandy loam, fibrous peat, and a little charcoal. Winter temp. 50° to 60°; summer, 60° to 85°.

GREENHOUSE ANNUALS.

T. angustifolia (narrow-leaved).—See T. ULMIFOLIA.

T. aurantiaca (orange).—Orange. Guiana.

T. cistoides (Cistus-like).—See PIREEQUETA VILLOSA.

T. elegea (Elega).—See PIREEQUETA ELEGANS.


T. marilia (dwarf).—See T. PUMILIA.

T. papillosa (Papilla).—August. Trop. Amer.


T. elegans (elegant).

STOVE EVERGREENS.

T. brasiliensis (Brazilian).—1. June. Brazil. 1810.

T. cuneifolium (wedge-formed).—See T. ULMIFOLIA.


T. urubu (Dutchman-flowered).—See T. ULMIFOLIA.

TURNIP. Brassica Rapa. Varieties.—For the first sowings: Early White Dutch, Early Stone.

For the spring sowings: Common Round White, Large Round White, Large Green, Deep Red, Top, Lemon, Yellow Dutch, Tankard, French, Small Round French, Swedish, Moscow, or Narva, Snowball, Orange, Jelly, and Garden Swede.

Sow may commence at the end of February, a small portion on a warm border, and some in a moderate hotbed of the first two varieties mentioned. These will be fit for use during April. The sowing on a border will be repeated in the beginning of March, and these will produce throughout May.
These sowings are to be repeated in small proportions, at monthly intervals, until the beginning of July, when the main crop for the supply of the winter may be in seed. At the commencement of August and September for spring.

Mode.—Sow broadcast, or in drills 2 inches apart, and very thin; and to enable the seed to be distributed relatively well with sand before sowing. Each sowing should, if possible, be performed in showery weather; or, if otherwise, at the time of insertion, and a week or three times afterwards.

Thus, if they have four or five leaves about 2 inches in breadth to at least 12 asunder from each other.

Water must be given frequently and plentifully, as on a regular supply of moisture their growth is, in a great measure, dependent.

In November or December, before the setting-in of frost, some of the bulbs must be taken up, and, the tops and roots being removed, preserved under shelter in sand. The young tops are much in request during spring; they must be gathered when very young, otherwise they are strong-flavoured and bitterish.

To obtain Seed, some of the most perfect roots of those which were wild withered in winter may remain where grown; or they may be transplanted in November or February; of the two earliest varieties, sown on a border early in March, some of the bulbs being allowed to remain, will produce seed the same autumn.

Manures.—The best manure for turnips is stable-dung; and next in their order, guano, super-phosphate of lime, soot, and salt.

For the injuries to which the turnip is liable, see ATHALIA, AMBURY, and BLACK Fly.

Turnip Cabbage (Bra'sica Na'po-brasa'sica) and Turnip-rooted Cabbage (B. Ca'u-lvo-ra'p). See KOHLKOEHL.

TURNIP-FLY. See BLACK Fly.

TURNIP MOTH. Agro'tis se'etum.

TURNSOLE. Heli'o'tris pium.

TURFINTINE. Sil'phium terebin'thacea'ceum.

TURFINTINE-MOTH. See Retin'a buoliana and R. Turonian'a.

TURFINTINE-TREE. Pista'cia Terebi'nthus.

TURPINTINA. (Commemoration of F. T. Turpin, a French artist. Nat. ord. Sapindaceae.)

Stove and greenhouse evergreen trees or shrubs. Cuttings of ripe shoots in sand, in a close case, with gentle bottom-heat. Fibrous loam, peat, and sand.


T. nepe'a nepesi's (Nepalese). See T. Pom'fera.


TURRZA E. (Named after G. Turza, professor of botany at Padua. Nat. ord. Malad'his [Malaceae]. Linn. 16-Monadelphi, 6-Decandria. Allied to Melia.)

Stove evergreen trees. Cuttings of firm young shoots in sand, under a bell-glass, in March, in a heated; fibrous, sandy loam and vegetable mould. Winter temp., 50° to 60°; summer, 80° to 85°.


T. lob'a (lobed-leaved). See T. Heterophyll'a.


T. pin'ma (lead-leaved). See Munro'na Wallichii.

TURRZIT ALPIS. See ARABIS HIRSUTA.

TUSSA'CA. (Commemoration of F. R. de Tusca, a botanist. Nat. ord. Genere'seae. Allied to Episcia.)

Perennial stove herbs. Seeds; cuttings in sand, in a close frame, with bottom-heat. Leaf and leaf-mould in equal parts, with plenty of sand.


TUSSTLA'GO. Coltsfoot. (From tusis, a cough; used to allay coughs. Nat. ord. Composities [Composita]. Linn. 19-Syngenesia, 2-Superflua.)

Hardy herbaceous perennials. Division of the roots, which are usually inclined to spread freely. The flowers of many of the sorts, especially of fra'grans, are grateful from their scent, and, if kept in pots, are interesting in a greenhouse in the early months of the year; they generally do best in a strong, loamy soil, moderately rich.

T. al'ba (white). See PETASITAS ALBUS.

ap'li'na (alpine). See HOMOGE'NY ALPINA.

di color (two-coloured). See HOMOGE'NY DISCOLOR.


fra'grans (sweet-scented). See PETASITAS FRAGRANS.

fr'a'gids (cold). See PETASITAS FRIGIDUS.

lav'ga (smooth). See PETASITAS LEVI'GATUS.

n'oea (snowy). See PETASITAS NIVEUS.

pal'ma (hand-leaved). See PETASITAS PALMATUS.


sa'gitta (arrow-leaved). See PETASITAS SAGITATUS.

TUTSAN. Hy'tricium Androc'a'mum.

TWEEDIA. (Named after Mr. Tweedie, a botanical collector. Nat. ord. Asclepiadias [Asclepiadaceae]. Linn. 5-Pentandria, 2-Digynia. Now referred to Oxypetalum.)

T. car'u'lea (blue). See OXYPETALUM CERULEUM.

flora'bus (bunch-flowered). See OXYPETALUM SOLANOIDES.

pud'es downs (downy). See OXYPETALUM SOLANOIDES.

ro'sa' (rosy). See OXYPETALUM SOLANOIDES.

w'erra (changeable-coloured). See OXYPETALUM CERULEUM.

TWIN-FLOWER. Bravo' a germinis'fra'ra.

TWISTED STALK. Stre'popusus.


T. ama'bullis (lovely). See Isola'MA AMABILIS.

Ca'lia (Cecilia's). See Isola'MA CECILE.

S'brida no'a na (dwarf hybrid). See ISOLAM A HYBRIDUM.

L'ndeni (Linden's) and T. lin'den'ia (Lin'denian).

See ISOLAM A LINDENI.

pi'cia (painted). See ISOLAM A PICTUM.

TYLE BERRY. J'aporpha multi'fida.

TYLPHORA. (From tulos, a swelling, and phoro, to bear, the swollen pollen masses. Nat. ord. Asclepiadias [Asclepiadaceae]. Linn. 5-Pentandria, 2-Digynia.)

Greenhouse evergreen twiners. Cuttings of either old or young plants, with current leaf removed, and brick and old lime-rubbish, in spring, though any time will do; sandy loam, lime-rubbish, and a little old, dried cow-dung. Winter temp., 40° to 45°, and dry; summer, 60° to 85°, and moist.


mi'car'a (small-flowered). T'lor.

ocu'la (eyed). Purple. Sierra Leone. 1895.

TYLPHOROPHISIS. (From Tylphora, and opsis, resemblance; because it resembles that genus. Nat. ord. Asclepiadaceae.)

Twinning evergreen shrub. For culture, see Tylphora. T. yem's (yam). Flowers small, dull purple. Yemen, Arabia. 1894.

TYPHA. Reed Mace. (An old Greek name. Nat. ord. Typhaceae.)

Hardy perennial herbs, thriving best in shallow water in ponds, tanks, lakes, and streams. Division in spring.


**TYPHONIUM**

(T. parviflorus (small-flowered).) 4. July. S. France; Spain, 1823.

"*provincialis* (Provençal). See *U. parviflorus*.

"*strictus* (erect). See *U. europaeus strictus*.

"*multifidus* (Welwitschian). South-western Europe.

**ULLO'A PARASITICA.** See *Juanulloa aurantiaca*.

ULLU'CUS. (From *ulcus*, the native name in Ecuador, Nat. ord. Chetoniaceae.) Perennial tuberous-rooted herb. Tubers. Light, rich soil. It is grown in Peru and Bolivia, as an article of food, under the name of "Oca-quina."


ULMUS. The Elm. (From the Celtic *elmh*, ult, Nat. ord. *Betulaceae*. Linn. 5-"Pentandria", 2-Digynia.)

Nearly all hardy; all deciduous, and red-flowered, blooming in February to April. *Ulmus* site is against the tree, by suckers and layers, and by grafting on the *montana*. The latter is also propagated, not by suckers, but by layers, which root freely; but chiefly by seeds, which must be sown in June as soon as ripe, and sown in light, mellow soil; and dried, and put in bags until the following March or April. Deep, dry, sandy loam suits all the species and varieties, and produces the hardiest.


"Winged Elm."

"a*bla (white). See *U. pedunculata*.

"amer*ica*na (white, American). 40. N. Amer. "American or White Elm."

"a*bla (white). See *U. americana."


"variega*ta no*va (new-variegated)."

"vimina*lis (twiggy). 30. Britain."


*T. nu*ta*ns (swimming). See *Hydrocera angustifolia*.

**ULCER.** See *Canker*.

**UL*EX.** Furze. (From the Celtic ac, a point; the prickly branches. Nat. ord. *Leguminosae* [Leguminosae]. Linn. 16-"Monadelphia", 6-"Desmodia").

Hardy, yellow-flowered evergreens. Seeds in spring; deep, light soil, though not very particular. The gorse, whin, or furze is valuable, not only for its great beauty, but as constituting a valuable fodder and fence-plant. The Double-flowered Furze is very beautiful, and worthy of a place in small gardens, and is propagated by cuttings in spring and autumn, in a shady, sandy border, or under hand-glasses. The Upright or Irish Furze is propagated in a similar manner, and is also valuable for fodder; but it seldom flowers, and when it does has generally only a few flowers on a plant. See *Hedge*. *Ulex"* (from the Greek, a thorn).

"Furze," "Furze," "Furze," "Whin."

"fo*te-*ple*no (double-flowered). 6. May, Britain.

"stri*cus (erect). 2-10. October, Ireland. "Irish Gorse."

"Ga've*isa (France)." Primary spines long, rigid, Western Europe.

"genisson*des (Genisná-like). 1-3. May to August. Portugal (Portuguese Furze)."

"hibe*meus (Irish). See *U. europaeus strictus*.

"na*nu*us (dwarf). 2. August. Western Europe (Britain).

"Ga've*isa (France)." See *U. galli*.
U. campestris variegata (upright-twiggy). 10-80. N. Amer. See U. Campestris SPP.

UMBRELLA RIA. (From umbella, a little shade, parasol, or umbrella; the flowers are produced in small umbels. Nat. ord. Lauraceae.)

An evergreen shrub or tree for a warm wall, except in the more favoured parts of the country. The foliage is scented. Cutting in sandy soil in a cold frame, kept close and shaded during the day till roots are formed. Any light, well-drained soil.


UNIOLA. Spike Grass. (From unus, one; the glumes being united in pairs. Nat. ord. Gramineae.)

Hardy perennial grasses of ornamental value when cut or dried. Seeds; divisions. Ordinary garden soil.

UNONA

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" paniculata" (panicked). 3-6. August. N. Amer.

UNONA. (A different spelling of Anona, to which it is allied in ord. Melast.aceae.)
Stove evergreen shrubs. Cuttings of mature wood in a close frame, with bottom-heat. Loam, with a little lumpy peat and sand.
U. o'no'loul (one-coloured), 6. Guiana. 1820.
Dasym'ochila (Dasymochilla). India and Malaya.

UNTRUE. See Sporting.

UPAS TREE. Ania'tris toxica'ria.

ULAND WILLOW OAK Quercus cine'a.

UR'ANA. (From ouranios, sublune; the stateliness of the plant. Nat. ord. Mus'sas [Scitamineae]. Linn. 6-Hexan'udria, 1-Monogynia. Referred to Ravenala.)
Ravenala (Ravenala). See Ravenala madagascariensis.
" specio'ssa (showy). See Ravenala madagascariensis.

UR'ARA. (From oura, a tail; the bracts. Nat. ord. Legumi'num Plants [Leguminosae]. Linn. 17-Dia'delphi, 1-Monogynia. Allied to Hybyxurum.)
Stove evergreens. Seeds in a hotbed in spring; and cuttings of side-shoots in May, in sand, under a bell-glass; sandy loam and fibrous peat. Winter temp., 55° to 65°; summer temp., 75° to 85°.
" com'o'sa (tufted). See U. Crin'ita.
lag'o'gos (hare-headed). See Desmodium Bar'batum.
China. 1790.

UR'CEO CHARIS. (A name compounded from Urce'o-lina and Eucharis; the plants being regarded as hybrids between members of those genera. Nat. ord. Amaryllid'aeae.)
Stove bulbs. Offsets. Fibrous loam, a little leafmould and cow-manure, and sand.
U. Ch'brano'press (Cibranopsis). White. (Eucharis grandiflor'a X Urencia pendula) 1802.
eden'ta' (toothless). 2. White; corona toothless. (Natural hybrid, Urencia X Eucharis.) Peru. 1917.

UR'CEOLA. (From urceo, a little cup or pitcher; the corolla is urceolate or pitcher-shaped. Nat. ord. Apocynaceae.)

UREC'O-LINA. (From urceolus, a small cup, or pitcher; from the smallness of the cup, or nectary, inside the flower. Nat. ord. Amaryll'idaceae [Amaryllidaceae]. Linn. 6-Hexan'udria, 1-Monogynia. Allied to Eucharis.)
Half-hardy bulbs, growing in shady woods, and flowering from June to November; they require perfect rest in winter. Offset-bulbs; rich, fibrous loam; the protection of a cold pit, and kept dry in winter.
U. lan'fo'lia (broad-leaved). 1. Yellow. green. Septem'
ber. Peru.
Pendula and Bolivia. 1856.
1839.
1837.

URE'DO. See Barberry and MildeW.

URE'NA. (The native name at Malabar is Uren.
Nat. ord. Malvae'ceae.)

URE'RA. (From wro, were, to burn, to stine; the stems and leaves are covered with stinging hairs. Nat. ord. Urticae'ae.)
Stove or greenhouse shrub or small tree. Cuttings in sand in a close case, with bottom-heat. Loam, peat, and sand.

UR'GINE'A. (Named after Ben Urigin, an Arab tribe in Algeria. Nat. ord. Liliaceae.)
Greenhouse bulbs. Offsets; seeds. Loam, leaf-mould, some cow-manure, and sand, and must be rested in winter.
Trop. Africa. 1880.
" eos'e'roides (Eriospermum-like). 2. Whitish, small. S. Africa. 1867.
S. Africa. 1793.
S. Africa. 1820.
" nar'i'a (for native). Yellow-green, drooping. S. Africa. 1904.
July. S. Africa. 1791.
Bhoma; Abyssinia. 1832.
" macr'o' ntra (large-spurred). 3. White, tipped green; lowest bracts spurred. S. Africa. 1887.
October. Europe; S. Africa. 1829.
" mic'a' nta (small-flowered). Trop. Africa.
S. Africa. 1864.
1820.

URINE. (See Dung.) The urine of all animals is excellent as a manure; but it must be given only to plants whilst growing, and in a diluted state. One of the most fertilising of liquid-manures is composed of cattle urine. (Cattle urine is a rather vegetable refuse, putrefied in the urine from a house or stable, and diluted with water to three times its quantity of water when applied. If mixed with bleaching powder [chloride of lime], there will be no offensive smell. Gypsum mixed with urine, or a little oil of vitriol poured into it, adds to its utility as a manure. Sulphate of iron, in the proportion of seven pounds to every hundred of urine, prevents the escape of ammonia during putrefaction.

UROPE'DIUM. (From oura, a tail, and podion, a slipper; the slipper of this plant is flattened out and elongated like a tail. Nat. ord. Orchidaceae. Now referred to Selenipedium.)
U. La'denii (Linden's). See Selenipedium caudatum Uropic'edium.

UROPE'TALON. (From oura, a tail, and petalon, a petal; the petals are lengthened out into tail-like appendages. Nat. ord. Liliy'worts [Liliaceae]. Linn. 6-Hexan'udria, 1-Monogynia. Now referred to Dipcadi.)
" jo'vica (Jovica). See Dipcadi sero'ni cum fulvum.
" gau'cum (sea-green). See Dipcadi glaucum.
" longi'follum (long-leaved). See Dipcadi longi'folium.
" sero'ni'num (late-flowering). See Dipcadi sero'ni num.
" umbona'tum (umbonate). See Dipcadi umbonatum.
" Welw'i'sroi (Welwitsch's). See Dipcadi Wel'witschii.

USK'INNER'A. (Commemorative of G. Ur'skin, a collector of plants in Central America. Nat. ord. Scrophulariaceae.)
UROSPATHA 887

Stove perennial herb. Divisions. Fibrous loam, peat, and sand.

UROSPATHA. (From oura, a tail, and sphaere, a sphaere; in allusion to the long-tailed sphaere. Nat. ord. Araceae.)

orden's (grand). Green. Panama.

picture's (pictured). See U. sagittifolia.
spectabilis (showy). See U. sagittifolia.

UROSPERMUM. (From oura, a tail, and sperma, a seed; the seeds are beaked. Nat. ord. Compositae.)
Hardy perennial or annual herbs. Seeds; cuttings; divisions. Well-drained garden soil.
capensis (Cape). See U. pickroides.

UROSPA TIA SUBTRIPLINEVIA. See Ficus subtripinervia.

URSINIA. (Commemorative of John Ursinus, a German. Nat. ord. Compositae. Includes Sphenogyne.)
Greenhouse shrubby plants; hardy annuals, or some that may grow outdoors in summer like U. pulchra and U. anthemoides. Seeds; cuttings of the shrubby plants. Fibrous loam, leaf-mould or peat, and sand; well-drained soil in the open.
U. speciosa (Specious). See U. fulchra.

URTICA. (From weo, to burn, to sting; in allusion to the stinging hairs. Nat. ord. Urticaceae.)
Annual and perennial herbs, too well known in gardens and their neighbourhood from the frequency of U. dioica in shady and waste places, and the annual u. urceus in the cultivated ground. Seeds; divisions; ordinary soil.
U. australis (racing). See FLEURYA ESTUANS.
involuta (involutata). See PILEA PUBESCENS.

URVILLEA. (Commemorative of Captain Dumont d'Urville, a French botanist. Nat. ord. Sapindaceae. Now referred to Serjana.)
U. ferruginea (rusty). See SERJANIA CUSPIDATA.

Ustileago. A genus of fungi, in which the proto-sperms are produced in masses, filling the tissues with simple cells of a black colour. They are known as smuts, and are very injurious to corn and grasses. The young fruits or spores attacked should have the stem cut and burnt before the spores are ripe. Oats and barley often get badly attacked by U. segetum, and grain should be treated with some disinfectant before sowing, if the fungus prevails, or attacked when growing. One pound of sul-phate of copper, dissolved in five quarts of water, is sufficient for a sack of grain (four bushels), which should be steeped in the solution.

UTRICULARIA. Bladderwort. (From utriculus, a small skin, or skin made of it, in reference to the small bladders on the submerged filaments of the plants. Nat. ord. Lentibulariaceae. Allied to Pinguicula.)
A very large genus of plants spread over the whole world in boggy and wet places, or submerged in water. They float near the surface in summer, and their flower scapes are produced above the water. Divisions. Our native species may be grown in ponds, tanks, or tubs. Most species in the water, either for shelter, or out of curiosity, push against the trap-door, which opens to let them in but closes behind them, thus making prisoners of them. After a time they die, decay, and the nutrient matter of their bodies is absorbed by the branching hairs.

BRITISH AQUATICS.
U. stolonifera (Stoloniferous). See U. LONDONII.
U. oseae (species, such as U. montana, may best be grown in baskets of sphagnum, mixed with small pieces of charcoal and drained with crocks. The small bladders are better developed on the species which live in water, and may be defended or obscured from those that grow in sphagnum or moss. In our native species they have a small opening or trap-door which opens inwards, and the interior is furnished with four-branched hairs. Minute animals grow in the water, either for shelter, or out of curiosity, push against the trap-door, which opens to let them in but closes behind them, thus making prisoners of them. After a time they die, decay, and the nutrient matter of their bodies is absorbed by the branching hairs.

STOVE.
U. speciosa (Species). See U. LONDONII.
U. oseae (species, such as U. montana, may best be grown in baskets of sphagnum, mixed with small pieces of charcoal and drained with crocks. The small bladders are better developed on the species which live in water, and may be defended or obscured from those that grow in sphagnum or moss. In our native species they have a small opening or trap-door which opens inwards, and the interior is furnished with four-branched hairs. Minute animals grow in the water, either for shelter, or out of curiosity, push against the trap-door, which opens to let them in but closes behind them, thus making prisoners of them. After a time they die, decay, and the nutrient matter of their bodies is absorbed by the branching hairs.

UVARIA. (From varus, a club; of a grapes; the resemblance of the fruit. Nat. ord. Anonado [Anonaceae]. Linn. 13-Polypadria, 6-Polypadria.)
Advertising evergreen, broad-leaved, except where otherwise mentioned. Cuttings of firm side-shoots in May, in sand, under a bell-glass, in heat; sandy loam and fibrous peat. Winter temp. 25° to 60°; summer, 60° to 85°.
aromatica (aromatic). See Unoxa concolor.
esculentia (eatable). See ARTABOTRYS ODORATISSIMUS.
fasciculata (bundled). See POLYALTIA SIAMARUM.
fuscata (brown). 5. Guiana. 1823.
VACCARIA PARVIIFLORA. See Saponaria Vac-
caria.

VACCINIUM. Whortleberry. (The derivation is doubtful, perhaps from hirse, a berry. Nat. ord. Cran-
berries [Vacciniaceae]. Linn. 8-Octandria, 1-Mono-
ogyne.) Seeds in autumn; cuttings under a hand-light in
summer; suckers; divisions; rooting stems from trailing
along ground. 2-3. Purple; May. 4-6. Double; May.
2. Stems (involucrate), 5-7. Purple. 3. Racemes (mem-
branous), 5-7. Purple; May.

V. alboflorum (white-flowered). See V. CORYMBOSUM.

V. americum (lovely). See V. CORYMBOSUM AMERICANUM.

V. angustifolium (narrow-leaved). See V. PENNSYLVANI-
UM ANGUSTIFOLIUM.

V. arboresum (tree). White; red. 1765. "Farkleberry.

V. arctostaphylos (Arctostaphyli). 3-4. White. Cau-
casus; Armenia.

V. brasiliense (Brazilian). See GAYLUSSACIA PSUEDO-
VACCINIUM.

V. buxifolium (box-leaved). See GAYLUSSACIA BRACHY-
CERA.

V. canadense (Canadian). 1. White, red. 1825.


casas; Venezuela.

V. cerasus (cherry). Friendly islands.

V. citricum (eye-lashed). Japan.


V. dufourii (diffuse). See V. ARBOREUM.

V. dumosum (bushy). See GAYLUSSACIA DUMOSA.

V. fulvum (bland). See V. CORYMBOSUM.


V. erythrocarpus (red-fruited). May. Berry red. 1866.

V. fremontii (beauty). See GAYLUSSACIA FRONDO-
SA VENUSTA.

V. gaultheriae (balm). See GAYLUSSACIA FRONDO-
SA VENUSTA.

V. humifusum (hairy). Mountains of North Carolina.

V. humifusum (trail). See GAYLUSSACIA FRONDO-
SA VENUSTA.

V. imbricatum (intermediate). See V. MYRTILLUS VITII-
idea. Europe.

V. labiata (velvety). See 8-Octandria, light, Ceylon.

V. longiflorum (large-flowered). See GAYLUSSACIA PALUSTRIS.

V. macrocarpum (large-fruited). See OXYCOCCUS MACRE-
CARPUS.

V. macrocarpum (large-fruited). See V. PENNSYLVANI-
UM ANGUSTIFOLIUM.

V. mariae (Marina). 2-3. Rose-pink. Andes; Peru. 1847.


V. OPPUS (bland); 11. Purple. May.

V. myrtillus (myrtike); See V. titubum (very-slender). See V. VIRGATUM.

V. nemoreum (dark). See V. VIRGATUM.

V. palustris (swamp). See GAYLUSSACIA PALUSTRIS.

V. parviflorum (small-flowered). See V. PENNSYLVANI-
UM ANGUSTIFOLIUM.

V. parviflorum (small-flowered). See V. PENNSYLVANI-
UM ANGUSTIFOLIUM.

V. penstemonoides (California). See OXYCOCCUS PALUSTRIS.


V. pullatum (pale). See GAYLUSSACIA RESINOSA.

V. pullatum (pale). See GAYLUSSACIA RESINOSA.

V. pullatum (pale). See GAYLUSSACIA RESINOSA.

V. pullatum (pale). See GAYLUSSACIA RESINOSA.

V. pullatum (pale). See GAYLUSSACIA RESINOSA.

V. pullatum (pale). See GAYLUSSACIA RESINOSA.
V. virgov'tum ten'e'llum (very slender). 1. White.


V. "Cowberry." Evergreen.

V. "ma'jor" (larger). Leaves larger.

V. "mi'nor" (smaller). Leaves smaller than the type.

VAG'ARIA. (From vagus, doubtful, uncertain. Nat. ord. Amaranthae. Allied to Erycites.) Hardy or half-hardy bulb. Offset; seeds. Fibrous leaf, mamourd, and sand. Of.


V. gay'a-na (Gayan). 2. Rose. Chili. 1863.

VAL'ZE'NIA. (A commemorative name. Nat. ord. Sapindaceae. Allied to Paullini.) Greenhouse evergreen shrub or small tree. Cuttings in sandy loam, or loam, and sand, or peat. and sand in a frame.


VAL'ERIA'NA. Valerian. (Named after Valerius, who first used it in medicine. Nat. ord. Valerianaceae [Valerianaceae]. Linn. 3-Triandra, 1-Monogynia.) Hardy herbaceous perennials. Divisions of the root in spring; seeds; common garden soil; the tender sorts should have a dry place.


"angust'iolia" (narrow-leaved). See \textit{Centranthus}.


"Cal's trapa" (Calcitrapa). \textit{Saxifragaceae}. Cal's tara. See \textit{Cal's tara}.


"cornuc'o'pias" (horn-of-plenty). See \textit{Fedia cornu'copia}.

"dentia" (toothed). See \textit{Valerianella dentata}.

"dor" (i.e. distinct). 1. Flesh. June. Europe (Britain).

"edwe'is" (edible). North-western Amer.


"excita" (tall). Russia.

"globularis'fioria" (Globularia-leaved). Red. June.

"pyre'nes" (Pyrenees). Intermediate. See \textit{V. tripterus}.

"jatana'mis" (Jatamanis). See \textit{Nardostachys jatamanis}.

"macrop'hylia" (large-leaved). See \textit{V. alliariaefolia}.


"Na'pus" (turnip-rooted). White. Mexico. 1839.


"exalt'atia" (tall). See \textit{V. exaltata}.

"sambucifo'lia" (elder-leaved). See \textit{V. sambuci'folia}.


"cretan" (Cretan, Spikenard.).

"aca'ria" (golden). Leaves yellow when young.

"pro'cumens" (running). See \textit{V. officinalis}.

"pu'rus" (pure, clear). See \textit{Patricia sibirica}.


V. \textit{sibirica} (Siberian). See \textit{Patricia sibirica}.


"tri'pterus" (three-winged). 1. White, May. Switzerland. 1752.


"vava'mia" (keeled). 1. Pale blue. April to June. Europe (Britain).


"eric'a'cia" (woolly-fruit). 1. Lilac. June. Europe (Britain).

"olio'ria" (sage). 1. Blue. April. Europe (Britain).

"sambvol'o'ria" (Sambucus-leaved). 1. Rose. July.

"north-Western Amer. 1835."


VALERIAN, GREEK. \textit{Polemo'nium car'leum}.

VALERIAN, LONG-SPURRED. \textit{Centranthus macro'si'phon}.

VALERIAN, RED. \textit{Centranthus ruber}.

VALLA'RIA. (From vallo, to incluse; used for fences in Java. Nat. ord. Dogbanes [Apocynaceae]. Linn. 3-Pentandra, 1-Monogynia.)

Stove evergreen twiner. Cuttings of short, firm, stubby side-shoots in sandy soil, under a glass, in heat, in May; sandy, fibrous leaf, and fibrous peat. Winter temp., 50° to 60°; summer, 60° to 85°.


VALLA'RIA. Named after F. Vallesio, physician to Philip II. of Spain. Nat. ord. Dogbanes (Apocynaceae). Linn. 5-Pentandra, 1-Monogynia.)

Stove, white-flowered evergreens. Cuttings of young shoots, getting firm, in sand, under a bell-glass in heat; sandy loam and fibrous peat. Winter temp., 45° to 50°; summer, 60° to 85°.


"dicho'toma" (forked). See \textit{V. cymbifo'lia}.

Europe (Britain).

"glabra" (smooth). See \textit{V. cymbifo'lia}.


A floating, fresh-water perennial, whose flowers live under water, except just at the time of impregnation. Divisions; rich loam, in a good-sized pot, plunged deep in a tub of water. Winter temp. 45° to 50°; summer, 60° to 85°.

V. \textit{spira'lis} (spiral), Brown. July. S. Europe. 1818.

VALLO TA. (Named after P. Vallo, a French botanist. Nat. ord. Amaryllids [Amaryllidaceae]. Linn. 6-Hexandria, 1-Monogynia. Allied to 

With the exception of Dr. Herbert, no systematic botanist (tinnuously pointed out the real affinity of Vallota. A crossing, by its pollen, has been obtained by Mr. Beaton from \textit{Amaryllis obtus'a}, which no one could distinguish from a Vallota of the same age. Greenhouse, scarlet-flowered bulbs, from South Africa. Offsets; sandy loam and peat, and leaf-mould. Winter temp., 40° to 45°, and dry; summer, 60° to 75°.


"delica'ta" (delicate). 1. Pale red. 1893.
VANDA

V. purpur'ea exi'mia (choice). Red, white throat, with crimson blotch.

V. magni'fica (magnificent). Bright scarlet.

V. mi'nor (smaller). 1. May. 1774.

VALONIA OAK. Que'equ E'gilus.

VALORA'DIA PLUMBAGINOIDES. See Cerato-stigma plumbaginoides.


V. al'pi'na (alpine). Green, yellow, purple. Himalaya. 1837.

V. ama'na (Amesian. White. fragrant. India. 1887.

V. ama'na (lovely). White, purple. July. (V. carulea x Rosbroughii.) 1897. Natural hybrid

V. Sa'nderia (Mrs. Sander's). Flowers finer and more floriferous. Philippines. 1881.

V. cobb'ia (Cobbian). White, purple striped, dark purple-brown. 1881.

V. car'e'la (light blue). Light sky-blue; lip deep blue.

V. V. White. Himalaya. 1849.

V. L. (Charlesworthii). Large, pure white, with a yellow blotch on the lip. 1908.

V. regni'er'i (Regnier's). Flowers darker than the type. 1900.

V. Charle'sworthii (Charlesworth's). White, veined and marbled with purple. (Nat. hyb. V. carulea x Ben'sonii.) 1884.

V. C.'s (Clarke's). See Archacanthae Clarki.


V. con'fusa (confused). White; lip lavender, striped blue. Burma. 1877. (V. carulescens x parviflora.)

V. cong'sia (crowded). See Acampae congesta.


V. Cumi'n'si (Cuming's). See V. Lamentallia.


V. deniso'nia (Denisonia). White, orange. Burma. 1862.

V. hebra'ica (Hebraic). Sulphur, with markings like red ochre on the lip. Burma.

V. hebra'ica (Hebraic). Sulphur, with markings like red ochre on the lip. Burma.

V. hy'pocrita (dotted). Sulphur; lip with brown spots. 1881.

V. densifi'ra (dense-flowered). Burma. 1851.


V. paw'illa (pale). Cream-white, with yellow-green spots. 1908.

V. purpur'ea (purple). See V. PARISHI MARRITIOANA.

V. pavo'ro'ra (small-flowered). Yellow, white, purple. Burma.

V. peduncula'ris (flower-stalked). See Cottontia macrostachya.

V. purpu'rea (purple). See V. PALLIDA (Wrightian). Lip very short, purple. 1883.


V. sen'sa'ta (Rendish). White, marked purple, and suffused with yellow. 1887.

V. se'bra'ica (Madame Fröbel's). Very large, richly coloured. 1902.

V. so'co-a-sa'ro (rosy-white). White; lower petals greenish, with purple veins at base. 1902.

V. scho'rien'sa (Schroderian). See V. INSIGNIS SCHRODERIAN.

V. spat'hula'ria (spathulate). S. India.

V. sta'ngaa (Stangean). Ochr, netted with dark purple-brown; lip white, blue. Assam. 1885.


V. sta'va (yellow). Yellow, spotted with brown.

V. Got'tschalki (Gottschalke's). White, with red brown spots. 1866.

V. Li'sen'sia (Linden's). White; lip white at base, the rest purple. 1886.

V. magni'fica (magnificent). Flowers larger and crimson. See Cottontia densiflora.

V. pa'illa (pale). Cream-white, with yellow-green spots. 1908.

V. Rol'losii (Rollison's). V. Ve'ech (Veitch's).

V. su'pr'ba (superb). See V. Lamentalla Bo'xallii superba.


V. a'ba (white). Pure white. 1882.
VANDELLIA
V. teres Anderson's (Anderson's), Highly coloured.

V. aurorea (aurora). White; lip reddish, and pale yellow, spotted with red-brown. Java. 1846.

V. caudata (white). See V. teres Alba.

V. gigantea (giant). Large and richly coloured. 1866.


V. tessellata (tessellated). See V. Roxburghii tessellata.

testa cea (reddish-yellow). See V. Faraviflora.

testa crenata (pointed). Light yellow, densely spotted with red-brown. Java. 1846.

v. cinnamomea (cinnamon). Yellow, and cinnamon. Java. 1869.

V. Dodsoni (Dodson's). Amber-yellow, sparingly spotted; lip magenta.

Ho'oea (Mrs. Hove's). Yellowish, thickly spotted with red; lip rose-crimson.

insinaria (remarkable). Bright yellow, regularly spotted with red-brown; lip rose-carmine.

V. Lewisii (Lewis'). Pale yellow, neatly spotted with red-brown. 1894.

V. Pattersoni (Patterson's). Cream, spotted chestnut-brown; lip magenta-purple. 1883.

V. planiflora (flat-lipped). Lip flat, magenta-purple to rose-purple.

V. russelliae (Russellian). Yellow, spotted with bright red-brown.

tenebrosa (dark). Yellow, spotted dark red-brown; lip rose-crimson. 1901.

V. Wallechi (Wallach's). Yellow, spotted with red; lip black.

V. Wairneri (Warner's). Yellow, edged with rose; lip rose-purple.

undulata ( waved). See Stauruphis undulata.


V. Vipara (Vipan's). Dark brown, with pater netting; lip white, stained with purple. Burma. 1892.


V. wightiana (Wightian). See Acampe Wightiana.

VANDELLA. (Named after L. Vandelli, a Portuguese botanist. Nat. ord. Figwort [Scrophulariaceae]. Linn. 4., Didynamia, 2. Angiosperma. Allied to Torenia.)

Tender annuals. Seeds in a hotbed in spring; plants pricked off, and bloomed chiefly in the greenhouse, in light, rich soil.

V. Browii (Brown's). See V. crustacea.


Roxb.ii (Roxburgh's). See V. pedunculata.

VANGUERIA. (Vaa-vanguer, the name of edulis in Madagascar. Nat. ord. Rubiads [Rubiaceae]. Linn. 4. Pedantia, 1. Monopetala. Allied to Plectonia.)

It produces a good dessert fruit. Stove evergreen.

Cuttings of half-risen shoots in sand, under a bell-glass; sandy peat and fibrous loam. Winter temp., 50 to 55°; summer, 60 to 55°.


"Vao Vanga."


velutina (velvety) of Hochst. See V. infausta.

VANILLA. (A diminutive of vaina, the Spanish for sheath; shape of seed-pod. Nat. ord. Orchide [Orchidaceae]. Linn. 20. Gynandria, 1. Monandria.)

Stove orchids, grown on blocks, or like Aroids on the daily wall of a moist stove, with the roots in soil; white-flowered, where not otherwise specified. (See Orchids.)

The Vanilla of commerce is, or should be, the dried fruit of V. planifolia.

V. acutiloba (pointed-leaved). Caracas. 1841.

V. africana (African). Sierra Leone. 1843.

aromatica (aromatic) of Willdenow. See V. planifolia.

bicolor (two-coloured). Dulld red. Guiana.

crassulata (tenderilled). Cuba. 1856.

V. grandiflora (large-flowered). See P. Pompom

grandiflora (large-leaved). Flowers very large. W. Tropical Africa. 1838.

Humboldtii (Humboldt's). Bright yellow; lip with red-brown markings. Leafless. Comoro Islands. 1900.

Lu'iLu' (Luja's). Flowers very large, Congo Free State. 1904.

V. leioseps (yellow). See V. Pompom.

Moo'nis (Moon's). Ceylon.

Palmnirum (palmas). Brazil and Guiana.

Phalanopis (Phalanopsis). Violaceous, white, with rose and orange markings. Seychelle Islands. 1869.


V. Pompona (Pompona). White or pale yellow. Mexico. 1899.

Rosc'erhi (Roscher's). Zanzibar.

Walteri (Mrs. Walker's). S. India.

wightiana (Wightian). Pale yellow, tipped green; lip with red-purple crest. S. India. 1899.

VAPOURER MOUTH. Orygia antqua'ga.

VARIEGATED LAUREL. Au'cuba japo'nica.

VASC'O. (Commemorative of Vasco de Gama, who first sailed around the Cape of Good Hope in 1497. Nat. ord. Leguminosea. Now referred to Rafinia.)

V. amplexicaulis (stem-clasping). See Raphia ampléxicaulis.

perfoliata (perfoliate). See Raphia perfoliata.

VASCONECIA. See Carica.

VEGETABLE BUTTER. Ba'ssia butyra'cea.

VEGETABLE FIRE-CRACKER. Brevo'ridia P'da Ma'a.

VEGETABLE HAIR. Tilla'ndia usno's des.

VEGETABLE IVORY. Phy'te'lephas maco'rca'ps.

VEGETABLE MANURES. See Green Manures, ASHES, and MANURES.

VEGETABLE MARROW. Cucu'ristia Pe'po ov'fı'a.

VEGETABLE OYSTER. Trago'popgon porris'lius.

VEITCHIA JAP'ONICA, of Lindley. See Picea al-cokiana.

VEITCHIA. (Commemorative of the late James Veitch, of Chelsea, the leading nurseryman of his time. Nat. ord. Palmaceae.)

Stove palms. Seeds. Loam, one-third peat, and sand.

V. canterbury'na (Canterbury). See Hedyscepe canterbury'na.

" joyfulms (John Gould Veitch's). Fiji. 1868.

" Stow's (Stow's). 49. Fiji.

VELE'ZIA. (A commemorative name. Nat. ord. Caryophyllaceae. Allied to Dianthus.)

Hardy annual for the rockery. Seeds. Light, well-drained soil.


VELLA. Cress Rocket. (From Velar, the Celtic name of cress. Nat. ord. Cruciferae [Cucurbitaceae]. Linn. 15. Caryophyllaceae.)

Half-hardy evergreen. Cuttings of young shoots in sand, under a hand-light, in a shady place, in summer; a dry, airy, warm, situation, such as in raised rock-work. North of London, in exposed, damp places, it will require a little protection in winter.

V. a'mmna (annual). See Caricierira Vellea.


Greenhouse, yellow-flowered evergreens, from Australia. Division; sandy loam and peat. Winter temp., 35° to 45°.

V. lanceolata (spatulate-leaved). See Goodenia filiformis.


VELLOZIA. (Named after a Spanish botanist. Nat. ord. Amaryllidaceae. Linn. 6-Hexandria, 1-Monogyne. Allied to Barbacenia.)

The Vellozias are perennial, from two to ten feet high, having stalks as large as a man's body, branching, and having tufts of leaves on the top like the Yucca. Greenhouse herbaceous. Division of the plant in spring; sandy loam and fibrous peat. Winter temp., 40° to 50°; summer 60° to 80°.

  "compa'sia" (compact). Brazil.
  "d'elgens" (elegant). White, fading to green. S. Africa. 1866.

V. equisetoides (Equisetoid-like). See V. equisetoides TRICHIHYLLA.
  "trichophylla" (hair-leaved). 3-5. Lilac purple, fragrant. British Central Africa. 1903.
  "lanceolata" (spangle-leaved). Yellow.  Swan River. 1841.
  "phalacra" (stout-stemmed). Brazil.

V. scapulosa (scaly). See Barbarea squamata.
  "Ta'lobot" (Talbot's). See V. elegans.

VELTHERMIA. (Named after F. A. Velthoom, a German botanist. Nat. ord. Liliaceae (Lilacine). Linn. 6-Hexandria, 1-Monogyne. Allied to Urginea.)

Greenhouse bulbs, from South Africa, with flesh-colored spots about the bulbs; rich, sandy loam. Winter temp., 35° to 45°.

  "interme'dia" (intermediate).  1. April. 1800.
  "speciosa" (showy). See Kniphofia aloides.
  "Urtic'a" (Uvaria). See Kniphofia aloides.
  "viridiriflora" (green-leaved).  2. August. 1768.

VENETIUM. (Derivation not evident. Nat. ord. Compositeae. Allied to Arctotis.)

Hardy annuals and half-hardy or greenhouse perennials. Seeds; cuttings in sand under a bell-glass. Light, rich soil in the open. Loam, leaf-mould, or peat and sand, if given a sunbeamed place.

V. calendula'ceum (Calendula-like). 1-1. Yellow; disc black. July to October. S. Africa.
  "cinera rium" (Cineraria-like). See V. perforati'cum.
  "ju'gas" (fleeting). 1-1. Yellow, with dark spots at base of rays; disc black. S. Africa. 1887. Annual.
  "berio'lis" (perfoliate). 1-1. Yellow. S. Africa.
  "specis um" (showy) of gardens. See V. his'tatum.

VENETA TIA MINOR. See Styliolum Linaeare.

VEN'TILAGO. (From ventilo, to swing in the wind. Nat. ord. Rhamnaceae.)

A climbing shrub shrub. Cuttings in sand, in a close frame, with bottom-heat. Fibrous loam, peat, and sand.

V. madrespat'na (Maderspahan). Green. India. 1822.

VENTILA'TIO. See Greenhouse.

VENUS. FLY-TRAP. Diono'ma musculi.pula.

VENUS' HAIR. Ada'numum Capil'ius-Veneris.

VENUS LOOKING-GLASS. Spec'ul'ia Spec'ulum.

VENUS' Navelwort. Omphalo'des.

VENUS SUMACH. Rhu's Cot'nis.

VEFIRIS LANCEOLATA. See Todda'lia lanceolata.

VERA'TRUM. False Hellebore. (From vera, truly, and ater, black; colour of the roots. Nat. ord. Liliaceae (Lilacine). Linn. 23-Polygama, 1-Monoeica.)

The plant in this gets are all poisonous. Hardy herbaceous perennials. Seeds and divisions in spring; deep, rich loam. 1825.

  "White Hellebore."
VERBENA, LEMON, or SWEET-SCENTED. Lippia eitiro'do'ra.

Greenhouse, yellow-flowered, except where otherwise mentioned, herbaceous perennials, from Mexico. Seeds and divisions of the rosette, sandy loam.
V. alta' (wing-stalked), 2. August, 1869.

VERE'A ACUTIFLORA. See Kalancheoe acuti'flora.

VERE'A CRENA'TA. See Kalancheoe Azzeliana.

VERGE-CUTTER. A tool, consisting of a crescent-shaped blade, something like a cheese-cutter, with a long handle, for cutting grass verges and the edges of flower-beds.

VERMIND'A DENU'DATA. See Viminaria denu'data.

VERNAL GRASS, Sweet. Antho'na nuthum odorum.'

All perennials, not otherwise mentioned. Hardy, by seeds and divisions; tender, by seeds, divisions, and cuttings under a hand-light; rich, sandy loam; stove treatment.

STOVE EVERSEENS, &c.

V. acutifo'lia (pointed-leaved), See V. sericea.

V. ad'ne'sis (Adoan). Abyssinia.

V. an'khi'sima (worn-killing), Lilac. August. Hima'laya, 1772. Annual. Where not otherwise mentioned. Hardy, by seeds and divisions; tender, by seeds, divisions, and cuttings under a hand-light; rich, sandy loam; stove treatment.

STOVE EVERGREENS, &c.

V. angustifo'lia (shrubby). See V. sericea.

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VERONICA


girdwoonia na (Girdwoodian). See V. FORMOSA.

" glaucantha (glaucous). See V. PIMELIOIDES.


gudgeriana (Gudgerian). 1. Intense blue. Garden origin. 1858.

Haa'stii (Haast's). New Zealand.


ign'osa (unknown). New Zealand.

hormi'sia (Hormessian). See V. SPECIOSA.


labia'ta (lipped). See V. DERWENTIA.


lavandu'la (Lavandian). New Zealand.

Lau'sii (Lau's). New Zealand.


lindleya'na (Lindleyan). See V. SALICIFOLIA.

" longi'cula (long-tailed). New Zealand.

mis'sia (mixed). See V. SPECIOSA.

Monti'cola (mountain-Joeving). New Zealand.

newry'nsia (Newry). Garden hybrid. 1840.

" (snowy). (Welsh). See V. SPECIOSA.

odo'ra (sweet-scented). New Zealand.


Koro-Miko.

" (wandering). New Zealand.


Rakai'sii (Rakai'an). New Zealand.


gra'cilis (slender).

salicorni'sdes (Salicornia-like) of Gardens. See V. CUPRESSOIDES VARIEBLIS.


" (Rock Speedwell). 1822.


" (imperial). 1-2. Dark purple-red. 1877.

" (red). 1-2. Rose.

tobacco'nes (Tobaccoan). Garden hybrid.


Hardy Annuals.

V. agrestis (field). 1. Summer. Europe (Britain).

" (wandering). New Zealand. 1847.

Busch'mi (Buxbaum's). See V. TOURNEFORTII.


V. di'dyma (twin). All seasons. Europe; N. Africa. 1827.


hederapo'ta (ivy-leaved). 1-1. Lilac. All seasons.

Europe (Britain).

pe'resca (Persian). See V. TOURNEFORTII.

hol'ta (polished). See V. MUNSTERIAN.


Half-hardy.

HARDY AQUATICA.


anagal'i'sdes (Anagallis-like). Greece; Orient. 1836.


caroliniana'na (Carolalian). See V. FERREGRINA.

parmu'ria (small-shield). See V. SCUTELLATA.


HARDY HERBACEOUS, &c.


Allio'ni (Allioni's). 1. May. S. Europe. 1740.

alpi'na (alpine). 1. May. Northern and Arctic regions (Britain).


" (rounded-leaved). 1. May. Europe. 1819.

" (Wormskild's). Leaves larger. Greenland. 1819.

" (Lebanese). 1. May. S. Europe. 1775.

" (Kirk's). 1. August. New Zealand. 1820.

" (Wandering). See V. SCIPICATA.


" (pinnatifida). (pinnatifida). Leaves deeply and finely cut.

" (Prenja). 1748.


" (Don Baumgarten's). May. Transylvania. 1826.


" (short-leaved). See V. SCIPICATA.

" (short-leaved). See V. SCIPICATA BREVI-

folios.

caspio'sia (tufted). Greece and Asia Minor.

cau'scia (Caucasian). 1. Pale red. June. Cau-

casus. 1820.

" (broad-leaved). 1. Pale red. June. Cau-

casus. 1820.

Chama'el drys (germander). 1. June. Europe (Brit-

ain). " Germaner Speedwell. 1843.

" (Lamium-leaved). August. 1825.

" (variegated). 1. August.

" (Clusius's). See V. SCIPICATA.

" (complectate (complectate-leaved). See V. LONGIFOLIA.


crondula (notch-flowered). See V. LONGIFOLIA.

" (hairy). See V. TRICRUM.

" (cruris (curved-leaved). 2. June. 1823.

" (Cusick's). North-western Amer.

Cymbala'ria (Cymbalaria). Greece and Asia Minor.


" (improvised). See V. Aphylla.

" (taller). See V. LONGIFOLIA.

" (elegant). See V. SPIURA.


" (threaded). 1. May. Levant. 1780.

" (lacy). See V. SPIURA.

" (gentian-leaved). See V. GENTIANOIDES.


" (smooth). See V. LONGIFOLIA.
VERONICA

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VESICARIA

V. alba'la (white). See V. LONGIFOLIA ALBA.


hýbrida (hybrid). See V. SPICATA HYBRID.


Jaçqu'ni (Jacquin's). See V. AUSTRIACA.


laxíllo'ra (loose-flowered). Belgium. See V. SPURIA LEU-

CANTHA.

linaríco'fia (Linaria-leaved). See V. SPURIA.

longíbra'ctas (long-bracted). See V. SPICATA.


márti'sima (marine). See V. LONGIFOLIA.


mélíça'so'fia (balm-leaved). 1. May. CAUCASUS.

men'síla'fo'lia (mint-leaved). See V. SPICATA.

Mé'yéri (Meyer's). July. DARAHIT. 1837.


mi'cá'nta (small-flowered). See V. CHAMEDRYS.

mí'ária (slender). See V. SPERILIFOLIA.


M. N. Bastard. See V. SPURIA.

N. Bastard. See V. SPURIA.

ö'rtiga (variegated). 1. May. Austria. 1822.

P. B. White (bristled). See V. SPURIA.


per'sis'lia (peach-leaved). See V. LONGIFOLIA.

pe'stra (rock). 1. May. CAUCASUS. 1821.

pi'la' (shaggy). See V. CHAMEDRYS.

pó'la' (many-spiked). See V. LONGIFOLIA.


prostra'ta (trailing) of Linn. 1. May. ENGLAND. 1774.

sáutre'sol'es (savory-leaved). See V. TEUCHRIUM.

DUBIA.

pro'stra'ta (prostrate) of Vill. See V. TEUCHRIUM.

prenál'a (cut-leaved). See V. CHAMEDRYS.

P. White (bristled). See V. SPURIA.

sáutre'sol'es (Satureia-like). 4. Bright blue. May to August. DALMATIA.

Schmi'dí (Schmidt's). See V. CHAMEDRYS.


leu'c'a (white-flowered). See V. SPURIA.

leu'c'a (white-flowered). See V. SPURIA.

lesh'ma' (white-flowered). See V. SPURIA.


leu'c'a (white-flowered). 1-2. Pale blue. May to October.

leu'c'a (white-flowered). false (chamadrys). 1. May. Austria.

leu'c'a (white-flowered). 1. May. Austria.


sin'ese (Chinese). See V. odoratissimum.

stellula'tum (finely-starry). Himalaya.


"Frac'eli (Fracelli's). Flowers whiter. Habit compact.


"lucidum variega'tum (variegated). 10. August.


"pro'cul'reus (purple).

pyramida'te (pyramidal). Habit upright.

"ro'sum (rosy). Rose sport from type. 1902.


"stri'cium variega'tum (variegated). 6. August.

S. Europe.

"virga'tum (twiggy). 6. August. Italy.


HARDY DRICOIDES.


"buddle'ia (Buddleia-leaved). Central China. 1903.


"Arrow-wood.

"variega'tum (variegated). Leaves variegated.


"edu'te (eatable-fruited). See V. OPULUS.

"ord'sum (gnawed). Japan. 1856.

"furca'tum (forked). China and Japan.

"hancea'mum (Hancean). China.


"Lantana (Lantana). 5-10. May. Europe (Britain); Asia; N. Africa. “Wayfarer Tree.”


"foliis variega'tis (dotted-leaved).


"Hobble-bush.


"peduncu'la'tum (slightly-stalked). Flower-stalk 1 in. long. 1859.


"Ketele'erii (Keteleer's). The fertile, wild form. 1863.


"n'tidum (shining). See V. NUDUM.


"obos'a tum (reversed-egg-leaved). 2-10. April. May. N. Amer. 1732.

"punc'iifo'lium (Punic-leaved). See V. NUDUM.


"au'rea (golden). Leaves golden-yellow. 1906.

"foliis variega'tis (variegated-leaved). June.

"fru'c'tu lu'to (yellow-fruited). Berries yellow.

"na'num (dwarf). 1-3.

"ro'ta'tum (rotten). (Tetter's rosy).

"sfer'ile (barren). July. “Snowball Tree.”


"Oxyco'ccos (cranberry-like). See V. OPULUS.

"baccace'a (few-flowered). 3-4. June. N. Amer. 1890.


"di'o'ta (plaited-leaved). See V. TOMETOSUM

VICTORIA


An erect, greenhouse herb, which may be grown in the open during summer. Seeds; cuttings. Well-drained garden soil.


V. grandiflora (large-flowered), Brazil. 1857.

V. mucronata (small-pointed). See V. EMARGINATA.

VILLARIA. (Named after Villares, a French botanist. Nat. ord. Gentianaceae. Linn. 5-Pentandria, 1-Monogynia.)
Yellow-flowered, where not otherwise stated. Divisions and seeds in spring. Most of them must be treated as aquatics, either planted in pans or tubs, or potted and set in large saucers, and coaxed with greenhouse treatment. The hardest like the protection of the latter though they may stand frequently in the open air.

HERBACEOUS PERENNIALS.
V. Cri'a-sta-galli (cock's-crest). See MINYTCHES CRUZIANA. 1894.

V. geminata (twins-flowered). See LIMNANTHEMUM GEMINATUM.

V. serratifolia (twigs). See LIMNANTHEMUM GEMINATUM.

V. S'miss (Sims'). See LIMNANTHEMUM INDICUM.

HERBACEOUS AQUATICS.

V. chilenis (Chilian), 1. June, Chil. 1832.

V. corda'ta (heart-shaped). See LIMNANTHEMUM LACUNOSUM.

V. humboldtiana (Humboldtian). See LIMNANTHEMUM HUMBOLDTIANUM.

V. indica (Indian). See LIMNANTHEMUM INDICUM.

V. latico'sta (pitted). See LIMNANTHEMUM LACUNOSUM.

V. nymphoides (water-illy-like). See LIMNANTHEMUM PELATUM.

V. ovata (egg-leaved). June, S. Africa. 1786.


VILLBRU'NEA. (A commemorative name. Nat. ord. Urictacae.)
Stove shrub. Cuttings in sand, in a close frame, with bottom-heat. Loam, peat, and sand.

V. inca'glo (crucial-leaved). Green; India; Malay.

V. Reha.

VILMORINIA. (Named after M. Vilmorin, a celebrated French nurseryman. Nat. ord. Leguminosae [Leguminosae]. Linn. 17-Diadelphia, 4-Decandria.)
Stove evergreen. Seeds, soaked in warm water, and sown in a hotbed in spring; also cuttings of half-ripened shoots in sand, under a bell-glass, in April, and in bottom-heat; sandy peat and fibrous loam. Winter temp., 55° to 60°; summer, 60° to 80°.


VIMINA'RIA. Rush Broom. (From vimen, a twig; the twiggly, leafless branches. Nat. ord. Leguminosae [Leguminosae]. Linn. 16-Decandria, 1-Monogynia.)
Allied to Daviesia.

Greenhouse, orange, yellow-flowered evergreen, from Australia. Cuttings of half-ripened shoots in sand, under a bell-glass, in April; also by seeds in a gentle hotbed; loam and peat. Winter temp., 40° to 45°.

V. demissa (stripped). 3. August. 1780.

V. lateritia (side-flowering). See JACKSONIA SCOPARIA.

VINCA. Periwinkle. (From vinculum, a band; the tough, long shoots. Nat. ord. Dogbanes [Apocynaceae]. Linn. 5-Pentandria, 1-Monogynia.)
Evergreens. Division of the plant in spring, or cuttings of the shoots in a shady border, in spring or autumn;
VINCETOXICUM (From vino, vinerâ, i.e., wine; and toxicon, poison; considered to be an antidote to poison. Nat. ord. Asclepiadaceae.)
Hardy perennial herbs. Divisions. Ordinary garden soil.

   * "Tame Poison."
   * pilosum* (hairy). See Cynoicum filosum.
   * simulum* (Tmolean). Mount Tmolus, Asia Minor.

VINE BOWER. Cladâ tinus Vitâ sica.

VINE, CONDOR. Marsde nia Cundurâ nga.

VINE, CYPRESS. "Pomâ'nu Quad mo'cilit.

VINE, GRANADILLA. Passifora quadrangularis.

VINE, GRAPE. Vî'tis vinif'tera. See Grape ViNe.

VINE, LEEK. A'tum Ampelo'pruasum.

VINE, MADEIRA. Bousoungiuâs basilosoi' des.

VINE, MAPLE. A'cer cicon'matum.

VINE, MATRIMONY. Ly'cium.

VIO. The Violet. (The Latin name. Nat. ord. Violâceas [Viola].) Linn. 5-Pentandria, 1-Mono-tynia.)

Blue-flowered, where not otherwise mentioned. By seeds, divisions, and cuttings under a bell-glass or hand-light; mostly in rich, light soil, with a portion of peat.

GREENHOUSE PERENNIALS.

   * cappis'o'sa (tautled). See V. Patrini.
   * "New Holland Violet."

   * ambig'na (doubtful). See V. Campestris.
   * am'na'na (pleasing). See V. Lutea Agmena.
   * area'ria (sand). June. Europe; N. Asia; N. America. 1820.
   * arsiso'na* (Asarum-leaved). See V. Cucullata.
   * a'pera* (rough). See V. Sperfens.
   * alternus'a (attenuated). See V. Lancifolata.
   * a'ntu'mata* (turned-aside). See V. Californian. 1828.
   * banna'na* (Hungarian). See V. Tricolor.
   * be'color* (two-coloured). See V. Tricolor Alba.
   * alleh'na* (white-leaved). Flowers large, white.
   * cania'na* (dog's) yellow. A small form with heart-shaped leaves.
   * chrysa'mus* (golden-flowered). North-western Amer.
   * clandestis* (clandestine). See V. Rotundifolia.
   * co'ncolor* (self-coloured). See L. Concord color.
   * variega'ta* (variegated). Violat. white. 1850.
   * de'biss* (weak). See V. Canina Muehlingenberi.
   * delphinif'olia* (Delphinium-leaved). See V. Pedati-
   * di'na* (finger-leaved). See V. Pedata.
   * disse'cata* (jagged-leaved). See V. Pinnata.
   * Dougla's* (Douglas's). See V. Chrysanthra.
   * ela'h'or* (taller). Europe; N. Asia; Orient.
   * emargin'a* (notched). See V. Sagittata.
   * epipsi's* (naked-above). See V. Sucehca.
   * erioca'tha* (woolly-fruited). See V. Pruesencs.
   * flaves'cia* (fan-leaved). See V. Pedata.
   * flavic'ornis* (yellow-borne). See V. Canina Flavi-
   * flora'rius* (Floraire). Supposed hybrid between V. calcarata and cornuta. 1910.
   * gibb'o'ssa* (swollen). See V. Hastata.
   * glob'e'la* (swollen). See V. Arenaria.
   * heterophylla* (various-leaved). See V. Gracilis Val-
   * hirs'u* (hairy). See V. Hirta.
   * hitis'alina* (Kaitel's). See V. Tricolor.
   * Krok'eri* (Kroker's). See V. Arenaria.
   * labrador'a* (Labrador). See V. Canina Muehlingen-
   * Lob'sta* (Lob'sta). See V. Arenaria.
   * ma'jor* (greater). 2. Purple. August. Mediter-
   * man'a* (Japan). Where a.
   * make* region (greater), V. V. calcarafa
   * musc'illa* (small-flowered). 4. Blue. August. Tranque-
   * "ma'or" (greater). 2. Purple. August. Mediter-
   * "min'o'sa" (hairy). See V. Arenaria.
   * mod'nd'-ria* (Montana). See V. Arenaria.
   * N. vinifera*
   * N. banna'tica* (Bouteloua). See V. Arenaria
   * N. purpus'ia* (purple). See V. Arenaria.

V. acutis (acute). See V. Primulefolia.
   * affinis* (related). See V. Cucullata.
   * ali'han'na* (Allyhan). See V. Sagittata.

HARDY PERENNIALS.

V. acutis (acute). See V. Primulefolia.
   * affinis* (related). See V. Cucullata.
   * alibhan'na* (Allyhan). See V. Sagittata.
VIOLA

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VIOLET FORCING


Litoralis (shore). See V. praetensis.

lutea (yellow). See V. cannata.


montana (mountain). See V. canina montana.

nuda (inflexed). See V. canina stricta.


neglecta (neglected). See V. sylvestris.


obliqua (twisted-flowered). See V. ciscullata.

pratensis (yellowish-white). See V. striata.


"a'la ple'a (pale-double). Lavender-blue.

Neapolitan Violet. 4. V. pratensis.

sulphurea (sulfur-yellow). Pale yellow. 1858.

Grest des (Grest des). See V. alpina.

oca'ta (egg-leaved). See V. sagittata.

palma'ris (palm). See P. distans.


"calli" (hooded). See V. ciscullata.


Pennsylvania. 4. V. pedata nigra (Pennsylvanian). See V. pureseens.

papilionacea (butterfly). See V. ciscullata.

patri'ni (Patrin's). See V. patrinii.

Patri'nii (Patrin's). June. Russia; N. Asia; Himalaya.


aeropurpure'a (dark-purple). See V. pedata bicolor.


Rabelia'ta (tan-leaved). See V. pedata bicolor.


pedunculata (stalked). North-western America.

pen'syvania'nica (Pennsylvanian). See V. pureseens.


primrose'ra (bitten-rooted). See V. aurea.

primrose (meadow). June. Europe.


pu'mila (dwarf). See V. canina pumila.


pyrrolefo'lia (Pyrola-leaved). See V. maculata.

raddeana (Raddean). Amurland; China.

race (racing). See V. cana radicans.


Spur yellow-white or purple. Britain.

rostrata (beaked). N. Amer.

rostrata (beaked, horn). See V. canina.

lanceifolia (spear-leaved). See V. lactea.


pyrrolefo'lia (Pyrola-leaved). See V. maculata.

raddeana (Raddean). Amurland; China.

race (racing). See V. cana radicans.


Spur yellow-white or purple. Britain.

rostrata (beaked). N. Amer.

rostrata (beaked, horn). See V. canina.

lanceifolia (spear-leaved). See V. lactea.


pyrrolefo'lia (Pyrola-leaved). See V. maculata.

raddeana (Raddean). Amurland; China.

race (racing). See V. cana radicans.


Spur yellow-white or purple. Britain.

rostrata (beaked). N. Amer.

rostrata (beaked, horn). See V. canina.

lanceifolia (spear-leaved). See V. lactea.
thick, and of a beautiful dark green, the flowers abundant and large. No side-runners are to be allowed to run until April, at which time they are to be encouraged to grow; and open, sandy, rich soil sifted amongst them, and kept well watered, to encourage them to root freely. A plant 6 ft. high in October may be chosen in the month of May, and the Violets then taken up, old and young altogether, and the best of the young plants selected and planted out a foot apart each way singly. The soil is to be well prepared with bone-dust all the summer, and by the end of September they will be fine plants to take up as above described.

**Russian Violets**—Single White, Double White, Double Blue, and others by hybrid varieties, are selected in a similar way, with regard to planting out the young runners and summer treatment, and they are also to be carefully taken up in September; some placed in turf-pits, with gentle bottom-heat, and some without bottom-heat, and a quantity planted on sloping banks. By this simple contrivance abundance of luxuriant flowers are kept in succession from September till May. Every variety is kept clear from side-shoots or runners all the summer. All the varieties are particularly fond of charred articles mixed with the soil.

**VIOLET, FRINGED.** *Thysano'tus.*

**VIOLET FUNGI.** The Sweet Violet (*Viola odor'a'sa*) and others are liable to be attacked by several fungi. One of the most destructive is *Puccinia Viola*, which occurs on the Violet in spring in the *Ecdidum* or cluster-cup form. It may be recognised by its small yellow cups with thick orange-coloured patches, and when these cups burst, the orange-yellow spores escape. Another named *Urocytis Viola*, enters the tissues of the stems and leaves of various violets, causing them to become distorted and stunted. The skin ultimately bursts, allowing the dark-coloured spores to escape in great quantity. Plants that get attacked should be burned to destroy the spores, and prevent the diseases from spreading. Violets that are freshly attacked are very liable to be attacked by *Phyllosticta Viola*, which may usually be recognised by bleached or colourless spots, which run into one another, forming patches that are visible on both surfaces of the leaves. If the attack is noticed in good time it may be prevented from spreading by spraying the plants with sulphide of potassium, one ounce to three or four gallons of water. The plants should also be grown in cold frames or outdoors for a time till they regain their wonted health and vigour.

**VIOLET, MARSH.** *Viola pa'lustris.*

**VIOLET, MERCURY'S.** *Camp a'mula M é'dium.*

**VIOLET, NEW HOLLAND.** *Viola hedera'cea.*

**VIOLET, SPURLESS.** *Viola hedera'cea.*

**VIOLET, SWEET.** *Viola odor'a'sa.*

**VIOLET, TONGUE.** *Sue'ge'tri'a.*

**VIOLET, WATER.** *Hot'o'mia pa'lustris.*

**VIOLET, WOOD.** *Viola yolo'syle'tris.*

**VIPER GOURED.** *Tricho'soa nihes angui'na.*

**VIPER'S BUGLOSS.** *Echium.*

**VIPER'S GRASS.** *Scorzonera'ra his'pa'ni'a.*

**VIREYA RETUSA.** See *Rhododendron* RETUSUM.

**VIRGINIA.** (Named after *Virgil*, the Roman poet. Nat. ord. Leguminous Plants [Leguminosae]. Linn. 10-De'Endria, 1-Monogynia. Allied to *Sophora*.)

GreenLeaved Vipers are native to South Africa. Cuttings of half-ripened shoots in sand, under a glass, in April; sandy loam and fibrous peat. *V. a'ur'ea (golden).* See *Calpurnia aurea.*

*V. ca'pa'nis (Cape).* 2. Purple, white. July, 1767.

*V. ni'ma (Nim).* See *Calpurnia aurea.*

*V. in'tea (yellow).* See *Cladrastis tinctoria.*

*V. robin'i's des (Robinia-like).* See *Calpurnia robi'nio'ides.*

*V. spicata (wood).* See *Calpurnia Sylvia'tica.*

**VIRGILIA HELI'OIDE'S, of L'Héricier. See Gailler'dia Fulchella.*

**VIRGINIAN COWSLIP.** *Mert'e'sia pulmonari'oi'des.*

**VIRGINIAN CREEPER.** *Ambé'pol'iss quinquefoli'a, or more correctly V/i'a quinquefoli'a.*

**VIRGINIAN DATE PALM.** *Diospy'ros virginia'na.*

**VIRGINIAN POKE.** *Phyllo'teca deca'ndra.*

**VIRGINIAN SILK.** *Perí'ploca gre'ca.*

**VIRGINIAN STOCK.** *Mal'co'nia mari'tima.*

**VIRGINIAN BOWER.** *Cli'matis Vi's'a*ba.*

**VIRGIN TREE.** *Cinnam'o'snum Partheno'xylon.*

**VIROLA SE'BI'FERA.** See *Myristica ser'i'fera.*

**VISCAR'IA.** Rock Lychins. (From viscus, bird-like; the glutinous stems. Nat. ord. *Clove'wort'is [Caryophyllac'es].* Linn. 10-De'Endria, 5-Decaying. Now referred to *Lynchnia.*

*V. a'bblo (white).* See *Lynchnia Visca'ria al'ba.*

*V. abil'fo'ra (white-flowered).* See *Lynchnia Visca'ria al'ba.*

*V. alpi'na (alpine).* See *Lynchnia al'pina.*

*V. Ca'ro'to's (rose-of-heaven).* See *Lynchnia Cel'i'ro'sa.*

*V. grandil'fo'ra (large-flowered).* See *Lynchnia Grandi'flora.*

*V. hel'veta (Helvanian).* See *Lynchnia al'pina.*

*V. neg'le cia (neglected).* See *Lynchnia Visca'ria.*

*V. ou'cla ta (eyed).* See *Lynchnia Cel'i'ro'sa.*

*V. ca'ni'da (white).* See *Lynchnia Visca'ria al'ba.*

*V. si'dico (Swedish).* See *Lynchnia al'pina.*

*V. vul'ga'ris (common).* See *Lynchnia Visca'ria.*

**VISCUM.** Mistletoe. (From viscus, bird-like; the berries contain a viscid matter like bird-like. Nat. ord. Lor'anthus [Loranhaceae]. Linn. 22-Dicio'a, 4-Pentan'dria.)

The Mistletoe thrives best on the thorn and the apple. The seed, in earliness, cannot be squeezed from the berries into crannies of the bark underneath a branch, or slits be made on purpose in the bark.


*V. cru'cual tum (cross-like).* Male flowers large. Berries red-brown. Spain; N.E. Africa; Syria. 1902.

On the Olive.

**VISMIA.** (Named after M. Víame, a Lisbon merchant. Nat. ord. Tútana [Hypericaceae]. Linn. 18-Poly'ad'phila, 2-Polyan'dria.)

Stove, yellow-flowered evergreens. Cuttings of firmsh soil boats in sand, in May, under a bell-glass, and placed in bottom-heat; sandy peat, fibrous loam, and a little rough charcoal. Winter temp., 50° to 55°; summer, 60° to 85°.

*V. brasili'é'nis (Brazilian. Wax-tree).* 8. August. Brazil, 1824.


*V. guiana'nis (Guiana).* 8. August. Guiana, 1824.

*V. Wad Tree.*

*V. sessí'to'lia (stalkless-leaved).* May, Guiana, 1826.

**VISNEA.** (Supposed to be commemorative of *Víune, a Portuguese merchant. Nat. ord. *Tremstro'miaeaceae.*

Greenhouse evergreen tree. Cuttings in sand under a bell-glass. Loam, peat, and sand.

*V. Mocana'ra (Mocanera).* White. March. Canaries. 1815.

**VITEX.** Chaste-tree. (From *vio*, to bind; the flexible branches. Nat. ord. *Verbenas* [Verbenaceae]. Linn. 14-Dicy'dynamia, 2-Angio'spermia.)

Purple-flowered, except where otherwise stated. The hardy cuttings under a sand-glass, in a shady border, in autumn, or in a sheltered place without the glass-glass. Others require greenhouse and stove treatment, and are easily propagated by cuttings under a bell-glass; the stone species in a little bottom-heat; sandy loam and a little peat.

**HARDY DECIDUOUS.**


*V. latif'o'la (broad-leaved).* 6. White, blue. September. Sicily. 1570.
VITIPHŒNIX

Stove Evergreens.

V. alta (winged), 10. September. E. Ind. 1820.

'altis'ssima' (tall). Ceylon, 1870.

'arbore' (tree). See V. PUBESCENS.

'bi'color (two-coloured). See V. NEGUNDI.

'bignonii' (Bignonia-like). Blue, Caracas. 1826.

'captis'ta (beaded). Blue. J. J. Wilson, Trinidad. 1822.

'dore'nna (Don's). Sierra Leone. 1824.

'gigante' (gigantic). Ecuador. 1826.

'heterophylla' (various-leaved). Blue. E. Ind. 1820.

'hisco'ta (flex-leaved). June to September. Cuba.


'ina'ta (broad-leaved). See V. PUBESCENS.


'lea'ntsa (Lee's). E. Ind. 1822.

'uni'ltis (one-leafed). Leaves undivided.

Japan. 1907.


VITIPHŒNIX. (From Vitis, the vine, and Phœnis, the date palm. Nat. ord. Parnaceae.)

Stove Palm. Seeds. Loam, one-third peat, and sand.

V. fil'i'era (thread-bearing). Fiji. 1885.


Hardy deciduous, all but one green-leaved. Few are worth growing except vincis'ta and its varieties; the other species are studied chiefly in this country as ornamental climbers. All are propagated by cuttings and buds of the ripe wood, layers, and by grafting and inarching. Soil for all, a rich, open loam. See Grape Vine.

V. a'cuminata (long-pointed). Fruit large, black. Fiji. 1890.

'acoinis'ta (aconeit-leaved). See V. SERIANXE'H.

'agriophy'lla' (goat-leaved). Turkistan. 1824.


'lin'sco'i'si (Linscome's). 20. May. "Pine

wood or Turkey Grape." 

'a'sbo'mentis (white-shinning). Brazil. 1871. Stove.


'amure'nis (Amur). Leaves woolly when young.

Amurland; N. China.


'kangaroo Vine.' Greenhouse.


'argyrophy'lla' (silvery-leaved). See V. 'AGRIOPHYLLA.

'arguo'nica (Arizona). "Calion Grape."


'central China. 1903.


'Bainie'si (Bain's). Trop. Africa. 1864.

'Berlandier'i (Berlandier's). Berries blackish-violet.

Texas; New Mexico. 1888.

'baudinii' (Baudin's). See V. ANTARCTICA.

'bi'color (two-coloured). Eastern United States.

'Blue Grape."

'bla'nda (mild). May. N. Amer.

'by'catho'na (Bourquinian). S. California. "Valley Grape."

'brevidu'ndula'ta (short-stalked). China.

'california' (California). California to N. Oregon.

'callimu'na (white). Eastern Texas. "Mustang Grape."


'caprifoli'is (tendrilled). Himalaya.

'carpin'ea (Carpinian). W. Ind.

'blanco' (Blanco's). Florida.

'chap'menia (Chapman's). South-western Texas.


'cinne'mara (Cinnamons to Kansas, Texas, &c. "Sweet Winter Grape."

'cirrhosa' (tendrilled). S. Africa. 1886.

'coquil'sis (Coquillett's). Crimson in autumn. Japan. 1890.


'crispa' (Crisp). 1866. "Chicken Grape."

'davidiana' (Davidian). See V. HETEROPHYLLA.


'doaniana' (Doanian). Leaves and branches hoary white. N.W. Texas. 1896.

'endr'sii (Endres'). Leaves with purple veins. Costa Rica. 1875.

'erio'clada (woolly-branched). India.

'ficus' (Ficus). United States. 1824.

'flexuo'sa (flexuous). India; China. 1826.

'chinensis' (Chinese). Leaves larger, less glossy than V. f. 'Wilsonii. Central China. 1904.


'gird'a'na (Girdan). S. California. "Valley Grape."

'gonypyo'ly'sis (wallet-leaved). See V. PTEROPHORA.


'humuli'y'sis (hop-leaved). 3-5. Berries turquoise-

blue. Japan. 1907.

'variegata' (variegated). Leaves variegated with rose and cream.

'himalaya'na (Himalayan). Himalaya.


'hypo'lyca' (glaucescent-bluish). Yellow. Australia.

'1886.


'auru' (golden). Leaves blotched with yellow. 1875.

'lo'vis (Low's). Leaves small, dark purple in autumn. 1907.

'purpe' (purple). Leaves purple.

'robusta' (robust). A strong growing variety.

'indios' (undivided). S. United States. 1888.


'crassifoy'sis (thick-leaved). Leaves leathery, cobwebby beneath. 1886.

'marmora' (marbled). Leaves marbled with yellow. 1875.

'javanon'is (Javanal). Scarlet. Nicaragua. 1869.


'inton'is (Orange). "Fox Grape."

'The parent of most of the American cultivated grapes.

'land'is (woolly). May. India; China. 1824.

'leso'o' is (Leea-like). See V. CANTONIENSI.

'lin'si (Lin'si). Leaves spotted with white.

'colombia. 1870.

'lot'is (Lot's). N.W. Texas; New Mexico.


'martis' (Martin's). Cochín-China.

'metupalphoy'sis (large-leaved). Leaves bipinnate.

'cochíl-Cochín. 1908.


'munsonio'na' (Munsonian). Florida. "Mustang Grape."

'obliqua' (oblong). Queensland.

'oblòtis (covered). Leaves 3-5 fingered. Himalaya; Burma; China. 1904.

'semibifors' (semibiforous). See V. TROMENTA.

'oranta' (oriental). Orient.

'pagnuc'o'c (Pagnucc's). Leaves small, bronzy in autumn. China. 1907.

'palma'ta (hand-shaped). N. Amer. "Red or Cat

Grape."

VITIS
VITTADINIA. (From vitto, a riband, and adinos, closely pressed; in allusion to the narrow, closely pressed bracts surrounding the heads. Nat. ord. Composita. Allied to Eriogonum.)

A low-growing perennial. Seeds; cuttings; divisions. Well-drained soil.


V. trilobe (three-lobed). See V. AUSTRALIS.

VITTA RIA. (From vitto, a riband; shape of fronds. Nat. ord. Ferns [Filices]. Linn. 24-Cryptogamia, 1-Filices.)

Stove, brown-spored Ferns. See Ferns.
WALNUT. J'ulgias regia.

WALLFLOWER. Cheiranthus cheiri.

WALLFLOWER, ALPINE. Erysimum ochroleucum.

WALLLILIA. (In honour of Dr. Walllich, curator of the Calcutta Botanic Garden. Nat. ord. Palms [Palmae]. Linn. 21-Monocica, 6-Helianthus.) Moist-stone Palms. Require a light, well-drained loam. Increased by suckers, which must be separated gradually, so as to induce them to root before finally taken from the parent.


W. densi'folia (thickly-flowered). Sikkim Himalaya.

W. d'stricted (two-ranked). Himalay.

W. na'na (dwarf). See Dymosperma nanum.

W. porphyro'spa (purple-fruited). See Dymosperma porphyrocarpon.

WAILESIA. See TILLANDSIA.

WALL PENVYRT. Cotyledon umbilicus.

WALL RUE. Asple'nia Ru'ta-mur'aria.

WALLS are usually built in panels, from 15 to 30 feet in length, one brick thick, with pillars at these specified distances. The brick, of the size of the sole of the shoes to their strength, and the foundation a brick and a half thick. The plans of Mr. Silverlock, of Chichester, is worthy of adoption; since, if well constructed, it is equally durable, and saves cost, of which the expense of Walls so constructed are stated to become dry after rain much more rapidly than a solid wall of the same or any other thickness, and there appears not a shadow of a reason why they should ever ripen fruit equally well. He forms the wall hollow, 9 inches in breadth, the second brick in a tie, and bricks of succeeding course a brick with its end outwards is placed on the centre of one laid lengthwise on either side. The top of the wall must be covered with a coping of stone or bricks projecting 8 inches. It is strengthened at every 20 feet by piers of 14-inch work, built in the same manner, with bricks laid on edge.

In every instance a wall should never be lower than 8 feet, or much higher. The thickness usually varies with the narrower of the wall, being 9 inches if it is not higher than 8 feet; 13 inches, if above 8 and under 14 feet; and 18 inches, from 14 up to 20 feet.

Inclined or Sloping Walls have been recommended, but have always failed in practice. It is quite true that they receive the sun’s rays at a favourable angle, but they retain wet, and become so much colder by radiation at night, that annuals and bulbous plants, that are found to be unfavourable to the ripening of fruits.

The Fluid-wall or Hook-wall is generally built entirely of brick, though, where stone is abundant and more economical, the back or north side may be of that material. A fluid-wall may be termed a hollow wall, in which the vatsiness is thrown into many compartments, to facilitate the circulation of smoke and heat from the base, or surface of the ground, to within 1 or 2 feet of the coping. Such walls are generally arranged with hooks inserted under the coping, to admit of fastening some description of protecting covers, and sometimes for temporary glass frames. A length of 40 feet, and from 15 to 20 inches high, may be heated by one fire, the furnace being 1 foot above it, and be 2 feet 6 inches or 3 feet high, and the second, third, and fourth courses will be narrower as they ascend. The thickness of that side of the flue next the south or preferable side should, for the first course, be 4 inches, or brick and bed; and, for the other courses, 2 inches of garden brick to the inch. A smaller mould; say for the second course 3, for the third 2½, and for the fourth 2⅓ inches in breadth. This will give an opportunity of bevelling the wall, and the bricks in the same thickness, though of different widths, the external appearance will be everywhere the same.—Enc. Gard.
WATER. The best for the gardener's purpose is rain water, preserved in tanks sunk in the earth, and rendered tender and clear either by treatment with Paris and slaked lime cement. To keep these tanks replenished, gutters should run round the eaves of every structure in the garden, and communicate with them. Every hundred cubic inches of water contains more than four cubic inches of air, of which more than half are carbonic acid gas, and the remainder nitrogen and oxygen, in the proportion of sixty-two of the former to thirty-eight of the latter.

That obtained from ponds or springs invariably contains matters offensive or deleterious to plants. That known as hard water, containing an excess of salts of lime or magnesia, is invariably prejudicial, and pond water in search of. If it be treated, and boiled with vegetable extract, it is even worse than hard spring water; for it then contains carburetted hydrogen, and other matters noxious to vegetables. These last-named waters, if obliged to be employed to tender plants, should have a pint of the ammoniacal water of the gas-works, mixed thoroughly with every sixty gallons, an hour or two before they are used.

WATER-CRESS. (Nasturtium officinale) Varieties.

—Small Brown-leaved, hardest; Large Brown-leaved, best for deep water; Green-leaved, easiest cultivated.

Planting in Water.—The trenches in which they are grown are so prepared, that, as nearly as possible, a regular depth of 3 or 4 inches can be kept up. These trenches or beds are raised from 6 to 9 inches, and whenever one is to be planted the bottom is made quite firm and slightly sloping, so that the water which flows in at one end may run out at the other. If the bottom of the trench is not sufficiently moist, a small body of water is allowed to enter to soften it. The cresses are then divided into small sets or cuttings, with roots attached to them; and these are placed at the distance of 3 or 4 inches from each other. At the end of six days a slight dressing of well-decomposed cow-dung is spread over all the plants, and this is pressed down by means of a heavy board, to which a long handle is occasionally fitted. Each trench is then raised to the height of 2 or 3 inches, and never higher. Each trench is thus replanted annually, and furnishes twelve crops during the season. In the summer the cresses are gathered every fifteen or twenty days, but less frequently during winter; care is taken that at each gathering at least a third part of the bed is left untouched, so that neither the roots may be exhausted, nor the succeeding gathering delayed. After every cutting, a little decayed cow-dung, in the form of a litter, is laid on the surface of the trench, and tends to raise its level. To restore it to its original level, all the refuse should be thrown out upon the borders which separate the trenches from each other. They may be planted with artichokes, cabbages, or cauliflowers.

Planting in Borders.—This must be done in September, and in a moist, shady border. Plant slips, and the only cultivation necessary is to dig the earth fine, to draw a slight trench with a hoe, to fill this with water until it becomes a mud, to cover it about an inch deep with drift sand, and then to stick in the slips about 6 inches apart, watering them until established. The sand on the banks was very suitable for gathering from in a very few weeks, and the shoots should be invariably cut, and not picked. They are not so mild-flavoured as those grown in water, but then they are free from aquatic insects, &c.

WATERFALL. See Cascade.

WATERING ENGINE. See Engine.

WATERING POTS. These should have rose pierced with very fine holes; the diameter of those usually used is too large. Long-strawed watering-pots are required for watering plants in pots upon shelves. French watering pots have zigzag bends in the spout, to break from the plant the force of the water. Shelf watering-pots are small and flat-bodied, for giving water to plants either in greenhouses or stone jars.

Mr. G. Thompson advocates a very superior type of
watering-pot, and states that its superiority consists in the roses being so formed as to give the water thrown from them the nearest resemblance to a gentle shower of rain, which renders it peculiarly suitable for watering seedlings or other tender plants. As the brass joints which connect the roses to the spout are made water-tight, there is no danger of its returning outside, to the annoyance of the person using it: it has a spout to which the roses are screwed; a box to contain either pots or bulbs, so that it has, also, holes in which the joints are placed; a large rose, for watering flower-beds; and a smaller rose, for watering plants in pots.

WATER ALOE. Stratiotes aloides.

WATER ARCHER. Sagittaria sagittifolia.

WATER ASH, CAROLINA. Fraxinus playcei ssp. petraea.

WATER AVENS. Geum rivale.

WATER BALSA. Hydrocera angustifolia.

WATER BEAN. Nelumbo.

WATER BEAN, SACRED. Nelumbo speciosum.

WATER BETONY. Scrophularia aquatica.

WATER CALTROPS. Tripa nans.

WATER CRESS. Nasturtium officinale.

WATER ELDER. Viburnum opulus.

WATER FLAG. Iris pseudacorus.

WATER LEAF. Hydrophyllum.

WATER LEMON. Passiflora laurifolia.

WATER LENTILS. Lemna.

WATER LETTUCE. Pistia stratiotes.

WATER LILY. Nymphea.

WATER LILY, NEW ZEALAND. Ranunculus lyallii.

WATER LILY, YELLOW. Nuphar luteum.

WATER MELON. Citrullus vulgaris.

WATER MILFOIL. Myriophyllum.

WATER OAK. Quercus aquatica.

WATER PARSNIP. Sium.

WATER PLANTS. See Aquarium.

WATER REED. Arundo.

WATER SOLDIER. Stratiotes aloides.

WATER SPIKE. Potamogeton.

WATER THYME. Elodea canadensis.

WATER VINE. Tetragonia elegantia.

WATER VIOLET. Hottonia palustris.

WATER WHITE OAK. Quercus lyrata.

WATSONIA. (Named after W. Watson, a London apothecary. Nat. ord. Iridaceae. Linn. 3-Triandria, 2-Monogynia. Allied to Gladiolus.) Bulbs, from South Africa, except where otherwise mentioned. For culture, see GLADIOLUS.

W. albica (white). See W. meriana O'Brieni.

W. aethericus (Aletris-like). See Water Aloe.

W. variegata (variegated). See Water Aloe.

W. angusta (narrow-flowered). See Water Aloe.

W. ardens (Arderne's). See Water Aloe.

W. brevifolia (short-leaved). See Water Aloe.

W. campanula (bell-shaped). See Water Aloe.

W. coccinea (scarlet). See Water Aloe.

W. fistulosa (cylindrical). See Water Aloe.

W. fusca (shining). See W. angusta.

W. himalensis (lowly). See W. angusta.

W. iridifolia (Iris-leaved). See W. meriana iridifolia.

W. ardens (Arderne's). See W. meriana O'Brieni.
WEINGA. (Commemorative of C. E. Weigl, a writer on botanical subjects. It is often spelt Weigelia. Nat. ord. Caprifoliaceae. See DIERSYLL.)

W. ama'bilis (lovely) of Gardens. See DIERSYLL " ama'bilis (lovely) of Carriere. See DIERSYLL GRANDI-


Westringia. (As Commemorative [of] Linn. 19-Syngenesia, 2-Superflua. Allied to Doreinacia.) Stove, white-flowered evergreens. Cuttings of the points of young shoots, or small young side-shoots, in sand, under a bell-glass, in May; scantily grown, robust leaves, and a little charcoal. Winter temp. 45° to 55°; summer, 60° to 80°.

W. panicula's (panicled). July, India, Malaya. 1820. " populifolia (poplar-leaved). See COCCULUS CARO-

WELDIA, INDIA. (Named after J. C. Wendland, curator of the Botanic Garden, Hanover. Nat. ord. Riccard (Riccardaceae). Linn. 6-Hexandra, 4-Polyzynia. Allied to Hindea.)

Stove, white-flowered evergreens. Cuttings of the points of young shoots, or small young side-shoots, in sand, under a bell-glass, in May; scantily grown, robust leaves, and a little charcoal. Winter temp. 45° to 55°; summer, 60° to 80°.

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W. panicula's (panicled). July, India, Malaya. 1820. " populifolia (poplar-leaved). See COCCULUS CARO-

V. affinis (dyer’s). July. Himalaya; Burma. 1825.

WEINGA. (Named after A. G. Werner, the celebrated mineralogist. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 2-Superflua. Allied to Doreinacia.) Half-hardy herbaceous. Division of the plant in spring; sandy loam, well drained; requires a cool greenhouse or a cold pit, or winter, may be treated as an alpine plant, protected from severe frost and wet in winter.


WESTERN YEW. T’aus brevi'folia.

WEST INDIAN COCKSPUR. Pisonia aculeata's.

WEST INDIAN MUGWORT. Parn’tium Hystero-

WEST HUMIFUS. Sa'lica caprifolia's.

WEST INDIAN MARIGOLD. Calceo'ria.
WEST WIND, FLOWER OF THE. Zephyr'athes.
WYE'MOUTH PINE. Pinus Strobus.
WHANGEE or WANGHEE CANE. Phyllo'stachys
nig'ra.
WHEAT. Trit'icum vulg'ae re.
WHEAT. Buck. Fagopy'rnum escule'ntum.
WHEAT, GUINEA or TURKEY. Zea Ma'ys.
WHIN. U'lex.
WHINBERRY. Vacc'u'nium Myrtillus.
WHIN, PETTY. Gent'i a' n' tig'la.
WHITE ALDER. Platy'lophus trifoli'a' tus.
WHITE ARUM LILY. Rich'i'dia a'fric'a'na.
WHITE ASH. Fra'sinus america'na'na.
WHITE BASSWOOD, AMERICAN. Tilia hetero-
phyll' a.
WHITE BEAM-TREE. Py'r us A'ria.
WHITE BLADDER FLOWER. A rac' fia seri'o's'f'era.
WHITE BOYEN. White Goldes. Chrysa'nthemum
Leuca'nthemum.
WHITE BOTTLE. Sile'ne infa' ha' a.
WHITE BUTTERWOOD. Trick'i'la spondi'o'd' es.
WHITE CAMASSIA. Cama's'sia Leichtli'nii.
WHITE CEDAR. Cupre's'sus thyo'lis' a' and other species.
Thu'ya pi's'a' a' and T. occidentalis'
WHITE CYPRESS. Taxo'dium di stich' ium.
WHITE ELM. Ul'mus america'na'na.
WHITE HEA'RIA. (Commemorative of the Rev.
Henry Whitehead, who discovered many curious plants
in South Africa. Nat. ord. Liliaceae.)
Greenhouse bulb. Offsets. Loam, leaf-mould, and
W. lati'polia (broad-leaved). 11. Light green. April,
May. S. Africa. 1792.
WHITE-HEART HICKORY. Ca'rya lo'mento's'a.
WHITE HELLEBORE. Ver'a'trum album.'
WHITE LIME. Tilia arg'e'na.
WHITE PINE. Pi'rus fi'xili's.
WHITE POTHOR'BER. Valerian'ella elio'ti' ria.
WHITE ROOT. Polygon'a'tum mul' tifoli'rum.
WHITE SAPOTA. Casim' iro'a ad'u sta.'
WHITE SPRUCE. Pi'cea a'ba.
WHITE THORN. Crate' gus Oxyca'na'ni.
WHITE TREE. Melaleu'ca Leuca'de'ndron.
WHITE VINE. Cle'matis Vi'sa'ba.
WHITE WOOD. Lirioide'ndron ulipi's'fera and Tilia
ameri'ca'na'na.
WHITFIELDIA. (Named after T. Whitfield, a
botanical collector of African plants. Nat. ord. Acanth
ads [Acanthaceae]. Linn. 143-Didynamia, 2-Angiosperma.
Allied to Barleria.)
For culture, see BARLE'RIA.
Sierra Leone. 1841.
WHITLA' VIA. (In honour of F. Whitla', Esq., an
Irish botanist. Nat. ord. Hydrophyls [Hydrophyllaceae].
Linn. 5-Phreatandra, 1-Monogynia. Now referred to Scrophu-
lariales.)
Hardy annual.
W. grandis'o'ra (large-flowered). See Pha' celia Whi-
LAVIA.
WHITLEYA. (Commemorative of Mr. Whitley, a
nurseryman at Fulham. Nat. ord. Solanaceae. Now
referred to Scopoli'a.)
W. stra'monio'lia (Scrophuliaceous-leaved). See Scopoli'a
LURIDA.
WHITLOW GRASS. Ero'phi'a vulg'a'ris.
WHITTEN TREE. Vibo'num O'pulus.
WHITWORT. Chrysa'nthemum Parthe'niurn.
WHORLE'berry. Vacc'u'nium Myrtillus.
WIBO'RIA. (Commemorative of E. Vibo', a Danish
botanist. Nat. ord. Leguminosae. Allied to Loddigesia.)
Greenhouse evergreens from South Africa. Cuttings
of young shoots in sandy soil, under a bell-glass, in May.
Sandy loam and fibrous peat. Winter temp., 40° to 50°.
WIDDING'TONIA. (Commemorative of Captain
W. cupre' sa' s (Cupressus-like). See CALLITRIS
SUPRO'DEN.
W. juniper'o'des (Juniperus-like). See CALLITRIS ARBOREA.
W. Why'tei (Whitely's). 140. Cones smaller than a chest-
WIDOW, MOURNFUL. Scabiosa atropurpur'a'rea.
WIDOW WAIL. Cono'drum.
WIDOW-WISES. Geni'sta tinc' toria.
WIGA'NDIA. (Commemorative of John Wingard, a
to Hydrophyta.)
A very good shrub with large, handsome leaves, and much
used for subtropical bedding. Seeds; cuttings of young
shoots taken off with a heel, when the plants are making
fresh growth in spring. Fibrous loam, fibrous peat, with
some pieces of charcoal and sand.
W. caracasa'na'na (Caracas) of gardens. See W. u'rens.
Mexico; Venezuela. 1835.
W. ku'n'iais (Kunit's). See W. u'rens.
W. macrophy'lia (large-leaved). See W. u'rens.
W. u'rens (stinging). 4–6. Violet-blue. June to Sep-
tember. Mexico. 1827.
October. Mexico (?). 1868.
WIGHTTA. (A commemorative name. Nat. ord.
Scrophulariaceae.)
A tall, climbing, greenhouse shrub. Cuttings of short
side-shoots under a bell-glass. Loam, peat, and sand.
W. gigante's (gigante). 15. Rosy or white. Himalaya.
1883.
WIG TREE. Rh'a' s Col'tinus.
WIXSTRE'MIA. (Commemorative of J. E. Wixto'm,
a Swedish botanist. Nat. ord. Thymelaeaceae.)
Greenhouse and stove deciduous shrubs. Cuttings in
sand under a bell-glass. Equal parts of loam and peat,
with some sharp sand.
W. indica' (Indian). See W. viridi'flora.
Asia; Australia. 1829. Stove.
WILD APPLE. Py'r us Mal'us.
WILD BERGAMOT. Mon'a' rda fastu' o'sa.
WILD CLARY. S'al'o'a Ve'renha'na.
WILD CLOVE. Pin'o'na a'ris.
WILD DATE. Pho'nis sylo's stris.
WILDERNESS. See LARDINH.
WILD HYACINTH. Se'ti'a fastis'is.
WILD IRISHMAN. Aciphy'lla s quarro'sa and Disc'a
rea Tob'ma'un.
WILD LIMON. Pessa'fo ra fastis.'
WORMWOOD. Artemi'sia Absinthium.  

WORMWOOD, FIELD. Artemi'sia camp'stri.  

WORMWOOD, ROMAN. Artemi'sia po'ntica.  

WOUNDS. See Extravasated SAP.  

WOUNDWORT. Anthis'yllis Vul'neraria.  

WOUNDWORT, HEDGE. Stat'chya.  

WOUNDWORT, HERCULES'. Hera'deum.  

WREATHEWORT, PURPLE. O'rich's ma'scula.  

WREATH, PURPLE. Petre'a volu'bilis.  

WRIGHTIA. (Named after Dr. Wright, of Jamaica. Nat. ord. Dogbanes [Apocynaceae]. Linn. 5-Pentandria, 1-Most. 1752.)  

Stove evergreen shrubs, with white flowers, and from the East Indies, except where otherwise described. For culture, see ALSTONIA.  


W. angusti'follia (antidisenteric). See HeLARHENA An'tidisenterica.  


W. tinco'r'tia (dyer's). 15. 1812. India.  

W. seyli'aca (Ceylon).  

WULFINIA. (Named after F. Xavier Wuflsen, a botanical author. Nat. ord. Figworts [Scrophulariaceae]. Linn. 2-Diandria, 1-Monogynia. 1812.)  


W. noto'mia-na (East Indian). See Klu'ga no'toni'ana.  

W. renifo'rmis (renaliform). See SYNTHYRIS reni'formis.  

WULFFIA. (Named after J. C. Wulf, author of "Flora Boru'sica." Nat. ord. Composites [Compositae]. Linn. 19-Syngenesia, 4-Assinessaria. Allied to Rudbeckia.)  

Stove evergreen herb. Cuttings of young shoots in sandy soil, in spring or summer; sandy loam and leaf-mold. Winter temperature, 45° to 58°; summer, 60° to 80°.  


WULSCHLEGENIA. (Conmemorative of Herr B. Wul'schlaegel, who first collected W. aphylla. Nat. ord. Orchidaceae.)  


W. calcar'a (spurred). Flowers very small. River Uapua, Brazil.  

WURMREBA. Named after F. V. Wurmbe, a Dutch naturalist. Nat. ord. Liliworts [Liliaceae]. Linn. 6-Hexandria, 3-Trigynia. Allied to Andromyrtus.)  

Half-hardy bulbs, from South Africa and all but one white-flowered. For culture, see MELANTHUM.  

W. campanu'la (bell-shaped). See W. Capensis.  


W. pur'i'ma (dwarf). 1. May. 1800.  

W. pur'pur'a (purple). 1. May. 1788.  

WYCH ELM. Ulmus mon'ata.  

WYE THIA. (Conmemorative of N. B. Wyeth, who discovered the first known species. Nat. ord. Composita.)  

Hardy perennial herbs. Divisions in spring or autumn. Ordinary soil.  


WYMOT. Althe'a officinalis.  

XANTHODE'SCHIA REHMANN COCCINEA. See Richardia Rehmannii coccinea.  

XANTHISMA. (From xanthisma, a yellow colour; because the flowers are yellow. Nat. ord. Composita. Allied to Haplopappus.)  

Hardy or half-hardy annual. Seeds in the open in April. Ordinary garden soil.  


XANTHISUM. Clot Burc, Cockle Bur. (From xanthium, first applied to Xanthium Strumarium, used for dyeing the hair yellow. Nat. ord. Composita.)  

Hardy annuals of no horticultural value, but often occurring in this country. Seeds. Ordinary soil.  

X. i'ndicum (Indian). See X. Strumarium.  


XANTHOCEPHALUM. (From xanthos, yellow, and kera's, a head; flowers in yellow heads. Nat. ord. Composita.)  

Greenhouse shrub and half-hardy perennial. Cuttings of the greenhouse species under a bell-glass, and seeds of the perennial in a frame, to be planted out in May.  


XANTHO CERAS. (From xanthos, yellow, and ker'a, a horn; a shrub. Nat. ord. Composites [Compositae].)  

A deciduous shrub or small tree. Seeds; root cuttings. Well-drained garden soil.  

X. sorbi'follia (Sorbus-leaved). 2-5. White, with blood-red marks at the base. China. 1870.  

XANTHOCHY' MUS. (From xanthos, yellow, and chymo's, juice; the plants have a copious, yellow juice. Nat. ord. Gutiferæ. Now referred to Galardinia.)  

X. dul'ces (sweet). See Galardinia dulcis.  

X. ovali'follia (oval-leaved). See Galardinia ovatifollia.  

X. pic'to'rius (painter's). See Galardinia Xanthochymus.  

XANTHORRH 'ZA. Yellow Root. (From xanthos, yellow, and rho'sa, a root. Nat. ord. Crowfoots [Ranunculaceae]. Linn. 5-Pentandria, 6-Polygynia.)  

Hardy evergreen shrub. Suckers; sandy loam and peat; divided in it for two winters.  


XANTHORRH 'ZA. Grass-tree. (From xanthos, yellow, and rho'sa, to flow; yellow juice. Nat. ord. Rutaceae. Linn. 6-Hexandria, 1-Monogynia. Allied to Xerotes.)  

Greenhouse, white-flowered plants, from Australia. Offsets and imported stems. Peat, loam, and sand.  

Evergreen.


X. bruni’na (Brown’s). See X. PREISSII.


X. hwm’ula (dwarf). See X. PUMILIO.


X. uc’mor (smaller). 2. 1804. Herbaceous.


South-west Australia.

PREISSII (Prel’sii). 1825. Herbaceous.


X. resi’mo’na (resinous). See X. MEDIA.

X. semipla’na (half-flat). Leaves flattened on one side.

X. tec’ata (Tecatean).

XANTHOSIA. (From xanthos, yellow; some species are covered with yellow down. Nat. ord. Umbelliferae. Greenhouse evergreen herbs or small shrubs. Seeds; cuttings in sand under a bell-glass. Fibrous loam, peat, and sand.

X. his’ro’ta (hair). See X. PILOSA.

X. mon’d’na (mountain). See X. PILOSA.


XANTHOSOMA. (From xanthos, yellow, and soma, a body; the edible roots. Nat. ord. Arads [Araceae]. Linn. 27. Hernia, 7. Helianthus. Allied to Calladium. Stove plants. For culture, see Calladium.

X. appendicu’latum (appendaged). See X. ATROVIRENS.

X. atrovi’rens (dark-green). Venezuela.

X. baril’let’s (barillet’s). 1826. Evergreen.


X. Hoffm’annii (Hoffmann’s). Spatha white; purple in the tube. Mexico. 1900.


X. magni’ficum (magnificent). Leaves much larger.


X. wát’si (Wallachi’s). Leaves dark green, with silvery veins. Colombia. 1869.

XANTHOXYLUM. See ZANTHOXYLUM.

XAVE‘RIA. See Anemopontis.

XENIA. See Clintonia.

XERA‘NTHEUM. Immortelle. (From xeros, dry, and anthis, a flower; everlasting flower. Nat. ord. Compositae [Composite]. Linn. 19-Syngenesia, 2-Superflua.

The flowers, after being dried, may be dyed of any colour. Hardy annuals. Seeds in the open border in April.


X. can’nes (hoary). See HELIPTERUM CANESCENS.

X. cer’atophorum (cylindrical). S. Europe; Asia Minor.

X. ef’flora (upright). See X. INFAERTUM.

X. fulgi’gum (shining). See HELICHRYSUM FULGIDUM.

X. herbo’ceum (herbaceous). See HELICHRYSUM SQUAMOSUM.


X. ob’lata (oriental). See CHARDINIA XERANTHEMOIDES.

X. rigi’dum (rigid). See HELICHRYSUM STRIATUM.

X. sesam’oides (Sesamum-like). See HELICHRYSUM SAMAIONIDES.

XERANTHEUM. (From xeros, dry, and nema, a branch; the plant is dry and rigid. Nat. ord. Leguminose. Allied to Prosopis.)

A small, dry, rigid, deciduous greenhouse shrub. Seeds; cuttings in sand under a bell-glass. Fibrous loam and peat in equal parts, with sand.


XERONEMA. (From xeros, dry, and nema, a filament; the filaments dry up and remain. Nat. ord. Leguminose. Allied to Anthericum.)

An elegant stone perennial. Seeds; divisions. Fibrous loam, leaf-mould, a small and old cowmane rubbed up finely.


XEROPHYLLUM. (From xeros, dry, and phyllon, a leaf; dry, grassy leaves. Nat. ord. Liliáceae [Liliaceae]. Linn. 6-Hexandria, 3-Trigynia. Allied to Helonias.)


X. eri’smum (grassy). See STENANTHIUM ANGUSTIFOLIUM.

X. Sabadilla (Sabadilla). See VERATRUM SABADILLA.


X. te’nax (tough-leaved). See X. SETIFOLIUM.

XEROPHYTA. (From xeros, dry, and phuton, a plant; literally, dry plant. Nat. ord. Amaryllidace. Now referred to Vellozia.

X. retina’mis (net-nerved). See VELLOZIA RETINERVIS.

XEROTES. (From xeros, dryness; the plants are dry and wiry. Nat. ord. Juncaceae. Allied to Xanthorrhoea.)

A greenhouse perennial dry herbs. Divisions. Sandy loam and leaf soil.


ANNUALS.

X. Cava’nilles’i (Cavallilles’). See IOSTEPHANE HETEROPHYLLA.

X. esti’ta (shining). See ENCELIA PUSTULA.

X. hetero’phylla (variable-leaved). See ENCELIA HETEROPHYLLA.

HERBACEOUS PERENNIALS.

X. corda’ta (heart-leaved). See ENCELIACORDATA.

X. conoc’efera (Encelia-like). See VERBESINA SCELUSMOIDES.


Stemless herbs. Cuttings of half-ripened shoots in sand, under a glass, in May, and in bottom heat; sandy, fibrous peat, and lumpy loam. Winter temp., 55° to 60°; summer, 60° to 85°.

XIPHIUM. (From xiphion, a sword, and phyllon, a leaf; perhaps a sword-leaved Fern. Fynn. Ferns, 21. 1844. See Sphenopteris.)

XIPHIUM. See IRIS.

XIPHIUM. A large bract. Ju. Amer. 1870.

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All whitish-flowered evergreens. Sometimes by seeds, sometimes by galls, they are ripe, in a slightly hotbed; generally by suckers, but also, at times, from young shoots that branch from the stems; deep, dry, sandy loam is their favourite soil; a few require the assistance of a sheltered greenhouse, but most of them stand the open air in England. *Allofotia* is, perhaps, the tenderest of all the hardy ones. They flourish near the sea-shore. We may add, that they seem quite at home on a knoll, or on rock-work.

**HARDY.**

*Y. acuminata* (pointed-flowered) of Sweet. See *Y. gloriosa acuminata.*


*Draco'sis* (dragon's), 8. August W. Ind. 1732.


*serrulata* (finely-sawed). To. Carolina. 1858.


*anguistrofia* (white). See *Y. allofotia.*


*anguistrofia canaliculata* (channelled). See *Y. truculentana.*

*anguistrofia circinata* (curled-threaded). See *Y. baccata.*

*anguistrofia concinna* (hollow-leaved). See *Y. filamentosana congesta.*

*anguistrofia conspinosa* (spiny). See *Y. allofotia.*


*anguistrofia conspinosa* (flat). See *Y. truculentana.*

*anguistrofia compandula* (scalloped). See *Y. allofotia serrulata.*

*anguistrofia desmetiana* (Desmetian). Mexico. 1868.


*anguistrofia fruticosa* (fruits). See *Y. whipplei.*

*anguistrofia gracilis* (sword-leaved). See *Y. guatemalensis.*

*anguistrofia nigra* (slender). See *Y. filamentosana exigua.*

*anguistrofia nuda* (barkless). See *Y. flexilis falcata.*


*anguistrofia ophioglossa* (Silk Grass).*

*anguistrofia ophioglossa* (antwurpensis) (Antwerp). See *Y. orchideae major.*


*anguistrofia ophioglossa* (slender). White, green. S. United States. 1873.

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Yucca (917)

Zamia (3)

Y. flaccida (baccid). See Y. FILAMENTOSA FLACCIDA.
Y. filix (flexile). 4; Mexico, 1839. Greenhouse.
Y. filix (fragile). 4; Mexico, 1839. Nearly stemless.
Y. filix (nobilis). Young leaves very glaucescent.
Y. filix (variegata). See Y. BACCATA.
Y. flava (cord-bearing). Leaves 6-7 ft. long. Mexico, 1866.

Ghesbreghi (Ghesbreghi's). See Y. GUATEMALENSIS.

gigantea (gigantea). 5-6; Mexico, 1839. Glaucescent.

glauca (sea-green). Southern United States, 1813.

glauce (milky-green). See Y. FILAMENTOSA GLAUCESCENS.


acuminata (long-pointed). 2-6; Leaves long-pointed. August, 1800.

Elaeocarpus (Elaeocarpus). Leaves concave on the face. Plant nearly stemless.

malfor (greater). 4; 1808.

melio-sattd (median-striped). Leaves having a whitish-green band on both sides. 1880.

mi nor (smaller). A dwarf variety.

olivina (oblique). 4; Leaves sea-green oblique.

1808.

pulverula (plaited). Leaves much plaited.

prunosa (frosted). Leaves sea-green.

recurvifolia (recurved-leaved). See Y. RECURVIFOLIA.

rubra (red-edged). 14; July. Leaves with red-brown edges. 1816.

superna (superb). 10; Flowers larger. August.


glaucescens. See Dasyflorin GRAMINIFOLIA.

guatemalensis (Guatemalan). 15-20; Summer. Mexico and Guatemala, 1873.


japonica (Japanese). See Y. recurvifolia.


levigata (smooth). See Y. PEACOCKI.

lutea (lutea). (yellow-lined). See Y. ALOIFOLIA LINEALUTA.

longifolia (long-leaved) of Katw. See Nolina LONGIFOLIA.

longifolia (long-leaved) of Carriere. See Y. FLEXILIS.

lutescens (yellowish). See Y. RUPICOLA.

macrocarpa (large-fruited). 4-4; Arizona, 1881. Missouriana (Mexican). See Y. FLEXILIS.

nobilis (noble). See Y. FLEXILIS NOBILIS.

obliqua (oblique-leaved). See Y. GLORIOSA OBLIGUA.

major (larger). See Y. GLORIOSA MAJOR.

orchidacea (orchid-like). 14; Southern United States, 1861.


Farrenii (Donneri's). See Y. ALOIFOLIA.

patens (spreading). A slight form of Y. GLORIOSA.

Peacocki (Peacock's). Leaves about 100; Mexico (7?).

sulcula (drooping). See Y. RECURVIFOLIA.

percico sa (dangerous). See Y. BACCATA.

pittcarneae (Pittcarneia-leaved). Mexico, 1838.

polyphylla (many-leaved). See Y. CONSTRICTA.

prunosa (prunose or frosted). See Y. GLORIOSA PRUNOSA.

puberula (rather-dowdy). See Y. FILAMENTOSA PUBE RULA.

purpurea (purple). See Y. ALOIFOLIA FURPURA.

fuscosa (curled-back-leaved). See Y. RECURVIFOLIA.

recurvifolia (recurved-leaved). White, tinted red.

Leaves 100-150, recurved, S. United States, 1794.

recurvifolia (recurved-leaved). White, tinted red.

Leaves with a pale green, reddish-tinted stripe, 1883.

volutula (revolute). See Y. TRECULEANA.

Roseni (Roseni's). See Y. GUATEMALENSIS.

rufo-fasciata (reddish-edged). See Y. GLORIOSA RUFO- CINCTA.

rupecola (rock-loving). 1-2; White, greenish on back. S. United States; Mexico.

Y. scabriofolia (rough-leaved). See Y. BACCATA.

semicordata (half-cylindrical). See Y. FLEXILIS SEMICORDATA.

serratifolia (sawed-leaved). Mexico, 1838.

serrulata (saw-edged). See Y. ALOIFOLIA SERRULATA.

stenophylla (narrow-leaved). See Y. FLEXILIS.

stricta (fractile-leaved). See Y. BACCATA.

superna (superb). See Y. GLORIOSA SUPERA.

tenuifolia (slender-leaved). See Y. ALOIFOLIA.

tondiliana (Tondilian). See FURCRAEA BADINGHIUS.

tortilis (twisted-leaved). See Y. RUPICOLA.

torulosa (twisted). See Y. RUPICOLA.

torulosa (twisted). See Y. GLORIOSA TORTULATA.

treculiana (Treculian). 20-35; Summer. Mexico, 1873.

tribora (three-coloured). See Y. ALOIFOLIA TRICOLOR.

undulata (wavy). See Y. TRECU LIANA.

Whipple's (Whipple's). Inflorescence 4-12 ft. long. California and Arizona, 1876. Stemless.


ZACINTHA. (From Zacinthus, an old name of Zante, where the plant grows. Nat. ord. Composita.)

Hardy, Seeds; Ordinarily grown as a garden soil.

Z. pendula (drooping). See Z. VERRUCOSA.


Hardy, slender perennial herb. Seeds; divisions. Fibrous root, peat, and sand. A half shady position should be selected for it.


ZALA'CCA. (The native Malay name. Nat. ord. Palmacea.)

Dwarf stove palms. Seeds; Loam, fibrous peat, and sand.

Z. blumea (Blumean). See Z. EDULIS.

edulis (edible). Pink. Leaves 12-20 ft. long.

Burma; Malaya. 1847.

E. Bidens (smooth). Penang.


walleriana (Wallerian). See Z. EDULIS.

ZALUZIA. (Commemorative of Adam Zalusiansky à Zaluzian, of Prague, Nat. ord. Composita.)

A greenhouse shrub, in open sand, in a bell-glass, in a warm greenhouse. Light, sandy soil and leaf-mould.


mari'tima (maritime). See Z. LYCNHIDEA.

treculiana (Treculian). See Z. GLORIOSA TRECULEXIA.

Fruit; Selago (Silk). See Z. GLORIOSA.

White, with orange eye. June to September. S. Africa. 1854.

ZAMIA. (From zamia, loss; the barren appearance of the male flowers. Nat. ord. Cycads [Cycadaceae]. Linn. 22-Dioscorea, 12-Icosandria.)

A race of plants intermediate between Ferns and Palms. Those not otherwise specified are from South Africa, and will succeed in a greenhouse; but all do best in a stove. Suckers; rich, loamy soil. Winter temp., 45° to 55°; summer, 60° to 80°.

Z. amplifolia (ample-leaved). Colombia, 1876.

ZAMIOCULCAS

Z. ca'fra (Caffarian). See ENcephalartos CaFFER.
"calo'coma (beautiful-haired). See MicrocycaS calo'COma.
"Calivis (Chigua). 4-5. Colombia. 1847.
"Cyanophyl'sia (Cycas-leaved). See Encephalartos CYCADIPOLIUS.
"Cy'cads (Cycads-like). See Encephalartos Cypers. 1777.
"Fis'seri (Fischer's). Trop. Amer. 1849.
"Fra'seri (Fraser's). See MackZamia Fraseri.
"Ghelli'nchi (Ghellincik). See Encephalartos GHELLINCIKI.
"h'orrida (horrid), See Encephalartos Horridus.
"Integrophyl'sia (entire-leaved). Dwarf. 1790.
"K'cchi'am (Kckix's). Cuba.
"lanu'ginosa (woolly). See Encephalartos Lanugi'NUS.
"Leb'o'idi'a (Leibold's). Trunk 8 in. high. Mexico. 1840.
"Lindi'm (Lindens'). Trunk 3 ft. Ecuador. 1879.
"Lind'leyi (Lindley's). See Z. Chinga.
"Lod'digeii (Lodidges'). Mexico. 1844.
"longifolia (long-leaved). See Encephalartos Longi'FOLius.
"mediana (intermediate). See Z. Pumila.
"Miqueli (Miquel's). See Macrozamia Miqueli.
"Montea (warted). S. Amer. 1840.
"noffiana (Noffian). S. Amer. 1869.
"oblipa (oblique). Trunk 6-7 ft. Colombia. 1879.
"Otto'sii (Otto's). Trunk 4 ft. Cuba.
"Picia (painted). Mexico (?).
"Prasina (leek-green). See Z. Latifolia.
"Prinsep's (princely). See Z. Chigma.
"Prunifera (plum-bearing). See Encephalartos Pruni'Fera.
"Pseudopara'ttica (falsely-parasitical). Panama. 1873.
"Pumila (pumila). See Encephalartos Pumilens.
"Rou'oi (Roel'). See Z. Puke-ro' Parasitical.
"Sieboldia augustifolia (Siebold's narrow-leaved). See Z. Leiboldii.
"Skorneri (Skinner's). Leaves 4-5 ft. Central Amer. 1851.
"Sporo'ta (sporophytic). See Encephalartos Altensteinii.
"spiralis (spiral). See Macrozamia spiralis.
"tenuifolia (slender-leaved). See Z. Fischeri.
"Tomassii (Tomassen). Tonkin. 1885.
"tridentata (three-toothed). See Encephalartos Trinity.
"villo'sus (shaggy). See Encephalartos Villosus.
"Walli'sii (Wallis). Colombia. 1875.

ZAMIOCULCAS (From Zamia, and Calcaria; because it is an Aroid like the latter, but having pinnate or bipinnate leaves like a Zamia. Nat. ord. Araceae. Prinsep).
Stove, evergreen herbs, with tuber-bearing rhizomes. Divisions or offsets. Tubers are also produced from the leaves if planted on moist sand or on coconut fibre in a propagating case. The tubers form plants when potted up. Fibrous loam, lumpy peat, and some nodules of charcoal with sand. Moist stove treatment is necessary.

ZANON PALM

Soracte's exorh'ita.'

Z. sarcophylla (fleshy-leaved). See Alsomitra Sarco'Phylla.

ZANTE'D'SCHIA ZETHIO'FICA. See Richardia AfrICANA.

ZANTHOSOMA HOFFMANNI. See Xanthosoma Hoffmannii.

ZANTHOXYLUM. Toothache-tree. (From sambucus, yellow, and solum, wood. Nat. ord. Rutales (Rutaceae). Linn. 22-Dioscor. 5-Pestandria.)
Nearly all white-flowered; cuttings in sand, under a bell-glass, in May; the stock species in heat; the hardy species by seed, pieces of the roots, and cuttings of the ripened shoots in sandy soil, under a hand-light; sandy loam suits any of them.

HARDY DECIDUOUS.
Z. a'latoth'odes (Allanthus-like). Japan and Formosa.
"a'rum (winged). May. India. Partly evergreen.
"fo'Io's angustifolius (narrow-leaved). 1904.
"fraxi'num (ash-like). See Z. Americanum.
"mi'se (mild). See Z. Americanum.
"schinus'filis (Schinus-leaved). Japan.
"tricarpum (three-capsuled). See Z. Cla'va-Herculis.

STOVE EVERGREENS.
Z. a'fni (related). Mexico. 1826.
"aroma'icum (aromatic). See Z. Cla'va-Herculis.

ZAPANIA. (Commemorative of Paul Ant. Zapata, of Pavia. Nat. ord. Verbenaceae. Now referred to Lippia.)
"nodi'fo'ra (node-flowering). See Lippia nodio'flora.

Z'ARA. See Pista.

ZAUSCHNE'RIA. (Named after M. Zauschner, a German. Nat. ord. Onagrad (Onagraceae). Linn. 8-Quinaria, 1-Monogynia. Allied to Epilobium.)
A hardy plant, with the habit of a Fuchsia. Division of the plant in spring; cuttings of the shoots in spring, summer, and autumn, under a hand-light. It is a good pot and bedding-plant; for the latter purpose, as the flowers are apt to drop too much, mix it with Cu'phea strigillo'sa; rich, light soil.
Z. Calif'or'nia. "Calif'or'nic." California. 1847. "Calif'or'niaca." California. 1859.
"mexica'na (Mexican). See Z. Califo'riaca.

ZEA. Maize, or Indian Corn. (From sa'o, to live; a food-plant. Nat. ord. Gramineae (Gramineae). Linn. 21-Modesta, 9-Grande.)
Annuals. Seeds in a slight hotbed in early spring, and the seedlings planted out into good soil. The heads, when half-grown and green, make an excellent vegetable when boiled.
ZEBA PLANT.
Cula'thea se'bi'na.

ZEBA WOOD.
My'rus fr)i'rans and Guell'ta'ria spec'o'na.

ZE-BRI NA. (The leaves are striped like a zebra.
Nat. ord. Commelinaceae. Allied to Tradescantia, and
often named T. zebra.)
Greenhouse evergreen creeping herb, having its leaves
striped with white, shaded purple and purple beneath.
Cuttings root easily in any light soil, kept moist.
Loam, leaf-mould, and sand. It is a good basket plant, for
small pots on the front of stages, and for planting under
the stages, when a fair amount of light is available.
Z. pe'ndula (drooping). White, rose-purple. Summer.
Mexico. 1846.

ZEDARY, ROUND. Cur'cu'na Zedo'ria.

ZEHNERIA. (Commemorative of Joseph Zeher, a
to Melothria.)
Z. assiu'ta (hathert-shape). See Melothria hetero-
phy'lla.
Z. sica'bra (rough). See Melothria puncta'ta.
Z. su'a'vis (sweet). See Melothria puncta'ta.

ZELKVA. (Possibly a Japanese native name.
Nat. ord. Urticaeae.)
Small, hardy, deciduous trees, resembling Elms.
Seeds; layers. Ordinary garden soil.
" Keak'i.
Z. pe'ndula (drooping). Branches drooping.
" Das'dis (David's). Green. April. China; Mon-
golia; Corea. 1910.
" japo'nica Verschaffel'li (Japanese, Verschaffelt's var-
yety). See Z. Verschaffel'li.
" Keak'i (Keaki). See Z. acu'mina.
" Verschaffel'li (Verschaffelt's). Green. April. Eastern
Asia. 1892.

ZENO'RIA. (Commemorative of Zenobia, Empress of
Palmyra. Nat. ord. Ericaceae. Allied to Lyonia and
Alnus.)
A dwarf, subevergreen, hardy shrub of great beauty
when in bloom, the flowers resembling those of Lily
in the Valley, but larger. Seeds; layers. Sandy loam
and peat.
Z. spec'o'na (showy). 2. White. May to July. N.
Amer. 1800.
" pulve'rul'e'na (powdery). Leaves glaucous-white,
as if powdered.
" quercif'o'lia (oak-leaved).

ZEPHYRA'NTHES. (From zephyr, the west wind, and
an'tho's, a flower. Nat. ord. Amaryllidaceae. Linn. 6-Hexandra, 1-Monogynia. Allied to Habranthus.)
Half-hardy bulbs, with only one flower on a stalk.
For culture, see Habranthus.
Z. Andres'sor'ii (Anderson's). 4. Golden inside,
or copper, lined outside. Monte Video. 1825.
Chili.
Amer. 1829. " Atamasco Lily.
1829.
1822. " Swamp Lily.
" ma'for (larger). 1. Flowers 4 in. long. 1907.
Z. microphylla (small-leaved). See Kennedia microphylla.

"Molly" (molly). See Kennedia coccinea.

"Panorama" (offering). See Kennedia coccinea.

"Purple." See Kennedia coccinea.

"Tri-color" (three-coloured). See Kennedia coccinea.

"Villo'sa" (shaggy). See Kennedia coccinea.

ZIERIA. (Named after M. Zier, a Polish botanist. Nat. ord. Rauwolfseae [Rutaceae]. Linn. 4-Tetranoria, 1-Monogynia, 1-Compositae.)

Greenhouse, white-flowered evergreens, from Australia.

For culture, see BORONIA.


"Birrus" (burry). See Z. filosus.

"Lavender" (smooth-leaved). See Z. Smithi.

"Lanceolata" (spear-leaved). See Z. Smithi.

"Macrophylla" (large-leaved). See Z. Smithi microphylla.


"Octandra" (eight-stamenled). 5. Green, 1825.

"Pasiflora" (few-flowered). See Z. filosus.

"Pilosa" (unarmed). 5. April, 1882.

"Revoluta" (curled-back-leaved). See Z. levigata.


"Microphylla" (lance-leaved). A tree-like, broad-leaved form. 1820.

ZINGIBER. Ginger. (From the Indian name. Nat. ord. Liliaceae [Liliaceae]. Linn. 1-Monandria, 1-Monogynia.)

Stove herbaceous perennials, from the East Indies; yellow-flowered, where not otherwise mentioned; division of the roots; fibrous peat and sandy loam. Winter temp., 40° to 45°; summer, 60° to 90°. See Ginger.


"Clifforia" (Lady de Clifford’s). 5. Z. S. 1821.

"Coccinea" (Lady de Clifford’s). See Z. Cassumunar.


"Dareyi" (Darecy’s). 2-3. Leaves with a broad creamy-white margin and stripes. 1890.

"Elatum" (lofty). See Z. capitatum.

"Giraldicola" (Girald’s). 5. May, 1822.

"Ilieata" (strap-leaved). 2. Pink, June, 1823.


"Purpureum" (purple). See Z. Cassumunar.

"Rouen" (royal). 2. Rose, yellow. August, 1822.

"Rutella" (red). 6. Red, October, 1822.


"Wightiana" (Wightian). S. India.

"Zemmbat" (Zemmbet). 4. August, India; Malaya, 1690.

"Variegata" (variegated). Leaves banded with white.

ZINNIA. (Named after J. G. Zinn, a German professor of botany. Nat. ord. Composiata [Compositae]. Linn. 19-Syngeoosis, 2-Synenoria.)

Mexican annuals, scarlet-flowered, with one exception. Seeds in April in a hotbed; seedlings hardened off, and then transferred to the flower-garden, in good, rich, loamy soil. If sow earlier, they are apt to be drawn out and attacked by insects. We have had them fine by sowing under a hand-light, without bottom-heat, in the middle of April, and throwing a mat over the glass at night. Z. elegans is the species from which most of the garden varieties have been raised.


"aurea" (golden). See Z. haageana.


"Dairensi" (Darwin’s). See Glossogyne pinnatifida.

"Flora pleura" (double-flowered). 1861.

"Violacea" (violet). 2. Purple-violet.


"Stellata" (starry). Orange-yellow; flowers twisted, 1908.


"Linearis" (linear). 1-1. Bright deep orange. Mexico, 1887.


"Pasiflora" (few-flowered). 2. Yellow, July, Peru, 1733.


ZIZA'NA. (From Zizanion, an old Greek name, translated "tare," and supposed to be Lolium temulentum. Nat. ord. Gramineas.)

"Tare" and some stately aquatic grasses for the margins of ponds, tanks, and ornamental water. Seeds, sown as soon as ripe. Wet, boggy or watery places.


Anemone, by not otherwise mentioned. Annuals, by seed in April; perennials, by seeds, divisions, and cuttings; dry, sandy loam, and elevated places, such as rock-work; the perennials require a little protection in winter.

Half-hardy Evergreens.


"Dasya" (thick-flowered). See Z. clivinophioides.

"Fida" (Puschkin’s). 2. July, 1706.

"Serpyllacea" (thyme-like). See Z. clivinophioides.

ZIZYPHUS. (From Zizyphus, a tree of China. Nat. ord. Zizyphaceae [Rhamnaceae]. Linn. 5-Tetranoria, 1-Monogynia, 1-Monogynia.)

Greenish-yellow-flowered, where not otherwise mentioned. Cuttings of the roots, suckers, and cuttings of ripened shoots under a hand-light or bell-glass, according as the species are hardy or tender; deep, dry loam for the hardy, loose and sandy loam for the tender.

Hardy Deciduous, &c.


"Giraldii" (Girald’s). 10-15. Fruits black, edible.


"Palustris" (Palustris). See Z. clivinophioides.


"Incurva" (unarmed). 6. August.

"Vulgaris" (common). 8-10. August. S. Europe to Afghanistan, 1640. "Jujube."
ZOMICARPA. (From zona, a short under garment or waistcoat, and Karpos, a fruit; the ripe fruit bursts at the base, but retains its position, covering the seeds like a waistcoat. Nat. ord. Araceae.)

Stove perennial herbs with tuberous roots. Offsets; seeds. Fibrous loam, lumpy peat, and sand.

Z. maculata: (blotted). Spadix blackish. Leaves dark green, with pale green blotches near the margin. Colombia. 1851.

ZONRIA. (Named of J. Zorn, a German botanist. Nat. ord. Leguminosae [Leguminosae]. Linn. 16-Monadelphus, 6-Decandria.)

Annuals, seeds in a hotbed, and the plants afterwards bloomed in the greenhouse; perennial, also, by seed, and dividing the plants in the spring, and requiring to be kept from frost, and rather dry in winter; rich, light, fibrous loam.


Z. maculata: (blotted). Spadix blackish. Leaves dark green, with pale green blotches near the margin. Colombia. 1851.
Zygopetalum

B. dayana num candida (whitish). White, pale purple. Colombia. 1875.
" rhodas (rose-pointed). Sepals and petals tipped with rose. 1874.
" splendens (splendid). White, marked brown-purple. Colombia. 1875.
" airocarci (dark-blue). White, shaded violet; lip yellow. 1878.
" dornmannia (Dornmannian). White, sulphur. S. Amer. 1881.
" euph'tum sum (beautiful-tipped). See Z. intermedium. 1834.
" Green, marked with brown. Ecuador (?). 1878.
" fimbriatum (fringed). White, purple; lip yellow-white, fringed. Colombia. 1874.
" gairia (Gairian). Violet, black-purple; lip white-purple. Ecuador. 1893.
" Gau'dii (Gaultier's). Green, brown, white, purple. Brazil. 1867.
" Grami'neum (Madame Gé's). White, unmarked; lip white, veined violet.
" (Kefferstei'nia) grami'num (grass-leaved). Green, blue. November. Popayan. 1844.
" graminifolium (grass-leaved). Green and purple. 1892.
" (Boettisii) Lip (God). Lip, yellow, white with darker crest. Colombia. 1888.
" (Lindeni) Lip (Madame). Lip fringed. Venezuela. 1890.
" Klabo'chii (Klaboch's). Whitsant-ochre; lip white, all spotted with purple. Colombia. 1885.
" Klabo'chii russelianum (Messrs. Klabochs'). White, brownish-purple. Brazil. 1879.
" (Burford) Lip (Burford). Lip reddish-violet in centre, covered with papilla. 1897.
" (Conradii) Lip marbled. Segments tipped with mauve-purple. 1884.
" la'ceum (milky). White, dotted with brown. Panama. 1897.
" Lali'ni (Lallian). Pale rose to bright violet; lip golden-yellow. Colombia. 1874.
" laminda'sum (plaited). Pale yellow; lip white. Colombia. 1890.
" laurencea num (Lawrencean). White, tipped mauve; lip velvety-purple. Colombia. 1878.
" Lehma'ni (Lehmann's). White, lined reddish-purple; lip purple. Venezuela. 1874.
" leni'sum (freckled). Green, freckled with purple. Brazil. 1843.
" leopardo'sum (leopard-spotted). Green-yellow, spotted with brown; lip mauve-purple. Hybrid. 1886.
" Li'ndemi (Linden's). White, veined with rose-purple on the lip.
" Lin'dé'ni (Madame Linden's). Light rose; lip white, veined rose. Venezuela. 1894.
" (Huntly'a) Lu'cidum (shining). Brown, purple, orange, white. Guiana. 1889.
" (Huntly'a) margina'num (bordered). White, purple-striped. 1847.
" (Huntly'a) Mela'ris (Guinea-he). Tesselated with brownish-purple. Colombia. 1834.
" micro'orum (small-winged). Light green; lip white, veined purple. Brazil. 1837.
" (Kefferstei'nia) mystica'num (moustached). Yellow-green; lip white, dotted purple. Colombia. 1881.

Zygophyllum

B. oblongum (bluntish). Green, with brown bars; lip pale violet. 1878.
" pallens (pale). Light mauve; lip light ochre, orange. 1851.
" Puis' (Patris). Rosy-pink; lip yellow. Colombia. 1879.
" pensticho'num (five-coloured). Green, marbled brown; lip white, lined mauve. 1885. Hybrid.
" (Warneckeilia) pi tium (painted). Lip yellow-white, fringed with dark purple. Trop. Amer. 1885.
" proteroa'num (Proterean). Dark chocolate; lip violet, with reddish markings. 1859.
" (Promen'a) Rollisii'num (Rollisonis'). Pale yellow; lip white, spotted crimson. Brazil. 1843.
" ruceria'num (Ruckerian). White, green, marked purple. 1885.
" sanderi'num (Sanderian). Green, marked with brown; lip blue-purple. 1883.
" (Sanguinosi) sum (blood-coloured), Straw, with brown and purple-stippled leaves. Colombia. 1890.
" (Sanderian) Lip. See Z. crinitum.
" stipel'to'i (Stapelita). See Z. crinitum.
" triump'hans (triumphant). Snow-white; lip blue-black. Colombia. 1881.
" vei'tum (veiled). Yellow-white; lip edged crimson; lip purple. Costa Rica. 1886.
" velutus'um (velvety). See Z. intermedium.
" Veru's'ii (Verrats'). White, tipped crimson. 1882.
" walisiei'num (Wallesian). White; lip violet along the middle. Brazil. 1856. Scented.
" Walli'sei (Wallis'). Cream; tipped bluish-violet; lip darker violet. Ecuador. 1869.
" ma'jor (larger). Flowers much larger. 1888.
" di'scolor (two-coloured). Yellow-green; lip white, with violet blotch. Costa Rica. 1879.
" (Promen'a) x sa'nihinum (yellow). Yellow, darker in centre; lip spotted. May. Brazil. 1882.

Zygophyllaceae

Linn. 10-Donacaria, 1-Monogyna.

Greenhouse, yellow-flowered evergreens, and from South Africa where not otherwise mentioned. Annual, seeds in a hotbed in spring, and then the plants hardened off, and placed in the open border. Perennials, by cuttings of half-rimmed shoots in sand, under a bell-glass, in heat; sandy peat and fibrous loam, with a little charcoal and freestone.

" atrisoria (orchish). Armenia; Persia. 1857.
Zygophyllum, Zygophyllaceae.

Hardy herbaceous.
" friutzico'sum (shrubby). See Z. fructiculorum biculum.
" fruticosum (two-lobed). Orange, Leaflets narrow.
" Z. fruticosum (two-lobed). Orange, Leaflets narrow.
ZYGOSEPALUM ROSTRATUM 923

ZYGOSEPALUM ROSTRATUM. See Zygodactylum rostratum.

ZYGOSEPALUM. See Zygopetalum rostratum.

ZYGO'STATES. (From zugos, a yoke, and statos, standing; two processes project from the base of the column and recall the old Roman yoke. Nat. ord. Orchidaceae.)

Stove epiphytal orchids. Divisions; offsets. Fibre of peat, sphagnum, and crocks, in small baskets, to be suspended, or to be tied on blocks.

Z. cornuta (horned). Brazil. 1837.

Z. greeniana (Greenian). White; lip white, streaked with green. Brazil. 1869.

Z. lunata (crescent-shaped). Brazil. 1837.

Zyzygium. See Zygodactylum.

ZYGGIUM or SYZYGIUM. See Eugenia.

THE END

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