EXOTIC BOTANY:

CONSISTING OF

COLOURED FIGURES,

AND

SCIENTIFIC DESCRIPTIONS,

OF SUCH

NEW, BEAUTIFUL, OR RARE PLANTS

AS ARE WORTHY OF CULTIVATION IN THE

GARDENS OF BRITAIN;

WITH

REMARKS *ON* THEIR QUALITIES, HISTORY, AND **REQUISITE MODES** OF TREATMENT.

BY

JAMES EDWARD ***SMITH,*** *M.D.F.R.S. &cMc.*

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F. L. S.

HONORARY MEMBER OF THR PHYSICAL SOCIETY OF GÖTTIHGEN.

" Another Flora there, of bolder huse,
And richer sweets, beyond our garden pride,
Plays o'er the fields, and showers with sudden hand
Exuberant spring." *Thomson,*

VOL. I.

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MDCCIV

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TO

WILLIAM ROSCOE, ESQ. F.L.S.

LIVERPOOL.

Dear Sir,

WHEN, in your delightful retirement at Allerton, I felt transported to the villa of your own Lorenzo, I was agreeably surprised to find how large a portion of yew attention Scientific Botany had shared amid your ardent devotion to the Historic Muse. Let me thus remind you of that time, so grateful to my recollection, and which, if I may judge by subsequent transactions, you do not wish to forget. Long had I been anxious to know the Historian of the Medici, but I now wish far more to cultivate and preserve the regard of a Roscoe.*

Allow me to subscribe myself,

Dear Sir,

Your obliged and affectionate friend,

J. E. SMITH.

PREFACE.

SIEVEKAL **periodical** publications, illustrative **of** i **sotic** plants, have boon **at different** limes **undertaken** in this country, and some **have been** continued with **great eniceess? yet none** of them can keep **pace** with **the botanical riches** daily **Sowing** in "upon us.

The .chief aim 'jf the **present** undertaking is not to **cooperate** with those publications which only describe **the** plants **actually** blossonjlng in **the** English **gardens;** still loss is it to interfere or **contend** with sue]} pleasing and useful works. It **will rather be the object** of our **Labours** to introduce to **the** curious cultivator plants worthy of his acquisition from all **parts** of the globe, and to teach those who **have correspondents** abroad what to **inquire for. Some** opportunities also may fall in our **way of making** known the flowers of plants, which have long been cultivated among us without **pTomicing** fructification. Ilcncc it will appear how far they are **worthy of** that continued

attention, which they have as yet so ill repaid. Yet these are not our only intentions. Any new or rare plants; any which have not been hitherto well delineated in their native colours; in short, any thing worthy to gratify the botanical taste now so prevalent, will be the object of this work*

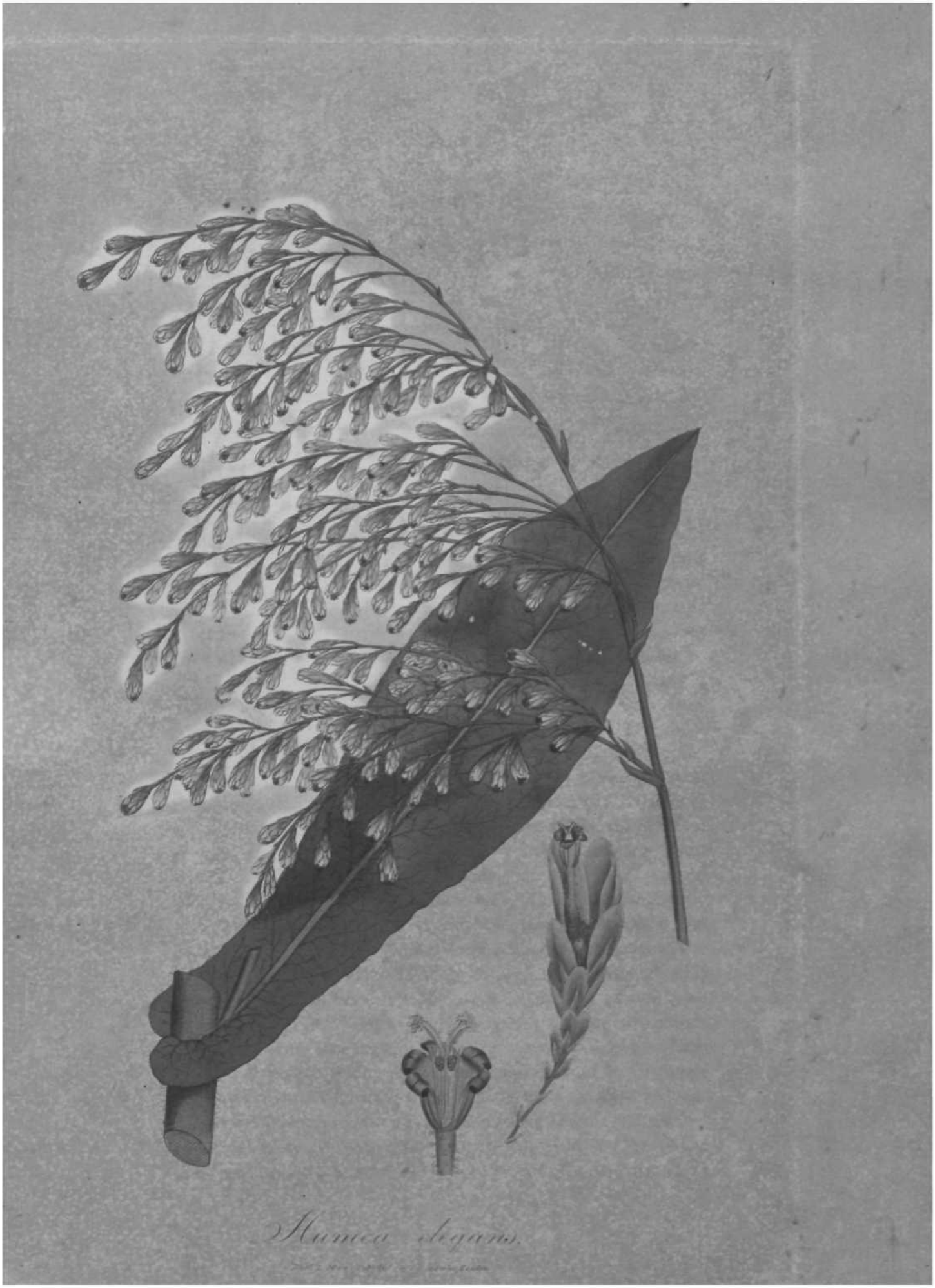
For abundance of most interesting materials we can be at no loss. Not only the stores which Mr. Sowerby and myself have been from time to time accumulating, and which we have hitherto found no successful mode of publishing, but many other treasures are at our command. Air. Lambert has most liberally intrusted to us his collection of New Holland sketches, all the original specimens of which, chiefly collected by Dr. AVhite at Port Jackson, have long been in my herbarium. Captain Hardwicke, so well known by his interesting travels in India, unsolicited and without reserve has offered me the use of his immense collection of botanical drawings, the most accurate and beautiful ever brought to England. Above all, Sir Joseph Banks, with that liberality which no one has more constantly witnessed in him than myself, has freely offered, out of the abundance of his riches, any thing which may be

desirable for this publication, and for which he has no other particular destination. The favours of various friends besides, will be mentioned in the course of the work.

In the descriptions I shall endeavour to reconsider all that has been done before, and to define new objects with precision. The language will be entirely English, progressively altered or improved by the naturalization of any words that experience may show to be eligible. Some terms which in the progress of our *English Botany* have scarcely become perfectly naturalized, may in this work entirely lay aside their Latin construction. Of Mr. Sowerby's abilities for his share of the task it would be improper, as well as superfluous, to express any thing here; but it would be ungrateful in me not to say that, after so many years[5] experience, I enter on a new work, assisted by his pencil, with the most perfect confidence and satisfaction.

J. E. SMITH.

Norwich,
Dec. 1.1804.


Humea elegans.

1

TAB. 1.

HUMEA elegans.

Rose-coloured Jrlumea.

SYNGENESIA Poli/gamia-cequalU.

Receptacle minute, glandular. *Dow*>± none. *Calyx* loosely imbricated, membranous, pointless. *Florets* about 3, tubular. *Anllieras* awned.

SPECIMENS of this elegant plant have long since been sent to England from the neighbourhood of Port Jackson, New South Wales; but its appearance was altogether so new and extraordinary, that no botanist could determine its genus, or even it3 natural order. Its proper class in the Linnaean System was not suspected till the summer of 1804, when Lady Hume fortunately had*-several plants blossom in her choice collection at Wormleybury, Herts, from seeds communicated by the Right Honourable Sir Joseph Banks, The beauty of its wide-spreading drooping panicle, and innumerable shining rose-coloured flowers, which sometimes vary to white, render this plant a great acquisition to the Green-House, in which it succeeds without any peculiar attention. It is moreover desirable for its fragrance, which, though much too strong in the leaves, partakes, in the panicle, of the odour of the Hautboy Strawberry, with some resemblance to the Red Cedar wood. The flowers begin to expand in Juiy, and continue through the autumn. The root is probably annual ; but this point remains, as yet, undecided.

The stem is herbaceous, round, filled with spongy pith, rough (like the leaves) with short rigid viscid pubescence. Leaves alternate, sessile, lanceolate, acute, slightly waved at their edges, and clasping the stem by their heart-shaped base. The upper ones gradually diminish into bracteas. Hanicle drooping, very much branched, composed ot' innumerable scattered alternate drooping flowers on capillary stalks. Each stalk" is accompanied by a small bractea at its base, and clothed with alternate, loosely imbricated, membranous scales, of a shining rose-colour, with a green rib or keel. These scales are gradually larger towards the flower ; and the uppermost.

which are much the largest, constitute the calyx, containing 2 or j} florets. The receptacle is small, glandular, but destitute of scales or bristles. Florets regular, tubular, all perfect and fertile; their tube cylindrical, glandular; limb campanulate, purplish, with 5 equal revolute segments. Antheras *b*> united, crowned with 5 sharp points. Germen oblong, glandular. Style cloven. Stigmas spreading, capitate. Seed oblong, without any crown or wing.

This genus should be placed near *Eupatorium* in the Linnaean System. It is unquestionably distinct from all hitherto described. We have named it afte% the accomplished Lady to whom we are obliged for its introduction, and who, for her botanical taste and knowledge, as well as the number of new plants she has introduced into England, and which she is always in the most liberal manner disposed to communicate, well deserves such a compliment.

Tab. l. exhibit^ a part of the panicle, with a leaf, of the natural size. A magnified calyx and floret, with a more enlarged dissected floret, are subjoined.


Dillenia speciosa


a
Dillenia speciosa

TAB. 2, 3.

DILLENIA speciosa.

Great Dillenia.

POLYANDRIA Polygynia.

Calyx inferior, of *5* coriaceous permanent leaves. *Petals 5. Capsules* several, compressed, many-seeded, ranged circularly round a pulpy receptacle.

Leaves elliptic-oblong, simply serrated. Flowers solitary* Stigmas lanceolate.

Dillenia speciosa. *Thunb. Tr. of Linn. Soc. .v.* 1. 200. *Willden. Sp. PL v.* 2. 1251.
D. indica. *Linn. Sp. PL* 745.
Syalita. *Rheed. Malab. v. S.* 39. *t.* 38, 39.

OF. all the tropical trees this is one of the most magnificent. Rheede informs us that it rises in the woods of Malabar, where it is very frequent, to the height of 40 or 50 feet,, with an extremely thick stem, covered with a thick scaly bark, which when wounded discharges great abundance of an astringent watery fluid. It ripens fruit in December and January, beginning to bear about the fourth year of its age, and continuing in vigour for fifty years or more.

Linnaeus derived his knowledge of this plant entirely, perhaps, from the excellent figure and description in the writer just quoted ; for he never possessed, nor probably ever saw, a specimen, except what grew from seed in the garden of Cliffort, and scarcely survived three weeks-. This however gave him an* opportunity of introducing it as a new genus into his *Hortus Cliff ortianus,* and of complimenting the celebrated Dillenius with its name. No subsequent writer has contributed any new information respecting it.

Some years ago Dr. Roxburgh, at my particular reques*, favoured me with excellent dried specimens, along with the fruit in spirits, and the same gentleman has sent Lady Hume a fine young tree of this species, which is now in a very thriving state. It is presumed

to be the first ever brought alive to Europe. For the drawings from which our figures were taken I am obliged to Captain Hardwicke.

The leaves are crowded about the ends of the branches, on winged footstalks downy underneath, and are from 4 to 12 inches in lengthy oblong, somewhat elliptical, bluntish, sharply but simply serrated, with numerous parallel'veins, roughish to the touch, but not hairy, except on the back of the veins. Flowers terminal, solitary, on simple round stalks, large, handsome, and very fragrant. Calyx of 5 large, concave, coriaceous leaves, which at length become pulpy, enveloping the capsule, and forming an eatable fruit, which, according to Rheede, is too acid to be much used, except mixed with sugar, broth, or other materials. Petals white, with a tinge of green and red. Stamens very numerous, yellow, linear, the points of their antheras recurved and imbricated. Germen superior, roundish, furrowed, crowned with 20 lanceolate, white stigmas, spreading in the form of a star. Capsule of 20 cells, containing numerous compressed seeds, fringed on their outer edge, which Rheede seems not to have seen in a perfect state. All the parts of the flower are permanent, and enfolded by the calyx around the capsule.

Tab. 2. shows a flowering branch of the size of life, .a is a stamen; *I* germen; c stigmas.

Tab. 3. Ripe calyx, cut across to show the capsule, &c. *a* seed.


Blandfordia nobilis

TAB. 4.

BLANDFORDIA nobilis.

Scarlet Blandfordia.

HEXANDRIA Monogynia.

Corolla **inferior, funnel-shaped, straight; its margin in 6 segments.** ***Filaments*** **inserted into the tube*** ***Capsule*** **with 3 angles, and 3 cells.** ***Seeds*** **imbricated, bristly.**

A NATIVE of Port Jackson, New South Wales, from whence we have received several drawings and specimens, and we arc told there are living plants in England.

The root is woody and perennial. Leaves *A* radical, linear-lanceolate, acute, entire, smooth, tapering to a narrow base. Stalks one or more, erect, S or 3 feet high, simple, straight, round, smooth, bc&ring a few scattered, membranous, pointed scales, and terminated by a very ornamental upright spike of about a dozen scarlet flowers, each of which hangs elegantly drooping from a longish, simple, red partial stalk,- at whose base are two unequal, membranous, concave, pointed, clasping brae teas. As the fruit ripens, these stalks become erect. Calyx none. Corolla funnel-shaped, permanent, straight, regularly cloven at the margin into 6 shallow, but little spreading, segments. These are yellow, tipped with green, the rest of the corolla being of a bright scarlet. Stamens 6, equal, shorter than the corolla, inserted into its tube about the middle. Antheras ovate, erect* Germen superior, stalked, oblong, smooth, with 3 sharp angles and as many intermediate furrows, crowned with a conical style and simple stigma, which scarcely protrudes beyond the corolla till the fruit" begins to swell. Capsule above thrice as long as the corolla, (which continues to enfold its base,) shaped like the germen-, consisting of 3 valves, and a central receptacle, to which the middle of each valve is united so as to divide the capsule into" 3 cells. Seeds many in each cell, elliptical, imbricated upwards, fixed to the receptacle, and very remarkable for being rough with short soft bristles, somewhat like the seeds of *Strelitxia.*

Mr. Andrews's *Blandfordia*, named after the present Marquis of Blandford, being the *Galax* of Linnaeus, we have found no name more worthy to decorate this genus, which belongs to what Linnaeus calls the *Patrician* order of plants, among Jussieu's *Asphodeli*, and may stand near *Aloe* in the Linnaean System.

Tab. 4. *a.* root. *I.* flower opened with the enlarging germen. c. fruit nearly ripe. *d.* seed.

. /r> ;///s//s< /<•" f'f/t //<• 'I


6
a
b
c
Rhododendron arboreum

TAB. 5.

GOMPHOLOBIUM grandiflorum.

Large-flowered Air-pod.

DECANDRIA Morwgynia.

Calyx bell-shapjd, simple, in *5* deep segments. *Corolla* papilionaceous. *Stigma* simple, acute. *Pod* inflated, spherical, of 1 cell, with many seeds.

Leaves ternate, linear, straight. Branches angular, smooth. Keel beardless.

Gompholobium. 7V. *of Linn. Soc. v.* 4. 220.

IN O account of this genus, except its short character in the Linnean Society's Transactions above quoted, has nitherto been published. Dried specimens of four species from New South Wales are in our hands, but we know not that any of them are growing in the gardens of Europe.

G. *grandiflorum,* remarkable for its showy yellow flowers, is a shrub 3 feet in height, found in a sandy soil, and flowering in October. The branches are angular, smooth, leafy. Leaves alternate, 3 on a footstalk, linear, narrow, revolute, entire, smooth, very stiff and straight, tipped with a sharp straight point.. Stipulas small. Flowers 2 or 3 at the end of each lateral branch on simple smooth stalks, with a small concave scaly bractea at the base of each stalk. Calyx large, coriaceous, smooth, except a fine woolly fringe at its edge. Standard very large. Wings and keel much smaller, of two petals each. Stamens all distinct, simple and smooth, somewhat unequal in length. Germen on a short stalk, oblong, smooth. Style awl-shaped, simple, with a sharp stigma, permanent. Pod globose, rigid, of 2 inflated valves, and 1 cell. Seeds several, ranged along the upper suture on short stalks.

Tab. 5. a. calyx. *I.* standard, *c.* one of the wings, *d.* keel. *e.* stamens, *f.* germen and style, g, *g.* pod. H. seeds somewhat magnified.

Glaucium fulvum

Jun.1.1806. Published by Jas. Sowerby London.

TAB. 7.

GLAUCIUM fulvum.

Orange Homed-Toppy.

VQLYANDRIA Monogytiia.

Calyx of 2 leaves. *Petals 4. Pod* superior, linear, of 2 cells and 2 or 3 valves. *Seeds* numerous, dotted.

Stem smooth. Stem-leaves rounded, waved. Pods rough. Flowers nearly sessile.

Chelidonium comiculatum. *Donn. Cant.* 100?

OUR figure was taken from the garden of the Rev. Mr. Watts of Ashill in September last, 'We have **cultivated** this plant for two or three years, from seed originally obtained from the Cambridge **garden,** by the name **of** *Chtlalunhtm arniculatum.* How different that species is$_3$ may be seen by the figure in Curtis's *Flora, fasc.* ti. . 32, and the description of il in P/. *Brit,* as *Glaucium pheenicium.* The plant before us bears a greater resemblance to *Glaucium luteiun,* the Yellow Horned-Poppy of our sea-shores ; but differs in the orange colour of its flowers, and in being strictly annual, while that is now known to be perennial. The whole herb is also of .'. more blue cast, and, as an essential specific character, it is observable that the (lowers are nearly sessile. We can find no synonym for il in the old writers. Some **persons** may guess it to be a mule, from *(i. pkcenicium* having received the. pollen of *G. luteum;* but its abundant **fertile seeds** are **unfavourable** to **such** a supposition, We presume it to be a native of the south of Europe. It easily propagates itself by scud on a light dry soil, and **deserves** a place iu every TiJm.

6

a **shows** ihe inner **side** of a petal; *b* the **gcrmeii** wiih a **few** of the stamens.

8

Diuris punctata

Jany. 1. 1805. Published by Jas. Sowerby, London.

TAB. 8.

DIURIS punctata.

Blue Dotted Diuris.

GYNANDRIA Dumdria.

Nectary a pendulous lip, without a spur. *Petals* 9; the 5 outermost largest, of 2 kinds. *Column* of the fructification reversed, the *lid* parallel-

Two lower petals linear, thrice as long as the lip; two lateral ones rounded, entire.

GV lliis most singular and- **beautiful** genus tV- first account was given in the 4th **volume** oF the Limiean Society's Transactions, /J. S!t2; since which it V:ia been described and **figured** by the ingenious Professor Swartz, among the rest of **the** Orchis tribe, in the Stockholm Transactions for 1800. Both those accounts relate merely to the generic character, nor **has** miy author particularized any of the numerous species, all which appear to **be** natives of New South WaleSj from whence we have received specimens and coloured **drawings.** As far as we know, all have the double bulbous roof frequent in the *Orchis;* they love a good soil, and blossom from July m October. None **h^ve been brought alive to Europe,** but they are **well** worthy the attention of **the curious.**

The present **species** is about two feet high, having a simple stem, clothed with a few remote sheathing leaves or scales. We have siuu iRi **radical leaves.** Spike of a few large bracteated purplish-blue very ornamental flowers, variously [lotted all over with a darker colour. Of their 5 outer petals the 3 lowest are long narrow and green, the rest obovatc and coloured. Of the 4 small inner petals **the** lateral (or outermost) arc spreading, rounded and entire; the innermost iicutc, and notched on one side. Lip **with** a yellow furrow **half its** length, ending in £ teeth. **Column** green.

«, *a* the lateral petals ; *l*< one of the innermost; c column; *d* it* lid; all of their natural size.

Diuris aurea

Sweet I. Bot. Published by Jas. Sowerby, London.

TAB. 9.

D I U R I S aurea.
Golden Diuris.

GYNANDRIA Diandria.

Nectary a pendulous lip, without a spur. *Petals* 9; the *5* outermost largest, ^of 2 kinds. *Column* of the fructification reversed, the *lid* parallel.

Two lower petals lanceolate, not twice as long as the lip; two upper elliptical, acute, with short claws.

Diuris. *Swartz in Stockh, Tram, for* 1800. 229. £ 3./. M.

JL HIS, as we are informefl, flowers in October. The stem is 12 or 14 inches high, with one or two narrow upright leaves from the root, which is a double bulb. Flowers from 3 to 5 in the spike, each with its bractea as in the last. They are but half the size of that species, and of a bright golden yellow, somewhat spotted about the lip (but not in the larger petals) with red. The lowest petals are lanceolate, yellowish green, about half as long again as the lip ; the 2 uppermost elliptical, acute, with short claws. Of the small petals the lateral or outermost are spatulate, obtuse, and entire; the inner ones lanceolate,' acute.

This is the species which I communicated to Dr. Swartz, and which he has figured. It is with great diffidence we persist in reckoning 9 petals (or calyx-leaves as he chooses to call them) when he who has so deeply studied this order could find but 7, apparently overlooking the small sharp inner pair. The column in this is more dilated than in the foregoing.

A, A are the bases of 2 upper petals cut off. B base of central or odd petal. C lip cut off, showing its 2 sharp teeth on the upper side. D, D bases of lower petals. £, E lateral petals entire. F, F.small inner petals, not mentioned by Dr. Swartz. G lid of the fructification, with cells which held the antheras. H column.

Dendrobium speciosum

[illegible] Publish'd by [illegible], London

TAB. 10.

DENDROBIUM speciosmn.

Great Dendroblum.

GYNANDRIA Diandria.

Nectary a lip without a spur. *Petals 5;* the 2 lower external ones forming a pouch with their base. *Lid* vertical. *Flowers* often reversed.

Flowers reversed. Cluster solitary, many-flowered. Lip three-lobed. Leaves radical, coriaceous.

GROWS on rocks and trees in New South Wales* where the natives call it - *Wer-gal-derra.* It is a fine species of a new genus formed by Dr.Swartz, with great judgment, out of the *Epidendrum* of authors, another species of which is my *E. Barringtonice, Ic. Pict. Plantarum, t. 15;* but in that the flowers are not/as in this, reversed.

The stem is short and thick. Leaves almost entirely radical, from 6 to 12 inches long, very tough and rigid, oblong, entire. Cluster - solitary, on a scaly stalk, simple, consisting of a great number of alternate stalked flowers, of which our plate can admit but a few of the lowermost. From their greenish colqur I should expect them to be fragrant at night. The 5 petals are oblong; the 2 lowermost (or in this reversed species the uppermost) forming a pouch, or short spur, round the base of the lip, which itself has no spur. The lip is 3-lobed, contave, green spotted with red. Column crowned by the vertical moveable cap or lid. Capsule obovate.

a is the pouch. *I* lip. c column, *d* lid. *e* capsule.

Dendrobium fimbriatum

TAB. 12.

DENDROBIUM punctatum.

Dotted Dendrobium.

GYNANDHU Diandria.

Nectary a lip without a spur. *Petals 5*; the 2 lower external ones forming a pouch with their base. *Lid* vertical. *Flowers* often reversed.

flowers upright. Spike many-flowered. Lip three-lobed, acute, downy. Leaves radical, very short.

-DRAWINGS and specimens of this, as well as of the two preceding, were sent us long ago from New South Wales by Dr. White. This is a very elegant species, producing from a small root 4 or 5 stems, 2 or 3 feet high, each of which is simple, round, purple, clothed with a few straggling scales only, and terminating in a long and handsome spike of 20 or 30 purple flowers, singular for the red glandular dots which besprinkle their germens, and the specks of a darker purple scattered over their petals and nectary. Each flower stands on a bracteated stalk, and is upright, not reversed or laid on its back as in the two foregoing. The petals are lanceolate, lip 3-lobed, acute, downy above, yellowish at the base, of a darker purple than the petals toward the extremity. The leaves of this plant are little else than a few imbricated acute sheathing scales, at the base of the stem.

A shows the germen magnified. B the lip. C column. D lid. H stigma.

TAB. 13.

IPOMOPSIS elegans.

Scarlet Ipomopsis.

PENTANDRIA Monogynia.

Calyx in 5 segments, membranous at the base. *Corolla* funnel-shaped. *Stamens* springing from the tube. *Stigma* 3-cleft. *Capsule* superior, of 3 cells and 3 valves. *Seeds* several, angular.

Stem erect, straight. Corolla thrice as long as the calyx.

Ipomopsis elegans. *Michaux Fl. Boreali-Americana^ v.* 1.141,
Ipomoea rubra. *.Linn. Syst. Veg. ed.* 14. 204. *Ait. HorU Kew. v.* 1. 215.
Polemonium rubrum. *Linn. Sp. PI.* 231.
Cantua coronopifolia. *Willden. Sp. PL v.* 1. 879.
Quamoclit pennatum erectum, floribus in thyrsum digestis. *Dill. Elth.* 321.*. 241.

THE beautiful plant of which we here exhibit the first coloured plate ever published, is a native of South Carolina, from.whence it was originally brought to Sherard's garden at Eltham. It has occasionally been imported since from the same .country, and wa* raised last year, in great perfection, in the garden of Messieurs Lee and Kennedy at Hammersmith, where our figure was drawn. Being, according to all appearance, a biennial, not flowering with us till September or October, and consequently ripening seed with difficulty, it is a much greater rarity than its beauty would lead us to wish. Catesby is said by Dillenius to have discovered it 250 miles beyond Charles-town, growing in low sandy places, and flowering in June. The same author adds that he found it very tender and difficult of culture, for though the seed given by Catesby readily vegetated, scarcely one plant in twenty came to perfection. It seems to have keen formerly in Mr. Lee's collection; for a good drawing of it, by

his late amiable and accomplished sister, is in the possession of the Marquis of Bland ford. We have also seen an imitation of this flower in cut paper, of various colours, by the celebrated Mrs. Delany, in the possession of Lady Banks.

About its genus there has been much uncertainty. Linnaeus first made it a *Polemonium* and then an *Ipomcea,* but it agrees with neither. The learned Jussieu supposed it might be reduced to his genus of *Cantua,* and has lately again advanced that opinion ; but the want of winged seeds, the membranous calyx, and the totally different habit, abundantly justify Michaux in establishing it as a new genus; and we adopt his name, which seems to express the dazzling brilliancy of the flower.

The root is fibrous. Stem solitary, erect, straight and wand-like to the height of 4 or 5 feet, where it becomes panicled: it is round, leafy, clothed like the whole herbage with short glandular white hairs. Leaves pinnatifid, with long narrow linear segments, those of the radical ones being shortest and broadest: the floral leaves are simple. Flowers terminal and lateral, on short stalks, drooping. Calyx bell-shaped,cut above half way down into 5 awl-shaped equal segments, connected by a membrane at their base. Corolla thrice as long as the calyx, funnel-shaped, its border equally 5-cleft, of a brilliant scarlet, elegantly dotted on the inside. Stamens springing from the upper part of the tube, slender, red, shorter than the border. Antheras round, yellow. Germen superior, ovate, obtuse, smooth, pale green. Style red, thread-shaped, about as long as the stamens, with a red, three-cleft, spreading stigma. Capsule almost membranous, of 3 valves and 3 cells, the partitions from the centre of the valves. Seeds several in each cell, in 2 rows, small, acutely angular, not winged.

a is a radical leaf. *I* corolla expanded to show the stamens, c calyx with the germen and style.

Ipomopsis inconspicua.

Feb. 1 1805 Published by Jas. Sowerby London.

TAB. 14.

IPOMOPSIS inconspicua.

Little Blue Ipomopsis.

PENTANDRIA Monogynia.

Calyx in 5 segments, membranous at the base. *Corolla* funnel-shaped. *Stamens* springing from the tube. *Stigma* 3-cleft. *Capsule* superior, of 3 cells and 3 valves. *Seeds* several, angular.

Stem much branched and spreading. Corolla scarcely longer than the calyx. Segments of all the leaves linear.

RAISED in 1793, by Mr. Thomas Hoy, F. L. S. at Sion House, from seed brought, if we mistake not, from America. Mr. Sowerby sketched it in November of that year, and I have never doubted its being distinct from all the genera in Linnaeus or Jussieu. It serves indeed to confirm the *Ipomopsis* of Michaux, with which it agrees so completely in every botanical character, that we find it not very easy to establish even a specific difference on sound principles; while on the other hand it shows how different this natural genus is from *Cantua*, and all others to which it has been referred.

The root is annual. Steins numerous, a foot or more in height, much branched, spreading and partly decumbent, leafy, round, clothed with the same pubescence as the foregoing species. Leaves alternate, pinnatifid, the segments all long, narrow, and for the most part simple. Flower-stalks either from the forks of the stem or opposite to the leaves, various in length, simple, solitary or in pairs, erect. Calyx much like the last, but with rather broader teeth. Corolla very little longer than the calyx, blue with a white tube, by no means striking or beautiful. Stamina short, fixed to the top of the tube. Style shortish, with a large 3-cleft purplish stigma. Capsule ovate, thin, whitish, with many angular seeds.

Stratiotes alismoides.

Feb.y 1 1805 Published by Ja.s Sowerby, London.

TAB. 15.

STRATIOTES alismoides.

Broad-leaved Water Soldier.

POLYANDRIA Hexagynia.

Spatha cloven. *Inner Calyx* superior, in 3 segments. *Petals* S. *Berry* with 6 or more cells.

Leaves broad-ovate, entire. Flowers with eight stamens and eight styles.

Stratiotes alismoides. *Linn. Sp. PL* 754. *Mant.* 405.

TEXT is only of late years that the tropical aquatic plants have been cultivated amongst us with any success. That in the annexed plate was sent from Calcutta by Dr. Roxburgh to Lady Hume, in whose stove it blossomed last autumn. We have not heard of it in any other collection. Like some other water plants with tuberous roots, it may be kept alive for a long while, almost without any moisture; such plants in their native situations being exposed to a variety of changes in that respect, from the drying up or overflowing of the ponds or rivers where they grow.

The root is perennial, consisting of a solid knob throwing out innumerable simple fibres. Leaves several, on long foot-stalks, of a very broad ovate or almost heart-shaped figure, bluntly pointed, entire, with many longitudinal ribs and a multitude of transverse veins. Flower-stalks radical, simple, about as long as the leaves, angular, each bearing a solitary white flower of very short duration. The spatha is attached to the germen, not of 2 separate leaves as in the other species, but merely cloven at the top into 2 or 3 larger segments, with some small intermediate ones. Its sides are dilated into 2 or 3 (we scarcely find more) longitudinal wings. Proper calyx superior, of 3 deep oblong segments, alternate with the 3 roundish petals. Stamens 8, with vertical linear orange antheras. Styles 8, with cloven linear yellow stigmas. Berry cylindrical, winged, with 8 cells, and numerous elliptical seeds.

Captain Hardwicke has favoured us with a most beautiful detailed drawing of a variety of this plant, with much narrower and perfectly ovate leaves; but there is no reason to suppose it more than a variety. From this we have borrowed the fruit, as well as a stamen and style.

The difference between the spatha of this and our european *Stratiotes aloides*, appears by no means sufficient to make them distinct *genera*, still less could the differences of number in the parts of fructification authorize such a division.

This species shows the impropriety of removing *Stratiotes* (contrary to Linnseus's repeated observations) to the *Dioecia*. It is to be lamented that some botanists have been so ready to encumber that class, as well as *Monoecia* and *Polygamia*, with plants that have only occasionally one or other of their organs imperfect, as happens now and then in S. *aloides*.

a, represents the unripe germen. *I* a petal, *c* a stamen and anthers. *d*, *d* styles.* *e* ripe fruit cut across.

Dilatris corymbosa

TAB. 16.

DILATRIS corymbosa.

Broad-petalled Dilatris.

TRIANDRIA Monogynia.

Calyx none. *Petals* 6, regular, hairy. One *stamen* smaller than the other 2. *Stigma* simple. *Capsule* inferior, of 3 cells and 3 valves. *Seeds* solitary, round, compressed.

Petals ovate. Flowers in a flattish hairy tuft.

Dilatris corymbosa. *Berg. PL Cap.* 9. *t. 3. f. 5. Thunb. Prod.* 10. *Willden. Sp. PI. v.* 1.. 246. *Herb. Linn.*
D. umbellata. *Linn. Suppl.* 101.
Wachendorfia umbellata. *Linn. Syst. Peg. ed.* 13. 80.
Ixia hirsuta. *Linn. Mant~¥l.* 320. 511.

KJF this genus we know not that any figure has appeared, except the uncoloured one of Bergius above quoted. We find no mention of any *Dilatris* in the *Hortus Kewensis,* nor in Mr. Donn's rich *Hoftus Cantabrigiensis.* Mr. Sowerby made his drawing some time since from the hot-house of Messieurs Lee and Kennedy.

This plant is a native of the Cape of Good Hope, but no mention is made of its particular situation. The root is perennial, consisting of numerous thick and very woolly fibres; from which circumstance, and the appearance of one of the Linnsean'specimens, it seems to grow in a pure coarse white sand. Grasses that thrive in pure sand have generally very woolly roots. The stem is simple, about a foot high, round, downy, especially *jfx* the upper part, bearing a few short alternate leaves. The radical leaves are numerous, about half as high as .the stem, sword-shaped, sheathing, two-ranked, smooth, rather glaucous, of a tawny orange at their base. Flowers in a compound hairy reddish tuft or *corumbus,* with oblong downy bracteas, by no means umbelled, so that the original specific name given by Bergius is much, the best. Calyx entirely wanting. Petals ovate, broad, concave, uniform, of a delicate lilac, hairy on the outside,

united at the base, standing on the red round hairy germen. Stamens thread-shaped; spreading, reddish, smooth, all longer than the petals, but one of them is shorter than the other two. Anthcras, as far as we have observed, all equal in size, as Linnaeus likewise remarks in opposition to Bergius. Style of the form and length of the shorter stamen, with a simple acute stigma. Jussieu describes 3 abortive stamejis besides the 3 perfect ones. The fruit of this species we have not seen.

The name *Dilatris,* given by Bergius, from *fo$* and *Xarpi$,* expressive of two servants or attendants, seems to imply that two of the stamens are imperfect, or of less importance than the third, probably because he found the latter had a larger anthera, but we find all three perfect.

***Tab.* 16 shows the plant in its natural proportion, with the parts of the flower sufficiently clear in their proper situations.**

Linum trigynum

March 1. 1808 Published by Jas. Sowerby, London

TAB. 17.

LINUM trigynum.
Three-styled Golden Flax.

PENTANDRIA Pentagynia.

Calyx **of 5 leaves.** ***Petals 5.*** ***Capsule*** **superior, with 6 or 10 valves, and as many cells.** ***Seeds*** **solitary.**

Leaves alternate, elliptical, serrated, acute. Styles three. Capsule of six cells.

THIS very handsome species of Flax, remarkable for having only 3 styles, and consequently but 6 cells to the fruit, was observed by Captain Hardwicke on the sides of mountains in Sireenagur, flowering in great profusion and beauty in December. That gentleman has published it, by the apt name of *Linum trigynum*, in his Enumeration of the Plants of Sireenagur, in the Asiatic Annual Register for 1800. From a drawing made on the spot our plate is copied. Nor is the plant entirely a stranger to our gardens, for it blossomed last December in the stove of the Right Hon. Charles Greville at Paddington. Its provincial name is *Gul Askorfee*, in allusion to its fine golden colour, from *Gul* a flower, and *Ashorfee* a gold coin current in India, of the value of si. sterling.

The stem is shrubby and much branched; branches round, smooth, leafy. Leaves alternate, smooth, dark green, elliptical, obsoletely serrated, tipped with a small point, tapering at the base into a shortish footstalk. Flower-stalks clustered about the ends of the branches, and accompanied by lanceolate bracteas. Calyx-leaves ovate, acute, entire, ribbed, smooth. Petals obovate, slightly notched, furnished with a small tooth on each side of their claw, and marked with longitudinal veins as usual in the genus. Stamens 5, short, with slight rudiments of 5 others between them. Germen round, depressed. Styles 3, slender, with globular stigmas protruding beyond the stamens. Capsule green and juicy at first, but

brown when dry, generally of 6 cells. Seeds solitary, very thin and soon dried up, so as to be difficult of transportation to any distance. The flowers have little or no scent.

***a* shows the germen and 6tyles. *h* a section of the unripe capsule.**

Mespilus grandiflora.

March 1 1808 Published by Jas. Sowerby London

TAB. 38.

MESPILUS grandiflora.

Large-flmered Barren Medlar.

ICOSANDRIA Pentagytiia,

Calyx in .5 segments. **Petals** 5. *Dntpe* inferior. *Nuts* 2 to 5, with 2 *seeds* each.

Thorns none. Leaves elliptic-oblong, slightly downy, unequally serrated. Flowers nearly solitary, terminal. Styles three.

T HIS tree, **which** blossoms in May, has long been cultivated in Chelsea garden by Mr, Fairbaim, who oblaineci cuttings many **years** ago **from** a small **garden in that neighbourhood,** but could not learn **the** native country of the parent plant, nor even from **whence it had** beeD **procured. Al first** sight it has more resemblance to the **common** ***M. germanica*** than to any **thing** else, agreeing **with** *h* in height, **and** nearly in the size of the **flowers, which** far **exceed those oi** any species besides. They are also generally solitary, **two being** rarely found **together, terminating** the young lateral **branches** on short **rtalks.** Hut **the** differences between **these two species** an- **very** essential. The **leaves** ol' tbis are always much serrated, and of **a** harsher firmer **texture;** ilie styles are never more than three, sonictimes only two; the fruit, seldom perfected here, is small, reddish, **with little** pulp, containing 2 or **a** bard seeds agreeing with the number ^ the stylo. **According** to the **Linnaatn System** this should **be** a ***Vrattsgus,*** **and** it **affords a fresh** instance of **the** propriety of reducing the species of that genus to *Mespilm* or *Pyrus,* according to the stnietiiTe of the fruit of each.

We can find no description oi' ibis plant in any author, nor i- it among any ^' the **specimens published** by **Ehrhart** that have conn- to our knowledge. In the English gardens in general, though richer in this **tribe than** tliosu of any other **country,** it is unknown.

a perpendicular *tetton of **the** calyx and gernun, with stamens and styles. /• a petal,

Bignonia undulata.

TAB. 19.

BIGNONIA undulata.

IVave-leaved Orange Trumpet-flower.

DIDYNAMLi Angiospennia.

Calyx cup-shaped, 5-cleft. *Corolla* 5-cleft, with a bell-shaped tube, swelling beneath. *Pod* of 2 cells. *Seeds* with a membranous wing.

Leaves simple, lanceolate, waved, entire. Flowers terminal, umbellate. Stem erect.

CAPTAIN HARDWICKE discovered this noble species of *Bignonia* in the northern forest^ of Hindustan, from whence he conveyed living plants to the botanic, garden at Calcutta, naming it *undulata* from the appearance of the leaves. It grows to a large tree, flowering in March and April, and ripening seeds in May. The provincial name *Sana Mookee* means golden-mouthed.

It appears to be entirely nondescript;as far as we have been able to discover, and should stand near the *B. linearis* of Cavanilles, 7c. *v.* 3. 35. *t.* 869, from which it is distinguished by its greater size, broader undulated leaves, and orange, not rose-coloured, flowers, whose lobes are flat, not crisped or waved. The leaves are numerous, scattered, on slender stalks, acute, entire, smooth. Flowers in terminal simple umbels, accompanied by small lanceolate brae teas. Calyx slightly downy, in *5* shallow segments. Corolla largfe, short and spreading. Stamens 4, with an abortive twisted filament besides. Pod a foot long, linear, acute, smooth.

a, a are pieces of the partition of the pod. *b* a portion of the same with seeds in their places, *c* a seed.

Tetratheca ericifolia

TAB. 20.

TETRATHECA ericifolia.

Heath-leaved Tetratheca.

OCTANDRIA Monogynia.

Calyx 4-cleft, inferior. *Petals* 4. *Antheras* with 4 cells. *Capsule* of 2 cells and 2 valves, with the partition from their middle. *Seeds* about 2 in each cell.

Leaves whorled, linear, revolute, minutely toothed. Stem rough with ascending bristles. Flower-stalks and calyx very smooth.

ONE species only of this genus has been made known to botanists, *T.juncea, Bot. of New Holland, tab.* 2, *IVillden. Sp. PL v.* 2. 321. The character of the 4-celled antheras, opening by pores at the end of a tubular point, is very peculiar. This structure indicates an affinity to the *Eriae,* but they have only 2 cells.

The root of *T. ericifolia* is somewhat woody, and probably perennial, for some of our specimens have evidently been burnt to the ground in consequence of the fires made by the savages of New South Wales, its native country, and have grown up again. The stems are several, a span high, simple or branched, leafy, round, clothed with small upright bristles. Leaves 4 or 5 in a whorl, sessile, short, linear, revolute, their edges, and sometimes their upper surface near the point, rough with minute teeth. Flower-stalks axillary, solitary, simple, single-flowered, longer than the leaves, curved, quite smooth, round and naked. Flowers drooping. Calyx smooth, obtuse. Petals obovate, rose-coloured, occasionally white. Antheras oblong, smooth, purplish brown, all equal, with whitish tips. Germen superior. Style and stigma simple. Capsule pendulous, ovate, acute, compressed, of 2 flattish valves, with a contrary partition running down their middle. Seeds mostly 2 in each cell, oblong, compressed, on short stalks.

A a magnified petal. B flower-stalk, calyx, germen and style with 1 stamen remaining. C anther.a cut across. D capsule. £ seed.

Tetratheca thymifolia

TAB. 22.

TETRATHECA thymifolia.

Thyme-leaved Tetratheca.

OCTANDRIA Monogynia.

Calyx 4-cleft, inferior. *Petals* 4. *Antheras* with 4 cells. *Capsule* of 2 cells and 2 valves, with the partition from their middle: *Seeds* about 2 in each cell.

Leaves whorled, lanceolate, toothed with little spines. Stem, flower-stalks and calyx rough with ascending bristles.

TO complete the history of this very pretty genus, as far as hitherto discovered, and at the same time to show how precisely and curiously Nature has distinguished the species, though three of them are much alike, to an inaccurate observer, we here exhibit the Thyme-leaved Tetratheca.

It is somewhat larger than either of the two foregoing, and distinguishable at first sight by its broader less revolute leaves. In the hairs of the stem it agrees with *T. ericifolia,* but differs from both the preceding in having the same kind of hairs covering the flower-stalk and calyx. The segments of the last-mentioned part are also more acute than in the other species. The margins of the leaves are slightly toothed, each tooth bearing a small spiue or bristle. The germen is round, compressed, and smooth, though the receptacle is hairy we believe in all three.

Tab. 39. A shows a magnified petal. B flower-stalk, calyx, stamen, germen and style.

Mirabilis longiflora

April 1, 1815. Published by Jos. Constable, London.

TAB. 23.

MIRABILIS longiflora.

Long-flowered Marvel of Peru.

PENTANDRIA Monogynia.

Calyx inferior, 5-cleft. *Corolla* funnel-shaped; its base inflated and permanent. *Nectary* a gland surrounding the germen. *Nut* solitary, with 1 seed.

Flowers clustered, terminal, very long, slightly drooping. Leaves downy.

Mirabilis longiflora. *Linn. Sp. PL* 252. *Act. Holm. arm.* 1755. 176. *U* 6. *Amoen. Acad. v.* 4. 268. *Willden. Sp. PL v.* 1. 999. *Ait. H. Kew. v.* 1. 235.
Atzoyatl, Mirabili Mexicana. *Hernand. Mex.* 170.

IT is strange that no coloured figure of this elegant flower has ever been published, more especially as its history is interesting, and its beauty and fragrance render it highly worthy of general notice.

The celebrated Monsieur le Monnier seems to have introduced it to the knowledge of European botanists about the middle of the last century, having probably procured its seeds from some of his astronomical friends who went to South America; and from him, through the hands of Baron Munckhausen, th'ey came to Linnaeus, who was so pleased with the plant, that he honoured it with a particular account and description, accompanied by a splendid figure, in the Stockholm Transactions for 1755. Miller had it in the Chelsea garden in 1759* as appears from his dictionary, and it is still cultivated there in profusion, though not so general in gardens as some others of-the genus. Tf the synonym of Hernandez really belongs to it, which his bad figure renders somewhat doubtful, we learn from him that it grows wild .in the colder and mountainous parts of Mexico, flowering in September.

In our gardens, if raised on a hot bed, like the tender kinds of annuals, in the spring, it flowers abundantly in- autumn. It will

even sow itself spontaneously, and, in favourable seasons, comė up in the open border; but such plants bloom very late, and scarcely perfect seed. The best method is to take up the roots at the first frosts, preserve them in dry sand through the winter, and plant them in April or May. They will by this method produce luxuriant plants year after year, and flower much earlier tjian by the former mėthod. The flowers expand in the evening, and last only one night; but there is a copious succession of them throughout the autumn, and if gathered just above the calyx, a few of them in water will powerfully perfume a large apartment.

Linnaeus in a* manuscript note now before me has the following remark: " The pollen of this plant is very large, globular, yellow, " hanging by a little thread, and .neither falling off nor bursting, *t€* but wasting away; for the corolla when closed presses it to the " stigma, while the *papillce* of the latter attach themselves each to *ec* a particle of the pollen, and imbibe it/' This is somewhat analogous to the Orchis tribe, and may possibly help to explain the impregnation of plants under water, where there can be no explosion of the pollen as in a dry atmosphere.

The root of the *Mirabilis langiflora* is large and fleshy. Stem 3 or 4 feet higfi, repeatedly forked, spreading, round, downy, leafy. Leaves opposite, heart-shaped, entire, soft, downy and viscid; the lower ônes on foot-stalks; the rest sessile. Flowers many together, sessile at the top of each branch, downy and viscid externally. Calyx bell-shaped, acute, very clammy and foetid. Tube 4 inches long, purplish. Limb white, plaited and notched, with 5 green external folds, the orifice of a beautiful purple. Stamens and style like long silky threads. Stigma large, formed of a globular tuft of hairs. One large tessellated nut or seed, farinaceous within, succeeds each flower. The corolla is .really inferior, but its permanent' base, becoming hard and attached to the seed, gives it, in an advanced state, the appearance of. being superior, as Linnaeus describes it.

The natural order of .this genus is not easily determined. The learned Jussieu notes its affinity in some points to the *Amaranthus* tribe, and has been induced to call the corolla an inner calyx; which seems paradoxical, chiefly because there is a true calyx besides. In structure the part in question is more like a calyx than that of the *Polygonum,* and the farinaceous seed betrays an affinity to that genus as well as to the *Amaranthi*> rather than to the *Dipsacece.*

. *a* is a ripe seed/ *h* a section of the same.


24
d
c
a
b

TAB. 24.

HAMELLIA patens.
Spreading Scarlet HamelHa.

PENTANDRIA Monogynia.

Corolla tubular, 5-cleft. *Berry* inferior, with *5* cells and ' many seeds.

Clusters of flowers terminal, downy. Leaves three together, soft and downy, especially beneath.

Hamellia patens. *Jacq. Amer.* 72. *t. SO. Linn. Sp. PI.* 246. *Willden. Sp. PL v.* 1. 980. *Swartz. Obs.* 77. *Lamarck. Encycl.* 68.

H. coccinea. *Swartz. Prod.* 46.

Perjclymenum aliud arbdrescens, ramulis inflexis, flore corallino. *Plum. Ic.* 212. *t.* 218./. 2.

DRAWN from a very fine plant of this species, brought from Jamaica, which flowered abundantly in Lady Hume's stove in October 1796. It is not mentioned in the *Hortus Kewensis,* nor is it to be found in many collections, though the younger Linnaeus had a specimen from the royal garden at Paris in 1781. It is one of the two originally supposed species of the genus, named by Jacquin after Du Hamel, an excellent French writer on the structure and osconomy of plants; but thq^other, if. *erecta* of Jacquin, is now unanimously presumed to be a variety only. Dr. Swartz and other botanists have since made us acquainted with several new species.

The stem is shrubby, about 4 feet high, with round spreading leafy branches, downy when young. Leaves standing 3 together, on red downy foot-stalks, simple, elliptical, entire, tapering at each end, soft and pliable, slightly downy above, more so, as well as lighter coloured, beneath. The veins are numerous and parallel, reddish like the midrib and margin^ above.- Swartz has sometimes seen 4 or 5 leaves in a whorl. - A pair of tapering stipulas stand

between each foot-stalk and the branch, as in all this natural order of *Ruhiacece.* A compound cluster of flowers terminates each branch, the stalks of which are red, downy, and placed three together, each forked, and bearing many sessile scarlet flowers, in & rowsj-with a solitary one between them. Calyx of *3* small teeth crowning the germen. Corolla superior, cylindrical, with 5 furrows, an inch long, scarlet, 5-cleft at the orifice. Stamens connected with its base, equal, linear, smooth. Antheras vertical, linear, yellow. Germen inferior, globular, downy, red. Style the length of the stamens, bearing a club-shaped obtuse stigma. Berry black, crowned with the calyx.

Jacquin and Swartz both gathered this shrub on the bushy sides of mountains in Hispaniola, now more generally called St. Domingo. It thrives well in the bark bed of a stove, flowering for some weeks late in autumn.

a shows the germen and style. *I* germen cut across, c corolla opened laterally, *d* stamen*.

Dillwynia ericifolia

TAB. 25.

DILLWYNIA ericifolia.

Heath-leaved Dillwynia.

DECANDRIA Monogynia.

Calyx simple, 5-cleft, 2-lipped. *Corolla* papilionaceous. *Style* reflexed. *Stigma* obtuse, downy. *Pod* inflated, of 1 cell, with 2 seeds.

Leaves rough with minute points. Flowers at the ends of the branches.

Dillwynia ericifolia. *Smith in Annals of Bot.*

SEEDS of this shrub were among the first brought from New South Wales, and plants have been raised by many cultivators about London. Our drawing was made so long ago as April 1795* from a specimen produced under the care of Mr- Hughes at Stockwell. No figure of the plant has yet appeared, nor has its genus, of which we now know 3 species, been settled till very lately. It takes its name from Mr. Lewis Weston Dillwyn, F. L. S., author of an excellent periodical work on the *Confenxe.*

The stem is shrubby, much branched, spreading; the branches rigid, leafy, downy. Leaves scattered, spreading, on short foot-stalks, narrow, linear, acute, entire, revolute, twisted so that the under side, which is convex, and rough all over with minute points, is turned uppermost;- the other side is channelled. Mr. Sowerby has observed a minute red glandular appearance on each side of the foot-stalk at the base, looking like stipulas, but we can find no traces of such in the dried plant. The flower-stalks are clustered about the summits of the branches, each having a pair of concave bracteas, and bearing one flower. Calyx bell-shaped, smooth, without appendages, angular, its 2 upper segments larger than the rest and divaricated, forming' the upper lip; the lower lip is of 3 equal segments. Standard very peculiar, almost of a kidney shape, being

very broad and short; its colour is a full yellow with a central stain of crimson; the claw is greenish. Wings and keel both toothed on the upper side near the base, variegated with purple and yellow. Stamens 10, all separate, equal and awl-shaped. Antheras yellow, round. Germen oblong, hairy. Style bent upwards, thick and short, crowned with a blunt, or capitate, downy stigma. Pod ovate, swelling, black, hairy towards the point, of one cell, mostly containing 2 seeds which occupy but a small part of the cavity.

The short reflexed style, and, above all, the blunt downy stigma, distinguish this genus from the other papilionaceous plants with 10 separate stamens. See *Annals of Botany* above quoted.

A leaf magnified. Bstipulas? *c* calyx, *d* standard, e awing. / keel, *g*, G stamens, *h* germen and style, I style and stigma magnified, *k* pod, / seed.

Dillwynia floribunda

May 1 1818 Published by J.E. Smith, London

TAB. 26.

DILLWYNIA floribunda.

Close-flowered Dillwynia..

DECANDRIA Monogynia.

Calyx simple, 5-cleft, 2-lipped. *Corolla* papilionaceous. *Style* reflexed. *Stigma* obtuse, downy. *Pod* inflated, of 1 cell, with 2 seeds.

Leaves rough with tubercles. Flowers lateral, axillary.

Dillwynia floribunda. *Smith in Annals ofBot. v.* 1. 510.

-L/RAWN some years since from the collection of the late Benjamin Robinson Esq. of Stockwell. It is, like the foregoing, a native of New South Wales, growing in dry sandy soil, and flowering with us in spring or summer, requiring a greenhouse, and rather dry treatment.

Stem 5 or 6 feet high, shrubby, branched; the branches ascending, round, hairy, thickly clothed with leaves placed without order, and less spreading than in D. *ericifolia.* The leaves are also somewhat broader than in that species, rough with coarser tubercles, and often hairy. We find no traces of stipulas. The flowers are not terminal, but grow in great numbers along the branches, each simple flower-stalk, with a pair of bracteas, springing solitary from the bosom of a leaf. The calyx resembles the last. The corolla is yellow, with less vivid crimson stains, and its standard is not quite so short and broad. Pod very hairy.

a calyx, flower-stalk and bracteas. *b* standard, *c* one of the wings, *d* keel, *e* stamens. *f,* F gennen, style and stigma.


27
G
E
Viminaria denudata

TAB. 27.

VIMINARIA denudata.

Leafless Rush-[illegible]om.

DECANDRIA Mmogynia.

Calyx angular, simple, 5-cleft. *Corolla* papilionaceous. *Stigma* simple, acute. *Pod* leathery, of 1 valve, not bursting, entirely filled with a single seed.

Viminaria denudata. *Smith in Annals of Bot. v.* 1. 507.
Daviesia denudata. *Ventenat Choix de Plantes, t.* 6.
Sophora juncea. *Schrad. Sert. Hannov.* 9. *t.* 3.
Pultenaea juncea. *Willden. Sp. PL v. 2.506. Donn. Cant.* 76.

THIS remarkable shrub we also obtained from the collection at Sjockwell in July 1794 when it was in full flower; seeds came from Port Jackson very soon after the settlement of that colony, and were dispersed through the gardens of Europe, where they have generally succeeded, and yet the plant is not now common in greenhouses, perhaps from its being more singular than ornamental. Dr. Schrader figured it long ago as a *Sophora*, the genera of this tribe not being then understood. Monsieur Ventenat, in his new uncoloured work called *Choix de Plantes*, has reduced it to my genus of *Daviesia*, not being well acquainted with the pod, which decidedly establishes it as a new genus, and this its whole aspect confirms. The name alludes to the peculiar habit, being derived from *vimen* a pliant slender twig, which meaning we have attempted to retain in the English denomination.

The stem is branched and shrubby, round and smooth. Leaves only to be found on the lower part of seedlings or young plants, alternate, on long stalks, ovate, entire, three-nerved, smooth, the first sometimes ternate. The foot-stalks on the greater part of the plant bear no leaves, but are very long and slender, cylindrical, smooth, a little notched at the point, looking like a profusion of

naked nuhy twigs, and giving a very peculiar aspect to the plant; the upper ones are gradually shorter.

Flowers yellow variegated with red, in long, simple, terminal clusters, on simple alternate stalks, each of which has a small bractea at its base. Cata bell-shaped, angular, with 5 shallow teeth. Standard inversepheart-shaped. Wings and keel toothed at the base. Lower stamens gradually longest. Germen smooth, oval. Style awl-shapea^cending, with a sharp simple stigma. Pod half covered by the permanent calyx, oval, acute, a little compressed, smooth, leathery, of one piece and not bursting, its cavity filled by a singlejridney-shaped seed, of a very pale brown.

a calyx, flower-stalk and bractea. *b* standard. *c,c* wings, dkeel. *e*, £ stamens, ·/germen and style, *g* pod and seed.

Passiflora suberosa

May 1 1815 Published by Sir J. Smith, London

TAB. 28.

PASSIFLORA suberosa.

Cork-bark'd Passion-flower.

PENTANDRIA Trigynia.

Corolla 5- or 10-cleft. *Nectary* guarded by a triple radiated crown. *Organs* of fructification on a stalk. *Berry* with many seeds.

Corolla five-cleft. Calyx none. Fruit oval. Leaves three-lobed, smooth. Foot-stalks with two glands.

Passiflora suberosa. *Linn. Sp. PI.* 1358. *Ait. HorU Kew.* v. 3. 309. *Jacq. HorU Find. v.* 2. 77. *U* 163. *Cavaru Monadelph.* 442. *t.* 265.

As this pretty Passion-flower, so remarkable for the 4 prominent ribs of cork which run along its steni, has not yet appeared in any of our popular works, and as its history has not been perfectly elucidated, we would not refrain from publishing it, though already well figured in Jacquin's *Hortus Vindobonensis,* a work to which, few botanists can have access on account of its great rarity and exorbitant price.

We can positively assert it, on the authority of the original specimen described in *Sp. Plant, ed.* 1, to be the *suberosa* of Linnaeus: but Jacquin and Cavanilles have justly animadverted on the confusion of its synonyms, and Lamarck, though generally an acute critic, has in his *Encyclopedic, v.* 3. 38. *n°.* 22, increased that confusion. Cavanilles esteems it also the *nigra* of that writer and of Jacquin's *Observations;* which seems probable: but if so, how came that synonym to be omitted in the *Hart. Vind. P*

This species comes from the West Indies, and grows well in the bark bed of a stove, climbing, round any thing in its way, bearing flowers and fruit through the autumnal months. We have delineated it from Lady Hume's collection.

Tt belongs to that tribe of Passion-flowers, pointed out by Mr. Sowerby in the *Transactions of the Linn. Soc. v.* 2. 27$_5$ which have only 5 lobes to the corolla, without any of those leaves on the flower-stalk which Linnaeus takes for bracteas, but which seem, by analogy of other species, a real calyx.

The branches are long, weak, and smooth. Leaves alternate, (on slightly downy foot-stalks, each of which bears two purple glands,) somewhat cordate, with 3 slight acute lobes, entire, veiny, shining, nearly smooth on both sides. Stipulas lanceolate, narrow, acute. Tendrils axillary, simple. Flowers on solitary simple axillary stalks, with a slight ring where the calyx should be. Corolla green, tinged externally with a blush of red, especially in decay. Crown violet-coloured. Berry the size of an olive, purple and dotted like that fruit, containing 3 rows of 6eeds enveloped in sweetish pulp.

Botanists differ whether to refer *Passiflora* to the Caper or to the Gourd tribe. The great Jussieu is of the latter opinion. We remove it from the class *Gynandria* because the stamen3 are not inserted above the germen, but merely raised with that part on a pillar.

A is a magnified section of the flower, showing all its parts in their proper situations. *I* section of unripe fruit, the size of the original • c, ,c seeds.


29
C
B
D
E
A
Thelymitra iridoides

TAB. 29.

THELYMITRA ixioides.

Large-flowered Thetymitra.

GYNANDRIA Diandria.

Petals 5, regular, spreading. *Nectary* a simple lip like a sixth petal. *Organs* of fructification enveloped in a hood bearing 2 feathery tufts. *Aniheras* parallel.

Petals thrice as long as the hood, which is jagged at the top.

Thelymitra ixioides. *Swartz in Stockh. TYans. for* 1800. 228. *t.* *S.f.* L, a, b, d—g.

T-TOUSTER first established this genus, of the Orchis tribe, in his *Genera Plantarum*> where the flower of the only species he knew, of which I have a specimen from himself, is figured. His son was afterwards persuaded to reduce it to *Serapias;* but the excellent Swartz has justly restored it to the rank of a genus, adding a new species, which he received through my hands from New South Wales, and of which we are enabled to exhibit the annexed figure, by means of specimens and coloured drawings sent by Dr. White. It flowers in August in its native country, but has not yet been brought to England.

The root is said to be a bulb; probably like those of an Orchis, and throws out a few fibres at the top. Stem solitary S or 3 feet high, simple, round, leafy, smooth. Leaves sheathing, alternate, linear-lanceolate, acute, erect: Spike terminal, erect, many-flowered. Bracteas solitary, lanceolate, pointed, membranous, concave. Flower-stalks slender, various in length. Flowers of a fine blue, paler at the back, formed of 5 spreading petals and a lip much resembling them. In the centre is a singular hood which envelopes the organs of fructification, and whose top is jagged and fringed, bearing a pair of feathery tufts elevated on stalks. The column

stands within this hood, and is acute, bearing 2 parallel antheras, each of one cell, beneath which is the stigma. A small inner lip stands opposite to the column. The germen is obovate.

The hood and its plumy tips, which are quite of a different nature from the 8 feathery petals of Jussieu's *Bipinnuk, (Arethusa hiplumata* of Linnaeus, *Sm. PL Ic. t.* 83), afford an excellent generic distinction. Forster's species has smaller flowers, with an entire hood half as long as the petals. Our specimens and drawings of *T. ixioides* vary much in the size of the flowers, but we find no difference of structure to indicate a specific distinction.

A shows the hood and its contents magnified. B the jagged fringed summit. C feathery tips, D antheras. £ small inner lip.

Diuris maculata

May 1.1815. Published by Jas. Sowerby, London.

TAB. SO.

DIURIS maculata.

Yelhw Spotted Diuris.

GYNANDRIA Diandria.

Nėctary a pendulous lip, without a spur. *Petals* 9; the *5* outermost largest, of 2 kinds. *Column* of the fructification reversed, the *lid* parallel.

Two lower petals lanceolate, twice as long as the lip; two upper rounded, obtuse, with long claws.

A NATIVE of New South Wales, like the other two species figured in *t.* 8 and 9 of this work, where it blossoms in July.

It is most allied to *D. aurea,* with which it agrees in size and general appearance, except that the flowering part of the stalk is, for the most part, more zigzag than in that specif?, and the flowers are widely different. All the petals, except the s lowest, are yellow irregularly spotted or stained with red, which spots are equally visible on the back and front, and in drying the red remains, while the yellow fades almost to white. The three uppermost petals are round and obtuse, the side ones having long claws ; the 2 lowest or green petals generally cross each other, and are lanceolate, about twice as long as the lip. The other parts agree with *D. aurea.*

Perhaps these 2 green petals of *Diuris* ought to be esteemed a real calyx, though no such thing has hitherto been observed in the *Orchis* tribe; for it seems to us too paradoxical to call (with Jussieu) the whole corolla and lip a calyx, or even the former only, with Swartz; but this is matter of mere opinion.

A shows a magnified flower, in which all the parts are displayed as in /. 9.


a

Cyamus Nelumbo

June 1 1814. Published by Sir Joseph Banks.

TAB. 31,-32.

CYAMUS Nelumbo.

Sacred Bean of India.

POLYANDRIA Polygynia.

Calyx of 4 or 5 leaves. *Petals* numerous. *Nuts* immersed in a cellular receptacle, each crowned with its own *stigma.*

Leaves peltate, orbicular, waved. Foot-stalks and flower-stalks prickly.

Kv̌ccfjiog. Theophrast. lib. 4. *cap.* 10.
Nymphaea Nelumbo. *Linn. Sp. PL* 730, **. Ait. H. Kew. v.* 2. 227.
N. indica major. *Rumph. Amboin. v.* 6. 168. *t.* 73.
Nelumbo nucifera. *G<ertn. Sem. v.* 1. 73. *t.* 19.
Nelumbium speciosum. *JVïllden. Sp. PL v.* 2. 1258.
Tamará. *Rheed. Malab. v.* 11. 59. *t. SO.*

THIS splendid and celebrated plant is a native of still pools, and recesses in the margins of running streams, in the East Indies, growing, as Rumphius informs us, in a deep muddy soil, in a depth of water not less than 2 or 3 feet, nor more than 6. By attention to this information, and the contrivance of a deep tub in consequence of it, a plant of this species was made to flower very finely, some years ago, in the Duke of Portland's stove at Bulstrode, where Mr. Sowerby made a drawing of it. The *Cyamus* also blossomed last year at the Right Hon. Charles Greville's, and is to be found growing in several collections.

The root is very large and tuberous, black without, white within, throwing out numerous long fibres. Leaves radical, on long, round, prickly, upright stalks, peltate, circular, waved, smooth, rather glaucous, with many concentric radiating ribs; when young

they float on the water; but when at their full size, which is oftcu S or 3 feet diameter, they rise 3 or 4 feet above it, becoming concave, and variously waved, twisted, or torn by the wind. Flowers on simple naked stalks, like those of the leaves, but rather taller, solitary, upright, very handsome and fragrant, 8 or 10 inches wide when fully expanded, lasting for several days. Calyx of 4 or 5 concave, ovate, green leaves. Petals nuiperous, ovate, acute, concave, of a delicate pale rose-colour, marked with many crimson longitudinal ribs, which being drawn more together as they approach the point, render that part of a deeper hue. Stamens numerous, yellow, thread-shaped, knobbed, with oblong, lateral antheras. Germen superior, green, smooth, inversely conical, its upper broad flat surface perforated with several holes, opening into as many cells. Each cell contains the rudiment of a seed, protruding through the orifice, and crowned with an oblong, obtuse, perforated, yellow, permanent stigma. The whole germen becomes a coriaceous entire capsule, which in process of time separates from the stalk, laden with ripe oval nuts, and floats down the water. The nuts vegetating, it becomes a cornucopia of young sprouting plants, which at length break loose from their confinement, and take root in the mud. This peculiar mode of propagation has evidently occasioned the plant, in conjunction with water, to be adopted as the symbol of fertility, in which point of view it has, from the remotest antiquity, been considered with religious veneration in India, and makes a conspicuous figure in the Mythology of that antient country. It is most generally known to the learned of Europe under the name of *Lotus;* the natives of Hindustan call it *Tamard;* the people of Ceylon *Nelumbo.* It has been confounded by very able writers, even lately, with the *Lotus* of Egypt, *Nymphcea Lotus* of Linnaeus*;* see *Andr. Repos. t.* 391, and *Curt. Mag. t.* 797, We presume the latter to have become important in the Egyptian Mythology only as a substitute for the former. *The *Lotus* of Egypt is a real *Nymph&a,* bearing its seeds much in the manner of a Poppy, and scattering them in the mud. There is nothing peculiar in its appearance or mode of growth which could have caused it to be chosen for an emblem of fertility, were it not from the general resemblance of its leaves and flowers to our plant, the original *Lotus* of India. Hence I have for some time presumed to deduce an argument in support of the doctrine now prevalent, on other grounds, that the religion of the Egyptians was adopted from the East.

Innumerable illustrations respecting the *Tamard, Lotus,* OF *Nelumbo,* as connected with the poetry or religion of the Hindus, may be found in the learned works of Sir W. Jones, Mr. Knight, and others. In the 4th volume of the *Amoenitates Academicce, p.* 234, a carved horn of a rhinoceros, sent to Linnaeus from China, is described. This is now before me, and is an exquisite specimen of oriental sculpture, evidently alluding to the mythology of India. The whole inverted base of the horn is carved into an elegant leaf of *Nelumbo,* rising from the water amid a group of perforated Chinese rocks. It is encompassed with various plants* of a more diminutive proportion; a peach tree and a medlar (or rather perhaps the mangostan), with *Sagittaria, Pothos,* and the *Nelumbo* itself in flower and seed, cover the outer surface. Some fantastic lizards, with bunches of grapes and the Lit-chi fruit in their mouths, are crawling over the whole.

We have to add some remarks on the botanical characters and name of this plant,

Adanson, Gaertner, Jussieu and Willdenow are most unquestionably justified in separating it from *Nympluea,* with which Linnaeus and other writers have confounded it. The very peculiar fruit, unlike any thing else in the vegetable kingdom, and the stigmas, so totally different from those of *Nymphcea,* sufficiently distinguish it. The chief question in dispute is the name. *Nelumhium* is formed from *Nelumbo,* a Ceylon word of very confined use. If it must have a barbarous appellation, *Tamard* would be preferable, as being in general use among the learned and the vulgar throughout Hindustan. Happily we have no occasion to adopt either, for the plant has already a classical Greek name of primary authority and antiquity, being the real Κύαμος of Theophrastus, and therefore the word CYAMUS is what by every right and title belongs to it. *Nelumbo* may be retained as a specific name, rather out of deference to Linnaeus and Gsertner than for any good reason; for *Tamard* being more universal would be more proper, and *speciosus,* given by Willdenow, more expressive. We wish however to respect the right of priority, and to avoid all needless changes.

We claim no merit in the restoration of this antient generic name. Bodaeus a Stapel in his Commentary on Thcophra9tus, p. 446, and Hermann in his *Paradims Datavus* have amply illustrated the subject, and others, as Plukenet, have alluded to it. But it is remarkable that no recent writer on the mythological history of the *Nelumbo* should have been aware of its being the celebrated Κύαμος of Pytha-

gorean bean, which is so evident from the description in Theophrastus. The [SE] cellular head like a round wasp's nest, with a bean in each cell projecting a little beyond its orifice: the rose-coloured flower, twice as large as a poppy/' as well as all the rest of his account, are strikingly characteristic. By this discovery many things, hitherto difficult of explanation, are elucidated. We can no longer wonder at the prohibition of these beans to the Egyptian priests, or the disciples of Pythagoras. A plant consecrated to religious veneration as an emblem of reproduction and fertility, would be very improper for the food, or even the consideration, of persons dedicated to peculiar purity. The Egyptian priests were not allowed even to look upon it*. Authors scarcely explain sufficiently whether Pythagoras avoided it from respect or abhorrence. However that might be, we need not, in order to ascertain his motives, have recourse to any of ihe five reasons supposed by Aristotle, nor to the conjectures of Cicero. Neither can there be any doubt that the prohibition given by Pythagoras was literal; and not merely allegorical, as forbidding his followers to eat this kind of pulse, because the magistrates in some places were chosen by a ballot with black and white beans, thereby giving thetn to understand that they should not meddle with public affairs. Such far-fetched explanations show the ingenuity of commentators rather than their knowledge.

As the Pythagorean prohibitions are now obsolete, perhaps these beans, imported from India, might not be unwelcome at our tables. The root of the *Cyamus* is also used as food, but we have many vegetables preferable to it.

Tab. 31 shows a flower of its usual size, with one of the smaller leaves, *a* a stamen separate.

Tab. 32 contains the ripe fruit; with an outline of the whole plant as it grew at Bulstrode. a is a nut taken out of its cell. *I* a section of the same, c the embryo, always green, taken out of the nut, to the top of which its base was fixed, *d* the embryo sprouting from the nut.

• It must be confessed that many of the hieroglyphics, still to be been about their temples, seem inconsistent with a prohibition of this kind.

Craſsula lactea

June 1. 180[illegible]. Published by [illegible] London

TAB. 33.

CRASSULA lactea.

White Crassula.

PENTANDRIA Pentagynia.

Calyx of 5 leaves. *Petals* 5. *Scales 5* at the base of the germen. *Capsules* 5, with many seeds.

Stem shrubby. Leaves ovate, tapering and united at the base, entire, with a row of dots within the margin. Cymes panicled.

Crassula lactea. *Ait. H. Kew. v.* 1. 396. *Down. Cant. 53. fVillden. Sp. PI. v.* 1. 1554.

WE have been favoured with a flowering specimen of this plant from the green-house of Mr. Hooker of Norwich in March last. It is excellently well characterized in the *Hortus Kewensis,* but does not appear to have been figured by any author. We are informed in that work that it was introduced in 1774, by Mr. Masson, from the Cape of Good Hope.

It is cultivated, like other succulent plants of the Cape, in the dry stove or' in some airy part of the green-house* The whole plant is smooth. Stem shrubby, much branched, round, leafy. Leaves crowded, crossing each other in pairs, thick, ovate, pointed, entire, dotted both above and below just within the margin ; their bases tapering a little, and united round the stein. Panicle terminal, formed of many cymose opposite branches. Flowers white with pretty rose-coloured antheras. Scales at the base of the germen scarcely perceptible. Petals, stamens and germens often 6.

Tab. 33 shows the plant of its natural size, with every part of the flower in its proper place-

Melaleuca ericifolia

June 1. 180[illegible] Publish'd by [illegible] London

TAB. 34.

MELALEUCA ericifolia.

Heath-leaved Melaleucu.

POLYADELPHIA Polyandria.

Calyx 5-cleft, half superior. *Petals 5. Filaments* numerous, very long, united into 5 parcels. *Style* 1. *Capsule* of 3 cells.

Leaves scattered or opposite, linear, nerveless, pointless, a little recurved. Flowers lateral, clustered about the upper part of the branches.

Melaleuca ericifolia. *Snu Trans, of Linn. Soc. v.* 3. 276. *Down. Cant.* 144.

JM.R. ANDREWS has by mistake figured under the name of *Melaleuca ericcBfolia* my *armfflaris, Tr. ofL. Soc. v.* 3. 277, expressing a doubt of my having made too many species. For the illustration of the subject, and not for the sake of controversy, we here exhibit the true *M. ericifolia,* which will be followed by some other species, all natives of New Holland, of. which we are furnished with specimens, as well as coloured c^wings made from the plants in their wild state. Most of these plants are enumerated by Mr. Donn in his catalogue of the Cambridge garden, and I believe his names are very correct.

M. ericifòlia is the smallest we have seen of this tribe, though of the exact height of the stem we are not informed. It is very smooth in all its parts, and has the taste and smell of Coriander seeds. The branches are numerous, clustered, erect, Jeafy, round, prettily striped with white, from a line of cuticle running down from one leaf to another. Reaves scattered, a few of them opposite, sessile, half an inch (more or less) in length* linear, flattish, entire, a little recurved, sharpish but without any spinous point, and destitute of rib or veins. Under the microscope they are finely dotted with ir-

regular glandular points. Stipulas wanting. Flowers sessile, lateral, crowded, forming cylindrical clusters round the branches below their leafy summits. Each flower has its own concave broad bractea. Calyx globular, dotted with resinous points, and crowned with 5 obtuse teeth. Petals red on the outside in the bud, cream-coloured, as well as the stamens, when expanded, dotted with resinous points. The filaments of the latter are long and very deeply divided, so that their common claw is shorter than the petals. In this respect they differ from Jlf. *muttons*, which species is so well figured by Mr. Andrews, that there is no occasion for us to republish it.

A is a magnified petal. B stamen. C germen and style.. D leaf.

Melaleuca thymifolia

July 1.1805. Published by Jas. Sowerby London

TAB. 36.

MELALEUCA thymifolia.

Thyme-leaved Melakuca.

PQLYADELPHIA Polyandria.

Calyx 5-cleft, half superior. *Petals 5. Filaments* numerous, very long, united into 5 parcels. *Style* 1. *Capsule* of *3* cells.

Leaves opposite, elliptic-lanceolate, nerveless. Flowering branches lateral, very short, few flowered. Filaments branched more than half way down.

Melaleuca thymifolia. *Sm. Trans, of Linn. Soc. v.* 3. 278. *Dann. Cant.* 144.

M. coronata. *Andr. Repos. t.* 278.

M. gnidiaefolia. *Venten. Jard. de la ftfalmaison, t.* 4.

Metrosideros calycina. *Cavan. Ie. v.* 4. 20. *t.* 336./. 2.

I FIND it necessary to claim my own original name for this plant, which has been twice changed, surely not for the better, without any reference to the Linnaean Transactions where it was first published in 1797* Monsieur Ventenat however is quite clear of this impropriety, he having merely retained a chance denomination by which, as I learn from himself, the plant was sent him from the English nurseries.

It is a native of New South Wales, and was raised from seed by Mr. Fairbairn at Chelsea many years ago. Our figure was drawn in August 1794 at Mr. Robinson's, Stockwell.

The stem is shrubby, about 2 feet high, with numerous opposite round smooth leafy branches, whose cuticle is scarcely striped. Leaves opposite, each pair crossing the next,' sessile, from -J- to \ an inch long, spreading, of a harrow elliptical form, entire, pointless, without any prominent rib or veins, smooth, copiously dotted

with resinous dots, the seat of a very aromatic essential oil. Flowers but few together, lateral, sessile, on short lateral branches. Calyx turbinate, smooth. Petals purple. Filaments of the same colour, opposite to them, and twice as long, feathered half-way down or more, their branches curved inwards. Stamens yellow. Style purple, with a simple whitish stigma. Capsule globular, crowned with the hardened teeth of the calyx. Seeds small and numerous.

It is rather a tender green-house plant, seldom kept long by any body, but easily renewed from seed. The soil should belike that in which the heath kind are cultivated.

M. Ventenat's figure is taken from a very imperfect specimen $ and we trust the addition of the fruit, and of an English description, with the correction of the name, will excuse our giving what is already well figured by Mr. Andrews, which we mean generally to avoid.

a, *a* calyx, *b*, *I* petals, c, c, c, C stamens, *d* style, e, e fruit.

Virgilia helioides

TAB. 37.

VIRGILIA helioides.

Sun-flower Virgilia.

SYNGENESIA Polygamid-frustranea..

Calyx **of a double row of leaves.** ***Corolla*** **radiant:** ***marginal florets*** **3-cleft.** ***Seed-crown*** **of several chaffy awned leaves.** ***Receptacle*** **convex^ chaffy.**

Virgilia helioides. ***Vheritier Monogr.*** **f. 1, 2,**
Galardia bicolor. ***Lamarck. Encycl. v.*** **2. 590.**

OUR gardens were enriched with this handsome plant about the year 1787 by M. Thouin, who sent the seeds from Paris. It was reported to be a native of Louisiana, and was considered as a great acquisition to the French gardensj but being an annual, and ripening seed with difficulty in Europe, it is now we believe entirely lost. Mr. Sowerby drew it at Messieurs Lee and Kennedy's, where it was to be seen but one season. Its beauty is alluded to in Mr. Andrews's work, *p:* 357.

The French botanists have differed about its name. We prefer that given by the celebrated L'heritier, in a monograph, or express dissertation, on this plant, of which 12 copies only were printed, in which he has commemorated the great Latin poet, whose Georgica certainly entitle him to such a botanical memorial.

Root annual, branched. Stem upright, 2 or 3 feet high, much branched, leafy, round, streaked with dark and light green, stained with purple, and sprinkled with soft white haire. Leaves alternate, sessile, oblong, sinuated or toothed, rather fleshy, roughish and downy, light green, with a single mid-rib. Flowers terminal, solitary, on long stalks, fragrant, beautifully variegated with crimson and yellow. Calyx of 2 rows, we scarcely find more, of lanceolate, pointed, rough leaves. Radius of many broad 3-cleft, spreading florets; yellow and veiny at the extremity j crimson and striped at the base;

each with the rudiments of a germen, but barren. Disk of numerous, tubular, 5-cleft, perfect and fertile florets, of which the more central are yellow or greenish, the outermost purplish. Stamens *by* with united antheras. Germen obovate. Stigmas 2, acute, hairy. Seed crowned with from 5 to 8 flat, acute, chaffy scales, joined at their base; being, as L'heritier observes, a proper calyx. Receptacle hemispherical, clothed yrith chaffy scales. The genus is nearly allied to *Rudbeckia.*

a, a show a flower of the radius, with its abortive germen and seed-crown, *b* a tubular floret of the disk, with its antheras and stigma.

Rudbeckia pinnata

TAB. 38.

RUDBECKIA pinnata.

Fragrant Pinnated Rudbeckia.

SYNGENESIA Polygamia-frustranea.

Calyx of a double row of leaves. *Corolla* radiant: *marginal florets* toothed. *Seed* crowned with 4 teeth. *Receptacle* conical, scaly.

Leaves rough all over: the lower ones compound; middle ones three- or five-cleft; uppermost undivided. Stem rough.

Rudbeckia pinnata. *Ventenat Jard. de Cels. u* 71.

RECEIVED by Lady Hume from the botanical garden at Madrid, by the name of *Rudbeckia odor at a;* but we do not find it mentioned in the works of Cavanilles, nor of any other author, by that name. It is undoubtedly the *pinnata* of Ventenat, though not, as that ingenious writer supposed, the *digitata* of Miller and Aiton. It flowers with us late in the autumn in the open border, being a hardy perennial. M. Ventenat informs us it was discovered by Michaux in the country of the Illinois.

Root fibrous, perennial. Stem erect, branched, several feet high, furrowed, rough with short ascending bristles, as are the flower-stalks, calyx, and leaves in every part; even the yellow florets of the radius are rough and glandular. The lower leaves are doubly pinnatifid, and somewhat lyrate, their lobes jagged and decurrent; those higher up have 3 or 5 simple lobes; the uppermost are simple and undivided. Flowers upright, on long, stiff, simple stalks. Calyx of numerous spreading leaves. Radius of 8 or 10 large spreading florets. Disk conical, dark purple, almost black.

a receptacle and calyx. *I* floret of the radius, with its barren germen. c floret of the disk, *d, d* scales of the receptacle.

Epacris grandiflora.

July 1 [illegible] Published by Jas. Sowerby London

TAB. 39.

EPACRIS grandiflora.

Crimson Mountain-blossom.

PENTANDRIA Monogynia.

Calyx imbricated. *Corolla* tubular. *Stamens* inserted into its orifice. *Scales 5* at the base of the germen. *Capsule* superior, of 5 cells, and 5 valves, with partitions from their middle. *Seeds* numerous, chaffy.

Leaves heart-shaped, pungent, recurved, on footstalks. Flowers pendulous,

Epacris grandiflora. *Willden* Sp. PL v.* 1. 834.
E. longiflora. *Cavan. Ic. v.* 4. 25. *t.* 344.

THIS beautiful and various genus seems, along with *Stypkelia, Bot. of* JV. *HolL t.* 14, to occupy the same place in the scale of Nature in New Holland, that the Heaths do at the Cape of Good Hope. Its name, given by Forster, expresses that it inhabits mountains. No species has yet been raised in England; but surely the annexed plate will excite cultivators to endeavour to obtain some of the seeds.

E. grandiflora grows in a dry sandy soil, flowering in October, and seems to be not uncommon about Port Jackson, as we have received various specimens of it and several drawings. Cavanillcs bad it from the same country, but his figure is not happily executed. The stem is shrubby, 4 or 5 feet high, much branched* Branches round, downy, leafy. Leaves evergreen, hard, rigid, numerous, alternate, on short downy stalks, recurved, heart-shaped, with a spinous point, entire, thick-edged, obscurely ribbed, nearly smooth. Flowers axillary, solitary, pendulous, on «hort scaly stalks, leaning all one way. Calyx imbricated; its leaves ovate, sharp-pointed, fringed; the 5 innermost longest,

narrowest and equal. Corolla an inch long, tubular, smooth, with a regular, spreading, 5-cleft, acute, white border, the tube of an elegant crimson. Stamens short, in the mouth of the tube. Antheras brown, 2-lobed, bursting longitudinally. Pollen yellow. Germen superior, with 5 blunt scales at its base. Style thread-shaped, extended beyond the stamens, with a capitate stigma. Capsule of 5 hard, rigid, obtuse valves, with partitions from their centre. Seeds minute, angular.

Sometimes the flowers are 4-cleft, with only 4 stamens.

a leaf with its stalk, *b* corolla opened to show the stamens. c calyx and pistil. D magnified germen and its scales, *e* capsule.

Epacris obtusifolia

TAB. 40.

EPACRIS obtusifolia.

Blunt-leaved Mountain-blossom.

PENTANDRIA Monogynia.

Calyx imbricated. *Corolla* tubular. *Stamens* inserted into its orifice. *Scales 5* at the base of the germen. *Capsule* superior, of *5* cells, and *5* valves, with partitions from their middle. *Seeds* numerous, chaffy.

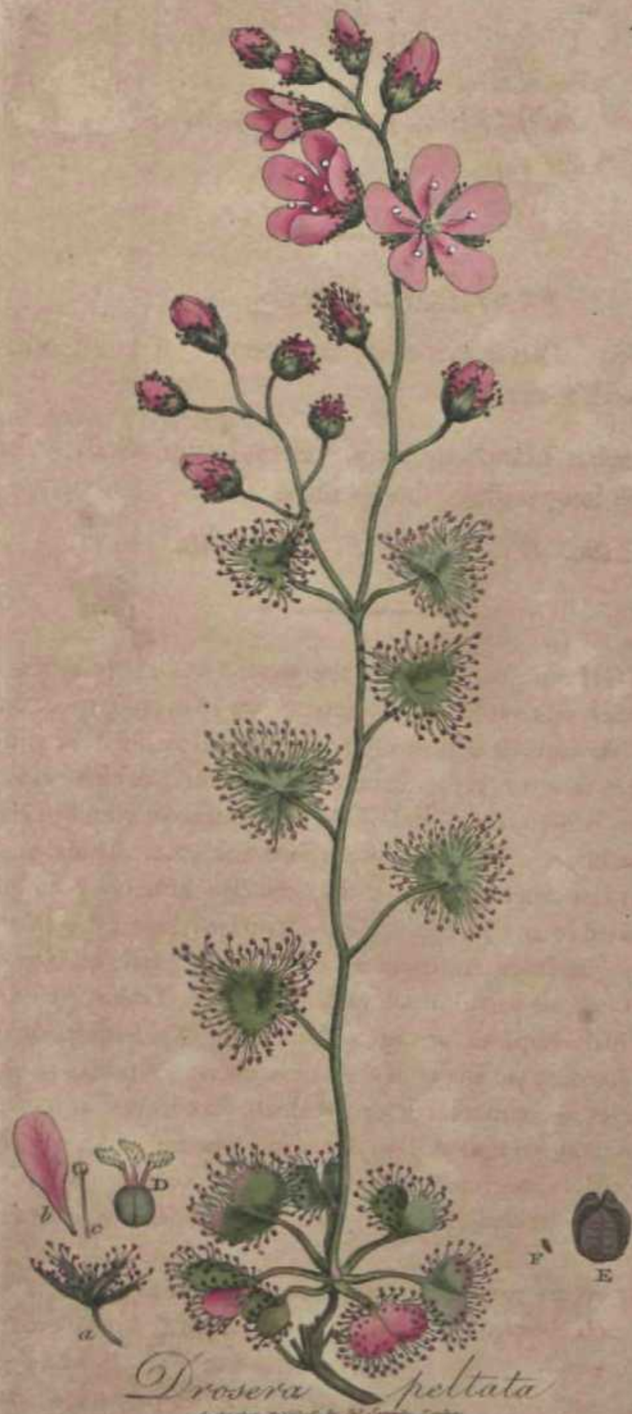
Leaves elliptic-lanceolate, very obtuse, and pointless, on short footstalks. Flowers drooping toward one side.

SPECIMENS and coloured drawings of this hitherto nondescript species have been sent with the former from Port Jackson. It is said to grow likewise in dry sandy soil, and to blossom in October.

The shrubby branched stem rises to the height of about 3 feet. The younger parts of the branches only are slightly downy. Leaves alternate, on very short smooth stalks, spreading, elliptic-lanceolate, smooth, rigid; flattish above; convex and ribbed beneath; their points remarkably thick and blunt, without any spinous tips. Flowers axillary, solitary, on very short scaly stalks, rather drooping, and all inclining one way. Calyx-leaves with bearded tips. Corolla yellowish white, or cream-coloured, with bluntish segments, the tube shorter in proportion than the last. Antheras and stigma reddish.

We should, from the colour of these flowers, guess them to be fragrant in an evening. One species, the *Epacris pungens* of Cavanilles, *t.* 346, but not of *Curt. Mag* t.* 844, is said to have sweet-smelling flowers.

A a magnified leaf, *b* corolla and stamens of the natural size. C calyx and pistil magnified.



Drosera peltata

TAB. 41.

DROSERA peltata.

Peltate Sun-dtzv.

PENTANDRIA · Hexagynia.

Calyx 5-cleft. *Petals* 5. *Capsule* superior, of 1 cell, and 3 valves, with many *Seeds.*

Stem somewhat branched, leafy. Stem-leaves peltate, triangular, on long stalks. Styles three*

Drosera peltata. *Willden. Sp. PL v.* 1.1546.

ALTHOUGH our general aim in the present work is to introduce to the curious cultivator &uch plants as are in every respect most worthy of his care, it will surely not be unacceptable if we sometimes exhibit new or very extraordinary species, which can be known by no other means, and of the cultivation of which there is scarcely any hope. The plant in the annexed plate stands in the predicament last mentioned. No *Drosera* has hitherto been preserved or raised in any garden. Yet as its near relation the *Dioncta* can be brought from America, so as to bloom with us, for one season at lcas^ we need not altogether despair. Twenty years ago there was little hope of seeing a flourishing *Epidendrum* in the gardens of Europe, yet many of that tribe are now familiar to us.

This species, so remarkable for the shield-like leaves on its stem, grows in marshy ground at Port Jackson, flowering in September. It was originally discovered in that part of the world by Sir Joseph Banks and Dr. Solander. Our specimens and drawings were sent by Dr. White.

The root seems to be perennial, bearing sometimes many stems, which arc each about a span high, erect, smooth, leafy, generally divided into two long simple clusters of red or white flowers. Radical leaves numerous, kidney-shaped; the rest peltate,' alternate, triangular $ all on longish stalks, clothed on the upper side, as well

as fringed, with numerous, coloured, glandular, viscid hairs, which probably serve to catch flies, as in our British species of Sun-dew. The calyx is also fringed and reddish. Petals obovate. Stamens 5. Styles only 3, with fringed stigmas. Seeds numerous, minute, angular, rugged.

a calyx and pistil, *b* petal, *e* stamen. D germeii and styles magnified. E, F capsule and seed.

Metrosideros hispida

TAB. 42.

METROSIDEROS hispida.

Rough Metrosideros.

ICOSANDRIA Monogynia.

Calyx 5-cleft, half superior. *Petals 5. Stamens* much longer than the corolla. *Stigma* simple. *Capsule* of 3 cells.

Leaves opposite; heart-shaped, and clasping the stem, at their base. Young branches, flower-stalks and calyx bristly.

Metrosideros hispida. *Trans, of Linn. Soc. v.* 3. 267. *Donn, Cant.* 92. *Mill. Diet. ed. Mart.*
M. anomala. *Venten. Jard. de la Malmaison, 1.* 5.
Metrosidera hirsuta. *Ai\dr. Bot. t.* 281.
Angophora cordifolia. *Cavan. Ic. v.* 4. 21. *t.* 338.

JVLUCH confusion and misconception has deformed the history of this fine plant, which we feel it incumbent on us to clear away, as well as to give a more characteristic figure than has yet appeared. M. Ventenat's plate in his beautiful work was taken from so imperfect and starved a specimen, that he was induced to suppose it a different species. Mr. Andrews's, though the best, gives a wrong idea of the stigma as well as the inflorescence, which is properly umbellate, and this figure is, in other respects, less happy than is usual with this ingenious artist. As to the name, which alludes to the iron-like hardness of the wood, we can assure him that *Metrosidera* was, from the first, a vulgar corruption. The trivial name *hirsuta* he seems to have accidentally written for *hispida,* in taking the specific character from the *Linn. Trans.,* a work to which he ought to have referred. Our lamented friend Cavanilles has made a new genus, *Angoph&ra,* of this and *Metrosideros costata,* erroneously giving to the latter alternate leaves. That supposed genus is founded on the seeds being solitary, when ripe, in each cell. But

this only fills up the measure of error concerning the plant before us. Our figure shows sufficiently that the seeds, in the germen, are numerous, though indeed most of them prove abortive.

This *Metrosideros* was among the first shrubs raised from seeds collected at New South Wales, and flowered: for the first time in Mr. Hibbert's valuable collection at Clapham, where our sketch was made in July 1798. The stem is 4 or 5 feet high, rigid, branched, round, leafy. Eeaves evergreen, very hard and stiff, opposite, almost sessile, oblong, waved, clasping the stem with their heart-shaped base. Flowers on terminal stalks, generally more or less umbellate. The petals, and long numerous stamens, are of a yellowish cream-colour. Stigma quite simple. Calyx thick and angular. The branches and leaves are rough with rigid prominent hairs; the flower-stalks, and calyx clothed with shorter, more dense* glandular reddish hairs, like those of *Rolmia hispida.* The plant is preserved in the greenhouse during winter, but is not very tender.

a under side of the calyx. *I* section of the same, showing the young seeds, and the insertion of the stamens. C magnified hairs.

Digitalis Thapsi

TAB. 43.

DIGITALIS Thapsi.

Mullein Fox-glove.

DIDYNAMIA Angiospermia.

Calyx in 5 segments. *Corolla* bell-shaped, 4-or 5-cleft, inflated. *Capsule* ovate, of 2 cells, with many *seeds.*

Segments of the calyx oblong. Corolla obtuse, its upper lip undivided. Leaves downy, decurrent.

Digitalis Thapsi. *Linn. Sp. PL* 867. *Mill. Diet. n.* 2. *Ait. H. Kew. v.* 2. 345. *Ailion. Pedem. v.* 1. 70.

D. angusto verbasci folio montana. *Bocc. Mus. v.* 1. 108. *t. SS.f.* ult.

D. verbascifolia purpurea minor perennis hispanica. *Barrel. Ic. t.* 1183.

BOCCONE appears to be the only writer who has given an account of this species from wild specimens observed by himself. Barrelier has copied his figure, the only one extant. The plant is a native of the mountains of Tuscany and Savoy, as well as of Spain. Miller alone seems to have cultivated it in England. The history of its recent introduction among us will be best given in the words of Mr. Lambert, to whom we are obliged for a fresh specimen.

" *Digitalis Thapsi* has been long lost to our gardens, I believe " ever since Miller's time, Mr. Ferdinand Baver, when collecting €€ species for his intended Monography of the genus, sought it in €f vain in every curious garden about the Metropolis. This made " me very anxious to obtain the plant from Spain, as it was almost €€ the only known species wanting to our collections. On writing " to my much-lamented friend Cavanilles, I received from him one " small dried specimen, on .which were luckily two ripe capsules. " From these I collected many seeds, of which only .two vegetated.

« By dividing the roots I obtained several plants, which flowered "the second year, May 1805, and are now flourishing in my " garden at Boyton."

The root seems to be perennial, consisting of many long fibres. Stems several, 1 or 2 feet high, branched, leafy, round. Leaves all sessile and decurrent, elliptic-oblong, bluntish, rounded at the base, serrated, veiny, with several lateral ribs, downy on both sides, of a palish green; they are alternate, except those at the bottoms of the branches. Flowers in long terminal simple clusters, smaller, paler, and less specious, than those of the common JD. *purpurea,* their internal specks being minute and purple only, not beautifully ocellated. The form of the corolla agrees with that species, but the calyx-lobes are somewhat narrower.

Linnaeus supposed this might be a mule produced from the pollen of *Verbascum Thapsus* falling on *D. purpurea* j but we see little to countenance the supposition.

a shows the stamens and pistil separated from the rest of the flower*

Protea rosacea

Aug.t 1. 1805. Publish'd by Ja.s Sowerby, London

TAB. 44.

PROTEA rosacea.

Rosaceous Protect.

TETRANDRIA Monogynia.

Common Calyx of many leaves, imbricated, many-flowered* *Petals* 4, bearing the stamens. *Nut* superior, closed, with 1 *seed.*

Leaves simple, linear, pungent. Flowers solitary, drooping. Calyx coloured, minutely fringed.

Protea rosacea. *Linn. Mant.* 189. *Syst. Veg. ed*+ 13. 118.
P. nana. *Thunb. Diss. n.* 29. *Prodr.* 26. *Linn. Syst. Peg. ed.* 14. 139. *Ait. Hort. Kew. v.* 3. 484>v
P. acuifolia. *Salisb. in Hooker**& *Par adisus, t.* 2.
Leucadendron nanum. *Berg. Cap.* 22.
Conophoros capensis pini folio. *Pet. Gazopk. dec. 3. t.* 25.

A. NATIVE of dry elevated places by the rivers of the country about the Cape of Good Hope, particularly near Rood Zands cascade, as we learn from the rich herbarium of G. Hibbert, Esq., to whom we are obliged for a specimen, which exactly accords with that of Bergius in the Linnaean collection. The annexed figure was drawn in May 1805, at Messieurs Lee and Kennedy's.

The stem is upright, 2 or 3 feet high, much branched, the branches, tawny, smooth, round, leafy, loosely spreading. - Leaves numerous, scattered, imbricated, sessile, simple, scarcely an inch long, linear, entire, smooth, each tipped with a sharp spine. Flowers terminal, solitary, drooping, of an elegant rosaceous form and colour, the imbricated spreading leaves of the calyx being of a shining crimson, their edges finely fringed. The numerous florets form a dense cone, shorter than the calyx. They are reddish,

fringed with golden hairs. The styles of the outermost first release themselves from the confinement of the closed tips of the corolla, and are smooth, yellow and rigid, each bearing an oblong sulcate style.

The excellent Thunberg probably called this plant *nana* out of respect to Bergius's original name; but that being found, on further observation, peculiarly inapplicable, surely the Linnaean denomination *rosacea,* which is nearly of the same date, ought to be retained. Thunberg himself says " the plant is known at first sight by the resemblance of its flowers to a rose/' We have therefore no occasion to adopt, or to criticise, *acuifolia.* Mr. Hooker, or rather his colleague Mr. Salisbury, has made an unexpected attack upon us in their preface*; and we perceive something from the same quarter, given to the world in a more learned form f by an intimate and highly respected friend of the gentleman last named. We believe the science will be benefited by our friend's, talents, in whatever way they are directed. The more moderate he is in his triumphs over us poor Linnaeans, the more resplendent and untullied will be his own fame.

* " In all similar publications which have hitherto appeared, not even excepting the most respectable, a considerable portion of each page has been filled with *useless repetitions* of the classes, orders and generic characters of the sexual system."—*Hooker's preface.*

f [a] Observations de affinitatibus addidxt Saiisburius, *qui fert solus apud* nos easdem curat et studet.' —*Rudge PL Cham, praf.p.* 6.

Campanula gracilis

TAB. 45.

CAMPANULA gracilis.

Slendet Roughish Bell-flower.

PENTANDRIA Monogynia.

Corolla **bell-shaped, closed at the bottom by valves bearing the stamens.** ***Stigma*** **3-cleft.** ***Capsule*** **inferior, of S or 5 cells.**

Leaves rough, linear-lanceolate; the lower ones bluntly toothed. Stem round, much branched. Flowers solitary, terminal; their tube shorter than the calyx-teeth.

Campanula gracilis. *Forst. Prodr.* 15. *JVillden. Sp. PL v.* 1. **891.**

.L/RAWN from a plant which flowered in Lady Hume's collection last summer, and which was raised from seeds collected in New South Wales. We have compared our specimens, both wild and cultivated, with the original one of Forster in Sir Joseph Banks's possession, and find no difference, except that in his the calyx is not hairy.

The stem is a foot or more in height, much branched, leafy, round, two-edged* Leaves linear-lanceolate, obtuse; the lower ones opposite, bluntly toothed; the rest scattered and entire, Flowers erect, solitary, on long terminal naked stalks. Calyx globose, generally rough with deflexed hairs; its teeth awl-shaped, longer than its body, or than the tube of the flower. Corolla slender and funnel-shaped, of a rich blue within, paler without; its segments acute, fringed, sometimes only 4. Capsule of 3 cells, opening by 3 valves at the summit. Every part of the herbage is rough with very short rigid pubescence.

We have Monsieur Ventenat's *C. vincaflora, Jard. de la MaU maison, t.* 12, which seems to us a distinct species, being smooth, except some scattered longish bristles on the leaves, and having a wider flower, with much shorter calyx-teeth, and a less globular capsule than in our plant.

a calyx with stamens and style, *b* corolla, c ripe fruit cut across. D magnified seed.

Struthiola virgata

TAB. 46.

STRUTHIOLA virgata.

Downy-branched Struthiola.

TETRANDRIA Mmogynia.

Calyx none. *Corolla* tubular, thread-shaped, 4-cleft, with 8 glands at the mouth. *Berry* superior, dry, with 1 seed. *Style* lateral. *Stigma* smooth.

Leaves lanceolate, striated, ciliated. Branches and flowers downy.

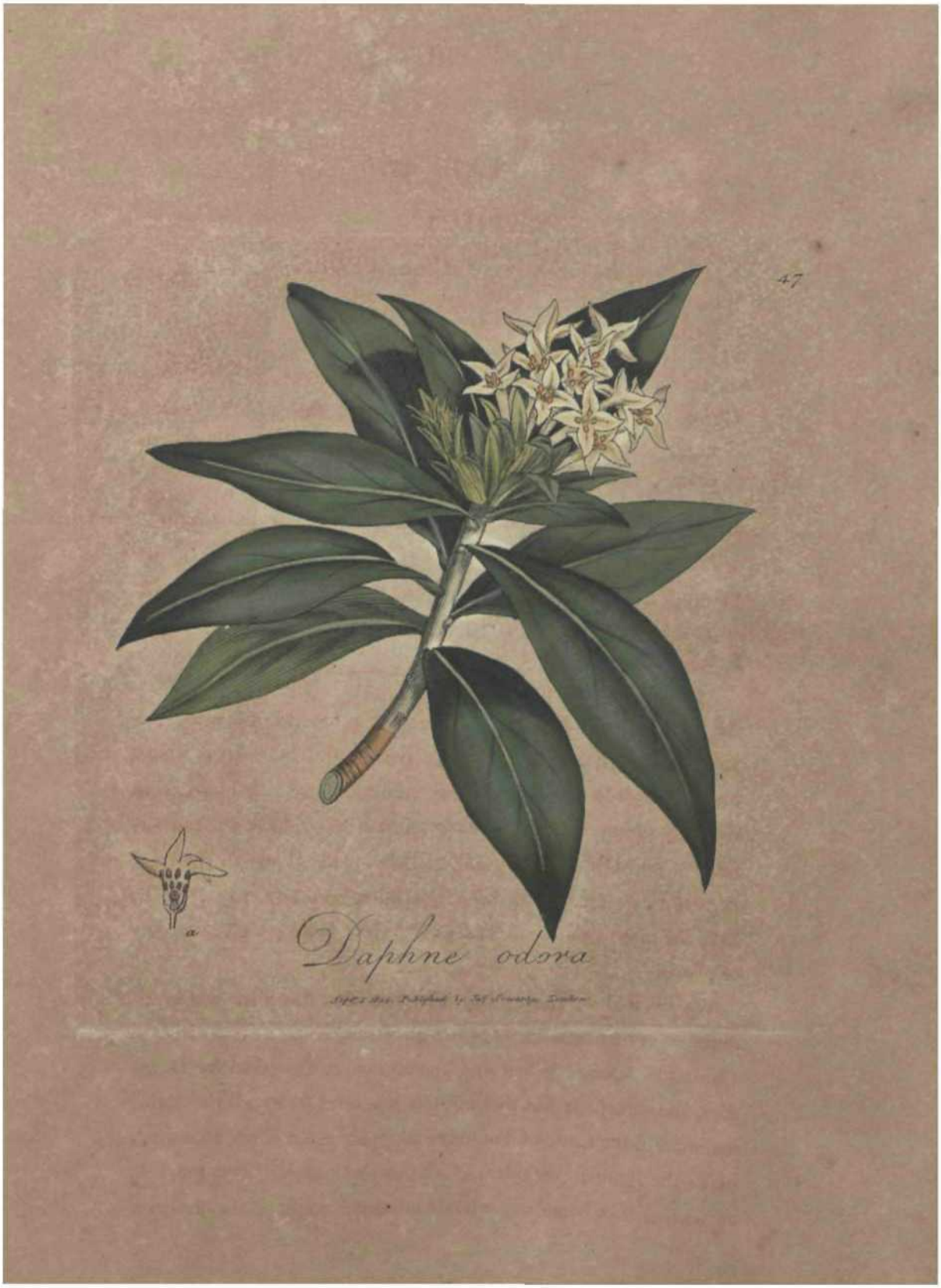
Struthiola virgata. *Linn. ManU* 41. *Thunb. Prod.* 76.

THIS is a native of the .Cape of Good Hope, for specimens of which we are obliged to Messieurs Lee and Kennedy, who have for some time cultivated it in their greenhouse. It flowers in May, and is fragrant.

Stem 2 or 3 feet high, branched, upright, wand-like; the branches obscurely quadrangular, leafy, clothed with fine short silky hairs. Leaves opposite, imbricated in four rows, sessile, lanceolate, entire, concave, more or less fringed, striated and smooth at the back, with a glaucous hue. Flowers axillary, solitary, sessile, longer than the leaves, with a pair of fringed bracteas at their base. Corolla buff-coloured with a red tinge, silky externally; its tube long and slender; limb spreading; orifice red, bristly and crowned with 8 spreading glands. Stamens 4, short, enclosed in the mouth of the tube. Germen superior, smooth. Style lateral, slender, shorter than the tube. Stigma obtuse, smooth.

Differences of opinion concerning the terms calyx and corolla are endless. We here adopt what appears to be sanctioned by the analogy of other plants.

A magnified flower opened longitudinally, with its bracteas. B glands. C antheras. D style.


47
a
Daphne odora

TAB. 47.

DAPHNE odora.

Sweet-scented Chinese Daphne.

OCTANDRIA Monogynia.

Calyx none. *Corolla* 4-cleft, naked at the mouth, permanent. *Stamens* in 2 rows, within the tube. *Berry* superior, with 1 seed. *Stigma* capitate, almost sessile.

Flowers sessile, in terminal clusters. Leaves ovate, alternate, smooth.

Daphne odora. *Thunb. Jap.* 159. *AiU H. Ketv. v.* 2. 26. *Banks. Ic. Ktempf.* £.°16.

IF this species of *Daphne* were constant in producing flowers, few shrubs would be more desirable in a greenhouse. Indeed it is almost hardy enough to bear our ordinary winters abroad. It blossoms in the early spring, always copiously when it blossoms at all, and diffuses a powerful and delightful fragrance while it lasts. It is propagated by grafting on the *Daphne Laureola,* or by cuttings. To have the more chance of flowers, it is best to keep a great number of plants.

We are told in the *Horiuș Keivensis* that this plant was introduced to our gardens in 1771 by B. Torin, Esq. It is a native of China and Japan. When first known here it was taken for *D. indica,* and so called; but that mistake was set right by a little examination, and the name of Thunberg adopted. Such corrections often, make the ignorant complain of changes of names. It is much to be wished that botanists, whose authority ought to be decisive,

would never give more just cause for such complaints. Erroneous or bad names must and ought to be corrected.

This shrub is smooth, branched, 2 or 3 feet high, with numerous alternate laurel-like leaves. Flowers in dense bracteated terminal clusters, white, often reddish in decay, lasting for 2 or 3 weeks. Berries never ripened in England. Very often the stem become* broad or fasciculated, producing an inordinate quantity of flowers.

a a flower cut open to show its internal parts.

48

Lamium garganicum

TAB. 48.

LAMIUM garganicum.

Woolly Archangel.

DIDYNAMIA Gymnospermia.

Calyx 5-cleft, its teeth awl-shaped, spreading. Upper lip of the *corolla* undivided, vaulted; lower 2-lobed; orifice inflated, toothed at each side.

Leaves heart-shaped, downy. Corolla swelling underneath; its tube straight; orifice with two teeth at each side.

Lamium garganicum. *Linn. Sp. PL* 808. *Ait. H. Kew. v.* 2. 297.

L. garganicum subincanum, flore purpurascente, cum labio superiori crenato. *Till. Pis.* 93. *•* 34. *f.* 1.

A HARDY ornamental plant, but perhaps too like our wild Dead Nettles to be a general favourite. It grows however without trouble, and flowers copiously in May. Few gardens possess this plant, which is a native of Italy, and seems to have been discovered by the celebrated Micheli. It has grown in Chelsea garden ever since Miller's time, who probably obtained it from its discoverer.

Root fibrous, perennial. Stems numerous, a foot and half high, roundish with 4 angles, thick and juicy, rather hairy. Leaves heart-shaped, crenate, soft and downy, of a greyish hue. Flowers numerous, large, elegantly striped aud variegated with pale purple and white; their orifice much inflated, and furnished with only 2 teeth at each side, one of which is rather obsolete. Antheras white, with orange pollen.

a calyx and bractea. *I* corolla and stamens, c the same expanded, *d* germen and style.

Uvularia perfoliata

TAB. 49.

U V U L A R I A perfoliata.

Pale Perfoliate Uvularia.

HEXANDRIA Monogynia.

Corolla of 6 upright petals. *Nectary* a chink in the base of each. *Filaments* very short.

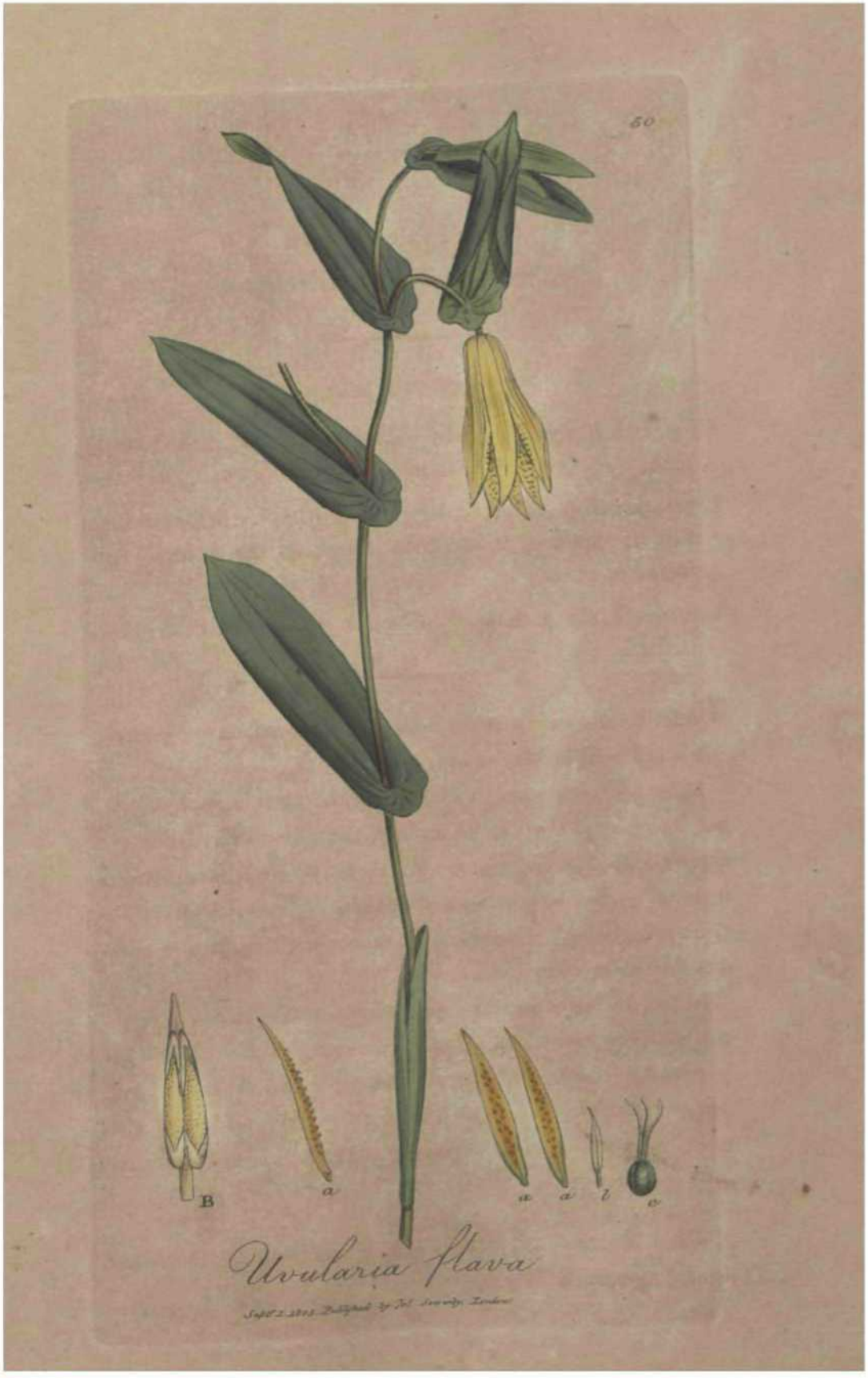
Leaves perfoliate, elliptical, obtuse. Corolla bell-shaped, rough on the inside. Antheras pointed.

Uvularia perfoliata. *Linn. Sp. PL* 437. *AiU H. Kew. v.* 1. 434.

A NATIVE of North America, said to have been introduced among us by the celebrated Peter Collinson in 1734. It thrives well in moist shady gardens, flowering in May. We have received it from Chelsea garden.

Root perennial, of several fleshy fibres. Stem herbaceous, annual, erect, about a foot high, round, smooth, leafy, often a little branched or subdivided. Leaves alternate, perfoliate, elliptical, entire, obtuse with a slight point, ribbed, smooth on both sides, paler beneath, flat, not waved, at the base. Flowers terminal, solitary, pendulous, on short stalks. Petals scarcely above half an inch long, of a very ,pale greenish buff-colour, their inner side rough, with yellowish protuberances. Antheras tipped with a small point or awn. Nectary very small and linear.

«> a inner side of the petals. £, /' stajnejK *c* germen and style. D stigma.


60
B
a
a
a
l
c
Uvularia flava

TAB. 50.

UVULARIA flava.

Small Yellow Uvularia.

HEXANDRIA Monogynia.

Corolfa of 6 upright petals. *Nectary* a chink in the base of each. *Filaments* very short.

Leaves perfoliate, elliptic-oblong, bluntish, waved at the bottom. Corolla tapering at the base, rough on the inside. Antheras pointed*

Uvularia caule perfoliato. *Gron. Virg.* 51, ex descr. claytoniana.

THIS has also been brought from North America to our gardens, where it flowers in May or early in June.

Many persons suppose it a variety of the plant in our last plate, but we presume them to be distinct, though it is very difficult to express a specific distinction. As the whole genus is at present a mass of confusion in authors, the species not well defined and the synonyms glaringly misapplied, we cannot at once expect to elucidate the subject completely.

In this the leaves are rather oblong, and much inclined to be revolute. Their base which surrounds the stem,is waved. The flower is remarkably different, larger, more taper and elongated, with narrower sharper petals, an inch long, yellow, with orange-coloured tubercles, on the inside. The point of the anthera is also longer and more conspicuous.

Oj a_9 *a* inner side of petals, *b,* B stamen with its anthera and point, c germen and style.

Uvularia sessilifolia

TAB. 52.

UVULARIA sessilifolia.

Sessile-leaved Uvularia.

HEXANDRIA Monogynia.

Corolla of 6 upright petals. *Nectary* a chink in the base of each. *Filaments* very short.

Leaves sessile. Petals smooth. Nectary oblong.

Uvularia sessilifolia. *Linn. Sp. PL* 437. *Willden. Sp. PL v.* 2. 95. *Donn. Cant.* 58.

DRAWN on the 3d of June 1805 in the nursery of Messieurs Lee and Kennedy, who received it from North America. It is not mentioned in the *Hortus Kewensis.* Mr. Donn says it came into this country in 1791- Linnaeus had his specimen from Kalm, and we find no further account of the species than what he has given, nor does it seem to be any where figured.

In size, and colour of the flower, this plant most accords with *U. perfoliata*> but in general habit it more resembles our *grandiflora.* From both it essentially differs in having sessile, not perfoliate, leaves, which are of an elliptic-lanceolate form, scarcely perceptibly downy beneath. The petals are ribbed, always 6, smooth on both sides. Nectary oblong. Antheras pointless.

It requires the same treatment as the two species above mentioned, and flowers with the *perfoliata.*

a outer petal, *b* inner petal, *c* germen and style, with 2 of the stamens.

A

Sarracenia adunca

TAB. 53.

SARRACENIA adunca.

Hook-leaved Side-saddle-flower.

POLYANDRIA Mo?iogynia.

Petals 5. *Outer Calyx* of 3 leaves; *inner* of 5. *Capsule* of 5 cells, sheltered by the permanent shield-like stigma.

Leaves cylindrical, the length of the flower-stalk; with a roundish infiexed appendage.

Sarracenia minor. *Walt. Carol.* 153?

THIS has been for some years cultivated with success in the stove of Messieurs Lee. and Kennedy; for though a native of Carolina, it cannot be kept in health in England without great care. It flowers in July, and is perennial.

It is most allied to S.Jfru/a," see *Curt. Mag. t.* 780, but differs widely in the form and position of the appendage to the leaf, which in our plant is roundish, vaulted, and always hooked or incurved, so as to cover the orifice beneath, and exclude rain. The tube of the leaf is narrower than *mflava,* and the lateral expansion broader. The flowers are smaller. We presume this may be S. *minor* of Walter; but as the name is uncertain and not expressive, we have chosen one which expresses the very essential character of the species, which we have often observed and never found to vary. The remarkable stigma of this genus is more like a pillion than a side-saddle.

A is a magnified stamen with its singularly-formed anthera.

Besleria melittifolia

[illegible] Published by Jas. Sowerby, London

TAB. 54.

BESLERIA melittifolia.

Balm-leaved Beslcria.

BIDYNAMIA Angiospermia.

Calyx in 5 deep segments. *Berry*, roundish, of 1 cell, with many *seeds.*

Flower-stalks branched. Leaves ovate.

Besleria melittifolia. *Linn. S$PL* 862. *Donn. Cant.* 115.
B. melissas Tragi folio. *Plum. Ic.* 36. *t.* 48.

WE were shown this plant by our worthy friend the late Mr. Lee of Hammersmith, for the first time, in 1789, when it was in flower in his stove. Mr. Donn therefore has erroneously marked 1793 as the year of its introduction. We have not observed it in any other collection. It is a native of South America, and flowers with us in June or July.

It is a low shrub of luxuriant growth and juicy texture. The stem is round, branched, downy. Leaves opposite, on long stalks, ovate, acute, crenate, decurrent, veiny, downy, pale beneath. Flower-stalks axillary, divided or somewhat umbellate, downy, with acute bracteas at their subdivisions. Calyx-leaves ovate, slightly serrated. Corolla purple, with a straight tube, and spreading limb in *5* obtuse segments. Stamens and style shorter than the tube* The berry we have not seen.

This genus was named by Plumier in houour of Basil Beslcr, the editor of the unwieldy *Hortus Eystettensis.*

A dissection of the flower having been neglected at the time of the drawing, we can only give a general view of this rare plant.

Melaleuca genistifolia

TAB. *55.*

MELALEUCA genistifolia.

Broom-leaved Melaleuca.

POLYADELPHIA Polyandria.

Calyx 5-cleft, half superior. *Petals 5. Filaments* numerous, very long, united into *5* parcels. *Style* 1. *Capsule* of 3 cells.

Leaves scattered, lanceolate, sharp-pointed, three-ribbed, closely dotted. Flowers loosely scattered, on terminal branches. Filaments branched towards the extremity.

Melaleuca genistifolia. *Sm. Trans, of Linn. Soc. v.* 3. 277.

THIS species of *Melaleuca* was sent to Sir Joseph Banks from Port Jackson by the late Mr. David Burton. It is unknown in the gar* dens, but we have a drawing of it among those brought to England by Dr. White, which we have compared with our specimens. To this drawing the following account is annexed :

" The White Tea Tree grows about 80 or 25 feet in height, in good soil and mostly near the water side. When in blossom it is nearly white. Flowers in November."

The branches are slightly angular, smooth. Leaves scattered, on short foot-stalks, lanceolate, entire, sharp-pointed, scarcely half an inch long,, marked with 3 obscure ribs, and sprinkled all aver with minute resinous dots. They have an agreeable, but not strong, aromatic flavour. Flowering branches slightly downy. Flowers sessile, in alternate pairs, white* Claws of the stamens about as long as the petals (not twice as long) before they branch. Style hairy.

A a leaf. B calyx and style. C petal. D stamen. All magnified.

Melaleuca linarifolia

TAB. 56.

MELALEUCA linarifolia.

Toad-flax-leaved Melaleuca.

POLYADELPHIA Polyandria.

Calyx 5-cleft, half superior. *Petals 5. Filaments* numerous, very long, united into *5* parcels. *Style* 1. *Capsule* of 3 cells.

Leaves opposite, linear-lanceolate, three-ribbed, closely dotted beneath. Flowers loosely scattered on terminal branches. Filaments pinnated.

Melaleuca linarifolia. *Sm. Trans, of Linn. Soc. v.* 3. 273. *Donn. Cant.* 144.

Metrosideros hyssopifolia. *Cavan. Ic. v.* 4. 20. *t.* 336. *f.* 1.

DR. WHITE describes this as a large tree with very thick spongy bark which is used in New South Wales for tinder. The branches are round or slightly angular, smooth. Leaves opposite, nearly sessile, linear-lanceolate, entire, acute but not pungent, of a light green, 3-ribbed, covered with resinous dots beneath, smooth above. Flowers numerous, opposite, white or tinged with red. Stamens pinnated from the base to the summit. Style short, smooth. Fruit smooth, hemispherical.

Gaertner and Cavanilles, knowing many of the plants of this tribe by their fruit only, have rather rashly reduced them all, without discrimination, to the genus *Metrosideros, from* which *Melaleuca* differs in its stamens, and *Leptospermum* in its stigma and whole habit.

A leaf. B calyx and style. C petal. D stamen. E separate filaments. All more or less magnified. /fruit of the natural size.

Roxburghia viridiflora.

TAB. 57-

ROXBURGHIA · viridiflora.

Green-Jlowered Roxburghia.

TETRANDRIA Monogynia.

Petals 4, spreading. *Filaments* lanceolate, keeled, bearing the *antheras* on their inside, crowned with an appendage. *Capsule* superior, with 1 cell, 2 valves, and many *seeds.*

Roxburghia gloriosoides. *Roxb. PL of Coromandel, v.* 1. SO. *t.* 32 ?

JtvOOTS of this singular plant were sent by Dr. Roxburgh to Lady Hume, from the coast of Coromandel, some time since. Being cultivated in a state, they flowered last April, for the first time in Europe.

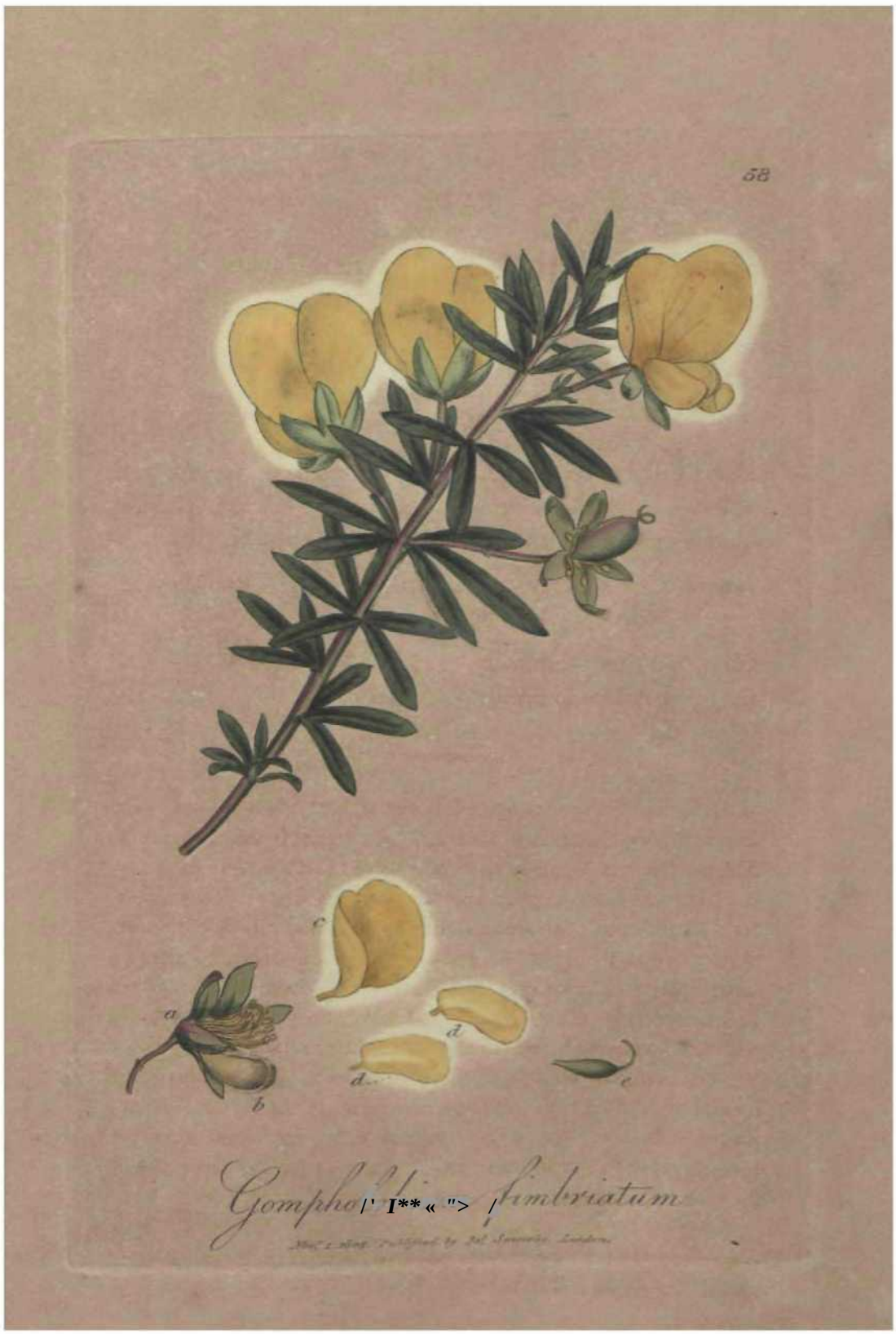
They were marked *Roxburghia gloriosoides,* and were presumed to belong to the very species figured and described by Dr. Roxburgh in his work on Coromandel Plants, *vol.* l. /. 32. But on comparing his beautiful figure with our specimens, it seems not improbable that there may be more than one species of *Roxburghia.* There is no doubt however concerning the genus, which is very curious and distinct, and justly bears the name of its worthy discoverer. We have given our plant a new specific name, not only on account of the above uncertainty, but because the termination *oides* properly belongs to words derived from the Greek.

The roots are perennial, tuberous and fleshy. Stem climbing to the height of 12 or 15 feet, without tendrils, spiral, angular, smooth, branched, leafy. Lower leaves alternate to the height of about 5 feet, the rest opposite; all spreading, bn smooth channelled foot-stalks, ovate, pointed, entire, smooth, thin and pliable, with about 7 or 9 ribs, and innumerable fine transverse veins. Stipulas none. Flower-stalks axillary, solitary, shorter than the leaves, smooth, curved downwards, branched, each bearing 2, 3 or 4 flowers. Bractcas solitary under each branch, lanceolate, acutely

pointed. Flowers ascending, each on a short thick recurved partial stalk, not striking in colour, but very remarkable for their offensive smell, which is like that of rotten cheese, corrupted water, or the stinking morel, *Phallus foetidus.* Calyx none. Petals four, near two inches long, spreading, equal, regular, lanceolate, acute, many-ribbed, green, their ribs of a dull purple on the upper side. Filaments opposite to the petah and nearly as long, awl-shaped, fleshy; dull purple in their lower part; green above; furrowed on their inside, below the middle, so as to form a double cell. Anthera of two separate linear deep-violet lobes, one lodged in each cell of the filament, and crowned by one common lanceolate green furrowed appendage, like an abortive anthera, and which we dare not call (with Dr. Roxburgh) a nectary. The pollen is of a dark violet colour, and soon falls to the bottom of the flower, where it rolls about like quicksilver. Germen superior, small, sessile, ovate, green. Stigma sessile, roundish. The capsule of this genus, according to Dr. Roxburgh, consists of 2 concave valves, with one cell, and many upright, cylindrical, furrowed seeds, each on a stalk clothed with little vesicles. In his plate the flowers are but half the size of ours, on erect stalks; the petals of a tawny yellow; antheras yellow; leaves heart-shaped; differences which surely indicate a distinct species.

We have no difficulty in referring *Roxhirghia* to the order of *Asparagi* in Jussieu, to many genera of which it betrays a manifest affinity. The analogies of these genera have helped us to denominate the parts of the flower, which at first sight is by no means easy.

a filament. *I* one of the lobes of the anthera. *c* pollen fallen out. *d* appendage to the anthera. *e* barren point of the filament. *f* germen. F magnified section of the germen.



Gompho[illegible] fimbriatum.

/' I** « "> /

TAB. 58.

GOMPHOLOBIUM fimbriatum.

Fringed Air-pod.

DECANDRIA Monogynia.

Calyx bell-shaped, ample, in 5 deep segments. *Corolla* papilionaceous. *Stigma* simple, acute. *Pod* inflated, spherical, of 1 cell, with many seeds.

Leaves ternate, obovatotoblong, flat, veiny. Branches angular, smooth. ± Keel fringed.

Gompholobium latifolium. *jinn, of Bot. v.* 1. 505.
G. psoralesefolium. *Salisb. Farad, t.* 6.

THIS, like the species figured in our 5th plate, is a native of New-South Wales, near Port Jackson. It flowered this summer at Messrs. Lee and Kennedy's, from whence our figure was taken.

The branches are angular, smooth, minutely dotted. Leaves scattered, ternate, almost sessile; their leaflets smooth, veiny, entire, oblong, approaching to an obovate or wedge shape, sometimes more acute. Stipulas very minute. Flowers on axillary bracteated stalks, generally solitary, large and handsome, remarkable for a dense white woolly fringe which borders their keel, and distinguishes them from all the other species we have seen. Having been informed of another with much broader leaves in the gardens, I have judged it best to change my original name *latifolium*, (not yet become general so as to cause any confusion,) for one expressive of the essential character.

a calyx, *h* keel, *c* standard. *d*> *d* wings with their slender footstalks, *e* germen and style.

Cymbidium hyacinthinum

TAB. 60.

CYMBIDIUM hyacinthinum.

Hyacinthine Cymbidium.

GYNANDRIA Diandria.

Nectary a lip concave at the base, without a spur. *Petals* 4 or 5, plain at their base. *Lid* vertical. *Flowers* sometimes reversed.

Root tuberous. Leaves lanceolate, many-ribbed. Flowers upright, racemose, on partial stalks. Lip beardless, furrawed, four-lobed.

A NATIVE of the island of Trinidad, for which we are obliged to our liberal friend Thomas Evans, Esq., of the East India House, in whose choice collection it first flowered in the autumn of 1803. It seems not yet to have been noticed by any author, not even in the ample enumeration of species in Dr. Swartz's Treatise on the *Orchidece*, where this new genus is first established. In natural affinity *Cymbidium* comes nearest to *Dendrobhim*, see *t.* 10, 11, and 12, from which it differs essentially in the want of a pouch or spur in the base of the petals; a character perhaps rather artificial, but in so large and intricate a family any mark which is not variable becomes important.

The root is tuberous and creeping, growing in the earth, not (like many of the genus) on' trees, and throwing out long simple fibres. Stems several, erect, short, leafy, perfectly simple. Leaves sheathing, lanceolate, acute, plaited, with many longitudinal ribs. Cluster of flowers terminal, solitary, erect, simple, about a span long, bearing 4 or 5 large flowers on alternate partial stalks, each accompanied by a deciduous sheathing bractea. Petals spreading, purplish red. Lip about half their length; its centre longitudinally furrowed, and variegated with red and white; its border 4-lobed,

Eugenia malaccensis

TAB. 61.

EUGENIA malaccensis.

Broad-leaved Eugenia.

ICOSANDRIA Monogynia.

Calyx 4-cleft, superior. *Petals* 4. *Berry* of 1 cell with a single seed.

Leaves elliptic-oblong, entire. Flowers lateral, about four on a stalk.

Eugenia malaccensis. *Linn. Sp. PL* 672. *Willden. Sp. PL v.* 2. 959. *Ait. H. Keu* r. 2. 158. *Lamarck. Diet. v.* 3. 196.

Náti schámbu. *Rlieede H. Mai ah. v.* 1. 29. *t.* 18.

Jambosa domestica. *Rumph. Amboin. v.* 1. 121. *t.* 37 ?

THIS rare and beautiful tree blossomed last July in the store of George Hibbert, Esq. at Clapham, to whose favour we are indebted for a fine specimen.

In the warmest parts of the East Indies, its native country, this *Eugenia* is said, to form a tall umbrageous tree, whose trunk is about 2 feet in diameter, with a reddish spongy bark. The leaves are opposite, dependent, on short thickish footstalks, of an oblong elliptic pointed form, entire, with one rib and many lateral veins, smooth on both sides, of a bright pleasant green, apparently deciduous. Flowerstalks from the sides of the branches, opposite or clustered, smooth, round, naked, each bearing from 1 to 4 or 5 inodorous flowers, which arc remarkable for the elegant deep rose-colour of their petals, stamens and style. The calyx is green, the antheras yellow, incumbent. Stigma simple. Fruit, according to the *Hottus Malabaricus,* of the size and shape of a moderate pear, white with a blush of red, of a very agreeable vinous taste and smell, the pulp containing a large roundish seed, which appears to have the thin entire coat of the true *Eugeniee,* differing from the hard

woody nut of those alternate-leaved species which constitute the genus named by Jussieu *Siravadium.* See Sonnerat's *Voyage & la Nouvelle Guinle,* 133, /. 92, 93, *Menichea rosata.*

It is difficult to determine all species or varieties of *Jambosa* mentioned by Rumphius, nor do the description and figure above quoted well accord with our plant, though taken for it by all writers, for Rumphius describes the stamens of the length and thickness of those of a White Lily.

a shows a section of the calyx, with the style and a few stamens, *b, I* petals. C magnified antheras.

62

Santolina rosmarinifolia

TAB. 62.

SANTOLINA rosmarinifolia-
Rosemary-leaved Lavender Cotton.

SYNGENESIA Polygamia-a>qualis.

Receptacle chaffy. *Down* none. *Calyx* imbricated, hemispherical.

Stalks single-flowered. Leaves linear; those of the flowering branches plain and entire; those of the barren ones revolute, beset with scaly tubercles.

Santolina rosmarinifolia. *Linn. Sp. PL* 1180. *Ait. HorU Kew. n* 3. 165.

S. n. 2. *Gerard. Galloprov.* 193.

Abrotanum foemina, foliis rorismarini, majus. *Bauh. Pin$_m$* 137.

A. foemina Narbonense. *Clus. Hist. v.* l. 341. *ic.* 342.

CLUSIUS tells us he met with this plant on the sloping sides of some little hills near Narbonne, in the year 1552, when travelling with his friend the celebrated Rondeletius from Carcassone to Montpcllier. It is said to grow in other parts of the South of France, as well as in Spain, chiefly on open hills near the coast. It bears our climate in the open border, flowering (though very rarely) in August. We received it from the Botanic Garden of Liverpool, by favour of Mr. John Shepherd.

The roots are woody and perennial. Stems shrubby, bearing many wand-like leafy branches, which are hoary and slightly angular. Leaves alternate, hoary, linear; those on the old stem, as well as on the flowering branches, plain and almost perfectly entire; those on the young branches rcvolute, and curiously beset with imbricated scales. A large discoid convex yellow flower terminates each branch. The calyx-leaves are fringed. Florets very numerous, all uniform. The whole plant has an aromatic scent.

a section of a flower. B floret with a scale of the receptacle.


63
A
b
Empleurum serrulatum

TAB. 63.

EMPLEURUM serrulatum.

Cape Emplenrum.

MONOECIA Tetrandria.

Male, *Calyx* **4-cleft.** *Corolla* **none. Sometimes with the rudiment of a germen.**

Female, *Cal.* **4-cleft, inferior.** *Cor.* **none.** *Stigma* **cylindrical, standing on a lateral tooth of the germen.** *Capsule* **beaked, of 2 valves.** *Seed* **solitary, with an elastic arillus.**

Empleurum serrulatum. *Soland. in Ait. Hort. Kew. v.* **3. 340.**
Diosma unicapsularis. *Linn.JiL in SuppL* **155.**

INTRODUCED by Mr. Francis Masson from the Cape of Good Hope in 1774. We delineated it in Lee and Kennedy's greenhouse early in July 1805.

It is a smooth* shining, evergreen, branching shrub, of the family of the *Rutacece,* **and like most of them smelling very strongly of rue or juniper when bruised. The younger Linnaeus referred it to the genus** *Diosma,* **with which it scarcely agrees except in natural order, and Dr. Solander justly established it as a new genus. The name alludes to the lateral position of the stigma.**

The leaves are alternate, almost sessile, linear-lanceolate, acute, bordered with shallow glandular serratures, without stipulas. Flowers on simple axillary clustered stalks. Calyx regular, glandular. Stamens rarely accompanied by an abortive germen, equal, twice as long as the calyx, springing from the receptacle. Antheras large, of 2 cells, each opening by a lateral fissure. Germen mostly

in a separate flower without Ay traces of stamens, oblong, cylindrical, terminating in a flat leaf-like beak, at the base of which, atone edge, stands a pale, cylindrical, curved, smooth stigma. Capsule compressed, glandular, opening at the upper edge, consisting of 1 cell lined with a bivalve elastic arillus, and holding 1 large shining seed.

A calyx magnified and expanded, with the stamens and an imperfect germen.

I half-ripe fruit dissected, with its calyx, of the natural size.

Solanum Pyracantha

Published by J. Sowerby, London

TAB. 64.

SOLANUM Pyracantha.

Orange-thorned Nightshade.

PENTANDRIA Monogynia.

Corolla wheel-shaped. *Anther as* slightly connected, opening by 2 pores at the top. *Berry* superior, 2-celled.

Stem shrubby, very thorny, as well as the leaves and calyx. Leaves oblong, acute, pinnatifid, clothed with starry down. Thorns straight. Flower-stalks lateral.

Solanum pyracanthos. *Poirel in Lamarck. Encycl. v.* 4. 299. *Cavan. Lection.* 113.

THIS brilliant *Solanum*, a native of Madagascar, never came under the notice of Linnaeus. We find no mention of it except in the above publications. Its seeds were sent by the late Abbé Cavanilles to Mr. Lambert, to whom we are obliged for fine specimens. It was raised in the stove, where it flowered in August. Being turned out under a wall, it continued in great perfection during the autumn. To preserve it through the winter the heat of a stove is requisite.

The stem is shrubby, 3 or 4 feet high, alternately branched, round, leafy, clothed, like both sides of the leaves and the calyx, with a close, dense, starry pubescence, and, like those parts, beset with numerous, straight, sharp prickles, of a vivid orange colour, often purple at the base. The leaves are pinnatifid, and the older ones have orange ribs and veins. The flowers grow, not many together, on lateral branched stalks. Corolla purple, with greenish veins. Stamens equal. Berry globose, reddish*

a calyx. *I* corolla and stamens, c germen and style. D the starry pubescence magnified.

Cineraria [illegible]

TAB. *65.*

CINERARIA gigantea.

Gigantic Flea-wort.

. SYNGENESIA Polygamia-superfiua.

Receptacle **naked.** ***Down*** **simple.** ***Calyx*** **cylindrical, simple, of many equal scales.**

Flowers corymbose. Leaves ovate, acute, sharply toothed, cottony beneath; their stalks winged at the base: radical ones heartshaped.

OUR kind friend Thomas Evans, Esq. has favoured us with this plant from his garden at Stepney, where it flowered in July 1805. It was imported from Cape Horn in 1801, and does not appear to be described by any writer.

The stem is 2 or 3 feet in height, corymbose, leafy, round, furrowed, hollow, somewhat cottony. Radical leaves large, on long naked footstalks, heartshaped; those of the stem ovate, on stalks furnished with a toothed auricled appendage; the uppermost sessile and lanceolate.: all sharply toothed, pointed, veiny; smooth above; paler and slightly cottony beneath. The flowers grow in a large terminal corymbus, and are conspicuous for their great size and elegant colours. The disk is a bright yellow; the radius of a pale yellowish white, streaked underneath with purple or crimson veins, which become more striking as the flowers grow older. A few cottony bracteas accompany the flower-stalks. The seeds are small, their down, short, simple, very white.

a shows a dissection of the flower, with the receptacle.

Ventenatia major

Published by

TAB. *66.*

VENTENATIA major.
Greater Ventenatia.

GYNANDRIA Tetrandria.

Calyx 2-leaved, superior; leaves cloven. Limb of the *corolla* 5-cleft, irregular; mouth fringed. *Stigma* linear, simple, between the *antheras. Capsule* inferior, of 1 cell, with many *seeds**

Leaves channelled. Stalk glandular from the bottom. Calyx-leaves not half divided.

THIS genus belongs to a family consisting of *Lobelia, Goodenia, Sccevola, Velleia> Jasione, Forstera, Phyllachne*$_3$ and perhaps several more, closely allied to the *Campanulacece* of Jussieu, but which properly form an order by themselves, as Mr. Konig has remarked; *Annals of Bot.v.* l. 294. From that gentleman we expect a more complete illustration of it than we are now able to give. We learn from him that Mr. Baver has observed a striking instance of irritability in one of the species which flowered at Kew, the column of the stamens, when touched, throwing itself backward into a curved form with great quickness. We find the column in that posture in several drawings and dried specimens sent by Dr. White from Port Jackson, New South Wales, from which our only knowledge of the two species we are about to describe is derived.

The *Vtntenatia* of Cavanilles being unquestionably a *Styphelia,* I am happy to dedicate so distinct and curious a New Holland genus to the honour of a botanist who has so much illustrated the plants of that country as M. Ventenat has done. His *Jardin de Cels, Choix de Plantes* and *Jardin de la Malmaison,* are among the most splendid and able works with which Botany has been enriched.

Ventenatia major appears to grow in a sandy soil. The leaves of some specimens have evidently been burnt down to the ground, as we have observed in the *Tetrathecce,* but we have no proof that the

root is more than annual. The fibres are very long, ftimple, and smooth. Leaves all radical, numerous, ascending, 4 or 5 inches long, linear, acute, pungent, revolute, smooth on both sides, flatly keeled beneath, channelled above, minutely toothed at the margin. Flower-stalk solitary, 2 or 3 feet high, naked, round, unbranched, hollow, clothed from top to bottom, more or less densely, with horizontal, glandular, viscid hairs, such as more densely cover the spike, bracteas, germen, calyx, and outside of the corolla. Spike solitary, terminal, erect, simple, from 2 to 6 inches long, of many alternate, not quite sessile, upright flowers, each of them accompanied by 1 ovate pointed bractea, and 1 or 2 smaller, lanceolate, inner ones. Calyx superior, of 2 oblong, concave leaves, cloven at their summit, but not near half way down, permanent. Corolla rose-coloured; its tube cylindrical, scarcely exceeding the calyx j limb of 4 nearly equal, oblong, spreading segments, and 1 small, acute, reflexed lobe; the orifice, on the opposite side to that lobe, crowned with 6 cylindrical, erect, rose-coloured glands, about equal to it in length. Column of the fructification awlshaped, smooth, erect, except when irritated, about as long as the whole corolla* bearing at its summit 4 sessile, deflexed, elliptical, simple antheras, of 1 cell each. Style an oblong, smooth, terminal. fissure, concealed from view by the antheras. Germen elliptical, inferior, often, as it should seem, abortive. Capsule elliptical, inflated, about a quarter of an inch long, crowned by the calyx, bursting lengthwise into 2 incomplete valves, and consisting of 1 cell, in which are many angular seeds, fixed to a globular central receptacle.

Professor Swartz's excellent observations on the *Phyllachne* and *Forstera,* (which surely, as he remarks, form but one genus,) see *Annals of Botany, v.* 1. 286—295, have helped us to fix the characters of our *Ventenatia,* which differs from that genus, *Forstera,* in its simple 2-leaved calyx, irregular and crowned corolla, 4 simple antheras, and simple stigma. Further differences may be found in the fruit and receptacle.

No plants can be more truly gynandrous thin these, and they show that class.to be Younded in nature. Their approach to the *Orchidece* however is but slight.

A germen. B calyx. C corolla. D its crown. E, E columu. F, F antheras.

Ventenatia minor

TAB. 67.

VENTENATIA minor.

Lesser Ventenatia.

GYNANDRIA Tetrandria.

Calyx 2-leaved, superior; leaves cloven. Limb of the *corolla* 5-cleft, irregular; mouth fringed. *Stigma* linear, simple, between the *antheras*. *Capsule* inferior, of 1 cell, with many *seeds*.

Leaves nearly plain. Stalk smooth. Calyx-leaves divided to the base.

IN general habit this species agrees with the preceding, but differs in several particulars. The whole plant is smaller. Fibres of the root much branched. Leaves very numerous, rigid, an inch or inch and half long at the most, their upper surface flat, or very slightly channelled. Stalk quite smooth from the root to the base of the spike. Calyx-leaves divided from top to bottom. Lobes of the corolla more unequal, and its glandular crown longer than in *V. major*. The capsule moreover is not above one third of the size of that species, and is less inflated. The purple stain at the base of each larger lobe of the corolla in *V. minor* may possibly not be constant, but it is represented in our original drawing from Port Jackson. The column of this appears to be as irritable as that of the former.

For much of the illustration of this species I am indebted to the investigations of Mr. J. D. Sowerby.

The parts of the flower are magnified and disposed as in the last plate. A shows, the divided calyx. B crown of the flower.

Witsenia corymbosa

[illegible] Published by Jas. Sowerby London

TAB. 68.

WITSENIA corymbosa.

Corymbose JVitsenia.

TRIANDRIA Monogynia.

Calyx none. *Corolla* with a cylindrical tube; limb in 6 regular, equal, deep segments. *Stigma* slightly S-cleft. *Seeds* several, angular.

Corymbus many-flowered. Corolla smooth on the outside.

Witsenia corymbosa. *Gaivl. in Curt. Mag. t.* 895.

A NATIVE of the Cape.of Good Hope, for which we are indebted to the liberality of George Hibbert, Esq., in whose greenhouse it flowered last September. The genus is altogether new to .our gardens, nor has this species been mentioned by any author except Mr. Gawler. We own our obligations to this ingenious and elaborate writer for the above character of the seeds, which we have never seen.

The root is tuberous and perennial. Stem shrubby, erect, 4 inches or more in height, compressed, smooth; naked below; branched and leafy above. Leaves in 2 ranks, equitant, spreading, sword-shaped, acute, smooth, somewhat glaucous. Flower-stalk at first terminal, but soon lateral, solitary, erect, longer than the leaves, compressed, reddish, smooth, terminating in a large, spreading, compound, bracteated corymbus, whose branches are round. The lower bracteas are leafy; those at the subdivisions of the corymbus small, alternate, triangular, membranous, of a rusty brown; two under each flower larger, elliptical, leafy, clasping each other, and enclosing two more membranous smaller ones, which last would prevent our mistaking the former for a calyx, even though the analogy of the order were not against it. The corolla is

of a brilliant bluej its tube twice as long as the bracteas, cylindrical j limb spreading, regular, divided to the base into 6, nearly equal, obovate, smooth segments, each tipped with a little point. Stamens equal, short, in the orifice of the tube. Antheras heart-shaped, yellow. Germen superior, small. Style thread-shaped, as long as the whole corolla. Stigma small, 3-cleft. The flowers have no scent.

The genus was named by Thunberg in honour of Counsellor Witsen of Amsterdam, one of the promoters of his expedition to Japan.

a is the corolla opened to show the stamens. B outer, and C inner, bracteas which immediately accompany the flower, magnified* D style and stigma.

69

Lightfootia oxycoccoides

TAB. 69.

LIGHTFOOTIA oxycoccoides.
Cranberry-leaved Lightfootia.

PENTANDRIA Monogynia.

Corolla in 5 deep segments, closed at the bottom by valves bearing the stamens. *Calyx* 5-leaved. *Stigma* of 3 or 5 lobes. *Capsule* half superior, of 3 or *5* cells and as many valves.

Leaves plain, ovato-lanceolate, reflexed. Stigma three-cleft. Corolla spreading.

Lightfootia oxycoccoides. *L'Herit. Sert. AngL* 4. *t.* 4. *Ait. H. Kew. v.* 1. 217. *Willden. Sp. PI. v.* 1. 887.
Lobelia tenella. *Linn. Mant.* 120. *Thunb. Prod.* 40.
L. parviflora. *Berg. Cap.* 345.

A NATIVE of the Cape of Good Hope, sent to Kew in 1787 by Mr. Masson. It is not clear from whom Linnseus received his specimens. Had he seen the flower alive, he could never have referred it to *Lobelia.* It is much nearer to *Campanula,* differing only in its corolla being divided to the base ; for it has been described as of *5* petals, possibly to make the generic character more plausible only. The capsule being but partly inferior is perhaps a stronger mark.

Our much respected friend Mr. T. F. Forster favoured us with this specimen in 1795. It is a perennial shrubby plant, flowering frqm July to September. The stem is bushy and spreading, not prostrate, very much branched; branches leafy, often finely downy. Leaves alternate, reflexed, sessile, ovate or ovato-lanceolate, smooth, with a small tooth or. two at each edge. Flowers small, on little terminal naked stalks. Calyx and gcrrneh smooth. Corolla wheel-shaped, white with purple-ribs to the segments. Stigma 3-cleft. Capsule of 3 pointed valves forming a cone. Seeds many.

This genus was named by Mr. L'Heritier in honour of the well-known author of the *Flora Scotica*, who died in 1788, and whose herbarium, now in the possession of the Queen, has often been consulted by us. Few persons ever loved the science more: and his situation as chaplain to that great naturalist the Duchess dowager of Portland gave him ample opportunities of cultivating it.

Another species, *Lightfootia subukta*, is figured by L'Heritier, and we can with confidence add a third, which is *Campanula tenella* of Linnaeus, most certainly distinct from that in our plate, with which L'Heritier confounds it.

a back of a flower. £ front of the same a little enlarged. C stamen. D stigma. £ ripening capsule and calyx.


70
C
C
C
B
F
E
D
a
Asclepias carnosa

TAB. 70.

ASCLEPIAS carnosa.

Thick-leaved Swallow-wort.

PENTANDRIA Digynia.

Corolla reflexed. *Nectaries* 5, ovate, concave, bearing a **horn*** like appendage.

Leaves revolute, ovate, fleshy, very smooth. Stem shrubby, climbing, round. Umbels lateral, drooping. Corolla downy on the upper side.

Asclepias carnosa. *Linn. Suppl.* 170. *Murray SysU Veg. ed.* 14. 260. *Willden, Sp. PI. v.* 1. 1264. *Sims in Curt. Mag. t.* 788.

THE Hon. Mrs. Barrington, to whom we have on many occasions been obliged for some of the rarest and finest plants that the British gardens can boast, favoured us with this *Asclepias,* brought to her from the Straits of Sunda. We have not heard of it in any other collection. It is cultivated in the stove, and flowers from May to July, being very remarkable for its succulent habit, the elegance of its blossoms, and especially for their sweet and luscious fragrance, which has been compared to that of a rich plum cake. A combination of the smell of honey with the almond flavour of the Peruvian Heliotrope, perhaps gives the best idea of it.

This plant was only known by the mention made of it in the *Supplementum* of Linnaeus, (from whence Murray and Willdenow having adopted it have mistaken its place in the genus,) till our much respected friend Dr. Sims published it in Curtis's Magazine. Having examined the flower in a living state, we see no reason to doubt its genus, nor are the nectaries materially different from those of other species, though their cavity is on the under side. We have several others with succulent leave*

The original specimen in the herbarium of Linnaeus was received from China, through his friend Blad, as the Gamboge plant; but there is another marked *India,* which he seems himself to have once mistaken for the *Cambogia Gutta,* though he has no where alluded to this specimen.

The stem *ofAsclepias carnosa* is round (not square), juicy, slightly downy, climbing by twisting round any thing in its way. Leaves opposite, on thick, round, downy, dark-coloured stalks, ovate, bluntish, entire, slightly revolute, very succulent, smooth and shining on both sides, paler beneath, furnished with a thick rib, and several veins. Umbels lateral, axillary, solitary, drooping, on shortish stalks, simple, many-flowered, their rays brown or purple, not quite smooth, with many small bracteas at the base. Calyx 5-cleft, acute, hairy. Corolla wheel-shaped, its lobes acute, deflexed or vaulted, clothed on the upper side with dense pubescence, hitherto not mentioned by authors, which gives the flower a sort of frosted appearance. Nectaries smooth, shining, hollow underneath, their horns purple. Germens-8, purple, their styles running through the singular 5-sided body, on whose angles the antheras are fixed in pairs, as in several others of this natural order. This genus is perhaps strictly gynandrous; but as all the plants of the order have not been thoroughly investigated, and their structure is in many cases obscure, they remain for the present as Linnaeus left them.

a \3 the back of a flower. B flower dissected and magnified! C, C, C nectaries. D germens. E fleshy angular body bearing the stamens. F stigmas •

71

Stapelia glanduliflora

TAB. 71.

STAPELIA glanduliflora.

Glandular-flowered Stapelia.

PENTANDRIA Digynia.

Corolla 5- or 10-cleft. *Nectary* a double star over the organs of fructification.

Corolla five-cleft, acute, covered with club-shaped glands. Branches square, with upright teeth.

Stapelia glanduliflora. *Masson Stap.* 16. *U* 19.
S. glandulifera. *Willden. Sp. PL v.* 1. 1284. *Donn. Cant.* 43.

FROM the greenhouse of Mess. Lee and Kennedy, where it flowered in September last, not indeed for the first time in England, for Mr. Masson saw it at Kew in 1796. Botanists are indebted to this indefatigable collector alone for a knowledge of most of the species of *Stapelia,* 41 of which, unknown before, he has figured and described in a beautiful work on the subject. The genus is almost peculiar to the sandy deserts of the Cape of Good Hope. Many of the species are singularly offensive in the scent of their flowers, which in some instances resembles carrion, in others rotten cheese, foul water, and such-like odours, possibly to the great recreation of the Hottentots who reside in their neighbourhood.

The habit of the whole genus is peculiar. The stems very succulent, angular, often toothed, quite destitute of leaves. Flowers in many instances very handsome, and highly curious in their structure. The present species is known by jts ascending square stems, whose angles are beset with upright teeth, and somewhat downy; its flower-stalks lateral, clustered, downy, longer than the corolla, which has five ovate acute tawny segments, and is clothed on the upper side with white glandular club-shaped hairs. The star covering the centre of the flower is orange and black.

Professor Willdenow has changed the specific name, apparently without intention, and we therefore restore it.

Correa virens

Published by Jas Sowerby, London.

TAB. 72.

CORR3EA virens.

Green-flowered Corraa.

OCTANDRIA Monogynia.

Calyx of 1 leaf. *Petals* 2 to 4, cohering. *Anthems* incumbent, 2-celled, bursting longitudinally. *Capsule* superior, of 4 cells, and 4 valves with inflexed edges. *Stigma* in 4 acute lobes.

Leaves oblong, heart-shaped at the base. Flowers pendulous. Calyx-teeth elongated.

Mazeutoxeron reflexum. *Billard. Voy. (Engl.* erf.) *v.* 2. 65. *t.* 19?

ONE of the most beautiful and remarkable New Holland genera is that which bears the name of Mr. Joseph Correa de Serra, a botanist of the first rank, many years Secretary to the Academy of Lisbon and its chief conductor, who after having spent some time in this country, and having merited no less esteem and respect by his character than his talents, is now cultivating his favourite science among the botanists of France.

Of this genus the *Cornea alba* has been figured by Mr. Andrews, *tab.* 18; and this, being of a rufous hue when dried, appears to be the *Mazeutoxeron rufum* of Billardiere, who was not aware of my having long before him published the genus as *Corrcea.* Another most beautiful species is the *rubra,* discovered by Sir Joseph Banks and Dr. Solander, and engraved, as well as the *alba,* in those fine plates intended for future publication, some of which, presented by Sir Joseph to Linnaeus, are now before me. The third species only which has come under my notice is that here represented, which is probably *Mazeutoxeron reflexum* of Billardiere; but as his representation of the calyx-teeth, the margin of the leaves, and the number of petals, ill accords with our plant, I think it best to give the latter a new name, alluding to the colour of the flowers as in the others.

For this very desirable acquisition we are obliged to the Marquis of Blandford, in whose fine garden it flowered in the open air in November last, having been raised from New Holland seeds. From Billardiere's remarks, the whole genus should seem to be rather hardy. The *rubra* is most eminently beautiful, and very nearly related to our *virens*$_9$ from which it differs chiefly in having upright red flowers, whose calyx is but very slightly toothed. Both species are rigid branched shrubs, whose pubescence is formed of stars, or rather prickly globules, clothing the branches and backs of the leaves, as well as the calyx and corolla. The leaves in both are opposite, on short stalks, heart-shaped at the base, more or less waved or toothed at the edge. Flowers terminal, solitary, each with a pair of narrow obtuse bracteas. In C. *virens* the flowers are pendulous. Calyx-teeth elongated, narrow and sharp. Corolla green, clothed with whitish pubescence, of only 2 petals in our specimens, but we cannot be certain of their number being complete, any more than that of the stamens, which are six, one of them seemingly double. The stigma is only 3-cleftj it is naturally 4-cleft, not simple and acute, as M. Billardiere as well as myself once thought it. I conceive this genus must belong to the natural order of *Rhododendra*, not to the *Rutacete.*

a flower-stalk, bracteas, open calyx, and pistil, *h*, *I* stamens. C magnified stigma. D magnified germen, clothed with hair and standing on a green receptacle, *e* petals. F magnified pubescence.

Digitalis Sceptrum

TAB. 73.

DIGITALIS Sceptrum.

Madeira Shrubby Fox-glove.

DWYNAMLA Angiospermia.

Calyx in 5 segments. *Corolla* bell-shaped, 4- or 5-cleft, inflated. *Capsule* ovate, of 2 cells, with many *seeds*..

Segments of the calyx linear. Bracteas linear-lanceolate, longer than the flowers. Corolla obtuse. Leaves elliptic-oblong, serrated. Stem shrubby.

Digitalis Sceptrum. *Linn. Suppl.* 282. *VHerit. Sert.Angl.2l. t.* 24. *Ait. Hort. Kew. v.* 2. 346.

JV4.R. MASSON was the discoverer of this handsome plant in the shady woods of Madeira, from whence he communicated it in a dry state to Linnaeus,, and in a living one to the Royal Gardens at Kew in 1777. It flowers in July and August, and requires the shelter of a greenhouse in winter. We received it from Mess. Lee and Kennedy. .

The stem is shrubby, 5 or 6 feet high. Branches round, each bearing a large tuft of crowded, elliptic-oblong, acute leaves, smoothish above, veiny and downy beneath, serrated in their upper part, tapering and entire at the base. Flowerstalks terminal, solitary, naked, each bearing a large, dense, ovate spike of handsome yellow flowers reticulated with tawny veins. The bracteas are linear-lanceolate, downy, and project beyond the flowers. Calyx downy; its segments rather linear-lanceolate than awl-shaped. .

a calyx and pistil. *I* bractea. *c* stamens.

Dolichos purpureus

TAB. 74.

DOLICHOS purpureus.

Purple Dolichos.

DIADELPHIA Decandria.

Stigma downy. *Standard* with 2 oblong parallel protuberances at the base, which compress the wings beneath them.

Stem climbing. Leafstalks hairy. Wings spreading. Pod muricated, compressed. Calyx enveloped in a pair of partial bracteas.

Dolichos purpureus. *Linn. Sp. PL* 1021. *Donn. Cant.* 135.

THIS is said to be a native of the East and West Indies, and is mentioned by Mr. Donn as having been introduced into our English gardens in 1790. It is not in the *Hortus Kewensis,* nor is it figured in any of our periodical works. There is no authentic specimen of this species in the Linnaean Herbarium, so that our only guide in determining it is what appears in the Species Plantarum. Our specimen grew in the hothouse of the Marquis of JBlandford, which has been completely overrun by the plant in the course of 2 years, the root and stem being perennial, not annual, flowering through the summer.

Stem climbing, angular, roughish with deflexed hairs, sometimes smooth. Leaflets broad-ovate, approaching to heart-shaped, pointed, smooth or downy, reticulated with purple veins. Footstalks more or less downy. Flowers in very long, interrupted clusters, elegantly variegated with rose-colour and purple. Besides the solitary bracteas at the base of each flowerstalk, the calyx is enveloped in a pair of lobed ones, seated close to its base. Pods short, broad, and compressed, muricated all over with little tubercles, and of a shining purple hue.

a calyx and bracteas. *I, I* standard. c_9c wings. tZkeel. *e* stamens, /pistil, *g* section of the pod.

70

Stelis micrantha

TAB. 75.

STELIS micrantha.

Small-flowered Stelis.

GYNANDRIA Diandria.

Sectary a concave lip without a spur. 3 *outer petals* united at the base: 2 *inner* resembling the lip, vaulted over the style. *Lid* vertical, deciduous. *Flowers* reversed.

Cluster dense and slender, longer than the leaf. Closed flowers six-sided.

Stelis micrantha. *Swartz in Stockh. Trans, for* 1800. 248.
Pendrobium micranthum. *Ejusd. Act. Nov. Vps. v.* 6. 84.
Epidendrum micranthum. *Ejusd. Prod.* 125.

THE Marquis of Blandford has favoured us with this very curious and rare little orchideous plant, a native of Jamaica, which flowered in his Lordship's stove at White Knights in the latter part of last November. It accords exactly with a dried specimen sent by Dr. Swartz, its original discoverer, who after much consideration thought proper to constitute a new genus of this and the *Epidendrum ophioglossoides* of Jacquin and Linnaeus. Their character indeed is peculiar, and justifies this determination.

The root is parasitical, fibrous, perennial. Stem short, simple, erect, sheathed at the base, bearing a solitary leaf, and from its bosom a long simpje upright slender cluster, much longer than the leaf, of numerous crowded alternate little flowers, all leaning one way, and each accompanied by a small concate bractea. The leaf is thick, hard and succulent, elliptic-oblong, entire, recurved, obtuse, obscurely ribbed, borne on a thick channelled stalk. Flowers reversed in their position, their petals closed, forming a roundish six-sided figure. Three outer petals green, uniform, concave, keeled: two inner much smaller, dark-brown, obtuse, concave,

vaulted over the organs of fructification. Lip agreeing with the inner petals ïn colour, size, and nearly in form, being uppermost from the reversed position of the flower, without any spur. Style short, encompassed with the parts just described, and terminating in a three-lobed margin, one edge of which bears two masses of yellow pollen over the concave stigma, covered with a large, vertical, round, downy lid, paler than the lip.

A shows a magnified flower in its natural posture, with the bractea. B lip, or nectary. Annexed is an outline of the inner parts/turned and more magnified. C, C inner petals. D lip. £ bordered style. F lid removed.

76

Astrantia major

TAB. 76.

ASTRANTIA major.

Great Black Master-wort.

PENTANDRIA Digynia.

Umbel simple. *Involucrum* of many lanceolate, equal, smooth, coloured leaves. *Fruit* furrowed, muricated. *ManyJZowers* abortive.

Leaves five-lobed; lobes three-cleft. Involucrum about as long as the umbel. Calyx-teeth awlshaped.

Astrantia major. *Linn. Sp. PL* 339. *Ait. H. Kew. v. I.* 328. *Ehrh. Phytoph.* 93.
Astrantia. *Biv. Pent. Irr. t.* 68.
A. n. 790. *Hall. Hist. v.* 1. 351.
A. nigra, sive Veratrum nigrum. *Ger. em.* 97.8.

A YOUNG botanist would not at first lake this for an umbelliferous genus. The umbel, with its delicately-coloured leaves, has the appearance of a compound flower. The parts of fructification will well repay the trouble of an accurate examination, and will be found no less curious than beautiful. The elegant Haller was very partial to this plant, and has celebrated it in his poem called The Alps. See Mrs. Howorth's translation, p. 32.

This species is not uncommon in alpine meadows and pastures, particularly such as are moist and near water, flowering in August. It is easily cultivated, thriving well on a rich and rather moist border, but is not found in every flaunting flower-garden. We have observed it to be a favourite of the more refined admirers of Nature, who would most delight to gather it on its native Alps.

The root is perennial, tuberous, externally black, of a pungent aromatic flavour, and stimulating cathartic quality. Stem a foot and half or two feet high, upright, furrowed, smooth, almost leafless. Leaves of a shining deep green, smooth, veiny, mostly

radical and on long stalks, deeply divided into *5* broad lobes, of which the 3 middle one3 are most regularly 3-cleft; all are sharply and irregularly serrated, the serratures fringed with minute bristles. Umbels on somewhat corymbose or panicled stalks, accompanied by variously-lobed, partly coloured, and prettily veined, bracteas, which approach to the habit of the involucrum; but, nevertheless, analogy forbids us to consider (with Linnaeus) the inflorescence as a compound umbel. Each umbel is erect, when young rather drooping, formed of very numerous, capillary, simple, equal, purplish, smooth stalks. Involucrum of many spreading, entire, acute leaves, of a lanceolate form inclining to obovate, smooth,' white with a purple tinge, veined and tipped with green. Central flowers perfect; those of the circumference abortive, having no germen. Calyx-teeth narrow and sharp. Petals long, narrow, inflexed, uniform, whitish, Antheras pale purple, apparently perfect in all the flowers. Styles recurved, with bluntish stigmas. Germen and fruit obovate, but slightly compressed, marked with many deep longitudinal furrows; the intermediate ribs tubular, beset with numerous ascending sharp teeth or tubercles, by which the genus is well characterized.

Garidel, *tal** 46, has given a faulty figure of this plant, much more faultily applying to it all the synonyms of *Trollius europceus.*

A abortive flower magnified. B germen and other parts of a fertile flower. C rib of the fruit. D petal. £ stamen.

Astrantia minor

TAB. 77.

ASTRANTIA minor.

Small Black Master-wort.

PENTANDRIA Digynia.

Umbel **simple,** ***lnvolucrum*** **of many lanceolate, equal, smooth, coloured leaves.** ***Fruit*** **furrowed, muricated.** ***MaxiyJIowers*** **abortive.**

Leaves divided to the base, deeply serrated, acute. lnvolucrum rather longer than the umbel. Calyx-teeth ovate.

Astrantia minor. ***Linn. Sp. PL*** **340.** ***Ait. H. Kew. v.*** **1. 328. A. n. 791.** ***Hall. Hist. v.*** **1. 351.**

Helleborus minimus alpinus, astrantiae flore. ***Bocc. Sic.*** **1O.** *t.* *O.f.* 3.

THIS at first sight differs from *A. major* principally in size, but is essentially different in several other respects. It is much more rare, not only in our gardens, but even on the Alps, being chiefly found in the most elevated situations in the neighbourhood of the glaciers, growing in moist black earth under the ahade of abrupt precipices or of surrounding shrubs, and flowering in August and September.

Root perennial. Whole plant smooth, delicate and slender. Stem 12 or 15 inches high. Leaves divided to the very base into (for the most part) seven sharp, deeply cut and serrated lobes, with bristly teeth. Umbels of an ivory white, tinged slightly with purple, and sometimes a greenish hue. Calyx-teeth and petals broad. Fruit rather elliptical; with strongly crested ribs.

A leaf of the involucrum. B abortive flower. C fertile flower. D petal, e, E ripening fruit.

Eriocalia major

TAB. 78.

ERIOCALTA major.

Great Woolly Master-wort.

PENTANDRIA Digynia.

Umbel **simple.** ***Involucrum*** **of many lanceolate, equal, woolly, coloured leaves, longer than the umbel.** ***Fruit*** **compressed, hairy.** ***Petals*** **none. Many** ***Jlowers*** **abortive.**

Segments of the leaves bluntish, flat, woolly on both sides. Flower-stalks somewhat corymbose.

J. O the scientific student of the natural affinities of plants, and of the adaptation of peculiar tribes to certain regions, nothing can be more striking than to find in the sandy wilds of New Holland a genus so much resembling the *Aŝirantia* of the European Alps as that which is here for the first time made known to the botanical world. Not only their generic characters, *Jtb* their habits, have a marked affinity, and at the same time many characteristic points of difference, but a similar analogy is observable between the species of each, as far as they are known.

We have named this new genus *Eriocalia,* from *epiov* wool, and *XOLXIOL* a nest. It belongs to the umbelliferous order, being one of those few whose umbel is simple, not compound; and it ranges next to *Astranticiy* from which the generic character above clearly distinguishes it.

-E. *major* appears to be annual, but on this head we have no information. We are only informed of its growing near Port Jackson in a sandy soil, and blossoming in October.

The root is branching and woody. Stem solitary, about 2 feet high* erect, leafy, round, woolly, but little branched except at the upper part, where the long flower-stalks, more or less numerous, grow in a corymbose form. Leaves* alternate, stalked, 3-cleft,

lobed and pinnatifidj their segments spreading, linear, entire, flat, a little dilated upwards, and bluntish; clothed with dense wool, whiter beneath. Stipulas none. Flowers terminal, large and showy, all over white with a green or rufous tinge. Involucrum coloured, spreading, much longer than the umbel, consisting of 8 or 10 lanceolate, acute, entire leaves, peculiarly soft and pliable, clothed on both sides with a dense velvet-like pubescence. Flowers very numerous, forming a compact, hemispherical, hairy umbel, those of the circumference abortive, having no germen. Calyx a little elevated, of 5 large, equal, ovate, concave, whitish leaves, hairy externally, and having the aspect of petals. Of real petals we have found none. Stamens in all the flowers, 5 in number, equal, awlshaped, white, with yellow roundish antheras projecting a little beyond the calyx. Styles 2, capillary, longer than the stamens. Stigmas simple. Germen obovate, compressed, densely clothed with long white silky hairs. The wool and hairs under the microscope appear to be compound, and more or less whorled. Ripe seeds we have not seen. No aromatic or pungent flavour if perceptible in any part.

A wool of the stem or leaves. B hair of the flower. C perfect flower. D section of the germen: all magnified.

Eriocalia minor.

Hardwicke Mall. Published by Jas. Sowerby, London.

TAB. 7f).

ERIOCALIA minor.

Small Woolly Master-wort,

PENTANDRIA Digynia.

Umbel simple. *Inyolucrum* of many lanceolate, equal, woolly, coloured leaves, longer than the umbel. *Fruit* compressed, hairy. Petals* none. Many*Jlowers* abortive.

Segments of the leaves acute, revolute; smoothish above; silky beneath. Flower-stalks scattered.

J. HIS lesser species of *Eriocalia* grows likewise near Port Jackson in a sandy or gravelly soil, flowering in March.

The root is branched and woody* possibly perennial. It has scarcely any taste or smell. Stem a foot or two in height, much branched, leafy, round, clothed with close-pressed hairs. Leaves on long footstalks, divided into 3 or 5 deep, spreading, dilated, acute, revolute, pinnatifid or 3-cleft lobes; green, smooth, or slightly hairy, above; densely clothed with white silky hairs beneath. Flowers on long, solitary, terminal, naked stalks. Involucrum very hairy and somewhat silky above; partly naked beneath. Umbel dense and round; its stalks very short. Flowers much like those of .E. *major,* only the calyx has less of the texture of petals, and the germen is more elliptical.

A hair of the flower-stalk. B abortive flower. C fertile flower. D stamen. E section of the germen.


80
a
b
c
c
E
Hastingia coccinea

TAB. 80.

HASTINGIA coccinea.
Scarlet Hastingia.

DIDYNAMIA Gymnospermia.

Calyx bell-shaped, dilated, much wider than the corolla, slightly 5-cleft, unarmed, coloured.

THIS splendid Indian shrub was long ago named by Koenig in honour of his munificent and intelligent patron, Governor Hastings; but it has hitherto remained unpublished. To Sir Joseph Banks we are obliged for a wild specimen, and to Lieutenant Colonel Hardwicke for a beautiful drawing made under his own inspection. This gentleman informs us that the *Hastingia* grows on the northern mountains of Bengal, flowering in February or March, and ripening seed in April; and that its country name is *Ghurhul-pakaria,* which sonorous denomination we recommend to those who disapprove of Linnaean phraseology.

The stem is shrubby, smooth, roundish, with many opposite branches. .Leaves opposite, on furrowed stalks, without stipulas, ovate, pointed, veiny, slightly serrated, almost perfectly smooth, dotted on both sides, paler beneath. Flowers in terminal, loose, bracteated bunches, of a vivid scarlet. Flowerstalks downy. Calyx permanent, bellshaped, large and spreading, veiny, slightly downy, as richly coloured as the corolla; its margin slightly 5-Iobed and waved, destitute of teeth or spines. Corolla tubular, ringent, downy, longer than the calyx, but much narrower; its upper lip obtuse, cloven, with 2 lateral reflexed lobes j lower somewhat longer,

undivided, revolute, obtuse, crenate. Stamens all rather longer than the upper lip, downy, red, with pale-yellow antheras. Gennen 4-lobed, downy, pale. Style as long as the longest stamens, curved, with a small, cloven, acute stigma. Seeds 4, in the bottom of the calyx, black, obovate, rough.

This genus should be inserted between *Phlomis* and *Moluccella.* Only one species is known.

a flower complete, *b* the same cut open. c_9 *c* lower lip. *d* permanent calyx and fruit. <?, £ seeds.

Protea ochroleuca

TAB. 81.

PROTEA ochroleuca.

Cream-coloured Protea.

TETRANDRIA Monogynia.

Common Calyx of many leaves, imbricated, many-flowered. *Petals* 4, bearing the stamens. *Nut* superior, closed, with 1 *seed.*

Leaves ovate-oblong, entire, nearly smooth. Head hemispherical, terminal. Calyx-scales fringed with spreading hairs. Corolla hairy all over.

DRAWN from the collection of G. Hibbert, Esq., who received it among many other botanical treasures, from the Cape of Good Hope. It is a quick-growing handsome greenhouse shrub, 6 feet or more in height, and flowered in January 1806. We have not found any figure or description in authors applicable to it, and have therefore given it a new name expressive of the colour of the flowers. It is most nearly akin to *P. grandijlora. Andr. Repos. t.* 301.

The branches are spreading, leafy, round, hairy. Leaves alternate, spreading, sessile, of an oblong form inclining to ovate, rigid, entire, smooth except when young, and having a thick red rib and a margin of the same colour. Flowers terminal, solitary, large, scentless, of a pale sulphur- or cream-colour. Scales broad, fringed with long fine silky divaricated hairs. Corolla very hairy all over. Three of the petals are united into one, bearing 3 antheras; the fourth is separate. Style thick. Stigma narrow and linear.

A, A corolla magnified. B 3 of the antheras. C the fourth. D style. E stigma. F section of the germen more magnified.

In the description of *P. rosacea, v.* 1. 86, *line* 4, for Style, read stigma.


82
B
E
A
F
D
C

TAB. 82.

CONOSPERMUM longifolium.

Long-leaved Conosperrnum.

TETRANDRIA Monogynia.

Calyx none. *Corolla* of 1 petal, ringent, bearing the stamens : its *upper lip* vaulted; *under* 3-cleft. *Stigma* obtuse. *Seed* l, naked, crowned with bristles.

Leaves linear inclining to obovate, entire, smooth, with a marginal nerve and numerous transverse veins.

OF this New Holland genus, first characterized in the 4th volume of the Linnaean Society's Transactions, page 213, no figure has any where appeared. It is of the Proteaceous order. We have 4 species from Port Jackson, and a fifth, extremely remarkable for the reticulated surface of its leaves, gathered by Mr.'Menzies at King •George's Sound. We know not of any being as yet introduced into the gardens of Europe, nor are we informed of their culture, or their time of flowering.

C. *longifolium* has a rigid shrubby stem, sometimes about 3 feet high. Leaves alternate, several inches long, entire, smooth, varying in breadth from a linear to a narrow obovate figure, pointed, tapering down into a footstalk; their margin marked with a fine nerve connected by transverse veins with the main rib. Flower-stalks about the lops of the branches, axillary, long, each bearing a large downy bracteated corymbus of white or blush-coloured flowers. Corolla externally downy. Antheras sessile, 2 in the hollow of the upper lip; 2, which seem abortive, near tjie base of the lower. Style clubshaped, bent. Stigma blunt, curved. Germen and seed inversely conical, crowned with a fringe of rigid hairs, and altogether resembling a shuttlecock.

A magnified flower, showing the antheras in their proper situation. B upper lip. C bractea. D germen. £ stigma. F ripe seed.

Persoonia ferruginea

TAB. 83.

PERSOONIA ferruginea.

Rusty Persoonia.

TETRANDRIA Monogynia.

Calyx none. *Petals* 4, bearing the stamens towards their base. *Glands* 4 at the base of the germen. *Stigma* blunt. *Drupe* with 1 *seed.*

Leaves elliptical, smooth. Flowers silky, on axillary branched silky stalks.

SEVERAL species of this New Holland genus have been made known to the botanists of England by Mr. Andrews in his *Botanist's Repository.* Its characters were first given in the 4th volume of the Linnaean Society's Transactions, p. 215, and it was named in honour of Mr. C. H. Persoon, celebrated for his scientific works on *Fungi.* In the following year Professor Willdenow applied this name to a different genus in the second volume of his *Sp. Pl.*> not knowing that we had anticipated him.

P. *ferruginea* grows near Port Jackson, flowering in November. The stem is shrubby, 3 or 4 feet in height, branched. Leaves generally opposite, elliptical, broad, smooth, entire, on short stalks. Flowers 3 or 4 together, on short, branched, axillary stalks, accompanied by small bracteas. These stalks and bracteas, as well as the germen and the outside of the corolla, are thickly clothed with short silky hairs of a tawny or rusty colour. The inside of the corolla is smooth and bright yellow. Antheras linear, greyish, at length recurved. Style and stigma smooth. Fruit not known to us, but there can be no doubt of the genus, which seems allied in natural affinity to *Loranthus.*

A bractea. B petal and stamen. C germen and style.


84
d
c
b
E
F
a
Eucalyptus resinifera

TAB. 84.

EUCALYPTUS resinifera.

lled-Gum Eucalyptus.

ICOSANDRIA Monogynia.

Calyx superior, permanent, truncated, covered before flowering with an entire *lid*$_9$ which soon falls off. *Capsule* of 3 or 4 cells, opening at the top. *Seeds* numerous.

Lid conical, round, coriaceous, twice as long as the calyx. Umbels lateral, solitary. Leaves ovate, long-pointed.

Eucalyptus resinifera. *Sm. in White's Voyage,* 2S1. *U 25. Tr. of Linn. Soc. v.* 3. 284. *Wild. Sp. PL v.* 2. 977. *Andr. Repos. v.* 6. *t.* 400.

Metrosideros gummifera. *Soland. Mss. Gaertn. Sent. v.* 1.170.

/. 34./. I. ^ ^

WE are obliged to the Right Hon. Dowager Lady De Clifford for sending us this plant in April 1804, when it flowered, for the first time in England, in her greenhouse at Paddington. It is a native of New South Wales* and affords an astringent resin, of a fine crimson colour, known in the settlement at Port Jackson by the name of Red Gum, of which no great use has, as yet* been made either in medicine or the arts. Mr. Andrews procured a specimen from the above-mentioned collection in the following July, and published it soon after, for which reason we have hitherto withheld our figure; but finding the genus wanted further elucidation than it has yet received, we wish to contribute our mite towards it.

This genus was established by the late M. I/Heritier, in whose original definition of it I found it necessary to make a double alteration, *operculo integerrimo* for *operculo hemispfuerico,* for that excellent observer had seen only one species, which has an hemispherical lid, nor had he adverted to its being perfectly entire at the

edge, which is not so completely the case with a similar genus, the *Calyptranthes* of Swartz. The learned Jussieu adopted *Eucalyptus* entirely from L'Heritier, without ever seeing a specimen-himself. In such cases he always informs us whom he copies, that we may know where the responsibility is attached. The lid was universally believed to be single, till Mr. J. D. Sowerby discovered an external one (figured by Mr. Andrews), and what is still more remarkable, an additional covering, of 3 awlshaped bodies cohering by their points, whose bases seem to originate from the 3 angles of the gcrmen or calyx. The detection of these outer parts countenances M. Jussieu in naming the inner lid a petal; but it is so peculiar, that we venture to retain a different name; nor do we know how far the double or triple lid is common to all the species. On this subject full information is to be expected from the acute investigations of Mr. R. Brown, Librarian to the Linnean Society, and Mr. F. Bauer, who are returned from New Holland with finer drawings, and more ample collections than have yet been brought from those remote regions, and whose species of *Eucalyptus* are, as I hear from Mr. Brown, peculiarly numerous.

E.resinifera grows in it 3 own country to a large tall tree. The natives cut notches in its stem, and climb it in pursuit of various small quadrupeds who take shelter in the branches. With us it is a hardy greenhouse shrub, remarkably tardy in its mode of flowering, for the buds are formed a year before they expand. The branches droop elegantly. The leaves are alternate, on short stalks, smooth, ovate, entire, tapering to a long sharp point, more or less unequal at the base. Flowers green, in axillary solitary simple umbels, on compressed stalks. Stamens forcing off the lid, and then spreading, numerous, white, with yellow antheras. Style clubshaped, angular. Capsule of 3 cells.

a germen, calyx, stamens and style. *I* inner lid, or petal, *c* outer lid. *d* covering of the outer lid. £ magnified stamen. F section of the germen.

Mespilus tanacetifolia

TAB. 85.

MESPILUS tanacetifolia.

Tansy-leaved llazcthorn.

ICOSANDRIA Pentagynia.

Calyx in *5* segments. *Petals* 5. *Drupe* inferior. *Nuts* 2 to 5_9 with 2 *seeds* each.

Thorns terminal. Leaves obtuse, pinnatiiid, cut, downy on both sides. Stipulas cloven. Flowers corymbose. Styles five.

Mespilus orientalis, tanaceti folio villoso, magno fructu pentagono e viridi flavescente. *Tourn. Cor.* 44. *Voyage^ v.* 2. 171. /. 172.

SEEDS of this shrub were received by Messieurs Lee and Kennedy from Constantinople, and it has for many years flourished in their nursery, whence our figure was taken. Though so well described and figured by Tournefort in his Voyage, succeeding writers have not admitted it into their systematic works. It is, nevertheless, well worthy the notice of the botanist and the cultivator, being a most distinct species, quite hardy with us, singular and ornamental in its aspect, and remarkable for the fragrant hawthorn scent of its flowers. Mr. Hawkins informs me that it grows on all the high mountains of Greece. I suspect however that two varieties, if not species, are found there, both described by Tournefort in the page above quoted, and gathered by him on the northern mountains of Natolia, and both in Dr. Sibthorp's Greek herbarium. Of one of them only, with small red fruit, I find an outline among his unfinished sketches.

Our plant blossoms in June, and is a strong and rigid shrub, already 8 or 10 feet high in the gardens, the branches divaricated, downy when young, each terminating in a strong simple thorn. Leaves numerous on the young branches, alternate, on short foot-

stalks, somewhat wedge-shaped, deeply pinnatifid, sharply serrated at their extremities, veiny, very downy on both sides, deciduous. Stipulas cloven, glandular. Flowers terminal, corymbose, cream-coloured, twice or thrice as large as the common Hawthorn, and much more fragrant. Their stalks and calyx are downy. Stamens 80, 3 opposite to each petal, and 1 to each segment of the calyx. Styles 5. Fruit of a tawny yellow, round, half an inch or more in diameter, with the flavour of an apple, and containing 5 hard seeds or stones.

This shrub confirms the propriety of referring the Hawthorn to the genus *Mespilus*. That it is what Tournefort has figured, cannot, we presume, be doubted, though he did not observe the thorns, and though he has described the fruit rather larger, and more furrowed, than we have seen it. We have observed it to vary in this respect.

a shows a section of the flower, *h* one of the ripe seeds, crowned with its permanent style.

Rubus pistellatus

March 1. 1818 Published by J.C. Sowerby, London.

TAB. 86.

RUBUS pistillatus.

Close-styled Bramble.

ICOSANDRIA Polygynia.

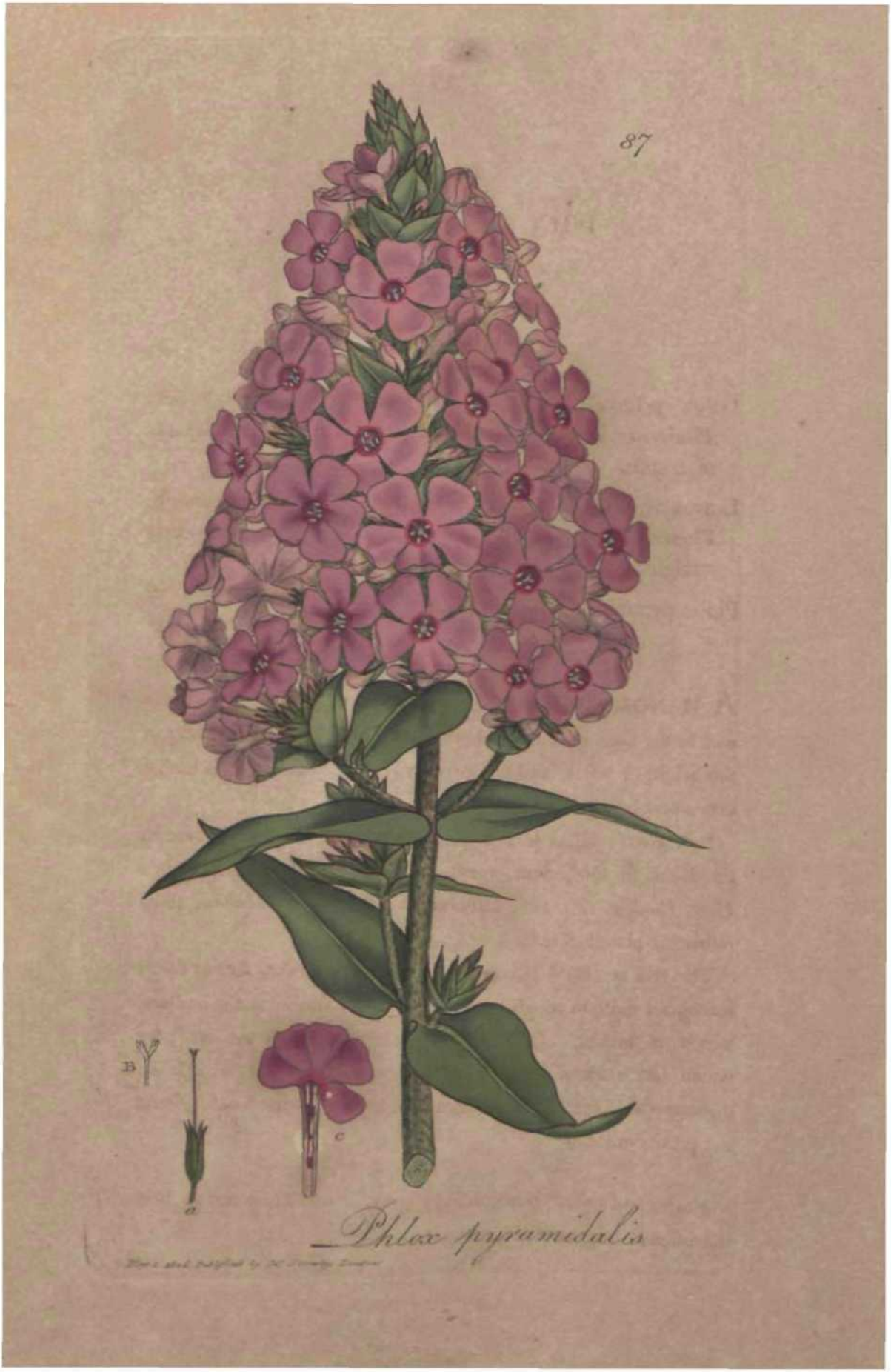
Calyx 5-cleft. *Petals* 5. *Berry* superior, composed of several single-seeded grains.

Leaflets three, smooth, sharply serrated. Stem single-flowered, without prickles. Petals oblong, entire. Styles clustered together.

A. NATIVE of Labrador, cultivated in bog earth in the garden of the Right. Hon. Charles Greville at Paddington, where it grows along with the *Ruins arcticus*, figured in *English Botany*, *t.* 1585, to which this bears a great affinity, but is unquestionably a distinct species.

The roots are slender, creeping and perennial. Stems 3 or 4 inches high, erect, simple, without prickles. Leaves resembling those of a strawberry, alternate, on long footstalks, composed of 3, not quite sessile, elliptical, smooth leaflets, sharply and irregularly serrated. Stipulas small, oblong, entire. Flower solitary, terminal, on a downy stalk, larger than that of *R. arcticus.* Calyx in 6, or sometimes more, lanceolate, acute, entire, downy segments. Petals as numerous and twice as long, crimson, elliptic-oblong, undivided. Stamens clubshaped, red. Anthera3 on a minute stalk, roundish. Germen depressed. Styles clubshaped, clustered together like one simple pistil. The fruit we have not seen. The flowers are produced about June.

A section of the flower, showing the combined styles, a little magnified. B a stamen. C a separate germen and style.



Phlox pyramidalis

TAB. 87.

PHLOX pyramidalis.

Pyramidal Phlox.

PENTANDRIA Monogynia.

Calyx prismatic, in *5* segments. *Corolla* salver-shaped. *Filaments* unequal in length. *Stigma* 3-cleft. *Capsule* of 3 cells. *Seeds* solitary.

Leaves ovate or heart-shaped, pointed, smooth. Stem rough. Flowers in a dense pyramidal cluster. Calyx-teeth nearly straight.

Phlox pyramidalis. *Donn. Cant.* 30.

A HANDSOME North American perennial plant, which thrives well in the open ground at Messieurs Lee and Kennedy's, rising to the height of 3 feet, and flowering in August. The flowers have a very sweet honey-like scent.

It is closely allied to *Phlox maculata,* with which it is, even in the Linnaean Herbarium, confounded, and we presume Jacquin's *Hart. Find. v.* 2. /. 127, hitherto taken for *Phlox maculata,* to be rather the plant before us.

The real *maculata* has much longer and narrower, almost linear leaves, not quite so rough a, stalk, and a more slender and cylindrical bunch of flowers. Its calyx-teeth are very much recurved; by which last mark it seems to us the two species may readily be distinguished, even if the difference of breadth in the leaves should not prove constant.

a calyx and style. B magnified stigma, *c* corolla opened to show the different lengths of the stamens.

Solanum stelligerum

TAB. 88.

SOLAN L^TM stelligerum.

Starry Nightshade.

PENTANDRIA Monogynia.

Corolla wheel-shaped. *Anthems* slightly connected, opening by 2 pores at the top. *Berry* superior, 2-celled.

Stem shrubby, thorny. Leaves lanceolate, entire, woolly beneath. Prickles recurved. Flowers in axillary umbels. Wool starry.

THIS shrub grows to the height of 3, 4 or 5 feet in its native country of New South Wales, forming a dense bush, but is a stranger to our gardens.

The stem is much branched, the branches alternate, leafy, round, woolly, beset with scattered, slightly recurved, prickles of a tawny hue. Leaves on shortish stalks, alternate, lanceolate, pointed, entire, veiny; very smooth above (except the rib and veins); extremely woolly underneath. Flowers about 4 or 5 together in a simple axillary umbel; their stalks and calyx woolly. Corolla pale purplish blue. Berries small, globular, scarlet. The orifices of the antheras are remarkably bordered, and furnished with a sort of lid. The wool of the whole plant is composed of little elevated entangled stars.

A magnified pubescence. B tube of the corolla bearing the stamens. C more enlarged tip of an anthera. D germen and style.

89.

Andromeda acuminata

TAB. 89.

ANDROMEDA acuminate.

Acute-leaved Andromeda.

DECANDRIA Monogynia.

Calyx 5-cleft. *Corolla* ovate; its orifice 5-cleft. *Capsule* superior, 5-celled; the partitions from the middle of the valves. *Antheras* with 2 pores.

Clusters axillary, simple. Leaves ovato-lanceolate, pointed, polished, unequally serrated.

Andromeda acuminata. *Ail. Hort. Keiv. v.* 2. 70. *IVilld. Sp. PL v.* 2. 613. *Donn. Cant.* 79.
A. lucida. *Jacq. Ic. Rar. v+* 1.*1.* 79. *ColL v.* 1. 95*

WE know not why the excellent name under which Jacquin published this plant was allowed, in so classical a work as the *Hortus Kewensis,* to give place to an unpublished and less eligible one of Mr. L'Heritier, whose volume there cited has never appeared. We acknowledge that in these cases deference is due to superior botanical authority, without which barbarisms of every kind would soon overwhelm the science; but no such superiority could be claimed here. It would now, however, be troublesome and unjustifiable to restore what is become obsolete.

This is an elegant North American shrub, hardy enough in our climate, growing well in bog earth, but not always flowering* We received it from the garden of the Right Hon. Charles Long, near Bromley, early in September last. The stems are 2 or 3 feet high; branches round, smooth, mostly zigzag. Leaves alternate, on short stalks, evergreen, very smooth and shining, lanceolate

inclining to ovate, sharp-pointed, unequally and sharply serrated, (which Jacquin's figure does not exprew,) their substance finely reticulated with veins. Flowers numerous, white, drooping, in simple, short, axillary, bracteatedclusters; their stalks and calyx glandular. Stamens 10, fringed. Antheras tawny, beardless. The fading corolla turns to a rusty hue. The branches are hollow, but interrupted by frequent transverse membranous partitions, a structure observable in the pith of many other plants.

A shows the magnified flowerstalk, calyx, germen, and style, with l stamen. B a section of the pith.

Gypsophila saxifraga

TAB. 90.

GYPSOPHILA saxifraga.

Small Gypsophila.

DECANDRIA Digynia.

Calyx of 1 leaf, bell-shaped, angular. *Petals* 5, obovate. *Capsule* superior, roundish, of 1 cell.

Leaves linear. Calyx accompanied by four unequal lanceolate bracteas. Petals emarginate.

Gypsophila saxifraga. *Linn. Sp. PI.* 584. *Ait. Hort. Kew. v.* 2. 86. *Willd. Sp. PI. v.* 2. 666.
Dianthus filiformis. *Cavan. Leccion.* 471. *Lamarck. Diet. v.* 4. 523.
Betonica coronaria, sive Tunica minima. *Bauh. Hist. v.* 3. 337.

THIS delicate little plant was received by Lady Hume from Madrid with the above synonym of Cavanilles. As we know of no coloured figure of it, and as the *G. rigida,* to which it is most nearly akin, is intended to be published in the *Flora Grcpca,* we presume that it cannot be unacceptable here. Indeed John Bauhin's is the only certain representation of our plant; for Barrelier's *t.* 998 is either very bad or a different species, and Dalechamp's 1191./*. 2, is rather more like *G. rigida,* to which Linnaeus refers it.

6. *saxifraga* is a hardy annual, and flowers from June to September. The root is small and fibrous. Stem upright, round, slender, very much branched, leafy, nearly smooth. Leaves opposite, united by their membranous base, linear, very narrow, flat, smooth, somewhat pointed, varying in length. Flowers terminal, solitary, erect, each accompanied by S pair of lanceolate, membranous, keeled, pointed bracteas, crowded almost close to the

base of the calyx. The calyx itself is bell-shaped, with 5 angles, and a membranous edge. Petals obovate, more or less emarginate, pale pink with 3 rose-coloured stripes; the claws greenish. Stamens 10, all fertile. Styles as long as the stamens. Capsule almost globular.

Linnaeus, as appears from his manuscripts and repeated corrections, was no less embarrassed about the genus of this plant, than concerning its difference from G. *rigida*. On the first point he surely decided far more justly than those who make it a *Dianthus*, for the whole habit and structure indicate a *Gypsophila*, of which the angular calyx constitutes the essential character, and the scales are evidently bracteas. With respect to G. *rigida*, being furnished with more ample materials than Linnaeus, who alone seems to have attempted the subject, I presume here also to confirm his opinion. The latter is clearly distinguished by having the bracteas ovate, all equal and placed on a level, besides its stems being more numerous and less branched, its flowers above twice as large and more of a purple hue, sometimes growing in pairs, and by the more woody root, which in Dr. Sibthorp's specimens seems to be perennial.

A calyx. B bracteas at its base. C a petal.

Rosa semperflorens

[illegible]

TAB. 91.

ROSA semperflorens.

Ever-blooming, or Dark Chinese Rose.

ICOSANDRIA Polygynia.

Calyx urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Seeds* numerous, bristly, fixed to the inside of the calyx.

Fruit ovate, smooth. Stem, leafstalks and flowerstalks prickly. Leaves ternate or pinnate, smooth, glaucous beneath. Segments of the calyx undivided.

Rosa semperflorens. *Curt. Mag. t.* 264. *Donn. Cant.* 98.
R. diversifolia. *Vent. Jardi de Cels. t. 33.*

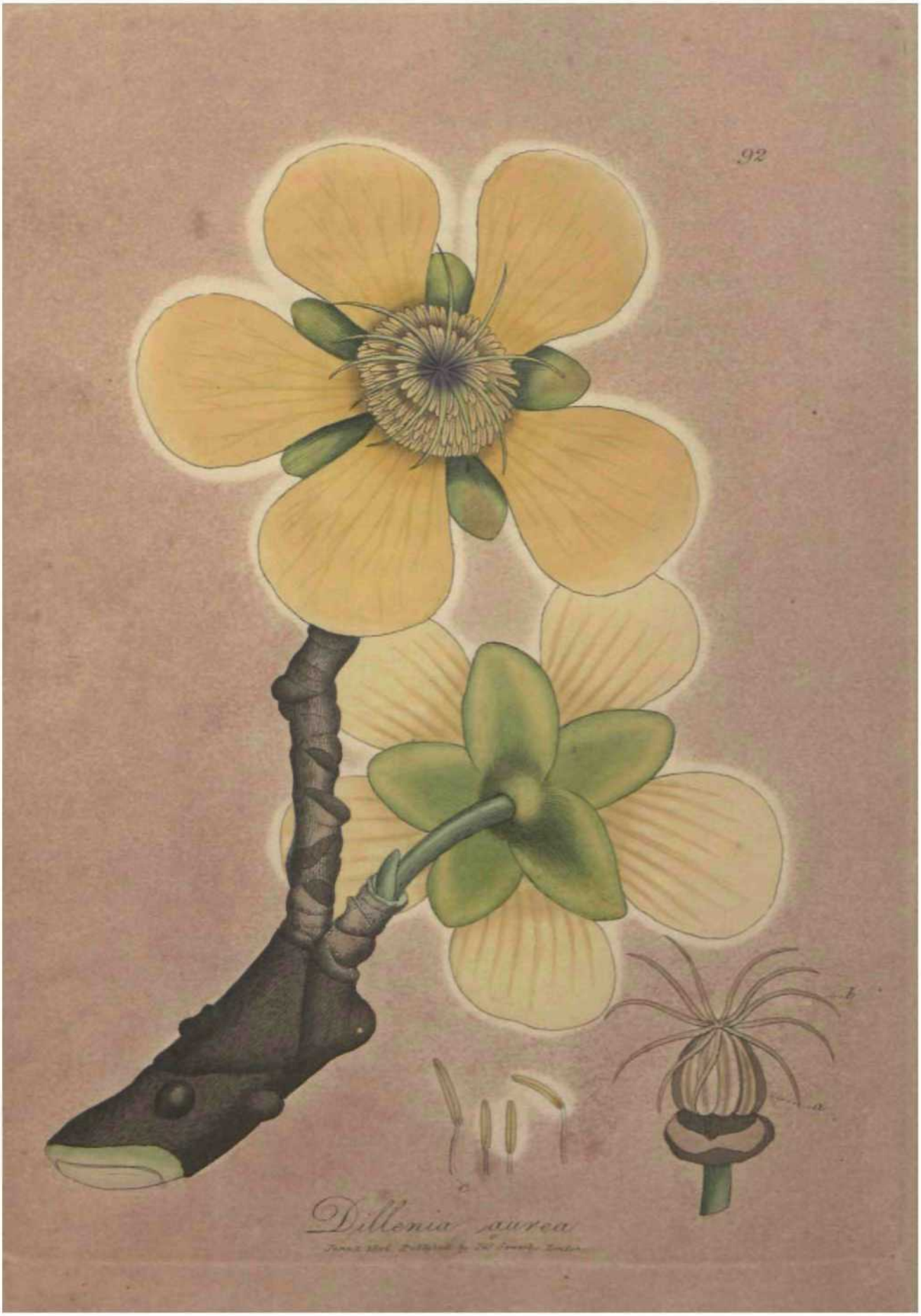
THE late Mr. Curtis, who first published this rose, celebrates its merits as a hardy greenhouse plant with all that enthusiasm and taste which rendered his botanical character so very interesting. No one ever loved the science better; few have contributed so much to make it popular. His plate represents the semidouble variety, generally known in England, which he informs us was introduced from China by the late Mr. Slater, a liberal and indefatigable cultivator of exotics. Our figure therefore cannot be superfluous, as it exhibits the natural state of the flower, and, besides, displays its parts. It was drawn last August at Messieurs Lee and Kennedy's, who obtained their plant from Paris by the name of *R. diversifolia,* under which M. Ventenat, uncertain about the synonym of Curtis, has published it in his beautiful uncoloured work above quoted. We believe there can be no question as to the identity of these plants.

This little shrub bears our climate tolerably well in the open ground. We have seen the double kind in bloom amid frost and snow at Christmas. Yet like many of its genus it is uncertain and

variable in the vigour of its growth. It must not be kept too wet in the winter.

The stems are slender, zigzag, round, clothed with small hooked prickles. Leaflets 3 or 5 on a prickly stalk, ovate, doubly serrated, smooth on both sides, glaucous beneath, often reddish all over. Flowerstalks terminal, for the most part solitary, round, glandular or prickly, single-flowered. Calyx-leaves reflexed, lanceolate, pointed, undivided, downy, more or less fringed or glandular at the edge. Petals obcordate, of a rich crimson varying in darkness. The double flowers have a faint sweet smell, at least in a warm room, resembling that of the Harebell.

a calyx, germen and styles, with a few of the stamens, *h* petal.



Dillenia aurea


93
f
f
e
d
Dillenia aurea

TAB. 92, 93.

DILLENIA aurea.

Golden Dillenia.

POLYANDRIA Polygynia.

Calyx inferior, of 5 coriaceous permanent leaves. *Petals* 5. *Capsules* several, compressed, many-seeded, ranged circularly round a pulpy receptacle.

Leaves elliptic-oblong, doubly serrated. Flowers mostly solitary. Stigmas linear.

To the same splendid collection of drawings which afforded us *Dillenia indica, tab.* 2, 3, we are indebted for the present new East Indian species of the same genus, which was found by Lieutenant Colonel Hardwicke in jungles or thickets to the east of the river Gogra. It flowers in April, ripens fruit in May, and is called in its native country *Aguee* or *Aukee.* In the Panga jungles of Rungpore it is denominated *Tykaal,* and it has also a Persian name *Aum.* Of the use3 or qualities of this tree we have no account. Its beauty is sufficiently apparent.

Having seen no specimens, we can add nothing to what the drawing exhibits. The leaves are deciduous, and the fresh ones seem scarcely to be full-grown by the time the fruit is ripe. The above specific character distinguishes it from every other known species, whether hitherto published or not.

TAB. 92. *a* germcn. *I* stigmas, *c* stamens. TAB. 93. *d* ripe fruit, the pulpy permanent calyx being artificially, expanded. *e* transverse section of the fruit, *f* one of' the cells expanded, showing the seeds attached to its inner margin.

Leonurus sibiricus

Published by

TAB. 94.

LEONURUS sibiricus.

Siberian Mother wort.

DIDYNAMIA Gymnospermia.

Calyx with 5 angles and *S* teeth. *Upper lip* **of the corolla** concave, shaggy, undivided. *Antheras* sprinkled with shining dots.

Leaves in three deep divisions, their lobes jagged, bluntish. Upper lip of the corolla straight.

Leonurus sibiricus. *Linn. Sp.* P/.*818. *TVilld. Sp. PI. v.* 3. **117.** ***Donn. Cant.*** **112.**

THIS biennial plant is, though a native of the East Indies as well **as China and Siberia, in a manner naturalized in the Right Hon. Charles Greville's garden at Paddington, where it sows itself every year over the open borders, and flowers in August.**

The stem is square, branched, 2 or 3 feet high, clothed with silky deflexed hairs. Leaves very various in the breadth and number of their subordinate segments, but they are always divided into 3 principal ones, which are jagged, bluntish, veiny, more or less d6wny. Flowers in numerous dense whorls, with narrow awlshaped bracteas. Calyx silky. Corolla rose-coloured, larger and more beautiful than that *of L. tataricus,* figured in Miller's *Icones, t.* 80, and differing from it in having its margin straight, not reflexed. This character, pointed out by Professor Willdenow, we find to hold good even in the Linnaean dried specimens; but still we are inclined to think with GmeHn *(Fl. Sih. v.* 3. 239), who gathered those specimens, that they are mere varieties. • The calyx is either spinous or not occasionally.

A shows a bractea and calyx father magnified. B corolla opened, with the stamens. C a double ring of glands in its tube, with whose use we are unacquainted*

Erythrina crista-galli

June 1 [illegible] Published by Jas. Sowerby, London

TAB. 95.

ERYTHRINA Crista galli.

Cock's-comb Coral-tree.

DIADELPHIA Decandria.

Calyx 2-lobed. *Standard* much longer than the keel. *Wings* minute. ^*Pod* cylindrical, with many convex seeds-

Leaves ternate, ovate, smooth, with prickly glandular stalks. Calyx smooth, slightly pointed.

Erythrina Crista galli. *Linn. Mant.* 99. *Ait. HorU Ketv. v.* 3. 9. *Lamarck. Diet. v.* 2. 391.

FOR this splendid plant we are obliged to our worthy and very intelligent friend Mr. John Shepherd, Curator of the Botanic Garden Liverpool, by whose skill and exertions alone that extensive collection could have so soon been brought to its present perfection.

Mr. Shepherd raised this plant from East Indian seeds in 1802, though it is said to be of South American origin. It is kept in the bark stove, and flowered in the summer of 1805; but our specimen was produced in February last, being the finest that has hitherto appeared. It accords with the single flower sent by Vandelli to Linnaeus, as well as with his rude drawing, and more accurate description.

The plant at Liverpool is at present slender, and about 6 feet high; its branches round, furnished, as well as the leaf-stalks, with a few hooked prickles. Every part, except the germen, is destitute of pubescence. Leaves ternate; leaflets ovate, entire, stalked, with prickly ribs. A pair of glands are placed at the base of the partial footstalks. Flower-stalks clustered, terminal and axillary, short and simple. Flowers of a rich unpolished deep red. Calyx bell-shaped, with 2 small bracteas at its base; its margin slightly 2-lobed, membranous, with 2 little teeth, one of which *i»* hooked. Keel of 1 petal, more than half as long as the standard.

Wings very small, slightly 3-lobed. Stamens truly diadelphous. Stigma small, simple, or slightly capitate, Germen downy. The fruit we have not seen.

The monopetalous keel, the perfectly diadelphous stamens, and the form of the stigma, do not properly belong to this genus, yet the habit is such that it would be rash on those characters alone to form a new one. In some other species the calyx is no less anomalous.

a shows the keel separate. *I* a wing, *c* the 9 united stamens. *d* the separate one. *e* stigma.

96

Hypericum olympicum.

TAB. 96.

HYPERICUM olympicum.

Olympian St. John's Wort.

POLYADELPHIA Polyandria.

Calyx deeply 5-cleft, inferior. *Petals 5. Filaments* numerous, united at the base into 3 or 5 sets. *Capsule* with many seeds.

Styles three. Calyx-leaves ovate, acute, unequal in size. Stamens shorter than the corolla. Leaves elliptic-lanceolate, sessile, dotted all over.

Hypericum olympicum. *Linn. Sp. PL* 1102. *With. Sp+ PI. v.* S. 1446. *MIL Ic. t. 151. f.* 1.

Hypericum Olympi. *DHL Elth.* 182. *t. 131. f.* 183.

THIS pretty *Hypericum* seems to be not so well known as it deserves. We procured it from Messieurs Lee and Kennedy's garden in August last. It is a hardy perennial, and is said to have been originally brought by Wheeler from Mount Olympus. Dr. Sibthorp also mentions his having found it there* and having a drawing made of it. We have nevertheless great doubts concerning his plant; and as ours is the real Linnsean species, we do not scruple to publish it.

The stems are simple, except at the top, erect, about 18 inches high, scarcely to be called shrubby, round, with 4 slight angles or wings. Whole plant smooth. Leaves glaucous, sessile, elliptic-lanceolate, entire, more or less acute, thickly dotted all over with pale pellucid spots, and marked with a marginal row of dark ones.

Flowers on a few short terminal stalks or branches, yellow, with but little scent. Calyx-leaves ovate, acute, broad, unequal in size, not glandular. Petals twice as long as the calyx, oblique, not dotted at the margin, often marked with a small lateral tooth. Stamens about the length of the calyx, in 3 principal sets. Styles 3, thread-shaped, with small bluntish stigmas. The Germen when bruised has a saccharine scent.

a **shows the calyx, germen and styles.**

Epidendrum fragrans.

TAB. 97.

EPIDENDRUM praecox.

Purple Fringed Epidendrum.

GYNANDRIA Diandria.

Nectary **a lip tubular at the base, attached to the fore part of the column, without a spur.** *Lid* **vertical.**

Stalks radical, without leaves, single-flowered, bulbous **at their base.** Lip **of the nectary** fringed, marked with five **rough lines.**

JMLY excellent friend and fellow-student Dr. Francis Buchannan having most generously put me into possession of all his drawings of Indian plants, together with his manuscripts and an herbarium of about 1500 species collected in his journey to Nepal, I hasten to communicate some of these rarities to the public. The country of Nepal has never before been explored by any naturalist. Its low latitude, and great differences of elevation, from the plain of Hindustan to mountains covered with perpetual snow, give a peculiar character to its botanical productions, which bear an affinity on the one hand to those of Bengal, and on the other to those of China, Japan and Siberia. The species are in a great measure new, and of these the *Orchidece* are particularly curious. It is necessary to observe that the country in question is divided into 3 regions; 1 st, Lower Nepal, which extends into the plains of Hindustan proper; 2d, Upper Nepal, which is much more elevated, so that the mercury in Dr. Buchannan's barometer never rose to 26 inches during his **stay** there; and lastly, a still loftier alpine region, bordering on the snowy peaks.

The plant in the annexed plate grows among mosses, on the trunks octrees or on rocks, in Upper Nepal. Its name in the Nawar language, spoken by the subjected original natives of Nepal, is *Caybu swa.*

The root is perennial, consisting of numerous simple fibres. Stem none. Bulbs sessile, at first small and awlshaped, clothed with beautifully veined scales imbricated in 2 ranb. Leaves two from the submit of a bulb, later than the flowers, lanceolate, entire, plaited, ribbed, smooth, each tapering at the base into a footstalk. Flowers from separate bulbs, large, solitary, on shortish terminal nearly upright stalks, each of which bears a lanceolate membranous sheath. Petals lanceolate, acute, recurved, light purple, all nearly equal in length; the s innermost narrowest. Lip nearly as long as the petals, rolled up into a funnel-shape, externally purple, its taper base united with the bottom of the style, and a little protuberant, not embraced by the petals] its margin spreading, fringed, white j the inside marked with 5 longitudinal, rough, elevated, yellow lines. The bulb after flowering is much enlarged, and the flower* stalk elongated. Capsule obovate, with 6 furrows and 3 valyei,

Epidendrum humile.

TAB. 98.

EPIDENDRUM humile.

Dwarf Hairy-lipped Epidendrum.

GYNANDRIA Dlandria.

Nectary a lip tubular at the base, attached to the fore part of the column, without a spur. *Lid* vertical.

Stalks radical, without leaves, single-flowered, bulbous at their base. Lip of the nectary jagged, hairy, marked with nine elevated lines.

THIS is also an inhabitant of the mossy trunks of trees in Upper Nepal. In habit it closely agrees with the preceding £. *prcecox*, but Dr. Buchannan could never observe any leaves. The bulbs should seem by the figure to be only of annual or biennial dura-* tion, and at first very small; afterwards they become large and ovate, and after the fruit is perfected they appear to fade and wither. Each flower-stalk bears a concave ribbed sheath about its middle, and three coloured scales at the base. Flowers large, solitary, erect. Petals coriaceous, lanceolate, broadish, pointed, whitish with purple ribs, the S lowermost a little dilated on one side at their base. Lip large, convolute, jagged, fringed with hairs, internally yellow, hairy, beautifuly striped and stained with red, and marked with 9 ribs.

Orchis pectinata

TAB. 99-

ORCHIS pectinata. .
Pectinated White Orchis.

GYNÀNDRIA Diandria.

Nectary **a spur behind the flower.** ***Anther as*** **from two lateral fissures.**

Bulbs undivided. Lip of the nectary in three lobes; the lateral ones pectinated: spur blunt. Three upper petals ovate, cohering.

A NATIVE of hillocks in Upper Nepal. The bulbs are oblong and undivided. Plant smooth. Stem about a span high, leafy, angular. Leaves few, of an oblong-ovate form, acute, entire, with 3 or 5 ribs, their sheaths marked with 3 acute angles. Spike upright, of many greenish-white flowers, each accompanied by a bractea of its own length. Petals ovate, acute; the uppermost combining with the two inner ones to form a hood; the lateral ones Spreading. Lip larger than the petals, in three deep divisions, of which the middlemost is linear and undivided; the two lateral ones deeply cut into many awlshaped parallel segments, some of which are occasionally subdivided. Spur club-shaped, rather longer than the germen.

The flowers of this *Orchis* might be expected to smell sweet at night, like' those of O. *lifolia,* to which its colours bear great affinity, but Dr. Buchannan expressly says they are inodorous.

It is necessary to observe that this is not the *Orchis pectinata* of Thunberg and Willdenow, for theirs is the 0. *Burmanniana* of Linnaeus.

Orchis gigantea

TAB. 100.

ORCHIS gigantea.

Gigantic White Orchis.

GYNANDRIA Diandria.

Nectary a spur behind the flower. *Antheras* from two lateral fissures.

Bulbs undivided, lip of the nectary in three lobes; the lateral ones pectinated, Lateral petals sickle-shaped, very narrow, distinct.

FOUND by Dr. Buchannan in the woods of Upper Nepal, and also in the Mysore country, flowering in September.

This *Orchis* is extremely remarkable for the great size of all its parts, in which particular we know of none that approaches it. Some indeed rival the height of its stem, which is about 3 or 4 feet, but no known species has such large flowers. In habit and colour it is nearly akin to O. *pectinata, t.* 99, and to the O. *Susame* of Iiiuueut, but the latter it of a much more pure and brilliant white. The inneipetal! king very nutow, sickle-shaped, and unconnected with the upper one, afford a good mark of distinction.

Sept. 5th 1823 (I have seen this same Orchis in flower in the Bot: Garden at Calcutta — and do vouch that the annexed figure does no justice to this fine Plant. Our Plant attains the height of 27 Inches — is of a delicate white & is charmingly fragrant and the corolla which is indistinctly shown by the Plate is about six inches in length & of a greenish white

Begonia *picta*

Published by [illegible]

TAB. 101.

BEGONIA picta. — *Particoloured Begonia.*

MONOECIA Polyandria.

Male. *Calyx* of 2 leaves. *Petals* 2, or more.

Female. *Calyx* of 2 leaves. Petefo 2, or more, % / « 3, cloven. *Capsule* inferior, winged. Seetfe numerous.

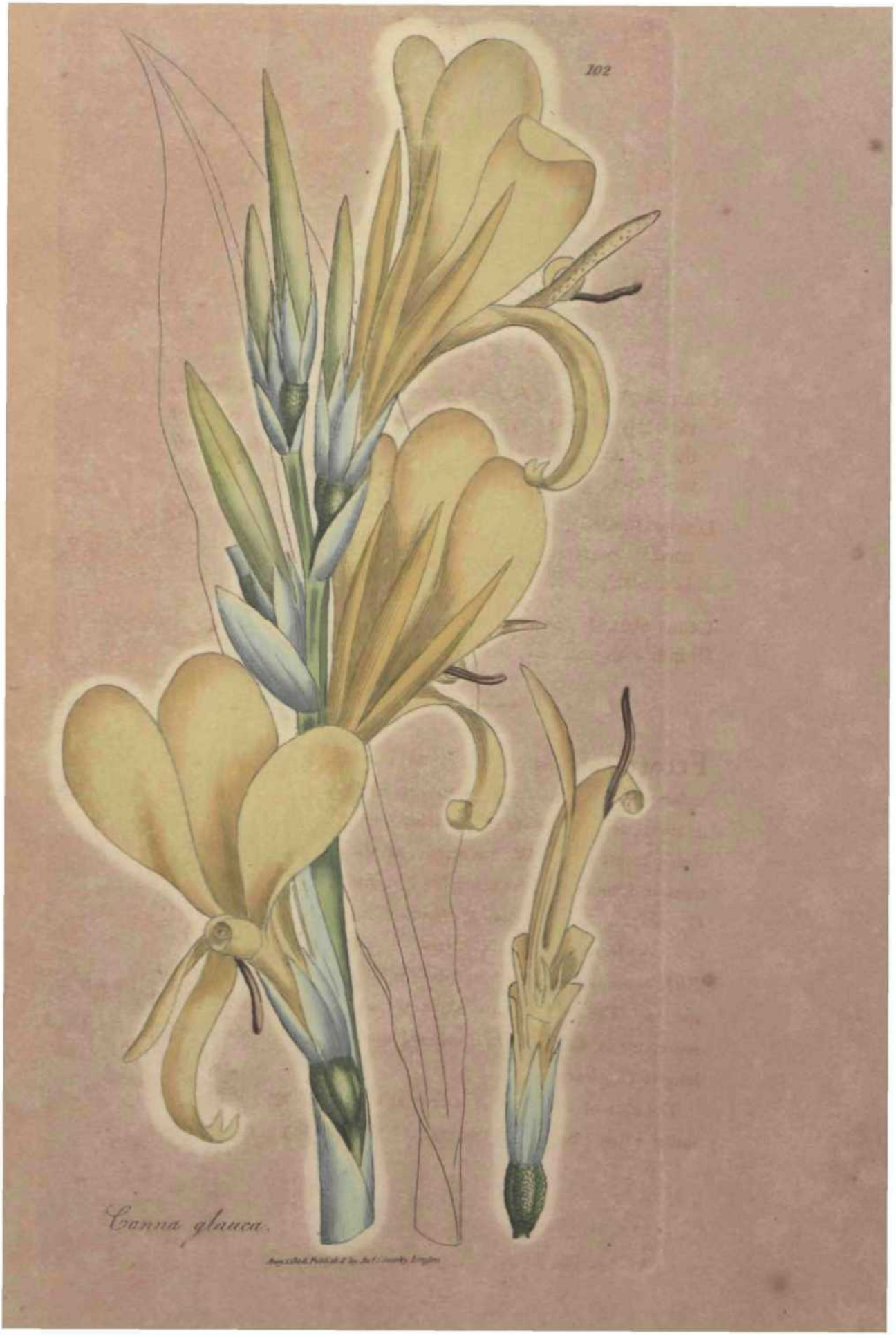
Stem very short Leaves heart-shaped, pointed, rugged, hairy, doubly serrated. Wings of the capsule nearly equal.

Mungarcachi *of the Parhutties, the Hindu conquerors of Nepal.* ^^^^^

THIS elegant plant was discovered by Dr. Buchanan growing among mosses, upon rocks in upper Nepal, July 81,1808.

Root perennial, tuberous, roundish. Whole herb rough with little bristly hairs. Stem herbaceous, an inch or two in length, simple, round, creeping, and throwing out fibrous roots at its joints. Leaves few, on long round footstalks, heartshaped, pointed, veiny, very rugged, doubly serrated, blotched with various colours, most purple beneath; those on the stem smaller than the radical ones, and alternate. All the leaves have an acid taste, and are used as food. Stipulas small, in pairs, broad at the base, acute, permanent, pressed to the stem. Flower-stalks one or two, terminal, panicled. Bracteas oblong, acute, permanent. Flowers drooping, rose-coloured, both barren and fertile ones in the same panicle. Calyx-leaves broad, coloured, hairy at the bafck. Petals obovate, narrow, rarely more than S. Stamens short, with obovate antheras. Styles short, in 3 lobes, with curled, stigmas. Capsule of 3 cells, and bordered with 3 narrow wings.

The genus of *Begonia* was first well elucidated by Mr. Dryander in the first volume of the Linnaean Society's Transactions, where 21 certain species are defined, and 9 doubtful ones besides enumerated. Our plant is certainly not among them. Botanists have been much puzzled to determine the *Natural Order of Begonia;* and the able writer I have just named, after enumerating the opinions of others, assents to that of M. de Jussieu, who declares it to be a genus " not really allied to any other." I should be unjust therefore to conceal a hint communicated by Mr. Salisbury, and which appears to me of great weight, that " *Begonia* is very nearly allied to *Hydrocharis."* This confirms the propriety of considering the outer petals as a calyx, to which Jussieu was inclined, and which is further authorized by the hairiness of that part in the species before us.



Canna glauca.

TAB. 102.

CANNA glauca.

Glaucous Indian-reed.

MONANDRIA Moiiogynia.

Calyx of S leaves. *Inner* segments of the *corolla* 2-lipped, variously divided. *Anthera* simple, fixed to the edge of the filament. *Style* spatulate. *Capsule* of 3 cells. *Seeds* numerous, globose.

Leaves elliptic-lanctttatey glaucous. Outer segments of the corolla erect: upper lip in three ovate straight lobes; lower lanceolate, undivided, recurved.

Canna glauca. *Linn. Sp. PL* 1.
C. indica angustifolia* flore luteo. *Riv. Monop. Irr.* 1.113.

FROM the collection of Lady Hume, in whose aquarium at Wormleybury this plant flowers copiously in the middle of summer. Of its native country we are not certain, nor are its synonyms more clearly ascertained. We are sure, from the specimens and descriptions of Linnaeus, of its being his C. *glauca,* and consequently the *Cannoides* of his *Hortus Cliffortianus,* the seeds of which, he tells us, came from Africa; but surely the *Cannacorus* of *Dill. Hart. *Elth. t.* 59. is more like Mr. Salisbury's *C.flacdda,* a most distinct species. The whole genus wants a thorough investigation. The synonyms of *C. angustifolia,* a very doubtful plant, probably belong to *C. glauca.*

The root of our plant is perennial and creeping, thriving best under water. Stems simple, erect, 6 or 8 feet high, round, leafy,

of a light glaucous green, very smooth- Leaves numerous, alternate, very glaucous, smooth, elliptic-lanceolate, long-pointed, with one rib and innumerable oblique parallel veins; their base running down into a broad sheathing footstalk j their edge membranous, entire. Spike terminal, simple, erect; its common stalk triangular- Bracteas membranous, various in size. Flowers solitary or in pairs, nearly sessile, erect, of an elegant sulphur-colour. Calyx-leaves equal, erect, linear-lanceolate, acute, glaucous. Tube of the corolla scarcely so long as the calyx. Three outer segments of the limb much like the calyx in form, but thrice as long, yellow, always erect, never (as in *C. jlaccida)* reflexed: inner segments, still longer, yellow; the 3 uppermost erect, ovate or elliptical, entire, plain, all nearly of a size, emOTacing with their base the lower segment, which is rcvolutc, linear, **undivided.** Filament broad, membranous, revolute, bearing the anlhera on one t-djfe below the top. Style narrower, thicker and more rigid. Germcn obovate, tuberculated, pale green, rather glaucous.

The lower figure shows the gcrmen, calyx, filament, anthera and style, all the segments of the corolla being cut away.

TAB. 103.

GLOBBA marantina.

Marantine Globba.

MONANDRIA Monogynia.

Anthera **in 2 parts.** ***Filament*** **elongated, incurved, bearing a lobed appendage.** ***Style*** **thread-shaped, embraced by the** *anther a. Corolla* with 3 *outer* lobes; **and** 3 *inner,* **the middlemost vertical and cloven.**

Appendage of the filament fbur-lobed, divaricated, terminal. Spike surmounted by the leaves. Bracteas elliptical, broad, longer than the calyx.

Globba marantina. *Linn. Mant.* 2.' 170. *JVilld. Sp. PI. v.* 1.**153.** *Lamarck. EncycL v.* 2. **730.**

Colebrookia bulbifera. ***Donn. Cant.*** **1.**

JNO botanist has yet been able to understand the genus of *Globba,* which Linnaeus constructed with rather flimsy materials derived chiefly from Rumphius, from whom he adopted the name, which is of Indian origin. The species before us is the only one that Linnaeus professes to have seen, and which is described in his *Mantissa,* and preserved in his Herbarium. His full generic character was, I presume, taken from some of the young unexpanded flowers which have evidently been picked from bis specimen. This may account for the only very great errors in his description, which concern the length and number of the filaments. The last circumstance has justly astonished all botanists acquainted with *scitaminean* plants, especially the intelligent Lamarck. As Linnaeus ap-

pears to have examined only 1 or 2 unopened flowers, for the full grown ones are so transient as scarcely to be preserved in any form, this accounts for his describing the filaments as only "of a middling length," as in that state they really are. Perhaps, in the operation of moistening and dissecting the flower, the very tender filament might be slit longitudinally, and then one apparent anthera would adhere lengthwise to each segment, exactly according with his description. The stigma moreover, at this stage of growth, does not acquire its full size and figure; hence he calls it acute.

Of this most distinct genus we have, in Sir J. Banks's and Dr. Buchanan's collections, found traces of several species *, differing in the precise situation, as well as in the number, of the lobed, or often crescent-like, appendages to the filament, but all agreeing in the singular form of the lip. It belongs to the Natural Order of true *Scitaminece,* having the style embraced by the divided anthera, which are therefore justly separated from the *Contuse* by Mr. Roscoe in an excellent paper lately read before the Unnaean Society, from whence we have learned the only true principle upon which natural genera in this order can be founded, the form of the filament.

But though we thus ascertain and fix the *Globla* of Linnaeus, we are obliged to expunge both his other species, which belong to very different genera. We must also leave unsettled many of the *Glohlct* of Rumphius. Some of them are well-known species of as well-known genera, but others have not come before us in a shape for determination at all. What the G. *japonica* of Thunberg is, we have no means of knowing.

The present *Glolha* was sent from Bengal by Dr. Roxburgh, who named it *Colehrookia,* to Lady Hume, in whose stove we have examined and delineated it. It flowers with us in the middle or latter part of summer. The blossoms, however curious, are transient and inconspicuous, and the lower ones are often supplanted

* The *Hura Siamenrium, Retz. Obs.fasc.* 9.49. is one rf them.

by viviparous granulated bulbs. The root is tuberous and perennial. Stems several, erect, about 8 feet high, simple, leafy. Footstalks long, sheathing, alternate, truncated and bearded at their summit. Leaves elliptical, sharp-pointed, entire, wilh one rib and numerous oblique, parallel veins; smooth above; soft and finely downy beneath. Spike terminal, erect, simple, more or less lax, shorter than the leaves. Bracteas alternate, one to each flower, sessile, elliptical, broad, concave, many-ribbed, somewhat downy, minutely dotted. Flowers clustered, sessile, erect, 3 or 4 times as long as the bracteas, yellow with shades of orange. Calyx tubular, 3-cleft, crowning the small round germen. Corolla with a long, cylindrical, downy tube; its outer limb in 3 nearly equal, ovate, spreading lobes; inner with 2 nearly similar lobes, and a very peculiar central lip, which is vertical, prominent, cloven at each extremity, and constant in all the species we have seen. Stamen long, linear, channelled, terminating in 4 acute divaricated lobes, making a sort of double crescent, between which stands the 8-lobed anthera. Style threadshaped, as long as the stamen, embraced by the filament and anthera. Stigma obtuse, somewhat concave.

A calyx magnified. B central lobe of the inner limb of the corolla. C stigma. D anthera, surrounded by the appendages of the filament. *e* a viviparous bulb from the lower bracteas, of the natural size.

Arethusa catenata?

TAB. 104.

ARETHUSA catenata.

Beaded Arethusa,

GVNANDRIA Diandria.

Nectary an ascending lip without a spur. *Petals* 5, narrow at their base. *Lid* vertical.

Leaf radical, solitary, linear. Lip bearing a double row of prominent glands.

SPECIMENS of this elegant little plant, both dried and in spirits, accompanied by a coloured drawing, were long ago communicated to us by Dr. White from New South Wales. It is said to flower in July, and is, no doubt, perennial. No living specimens Jiave been brought over.

The root is oblong and fleshy, somewhat downy, throwing out fibres from the base. Stem solitary, 5 or 6 inches high, erect, simple, single-flowered, almost naked, round, very slightly hairy. Leaf radical, solitary, upright, about as long as the stem, narrow, linear, channelled, acute, smooth or slightly hairy. Bracteas 1, 8 or 3, more or less remote from the flower, sheathing, ovate, acute. Flower terminal, erect. Petals 5, spreading, elliptical, acute,' Capering at the base, ribbed, rose-coloured. Lip upright, half as long as the petals, blueish, recurved at the point, marked in the front with 2 chain-like rows of yellow glandular tubercles. Column greenish, hairy and viscid, its sides dilated or bordered. Anthera covered with a little terminal permanent lid. Germen oblong, downy and viscid.

This is one of the *OrchiieiB* of New Holland whose genus is most easily decided. We have seen among the inimitable drawings of Mr. Ferdinand Bauer a number of others of the same tribe, no less remarkable for singularity than beauty. These, as well as the whole Flora ot that interesting country, will in clue time be illustrated by the accurate pen of Mr. Brown, now "Clerk and Librarian

to the Linnaean Society, and we will not anticipate his discoveries! nor execute imperfectly what he has so much better materials for completing. We shall therefore in general decline the publication of New Holland plants for the future, except we should want to elucidate any particular point to which we have given peculiar attention, or any thing that may want explanation from the gardens.

A lip of the flower. B its chain-like glands. C back of the column. D anthera and its lid. E germen.

Neottia acaulis.

[illegible]

TAB. lOõ.

NEOTTIA acaulis.

Stemless Neottia.

GYNANDRIA Diandria.

Nectary an ascending lip without a spur, embraced at the bottom by the dilated base of the 2 lower petals. *Lid* parallel to the *style,* and inserted into its back. *Antheras* pointed.

Stem none. Flowers sessile, solitary, in the bosom of each leaf.

h OR this most extraordinary plant, unique in its Natural Order, (as far as we know) in having neither stem nor flowefstalk, we are indebted to the favour of Mr. Evans of Stepney, who received it from Trinidad, and in whose stove we had the pleasure of seeing this and many other very rare productions in June last..

Root perennial, consisting of many thick simple fibres. Leaves numerous, all radical, rather spreading, ovate, acute, waved, ribbed, smooth, variegated with dark and paler green, their surface minutely granulated with beautiful shining -particles; the under side of a light uniform green. Flowers radical, solitary in the bosom of each leaf, sessile, erect, greenish, with a sweet musky scent occasionally perceptible. Petals upright, very little spreading, lanceolate, recurved at the point; the outer ones green; the 2 innermost whitish and more delicate, united longitudinally to the dorsal one. Lip rather shorter than the petals., downy, oblong, channelled, green and white, terminating in a blunt point, with 2 dilated lateral lobes. Column shorter than the lip.

This genus separated from *Ophrys* by Jacquin, and confirmed by Swartz, seems to us well defined in habit as well as character.

a lip, of the natural size. B column magnified, showing the double oblong viscid stigma in front, and bearing the lid and antheras on its back. C lid seen in front, showing the 2 antheras. D a portion of the column accidentally attached to the anthcra. £ section of the top of the germen.

Alpinia nutans.

TAB. 106.

ALPINIA nutans.

Drooping Alpinia.

MONANDRLA Monogynia.

Anthera 2-lobed, terminal, embracing the *style,* without any appendage. *Inner* limb of the *corolla* a simple lip. *Capsule* fleshy.

Cluster drooping. Lip inflated, crisped. Germen woolly.

Alpinia nutans. *Rose: Mss.*
Globba nutans. *Linn. Mant.* 2. 170. *Redout. Liliac. v.* 1. *t.* 60.
G. sylvestris. *Rumph. Amboyn. v.* 6. 140. *t.* 62, *63.*
Renealmia nutans. *Andr. Repos. U* 360. *Donn. Cant.* 1. *Edwards Tab.* 1. *Thornt. Illiestr. t.* 13.
Zerumbet spedosum. *Wendi. Sert. Hannov. t.* 19.

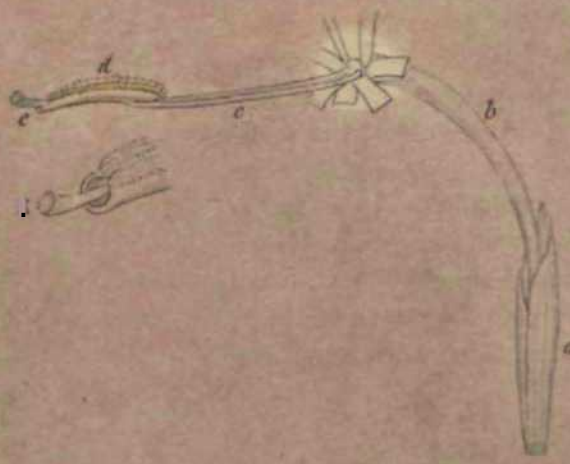
WHEN this fine plant first flowered in the stoves about London 11 or IS years ago, much dispute arose concerning its genus, for indeed scarcely any certain generic characters were known in the order of *ScitaminecB* to which it belongs. On comparing it with the original specimens of Linnaeus's *Renealmia exaltata,* I found them to agree precisely in the structure of their flowers, so as to be unquestionably of one genus. Indeed Linnaeus has quoted the above figures of Rumphius for his it. *exaltata,* and has taken altogether from them his description of its stem and leaves, not recollecting that in his *Mantissa* he had founded his *Globba nutans* solely on those very figures! The synonym, and the two first paragraphs of the description, of *Renealmia exaltata,* are therefore to be erased from the *Supplement um*$_9$ and *Globba nutans* expunged entirely from the system, except as a synonym to the plant now under consideration, which, though of the same genus with the Linnsean *Renealmia,*

is a very different species, its flowers being thrice as large and its bracteas totally different. Mr. Roscoe's inquiries however have now taught us that the genus of *Renealmia* itself must be referred to *Alpinia*, with which its fructification, inflorescence and habit entirely accord. Indeed some very eminent botanists have always considered our plant as an *Alpinia*, from its resemblance to the original species of that genus, though it did not agree with its character in Linnaeus,' which is now known to be extremely incorrect.

Alpinia nutans is one of the most stately and beautiful of its order, growing in Amboyna and other parts of the East Indies, and flowering in our stdves about June or July. The roots are perennial, tuberous, forming many offsets. Stems from IS to 18 feet high, perennial, upright, straight, simple, leafy. Leaves alternate, lanceolate, each with a long sheathing footstalk, crowned with an obtuse stipula silky externally. Cluster' terminal, pendulous, hairy, branched in the lower part j the branches short. Flowers drooping, inodorous, very richly coloured. Bracteas solitary under each flower, elliptical, inflated, jagged and sometimes hairy at the tip, of a pure white tinged with pink, having all the brilliancy of the finest porcelain. Calyx white, of one leaf, irregularly torn, crowning the germen. Outer corolla coloured and polished like the bractea, tubular, its limb in 2 lips; the uppermost undivided, broad and concave; the undermost in 8 narrower lobes: inner corolla of 1 lip, large, thick, concave, obscurely 3-lobed, yellow, beautifully stained and streaked with crimson; its margin irregularly crisped and notched 5 its base bearing a pair of awlshaped teeth. Stamen glandular at the base, short and thick, bearing a 2-lobed, thick, vertical anthera, without any appendage or dilatation beyond it. Style threadshaped, as long as the stamen and anthera, and embraced by the lobes of the latter. Stigma peltate, hairy, somewhat triangular. Germen clothed with long soft hairs, 3-celled, with rudiments of many seeds.

The simple stamen or filament, and single lip, are essential to this genus.

a, a bracteas. *b> h* germen. c, *c* calyx, *d, d* upper lip of the outer corolla, *e, e, e* lower lip of ditto, *f* inner corolla, *g, g* stamen. A, *h* style and stigma.



Hedyr/ium coronarium.

TAB. 107.

HEDYCHIUM coronarium.

Sweet-scented Garland-flower.

MONANDRIA Monogynia.

Anthera **2-lobed, recurved, terminal, embracing the style, without any appendage.** ***Outer*** **limb of the** ***corolla*** **in 3 equal linear lobes:** ***inner*** **in 3 parts, 2-lipped.** ***Flower*** **reversed.** ***Tube*** **longer than the limb.**

Leaves lanceolate. Bracteas imbricated, elliptical. Lip cloven.

Hedychium coronarium. ***Koenig in Retz. Obs. Jizsc.*** **3. 73.** *WilUL Sp. PI. v.* 1. 10. *Curt.* ***Mag.*** *t.* **708.** *Lamarck. Encycl. v.* 2. 603.

Gandasulium. ***Rumph. Amh. v.*** **5. 175.** ***t.*** **69.** ***f.*** **3.**

Lutisu Swa *of the Nawars, or original natives of Nepal.*

THE ***Scitaminece*** **are so beautiful, and so interesting both to the learned and unlearned, that we are induced, with regard to them, to swerve from our general rule of not publishing any plant tolerably figured already. This is the more necessary, as their genera have not hitherto been established on any sure principles, nor their parts delineated with a view to any certain mode of arrangement. Their characters in all books are composed from imperfect materials, very vague, and often absolutely false. It can therefore, as the species are not very numerous, be no burthen to the science to delineate from living specimens such as fall in our way, and especially to fix the characters and habit of every genus, according to that system of which Mr. Roscoe has laid the foundations with so masterly a hand. We cannot but regret that the late Professor Vahl was not furnished with materials lo illustrate these plants, the pressing want of which, as it should seem, induced that learned botanist, when composing**

his last work, to put off the consideration of them till a more convenient season, by referring them to the class *Gynandria,* to which the real *Scitaminece* cannot, by any construction or explanation whatever, be made to belong.

Hedychium coronarium is cultivated in various parts of the East Indies, and was observed wild by Dr. Buchanan in the borders of mountainous fields in Upper Nepal. It blossoms in our stoves in September and October, and is remarkable for the beauty and sweet scent of its flowers, which render it a favourite ornament for the head among the Malays. The women of that country, as Rumphius tells us, when they mean to reproach a young man with inconstancy in love, send him these flowers. In Nepal this and 3 or 4 new species of the same genus, discovered there by Dr. Buchanan, are all equally used for ornament.

The root is perennial, fleshy, producing many offsets. Stem simple, leafy, 3 feet high, smooth. Leaves spreading in 2 rows, alternate, lanceolate, downy beneath, recurved at the tip; their footstalks clasping the stem, and each crowned with a membranous stipula. Spike terminal, erect, many-flowered. Bracteas large, closely imbricated, elliptical, obtuse, hairy at the summit. Flowers pure white or cream-coloured, in Nepal pale yellow. Calyx oblong, sheathing, membranous, of 1 leaf. Tube of the corolla very long, cylindrical, curved, much exceeding the calyx and bractea. Outer limb in 3 equal linear flaccid lobes: inner 2-lipped, consisting of 2 elliptical divaricated lobes, and a broad cloven under lip, which from the reversed position of the flower is uppermost. Filament reversed, linear, channelled, simple, as long as the broad lip and opposite to it. Anthera attached by its back, oblong, recurved, its edges bearing pollen and meeting round the style, which is threadshaped and strong. Stigma projecting but little beyond the anthera, concave, fringed. Fruit unknown.

a calyx, *b* tube of the corolla, c filament, *d* anthera. *e,* £ stigma.

Roscoea purpurea.

Published by Jas. Sowerby, London.

TAB. 108.

ROSCOEA purpurea.

Purple Roscoea.

MQNANDMA Monogynia.

Anthera 2-lobed, incurved, terminal, embracing the style, with a cloven appendage at its base. *Outer* limb of the *corolla* irregular; its *upper* lip vaulted; *lower* deeply divided : *inner* in 3 parts, 2-lipped.

Hatucbn Swa *of the Nawars.*

JtINDING in Dr. Buchanan's collection a drawing and specimens of this new genus of the order of *Scitaminece,* I cannot but dedicate it to Mr. Roscoe, whose attention has been so peculiarly devoted to this order, and who has thrown so much light upon it. We are acquainted with but one species of *Roscoea,* a native of the mountains of Upper Nepal. The genus should be arranged near *Hedychiton* and *Kcempferia,* to both of which it has some points of affinity ; but the striking characters of the irregular 2-lipped outer limb of the corolla, and the peculiar appendages to the base of the anthera, clearly distinguish it from the whole tribe.

* The root is perennial, consisting of several clustered oblong tapering knobs, producing branched fibres. We cannot perceive in it any aromatic or pungent flavour. Stem solitary, erect, a foot or more in height, simple, leafy, compressed. Leaves spreading in 2 ranks, alternate, oblong, pointed, folded, wavy, entire, smooth, with many oblique parallel veins; pale beneath; somewhat heart-shaped at the base, running down into broad, sheathing, compressed, furrowed, purplish footstalks, which embrace and conceal the stem. Stipula crowning the inside of the footstalk, very short, entire. Flowers several, but not opening all at once, terminal clustered, sessile, erect, large and handsome, their tubes concealed by the sheaths of the upper leaves. Calyx of 1 leaf, tubular,

sheathing! very long, brown, with a membranous edge. Tube of the corolla scarcely longer than the calyx, triangular upwards, straight. Outer limb ringent, 2-lipped; its upper lip erect, broad, concave; lower about as long, in 8 deep, lanceolate, reflexed lobes: inner limb 2-lipped, its upper lip erect, shorter than the outer limb, of 2 cohering half-ovate lobes, tapering at the base, and embracing the organs of fructification; lower much longer and broader, spreading, cloven. Filament short, linear, erect. Anthera long, greatly incurved, linear, bearing pollen in the upper part only, its base extended into 2 lanceolate, horizontal, ascending, acute, membranous, white lobes. Gennen inferior, very small. Style thread-shaped, lodged in the groove of the filament, and of the anthera, to whose curvature it conforms. Stigma obtuse, concave, .downy, just projecting beyond the anthera.

a germen. *b* calyx, c tube of the corolla, *d* filament.- *e* anthera. /S-lobed appendage at its base, *g* stigma.

Crucianella angustifolia

TAB. 109-

CRUCIANELLA angustifolia.

Narrow-leaved Crosswort.

TETRANDRIA Monogynia.

Corolla of 1 petal, funnel-shaped, with a long slender tube; the segments armed with little claws. *Stigmas* unequal in height. *Calyx* of 2 leaves. *Seeds* 2, linear.

Stem upright. Leaves linear, six in a whorl. Flowers spiked,

Crucianella angustifolia. *Linn. Sp. PI.* 157. *Willd. Sp. PL v.* 1. 601. *Prod. Ft. Grcec.* 96.
C. mucronata. *Roth. Catal. v.* 1. 27.
Rubia spicata angustifolia. *Barrel. Ic. t.* 550.

THIS little inconspicuous annual can scarcely claim a place in the flower-garden except for its singularity. The spikes have the appearance of a grass, and are generally taken for such by common observers, but the flowers will well repay a minute examination. We received fresh specimens from Mr. Robert Reeve junior of Lowestoft, and are glad of the opportunity of publishing it, as two other species will appear in the *Mora Grceca,* and a good figure of this is wanting. It is a native of Greece, Spain, France, and probably other parts of the south of Europe, in fields and waste ground, and is quite hardy with us, flowering all summer long, and sowing itself, without requiring any care.

Root crooked, tapering, reddish. Herb glaucous. Stem erect, branched, square, rough, leafy. Leaves generally 6 in a whorl, nearly upright, linear, rough, slightly awned. Spikes terminal,

solitary, erect, square, many-flowered. Flowers spreading in 4 ranks, Bracteas solitary, close to each flower, linear-lanceolate, acute, awned, rough, with membranous white edges. Calyx of 9 leaves, exactly like the bracteas. Corolla rather longer than the calyx, 4-cleft, yellowish green, externally tipped with pale red; its segments elliptical, their points slightly awned and incurved. Antheras tawny, just protruding above the orifice of the tube. Germen oblong, angular. Style as long as the tube, cloven, one lobe rising much above the other, both pointing to one side. Stigmas obtuse, small. Seeds linear, compressed, blackish.

Abractea. B, B calyx. C corolla opened. D germen and style: all magnified.

Stuartia pentagyna.

[illegible] Published by [illegible] London

TAB. 110.

STUARTIA pentagyna.

Curled Stuartia.

MONADELPHIA Polyandria.

Calyx in 5 deep segments. *Petals* 5. *Styles* 5, cohering or separate. *Capsule* superior, with 5 cells and 5 valves. *Seeds* 1 or 2 in each cell, smooth.

Flowers axillary, solitary. Petals jagged and curled. Styles separate.

Stuartia pentagyna. *VHerit. Stirp. v.* 1.155. *t.* 74. *Willd. Sp. PL v. S. 84O.*
Malachodendron ovatum. *Cavan. Diss. 302. t. l5S.fi* 2.

A NATIVE of Virginia, which grows well with us in the open air in a mixture of peat earth and loam, flowering in July, but is very rare. It has long been cultivated at Kew, where the late Mr. Alton gave me specimens in 1783 from an old full-grown shrub; but in the *Hortus Kewensis* it is not distinguished from *S. Malachodendron.* The latter is known by its combined styles, and entire petals, and is figured by Mr. Andrews, *Repos.* /. 397, under the name of *marilandica,* but the synonym of Cavanilles is there misapplied. L'Heritier has well defined the two species and their synonyms, and^ adhering to that golden Linnaean rule, "*genus dalit characterem, non character genus,*" has judiciously kept them together as one genus. He has also properly corrected the orthography of the name. Cavanilles, on the contrary, from the styles being separate in one, and combined in the other, and from the consequent difference in the cohesion of the cells of the fruit, though the whole Structure and aspect of the parts indicate the strictest generic affinity,, has divided them into 2 genera, and his error has spread widely

among those who would have judged better had they seen the plants. The excellent Jussieu has been induced to place them in 9 different orders of his system, nor does this impeach his skill. • All human systems, however natural in theory, must be artificial and incorrect in practice. Thus, though all botanists owe to Linnaeus the fundamental principles of natural genera, it would be absurd to expect that he, or any of his followers, should always be infallible in their application.

Our specimen was communicated by the Marquis of Blandford, from his rich and beautiful garden at White Knights, in July last. This very ornamental shrub is commonly *5* or *6* feet high, divided into many alternate, round, smooth, spreading branches. Leaves deciduous, alternate, ovate, pointed, slightly serrated; smooth above; downy and paler beneath, with many prominent veins. Footstalks channelled, bordered, more or less downy, often reddish. Flowers axillary, solitary, large and very showy, cream-coloured or greenish white, often tinged with red, inodorous, on very short stalks. Bracteas 9, lanceolate, downy, permanent, close to the calyx and as long. Calyx in *5* deep, lanceolate, hairy, permanent, spreading segments. Petals 5, occasionally more, rather unequal in size, roundish, concave, slightly cohering at their base, elegantly jagged and crisped at the edge. Stamens numerous, smooth, half as long as the petals, united with them at the bottom into a thick ring. Antheras incumbent, roundish, versatile. Germen ovate, hairy, 5-lobed. Styles quite distinct, a little spreading, smooth. Stigmas recurved, glandular.

a petal. *I* base of the stamens, showing the insertion of the petals. C germen and styles a little magnified.

Amomum grandiflorum.

TAB. ill.

AMOMUM grandiflorum.

Large-flowered Cardamom.

MONANDHIA Mcmogynia.

***Anthera* in 2 parts. *Filament* extended beyond the *anthera*; 3-lobed at the summit; 2-lobed at the base.**

Stalk simple. Bracteas numerous. Central lobe of the filament undivided. Leaves distant, elliptic-lanceolate, pointed.

A GROWING specimen of this *Amomum* was long ago communicated to Mr. Sowerby by T. F. Forster, Esq. The seeds were gathered at Sierra Leone by the celebrated Professor Afzelius, from whom we have been favoured with dried specimens, marked "*Amomum* JVb. 3," which, as far as we can discover, are the very same species.

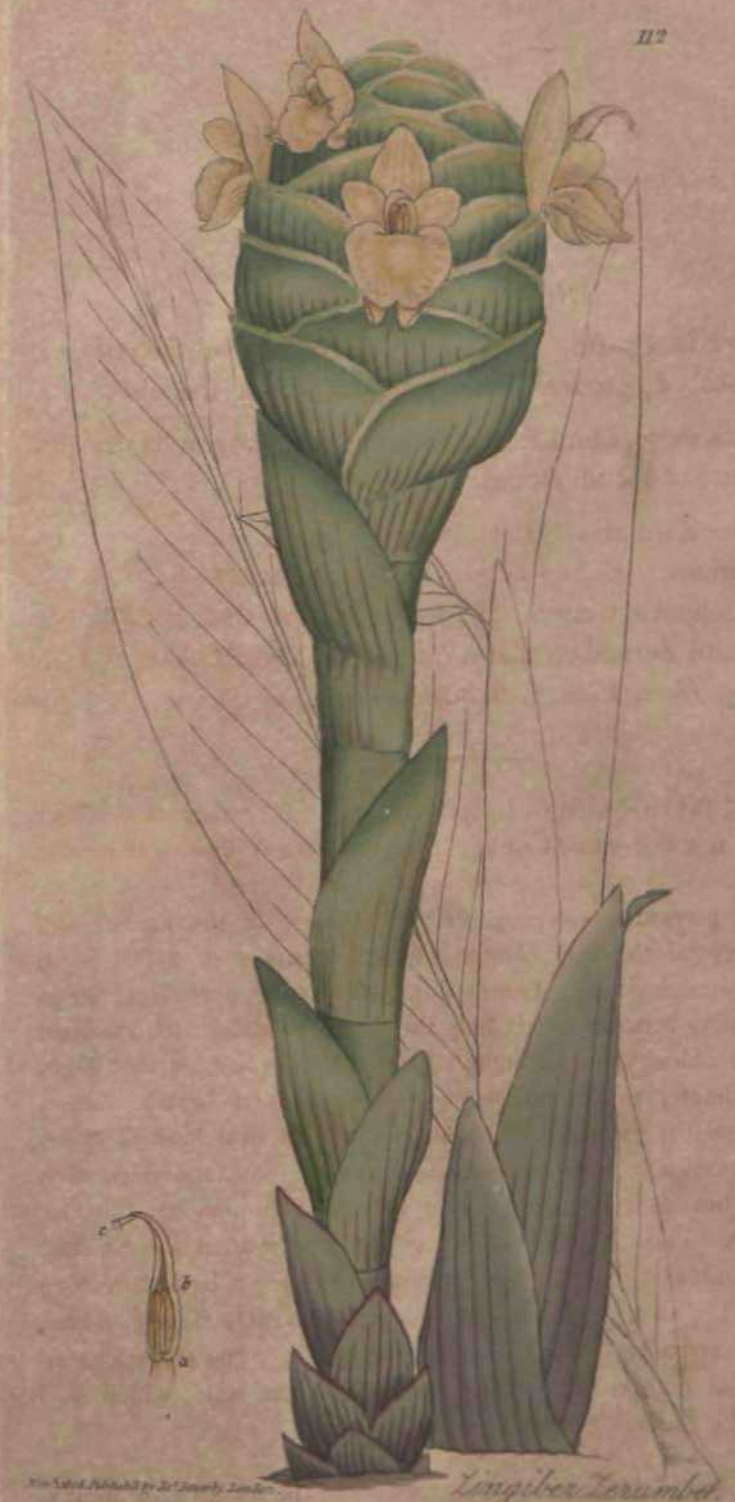
The root is perennial, creeping, woody. Barren stems about a feet high, erect, straight, simple, leafy, round, smooth, very slender. Leaves several, alternate, rather remote, spreading, recurved, elliptic-lanceolate, long-pointed, entire, waved, deep green, often tinged with red, very smooth, paler beneath, contracted at (he base above the stipub. Footstalks sheathing, very long, narrow, ribbed, polished, each crowned with a cloven rounded stipula. Flowerstalks radical, erect, d inches high, striated, downy, clothed with numerous, imbricated, elliptical, concave, smooth, inany-ribbed bracteas, of which the uppermost are gradually the largest and most membranous. Flowers clustered, large and handsome, highly aromatic when dried and moistened again. Calyx of 1 leaf, bursting laterally, reddish, downy. Tifbe of the corolla cylindrical, somewhat downy. Three outer segments of the limb equal, lanceolate, upright, reddish: inner a large, rounded, undulated* somewhat crenate, white lip, yellow at the base. Filament white! scarcely half so long as the lip, oblong, furnished at the base o*

each side with a lanceolate acute lobe, and at the summit with a pair of similar spreading lobes, having a small obtuse central one between them. Anthera in 2 separate lobes below the top of the filament. Style threadshaped, downy, embraced by the anthera. Stigma large, concave, fringed, just projecting beyond the filament. Germen downy. Capsule (in Dr. Afzelius's specimens above mentioned) ovate-oblong, brown, ribbed, pointed, downy, of 3 cells containing many greyish shining seeds, which have the flavour and warmth of camphor.

The *A, exscapum* of Dr. Sims, *Annals of Botany, v.* 1. 548. *t.* 13, is described and figured with a very short stalk, 2 external bracteas only, and a deeply cloven central lobe of the filament. It is consequently very distinct from ours. The leaves also seem broader.

Mr. Dryander has justly observed to me, that the original *Amomum Cardamomum* of Linnaeus, taken up by him from books, is the Little Cardamom of our shops, *A. repens* of Sonnerat. But that plant I judge by its inflorescence and stamen, examined at Sir Joseph Banks's and compared with Sohnerat's figure and description, to belong to *Alpinia,* a genus founded by Plumier long before Linnaeus wrote. The genus *Amomum* must therefore consist of the *A. verum* of old authors, (which Linnaeus confounded with his *A. Cardamomum,)* and such .others as agree with it in habit and fructification, which is the case with *A. Granum Paradisi,* and several more from Sierra Leone, as well as *A, angustifolium* of Sonnerat. From these however Mr. Roscoe has judiciously separated the Ginger tribe, which make a most natural'genus by themselves. See /. 112.

« calyx, *by b* sections of the germen more or less ripe. B part of the germen and tube of the corolla, c tube of the corolla entire. *d* outer limb of the corolla, *e* lip. *f9fm& g* lobes of the filainent. h_s H style and stigma.



Zingiber Zerumbet.

TAB. 112.

ZINGIBER Zerumbet.

Broad-leaved Ginger.

MONANDRIA Monogynia.

Anthera **in 2 parts.** ***Filament*** **extended beyond the** ***anthera,*** **awlshaped, grooved, undivided, embracing the** ***style.***

Bracteas ovate, obtuse. Outer segments of the corolla straight. Centre of the lip cloven.

Zingiber Zerumbet. ***Rose. Mss.***
Z. spurium. ***Koenig in Retz. Obs.fasc.*** **3. 60.**
"Z. latifolium sylvestre. ***Herm. Lugd. Bat.*** **636.** ***t.*** **637.**
Amomum Zerumbet. ***Linn. Sp. PL*** **1.** ***Ail. H. Kew. v.*** **1. 2.** ***Jacq. Hort. Find. v.*** **3. 30.** ***u*** **54.**

Jb ROM the collection of Lady Hume. It is a native of the East Indies, not uncommon in our stoves, where it flowers at various seasons.

• Root perennial, creeping, fleshy, deficient in the flavour and pungency of the true Ginger. Barren stems 4 or *3* feet high, simple, straight, leafy. Leaves elliptic-lanceolate, spreading; when young silky beneath; their long sheathing footstalks each crowned with an oblong entire stipula. Flowerstalks radical, a foot high, scaly, simple, thick and strong. Bracteas very broad, obtuse, downy-edged, closely imbricated, forming an oval head or spike. Flowers solitary from each bractea, pale yellow, inodorous, each lasting but a few hours. Calyx oblong, membranous, bursting laterally. Tube of the corolla a A 'tie longer than the bractea. Outer limb, in 3 straight, lanceolate lot s: inner a large spreading 3-lobed lip, of w^: '. tnc middle segmei* \s waved, crenate, cloven at the extremity. Filament terminating \bove the anthera in an awlshaped incurved appendage, embracing the style, which well marks the genus. Stigma small, fringed.

a **2-lobes of the anthera.** ***b*** **appendage of the filament,** ***c*** **stigma.**

Androsace rotundifolia.

TAB. 113.

ANDROSACE rotundifolia.

Round-leaved Androsace.

PENTANDRIA Monogynia.

Capsule of 1 cell, globose, superior, opening with £ teeth. Tube of the *corolla* ovate, glandular at the orifice. *Stigma* globose.

Leaves on footstalks, roundish, sharply crenate; heartshaped at the base. Umbels many-flowered.

DRAWINGS of this little plant have been communicated to us by Lieutenant Colonel Hardwicke and Dr. Buchanan. The latter has also favoured us with several dried specimens, gathered on banks in the northern part of Baharee and in Nepal, flowering in January.

Root branched, apparently annual. Leaves numerous, radical, spreading, roundish, sharply and unequally crenate, hairy, on long hairy footstalks. Cotyledons entire, as well as some of the earlier leaves. Elowerstalks several, ascending, slender, hairy, twice or thrice as long as the leaves, each bearing a loose hairy umbel of many flowers, accompanied by several short ovate bracteas. Calyx in 5 deep, ovate, entire, ribbed, hairy divisions, enlarged as the c-iit ripens. Tube of the corolla globose, shorter than the calyx, mucn iw..::*acted at the mouth. Limb concave, white or reddish, in 5 deep obtuse lobes, scarcely extending beyond the calyx. Stamens enclosed in the tube. Germen globose. Style short. Stigma capitate. Capsule globose, whitish, somewhat membranous at the sides, splitting at the top into *5* cartilaginous valves. Seeds numerous, angular, attached to a globular central receptacle.

This plant is very nearly related to the rare *Cortusa Gmelini,* which differs from it in having kidney-shaped and bluntly crenate leaves, resembling those of *Sibthorpia,* and very *few* flowers in the umbel. Both of them unquestionably belong to *Androsace,* not to *Cortusa,* as Dr. Buchanan has well observed. Gaertner has made a similar remark in his 1st vol. 838.

The dissections in our plate are sufficiently intelligible.

[illegible] Published by Jas. Sowerby London. *Primula denticulata.*

TAB, 114.

PRIMULA denticulata.

Purple Nepal Cowslip.

PENTANDRIA Monogynia.

***Capsule* of 1 cell, superior, opening with 10 teeth. Tube of the *corolla* cylindrical; mouth pervious. *Stigma* globose.**

Leaves minutely toothed, revolute, glutinous, somewhat hairy. Umbel dense, many-flowered. Limb of the corolla flat; its lobes cloven.

Neckabu swa *of the Nawars.*

GATHERED by Dr. Buchanan, in moist parts of the hills aboul Chitlong in Upper Nepal, flowering from February to April.

Root perennial, of many long, thick, cylindrical, white fibres. Leaves radical, numerous, obovate, bluntisb, revolute, finely toothed, viscid, slightly downy; paler, and reticulated with prominent veins, beneath. Stalks one or two, a foot, more or less, in height, upright, straight, naked, smooth. Umbel terminal, erect, very dense, consisting of a great number of almost sessile flowers, intermixed with small, narrow, acute bracteas. Calyx cylindrical, pale, smooth, divided more than half way down into 5 linear, acute, lax segments, becoming broader as the fruit ripens. Tube of the corolla slender, rather longer than the calyx. Limb flat, purple with a yellow eye, its segments cloven, pale at the base. Stamens 5, in the lower part of the tube. Stigma globose, included in the tube. Capsule oval. Seeds several, small, fixed to a central globular receptacle.

The teeth of the capsule in this species are commonly **but** 5, though they often split so as to make a greater number.

a ripe capsule. *I* seed.

Buchanania oppositifolia.

TAB, 115.

COLEBROOKEA oppositifolia.

Opposite-leaved Colebrookea.

DIDYNAMIA Gymnospermia.

Calyx with *5* teeth, at length becoming 5 feathery awns. *Seed* solitary, bristly. Limb of the *corolla* 5-lobed $ I lobe larger than the rest

Leaves opposite.

Sussudia swa *of the Nawars.*
Bhuria Baat *of the Hindus.*

HAVING been obliged to reduce the original *Colebrookea* to the older genus of *Glabba,* see *tab.* 103, v/e are induced by the recommendation of Dr. Roxburgh, strongly seconded by Dr. Buchanan, to apply the same name to this new genus, in honour of Henry Thomas Colebrooke Esq., Chief Judge of the Supreme Civil and Criminal Courts for the natives of Bengal; a gentleman eminent for general literature, and especially for the pains he has taken respecting the history of the plants of that country.

This shrub was gathered about villages and by road sides in Nepal, in 1802, by Dr. Buchanan, who collected specimens of what he esteems a distinct species, the leaves of which are ternate, in the Mysore country. The genus belongs to the 2d section of the *Vitices* in Jussieu, and must be placed at the end of Linnaus's *Didynamia Gymnospermia,* along with *Selago* rightly removed to that order by Schreber. The feathery teeth of the calyx when in fruit form the striking essential character of *Colebrookea,* and the single seed is almost peculiar to it.

Stem shrubby, solid, upright, branched, leafy, downy, with 4 obtuse angles. Leaves slightly aromatic, on downy footstalks, op-

posite, elliptic-lanceolate, pointed, bluntly serrated, finely rugose and downy, furnished with one rib and many parallel veins, without stipulas; entire at the base. Flowers small, white, in numerous, terminal, opposite, long, whorled, downy spikes, each whorl consisting of 10 or 18 flowers, accompanied by several awl-shaped permanent bracteas. Calyx downy, bell-shaped, irregular, with 5 small teeth, which, as the fruit ripens, are lengthened out into very long feathery awns, forming wings to the seed, which is small, obovate, bristly, concealed in the bottom of the calyx, and certainly (unless Dr. Buchanan and myself are greatly mistaken) solitary. The corolla has a slender tube, not much exceeding the calyx in length, and a spreading limb, divided into 5 roundish segments, of which the lowermost is considerably the largest. Stamens distant, above twice as long as the corolla, the 2 uppermost shortest. Antheras small. Germen extremely minute. Style slender. Stigmas 2, acute. This plant flowers in January, and ripens seed in March.

A whole flower magnified. B back of the same. c_3 C calyx of **the** fruit. D seed*

Leucosceptrum canum.

TAB. 116.

LEUCOSCEPTRUM canum.

Hoary Leucosceptrum.

DIDYNAMIA Gymnospermia.

Corolla unequal, in 4 segments; the uppermost deeply cloven. *Calyx* 5-cleft. *Stamens* declining, much longer than the corolla, parallel. *Seeds* 4.

Mutsola *of the Nawars.*

THIS shrub was found by Dr. Buchanan in the woods of Upper Nepal, where it is called by the Nawars *Mutsola,* and flowers in the middle of December. It has the habit of a *Buddleia,* but belongs to the sd section of. *Pltices* in Jussieu, near *Verbena;* and should, along with *Verbena,* stand near *Mentha* in the Linnaean system. We know but one species of this new genus.

The branches are obtusely quadrangular, compressed, clothed with fine dense whitish pubescence. Leaves on shortish downy footstalks, opposite, elliptical, pointed and tapering at both ends, bluntly serrated, veiny; green and naked above; white and downy beneath. Stipulas none. Spike terminal, solitary, sessile, erect, cylindrical, dense, many-flowered, shorter than the leaves. Bracteas small, arranged in 4 rows, opposite, each common to many flowers, which are almost sessile, and white. Calyx tubular, downy; its margin obtuse, unequally 5-cleft. Corolla longer than the calyx, with a short tube; the limb in 4, very unequal, obtuse segments, uf which the uppermost is deeply divided $ the lowermost, or lip, large, concave and entire. Stamens declining, parallel, thread-shaped, smooth; the 2 longest twice as long as the lip. Antheras roundish, 2-lobed, yellowish. Germen superior, 4-lobed. Style declining, as long as the longer stamens, with a cloven acute stigma. Seeds 4, truncated, naked, in the bottom of the calyx.

A, A calyx. B, B lower segment, or lip, of the corolla. C stamens a little disturbed from their natural position, owing to the corolla being cut and opened. D germen, style and stigma. All the parts are more or less magnified, though slightly.


G
H
F
E
D

TAB. 117.

GLOBBA racemosa.

Long-clustered Globba.

MONANDRIA *Monogynia.*

***Anthera* in 2 parts. *Filament* elongated, incurved, bearing a lobed appendage. *Style* thread-shaped, embraced by the *anthera.* *Corolla* with 3 *outer* lobes; and 3 *inner* the middlemost vertical and cloven.**

Appendage of the filament arrow-shaped, narrower than the anthera. Cluster elongated, cylindrical. Bracteas shorter than the calyx, deciduous.

GATHERED by Dr. Buchanan in woods at Suembu in Upper Nepal, June 28, 1802, where it is called in the Parbutty language *Deosara.*

The stem is 3 feet high, erect, simple, closely invested with several long sheathing alternate footstalks. Leaves oblong-ovate, entire, taper-pointed, slightly downy on both sides, the veins especially hairy on the upper. * Stipula short, roundish, cloven, crowning the footstalk on the inside, between a pair of auricles which rise above the insertion of the leaf. Cluster terminal, erect, longer than the leaves, cylindrical, many-flowered, smooth. Flowerstalks alternate, horizontal, shorter than the flowers, swelling upwards. Bracteas one at the base of each flower-stalk, oblong, obtuse, deciduous; a smaller bractea accompanies each flower. Flowers 3 at the end of each stalk, not quite on a level, yellow with shades of orange. Calyx tubular, swelling upwards, smpoth, greenish dotted with red. Corolla with a downy tube, its segments and lip much like *G. marantina, t.* 103. The appendage to the filament, at the back of the anthera, is however remarkably different, being arrow-shaped, and not extending beyond the anthera in any part, except at its rounded termination.

The only remaining species of this genus of which we have any info.-mation is the *Hura Siamensium* of Koenig, *Retz. Obs. fasc.* 3. 49, to be ascertained only from the description there published, and a sketch by the late Mr. Parkinson in the possession of Sir Joseph Banks, made under his inspection during his voyage, of which he has favoured me with a copy. From these materials, having never seen a specimen, I venture to offer a character of the plant by the name of

(i LOBHA versicoloY.

Party-coloured *(liul ba.*

Appendage oi the filament four-lobed, divaricated. Cluster somewhat corymbose. *B*>icteas sh-jner thai the calyx. **Zip** towards t;ie middle of the filament.

J. HIS, according to Koenig, grows plentifully in grassy shady places in the island called Young Ceylon, and, in a more dwarf state, near the town of Malacca, in the East Indies. It seems to have a shorter more corymbose cluster of flowers than *G. racemosa*, and the i corolla is variegated with orange, white, and different shades of violet. Tbe appendage to Lhi filament appears much like that of *G. mutrantintt;* bui the cfcat peculiarity of the present species consists in the situation of the lip, which is elevated far above the other lobes of the corolla, half way up the filament.

An outliiu- ufot.e of these flowers is added to *t.* 11;.

a segments of the corolla of *G. versicolor*. *b* lip. c anthera with its 4-lobed append age*

D calyx of *G. rncenwa,* twice its natural sine. E tube of the corolli i. F lip. <i stamen and style• H antli-ta, with its appendag<> and the stigma ij more oagnified.


118
a
b
c

TAB. 118.

JASMINUM hirsutum.

Hairy Indian Jasmine.

DIANDRLA Monogynia.

Corolla salver-shaped, with from *5* to 10 segments. *Berry* double. *Seeds* solitary.

Leaves opposite, ovate or heartshaped, hairy all over as well as the branches. Calyx-teeth linear, hairy.

Jasminum hirsutum. *JVilld. Sp. PUv.* 1. 36. *Vahl. Enum. v.* 1. SO.
J. pubescens. *JVilld. Sp. PL v.*]. 37. *Vahl. Enum. v.* 1. 26.
Nyctanthes hirsuta. *Linn. Sp. PL* 8. *Osb. Resa*$_9$ 205.
N. pubescens. *Retz. Obs.fasc.* 5. 9.
N. multiflora. *Burm. Ind. 5. t. S.f.* 1.

WE cannot render a more acceptable service at any time to the curious and accurate botanist than by ascertaining a Linnaean plant whose synonyms have been obscure, and whose existence even has j>een doubted. Linnaeus having quoted for his *Nyctanthes hirsuta* a figure in the *Hortus Malalaricus,* which represents a totally different shrub, the *Giicttarda spqciosa,* other authors, trusting to that figure alone, have described his *Nyctanthes* anew. Hence the variety of synonyms above. That of Burmann we have ascertained by a specimen of his own; nor could it have been settled without, as he erroneously describes the leaves as smooth, and moreover quotes a wrong figure from the *Hortus Malabaricus.* With respect to its genus, the real *Nyctanthes* is the *j4rlor-tristis*$_9$ with a dry compressed capsule. Dr. Solander very judiciously removed from that genus all the berry-bearing, species, which compose the *Mogorium* of Jussieu and Lamarck, but unquestionably belong to *Jasminum,*

.laving only a few more segments In the corolla than the eommor* kinds; a circumstance that varies perpetually.

This *Jasminum hirsutum* is quite new to the gardens of Europe. It grows wild in China and the East Indies, and was sent by Dr. Roxburgh to Lady Amelia Hume. It is cultivated in the stove, flowering in August.

The branches, stalks, leaves and calyx are clothed with fine short hairs. The stem is woody, weak and climbing. Leaves opposite, on shortish Footstalks, simple, ovate, entire, more or less heart-shaped at the base. Flowers in short, terminal, forked panicles, large, white, fragrant. Calyx-teeth about as long as the tube of the corolla, linear, narrow, obtuse. Limb of the corolla in 8, or more, ovate, imbricated, often jagged lobes. Anthers in the lowe« part of the tube, almost sessile.

a calyx and style, *I* teeth, c flower opened to show the stamens.

TAB. 119.

UTRICULARIA reticulata.

Reticulated Hooded-milfoil.

DIANDRIA Monogynia.

***Calyx* of 2 equal leaves. *Corolla* ringent, spurred. *Capsule* of 1 cell.**

Stem twining, bearing several alternate, acute scales/ Calyx pointed, as long as the corolla. Palate reticulated, two-lobed.

Nelipu. *Rheed. Hort. Mai. v.* 9. 137. *U 70.*

A NATIVE of inundated rice grounds in various parts of the East Indies, which, according to Dr. Buchanan's observations, it clothes with a most elegant blue colour in December, when it flowers.

Root small, fibrojjs, whorled, apparently annual. Stem from 9 to 12 inches hfgd, twining, supporting itself on the rice stems, roun > smooth, simple or branched at the top, destitute of leaves, but I 'ring many small, alternate, acute, close-pressed scales. Flower, 'n one or more terminal simple clusters, the size of violets, and near*, df the same colour, with a pale blue and white, reticulated, prominent, two-lobed palate. Each stands on a stalk about its own length, tapering at the base, and accompanied by 3 small scaly permanent bracteas. Calyx permanent, of 2 ovate sharp-pointed leaves. Spur of the corolla tapering, white, full as long as **the** calyx. Mouth closed. Lips rounded, entire; the uppermost shortest.

Three plants have been confounded under the *Utricularia ccerulea* of Linnaeus. The true one is only to be ascertained by Hermann's herbarium, now in Sir Joseph Banks's hands, **and** ibis is di-

stinguished by its short dense spike, and orbicular calyx-leaves. The synonym of our *U. reticulata* in the *Hortus Malabaricus* was erroneously applied to it by Linnaeus, who received a third species from Kcenig, which, having forgot Hermann's plant, he laid into his herbarium as the *carulea** This of Koenig is what Vahl seems to have had, though each of his synonyjps belongs to a different species, and his specific difference, applied to the *ccerulea,* is erroneous. Dr. Buchanan observed Kcenig's and-Vahl's plant about the dried margins of ponds in the Mysore country, flowering in. April, and named it *parvifiora.* It differs from *ccerulea* in its remote flowers and pointed calyx, and from our *reticulata* in having an undivided palate, and much fewer scales on the stem, besides being smaller in all its parts.

Utricularia reticulata.

[illegible] Publish'd by Jas. Sowerby London.

Seseli gummiferum.

TAB. 120.

SESELI gummiferum.

Gummy Meadow-saxifrage.

PENTJNDRIA Digynla.

General Involucrum of 1 or 2 leaves. *Umbels* globose, rather rigid. *Flowers* regular, all fertile. *Fruit* ovate, striated.

Partial involucrum of many linear leaves, united by a broad base. Florets almost sessile- Stem leafy. Leaflets wedge-shaped.

A HIS majestic and striking umbelliferous plant was discovered by Pallas in the Crimea, and is frequently mentioned in his Travels in that country, by the above name, but without any description. It seems not yet to have found its way into any systematic work. Mr. Lambert observed it 3 years ago in the Oxford **garden,** and ascertained il by Pallas's herbarium, now in **the** possession of John Martin Cripps, Esq., F.L.S. We are obliged to Mr. Lambert and to Lady Amelia Hume for fine specimens, cultivated in their gardens in the open air. X[nc] plan' is biennial, and perfectly hardy. The beautiful little umbels, parti-coloured and flat when young, become hemispherical as the flowers open, and are completely powdered over, as it were, with innumerable whitish anthers. The stem when wounded exudes a very copious yellow foetid resin, and is 3 or 4 feet high, branched, furrowed, leafy, minutely downy. Leaves iripmnatc, glaucous, somewhat downy; the leaflets oblong or vudgcshapcu[1], decurreut, acute. Umbels terminal, erect, finely downy, flatfish, of very numerous rays. General involucrum of one short slrapshaped leaf} in the large primary umbel of several. Partial involucrum with a broad simple base, fringed with very numerous, horizontal, linear, acute leaflets. Flowers innumerable, almost sessile, crowded. Petals red and wbite, mflexed, regular,

Almost all equal. Stamens longer than the petals, white, with round pale anthers. Germen furrowed. Styles short, with simple stigmas, Fruit elliptical.

The flowers smell faintly like those of the Barberry. In natural affinity, as well as in the broad base of the partial involucrum, this species comes nearest to *Seseli Hippmarathrum*, from which, it differs in its much greater size, leafy stem, broader leaflets, and many other particulars.

A magnified flowers complete, with its germen and short stalk* J, B unripe fruit.

,B unripe fruit

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* *HolmskioUia sanguinea* of Retzius and Willdenow, Sp.*PL vol. iiL 96a Sec Introduc. tion to Physiological and Systematical Botany, 403.

f There having been another *Fėntcnatia* previously published, though unknown to roe, this genus is now called *Stylidium.* See the same work, 464.