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Accesio N.
THE FLORAL CABINET.
THE FLORAL CABINET.
THE

FLORAL CABINET,

AND

MAGAZINE OF EXOTIC BOTANY.

CONDUCTED BY

(CORRESPONDING MEMBER OF THE MEDICO-BOTANICAL SOCIETY, AND PROFESSOR OF BOTANY IN THE BIRMINGHAM ROYAL SCHOOL OF MEDICINE),

AND

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HONORARY SECRETARIES OF THE BIRMINGHAM BOTANICAL AND HORTICULTURAL SOCIETY.

VOLUME I.

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AND J. M. KNOTT, BRIDE COURT.

MDCCCXXXVII.
PREFACE.

In offering to the notice of the Public a new Botanical Magazine, the Editors are desirous of stating the motives which have induced them to undertake it. Looking at the number of Periodicals of a similar nature which in the present day are issued from the press, and the talent with which some of them are conducted, the present work may, by some persons, be deemed unnecessary.

Without wishing to detract from the merit which some of the publications in question undoubtedly possess, still it must be admitted (and it has long been a subject of common remark) that the plates which they contain, although sufficient for the purposes of botanical inquiry, are but mediocre productions, as works of art. It appeared to us, therefore, that a periodical which should give accurate, and at the same time, highly finished representations of such plants as are remarkable for their beauty, their rarity, or their peculiarity of structure, was a desideratum in botanical literature. Stimulated by this fact, and fully convinced of the possibility of producing, even at a very moderate price, botanical plates in a style of beauty and excellence hitherto unequalled in this country, we have accordingly introduced to the notice of the public the FLORAL CABINET. We are moreover peculiarly fortunate in having access to numerous collections, both public and private, in which botanical novelties are continually presenting themselves to our observation; so that each number may be expected to contain descriptions of one or more plants not previously known in this country. The descriptions will be given in popular as well as botanical language, and the station of each plant in the natural and artificial arrangements indicated; accompanied at the same time by remarks on its mode of culture, its native place of growth, the period of its introduction, and its
medicinal or other properties. In short, it will be anxiously endeavoured to convey information of every kind that may be likely to prove useful or entertaining.

Each number will contain four highly-finished and carefully-coloured plates, the drawings for which will invariably be taken from nature expressly for this work by artists of well-known talent. With these advantages, added to the great variety of miscellaneous information contained in the original communications from amateurs and practical gardeners in various parts of the kingdom upon every subject connected with the delightful occupation of horticulture, we think we may venture to assert, without fear of contradiction, that the Floral Cabinet will be found the best, the cheapest, and the most interesting botanical periodical of the present day; and that it will recommend itself to the botanist for its accuracy, to the floral amateur for its choice selection of ornamental plants, and to the public generally for the beauty of its execution. To give anything like a regular introduction to Botany, would be incompatible with a work of this nature; at the same time no opportunity will be omitted of explaining some of its more important principles; those principles more especially which enable the botanist to determine the limits of genera and species, and to judge of the natural affinities of plants. This will be attempted not only by description, but by reference to such figures in the plates as may be necessary for the illustration of particular facts. By these means it is hoped that no inconsiderable degree of light will be shed upon the path of those who may be anxious to obtain a knowledge of this delightful science.

Finally, the Editors will be continually anxious to direct the attention of the reader to every curious or remarkable fact, either as regards structure or function, with a view to lead the mind to the contemplation of the wonders of the vegetable world, and the glory of that Almighty Being who created "All the fair variety of things;"

"Who, not content
With every food of life to nourish man,
Hath made all nature beauty to his eye,
And music to his ear."
### PLATES AND SYNONYMS IN VOLUME FIRST.

The Synonyms are printed in *Italics*.

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OLDENLANDIA DEPPEANA.

(Depp'e's Oldenlandia.)

LINNEAN SYSTEM.
TETRANDRIA MONOGYNIA.

NATURAL SYSTEM.
RUBIELE.—(De Cand. Prod.) CINCHONACEAE.—
(Lindl. Nat. Syst. Bot.)

GENERIC CHARACTER.


Tube of the calyx subglobose, teeth 4 somewhat approximating when in flower, remaining on when in fruit, distantly separated by a very wide space. Corolla shortly tubulose, limb with four divisions, throat villous, or smooth. Stamina shortly protruding, anthers ovate, or orbicular. Stigma entire, or divided. Capsule subglobose crowned with the small distant divisions of the calyx two-celled, bursting at the top with a loculicidal chink. Seeds innumerable, very small, adfixed to subglobose placenta and as if half immersed. Plants resembling chickweed, herbaceous, very rarely shrubby. Leaves opposite, having the stipules somewhat joined to them on both sides in the middle. Peduncles axillary, or terminal, one, two, or many-flowered, oftentimes slenderly elongated.

SPECIFIC CHARACTER.

O. Deppeana; fruticulosa ramosissima erecta glabra, fóliis petiolatis ovato-lanceolatis in petiolum attenuatis acuminatissimis firmis ad marginem subrevolutis scabris, stipulis albidis glanduloso-pubescentibus setoso-laciniatis, setis spicis incrasseato-glandulosis, floribus in apicibus laxe paniculatis.—De Cand. l. c. p. 428.

Oldenlandia Deppeana.—Chamisso et Schlechtendahl.
Gerontogea Deppeana.—Link et Otto.
Descr.—Shrubby much branched, erect smooth, leaves petiolate, ovate-lanceolate, tapering into a petiole very acuminate firm scabrous somewhat revolute at the margin. Stipules whitish, with setose lacinate glandular hairs, the hairs with thickened glands at their apex. Flowers terminating in lax panicles.

The Generic name, Oldenlandia, was given to this tribe of plants by Linnæus, in honour of H. B. Oldenland, a Dutch naturalist, who travelled into Africa,
where he died about the close of the seventeenth century; the name Deppeana was given to our present species by Chamisso and Schlechtendahl, two distinguished botanists, in honour of D. Deppe, a botanical collector and traveller in Mexico, in which place he collected our plant, and by whose exertions many now and rare plants have been sent to this country, some of which have been described and figured in the different periodicals. O. Deppeana grows about a foot high, has little beauty in the florist’s eye, its blossoms being small, and much resembling those of an Asperula; but to the botanist and to the general admirer of nature it offers charms from its delicate structure and its graceful panicles of numerous milk-white flowers, which continue in uninterrupted succession throughout the year.

Our plant, which we believe is as yet rare in the collections of this country, was received at the Birmingham Botanic Garden last October, from Mr. Otto, of the Royal Botanic Garden at Berlin, under the name Gerontogea Deppeana; there can be therefore no doubt but this is the true plant of Chamisso and Schlechtendahl, although the leaves cannot be said, as in the description, to be very acuminate; but probably they may have been altered by cultivation. We have followed De Candolle in retaining the name Oldenlandia of Linnaeus, in preference to that of Gerontogea by Chamisso and Schlechtendahl, being of opinion that the repeated change of names, unless for some cogent reason, only tends to create confusion in the science.

Since its arrival it has been kept in a cool stove, but in all probability it may only require the green-house. It may be propagated readily by cuttings of the young shoots in sand without glasses. The soil should be loam, mixed with peat and a little sand, with plenty of drainers. The best materials for draining are small pieces of broken flower-pots. A flat piece should be placed over the hole at the bottom of the pot, upon which one, two, or three inches of drainers should be put, as the nature of the plant may require; over these should be sifted a little of the soil, and above that the compost in which the plant is to grow.

Fig. 1 shows its loculicidal dehiscence; fig. 2 its bilocular cells.
TURNERA ELEGANS.

(Elegant Turnera.)

LINNEAN SYSTEM.

Pentandria trigyna.

NATURAL ORDER.

Turneraceae. - (De Cand. Prod.)

GENERIC CHARACTER.

Turnera (Linn.) Calyx 5-fidus, infundibuliformis. Petala 5, æqualia, calycis tubo inserta. Stigmata multifida. Capsula 1-locularis, trivalvis, apice ad medium dehiscens; valvis medio seminiferis.

Calyx 5-cleft, funnel-shaped. Petals 5, equal, inserted into the tube of the calyx. Stigmata many-cleft. Capsule 1-celled, 3-valved, opening from the apex to the middle; seeds attached to the middle of the valves.

SPECIFIC CHARACTER.

T. Elegans; foliis elliptico-lanceolatis, brevi pubescentiæ vestitis, dimidio anteriore obtusæ serratis, posteriore subcuneatis integerrimis, basi biglandulosis. Staminibus pistillis longioribus.

Descr.—Leaves elliptico-lanceolate, clothed with very short hairs, their anterior half obtusely serrated, their posterior half somewhat wedge-shaped, very entire, with two glands at the base. Stamens longer than the pistils.

Turnera Elegans.—Otto. Loudon, Encyc. Pl.

A slender evergreen shrub, about three feet high, with round green branches, covered with short, simple, somewhat appressed hairs. Leaves obscurely scabrous, with short simple pubescence, more especially on the veins and margins, and furnished at the base with two circular depressed glands. Flowers sessile, petiolar, with two subulate, slightly hairy bracteoles.

From a close examination of this plant, we are inclined to believe that it is perfectly distinct from Turnera Trioniflora of Sims (Bot. Mag.), though De Candolle in his Prodromus considers them the same. T. Trioniflora appears to be stouter in its habit, with leaves larger, and more acutely and coarsely serrated. Still it is difficult to make out any distinctive character, except in the stamens, which in T. Elegans are considerably longer than the stigmas, while in T. Trioniflora they are much shorter. Our drawing was made from a plant in the collection of George Barker, Esq., of Springfield, near this town.

The genus Turnera was so named by Plumier, in memory of William Turner, M.D., a man no less distinguished in the church than in the profession of medicine,
being Prebendary of York, Canon of Windsor, and Dean of Wells. He published "A New Herbal" in the reign of Edward the Sixth, and has been looked upon as the father of English botany. A passage in his work (which is worth quoting for its curiosity) may serve to give some idea of the state of Natural History at that period in England, and even in the universities. "Being then," says he, "a student of Pembroke-hall, Cambridge, where I could learn never one Greke, neither Latin, nor English name, even among the physicians, of any herbe or tree, such was the ignorance at that time; and as yet there was no English herbal, but one, all full of unlearned cacographies, and falsely naming of herbes." He had a botanic garden at Wells, and another at Kew, and continued to devote himself with undiminished ardour to the study of plants till the close of his life in 1568.

The genus Turnera contains about fifty species, many of which bear flowers of considerable beauty; our present species, however, is not excelled by any of them. The petals are of a pale yellow or sulphur colour, elegantly shaded with orange towards their base, while their claws are of a rich purplish brown. They are exceedingly delicate in texture, and are seen in the greatest perfection before eleven in the morning, after which time they begin to droop, closing early in the afternoon. In this respect they somewhat resemble the Cistaceae (the Rock-rose tribe), with which order these plants very much agree in habit, and to which they are certainly very nearly allied. Although the flowers of T. elegans are of such short duration, yet their appearance in almost daily succession during the months of April, May, June, and July, renders it a most valuable acquisition to the stove. They are natives exclusively of South America and the West Indies. Of their properties nothing is yet known. The present species was introduced in 1821.

They require the protection of the stove, particularly during the winter. Some of them, however, will admit of being placed out in the spring in a warm, well sheltered border; where, should the season prove favourable, they will flower freely during the summer. The requisite soil is a mixture of peat and loam, with a little sharp sand, and plenty of drainers. May be propagated by seeds, which are frequently ripened with us; and by cuttings taken in the spring from near the root of such as are not likely to flower for some time. The tender extremities of the branches will also root freely, but will seldom make good plants.
Onobrychis Radiata
ONOBRYCHIS RADIATA.

(Radiated Onobrychis.)

LINNEAN SYSTEM.
Diadelphia Decandria.

NATURAL ORDER.
Leguminose.—(Juss.)

GENERIC CHARACTER.


Calyx 5-cleft, divisions awl-shaped, nearly equal. Corolla papilionaceous; keel as if obliquely truncate; wings short. Stamens in two sets, 9 and 1. Seed vessel sitting, with one joint compressed, one-seeded, not bursting, somewhat leathery, prickly, crested or winged, the upper side straight and thick, the lower side convex and thinner. Herbaceous plants, natives of Europe and Asia. Leaves pinnate, with an odd one. Peduncles axillary, elongated, bearing the spike at the end. Flowers red or whitish.

SPECIFIC CHARACTER.

O. radiata. caule erecto molliter hispido, foliis ovatis obtusis mucronatis subtus hirsutis, spicis cylindricis, alis calyce brevioribus, calycibus leguminibusque villosis, flores ochroleucis, vexillo lineis rubris et mascula lutea notato.

Onobrychis radiata.—Beib.


Descr.—Stem erect, covered with soft hairs, leaflets ovate, obtuse, mucronate, underneath hairy, spikes cylindrical, wings shorter than the calyx, calyx and seed vessel villous, flowers pale yellow, standard marked with red lines and with a yellow spot.

The seeds from which our plant was raised were received from John Hunneman, Esq., at the Birmingham Botanic Garden in 1834, marked Onobrychis radiata, Beib. It is probably the true plant of Beiberstein, although the wings of radiata are said in De Candolle's character to be longer than the calyx, and sagittate; in our plant they are shorter, as shown by our dissection, and no more sagittate than those of conferta and of many others which we have examined.

This plant, although not brilliant, possesses considerable beauty, and an observer
ONOBRYCHIS RADIATA.

of that harmony and perfection which pervades the most minute of Nature's works, will not fail to admire the delicacy of its tints, the graceful pencilling of the purple lines which decorate its petals, and the beautifully radiated seed-vessels by which they are succeeded. There is also a capricious irregularity in the foliage, which, as it is not dependent upon age, is worthy of notice; the markings of the leaves on some stems being dark, on some pale, while in others they are altogether absent. It is allied (by description) to Pallasii, a plant which as yet we are not fortunate enough to possess.

The genera Hedysarum and Onobrychis were much confounded by Linneus and other authors; and indeed at the present day it would be difficult to determine, without the seed-vessel, to which of the two a plant might belong. The principal distinction between them is, that Hedysarum has a seed-vessel with many joints, while that of Onobrychis has only one.

It is a native of Caucasus, Iberia, and Cappadocia, inhabiting the hilly parts of rocky districts. Mr. Loudon, in his Hortus Britannicus, states its first introduction to be in the year 1818; still we have every reason to believe it to be, even at the present time, a scarce plant in this country.

It is said to be perennial, (biennial?) is perfectly hardy, and grows about two feet high. For its culture the soil should be light and dry, by no means stiff or wet, as so situated its root would probably perish. Should it prove to be perennial, it may be increased by dividing the root; if biennial, by seeds, as they are produced freely, and retain their vegetating power for at least three years.

Its name Onobrychis is derived from the Greek onos, an ass, and brycho, to gnaw, in allusion to the fondness of cattle for this tribe of plants; its specific name, radiata, refers to the radiated lines on the seed-vessels.

Fig. 1, calyx magnified; 2, standard natural size; 3, keel natural size; 4, the filaments combined in two sets; 5, wings drawn in proportion to the size of the calyx; 6, an unripe seed-vessel, showing the rays and prickles in the centre, natural size; 7, an unripe seed, natural size.
Cytopodium Willmoresi
CYRTOPODIUM WILLMOREI.

(Linrn. Willmore's Cyrtopodium.)

LINNEAN SYSTEM.
GYNANDRIA MONANDRIA.

NATURAL ORDER.
ORCHIDACEE.—(Lindl.) ORCHIDEE.—(R. Br.)

§ VANDEE.—(Lindl.)

GENERIC CHARACTER.


SPECIFIC CHARACTER.

C. Willmorei; foliis lanceolatis plicatis costatis, scapo erecto ramosissimo, floribus paniculatis, sepalis petalisque lanceolatis acutis undulatis maculatis; bracteis sepalis conformibus et maculis similibus notatis; labello trilobo, lobis lateralibus erectis cuneatis intermedio rotundato emarginato margine granuloso, disco tuberculato.

Descri.—Leaves lanceolate, folded, ribbed; flowering stem erect, much branched; flowers panicled; sepals and petals lanceolate, acute, undulate, spotted; bracteas like the sepal in shape, and marked with similar spots; lip three-lobed, lateral lobes erect, cuneate, the intermediate lobe rounded, emarginate, margin granulose, disc tuberculato.

A very handsome plant, with a lofty much-branched flowering stem. Sepals and petals yellowish green, spotted with dull red; lateral petals less undulated, brighter in colour, and more sparingly marked than the sepal. Lateral lobes of the lip pale red; the disc, or space between them, beset with small tubercules, the intermediate lobe yellow, the granulated margin of which is minutely spotted with red. At the base of each flower-stalk is placed a bractea, in shape and markings exactly resembling the sepal. The gland is rather triangular than ovate.

The name of this genus, Cyrtopodium, is derived from kurtos, convex, and pous, a foot, in reference to the convex claw of the labellum; and believing it to be a
new species, we have named it Willmorei, in compliment to John Willmore, Esq., of Oldford, near Birmingham. Our drawing, which represents but a small portion of the panicle, was made from a remarkably fine plant in the rich collection of that gentleman, to whom it was sent in the autumn of 1834 by Mr. John Henchman, who found it in the valley of Cumanacoa, in the republic of Venezuela. It is a terrestrial species, growing among decayed vegetables, some leaves of which were observed by Mr. Henchman more than six feet long. It has now been in flower nearly six weeks, and has a flowering stem four feet and a half high. It requires a strong moist heat when in a growing state, but during its period of rest should be placed in a more cool and dry atmosphere.

The plants referred by botanists to the natural order, Orchidacee (the orchis tribe), are among the most remarkable of all vegetable productions. Orchis is the original Greek name of one of these plants, and is at present used to designate a particular genus, which may be regarded as the type of this interesting group. The singularity of their structure; the curious and fantastic forms assumed by their flowers; the rich and varied hues displayed by some, and the exquisite fragrance diffused by others, could not fail to excite the early attention of the botanist. In this country they are seen everywhere adorning with their elegant spikes our woods, marshes, and meadows; though the more rare and curious of the tribe are confined chiefly to chalky districts. Beautiful, however, and interesting as are our British species, yet it is in tropical climates that these plants are beheld in all their glory, where they flourish in countless numbers and in endless variety. A considerable portion of them (the epiphytic class) are found in warm and humid forests, displaying their flowers in all their varieties of form and colour—here sitting in unobtrusive modesty—there arranged in stately panicles—and now in elegantly pendulous racemes; attaching themselves by their tortuous roots to the branches of living trees, or clinging to the mouldering trunks of fallen timber; and thus “adorning the one with bright hues and rich odours foreign to their nature, and rendering the others more beautiful in death than in the full vigour of their existence.” (Loud. Enc. Pl.)

Fig. 1, column continuous with the claw of the labellum; 2, pollen masses and gland magnified.
SALVIA CERATOPHYLLA.

*(Stag's Horn Salvia.)*

LINNEAN SYSTEM.

DIANDRIA MONOGYNIA.

NATURAL ORDER.

LABIATÆ—(Juss.) TRIBE—MONARDÆ.—

*(Bentham Lab. p. 190.)*

GENERIC CHARACTER.

Salvia (Lin.) Calyx subcampanulatus, bilabiatus, labio superiore 2-3 dentato, subinde integro, inferiore bifido. Corolla ringens. Filamenta transversè pedicello affixa. *(Rümér et Schultes, Syst. Veg. p. 58.)*

Calyx somewhat bell-shaped, two-lipped, the upper lip with from two to three teeth, occasionally entire, the lower lip bifid. Corolla gaping. Filaments fixed to a transverse pedicel.

SPECIFIC CHARACTER.

S. ceratophylla; caule herbae so basi albo-lanato, foliis inferioribus profunde pinnatifidis, lobis linearibus obtusis sinuato-subpinnatifidis rugosiis utrinque laxè lanatis, superioribus subintegris, floralibus latissimis concavis persistentibus calyce longioribus; racemis paniculatis; verticillastis sub 6 floribus distantibus, supræmis abortivis, calycibus campanulatis labio superiore tridentato, inferiore bifido, dentibus omnibus lanceolatis setosis; corollis calyce duplo longioribus, tubo inclusâ ventricoso, inferioris lobis lateralibus oblongis erectis; connectivis postice deflexis abruptâ dilatatâ extremitate callóso connexis.—*Bentham*, l. c. p. 220.

Descr.—Stem herbaceous woolly at the base, lower leaves deeply pinnatifid, lobes linear obtuse sinuate somewhat pinnatifid much wrinkled, both sides loosely covered with woolly hairs; upper leaves nearly entire, floral leaves very broad, acuminate, concave, persistent, longer than the calyx; racemis paniculatis, verticillastis distant about 6 flowered, the upper ones abortive, calycibus campanulatis, upper lip three-toothed, lower lip bifid, all the teeth lanceolate bristly, somewhat spiny. Corolla twice the length of the calyx, tube enclosed ventricose, upper lip falcate compressed, inferior side lobes oblong erect; connectivis deflexis posteriorly, abruptly dilated, joined with a fleshy extremity.

Salvia ceratophylla.—*Lin.*


Sclarea ceratophylla.—*Mill. p. 8.*

This Salvia was raised from seeds sent to the Birmingham Botanical and Horticultural Society by Dr. Fischer, of St. Petersburgh, and flowered this present summer in their gardens at Edgbaston. It grows about two feet high, is...
much branched, and wholly covered with viscid hairs. The branches are crowded, each bearing a raceme of pale yellow flowers. The lower leaves are remarkably singular, and differ from those of every other Salvia with which we are acquainted; being divided down to the mid-rib, and the divisions themselves approaching to a further division. In its quadrangular, furrowed, and obtusely angled stem, it much resembles Salvia Scarea, as it does also in its branching mode of growth, the form of its floral leaves, and the disposition of its flowers. It is a native of the East; is found near Aleppo, and Arimathea, in Syria; in Persia; and in Mauritania. According to Aiton (Hort. Kew.), it was introduced into Britain at an early period, having been cultivated by Bobart previous to the year 1699. It is biennial, and produces seeds freely, which ought to be sown in April in any common garden mould. The plants will flower the following year in June and July. A reserve of seeds should be kept for three years, to insure against a failure from unfavourable seasons.

The generic name Salvia, is derived from the Latin Salveo, to be in good health, in reference to its healing qualities; and its specific name ceratophylla, from the Greek keras, a horn, and phyllon, a leaf, from the divisions of the leaf being supposed to bear some resemblance to the branchings of a stag’s horn.

The genus Salvia contains a greater number of species than that of any other genus of the natural order Labiatae, some of which are distinguished by the rich and brilliant colours of their flowers, as Salvia fulgens, coccinea, Grahami, and strictiflora. The amount of species, exclusive of varieties, enumerated by Mr. Bentham in his valuable work on the Labiatae, just published, amounts to 291, which are distributed over almost every part of the known globe, with the exception of the Arctic region, comprehending Lapland, Greenland, Iceland, and the northern coasts of Russia and America; and the South temperate zone, comprising Patagonia and Van Dieman’s Land. The species are thus divided between the old and new world by the same admirable author—the old world contains 117, the new world 174.—Salvia was much esteemed by the ancients as possessing great medicinal virtues; hence the following verse:

"Cur moritur homo cui Salvia crescit in horto;"

but notwithstanding such high encomiums, its medicinal properties are considered to be very feeble, and it is consequently nearly discarded by medical practitioners of the present day.
Passiflora Hermesina
PASSIFLORA KERMESINA.

(Crimson Passion-flower.)

LINNEAN SYSTEM.
MONADELPHIA PENTANDRIA.

NATURAL ORDER.

GENERIC CHARACTER.
Tube of the calyx very short; the throat ornamented with a multiple filamentous crown.
Berry generally pulpy, rarely somewhat membranous.

SPECIFIC CHARACTER.
Passiflora Kermesina; glaberrima, folis cordatis trilobis basi glanduloso-serrulatis, subtus rubro-purpureis, petiolo bi-glandulosis, pedunculis solitariis foliis multibus longioribus.
Descr.—Plant very smooth, with cordate, three-lobed leaves, glanduloso-serrulated at the base, purplish-red underneath, petiolo bi-glandular, pedunclos solitary, much longer than the leaves.
Passiflora Kermesina.—Link et Otto.

A slender climbing shrub, with a smooth round dark-green stem. The leaves are shining, of a dark-green colour on their upper surface, and a pale purplish-red beneath, the lobes serrulated at the base, and the serratures furnished with shortly stipitate glands; the petiolo round, with two small stipitate glands near the middle; the stipules foliaceous, semi-cordate, somewhat tendrilled at the apex, and occasionally toothed towards the base. The peduncles are slender, axillary; and, like the rest of the genus, have an evident articulation beneath the flower. The calyx is crimson, the divisions of which are linear-oblong, obtuse. The petals in form and colour resemble the sepals, but are somewhat larger. The corona consists of a series of filamentous rays, the exterior of which are tipped with white. These elegant appendages of the flower are somewhat ambiguous in their nature: they have been considered by some as abortive stamens; while Dr. Lindley is disposed to regard them as a peculiar modification of petals.

The name of Passion-flower is said to have been given to this remarkable genus of plants from a supposition of some of the older botanists that the appendages of the flower represent the passion of our Saviour; their fertile imagination
having led them to compare the five stamens to the five wounds; the three styles to the nails; the column which supports the germ to the cross; and the filamentous rays to the crown of thorns.

The species of Passiflora already known, exclusive of hybrids and varieties, amount to nearly 130, which are very appropriately divided by De Candolle into sections, according to certain differences observed in their mode of growth. Our present plant will take its station in the 5th section, Decaloba, so named from the division of the floral envelopes into 10 lobes. This elegant species (which is unquestionably one of the most beautiful of this interesting genus of climbers, and an almost constant flowerer), will be a valuable acquisition to the stove. It is stated to have been introduced to the garden of the London Horticultural Society from Berlin, by Mr. Bentham, in the autumn of 1831. Our drawing was made from a plant in the collection of George Barker, Esq., of Springfield, near this town. It differs in some degree from one figured in the Bot. Reg. fol. 1633, the segments of which flower are described by Dr. Lindley as acute; in our specimen they are obtuse. The richness of colour displayed by its flowers is beyond the power of art to imitate; at the same time, it is but justice to admit that our artist has succeeded beyond our expectation. When fully expanded, the segments of the flower are perfectly flat; and spreading horizontally display themselves for a while in all their glory; but in a few hours they become reflexed, as represented in our plate, and at length returning close for ever.

Thus Hope, the passion-flower of human life,
Whose wild luxuriance mocks the pruner's knife,
Profuse in promise, makes a like display
Of evanescent blooms—that last a day!

Dr. Edmund Cartwright.

To be grown in perfection, it will require a hot, damp stove; and should be planted in a compost of loam, peat, and sand, in one of the compartments allotted for climbers, and trained against a trellis, or under one of the rafters. It is said to be propagated with difficulty; it is probable, however, that cuttings of the young lateral shoots, when about 3 inches long, would strike if planted in sand and placed in a good bottom-heat.
DELPHINUM PUNICEUM.

(Purple Larkspur.)

LINNEAN SYSTEM.

POLYANDRIA POLYGYNIA.

NATURAL ORDER.

RANUNCULACEÆ.—(S. De Cand. Syst. vol. i. p. 127.)

GENERIC CHARACTER.


Calyx deciduous, petal-like, irregular, the upper sepal being prolonged downwards into a spur. Petals 4, the two upper ones prolonged at their base into appendages within the spur.

SPECIFIC CHARACTER.

D. puniceum. Petiolis basi dilatatō-vaginantis, foliis in lobos lineares ad basin usque multipartitis, racemo elongato, calcar recto obtuso pedicello sublongiore flore breviore, petalis inferiōribus pilosis.

Descr.—Petioles with dilated sheaths at their base, leaves much divided even to their base into linear lobes, raceme elongated, spur erect obtuse, somewhat longer than the pedicel, shorter than the flower, lower petals hairy.


Our plant was raised from seeds presented to the Birmingham Botanical and Horticultural Society by the late Dr. Steudel, in April, 1835, and will form a valuable acquisition to the herbaceous department of the garden. Its elegant flowers in long branching racemes, which appear in July and continue till November, are beautifully conspicuous from their rich dark purple hue, and form a pleasing contrast with such of the species as are at present in cultivation. It is a native of the most arid parts of the desert of Tartary, around the Volga, where it was collected by Pallas during his travels in the Russian empire, and was introduced, according to Aiton (Hortus Kewensis), by Dr. William Pitcairn, in the year 1785, but is now a scarce plant, and rarely to be met with in collections. It is perennial, grows about four feet high, is perfectly hardy, and may be cultivated in any deep light garden soil, upon a dry subsoil, and increased by dividing. The best time for that purpose with all the species of this genus is in the spring, when the young shoots are two or three inches above the soil. This species ripens seeds freely,
which, if sown in the spring where they are to remain, will flower well the following season, and make better plants than those obtained by dividing.

Its generic name Delphinium is derived from the Greek Delphin, a dolphin; the unexpanded flowers having been supposed to resemble the imaginary figures of the dolphin; while in some of the species they have been compared to the spurs of larks, whence the English name of Larkspur. The specific name of our present plant, puniceum, is from the Latin puniceus, signifying purple, in reference to the colour of the flowers.

The genus Delphinium contains about 58 species, natives of Europe, Asia, Africa, and America; some of which are annual, some perennial, but none shrubby. Many of them have long been favourites in our gardens; a distinction to which they are justly entitled by the curiously irregular shape, and the rich and various colours of their flowers. The leaves and stalks of the Delphinia are acrid, and the seeds poisonous. Those of the Delphinium consolida (our only British species) are said to have been employed in the preparation of certain cosmetics, which, although apparently efficacious, are found, eventually, to be very injurious to the skin. A tincture of the seeds has been found serviceable in asthma, but, like many medicines of a similar character, requires to be used with caution. Another species, the Delphinium staphisagria, has been used in the treatment of cutaneous eruptions; it was also formerly administered internally, but, in consequence of its dangerous character, has been discarded from modern practice. The active properties of the Delphinia are found to depend upon a peculiar alkaloid principle, to which has been given the name of Delphine.

Fig. 1, upper petal; 2, lower petal; 3, capsules.
Aspasia Epidendridae
ASPASIA EPIDENDROIDES.

*(Epidendrum-like Aspasia.)*

LINNEAN SYSTEM.

GYNANDRIA MONOGYNIA.

NATURAL ORDER.

ORCHIDACEÆ.—(Lindl.) § YANDÉE.

GENERIC CHARACTER.


SPECIFIC CHARACTER.


Descr.—Pseudobulbs compressed, furrowed, 2-edged, 1-3 leaved; leaves linear-lanceolate, somewhat striated; scape from the base of the pseudobulbs, about 5-flowered; bracteas sheathing, acuminate; sepals lanceolate; petals elliptico-lanceolate; claw of the lip united with the column as far as the middle, its lamina broadly ovate, somewhat rounded, slightly fringed, and forming a right angle with the column.

This is an elegant plant with the aspect of an epidendrum; and although not brilliant in colour, is beautiful both in the shape and markings of its flowers. The sepals and petals are marked with streaks of rich brown; the lip is white, the base of which is faintly shaded with orange, the remaining portion being tinted and copiously spotted with violet. Our drawing was made from a specimen in the collection of George Barker, Esq., of Springfield. It is a native of Panama and
Western Columbia; and is one of the plants collected by Mr. Cuming in South America.

In our first number we made a few observations on the singular habits and appearance of orchidaceous plants; and presuming that many of our readers may be unacquainted with their peculiarities, we shall take this opportunity of offering a few remarks on the anomalous structure of their flowers; a subject highly curious in itself, and (in a botanical point of view) equally important. It is curious as presenting a remarkable deviation from the usual structure of this part of plants; and important, as affording the most convenient means for their classification. Orchidaceous plants have not a certain number of stamens disposed around one or more pistils, like other flowering plants; but are furnished, instead of them, with a central fleshy body, called the column, round which the sepals and petals are arranged. This fleshy body (which varies greatly in length in different genera) is considered to consist of three stamens and a style in a state of firm cohesion. The stigma, instead of forming the extremity of the style as in other flowers, is a moist cavity situated in front of the column, immediately below the summit. At the apex of the column is placed a solitary anther, the lateral stamens being abortive, or imperfectly developed. A curious deviation from this arrangement of parts occurs in Cypripedium, which has the lateral stamens perfect, and the central one abortive. In a few of the genera the anther is persistent, but in by far the greater number it is deciduous. On removing the anther we discover the pollen-masses, which are subject to various modifications of structure. They have accordingly been divided by Dr. Lindley (whose intimate acquaintance with these extraordinary plants is well known) into several distinct tribes, in a work devoted expressly to their description.* In our present plant the pollen-masses are connected with a gland, by means of a transparent elastic strap, called the caudicula. We shall continue our remarks upon this singular order of plants in our next number.

Fig. 1, anterior view of the pollen-masses and appendages magnified: a the pollinia; b the caudicula; c the gland. Fig. 2, posterior view of same; 3, the column, showing the claw of the labellum united with it as far as the middle; and the lamina spreading horizontally and forming a right angle.

PIMELEA NIVEA.

(Snowy Pimelea.)

LINNEAN SYSTEM.
D I A N D R I A M O N O G Y N I A .

NATURAL ORDER.
T H Y M E L E E .—( J u s .) T H Y M E L A C E E .—( L i n d l .)

GENERIC CHARACTER.


Corolla funnel-shaped, limb divided into four parts, throat scaleless. Calyx none. Stamens two, inserted in the throat opposite to the exterior divisions. Style lateral. Stigma capitate. Nut coated, rarely a berry.

SPECIFIC CHARACTER.

P. nivea; foliis orbiculis imbricatis margine recurvis, subus incano-tomentosis, ramulis albis, floribus capitatis terminalibus, tomentosis.—Brown, Prod. vol. 1. p. 361.

Descri.—Leaves orbicular imbricate, margin bent back, underneath covered with whitish hairs, branchlets white, flowers in terminal heads, hairy.

Pimelea nivea.—Brown, l. c. in litt.

The stem grows to the height of six feet or more, according to Dr. Brown, by whom the plant has been described, and who, we believe, saw it growing in its native country, when he accompanied Captain Flinders to Terra Australis. The plant from which our drawing was taken is about three feet high, but it is young, being only a seedling of two years’ growth. It branches at right angles with the stem, as shown in the miniature figure on the plate, each branch bearing at the end a corymb of delicate pinkish flowers. The leaves are rigid imbricate, the upper surface of which is of a dark shining green, forming a pleasing contrast with the under surface and the hoary branches; indeed we are not aware that any plant of this genus is more worthy of a place in the green-house than the one we have just described. In its beautifully delicate corymbs, its elegant foliage, its hoary branches, and its singularity of growth, it appears to differ from every other species at present in cultivation. It seems much allied to incana of the same author, but differs from it in the disposition of its leaves, which in incana are described as not imbricate; the branchlets too are said to be white.
be cinereous, not tomentose. There is a plant in collections under the name of *inacna*, but most assuredly different from that described by Dr. Brown: it has lanceolate, smooth, and acute leaves; and has somewhat of the aspect of *sylvestris*, but not having seen it in flower, we are unable to speak of it at present with any degree of certainty.

The genus contains about forty species, all shrubs, natives of New Holland and Van Dieman’s Land. Our present plant is in the collection of the Birmingham Botanical and Horticultural Society: it is exceedingly rare, and is probably the only one that has ever been seen in a living state in this country. This plant was obtained from seeds presented to the Society by Joseph Hodgson, Esq., who received them from Walter Buchanan, Esq., of London, for whom they were collected by a medical friend residing in New South Wales.

It requires to be kept in a cool and airy part of the green-house; the soil should be light sandy peat, mixed with a small portion of loam, with plenty of drainers. When the plants are shifted into larger pots, the balls ought to be gradually raised at each successive shifting till the centre is some inches above the rim, in order to prevent the plants going off prematurely. The plant has not yet been propagated, but it may probably be effected in the same manner as with others of the genus, viz., by cuttings of the young wood, stuck in sand, with or without glasses; by seeds, and by inarching upon other free-growing species.

The generic name, *Pimelea*, is considered to be formed from *pimelē*, fat; its specific name, *nivea*, from the Latin adjective *niveus*, snowy, as expressive of the peculiarly white appearance of the tomentose branches and under surface of the leaves.
AQUILEGIA GLANDULOSA.

(GLANDULAR-HAIRY AQUILEGIA, OR COLOMBINE.)

LINNEAN SYSTEM.

POLYANDRIA POLYGYNIA.

NATURAL ORDER.

RANUNCULACEAE.—(Juss.)

GENERIC CHARACTER.


Calyx 5 sepalated deciduous, coloured petal-like. Petals 5, gaping upwards, two-lipped, exterior one large and flat, interior one very small, each elongated downwards into as many hollow spurs, callous at the apex, projecting between the sepals. Ovaries 5. Capsules the same number, erect, many-seeded, acuminate by the styles.

SPECIFIC CHARACTER.

A. glandulosa; calcaribus incurvis, petalorum limbo duplo brevioribus; herbae parte superiore carpellisque villosa-glandulosis.—De Cand. l. c.

Spurs bent inwards half the length of the petals; the upper part of the plant and the seed vessels covered with glandular hairs.


Descr.—Stem erect, about two feet high, covered with soft hairs. Radical leaves glaucous, sheathing at the base, twice or thrice ternate, leaflets roundish, cuneate or truncate at the base; trifid divisions notched; stem leaves tripartite, linear or oblong entire. Flowers one, two, or three, (in the cultivated plant sometimes four or five) on elongated peduncles. Sepals five, ovate, or oblong, acute, or obtuse, of a pleasing blue colour. Petals five, the lower part blue, elongating into a spur; lamina, or upper part, white, or yellowish white. Stamens equal in length to the ovaria. Carpels from six to ten, hairy, glandular.

The genus Aquilegia, according to Professor Ledebour, in the Flora Altaica, approaches near to the genus Isopyrum, but differs principally in having its nectary joined to the side of the receptacle; Isopyrum having its nectary at the base. Other authors state the genus to be most allied to aconitum, but differing in
having spurs and a regular calyx. It contains about twenty species, thirteen of
which are enumerated by Professor De Candolle in his Prodromus, and the
remainder have been recorded in other works since his volume was published.
They are all hardy, herbaceous, perennial, and very ornamental plants; amongst
which the present is very conspicuous for its beauty. It is nearly allied to
Aquilegia Alpina, Lin., from which it differs in its shorter spurs, in the lamina
of the nectary never being truncate, but chiefly in its more numerous ovaria.

The geographical distribution of this genus extends over Europe, the north
of Asia, and the northern parts of America; but as yet, we believe, none have
been found in Africa. Aquilegia vulgaris is found in England, as well as all
other parts of Europe. Although rare in England, we recollect gathering a
specimen two or three years ago amongst the ruins of Richard’s Castle, Here-
fordshire, about three miles from Ludlow. A. viscosa appears to be peculiar to
Montpellier, A. alpina to Switzerland, A. pyrenaica to the Pyrenees, A. cana-
densis to America, and most of the other species, including the one now figured,
are peculiar to Siberia and the Altai Mountains.

The medicinal properties of Aquilegia do not appear to have been ascertained
with any degree of accuracy; De Candolle states them to be probably tonic, and
some of the species have accordingly been recommended for use, especially A.
vulgaris. We are informed, however, by Linæus, that it has proved fatal to
children. There is no doubt indeed that they possess more or less of the acrid
principles which are found generally in plants of the natural order to which they
belong, and ought consequently to be looked upon with suspicion.

A. glandulosa requires a light deep, rich soil: it may be increased by dividing
the roots, or propagated by seeds, (which frequently ripen), and make the best
plants when sown where they are to remain.

The generic name, Aquilegia, is by some considered to be derived from the
Latin aquila, an eagle, in allusion to its nectaries; by others, from the Latin
aqua, water, and lego, to gather, in consequence of the water collected in their
leaves: its specific name, glandulosa, from the Latin adjective, glandulosus, in
reference to the glandular hairs on the carpels.
CALCEOLARIA PUNCTATA.

(Var. hybr.—Dotted Calceolaria, hybrid variety.)

LINNEAN SYSTEM.
DIANDRIA MONOGYNIA.

NATURAL ORDER.
SCROPHULARIACC.E.—(Juss.) SCROPHULARIACE.E.—(Lindl.)

GENERIC CHARACTER.

Calceolaria (Linn.) Calyx 4-partitus. Corolla bi-labiata: labium inferius calceiforme, inflatum. Capsula 2-locularis, apice 4-valvis.

Calyx 4-parted. Corolla 2-lipped: lower lip slipper-shaped, inflated. Capsule 2-celled, 4-valved at the apex.

SPECIFIC CHARACTER.

C. punctata; caule suffruticoso, foliis lanceolatis nunc sub-spatulatis rugosis obtusis villosotomentosis irregulariter serratis, superioribus sessilibus, inferioribus petiolatis; paniculis terminalibus et axillaribus; corollae labio superiore minimo, inferiore rotundato subcrenato.

Descr.—Stem somewhat shrubby, leaves lanceolate, occasionally sub-spatulate, rugose, obtuse, hairy-tomentose, irregularly serrated, the superior ones sessile, the inferior ones with foot-stalks; panicles terminal and axillary; the upper lip of the corolla very small, the lower lip rounded, somewhat crenate.

A truly elegant variety of Calceolaria, raised by John Willmore, Esq., of Oldford, who obligingly communicated the specimen from which our drawing was made. It is a hybrid, and was obtained between C. Pardanthera and a white unnamed variety, both of which are also hybrids. Some few specimens of this plant have been distributed by Mr. Willmore among friends under the name C. guttata, for which we have taken the liberty of substituting punctata, as expressing more accurately the minute markings of the corolla. With regard to the naming of hybrids, we have long thought that it would be very desirable to adopt some method by which they might be at once distinguished from original species; and while making this remark, we perceive a similar observation by Edward Blyth, Esq., in the 66th number of the Magazine of Natural History. “It is greatly to be wished,” says that gentleman, “that horticulturists would not name their hybrid plants in the same manner as genuine species; the confusion thus already induced in many genera being quite inextricable.” To adopt a name that would indicate the origin of a hybrid is not always possible, as it
would sometimes be necessary (as with our present plant) to trace it through several generations. It would tend however to prevent confusion, if "var. hybr." were always placed after the specific name: or it might be still better to combine the specific name with the adjective "hybridus," as Calceolaria hybridopunctata. We offer the above remarks rather with the view of exciting the attention of Botanists to the subject than for the purpose of submitting any favourite mode of our own. In reference to the practice of hybridizing, we cannot avoid quoting a remark of Dr. Lindley, in the Bot. Reg., folio 1743, where, speaking of C. angustiflora, the learned professor says, "It is a species of no great attraction, but deserves to be recorded as one of the genuine wild forms of a genus which, however beautiful and interesting, has already began to sink in estimation, in consequence of the ruin that has been brought upon it by the unskilfulness of gardeners. In their haste to improve the works of nature, these gentlemen have converted some of the fairest races in the vegetable world, into forms in no case more beautiful than the original, and in the majority of instances, unhealthy, mongrel, and debased." In these excellent observations we mostheartily concur, well knowing how futile, generally, must be any attempt to improve by such means the inimitable colours and beautiful forms which we see regularly and unceasingly developed in the grand laboratory of nature. There are, however, some few instances in which such interference has been followed by the most satisfactory results; for example, the hybrid species of Passiflora, *calceolacaercosa* and *alato-calceolaca*, are acknowledged to surpass in beauty the parents from which they were derived. So is it occasionally with Calceolarias: it is impossible indeed to pass through Mr. Willmore's greenhouse without having our admiration immediately excited by the varied and brilliant display of these plants, most of which owe their origin to the zealous and skilful management of the gardener, Mr. Williams. Many of these varieties surpass all the original species with which we are acquainted, as well in the form and size of the flowers, as in the richness and variety of their colours: and we may add, moreover, that many of the seedlings which we have recently seen in the collection promise to become still more attractive. It is worthy of remark, and is not perhaps very generally known, that one of the large silver medals of the Lond. Hort. Soc., which had been placed at the disposal of the Birm. Bot. and Hort. Soc., was awarded about two years ago to Mr. Willmore, for the many beautiful hybrid varieties of this interesting genus which he had raised and introduced to the public.

The generic name, *Calceolaria*, is derived from the Latin *calceolus*, a little slipper, in allusion to the shape of the lower lip.
ONCIDIUM PAPILIO.

(Butterfly Oncidium.)

LINNEAN SYSTEM.

GINANDRIA MONANDRIA.

NATURAL ORDER.

ORCHIDACEA. — Lindl. § Vandelle.

GENERIC CHARACTER.


SPECIFIC CHARACTER.

O. Papilio (Lindl.) Pseudo-bulbis subrotundis compressis rugosis monophyllis; foliis oblongis coriaceis obtusis maculatis; scapo perennante debili anepistis articulato apice paucifloro; sepalis suprâpetalisque linearibus longissimis basi angustatis, sepals lateralibus oblongis revolutis undulatis labello longioribus; labellis lacinii intermedii emarginati subrotundis crispa basi valde angustati, lateralibus rotundatis; crisae glandulis formam ranne cubantis referentibus; columnae alis serratis.

Descr. — Pseudo-bulb somewhat round, compressed, rugose, 1-leaved; leaves oblong, leathery, obtuse, spotted; scape permanent, slender, 2-edged, jointed, few-flowered at the apex; upper sepals and linear petals very long, narrowed at the base; lateral sepals oblong, revolute, waved, longer than the lip; middle lobe of the lip emarginate, somewhat round, curled at the margin, very much narrowed at the base; lateral lobes rounded: glands of the crest resembling the form of a frog couchante; wings of the column serrate.


The leaves are one-nerved, striated, obtuse or acute, varying, in fact, very considerably in different plants; they are frequently spotted on both sides of the
leaf, while in our present specimen the markings were confined to the under surface, with the exception of a few obscure spots scattered along the upper surface, near the margin. The scape (which arises from the base of the pseudo-bulb) is from 2 to 3 feet long, round below, compressed above, with a sheathing bracteae at each joint. The long linear petals and upper sepals are of a rich purplish red, with one or two transverse bands of yellow. The lateral sepals are of a bright yellow, with irregular transverse bands or blotches of rich orange-red. The middle lobe of the lip, which is of a bright yellow, with a broad irregular border of orange-red, becomes very much narrowed posteriorly, and terminates in the lateral lobes, which are small, marked with yellow, red, and white, and are situated on each side of the crest. The crest is white, marked with yellow and red; above which is the short column, with its yellow, fleshy wings, the margins of which are serrated, and the extremities tipped with glands. Immediately above the wings are two or three slender, fleshy, processes, tipped also with glands, of which the two upper ones are the longest, presenting the appearance of two tentacula, with eyes at their extremities. The apex of the column is surmounted by the helmet-shaped anther. The pollen-masses (like Aspasia* in our last number) are connected with a gland by means of a transparent elastic appendage (the caudicula).—This is one of the most beautiful, and, at the same time, the most singular of all the species of Oncidium. Our drawing was made from a plant in the collection of John Willmore, Esq., of Oldford; and was selected from others of the same species on account of the superior beauty of its flower, which was one of the finest we have ever seen. The generic name Oncidium, is from γυνος, a tumour, in reference to the tubercles on the crest of the labellum: its specific name, papilio, a butterfly, was given to it by Dr. Lindley, from the resemblance which it seems to bear to one of those insects: and truly, when we view its singular form, poised like a richly painted butterfly on the top of its long and slender flower stalk, we cannot but admit that the name is well chosen. It is a native of Trinidad, and was introduced in 1823. It is readily increased by dividing; the soil should be light fibrous peat, broken into small pieces, and mixed with drainers, the pot being previously half filled with drainers. It requires a humid stove when growing, but should be kept more cool and dry when dormant.

* The derivation of Aspasia was inadvertently omitted: it was so named by Dr. Lindley, from ασπας, to be embraced, in allusion to the union of the claw of the labellum with the lower half of the column.
Ceanothus collina.
CEANOTHUS COLLINA.

(Mountain Ceanothus.)

LINNEAN SYSTEM.

PENTANDRIA MONOGYNIA.

NATURAL ORDER.

RHAMNEE.—(R. Brown, Gen. Rem. p. 22.)

GENERIC CHARACTER.


Calyx with five divisions bell-shaped, after flowering cut round in the middle, remaining at the base under the fruit, somewhat adhering. Petals 5, small, longly clawed, arched, rarely wanting. Stamina protruding, before the petals. Styles 2 to 3, joined at the middle. Berries juiceless, 3-celled (rarely from 2 to 4), the papery cells one-seeded, bursting by openings at the base on the interior. Seeds ovate, without a furrow.

SPECIFIC CHARACTER.

C. Collina (Douglas). Ramis decumbentibus teretibus sub-glabris; foliis ovatis vel elliptico-ovatis subviscosis glanduloso-serratis superne nitidis, subtus pilis adpressis 3 nervis; stipulis setaceis; paniculis axillaris.

Descr.—Branches drooping, round, somewhat smooth; leaves ovate or elliptical-ovate, somewhat clammy, glandular-serrated, upper surface shining, under surface covered with appressed hairs, 3-nerved; stipules awl-shaped; panicles axillary.

This is a low decumbent shrub, its trunk scarcely rising a foot from the ground; yet, being an evergreen, and perfectly hardy, it is a plant well worthy of notice, and will make an interesting addition to the shrubbery. It flowers freely; the plant from which our drawing was made having flowered twice during the past summer. We have not perceived any fruit at present, but probably that will be produced (as by many other North American species) when the plant becomes older. Although it cannot be considered showy, yet it may vie perhaps with many of the hardy species at present in cultivation. We except, of course, the truly beautiful species C. azuroa; which, however, can scarcely be considered hardy, having only succeeded (as far as we know) in sheltered situations. It is moreover entitled to particular notice from the remarkable circumstances
CEANOTHUS COLLINA.

attending its introduction into this country. In the years 1826 and 1827 a great variety of seeds, collected in North America by the late unfortunate Douglas, were received by the Lond. Hort. Soc.: some of which were distributed among various public and private establishments. Of the seeds so distributed, a portion was received by Messrs. John Pope and Sons, the spirited proprietors of Hands-worth Nursery, near this town; and amongst them were a few of C. collina, one of which vegetating produced our present plant, and which we believe to be the only one in the kingdom.

Ceanothus collina, as far as we can judge from De Candolle's descriptions, is allied to Ceanothus buxifolius, Wild., on the one hand, and to C. serpyllifolius on the other. It approaches buxifolius in its ovate-elliptic glandular-serrated leaves; in the leaves having three nerves (which probably in older and more vigorous plants may occasionally be five); and in having their under surface covered with appressed hairs: it differs at the same time in having its branches smooth, not spiny; and in its paniced, not racemose inflorescence. It approaches serpyllifolius in its decumbent branches: but differs in its glandular serratures and in its inflorescence, not being conglomerate. The number of species of this genus amounts to about 40, of which 25 appear to have been introduced into this country. Their geographical distribution is pretty equal; 20 species being natives of tropical parts, and the remainder of North America. The leaves of C. Americana were used as tea during the American war; and an infusion of the twigs has been considered a useful astringent. Of their medical properties generally very little appears to be known. The species generally are of the easiest culture, requiring only common garden soil. This has been increased by layers, which strike readily, especially if tongued. The operation of tonguing, which is well understood by propagators, consists in cutting a stem half through below a joint, on the under side, and splitting it up for two or three inches. This is sometimes done on the upper side of plant plants, which are then twisted round, so as to place the tongue in a perpendicular position: the latter is considered the more effectual method of causing the layers to strike root. It might also probably be struck by cuttings in sand under hand-glasses, in a cool, shady situation. Seeds, to ensure their vegetating, require to be sown as soon as ripe.—Ceanothus (a name used by Theophrastus to denote a thorny plant) is derived from Kēo (Keo), to cleave; collinus, a Latin adjective signifying hilly or mountainous, no doubt has reference to the situation where it was found.
BEGONIA DIVERSIFOLIA.

(Various-leaved Begonia.)

LINNEAN SYSTEM.

MONOCOTYLAE POLYANDRIA.

NATURAL ORDER.

BEGONIACEAE.—(R. Brown.)

GENERIC CHARACTER.

Begonia (Lin.) Masc. Corolla 0. Calyx polysepala; sepala plerumque inaequalia—Fem. Corolla 0. Calyx sepalis 4-9 plerumque inaequalibus. Styli 3 bifidi. Capsula triquetra, alata trilocularis, polysperma.

Male. Corolla none. Calyx many-sepaled; sepals mostly unequal.—Female. Corolla none. Calyx with from four to nine petals, mostly unequal. Styles three, divided. Capsule three-sided, winged, three-celled, many-seeded.

SPECIFIC CHARACTER.

B. diversifolia; herbacea glaberrima; foliis radicalibus reniformibus late crenatis, caulinis sublobatis inaequaliter arguté serratis, superioribus inaequaliter cordatis; floribus axillaris; pedunculis equantibus ramosis. Capsula ala maxima acutangula.

Descr.—Herbaceous, very smooth; radical leaves reniform, broadly notched; stem leaves somewhat lobed, unequally and sharply serrated, upper ones unequally cordate; flowers axillary; peduncles equal to the pedioles, branched; wing of the capsule very large, acutely angled.

This is a very delicate tuberous-rooted stove perennial, highly deserving of cultivation, as indeed are all the species of this tribe. It is closely related to B. Martiana, from which it scarcely differs, if we except its simple, not branched, less robust, and less glossy pink-coloured stem. We cannot indeed consider them anything more than mere varieties. It appears at present very doubtful to what natural order Begoniaceae are most allied. Dr. Lindley thought at one time it was to Hydrangeae, by the areolations of their seeds and the irregularity of their flowers; he now considers it more allied to Cucurbitaceae, and probably with more justice. Jussieu considered it nearly related to Polygonae by its developed stipules, coloured calyx, three-cornered fruit, and acid juice; but the fruit and seed of this order are quite different. Professor Link, a most able continental botanist, places it near Umbellifere, although he does not appear to have stated his reason for so doing. Notwithstanding these conflicting opinions, we may expect shortly that some one who has had favourable opportunities of studying
this family, will clear up the point and set the question at rest. Until lately the genus Begonia was considered as belonging to the division Monochlamydeae, that is, with only one floral envelope, which, according to modern writers, whether it be coloured or not, is called a calyx; as in Anemone and Polygonum: but Begonia petalodes, figured a short time ago in the Botanical Register by Dr. Lindley, clearly shows both calyx and corolla to be present; and indeed we have seen one or two species which seem to indicate a similar formation; one of which we shall shortly figure.

The genus Begonia is composed of deciduous shrubs and herbaceous plants, all from tropical climates; of which about fifty species are at present known. The whole of these are probably in a living state in Europe; and by far the greater number may be procured in England from the nurserymen and florists, with whom they have always been favourite objects of culture for their beauty and singularity.

Their medical properties are not so well known as they probably deserve to be: the roots are said to be astringent and slightly bitter, and have been used successfully in haemorrhages, in scorbutic affections, and in certain fevers. They are plants of easy culture, and are very generally seen in the windows of private dwellings, where they succeed very well if properly attended to and have sufficient water, of which they require a free supply. But the best method for their cultivation is to pot them in a mixture of peat and sand, or (as preferred by some) decayed vegetable matter, as old tan, and keep them in a humid atmosphere. Under such treatment they become delightful objects, and cannot but excite universal admiration. They are readily increased by cuttings of the young shoots in the spring, as well as by seeds. The readiest method of increase, however, is by the clusters of small gems which are formed abundantly upon the stems in the axille of the leaves at almost every joint; these may be collected when the stems begin to decay, and kept dry in paper until spring, when if sown with only about the sixteenth part of an inch of light soil put over them, they will soon vegetate. Plants raised by this means frequently flower the same season. During the winter, when the plants are in a dormant state, the soil in the pots should be kept almost without water.—The generic name, Begonia, was given to this tribe of plants by Linnaeus in honour of Michael Begon, a promoter of Botany; its specific name, diversifolia, which is formed of two Latin words (diversum and folium, signifying different leaves), has reference to the various forms of the leaves on the plant, as noticed in the specific character.—Our drawing was made from a plant in the collection of the Birmingham Botanical and Horticultural Society.
Cycnoches Loddigesii.

(Loddiges' Swan-wort.)

LINNEAN SYSTEM.

GYNANDRIA MONANDRIA.

NATURAL ORDER.

ORCHIDACEÆ, § VANDÆ.—(Lindl. Nat. Syst. Bot.)

GENERIC CHARACTER.


Perianth explanate. Lateral sepals ovato-lanceolate, joined a little at the base under the lip; the upper one narrower. Petals broader, falcate, bent downwards. Lip free, spurless, continuous with the column, spear-shaped, very entire, with an abrupt fleshy claw. Column elongated, curved, terete, club-shaped at the apex, with 2 falcate auricles at the sides of the clinandrium. Anther 2-celled. Pollen-masses 2, globose, hollow, perforated behind, somewhat stalked, leaping out elastically, with a linear caudicula, and a thick, somewhat square peltate gland.

SPECIFIC CHARACTER.

C. Loddigesii (Lindl.) Caule erecto carnoso cylindraceo; basi vaginis membranaceis, apice foliis vestito; foliis oblongo-lanceolatis plicatis basi vaginantibus; racemo laterali multifloro pendulo flexuoso; bracteis ovatis acuminatis rubescentibus, inferioribus vaginantibus, pedicellis multî brevioribus; sepals laterâbus sub-undulatâs pendulis, supræmo linearí lanceolato arcuato; petalis inaequaliteris oblongo-lanceolatâs; labello carnoso convexo nitido ungue brevi convexo alato; columnâ gracillimâ basi alatâ.

Descr.—Stem erect, fleshy, cylindrical, clothed at the base with membranous sheaths, at the apex with leaves; leaves oblong-lanceolate, folded, sheathing at the base; raceme lateral, many-flowered, pendulous, flexuoso; bracteas ovate, acuminate, reddish, (the lower ones sheathing,) much shorter than the pedicels; lateral sepals somewhat undulated, pendulous, the upper one linear-lanceolate, curved; petals unequal-sided, oblong-lanceolate; lip fleshy, convex, shining, with a short, convex, winged claw; column very slender, winged at the base.


A plant more remarkable for the singular and extraordinary shape than for the actual beauty of its flowers, which are among the largest of the order to
which it belongs. If, however, they possess no brilliancy of colour, their arrangement in a flexuose, pendulous raceme is particularly graceful; while the odour which they exhale (especially in the morning) is peculiarly grateful. The sepals are brownish-green, marked with brownish-red spots; the petals are similar in colour, but less distinctly marked. The lip (which is white, with a few spots of brownish-red) is particularly conspicuous, its glossy surface giving it very much the appearance of enamel; the apex is thinner, and assumes a greenish-yellow colour; the claw is white, spotted with dark red. The column is dark purple, with a yellowish apex. The anther is membranaceous, and almost pellucid. The clinandrium is 2-horned behind, the horns falcate, compressed, and bent forwards upon the anther. The pollen-masses (which have usually been described as furrowed behind) we find to be hollow bodies; the supposed furrows being distinct perforations.

Our drawing was made from a fine specimen in the collection of George Barker, Esq., of Springfield. It is said to have been first sent to this country from the woods of Surinam, by J. H. Lance, Esq., to whom we are indebted for the introduction of many other exceedingly rare and interesting plants. The generic name, Cycnoches (which is derived from κύκνος, a swan), was given to this extraordinary plant by Dr. Lindley, as expressive of the gracefully bent form of the slender column; the specific name in compliment to Messrs. Lodgigae, the distinguished nurserymen, of Hackney. It requires not, indeed, the aid of a fanciful imagination to trace the strong resemblance which the flowers of many orchideous plants bear to some animal, reptile, or insect: accordingly, among our British species we have the green-man orchis, the monkey and the lizard orchis; the butterfly Habenaria; the fly, the spider, the drone, and the bee-ophrys; the last of which bears flowers so strikingly like the insect after which it is named, as to be easily mistaken for it.

The reflective mind will naturally be disposed to inquire for what purpose our globe can have had its meadows, its marshes, and its forests adorned with these orchideous plants. They are a very extensive tribe; amounting, it is supposed, to not less than 1500 species; and yet they are apparently of little value either to man or animals. No important medicinal properties have been discovered in them; no poison has been detected in them; nor are we aware of any useful purpose (with very few exceptions) to which they have ever been applied. The root of Bletia versacunda is said to be stomachic; some of the species, as the Catasetums, Cyrtopodiums, &c., contain a viscid juice, from which the inhabitants of South America prepare a vegetable glue; and from the tubers of a species of Eulophia, according to Royle, is obtained the nutritive substance called Salep. Let us not, however, in the pride of our philosophy, be tempted to imagine that ought, even the meanest plant, has been made in vain; we have still much, very much to expect from vegetable chemistry, which will doubtless, in due time, make many valuable additions to our present stock of knowledge on this subject. But
though we may at present be ignorant of the virtues of these plants, how can we view their strange and fantastic forms, their rich and varied colours, or inhale their delicious odours, without feelings of the deepest reverence and gratitude to their great Creator, who in his goodness has thus contrived to delight the senses of his creatures? Who would not be incited to exclaim with the poet—

Almighty Being,
Cause and support of all things, can I view
These objects of my wonder; can I feel
These fine sensations, and not think of thee?

We shall take this opportunity of making a few observations (in addition to what we have said in a former number) on the classification of these plants. There is no difficulty in ascertaining whether a plant belong to Orchidaceae. If its structure be gynandrous, that is, if its stamens and pistil be united so as to form that peculiar body called the column; and if, at the same time, that column be surmounted by a single fertile anther, the plant may be at once referred to Orchidaceae. There are, in fact, two genera, Vanilla and Epistephium, which differ so little from Orchidaceae, that they formerly belonged to the order; but from which they have recently been separated and formed into a distinct order (Vanillaceae) by Dr. Lindley, on account of their succulent, valveless fruit, and a few other peculiarities, upon which it is unnecessary to dwell at this time. Having ascertained that a plant belongs to Orchidaceae, the next thing is to determine to which tribe or section it may be referred; this is done by the removal of the anther, and an examination of the pollen-masses, which in some cases are exceedingly minute, and require very close and accurate observation. In our present plant they are unusually large, as well as the caudicula and gland to which they are attached, and are well represented by the dissections in our plate. Among the various genera which are characterised by this peculiarity of structure, is the genus Vanda; which has accordingly been selected as the type of this particular tribe, now generally known among botanists as the tribe Vandeae. The other modifications of structure by which the different tribes of orchideous plants are characterised, will be particularly explained in future numbers.

In the examination of orchideous plants, it is necessary for the student to recollect that the parts of fructification consist of 3 sepals (the exterior parts of the flower) of which the odd one is superior, and the other two lateral; 3 petals, one of which (the lip) is inferior, and the other two lateral; and 3 stamens united, as already observed, to a single style, and forming the column. This ternary division of the flower is not, however, peculiar to orchideous plants, but prevails usually in Monocotyledons, as does the quinary division in Dicotyledons; a subject to which we shall take an early opportunity of returning.

With regard to cultivation, Cycnoches requires the same treatment as the Catasetums, with which it agrees in habit, but differs from them in having a lateral, not a radical scape. During the last few years the cultivation of the
tropical orchidaceae has become much more general; and as their treatment is necessarily better understood, they are found to be less difficult to manage than was formerly supposed. We see them, indeed (with few exceptions), succeeding equally well under various kinds of treatment. By some they are kept in houses with a humid atmosphere above the maximum stove-heat; by others they are kept more cool and dry; some syringe their plants daily; while others, on the contrary, never allow their leaves to be wet, except by the condensed steam of the house. One necessary requisite, however, appears to be, that they be potted in a light porous soil, with abundance of coarse drainers at the bottom of the pots, and some also mixed among the soil.

Cycnoches requires the pots to be half filled with drainers, and the soil to be light, sandy, fibrous peat, broken into pieces about the size of walnuts. It may be increased by dividing, when in a dormant state.

a Anther—b Pollen-masses—c Caudicula—d Gland—e section of a pollen-mass showing its cavity.
Delphinium Divaricatum
DELPHINIUM DIVARICATUM.

(Strange Delphinium.)

LINNEAN SYSTEM.

POLYANDRIA POLYGNYIA.

NATURAL ORDER.


GENERIC CHARACTER.

(Vide fol. 14.)

SPECIFIC CHARACTER.

D. divaricatum; caule divaricatisimè ramoso, pubescenti; foliiis multipartitis, lacinii linearibus acutis; floribus pedicellis breviaribus; petalis integerrimis; folliculis sericeis.

Descr.—Stem very much branched and exceedingly divaricated, somewhat pubescent; leaves with many divisions divided down to the petiole, divisions linear acute; flowers shorter than the pedicels; petals very entire; follicles covered with silky hairs.

Delphinium divaricatum.—Ledebour.

This beautiful annual is a native of Caucasus, on the grassy banks of the River Gandscha, where it was collected in 1834 by Mr. T. F. Hohenacker, Botanical Traveller for the Unio Itineraria. When arrived at a state of maturity, it forms a complete pyramid, upwards of five feet high, its widely spreading lower branches occupying a space of more than two feet in diameter. It will readily be conceived, therefore, that, covered with flowers from the base to the apex, it makes a most attractive appearance; and being perfectly hardy, is highly deserving of cultivation.

Our drawing was made from a plant raised from seeds sent to the Birmingham Botanical and Horticultural Society; it flowered last summer, and is the only living plant we have at present seen. We have compared it with specimens which we received from the Unio Itineraria, and find them to agree in every particular. It appears to be nearly allied to Delphinium consolida, if we examine the character given by De Candolle in his Prodromus, or that given by the late Sir James Edward Smith in his English Flora; but, on comparison, there can be no doubt of their being perfectly distinct. From D. consolida it differs in being very much more branched; in its branches being more slender; in having flowers shorter than the pedicels, with the petals very entire at the margin, not crenate, as the
petals of Consolida are represented in English Botany; and also in the colour of
the flower, which approaches the purple of puniceum rather than the usual colour
of the genus.

Of the other annual species of Delphinium, two are to be found in almost every
garden; D. Ajacis, or rocket; and D. consolida, or field larkspur. Of the first
there are many beautiful double varieties of all colours; the merits of which are
estimated by florists according as they are more or less dwarf in their mode of
growth; and produce flowers more or less double. All tall-growing, as well as
single-flowered plants are generally weeded out, in order to insure genuine seeds.
The tall, branching larkspurs are also of various colours, some of which produce
double flowers, but have not obtained so much notice from florists. Both should
be sown where they are to remain; a portion in August for early, and a portion
in March for late flowering: covered with not more than half an inch of soil.
Plants of the dwarf rocket should be four inches apart; the branching varieties
should be distant from nine inches to one foot. A rich soil grows them in the
greatest perfection. Can a reason be assigned why so many plants in Ranuncu-
laceae produce double flowers?

The natural order Ranunculaceae consists of herbs (very rarely shrubs) with
alternate or opposite, much divided leaves; the petiole of which is dilated at the
base, and forms a kind of sheath, which half embraces the stem. For the
essential botanical characters by which they are distinguished, we beg to refer our
readers to Lindley's Natural System of Botany.

As regards the geographical distribution of the order, the largest proportion
of them is met with in Europe; some are found in North America, some in South
America, and some in Asia. Very few are found in Africa, except on the shores
of the Mediterranean. In New Holland, according to De Candolle, 18 species
have been discovered.

The genus Delphinium is divided by De Candolle into four sections; the first
of which contains such species as have but one ovarium or seed-vessel, and four
petals united in one, as in our present plant. They are about twelve in number,
and are all annuals.

Fig 1, 4 petals united; 2, the capsule, which (as in all the species of De
Candolle's section consolida) is single.
CALCEOLARIA MIRABILIS; var. hybr.
(Admirable Calceolaria.)

LINNEAN SYSTEM.
DIANDRIA MONOGYNIA.

NATURAL ORDER.
SCROPHULARIACE.--(Lindl.)

GENERIC CHARACTER.
(Vide fol. 21.)

SPECIFIC CHARACTER.
C. mirabilis; caule herbaceo villoso; foliis ovatis obtusis crenato-serratis rugosis villosis; paniculis laxis terminalibus axillaribusque; pedicellis longis gracillis nutantibus; corolla labio superiore minimo, inferiore subrotundato crenato sub-compresso.

Descr.—Stem herbaceous, hairy; leaves ovate, obtuse, crenato-serrated, rugose, hairy; panicles loose, terminal, and axillary; pedicels long, very slender, nodding; upper lip of the corolla very small, lower lip somewhat rounded, crenate, rather compressed.

This splendid hybrid excels in richness of colour most of the varieties of this favourite genus that have hitherto come under our observation. Our drawing was made from a plant in the collection of John Willmore, Esq., of Oldford. It was raised in 1834 by Mr. Skirving, of the Walton Nursery, near Liverpool, who informs us that it was obtained from C. pendula, impregnated with insignis; and that the specimen plant grown in the Walton Nursery this year (1836) displayed at one time upwards of 800 blooms, and continued in full flower upwards of three months. Such a plant may justly claim the specific name which it has received.

The scrophulariaceae, to which Calceolaria belongs, form a most extensive natural order of plants, agreeing in certain important characters with the genus scrophularia. They are distributed over every part of the habitable globe, not only within the tropics, but in the coldest regions; one species being found as far north as Melville Island. Calceolarias abound in South America, particularly in Chili and Peru, from whence nearly all our original species have been obtained. The leaves and roots of some of them are stated by De Candolle to possess emetic properties, but they are not regarded in European practice.

To trace plants to the station which they hold in the natural system, by observing the points in which they resemble each other, and thus determining
their affinities, is by far the most important part of botany. It is well known indeed, as observed long ago by Linnaeus and others, that plants which belong to the same natural order generally possess the same virtues. But as some of our readers possibly may not have directed their attention to the natural system of botany, we shall take this opportunity of placing before them a concise exposition of the principles upon which this improved and more philosophical mode of classification is founded. It is impossible to direct our attention to the economy of vegetables without soon becoming acquainted with the fact, that a very large proportion of plants bear flowers and produce seeds; while others, such as Ferns, Mosses, Lichens, Mushrooms, &c., have an obscure kind of fructification, but in which we can perceive nothing like stamens and pistils, as in flowering plants. They are accordingly divided into two distinct groups; namely, phenogamous or flowering, and cryptogamous or flowerless plants. As regards their general structure, it has been ascertained that the former contain spiral and other vessels; while the latter, with the exception of the higher orders (as the Ferns), are formed entirely of cellular tissue; hence these two grand divisions are also called vascular and cellular. Flowering, or vascular plants, are also separated into two well-marked groups, called Exogens or Dicotyledons, and Endogens or Monocotyledons, which are distinguished by their mode of growth and other obvious characters. But for all practical purposes the examination of a leaf is generally sufficient; exogens having their veins arranged in a net-like manner, while in endogens they proceed in parallel lines either from the base to the apex, or from the mid-rib to the margin. The rose may be taken as an example of the former; the tulip of the latter. Having proceeded far enough for our present purpose, let us endeavour to trace our plant to its proper station in the natural arrangement. By a mere glance at a Calceolaria, we perceive it to be a flowering or vascular plant; while its netted leaves as clearly show it to be an exogen or Dicotyledon. If we now refer to any natural arrangement of plants (such as Dr. Lindley's Nat. Syst. of Bot.), we find that Dicotyledons are divided into three sub-classes:— 1. Polypetalous—2. Apetalous—3. Monopetalous. Calceolaria belongs of course to the latter. Monopetalae are again divided into sections; 1. ovary superior, flowers regular—2. ovary superior, flowers irregular: which is clearly the station of our plant. Want of space here obliges us to quit a subject to which we shall have frequent occasion to return.
SOLANUM CAMPANULATUM.

(Bell-flowered Solanum.)

LINNEAN SYSTEM.

PENTANDRIA MONOGYNIA.

NATURAL ORDER.

SOLANEI—(Juss.) SOLANACEI.—(Lindl.)

GENERIC CHARACTER.


Calyx with four or five divisions. Corolla wheel-shaped, rarely bell-shaped, with four or five divisions, or plicate. Anthers converging, dehiscing by two pores at the apex. Berry subglobose, 2, rarely 4-celled, many-seeded.

SPECIFIC CHARACTER.

S. campanulatum; suffruticosum, aculeatum, pubescens; foliis petiolatis ovatis angulatis; racemis paucifloris; corollis campanulatis, crenatis; antheris declinatis.

Descr.—Suffruticose, prickly, pubescent; leaves petiolate, ovate, angular; racemes few-flowered; corolla bell-shaped, crenated; anthers declinate.

Solanum campanulatum.—Brown.

This very distinct and showy species of Solanum, with a bell-shaped corolla (an unusual form for a Solanum), will doubtless form an interesting addition to those at present in cultivation. It grows about 2½ feet high (such at least was the height of the plant from which our drawing was taken), and is covered on all sides with sharp setaceous prickles, the greater portion of which are confined to the stem and the calyx. We are doubtful whether this plant be the same which Dr. Brown has described in his Prodromus, and on that account we have not altered the specific name “campanulatum;” we should however rather expect it to be different, as he has described the stem of his plant “caule herbaceo,” and states it to be an annual, whilst ours is certainly suffruticose.

The Solanum genus is nearly allied to Atropa, Physalis, and Capsicum: from Atropa it differs in its anthers being longer than the filaments, and dehiscing by two pores at the apex; from Physalis, in not having an inflated calyx; and from Capsicum, in having a succulent berry, as well as in the dehiscence of the anthers, which in Capsicum dehisce longitudinally. It is a very extensive genus, containing
about 294 determined species according to Roemer and Schultes' Syst. Veget., and 69 undetermined ones, or such as have not been sufficiently examined. Of the above number of species, 144 appear to have been introduced into this country. Its geographical range is pretty general, some being found in all parts of the world, with the exception of the Arctic and Antarctic regions; but their principal situation is within the tropics. Two species only are natives of this country; namely, Solanum Dulcamar, and S. nigrum.

The medical and other properties of some of the species are exceedingly important. The Quina of Brazil (which is a powerful febrifuge, and considered so valuable a remedy amongst the Brazilians that they are induced to believe it to be the genuine Jesuit's Bark) is obtained from the Solanum Pseudo-quina. According to the distinguished French chemist M. Vauquelin (M. du Mus. xii. 204), who has made a most elaborate analysis of the Bark, it owes its chief virtue to a peculiar bitter principle, purely vegetable, and amounting to about 8 per cent. But the most valuable species is undoubtedly the common potato, Solanum tuberosum, Lin., which is too well known and esteemed in the present day, from its extensive cultivation in this and in most other countries, to require from us any observation.

Our plant is among the collection of the Birm. Bot. and Hort. Soc.; is originally a native of New Holland, and was raised from seeds received from that country in the year 1835. It flowered in the summer of 1836 in the green-house of that establishment, and has ripened seeds. It appears also to be capable of increase by cuttings. The soil should be loam, peat, and sand. This, and many other soft-wooded, free-flowering, green-house plants, will be shown to most advantage if planted out in the open ground in May or June, where they will flower much more freely during the summer than when confined in pots.

The generic name, Solanum, is derived from the Latin verb solor, to comfort, in allusion to the soporific properties possessed by the genus; its specific name, campanulatum, from the Latin campanula, a little bell, as expressive of the shape of its corolla.

Fig. 1, fruit; 2, section of fruit.
PLEUROTHALLIS CILIATA.

(Ciliated Pleurothallis.)

LINNEAN SYSTEM.

GYANDRIA MONANDRIA.

NATURAL ORDER.

ORCHIDACEE. TRIBE—MALAXIDEJE, § PLEUROTHALLEJE.

(Lindl. Gen. et Sp.)

GENERIC CHARACTER.


Sepals converging, somewhat equal: the lateral ones, or all of them connate. Petals smaller. Lip free, somewhat parallel with the column, very entire, differing from the petals in form. Column elongated, wingless, free, continuous with the ovarium. Anther membranaceus at the apex. Pollen-masses 2, occasionally cohering at the apex by a powdery substance. Epiphytic plants, with a creeping, thread-shaped root-stock. Stems thread-shaped, 1-leaved, most frequently clothed with sheaths. Flowers axillary, solitary, fascicled, or racemose.

SPECIFIC CHARACTER.

P. ciliata; caule ascendente subtereti sulcato; folio coriaceo elliptico-lanceolato emarginato; racemo recurvo folio breviore; floriibus alternis secundis; sepaliis minutissimâ ciliatis, lateribus nisi apice connatis, superiore erecto; petaliis lineari-lanceolatis ciliatis columnâ paulo longioribus; labello sub-ciliato lingue-formi obtuso concavo; clinandrio tridentato.

Descr.—Stem ascending, somewhat round, furrowed; leaf leathery, elliptic-lanceolate, notched at the end; raceme re-curved, shorter than the leaf; flowers alternate, turned in one direction; sepals very minutely ciliated, the lateral ones connate, except at the apex, the upper one erect; petals linear-lanceolate, ciliated, a little longer than the column; lip somewhat ciliated, tongue-shaped, obtuse, concave; clinandrium 3-toothed.

This species of Pleurothallis is perfectly new to this country. Our drawing was made from a specimen in the collection of John Wilmore, Esq., of Oldford, by whom it was received in 1834 from Mr. John Henchman, who collected it near the Falls of Ouripano, on the Masseroni River, Demerara. It was found attached by its long fibrous roots to the main stems of large trees, in company
PLEUROTHALLIS CILIATA.

with Pleurothallis picta, Grobyi, and others not yet described. The flowers, though minute, like most of the genus, are pleasing in colour, and by no means void of elegance in their arrangement. When examined with the microscope, the minute fringe-like hairs on the margins of the petals (which are scarcely perceptible to the unassisted eye) are beautiful objects; affording an instance (among a thousand others) of the exquisite perfection observable in the form and structure of even the humblest productions of the vegetable world. To discover these hidden beauties, and, in discovering, to admire them, are some of the tranquil but heartfelt pleasures which are exclusively enjoyed by the zealous and patient labourer in the field of Nature.

The orchidaceous plants figured in the previous numbers have all belonged to the tribe Vandees, which (as formerly observed) is characterised by a gland and caudicula, in connection with the pollen-masses. In our present plant the pollen-masses are definite in number and waxy in texture, as in the Vandees, but are not provided with a gland or caudicula. Plants with this peculiarity of structure have been placed by Professor Lindley in a tribe which he has named Malaxideae from Malaxis, an European genus, one species of which, Malaxis paludosa, is found in bogs in Cambridgeshire and some few other parts of the kingdom, and which may be regarded as the type of this particular tribe. Malaxideae are subdivided into two sections. 1st. Pleurothales, containing about twenty-seven genera agreeing with Pleurothallis in certain important characters, more especially in the shape and direction of the column, which is erect, and but little lengthened at the base. 2nd. Dendrobiceae, containing about twenty genera agreeing in certain important characters with Dendrobium, which has the column recumbent on the ovarium, and more or less lengthened at the base.

The generic name, Pleurothallis, is derived from πλευς, the side, in allusion to the one-sided arrangement of the flowers; the Latin adjective ciliata, refers to the ciliated margins of the petals.

Fig. 1, column; 2, 2, petals ciliated; 3, 3, lateral sepals connate, except at the apex; 4, lip; 5, upper sepal.
ETHIONEMA MEMBRANACEUM.

(Membranaceous Ethionema.)

LINNEAN SYSTEM.

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NATURAL ORDER.

TETEADTNAMIA SILICULOSA.


GENERIC CHARACTER.


Silicula oval, more frequently notched at the end, valves boat-shaped, winged at the back, cells with from one to two seeds. The larger stamens either joined or toothed. Seeds ovato-oblong, appearing muricated under the microscope.

SPECIFIC CHARACTER.

E. membranaceum; siliculis bilocularibus, 2-spermis, obovatis confertis, valvulis dorso alatis integris; foliis linearibus distantibus, stricte adpressis.—De Cand. l. c.

Descr.—Siliceas 2-celled, 2-seeded, inversely heart-shaped, clustered; valves winged at the back, entire; leaves linear, distant, parallel with the stem.

Ethionema membranaceum.—De Cand. l. c. Sweet's Fl. Gard. 2 s. t. 69.

A neat, decumbent, evergreen, suffrutescent plant, scarcely rising from the ground, and spreading, when in a good state of cultivation, from 18 inches to two feet. Stem and branches round, smooth, or covered with minute adpressed hairs. Leaves linear, alternately scattered, smooth, without stipule. Flowers racemose, without bractea. Petals pink, entire. Calyx scarious at the edges. Seed-vessel membranaceous, winged. This pretty species is deserving of cultivation, though not frequently to be found in collections. It flowers freely during the summer months, beginning in May (should the weather and situation prove favourable) and continuing until the commencement of September.

Our drawing was taken from a fine plant which was growing last summer in the collection of the Birmingham Botanical and Horticultural Society. It is a native of Persia, and was introduced about the year 1829. It is perfectly hardy, and is readily increased either by cuttings or by seeds. If it be wished to increase it by cuttings, they should be taken from the young wood, and planted in sand under a hand-glass in a cool and shaded situation. The best plants are those
obtained from seeds, which are produced in abundance, and may be sown in the open ground in April. It will grow well in almost any kind of soil, and is well adapted for ornamental rock-work.

The name given by Dr. Brown to this genus is derived from Αὐθω, to scorcht, and μα, a stamen; and is supposed to allude to an apparently scorched or sun-burnt tinge of the stamens: the specific Latin name alludes to the membranous appendage to the seed-vessels. The genus contains but few species, not more than ten being at present known, all of which are found in Europe or Asia, none being met with (as far as we know) either in Africa or America, and of these, six have been introduced into this country. The medicinal properties of this genus do not appear to have been examined; but they are probably stimulant and antiscorbutic, qualities by which the natural order is universally characterised. The order Cruciferae is one of the most natural in the whole vegetable kingdom, and is particularly distinguished by the stamens, four of which are long and two short, and hence called tetradynamons, by the four petals, arranged in a cruciate manner; and alternate with the sepals. To have six stamens to four petals, instead of four or a multiple of that number, is a curious deviation from the ordinary normal structure of other plants.

The seeds of this order are also worthy of minute examination, from the curious and singular manner in which the embryo with the radicle is folded upon the cotyledons, and which has enabled Botanists to separate this most difficult and extensive order (containing not less than 98 genera and 980 species, exclusive of varieties) into five sections, and thus to render it more practicable in the hands of the student. As it may possibly be interesting to some of our readers, we here give a brief description of the sections and the peculiarities on which they are founded.

Section 1. Pleurorhize; (ο—) cotyledons flat, accumbent, radicle lateral, which may be witnessed in the genus Arabis; Mathiola, or common stock.—2. Notorhize; (ο||) cotyledons flat, incambent, radicle issuing from the back. It may be noticed in the genus Hesperis or Dame's violet, a common plant in gardens, or in Sisymbrium officinale.—3. Orthoploce; (ο|||) cotyledons conduplicate, or longitudinally folded, and having the radicle within its folds, as may be observed in the Brassica and Sinapis tribes.—4. Spirolobe; (ο|||) cotyledons incumbent and linear, spirally or rather circinately twisted, as in the genus Bunias and Erucago.—5. Diplecole; (ο|||) cotyledons twice folded transversely, as in our British plant Subularia aquatica.

Fig. 1, seed-vessel; 2, the same divided, showing its two cells and two seeds.
OXALIS GENICULATA.

LINNEAN SYSTEM.

DE Candela PENTAGYNIA.

NATURAL ORDER.

Oxalideae.—(De Cand. Prod. Vol. 1, p. 689.)

GENERIC CHARACTER.

Oxalis (Lin.) 


Calyx 5-sepaled, sepals free, or joined at the base. Petals 5. Stamina 10, having the filaments shortly monadelphous at the base, the five exterior ones being alternately shorter. Styles 5, brush-like, or capitate. Capsule 5-sided, oblong or cylindraceous. Herbaceous perennial or annual, caulescent or stemless, leaves various, never abruptly pinnate.

SPECIFIC CHARACTER.

Oxalis geniculata; acaulis, molliter pilosa; folius 3 obcordatis profunde emarginatis; pedunculus 1-florus folio duplo longioribus, geniculatis; bracteis setaceis subellatis; sepalis linearibus obtusis fusco notatis; petalis obcordatis, flavis, unguibus striatis; stylis et staminibus pubescentibus.

Descr.—Stemless, covered with soft hairs; leaves in threes, inversely heart-shaped, deeply notched at the end; pedunculus 1-flowered, as long again as the leaf, geniculate; bracteas awl-shaped, somewhat fringed; sepals linear obtuse, marked with a brown line; petals obcordate, yellow, claw-striped; styles and stamina hairy.

This is an extremely delicate and pretty species, and one which we believe has not, as yet, been described by any botanist. Its foliage is very pleasing, and the flowers, which are only fully open at mid-day (being impatient of the solar rays), are truly brilliant; so much so, that although our artist has taken every pains, he has not been able to produce the richness of colour displayed in the original. It has been distributed from collections under the name tenuifolia, but no two plants can be more dissimilar; our plant belonging to the section Caprinae of De Candolle's Prodromus (a stemless section), and tenuifolia to the section Adenophylleæ, a caulescent one with glandular leaves. It is however nearly allied to Oxalis lobata, Sims. Bot. Mag. t. 2386, but differs from that species in being covered...
with soft hairs (*lobata* being smooth), in its corolla not being punctate, and its root not being tuberous but fusiform, as distinctly shown in the plate; and more especially by its geniculate scape. It is also allied to oxalis *tenera* of the Bot. Register; but the last peculiarity is sufficient to distinguish the species. It is said to be a native of Brazil, in South America, but of this we are not certain. It requires to be kept in the stove while growing, and may be placed in the green-house or a cold frame while dormant. It may be increased by dividing the roots just before they commence growing. The soil should be loam, peat, and sand, with plenty of drainers in the bottoms of the pots. This is an extensive genus, containing, according to De Candolle, 154 species, exclusive of varieties; and many more have been added since he published his Monograph. The order Oxalideae, which is a very natural one, is composed of the genus *Averrhoa*, *Bryophyllum*, and *Oxalis*; and as some of our readers may probably be unacquainted with the distinctive characters by which the order is recognised, we will here insert them. All plants forming this order have the calyx or outer envelope of the flower divided into five parts, called sepals. They have also five petals. The stamens are ten, joined together at the base, and are of different lengths; the five exterior are opposite to the sepals, and are short ones, and sometimes toothed; the other five are opposite to the petals, and much longer. The difference is well expressed by the dissection on the accompanying plate. Styles five, of various lengths when compared with the stamens. Stigma brush-like or two-lobed. The ovarium is free; that is, it is not joined to any part of the flower, as is sometimes the case in other orders, but separate, and five-sided, bursting for the purpose of the dispersion of the seeds by the angles lengthwise. The seeds are affixed to the central angle of the cells, and the younger ones are enveloped in a case called arillus. The embryo is indented and straight, reaching the whole length of the albumen. Such are the distinctive characters which form the order.

The plants of which it is composed are found in most abundance in America and the Cape of Good Hope; and a few in India and Africa. Only two species belong to Britain, *Oxalis acetosella* and *Oxalis corniculata*. None of this order are poisonous to man if taken in moderation. They contain acid (oxalic) in a greater or less quantity, which is more or less grateful to the inhabitants of the country in which it is a native.—*Oxalis corniculata* has been cultivated in this country for its tubers, as a substitute for potatoes, but unsuccessfully; its fleshy stems are used for tarts, and are said to be pleasant.—Its generic name, *oxalis*, is derived from the Greek οξάλος, sour; its specific name, *geniculata*, jointed (or, as used in botany, *knee-jointed*), has reference to that upon the scape.

Fig. 1, germ, with stamens and pistils; 2, germ; 3, petal; 4, united filaments.
HIBISCUS SPLENDENS.

(Splendid Hybiscus.)

LINNEAN SYSTEM.

MONADELPHIA POLYANDRIA.

MALVACEE.—(Juss. 

LINN. Nat. Syst. Bot. p. 95.)

NATURAL ORDER.

GENERIC CHARACTER.


Calyx surrounded by an involucellum, which is most frequently many-leaved, rarely few-leaved, or connected with each other. Petals not auricled. Stigmas 5. Carpels united into a 5-celled capsule, the valves bearing a septum in the middle.

SPECIFIC CHARACTER.

H. splendens; caule aculeato ramoso arborescente incano; foliis palmatis 3-5-lobis velutinis, petiolo costique aculeatis; involucello 15-fido, lacinis lineari-subulatis hispidis.


This magnificent plant was first introduced to this country from New Holland by Mr. Frazer, about the year 1828, and was first described by Dr. Graham from a specimen that flowered in the Edinburgh Botanic Garden. The learned Professor, speaking of its great beauty, quotes the following passage from one of Mr. Frazer's letters:—"This I consider the king of all the known Australian plants. I have seen it 22½ feet high; the flowers this year measured nine inches across; they were of the most delicate pink and crimson colour, and literally covered the entire plant." To such a plant it must be admitted that the specific name, splendens, has been most appropriately applied; indeed, we could almost imagine the possibility of the enthusiastic botanist making a voyage to its native country for the sake of seeing it in all its glory.

Our drawing was made from a plant in the collection of W. H. Osborn, Esq., of Perry Barr, near Birmingham, with whom it flowered very finely last summer,
HIBISCUS SPLENDENS.

producing a succession of its large and showy blossoms during several weeks. Although this species is by no means unfrequent in collections, it is rarely seen in flower. We are, indeed, disposed to think that the temperature in which it is usually placed is much too high, and far beyond what is required by New Holland plants. This opinion is corroborated by a communication with which we have been favoured by Mr. Osborn, who states that his plant was placed at the west end of a moderately warm stove, or what may more properly be called a warm green-house, where it was completely screened from the hot summer's sun. Mr. Osborn also finds that his Chinese species are preserved in a much more healthy state by a more free exposure to the air, than when kept constantly in a hot-house. It may be increased by cuttings of the young wood placed in a moist hot-bed, or in a warm part of the stove. The soil should be loam with a little peat.

The name of this genus is of Greek origin, and was given at an early period to one of the mallow tribe. It contains a great number of species, most of which are very showy plants; the flowers of some of them are indeed eminently beautiful, and are consequently favourite objects of culture.

They have been very conveniently divided by De Candolle into sections, according to certain diversities of structure, among which the divisions, &c., of the involucellum or outer calyx, form an important feature. H. splendens is placed in the 6th section (abelmoschus), containing upwards of fifty species, in which the involucellum has from eight to fifteen segments.
CALANTHE DENSIFLORA.

(Dense-flowered Calanthe.)

LINNEAN SYSTEM.

GYNANDRIA MONANDRIA.

NATURAL ORDER.

ORCHIDACEÆ, § VANDEÆ.—(Lindl. Nat. Syst. Bot.)

GENERIC CHARACTER.


Perianth exlanate, free, or with the lateral sepals slightly adhering to the lip, somewhat equal. Lip cohering with the column, lobed or entire, with or without a spur, the disc lamellated or tubercled. Column short, rostellum more frequently beaked. Pollen-masses 3, tapering very much at the base, adhering by fours to a bipartible gland. Terrestrial plants, with erect many-flowered scapes. Leaves broad, folded. Flowers white or lilac, rarely yellow.

SPECIFIC CHARACTER.

C. densiflora; scapo foliis multo breviore; squamis laxis ventricosis; racemis densis multifloris corymbosis; bracteis oblongo-lanceolatis concavis caducis; labello trilobo cum columnâ parum connato, lobis lateralisibus erectis apice recurvis, intermedio cuneato bilobo, disco bilamel- lato; calcar longo recto pendulo apice clavato.

Descr.—Scape much shorter than the leaves, with lax ventricose scales; racemes dense, many-flowered, corymbose; bracteas oblong-lanceolate, concave, falling early; lip 3-lobed, slightly connate with the column; lateral lobes erect, recurved at the apex, the middle one wedge-shaped, 2-lobed, with a bilamellated disc; spur long, straight, pendulous, club-shaped at the apex.


A terrestrial species, with a short creeping root-stock, and oblong-lanceolate folded leaves. Scape from nine to twelve inches long, with about three loose ventricose scales, copiously marked with minute red spots. Flowers of a delicately pale yellow, arranged in a dense many-flowered corymbose raceme, with a bractea of the same colour, but somewhat paler, at the base of each pedicel, and extending above the apex of the germ. Sepals and petals equal, converging. Labellum
3-lobed; lateral lobes erect, reflexed at the apex, the middle lobe cuneate, rounded, 2-lobed, with two horned lamellae at the base; spur much longer than the ovarium.

This is an elegant species, and well worthy of a place in the stove, where its dense mass of pale yellow flowers will render it a very conspicuous ornament. Our drawing was made from a remarkably fine plant, which flowered last summer in the store of the Birmingham Bot. and Hort. Soc.

The genus Calanthe contains about twenty species, few of which have, as yet, been cultivated in this country. They are natives almost exclusively of the East Indies. The present species is a native of the mountains of Sylhet, in Bengal, where it was found by Dr. Wallich, the distinguished author of "Plantæ rarioræ Asiaticæ."

It requires a damp stove, and should be planted in rough pieces of peat, mixed with broken pots, with plenty of drainers at the bottom. It may be increased by dividing.

In dividing orchideous plants, the safest way is to cut asunder the part intended for the future plant about a month or more before removing it, which will insure success.

The generic name, Calanthe, is derived from καλός, beautiful, and ἀρθωσ, a flower.

Fig. 1, column; 2, spur; 3, germ and pedicel; 4, pollen-masses and gland.
LINARIA TRIORNITHOPHORA.

(Three-Bird-Bearing Linaria.)

LINNEAN SYSTEM.

DIDYNAMIA ANGIOSPERMA.

NATURAL ORDER.

SCROPHULARINEE. — (Juss.)

GENERIC CHARACTER.


Calyx 5-parted. Corolla personate, tube inflated, spurred at the base, having the palate a little prominent at the throat, sometimes depressed. Stamina hairy at the base. Style club-shaped at the apex or divided. Stigma notched, or 2-lobed. Capsule dehiscing by lids cut round, or by valvular or tooth-form pores. Plants herbaceous, rarely shrubby. Leaves alternate, opposite or verticillate, entire or lobed. Flowers racemose or spicato-racemose at the tops of the branches, or solitary and axillary.

SPECIFIC CHARACTER.

L. Triornithophora; herbacea, glabra, ramosissima; foliis sessilibus verticillatis quaternis, vel ternis ovatis acuminatis venosis integerrimis; pedunculis verticillatis; floribus verticillatis, et subcymosis purpureis; labello profundè tripartito, palato luteo.

Druce. — Herbaceous, smooth, much branched; leaves sessile, whorled in fours or threes, ovate, acuminate, veined, entire; peduncles whorled; flowers whorled or somewhat cymose, purple; lip deeply three-parted, palate yellow.


This plant, although long cultivated in this country, is by no means so well known as it deserves to be, for we believe it to be one of the most beautiful of all the Linarias at present in cultivation; it is, at the same time, so free a flowerer, that its branches are covered with blossoms for months in the year. It is a native of Portugal and of North America, and was introduced about the year 1710. It was treated by Edward Woodford, Esq., of Vauxhall, London (from whose plant the drawing was made for the Botanical Magazine) as a greenhouse peren...
but the plant in the Birmingham Botanic Garden, from which we describe, has proved itself perfectly hardy, having endured two winters. It perfects its seeds very sparingly, but may be readily increased by suckers, which are sent up in abundance from its creeping roots whenever they come near the surface. It will succeed well in any light soil. Some of the suckers may be planted in autumn in small pots, placed in a cool frame, and planted out in spring. This precaution is scarcely necessary in a dry light soil, but is absolutely so where the soil is either wet or stiff.

The geographical distribution of this tribe appears to be chiefly European, and some few have been found in Africa, America, and India. Little appears to be known of their medical properties in which much confidence can be placed.

We stated in our last number (fol. 36) that dicotyledonous plants are divided into three sub-classes, viz. Polypetalous, Apetalous, and Monopetalous; and we take this opportunity of returning to the subject. The term Monopetalous was given by Linnaeus to the corollas of those plants which are apparently in one piece, like our present plant, or a Campanula. At that time their structure was not so well known as at present. The celebrated De Candolle (than whom no person has done more to solve the intricacies of the science) having discovered that such flowers, instead of being composed of one lamina, are composed of many united by their edges, has proposed the term Gamopetalum, from Γαμος, marriage, and Πεταλος, a petal, which accurately expresses that union, and which has been adopted by most of the Continental Botanists, and is now beginning to be used by those in England. This division is a most comprehensive one, containing some of the most extensive tribes in nature, as the Labiate or Mint Tribe; the Scrophulariaceae or Snap-dragon Tribe; the Composite or Dandelion Tribe, &c. Our space does not permit us to dwell on the subject at this time; we shall however pursue it more in detail in our next number.

The generic name is derived from Linum, flax, from the resemblance which some of the species, when out of flower, are thought to bear to that plant. The specific name is from Τρια, three, and Ορνιθος, a bird, in allusion to the form of the flowers, which present the fanciful appearance of three little birds seated in the spur.

Fig. 1, a flower, with the lower lip depressed to show its striated inner surface, and the attachment of the stamens; 2, seed vessel.
Begonia Octopetala.
BEGONIA GRANDIFLORA.

(Large-flowered Begonia.)

LINNEAN SYSTEM.
MONOEIA POLYANDRIA.

GENERAL CHARACTER.

Begonia (Linn.) Masc. Corolla nunc 0, nunc tetrapetala. Calyx polysepalus; sepala plerumque (non semper) inaequalia.—Fem. Corolla nunc 0, nunc tetrapetala. Calyx sepalis 4-9 plerumque inaequalibus. Styli 3 bifidi rarius multifidi. Capsula triqueta, alata, trilocularis, polysperma.


SPECIFIC CHARACTER.

B. grandiflora; acaulis, hirsuta; foliis radicalibus 1-3 reniformibus, venosis multilobatis, lobis acutis incisis inaequaliter argute serratis; scope dichotomo multifloro; bracteis ovatis acuminatis deciduis; pedicello longissimo: petalis et sepalis obovatis inaequalibus integerrimis.

Stemless, hairy; leaves from the root, from 1 to 3, kidney-shaped, veined, many-lobed, lobes acute, incised unequally, sharply serrated; scape forked, many-flowered; bracteae ovate, acuminate, falling off; pedicel very long, petals and sepals obovate, equal, very entire.


Descr.—Perennial, root tuberosus, from which the leaves are produced. Leaves large, kidney-shaped, measuring twelve inches across, and six inches in depth, lobed, incised, and serrated as stated in the specific character, strongly veined, and covered with strigose hairs, more particularly on the under side. Petiole hairy as long as the depth of the leaf. Stem none. Scape about two feet high, forked, stout and fleshy, covered also with hairs similar to those on the leaf, and bearing many corymbs of whitish flowers, disposed in threes. Bracteae ovate acuminate, sometimes toothed, shrivelling, and falling off soon after the flowers are expanded. Pedicelo long, some measuring three inches in length, hairy, articulated with the scape. Flowers, male and female mixed together, usually two male to one female. Calyx four-sepalled, sepals obovate, some few of which are reticulated. Petals four (in the male flowers occasionally five), smaller than the sepals, and alternate with them. Anthers two-collared, bursting longitudinally, and continuous with the filament. Styles three multifid. Ovarium winged; wings unequally developed. Seeds numerous.

Of all the Begonias cultivated in the stove, this is certainly the most conspicuous in its inflorescence, some of the flowers being three inches in diameter. We
believe it to be the plant mentioned by L'Heritier in his "Stirpes nauer aut minus cognite," p. 101, under the name *Begonia Octopetala*, with which description it agrees. It appears to have been first cultivated in the Paris Garden, from seeds sent there from South America about the year 1778, by Mr. Joseph Dombey, the celebrated Botanist and Traveller; but according to L'Heritier it had not flowered in that establishment, nor was it in a very flourishing condition; his remarks are "sed nondum floruit nec optime hac usque viguit." It is a native of Lima. It requires a moderately warm stove, and, if well managed, will remain in flower upwards of two months.

In our fourth number (fol. 28) we have some remarks on the affinity of Begonias, as well as on the anomalous species figured by Dr. Lindley in the Botanical Register, under the name of *Begonia petalodes*. This plant, by possessing both calyx and corolla, was a great Botanical curiosity, the genus being previously considered to possess but one floral envelope. Our present plant has a similar development. It will be seen on looking at the plate that the outer envelope is green exteriorly, which colour it retains after expansion, and during the whole period of its flowering. It consists of four parts joined together at the base, and which we call sepals; the four interior parts are alternate with the exterior, and are perfectly free from the green colour of the latter. These we have called petals without the slightest hesitation, and we feel convinced that such is the structure of the plant we have been describing. Dr. Lindley, in the second edition of his Natural System of Botany, has founded upon his *Begonia petalodes* a new genus under the name of *Eupetalum*, from *Eu*, well, and *πεταλος*, a petal; but with all due deference to that distinguished botanist, we scarcely think it necessary to divide so natural a genus, and should rather see the term used as a sectional one, and the genus kept entire. We would therefore suggest *Exopetalum* as a sectional name for those species which have only one floral envelope, from *Exo*, without, and *πεταλος*, a petal; and *Eupetalum* for such as have both calyx and corolla.

It is necessary to remark that our plates were worked off before we had satisfied ourselves as to the structure of this remarkable species, and consequently before we perceived the necessity of changing the specific name.

Fig. 1, stamens of a male flower; 2, multifid stigmas of a female flower, with the winged capsule.
Cattleya Labiata.
CATTLEYA LABIATA.

(Crimson-lipped Cattleya.)

LINNEAN SYSTEM.

GYMNANDRIA MONANDRIA.

NATURAL ORDER.

ORCHIDACEÆ, § EPIDENDREÆ.—(Lindl. Nat. Syst. Bot.)

GENERIC CHARACTER.


Sepala membranaceous or fleshy, spreading, equal. Petals usually larger. Lip hooded, infolding the column, 3-lobed or undivided. Column club-shaped, elongated, semi-terete, margined, jointed with the lip. Anther fleshy, 4-celled, with the margins of the cells membranaceous. Pollen-masses 4, with as many caudicles folded back.—Epiphytic (American) plants, with pseudo-bulbs. Leaves solitary or in pairs, leathery. Flowers terminal, very handsome, often issuing from a large spathe.

SPECIFIC CHARACTER.

C. Labiata (Lindl.); sepaliis linearibus, petaliis membranaceis lato-lanceolatis acutis sub-undulatis; labello obovato undulato obtuso indiviso; pseudobulbis oblongis angulatis; spatha maximâ foliaceâ.—Lindl.

Disson.—Sepaliis lineis; petaliis membranaceis, broadly-lanceolate, acute, somewhat waved; lip obovate, waved, obtuse, undivided; pseudo-bulbis oblong, angled; spatha very large, leafy.


This is unquestionably the queen of orchidaceous plants; at least we have not as yet seen anything in this interesting natural order that can compete with it for the prize of beauty. The lovely colour and transparent texture of the sepals and petals; the rich and elegant markings at the base of the lip, with the splendid and matchless colour of its disc; and finally, the graceful arrangement of its large and spreading flowers, must strike with admiration every beholder who is not actually insensible of the charms of nature. But who can be insensible of such transcendent beauty? Who can behold with indifference this "herb of glorious hue?"
For the opportunity of viewing these vegetable gems of foreign climes, we are indebted to the many ardent and munificent patrons of Botany by which the present era is distinguished; to the zealous perseverance and undaunted courage of travelling botanists; and finally, to the various improvements that have been introduced in the management of the Stove and Green-house.

"Who loves a garden loves a green-house too.  
Unconscious of a less propitious clime,  
There blooms exotic beauty, warm and snug,  
While the winds whistle and the snows descend."—Cowper.

Our drawing of this superb epiphyte was made from a plant in the collection of George Barker, Esq., of Springfield; who at the same time had another specimen in the highest state of perfection, with four flowers in a cluster; and Dr. Lindley informs us he has seen it with six. The colour of the lip (which is usually described as a rich crimson) varies considerably in different plants. In the specimen selected for our figure it was by no means crimson, but a union, apparently, of crimson and violet, producing a hue of extraordinary richness, in which purple was more predominant than red.

Our plant differs in some respects (though perhaps accidentally) from Dr. Lindley's character; the petals are by no means acute, but decidedly obtuse; the lip too cannot be said to be undivided; on the contrary, it is so distinctly emarginate as to be almost 2-lobed.

The Genus Cattleya was so called by Dr. Lindley in compliment to William Cattley, Esq., of Barnet, Hertfordshire, a munificent patron of Botany, and a most ardent collector of rare plants. Eleven species are described by Dr. Lindley in his Gen. et Sp. Orchid., of which eight are to be met with in the various public or private collections of this kingdom: they are all strikingly beautiful, but to our present species must be conceded the pre-eminence. It is a native of Brazil, and is said to have been introduced in 1818 by Wm. Swainson, Esq.

The introduction of this plant into our Magazine affords us an opportunity of making a few remarks upon the tribe (Epidendreae) to which it belongs, and which is distinguished by the peculiar structure of the caudicula. This singular appendage, as observed by Dr. Lindley, is not transparent, and connected with the stigma by means of a gland, as in Vandeae, but powdery and very often turned back upon the face of the pollen-masses, as in the genus Epidendrum, which has accordingly been selected as the type of this particular tribe. This extensive genus was so named by Linneus (from ἐπί, upon, and ἔνθον, wood) in consequence of all the species being found growing upon trees, or in decayed vegetable mould, and hence called Epiphytes. The genera in which the same modification of the caudicula is found as an Epidendrum, amount to about 28 in number; and the species to upwards of 150; by far the greater part of which are found in America within the tropics; some few in India, Ceylon, the Indian
Archipelago, and China; but none have as yet been met with in Europe, Northern Asia, New Holland, or Africa.

In our fifth number (fol. 36) we made a few introductory remarks on the natural arrangement of plants, showing that all flowering plants are divisible into two distinct and well marked classes, namely, Exogens, or such as increase inwardly, that is, by the deposition of woody fibre between the bark and the outside of the stem; and Endogens, or such as increase inwardly, that is, by the deposition of woody fibre near the centre of the stem. Accordingly, in Exogens we observe pith in the centre surrounded by distinct layers of wood, with rays of cellular tissue extending from the centre to the circumference, and covered externally by bark; while in Endogens the woody fibre and cellular tissue being mixed together in one uniform mass, present no distinctions of pith, wood, and bark. A transverse section of an oak will exemplify the former; of a cane the latter. Exogens having for the most part two cotyledons or seed-lobes, are also called Dicotyledons; while Endogens having usually but one, are called Monocotyledons. Of the net-like distribution of the veins in the leaves of Exogens, and their arrangement in parallel lines in those of Endogens we have formerly spoken; to which may be added, that in Exogens the leaves are jointed with the stem, while in Endogens their attachment with the stem is usually without articulations. Finally, these groups are found to differ very materially in their mode of germination. In Exogens the radicle is distinct and naked, commencing its growth by simple elongation of its apex; while in Endogens it is enclosed within the solid, undivided embryo, which thus forms a case for its protection, and through which it protrudes. Hence the celebrated Richard applied the terms Exorrhizae to the former, and Endorrhizae to the latter, which literally mean outward root and inward root. The seed of a Lupine placed in the ground for a few days, and afterwards removed for examination when the process of germination has just commenced, will exemplify the former; a seed of Narcissus may be taken for the latter. It appears therefore, that although the terms Exogene, Dicotyledones, and Exorrhizae are applied indiscriminately to one division of flowering plants, and Endogene, Monocotyledones, and Endorrhizae to the other, they are not strictly synonymous terms, inasmuch as each of them refers to a particular fact.

Having noticed the more important features by which Exogenous and Endogenous plants are distinguished, we proceed in the next place to the sub-classes, groups, &c., into which they are divided. This has been effected in various ways by different botanists, but to that proposed by Dr. Lindley we give a decided preference. We confine ourselves on the present occasion to the Endogenous or Monocotyledonous class, which are divided into 1. Epigynose.—2. Gynandrose.—3. Hypogynose.—4. Retose.—5. Spadiceae.—6. Glumose. Each of these groups will form a subject for separate consideration.

We confine ourselves on the present occasion to the group Gynandrose, the
essential character of which is, to have the stamens and style consolidated into a central column; the flowers complete, with a ternary division; and the ovary or seed-vessel (which is usually 1-celled, with scobiform seeds, that is, seeds having the appearance of fine saw-dust) always inferior, or situated beneath the flower.

Looking at Cattleya with its linear arrangement of veins, the student would have no hesitation in referring it to the class Endogonea, while its stamens and style united into a central column, as clearly place it in the group Gynandroarea.—Vide fol. 31.

It requires the humid stove when in a growing state, but should be kept more cool and dry when dormant. The degree of heat and humidity in which orchidaceous plants are grown varies considerably according to the views of different gardeners:—by some they are kept in a high temperature, with abundance of moisture; while the splendid collection of Earl Fitzwilliam at Wentworth, under the skilful management of Mr. Cooper, is submitted to a temperature scarcely exceeding that of the green-house, with a free admission of air whenever the weather permits. Under such treatment the plants flourish with a luxuriance not to be surpassed by any collection in the kingdom. We have some remarks on the treatment of these plants in a former number (fol. 32) to which our readers are referred.

Fig. 1, Pollen masses, with their reflexed caudiculae; 2, Anther with four cells.
GAILLARDIA DRUMMONDII.

(Drummond's Gaillardia.)

LINNEAN SYSTEM.
SYNGENESIS FRUSTRANEA.

NATURAL ORDER.
COMPOSITAE. TRIBE—4 SENECIODEAE.

GENERIC CHARACTER.


Capitulum many-flowered, rayed; ligulæ neuter, many-nerved, glandular, palmately trifid at the apex. Flowers of the disc hermaphrodite, tube short, having the limb with five divisions hispid with jointed hairs. Receptacle brush-like, convex. Scales of the involucrum from two to three rows, with a leafy acuminate appendage longer than the disc. Branches of the style terminating with a long awl-shaped hairy appendage. Achenia oblong, hairy. Pappus chaffy, one-nerved, longly tapering into an awn. Herbaceous plants, natives of North America, upright, somewhat hairy. Leaves alternate, the upper ones entire, sessile, or half embracing the stem. Branches longly naked, one-headed. The disc of the capitulum brown or yellow. Ligulæ yellow or saffron colour at the base.

SPECIFIC CHARACTER.

G. Drummondii; annua, subpubera; foliis angustis lanceolatis indivisis aut incisis, invol. squamis basi brevissimæ glabrâ appendice subulatâ scabro-ciliatis; corollis hirsutis pappo longioribus pappi paleis basi latè dilatatis; ligulæ basi cuneatis involucro paulò longioribus.—De Cand. 1. c. 652.

Annual, somewhat hairy; leaves narrowly lanceolate, undivided, or incised, having the scales of the involucrum roughly ciliated, with a very short, smooth, awl-shaped appendage at the base; corolla hairy, longer than the pappus, broadly dilated at the base; ligulæ wedge-shaped at the base, much longer than the involucrum.


Descr.—Stem about two feet high, branched, hairy; leaves more or less ciliated, and covered with stiffish hairs; midrib fleshy; capitulum with numerous florets situate on a long pedicel; pedicel striated, hairy; florets of the ray deeply three-toothed, purple, with the apex yellow; florets of the disc tubular, similarly shaded to those of the ray; involucrum lanceolate, acuminate, hairy.

VOL. I.
Gaillardia Drummondii.

This is an elegant annual, varying considerably in the colour of its inflorescence; so much so, that to this circumstance, we imagine, are to be attributed the errors in the synonyms in the Botanical Magazine, t. 3368, and those also of t. 1602. We have attentively examined the figures of the species hitherto published, and cannot but coincide with the distinguished Professor De Candolle in their arrangement, as well as the synonyms lately published by him in the fifth volume of his Prodromus. Dr. Hooker, in the letter-press to t. 3368, above quoted, places G. Aristata, Pursh. Bot. Reg. t. 1186, as a synonym of our present plant; whereas our plant is annual, and G. Aristata is perennial; indeed we feel assured that most of the synonyms quoted by Sir W. Hooker at t. 3368, as well as those at t. 1602, ought to be excluded.

For its culture the soil should be loam, or loam and peat mixed; it may be propagated by cuttings of the young shoots, as they strike readily in sand under a hand-glass in a cool situation. This is the only way of perpetuating the plant unless it should perfect seeds, as it does not appear to send up young plants from the fleshy roots, as is the case with G. bicolor, Bot. Mag. 1602, and G. Aristata, Bot. Reg. t. 1186. The young plants require the protection of a cold frame in winter, and may be planted out in April. It is a native of South America, and was introduced by seeds sent to this country by Mr. Drummond, who gathered them at Rio Brazos, in Texas, in the year 1833.

The generic name, Gaillardia, was given in honour of M. Gaillard de Marnetonneau, an amateur Botanist; and the specific name, Drummondii, in compliment to the collector, Mr. Drummond.
TEUCRIUM ABUTILOIDES.
(Mallow-leaved Teucrium.)

LINNEAN SYSTEM.
DIDYNAMIA ANGIOSPERMIA.

NATURAL ORDER.
LABIATE. TRIBE—AJUGOIDEAE.

GENERIC CHARACTER.


Calyx tubulose, or bell-shaped, rarely inflated, five-toothed, teeth equal, or sometimes having the uppermost tooth the broadest. Corolla shortly tubed, inwardly ringless, having the four upper divisions of the limb somewhat equal, the uppermost broader or longer, sometimes oblong declining, sometimes very short and sub-erect, the lowest large, round, and oblong, oftentimes concave. Stamina 4, protruding between the uppermost divisions, two long and two short, the lower ones the longest. The cells of the anthers confluent, the style somewhat equally divided, stigma minute. Seeds (achena) more or less wrinkled. Herbs or shrubs, varying both in their inflorescence and habit.

SPECIFIC CHARACTER.

T. Abutiloides (L’Her. Stirp. 1, 84). Fruticosum, ramis pubescentibus; foliis amplis cordiformibus, utrinque viridibus villosis; racemis simplicibus vel paniculato ramosis; verticillastrias 2-6 floris; calycibus declinatis hirsutis; dentibus ovatis obtusis, suprerno parum latiore.—Bentham, l. c.

Descr.—Shrubby, branches hairy; leaves large, heart-shaped, green on both sides, and covered with soft hairs; racemes simple, or paniculately branched; verticillasters from 2 to 6-flowered; calyx drooping, hairy; teeth ovate obtuse, upper one a little broader.

Teucrium abutiloides.—L’Her. Stirp. i. 84.
Teucrium macrophyllum.—Lam. Dict. 2, 692.

A shrubby plant, about three feet high, with square stem, opposite, longly petiolate, heart-shaped leaves, notched and veined. Racemes axillary, densely flowered, from three to four inches long. Flowers pedicellate, more or less

1 2
drooping, orange colour, twice as long as the calyx, pubescent, arranged in pairs, in threes, or somewhat scattered. *Calyx* yellowish-green, pubescent, dentate, with either acute or obtuse teeth (acute in the younger flowers, obtuse in the older ones), variously inflated, most so after the corolla has fallen, when it is so much inflated as to appear almost globose. *Filaments* twice as long as the corolla, and adhering at the back, having the exterior ones longer than the two interior. *Anthers* with two confluent cells, bursting lengthwise; *style* the length of the stamens, somewhat equally divided at the apex; *seeds* (achena) wrinkled.

This is by no means a showy plant, though its foliage is truly elegant; neither is it a plant of recent introduction, as, according to Aiton, it was cultivated in this country in 1777. It is, notwithstanding, a scarce plant still, though, on account of its foliage and its comparative rarity, it is well deserving of cultivation. Our drawing was made from a plant in the collection of the Birmingham Botanical and Horticultural Society. It is a native of the northern part of the Island of Madeira, where it was collected by Masson and Lowe; but, according to those gentlemen, is exceedingly rare in a wild state. The soil in which it grows best is rather a rich strong loam; it may be propagated freely by cuttings of the young branches, struck in sand or in light sandy soil.

As regards its station in the Natural arrangement, the student who has attended to our remarks in the previous numbers will have no difficulty in recognizing it as an *Eoxgen* or Dicotyledon, and that it as clearly belongs to the third Sub-class, or Monopetalous division, upon which we have a few introductory remarks at page 50 in our last number. *Monopetalous* have their flowers variously formed and divided, in consequence of which botanists have arranged them in two groups, viz.—*Flowers regular*, or such as have the margins of the corolla even, as in Convolvulus, or equally divided, as in Campanula: and *Flowers irregular*; or such as have the corolla unequally developed, as in Salvin, Teucrium, or Linaria. Another point which it is necessary to notice is the situation of the *Ovary*—that is, whether it be above or below the calyx; or in other words, whether the ovary be superior or inferior. Our present plant having the *ovary superior* and the *flowers irregular*, belongs to a section which is distinguished by these two circumstances. It is necessary in the next place to determine the natural order to which it belongs—a question upon which there is no difficulty in deciding. The *bilateral* corolla, the *didynamous* stamens, the deeply-divided *four-lobed ovary* (having the appearance of four naked seeds), the *square* stem and *opposite* aromatic leaves refer it at once to the Nat. ord. *Labiatea*, or mint tribe. It only remains now to ascertain the *genus*, which will be determined by carefully examining the different parts of the flower, viz., the *regular* or *irregular* calyx, and the number of its furrows or angles; the shape of the upper and lower lip of the corolla; the number and length of the stamens; and other circumstances with which every one who has studied the Linnean arrangement must be perfectly familiar.

The generic name is said to be derived from Teucer, a Trojan Prince; the specific name from Abutilon, a Mallow, the leaves bearing some resemblance to those of the Mallow.
IPOMŒA HORSFALLIÆ.
(Mrs. Horsfall’s Ipomœa.)

LINNEAN SYSTEM.
PENTANDRIA MONOGYNIA.

NATURAL ORDER.
CONVOLVULACEÆ.—(R. Br.)

GENERIC CHARACTER.


SPECIFIC CHARACTER.

1. Horsfalliæ; volubilis, glaberrima; foliis quinato-digitatis; foliolis lanceolatis integerrimis margine undulatis; cymis dichotomis; calycis lobis imbricatis, obtusis, aequalibus; corolla infundibuliformi; stigma bilobo.—Hook.

Twining, very smooth; leaves with five finger-like divisions; leaflets lanceolate, very entire, waved on the margin; cymes dichotomous; lobes of the calyx imbricated, obtuse, equal; corolla funnel-shaped; stigma 2-lobed. Ipomœa Horsfalliæ.—Bot. Mag. 3315.

This beautiful species of Ipomœa is a tender evergreen shrub, with a smooth, long, twining stem. The lobes of the calyx are of a purplish-black; the corolla of a deep and splendid rose colour. The filaments of the stamens (which are glabrous) are inserted upon a hairy scale or gland. The ovarium is globose, seated upon and surrounded by an annular fleshy disc. The lobes of the stigma are hairy.

It was first described and figured in the Botanical Magazine by Sir William Hooker, who states that “the seeds were received by Charles Horsfall, Esq., either from Africa or from the East Indies, and raised by his very skilful gardener, Mr. Henry Evans, at Everton, where the plants produced their lovely blossoms in great profusion during the months of December and January, 1833-4, a season when so gay a visitor is particularly welcome to the stove.”
The genus Ipomoea contains a great number of species, of which upwards of 160 have been described. They are for the most part tropical plants, remarkable for their generally twining habit, and the beauty of their flowers. As striking ornaments of the forest in their native country, they could not fail to arrest the attention of the traveller; many of them, consequently, have long been favourite objects of culture in the stove, which they continue to adorn, if well managed, with a daily and long-continued succession of flowers.

Ipomoea is closely allied to Convolvulus, from which it differs in its usually funnel-shaped (not bell-shaped) corolla; in the capsule being most frequently three-celled instead of two-celled; and particularly in its globoso-capitate stigmas. Convolvulus, as a well-known genus, has been selected as the type of a distinct and well-marked natural order, the Convolvulaceae or Bindweed tribe; the most striking features of which are, the plaited corolla, the imbricated calyx, and climbing habit. In this natural order are comprised about twenty-six genera, agreeing with Convolvulus in the above, and certain other important characters. They are all remarkable for the abundance of milky juice contained in their roots, which, in different species, is more or less acrid in taste, and more or less purgative in quality. This property is found to depend upon a peculiar resin, which is the active principle of Jalap, Scammony, and the other valuable medicines obtained from this tribe of plants. From Ipomoea jalapa, a native of Mexico, in the neighbourhood of Xalapa (whence probably its name) is obtained the well-known Jalap: Convolvulus scammonia produces the drastic purgative scammony. This resinous principle exists in such minute quantity in some of the fleshy and mucilaginous roots, that they are used as wholesome and agreeable articles of diet. Such is the Convolvulus edulis among the Japanese; and the Convolvulus batatas in all the tropical climates. The tubers of the latter were formerly imported into this country as a delicacy under the name of the Sweet Potato. This is the potato to which Shakspeare alludes in the "Merry Wives of Windsor;" the common potato, Solanum tuberosum, being unknown in Europe previous to the reign of Elizabeth.

Our drawing was made from a beautiful specimen communicated by John Willmore, Esq., of Oldford.

Fig. 1, stamen, with its gland at the base; 2, germ, with its style and two-lobed capitate stigma.
LÆLIA BARKERIANA.

(Mr. Barker’s Lælia.)

LINNEAN SYSTEM.

GYNANDRIA MONANDRIA.

NATURAL ORDER.

ORCHIDACEÆ, § EPIDENDREÆ.—(Lindl.)

GENERIC CHARACTER.


SPECIFIC CHARACTER.

L. Barkeriana; foliis solitariis lanceolatis; scapo elongato trifloro, squamosis carinatis acuminate vaginantibus vestito; sepalis lineari-lanceolatis; petalis oblongo-lanceolatis paulò latioribus; ovario visoso; labelli disco lineari elevato spicè acuminate; pseudobulbis elliptico-oblongis, nitidis distantiibus subcompressis, quadrangularibus angulis obtusis.

Leaves solitary, lanceolate; scape elongated, 3-flowered, clothed with keeled, acuminate, sheathing scales; sepals linear-lanceolate; petals oblong-lanceolate, a little broader; ovary viscid; disc of the lip linear, elevated, with an acuminate apex; pseudobulbs elliptico-oblong, shining, distant, somewhat compressed, quadrangular, with obtuse angles.

Descri.—Rhizoma creeping, tortuous, and covered with closely appressed scales. Pseudobulbs from three to four inches long, clothed, when young, with acuminated imbricated scales. Leaves of a rich deep green, lanceolate, rather obtuse, leathery. Scape rising from the apex of the pseudo-bulb, slender, two feet long. Sepals membranous, of a delicate lilac, with a white fleshy line in the middle, upper one erect, lateral ones deflexed and somewhat falcate. Petals similar in texture and colour, but somewhat broader. Lip hooded, 3-lobed, lateral lobes rounded, rather fleshy, externally of a pale lilac, edged with purple, of a rich yellow within, elegantly veined with purple; intermediate lobe elongated, of a deep reddish purple, waved on the margin, with an acute and re-curved apex. Column margined at the apex, continuous with the lip. Pollen-masses 8, of which 4 are larger than the others.

This is a most beautiful epiphyte; elegant in its aspect, and grateful in its mode of growth. Our drawing was made in the stove of George Barker, Esq., of
Springfield, by whom it was received with the name of L. anceps. When we first saw it in flower, we supposed it to be a variety of that species, as figured by Dr. Lindley in the Bot. Reg. t. 1751; but a careful examination has enabled us to point out many essential differences, of which the following are the most important:—The pseudo-bulbs in our present plant are elliptic oblong (not ovate) in their outline, with rounded (not acute) angles; leaves somewhat obtuse (not acuminate); scape round (not two-edged), three-flowered (not two-flowered) at the apex; ovary viscid, as in L. anceps, but destitute of the brown spreading bractea. For other points of difference we refer to the specific character and description above.

Having thus determined it to be a distinct species, we have great pleasure in naming it *Laelia Barkeriana*, in compliment to its liberal possessor, with whom it flowered for the first time in this country; whose zeal and success in the cultivation of exotics (and more especially of Orchidaceous plants) are well known; and to whom we take this opportunity of making our acknowledgments for unrestricted access to his valuable and continually increasing collection.

The plant was sent to this country by Mr. John Henchman, who has obligingly communicated the following interesting particulars of its discovery:—

"I collected it in 1835, in the immediate vicinity of Xalapa. It was growing in luxuriant masses upon the clefts of old oak trees, in very exposed situations, some hundreds of feet above the level of the city of Xalapa; the more respectable inhabitants of which seldom appear abroad without cloaks, owing to the prevalence of very cold winds. I mention this circumstance because *Laelia* was the only orchideous plant which I found in those elevated spots; the other numerous and brilliant members of this family, which are natives of that part, being found only in the deep and steep *barrancus* or glens, where, protected from the wind, they rejoice in a climate purely tropical, and in a humid atmosphere unknown in the more exposed and elevated spots."

Fig. 1, anther case; 2, lateral view of the pollinia; 3, posterior view of the same.
Sideritis Loddioides, var. Alpina.
SIDERITIS SCORDIOIDES; var. ALPINA.

(Lobed-leaved Ironwort, Alpine variety.)

LINNEAN SYSTEM.

LINNAEA NATURE CLASS.

DIDYNAMIA GYMNOSPERMIA.

NATURAL ORDER.

LIBIAE: JUS.

GENERIC CHARACTER.


Calyx tubuloso, 5 to 10-nerved, teeth 5 upright, somewhat spiny, sometimes equal, sometimes the uppermost very broad, or the three upper ones somewhat joined at the base into the upper lip. Corolla with a concealed tube inwardly naked or ringed, having the limb two-lipped; the upper lip erect, and somewhat flat, entire, or emarginately divided, the lower one spreading and trifid, having the middle lobe more broad, oftentimes notched. Stamina 4, concealed in the tube, the upper ones very short, the lower ones longer. Antheris two-celled, cells branching. Style concealed, divided, having the upper lobe round, truncate, bearing a stigma at the apex, the lower one dilated, embracing the upper part of the base, and bearing a stigma at the apex and margin. Achenia dry, obtuse, not truncate at the summit. Herbaceous, suffruticose, or shrubs. Verticillasters 6 to many-flowered, axillary racemose or spicate. Floral leaves sometimes of the same form as those of the stem, the upper ones minute, sometimes resembling bracts dilated embracing the flowers, entire or spiny, toothed at the margin. Corolla small, oftentimes yellow.

SPECIFIC CHARACTER.

S. scordioides. var. alpina; suffruticosa; ramis suberectis villosis; folis oblongo-linearibus basi angustatis sub-integerrimus; floribus latissimis, margine spinoso-dentatis, verticillastri subvillosi interrupte spicati.

Suffruticosa; branches somewhat erect, villous; leaves oblong-linear, narrow at the base, somewhat entire; floral leaves very broad, spiny-toothed at the margin, verticillasters hairy, intermediately spiked.

Sideritis Alpina Vill.?
This plant is not introduced on account of its beauty, for to that it has certainly no pretension. At the same time it has an air of neatness and simplicity that is particularly pleasing, while it will prove a subject of no small interest to the botanist. The floral leaves are large and spiny, which is very characteristic of the species of the section "Eusideritis" of Mr. Bentham, to which our plant belongs, inasmuch as it differs in that respect from all the rest of the labiatae. The anthers, style, and stigma, if examined with a moderate lens, will afford much interest to the curious observer, as their structure is very singular.

Our plant was raised from seed sent to the Birmingham Botanic Garden by J. Hunneman, Esq., and marked "Sideritis alpina:" we are disposed however to consider it an alpine variety of S. scordoides. Mr. Bentham says indeed that the species of this section run very much into each other; and as we have not had access to the true plant of Linneus, we must leave the question for the present unsettled.

This species, and nearly all the others, are natives of Spain.

It requires a light sandy or peaty soil to ensure its preservation in wet winters. It may be increased by dividing in spring; or by seeds, which are sometimes perfected in abundance.

Fig. 1, calyx; 2, corolla laid open to show the insertion of the stamens within the tube; 3, the 4-lobed ovarium, with the style and bifid stigma.
Calendula Chrysanthemifolia
CALENDULA CHRYSANTHEMIFOLIA.

*(Chrysanthemum-leaved Marigold.)*

**LINNEAN SYSTEM.**

**SYNGENESIA NECESSARIA.**

**NATURAL ORDER.**

**COMPOSITE.—(Juss.)**

**GENERIC CHARACTER.**


*Receptacle naked. Flowers rayed, central florets male, encircled with male and female; ligule or florets of the ray female. Calyx simple, many-leaved, equal. Seeds of the disc membranaceous, marginal ones different from those of the centre. Pappus none.*

**SPECIFIC CHARACTER.**

C. chrysanthemifolia; suffruticosæ, ramosæ, hispida; foliis cuneato-obovatis, lyrato-incisis; floribus flavis.

*Suffruticosæ, branched, roughly haired; leaves obovate-wedge-shaped, lyrately divided; flowers yellow.*

**Descr.—**Shrub, stem branched, growing from three to four feet high, smooth and shining, the young branches more or less hairy, branches scattered; leaves scattered, tapering into a petiole; flowers large yellow, ray twice or thrice the length of the calyx or involucrum, and three-toothed at the apex.

This is an exceedingly handsome species of Calendula, both from the size of the flower and the brilliancy of its colour, and when in perfection is an object of great beauty and attraction. It is also a free flowerer, and continues in flower the greater part of the summer months.

It is a native of the Cape of Good Hope, and was introduced in the year 1790 by Mr. Francis Masson, a successful collector of plants for the Royal Garden at Kew, in which pursuit he explored the Cape of Good Hope, Madeira, the West Indies, and finally North America, in the wilds of which latter country he is said to have died.

The geographical distribution of this genus seems to be principally confined to the old world, for only one species out of twenty-one at present introduced is said to inhabit America, and to which the name Calendula Mexicana has been
given by Link. Of the other species, one belongs to America, three to Europe, and seventeen to Africa, of which the greater part are natives of the Cape of Good Hope.

It is a green-house plant of the easiest culture, as it will succeed in almost any soil. Being rather inclined to grow tall and straggling, it ought to be repeatedly topped when young. To ensure its flowering well it should have plenty of pot room; or it may be planted out in the open ground in summer, where its large star-like blossoms will make a conspicuous appearance in the flower-border.

It is readily propagated early in the spring by cuttings of the young wood struck in sand; but they are rather difficult to strike at any other season, which may account for the plant being met with but in few collections.

Our drawing was made from a fine plant in the collection of the Birmingham Botanical and Horticultural Society.

Fig. 1, perpendicular section of a flower, the florets of the disc and ray being removed to show (a) the many-leaved involucrum, (b) the receptacle; 2, floret of the ray with the germ and reflexed stigmas.
POINSETTIA PULCHERRIMA.

(Showy Poinsettia.)

LINNEAN SYSTEM.
MONOCOT MONANDRIA.

NATURAL ORDER.
EUPHORBIACEAE.

GENERIC CHARACTER.

Poinsettia (Graham). Involucrum monophyllum, androgynum, basi 5-loculare, extus appendiculatum, nectariferum. Flores pedicellati, nudi; masculi bifariam in singulis loculis, monandri: feminei solitarii, germinem trilobum, ovulum solitarium singulis lobis.

Involucre of one leaf, containing barren and fertile flowers, 5-celled at the base, with a nectariferous appendage on the outside. Flowers with foot-stalks, naked; male flowers in two rows in each cell, monandrous: female flowers solitary, germin 3-lobed, ovule solitary in each lobe.

SPECIFIC CHARACTER.

Euphorbia Pulcherrima.—Willd. Herb.
Euphorbia Poinsittiana.—Buist. MSS.

Desor.—Shrub erect, ramose; branches round, young shoots bluntly four-angled, green, glabrous, hollow. Leaves scattered, occasionally opposite, spreading, petiolate, ovato-elliptical, subacute, sinuated, veined, soft and pubescent on both sides, bright green above, paler below; petioles furrowed above; bracteae similar in shape to the leaves, but aggregated at the extremities of the branches, and of splendid vermilion colour, paler below; cymes terminal, subtrifid, at length falling off at a joint in the common footstalk; involucres on short, stout foot-stalks, articulated at the base, green, ovato-orbicular, toothed, marked by five sutures on the outside, with which alternate on the inside, five falcated processes, beginning with narrow extremities at the mouth of the involucrum, and, adhering to this with their backs, they become gradually broader below, passing inwards, and attached to an elevation in the centre, they divide the lower part of the involucrum into five distinct cells, and supporting on their edges erect fimbriae, they divide the upper part also, but less completely; teeth of the involucrum numerous, coloured like the bracteae, woolly on the inside, connivent; appendage single, on the outside of the involucrum towards the axis of the cyme, round, entire, peltate, folded in the middle so as to appear two-lipped, nectariferous; four yellow teeth placed round the mouth of the involucrum are abortive appendages. Male flowers about fourteen, in two rows in each loculament and rising from its base, erect, petiolate, naked, monandrous, mixed with stamens (abortive male flowers?) which are woolly at the apex, and occasionally tinged red there; petioles colourless, as long as the involucrum; filament red; anthers two-lobed; lobes divaricated, so that those which are next each other in the two rows overlap, opening at a deep furrow along their outside; pollen-granules
yellow, lenticular. Female flower solitary, central, on a short, stout pedicel, naked; 
germen three-lobed, each lobe emarginate; style wanting (?); ovule solitary in each lobe.—
These appearances I describe as I saw them, but the female flowers were probably imperfect, none
enlarged, projected beyond the involucre, nor produced seed; but after a while, a small number
of the male flowers having been perfected, and protruded beyond the involucre, this became
yellow, and separated at the articulation near the base of the foot-stalk, the bracteas for some
time remaining, and then the whole cyme dropped at the articulation in the common peduncle.

—Graham.

This new and splendid ornament of the stove is a native of Mexico, where it
appears to have been found by Mr. Poinsette, and sent by him to Mr. Buist, of
Philadelphia. It was brought to this country in 1834 by Mr. James M'Nab from
Mr. Buist's garden, and was first introduced to the notice of British botanists
by the distinguished Professor of Botany in the University of Edinburgh, Dr.
Graham, who states that the rose-like whorls of bracteas which terminate the
branches have been seen on the large plants cultivated at Philadelphia as much
as twenty inches across, and equal in colour to the finest tints of Hibiscus rosa-
sinensis.

Our drawing was made from a plant in the collection of George Barker, Esq.,
of Springfield, near Birmingham.

It is of easy culture, requiring peat and loam, mixed with a good portion of
sand, and the use of plenty of drainers. It may be propagated by cuttings
placed in a moist heat, either in the stove or a hot-bed. The best cuttings are the
young shoots from the woody stem when about three inches long, which will do
better if cut nearly through about a week before they are finally separated from
the parent plant, in order to allow the milky juice to dry up and get hardened.
It flowers nearly all the year, but principally in winter and spring.

* In our specimen the female flowers had three styles united at the base, and bifid stigmas; in other respects
the above description of Professor Graham, which we have quoted at length, is a perfect model of botanical
accuracy.
MORMODES ATROPURPUREA.

(Lindl.) Descr.-

Pseudo-bulbs oblong, many-leaved, imbricated with the sheathing bases of the leaves. Leaves pale green, folded, from three to five-ribbed, erect, recurved at the apex. Raceme lateral, compact. Flowers of a rich dark purple. Sepals linear-oblong, equal, reflexed, of which the lateral are somewhat oblique at the base, and joined to the claw of the lip. Petals ovate, erect, converging above the column. Lip folded back, curved, wedge-shaped in its outline, slightly clawed, three-lobed, lateral lobes deflexed, veined; middle lobe rather fleshy, tapering to a point. Column compressed, continuous with the lip, erect; anther rostrate at the back. Pollen-masses springing elastically from their position, on the slightest touch, like Catasetum, Myanthus, Cychnoches, &c., with which genera it seems very closely allied. Caudicula large, its apex somewhat hooded, and partially embracing the pollinia; its base lodged in the concavity of the fleshy gland.

The extraordinary appearance of the flowers of this plant suggested to Dr. Lindley (who first described it) the name "Mormodes"* as not inapplicable to its generic distinction. In its general habit it closely resembles Catasetum; from which and from Myanthus it differs in the want of cirrhi or tendril-like appendages upon the column: and from Monacanthus, as observed by Dr. Lindley, in its lip

* From μορφος, a frightful looking object, a goblin, in allusion to the strange appearance of the flowers.
being membranous and curved upwards, with the sides turned downwards like the sides of a saddle, instead of being fleshy and helmet-shaped.

A new light, however, has recently been shed upon the plants just named, to which we shall have occasion to refer more particularly in our next number.

Our drawing was made from a plant in the rich collection of John Willmore, Esq., of Oldford, near Birmingham, by whom it was imported in 1834 from the Spanish Main, where it was found, with many other new and interesting plants, by Mr. John Henchman.

It requires, like its kindred genera, a hot, humid stove, with plenty of water when in a growing state, but should be kept more cool and dry when dormant. The soil should consist of rough turfy peat and sand, mixed with small drainers made of broken pots.

It may be increased by dividing the pseudo-bulbs; they ought not, however, to be immediately separated, but should be allowed to remain for a month at least after the division before they are put into separate pots.

Fig. 1, posterior view of the pollinia, caudicula and gland; 2, anterior view of the same; 3, anther-case; 4, column, with the continuous labellum.
Cineraria Laotica
CINERARIA LACTEA.

(Milk-coloured Cineraria.)

LINNEAN SYSTEM.
SYNGENESIA SUPERFLUA.

NATURAL ORDER.
COMPOSITE.—(Fam.)

GENERIC CHARACTER.


SPECIFIC CHARACTER.

Cineraria lactea; foliis petiolatis, imperfecte pinnatis; lobo terminali prselargo cordato acuto dentato; dentibus obtusis glandulosis, super amoenis viridibus, subitus cano-tomentosis venosis; floribus corymbosis, ligulis lacteis, discis flavis; achenis sulcatis, glabris pappo brevioribus.

Leaves petiolate, imperfectly pinnate; terminal lobe very large, heart-shaped, acute, toothed; teeth obtuse, glandular, upper surface a pleasing green, under surface cottony, veined; flowers corymbose, ray milk-coloured, disc yellow; achenia furrowed, smooth, shorter than the pappus.

Cineraria lactea.—Wild. Spr. Syst. 3, p. 545.

Descr.—Shrub, stem branched from five to seven feet high, angular, densely covered all over with a thick cottony tomentum. Leaves alternately scattered, marked with strong veins. Stipules none. Flowers in a large terminal corymbus, peduncles and pedicels purple. Bracts more or less similar to the leaves. Bracteoles linear. Involucrum simple (with a bracteolate calyx at the base), linear smooth, striated, acute. Florets in the ray female, about three-toothed at the apex, linear of a cream colour. Florets of the disc tubular, containing both sexes, five-toothed, yellow. Anthers five, joined in the mouth of the tube. Style projecting. Stigma bifid, recurved. Pappus simple, roughish, falling off, twice as long as the achenium. Achenium subquadrangular, smooth, furrowed. Receptacle dotted, dots surrounded by an angular scaly fence.

We are by no means satisfied that this will prove to be a Cineraria when the second volume of the Composite by the distinguished De Candolle is published.
which may be expected shortly. It is certainly not a Cineraria, as that genus is at present defined by Lessing. Neither is it a Senecio according to that character of the same author. After numerous careful dissections of the female and hermaphrodite florets, we find the branches of the style covered with papillae, and thickened towards the apex, a character on which the tribe Eupatoriaceae is now constituted both by Lessing and De Candolle, to which, accordingly, it ought to be referred; but we believe it belongs to the tribe Senecionideae. It has in habit, as in many parts of the character, much resemblance to the genus Brachyglottis, Forst. De Cand. Prod. vol. 5, p. 210—as, for instance, in its heterogamous heads, involucrum, the bracteolate calyx, and the exserted obtuse branches of the style, also the pappus; but neither with that or with any neighbouring genus does it appear to belong. We have therefore retained Willdenow's name, Cineraria lactea, rather than change it for another, as we believe it will be properly arranged when the volume by the above-mentioned distinguished botanist is published.

It is a green-house plant, native of Teneriffe, where it was collected by P. B. Webb, Esq., and sent from thence with many other rare plants in 1829 to his gardens at Millford House, near Godalming, Surrey. See Gardeners' Magazine, vol. 6, p. 330 to 333. The soil should be peat and loam. It may be increased by cuttings of the young wood, and also by seeds, which are sometimes perfected. Our drawing was taken from a fine specimen in the Birmingham Botanic Garden.

The generic name Cineraria is said to be derived from cineres, ashes; the specific name, lactea, from lacteus, milky—both referring to the hoary state of the plant.

Fig. 1, involucrum; 2, receptacle; 3, seed with pappus; 4, the same with tubular floret; 5, ligulate floret.
RONDELETIA ODORATA.

(Scented Rondeletia.)

LINNEAN SYSTEM.
FENTANDRIA MONOGYNIA.

NATURAL ORDER.
RUBACEA.—(Juss.)

GENERIC CHARACTER.


Tube of the calyx subglobosus, limb divided into four or five parts, lobes oblong, or linear acute persistent. Tube of the corolla cylindrical, scarcely somewhat ventricose at the apex, limb spreading, 4 or 5-lobed, lobes somewhat round. Anthers 4 or 5 sessile, inclosed in the apex of the tube. Stigma divided. Capsule globosa, crowned with the calyx, two-celled, dehiscing at the apex into two valves, oftentimes cleft at the apex, from which circumstance it frequently seems as if it were 4-valved, sometimes dehiscing loculicidally, rarely septicidally. Placenta central. Seeds numerous, small, ovate, angular, oftentimes only two perfected in each cell.

SPECIFIC CHARACTER.

Rondeletia odorata; foliis vix petiolatis ovatis aut obcordatis acutiusculis, supra sparse sebários, subtus palladioribus in nervis tantum sebários; corymbis terminalibus.—De Cand. l. c.

Leaves scarcely petiolate, ovate, or obcordate, somewhat acute, the upper surface scattered with rough hairs, the under surface paler, and only rough in the nerves; flowers in corymbis terminal.


Descr.—Shrub. Stem round, growing to the height of about three feet, a little branched, covered with soft hairs. Leaves petiolate, ovate, alternately opposite, upper surface wrinkled, shining, and scattered all over with stiffish hairs, the under surface strongly veined, veins alternate, at length anastomosing into a kind of net-work, more or less hairy. Stipules ovate, very acuminata, with a strong nerve running up the centre and terminating in a hard brown point. Flowers in dense corymb of an orange, or orange-red colour, tube twice as long as the calyx gamopetals, divided into five portions. Segments obtuse, with appendages as many as the segments, and so arranged as to resemble a cup when expanded. Calyx hairy, divisions linear. Ovarium globose, crowned with the calyx. Seeds somewhat angular, many of which are abortive, attached to a central placenta.

l 2
This is a beautiful plant, and may we think vie with the Ixora coccinea. The genus Rondeletia is composed of trees and shrubs, and was formerly composed of African and American species; but De Candolle, in arranging the natural order Rubiaceae, has confined the species to those of America, and removed the African ones to the genus Wendlandia. The principal distinctions between the two genera are, that in Wendlandia the tube of the calyx is oftentimes striped, the limb very short, the lobes of the corolla acute, the filaments issue from the top of the tube, and the anthers project. Our drawing was taken from a plant in the collection of the Birmingham Botanical and Horticultural Society, which was presented to that establishment by Messrs. Loddiges, from their extensive collection at Hackney. It requires to be grown in a humid stove, and to be potted in peat, loam and sand, using plenty of drainers. It is increased slowly by cuttings. The natural order Rubiaceae, to which our plant belongs, is one of the most natural, one of the most extensive, and one of the most valuable of the whole vegetable kingdom, as it contains within its range the Barks, the Madders, the Ipecac, and the Coffee, the albumen of which, when roasted, affords such an agreeable beverage: and as many persons may wish to know how the order may be distinguished, we will here describe it.

The tube of the calyx always adheres to the ovarium, variously lobed, lobes equal to the number of the petals. Corolla gamopetalous, attached to the top of the calyx. Petals from four to five, state of cohesion very variable, estivation either contort or valvate. Stamens as many as the petals, more or less joined to the tube, and alternate with the lobes. Anthers oval, two-celled, and turned inwards. Ovarium situated within the calyx, and joined to it; two or more celled, the calyx adhering so as to resemble a crown, or, botanically speaking, urceolate. Style arising from the urceolus one. Stigma oftentimes two, more or less joined, rarely more distinct. Fruit a berry or drupe, two or many-celled, cells one, two, or many-seeded. Seeds in one-seeded cells fixed to the apex or to the base, in the many-seeded cells annexed to an horizontal central placenta. Albumen large, horny, or fleshy. Embryo erect or curved, surrounded by albumen, having the radicle of the seed obverse, with a round hilum. Cotyledons leafy. Branches round or square.

The generic name was given by Linneus, in honour of Rondelet, a celebrated Physician.

Fig. 1, tube of a flower laid open to show the attachment of the anthers; 2, calyx, with its linear segments and pistil.
MYANTHUS BARBATUS, var. IMMACULATUS.

(Barbed Flywort, unspotted variety.)

LINNEAN SYSTEM.

GYNANDRIA MONANDRIA.

NATURAL ORDER.

ORCHIDACEE, § VANDE.E.—(Lindl.)

GENERIC CHARACTER.


Perianth explanatum. Sepals free, equal, the lateral ones a little ascending. Petals similar in form, narrower, placed under the upper sepal. Lip flat, obovate, 3-toothed, shorter than the sepals. Column erect, terete, with two tendril-like appendages at the base, posteriorly much elongated at its attachment to the anther. Anther and Pollen-masses as in Catasetum. Epiphytes, with the vegetation altogether of Catasetum.

SPECIFIC CHARACTER.

M. Barbatius (Lindl.). Labello in pilis succulentis barba-formibus dissoluto basi supra unicorni.

Lip divided into succulent, beard-shaped hairs, with a single horn above at the base.


Myanthus barbatius; var. labello albo.—Bot. Mag. 3514.

Myanthus barbatius; var. immaculatus.—Tab. Nostr. 37.

Descr.—Pseudo-bulb ovato-oblong, from four to five inches long, having the apex covered with the sheathing bases of the leaves. Leaves membranous, dark green, oblong-lanceolate, somewhat plaited tapering towards the base. Scape smooth, terete, springing from the base of the pseudo-bulb, recurved, many-flowered. Flowers bilabiate, spreading. Sepals and petals linear-oblong, somewhat concave, externally of a rich dark green, dark purple within; upper sepal in close contact with the petals, and nearly erect; lateral sepals in an equal degree deflexed. Lip somewhat articulated with the column, linear-oblong, shorter than the sepals, bent and saccated in the middle, copiously fringed with white, fleshy hairs, and bearing at the base a white, fleshy, horn-like appendage. Column semi-terete, with a greatly elongated apex, against which lies, in close apposition, the anther-case, which has a corresponding acuminated point. Pollen-masses, with the caudicula and gland, large as in Catasetum, and springing elastically from their position.

This is a beautiful and highly curious plant, the flowers of which (like many of the tribe) have somewhat the appearance of insects. It is a native of Demerara,
where it was found growing in the clefts of trees by Mr. John Henchman, of the Clapton Nursery. It resembles (as regards the white labellum) the variety published by Sir W. Hooker, in the Bot. Mag. tab. 3514; imported also from Demerara, but differs from it in the total absence of spots.

Our drawing (which was exquisitely finished) was made from a plant in the collection of John Willmore, Esq., of Oldford.

The close affinity existing between Catasetum, Myanthus, and Monachanthus has been noticed long ago by Dr. Lindley and Sir W. Hooker; the latter gentleman, indeed, is of opinion (Bot. Mag. 3514) that Myanthus barbatus and Catasetum cristatum cannot be separated generically, and thinks that Myanthus should only form a section of Catasetum. The correctness of this opinion has been recently verified by the remarkable and astounding fact, that flowers of Catasetum, Monachanthus, and Myanthus have been seen growing upon the same scape! When this fact was announced some months ago by Mr. Schomburgh, of Demerara, it was received by the cultivators of Orchidaceous plants with strong doubts of its accuracy; but a plant of Myanthus cristatus that flowered in November last, in the collection of his Grace the Duke of Devonshire, has been figured by Dr. Lindley in the Bot. Reg. tab. 1951, in which flowers of Myanthus, Monachanthus, and Catasetum, are present upon the same plant. The matter being thus placed beyond all doubt, the genera Myanthus and Monachanthus must consequently merge in Catasetum. Dr. Lindley is, indeed, disposed to think that Mormodes (tab. 34, of our last number) will ultimately share the same fate; this, however, remains to be proved.

The sportive freaks manifested by orchidaceous plants are now pretty generally known among botanists; but Dr. Lindley appears to have been the first who ever noticed these extraordinary metamorphoses: he has a note upon the subject, under Catasetum cristatum in Bot. Reg. vol. 12.

Fig. 1, column and labellum; 2, anther magnified; 3, anterior view of the pollinia, caudicula, and gland, magnified; 4, posterior view of the same.
ORIGI NAL AND OTH ER COMMUNICATIONS ON GARDENING,  
FLORICULTURE, &c.

BLISTER-BLIGHT.

Peach and Nectarine trees in some situations are liable to what is called the blister-blight during May and June, that is, many of their leaves become of a thick fleshy substance, which in some cases extend even to the young shoots. They are more affected in ungenial springs, and the disease is likely to be very general after the late unpropitious spring. The leaves so affected soon curl up, forming a receptacle and food for various kinds of insects, which if once allowed to get established are not easily got rid of during the remainder of the season. The most effectual remedy is to pinch off the affected leaves as they appear, and also to cut off the young wood buds so affected; which will, if persevered in, prevent insects from getting established by means of these diseased leaves; and the trees in most cases ultimately push kindly, and by July would not by a casual observer be suspected of having been affected with the blister-blight.

ON THE EFFECTS OF LIGHT, &c., ON VEGETATION.

Many years ago the beneficial effects of light on vegetable substances was ascertained, by accident, by the late distinguished Philosopher, Dr. Priestley, and by him detailed in a simple and clear manner in the third volume of his work, intitled "Experiments and Observations on all kinds of Air," and which have been confirmed by all succeeding Vegetable Physiologists. For the information of those who may not have a copy of the work we will quote the passage. He says, "that having a large trough of water, full of recent green matter, giving out air very copiously, so that all the surface of it was covered with froth, and jars filled with it, and inverted, collected great quantities of it very fast; I filled a jar with it and inverting it in a basin of the same, I placed it in a dark room; from that instant no more air was yielded by it, and in a few days it had a very offensive smell, the green vegetable matter with which it abounded being then dead and putrid." Vol. 3, p. 295. These experiments have been further confirmed by Sir H. Davy, in his Agricultural Chemistry, p. 205. Indeed so beneficial is light to all healthy vegetation that it cannot be dispensed with unless by the plants sustaining more or less injury; yet if plants be placed in too great a heat and light, as occurs in the midst of summer in hot-houses, it is hurtful, their colour is extracted, carbonic acid is given out entire without decomposition, and the plant becomes weak and languid, a fact which is well known to all gardeners, who to prevent it, when the sun is too strong at mid-day, take the precaution to cover the top with blinds, which are sometimes attached to the tops of the houses for that purpose. Plants made to vegetate in the dark are always of a yellowish white colour, weak, and without firmness, in consequence of carbon, the necessary food of plants (and, as we may say, their very muscle)
being given out, and oxygen absorbed. Plants that have been so treated recover their vigour by being brought into light and air. It is to the action of light, heat, and air, that the different parts of plants assume their various tints of colour which are so very pleasing to the eye in the flowers, in the leaves, and in some bracteae, as for instance in those of Peinsetia pulcherrima, an elegant plant figured in our last number, and also in the fruits which but for that would be sapid and tasteless. The subject of Colour has for some time engaged the attention of Philosophers on the Continent, and a long account of it has been published in De Candolle's Physiologie Végétale, under the head Chromule, a name given to it after many others, meaning colour to distinguish it, but the reason of the different tints does not appear at present known with accuracy. Its properties have been investigated by Macaire, a distinguished Vegetable Chemist of Geneva, who says that the tissue of the cells of the parenchyma (or pulpy matter which contains the colour) is analogous to lignine, and contains a greater or less portion of wax; he having deprived a leaf of its cuticle first boiled it in aether, and a kind of gluten and other substances were obtained in small quantities. To procure the chromule he digested a portion of this pulp in rectified alcohol, afterwards boiled it in aether, and after that he well pressed and washed it. He then filtered and evaporated it, and obtained a substance to all appearance resinous, of a dark green colour, and which no doubt is the substance that gives the colour to the leaf. By means of boiling water, a brown extractive matter was obtained which is not crystallizable, not altered by exposure to the air, but softens when held at the fire, and is decomposed after the manner of vegetable substances. It is insoluble in water, easily soluble in alcohol aether, the fixed and essential oils, also in solutions of potass and soda, in concentrated sulphuric and acetic acids. Its composition is hydrogen and carbon, with a small portion of oxygen, but it has not as yet received an accurate analysis. The quantity of oxygen in this matter seems various. Sennebier a long time ago observed that the coloured leaves of Autumn exhale much oxygen gas. Mr. Macaire experimenting with the green leaves, but which were approaching a change of colour, found that they exhaled oxygen during the day, and inspired it during the night, and this latter function was continued in a few which had changed their colour; hence he concluded that oxygen fixing itself on the chromule gives its yellow tint, and when in greater proportions its red one. He has seen the leaves of the Italian poplar yellow in the Autumn, and being treated by the process above given, gave a yellow chromule which differed in nothing from the green, unless by its insolubility in fixed and essential oils. A cold infusion of the same in alkalies became of a beautiful yellow which was soluble in oil. The red chromule of the leaves of Sumac taken in Autumn turn to their natural green by alkalies. On the contrary, acids turn the green chromule first to yellow, thence to red, according to the intensity of their action. Mr. Macaire has besides noticed that the red chromule of the bracteae, calices, and also the petals of Salvia splendens presents the same properties as those of the leaves which reden in Autumn.

The chromule of the yellow flowers is also changed to green by alkalies. We have extracted a great part of this interesting subject from De Candolle's Physiologie Végétale, a work of considerable talent, for which he received the Gold Medal of the London Horticultural Society.

It being a work that would greatly benefit Gardeners generally, from the soundness of its views, which are of primary importance; we are surprised that some person does not undertake an English translation for their benefit, and comprised in one closely printed 8vo volume, sold at a reasonable price. It might then be studied with advantage by every practical gardener.
MALVA CONCINNA.

(Nettle Mallow.)

LINNEAN SYSTEM.
MONADELPHIA POLYANDRIA.

NATURAL ORDER.
MALVACEAE.—(Brown.)

GENERIC CHARACTER.

Malva (Linn.) Calyx cinctus involucro 3-phyllo, rarius 5-6-phyllo, bracteolis oblongis setaceisve. Carpella capsularia plurima in orbem disposita.

Calyx surrounded with an involucrum of three leaves, rarely 5 or 6-leaved, bracteae oblong, or bristle-shaped. Carpels capsule-like, numerous, arranged in a circle.

SPECIFIC CHARACTER.

M. concinna; fruticosa, subglabra; foliis petiolatis ovatis vel ovato-lanceolatis basi cordiformibus crenatis obtusis; floribus longè pedicellatis axillaris corymboso-capitatis.

Shrubby, nearly smooth; leaves petiolate, ovate, or ovate-lanceolate, heart-shaped at the base, notched, obtuse; flowers longly pedicellate, axillary, disposed in corymbose heads.

Descri.—A shrub, about five feet high, branched, nearly smooth and round. Leaves petiolate, five-veined, ovate cordate, or lanceolate obtuse, notched, notches angular, acute, petioles shorter than the leaves. Stipules minute. Flowers arising from the axils of the leaves pale purple, congested into a dense head of about eight flowers, longly pedicellate, equal to half the length of the peduncle and leaf. Petals lanceolate, notched. Calycine segments ovate, acute, covered with stiffish hairs. Involucrum linear, placed between the divisions of the calyx.

This Malva (which we think well merits the specific name we have given to it) was raised from seeds received by Mrs. Charles Shaw, of Birmingham, from South America, in the year 1835, which she presented to the Birmingham Botanical and Horticultural Society, in which establishment it flowered this spring. It will form a pleasing addition to that already numerous genus; and the delicacy of its flowers and foliage will no doubt recommend it to the notice of cultivators. It is kept in a stove, under which treatment it looks healthy, and flowers freely. It should be potted in loam and peat, and may be readily increased by cuttings of the young wood, which root readily in bottom heat.

The natural order, Malvaceae, is not so extensive as many others. It contains only twenty-three genera, but amongst those are contained some of the most showy, and some of the most valuable in a commercial point of view. Amongst
the most showy may be mentioned the common Hollyhock and Hibiscus, a splendid species of which we figured in our sixth number. The Gossipium, or Cotton Plant, is cultivated in India and other places to a great extent, and from the cottony envelope of the seed is obtained the raw material for the manufacture of cotton goods. The fibres of Malvaceous plants have also been manufactured into cordage, and used for the same purposes as rope. The medicinal properties peculiar to this order are for the most part demulcent, the different genera affording more or less mucilage. The genus Malva was once much extolled by old practitioners, but is now nearly discarded.

This natural order is readily distinguished by the stamens being joined into a tube, and the ovarium composed of many carpels, arranged in a circle around an axis. This will be well understood by an examination of the common Hollyhock.

The generic name is derived from μαλασσω (Malasso), to soften, and the specific name from Concinnus, neat.

Fig. 1, corolla; 2, calyx, with the 3-leaved involucrum; 3, monadelphous stamens; 4, seed-vessels, styles and stigmas.
SYRINGODEA HIRTA.
(Hairy Syringodea.)

LINNEAN SYSTEM.
OCTANDRIA MONOGYNIA.

GENERIC CHARACTER.


SPECIFIC CHARACTER.
S. hirta; hirsuta, ramosa; foliis ternis; floribus ternis, brevissime pedicellatis; calycibus adpressis; staminibus et stigmati exsertis.

Hairy, branched; leaves in threes; flowers in threes, very shortly pedicellate; calyces pressed to the flowers; stamens and stigma projecting.


Descr.—Stems about two feet high, branched, hairy all over. Leaves in threes, hairy. Flowers in threes, very shortly pedicellate, tubular, reddish purple, green at the apex, viscid. Calyx pressed to the flower, and equal to one-third of its length. Stamens projecting beyond the mouth of the flower, anthers dehiscing longitudinally. Style projecting beyond the stamens. Stigma capitate.

This is a pretty free flowering plant, and by no means rare in collections. Our drawing was taken from a fine specimen in the Birmingham Botanical and Horticultural Society. The genus Erica, as it formerly stood, was very incongruous, containing plants which ought long ago to have been separated into different genera, if undertaken by a person who would devote the necessary time to their investigation. This has at length been done by D. Don, Esq., Professor of Botany at King’s College, London, and published by his brother, Mr. G. Don, in the third volume of Miller’s Gardener’s Dictionary, under the head Ericaceæ.
It is now divided into twenty-two separate genera, and apparently the separation is founded on characters that will be found permanent, an arrangement which will much facilitate their investigation. We are sorry our space is insufficient to allow us to point out the characters on which the different genera are founded; we must therefore reluctantly refer to the work itself.

The natural order, Ericaceae, is composed of plants which have long ranked among the most esteemed of the productions of Flora. Their geographical distribution extends to the ultimate limits of both hemispheres. But it is to Europe and to Africa that the normal Ericaceae are chiefly confined, though the greatest number is found in Africa—a country, says Mr. Don, in the work above quoted, so rich in plants, that it appears a spot where plants are huddled together in strange confusion, as if Nature had at length deprived herself of sufficient space for their equal distribution.

For the cultivation of the different species of Erica, they require generally a green-house, or cool pit or frame covered by mats or some other covering during severe weather. The soil should be light sandy peat. They may be propagated readily by cuttings of the young wood in sand, covered with a hand or bell glass, in a cool, shady situation.

The generic name, Syringodea, is derived from συρίνξ (syrinx), a pipe, in allusion to the tubular form of the flowers; the specific name from hirtus, hairy.

Fig. 1, calyx and bractea; 2, germen, style, filaments, and anthers; 3, anther magnified, showing its dehiscence and awns at the base.
MARICA CÆRULEA.
(Blue Marica.)

LINNEAN SYSTEM.
TRIANDRIA MONOGYNIA.

NATURAL ORDER.
IRIDEE.—(R. Brown, Prod.) IRIDACEE.—

GENERIC CHARACTER.
Perianth 6-parted, unequal, the interior segments being smaller. Stamens free opposite to the angles of the 3-sided style. Anthers linear-oblong, longer than the filaments. Stigma petal-like, 3-cleft. Capsule elongated, 3-angled, many-seeded.

SPECIFIC CHARACTER.
M. caerulea; scapo alato ensiformi erecto multifloro; spathe non vivipara.
Scape winged, sword-shaped, erect, many-flowered; spathe not viviparous.

Descrip.—Plant herbaceous, perennial. Leaves ensiform, plane, nerved, from four to six feet long. Scape erect, many-flowered. Spathes enclosing several flowers, which appear in succession. Flower six-parted, the three exterior segments elliptico ovate, margin somewhat wavy, of a brilliant blue except towards the base or claw, which is concave, slightly bearded, and marked with irregular transverse bars of rich brown; interior segments much smaller, recurved, with revolute margins, and more copious pubescence.

We do not offer this to the notice of our readers as a novelty (it having been introduced in 1818), but on account of its extreme beauty, which seemed to claim for it a place in the "Floral Cabinet." It is a native of the Brazils, and requires the warmth of the stove, of which it forms a most splendid ornament. It has much of the character of Marica Northiana, a native of the same country, where it was gathered on the island of Raza, near the mouth of Rio Janeiro, by the late Sir Joseph Banks.

This plant differs from M. Caerulea in having the larger segments of the flower white instead of blue; in producing a smaller number of flowers; and in having the scape bent to the ground, with a viviparous spathe, by which means the young plant contained in the spathe is enabled to take root and establish itself in the soil. The flowers of both species are very fugitive.

In order to flower these plants well, they should be frequently shifted in
spring into larger sized pots, as the roots get matted round the pots and receive a considerable supply of water when in flower. The soil should be loam, peat, and sand, using plenty of drainers. They may be increased by dividing in spring, or by seeds, which are very frequently perfected.

As regards the station of our plant in the natural arrangement, the student who has paid attention to our observations on this subject, in our former numbers,* will have no difficulty in recognising it as a monocotyledon, the leaves having parallel veins, and the flowers a ternary division. On referring to Dr. Lindley’s "Natural System of Botany," such plants will be found divided into—1st, Flowers complete—2nd, Flowers glumaceous or chaffy; the former are subdivided into "Flowers gynandrous" and "Flowers not gynandrous." The gynandrous subdivision consists chiefly of the Orchidaceae;† the non-gynandrous subdivision contains numerous orders, which are variously characterised: for instance, the Marantaceae, or Arrow-root tribe, have the veins of the leaves diverging from the midrib to the margin, one anther, with one cell; the Zingiberaceae, or Ginger tribe, one anther with two cells; the Musaceae, or Banana tribe, five or six anthers. The Iridaceae have the veins of the leaves running from the base to the apex, that is, parallel with the midrib, three stamens, with the anthers turned outwards, or in other words, opening towards the petals, and not towards the axis. The dilated, petaloid stigma of the Iris is characteristic of the whole order.

They are principally found either at the Cape of Good Hope or in the middle parts of North America and Europe, but much more abundantly in the former country. In South America they are far from abundant. The genera Marica and Moreea appear to occupy the same station in hot climates that Iris, a closely related genus, does in cooler latitudes. Their properties are for the most part unimportant.

Fig. 1, a longitudinal section of the germ, with the style, and petaloid stigma; the short filaments of the stamens, and long anthers; 2, horizontal section of the germ, showing its three cells.

* Vide fol. 36 and 55.  † Vide fol. 31.
GOVENIA SUPERBA.

(Linnaean System.)

Gynandra Monandra.

Linnean System.

Natural Order.

Orchidaceæ, § Vandæ.—(Lindl.)

Generic Character.


Perianth 2-lipped. Lateral sepals sickle-shaped, placed beneath the labellum, a little connate at the base, rather larger than the upper one. Petals connivent under the upper sepal, shorter, oblique. Lip very entire, without a spur, concave, articulated with the slightly lengthened base of the column, sessile. Column a little lengthened at the base, terete, somewhat spindle-shaped, bordered on both sides at the apex. Anther extinguisher-shaped, 1-celled. Pollen-masses 4, solid, incumbent, with a short caudicula, smaller than the triangular gland.—Terrestrial plants. Leaves folded, spikes radical, many-flowered. Flowers handsome.

Specific Character.

G. superba; labello ovato-cordato, spicæ cylindraceæ; bracteis acuminatis; foliis oblongis acuminatis basi angustatis scope æqualibus.—Lindl.

Lip ovato-cordate, spike cylindrical; bracteas acuminatæ; leaves oblong, acuminate, narrowed at the base, equal to the scape.


Descr.—Pseudo-bulb subglobose, covered with membranous scales, scarcely appearing above the soil. Scape erect, cylindrical, two and a half feet long. Flowers arranged in a long raceme, of a rich orange colour. Bracteas shorter than the pedicels. Lip scarcely half the length of the sepals, ungulicate, obtuse, channelled on the upper surface.

This is a very desirable orchidaceous plant, handsome in its general appearance, and stately in its mode of growth; though scarcely, perhaps, entitled to the specific name “superb,” as applied to it by its original discoverers, Messrs. Lexarza and La Llave, by whom it was found in Mexico, on the mountains near
Valladolid, where it is called by the natives *azuzena amarilla*. It must, however, be admitted, that its stately appearance (attaining, as it does occasionally, the height of five feet or more), together with the length of time it continues in flower, render it a most conspicuous ornament of the stove. At present it is rarely met with in collections.

Our drawing was made from a plant in the collection of George Barker, Esq., of Springfield.

Another species is described by the same authors,* which, although smaller in growth, must be equally striking in appearance. The flowers are stated to be snow-white, variegated with purple lines, elegantly disposed in a thyrse-like spike. This is also a native of the neighbourhood of Valladolid, where it has the name of Azuzena del-monte, and flowers in the summer months. This species, however, is not at present known in this country except by description.

Govenia requires the humid stove when in a growing state, but should be kept cool and dry when dormant. The soil should be peat and sand, with plenty of drainers. It may be increased by dividing when strong enough for that purpose.

The generic name was given by Dr. Lindley in compliment to James Robert Gowen, Esq., "under whose care were conducted many of the curious experiments upon cross-fertilization at Highclere, the seat of the Earl of Carnarvon."

* Novorum vegetabilium Descriptiones. Fasciculus 2.
**SILENE PURPUREA.**

*(Purple Silene.)*

**LINNEAN SYSTEM.**

**CARYOPHYLLACEA.**

**SPECIFIC CHARACTER.**

*S. purpurea; glauca, ramosa; folius radicalibus lanceolatis sub-spathulatis, superioribus ovatis lanceolatis basi connatis; floribus longis pedunculis, congestis, purpureis; calycebus longissimis clavatis; bracteis scarious.*

Glaucous, branched, root leaves lanceolate, somewhat spathulate, upper ones ovate-lanceolate, joined at the base; flowers on long peduncles, crowded, purple; calyces very long, club-shaped; bracts skinny.


**DISCUSSION.**—Annual, growing to the height of about three feet, covered with a glaucous hue, branched towards the top, where the colour assumes a livid purple, more or less intense. Leaves at the base lanceolate, approaching to spathulate, acute. The upper ones ovate lanceolate, connate at the base, and may be called perfoliate; they gradually decline in length as they ascend the stem, and become broader in proportion. Stipules none. Peduncles very long, of a purplish colour. Flowers in dense heads, on short pedicels. Petals purple, lanceolate, crenate, appendages subulate. Calyces purple, smooth, striated.

This is a beautiful annual, and worthy of general cultivation as an ornamental and free-flowering plant, which enlivens the gardens from the beginning of June until the end of August.

When we first saw this plant, we took it for a species not described by De Candolle in his Prodromus, nor by any other author whose writings we were acquainted with, and in consequence we gave it the specific name Purpurea, in reference to its dark-coloured flowers; these, however, vary a good deal, and our
drawing being taken late in the season, it is much paler than it appears when in perfection. We considered its station near Congesta, Sibth. and Sm. Since then we have ascertained that it is S. compacta, Fisch., but too late to have it altered; for according to Botanical usage, his name is entitled to priority. We were misled by Seringe's very imperfect character in the work above quoted.

The geographical distribution of this genus is universal, some being found in every part of the habitable globe, even to the Arctic Regions, from whence three new species have been described by Dr. Hooker in the Flora Boreali-Americana.

Plants composing this natural order are distinguished by their leaves being opposite, the joints swollen. Petals four or five (wanting in a few genera.) Sepals as many as the petals, and continuous with the peduncle. Stamens twice as many as the petals inserted in the torus. Ovarium joined to apex of the torus, simple. Capsule two to five-valved, dehiscing at the apex. Placenta sometimes central, sometimes adhering to the edge of the dissepiments. Seeds numerous. Albumen mealy. Embryo more or less curved. Radicle pointing to the hilum. These structures may be observed in the genus Dianthus, Lychnis, Gypsophila, and Silene.

A hardy annual, requiring no particular soil, and ripening seeds freely. To keep up a succession of flowering plants, a portion may be sown both in spring and autumn.

The generic name is derived from Σαλιβ (Sialon), Saliva, in allusion to the viscid secretion with which some of the species are frequently covered.

Fig. 1, germ, with its 3 styles; 2, petal, crowned with 2 appendages at the throat.
EUTAXIA BAXTERI.

(Baxter's Eutaxia.)

LINNEAN SYSTEM.

Decandria Monogynia.

NATURAL ORDER.

Leguminosae.—(Juss.)

GENERIC CHARACTER.


Calyx two-lipped; the upper lip notched, the lower one divided into three parts. Corolla with the lamina of the standard a little broader than it is long. Ovarium two-seeded. Style hooked. Stigma capitate. Legume moderately bellying. Seeds with a fungous appendage at the hilum. Shrubs, natives of New Holland, smooth; leaves simple, opposite.—De Candolle's Prodromus, vol. ii, p. 109.

SPECIFIC CHARACTER.

E. Baxteri; laxe ramosa; foliis oppositis, vel ternis, coriaceis, obovatis, mucronatis, venosis; floribus axillaris, ternis; bracteis minutis.

Stem loosely branched; leaves opposite, or in threes, leathery, inversely ovate, mucronate, veined; flowers axillary, in threes; bracts minute.—Eutaxia Baxteri Hort.

Descr.—Stem from four to six feet high, smooth, covered with a brownish epidermis. Leaves opposite, in threes, or in some branches scattered, obovate, leathery, strongly mucronate, edges membranaceous, decurrent, veined, veins more evident on the upper than on the under surface. Flowers pedicellate, in threes, in the axils of the leaves, orange, marked with orange brown, pedicels equal to the length of the flower. Bracts linear, situate about the middle of the pedicel. Calyx smooth, scarious at the edges. Stamens ten, smooth, thickening towards the base. Anthers two-celled. Style bent. Stigma capitate. Ovarium woolly.

An evergreen, and by no means handsome in its mode of growth, being naked until near the top of the stem, when it sends off several long, rambling branches: but notwithstanding, its foliage and inflorescence form a pleasing addition to the greenhouse. There is but one species of this genus besides the one now figured, with which it may easily be confounded, depending on the character in De Candolle's Prodromus. It is, however, readily distinguished by its leaves being much broader, more decidedly obovate, rigidly coriaceous, scarious at the edges, and
more closely arranged, appearing almost imbricate; indeed our figure does not
well express the obovate form of the leaves, being too narrow at the top.

Our drawing was taken from a plant in the collection of the Birmingham
Botanical and Horticultural Society.

The order Leguminosæ, or Pea tribe, is so natural, that it is unnecessary to
offer many remarks on its distinguishing characters. The flowers of this order are
composed of five petals. The upper one is usually larger than the rest, and more
or less erect, and called the standard; there are one on each side, called the wings,
and the two petals at the bottom shaped like a little boat, and containing the
stamens form what is called the keel. Flowers so constructed are called papilion-
aceous flowers, from a fancied resemblance that they bear to a butterfly: where
these exist, there is no difficulty in recognising the order Leguminosæ, for the
papilionaceous flower is not seen in any other. But although this is the structure
of all British Leguminosæ, there are several exceptions in the Exotic genera of
the order, as, for example, Edwardsia and Mimosa. There is, however, another
character by which this order is distinguished, and which is invariable, viz., the
leguminose fruit, commonly called the pod. The stamens are disposed in various
ways; in some they are in two sets (diadelphous), one free and nine combined,
as may be seen in the common clover; in one set (monadelphous), as in the
common broom; and free or not joined, as in our present plant. To this order
we are indebted for some of our most delicate vegetable productions, peas, beans,
&c., and the physician is also indebted to it for some of his most useful medicines,
as senna. Our green-houses and gardens are continually enlivened by the
charming brilliancy of their flowers, as the Laburnum, and Clianthus, a splendid
New Holland plant. But to enumerate all that is useful and beautiful in this
natural order, would far exceed the limits of our publication.

It is a green-house plant, a native of New Holland, and was probably raised
by Mr. Knight, from Mr. Baxter's last importation of seeds in 1830. The soil
should be peat, loam, and sand. It may be increased by cuttings of the young
wood. The plants are rather disposed to run too high; to prevent which, and to
form bushy plants, the leading shoots should be often topped during summer.

The generic name is derived from Eutaxia (Eutaxia), modesty, and the specific
in compliment to Mr. Baxter.

Fig. 1, calyx; 2, stamens; 3, germ.
REHMANNIA CHINENSIS.

 LINNEAN SYSTEM.
  Didynamia Angiospernia.

 NATURAL ORDER.
  Scrophulariaceae.

 GENERIC CHARACTER.


 Calyx campanulato, 5-cleft. Corolla ringent, tubular, swelling unequally on one side; limb 5-lobed; lobes rather equal, the two upper ones reflexed. Stamina didynamous. Anthers terminal; cells diverging, pointless. Stigma bilamellar. Capsula ovate, many-seeded, 1-celled, 2-valved, valves bearing septa in the middle, margins free. Seeds albuminous, ovate, membranes spongy, reticulated, involute.

 SPECIFIC CHARACTER.

 R. chinesis.—Fisch. et Meyer.
 Gerardia glutinosa.—Bunge Enum. pl. Chinens., p. 49.
 Rehmannia glutinosa.—Libosch, in Herb. Imp. Petrop.

 Descr.—Perennial, viscid, hairy, about a foot high. Leaves for the most part obovate, unequally toothed, rugose, alternate, uppermost smaller, somewhat lanceolate. Raceme lax, of from five to eight or ten flowers. Flowers pendulous, two inches long in the axis of the leafy bractæ, the upper ones with short, the lower ones with long peduncles. Calyx very hairy, 5-toothed, teeth reflexed. Corolla tubular, or somewhat funnel-shaped, a little curved, hairy, terminating in an oblique, 5-lobed, spreading border; lobes somewhat surrounded, veined, with an irregularly and obscurely crenated margin, and an acute apex, the lower one with a fold or plait on each side; colour a dark, reddish purple, which becomes gradually paler, especially in the border, which, when the flower is fully expanded, assumes somewhat of a pale rosy tint. Stamina 4, didynamous, smooth, included within the tube, and inserted near its base. Ovarium ovate, one-celled, with two double, reflexed, many-seeded placenta; style filiform; stigma with two equal lobes.

 This rare and interesting plant was received by the Birmingham Botanical and Horticultural Society, in the autumn of 1835, from the Royal Botanic
Garden of Berlin, through the kindness of M. Otto, to whom the Society are indebted for many rare and valuable additions to their collection. It was figured in the Botanical Register, No. 6, in June last; but the flowers, as represented in the plate, and as stated by Dr. Lindley, are so dingy in colour, “that the plant is by no means distinguished for its ornamental appearance.” We are disposed, however, to imagine that this must have been an unusual state of the plant, as the specimen from which our drawing was made had flowers not only larger in size, but particularly beautiful in colour. The colour, however, is very fugacious, for we noticed that the flowers of one of the plants, after having been exposed to the influence of the sun’s rays for two or three hours, had lost all their depth and richness of colour, and had become of a pale, faded purple, but still presented none of that dinginess of colour alluded to in the Register. It is worthy of remark, that the foliage of our plant appears to have been much less developed than in Dr. Lindley’s plant; may not that circumstance have been connected with the more perfect development of the flowers, and their great superiority of colour as displayed in our specimen?

It is said to be a native of the north of China and Chinese Mongolia; in the natural arrangement it will stand near Digitalis. It has been kept in the greenhouse, but will probably be hardy enough for a cold frame. The soil should be sandy peat, mixed with a little loam. It may be readily increased by dividing, or by cuttings, but which can only be obtained sparingly from the plant. The generic name, Rehmannia, is unexplained by its author.

Fig. 1, a flower cut open to show the insertion of the stamens; 2, the ovary, style, and stigma.
Macrochilus Tryanus.
MACROCHILUS FRYANUS.

(Mr. Fry's Macrochilus.)

LINNEAN SYSTEM.

ORNITHACEAE, Pseudobulbosa. 

NATURAL ORDER.


GENERIC CHARACTER.


Perianth explanat. Lateral sepala somewhat connate at the base, unequal-sided. Petals free, rather similar in form. Lip very large, continuous with the column, claw crested, with a spreading, veined, somewhat rounded, undulated border. Column short, erect, abruptly dilated below the middle, excavated at the base, winged on both sides at the apex, with a large, round, deep stigma. Anther 2-celled. Pollen-masses 2, furrowed posteriorly, sitting upon an oval arched caudicula; gland thick, ovate. An epiphytic plant, with creeping stems and pseudo-bulbs. Leaves approaching to the consistence of parchment. Flowering-stem simple, covered with spathe-like sheaths (1-flowered ?). Flower large, handsome.

SPECIFIC CHARACTER.

M. Fryanus. (The only known species.)

Description.—Rhizoma (root-stock) creeping, covered with imbricated, closely-appressed, membranous scales. Pseudo-bulbs 2-leaved, ovate-oblong, distant, compressed, arising from the rhizoma, and having their edges invested by its lengthened scales. Leaves linear-oblong, obtuse, emarginate, keeled, attenuated at the base. Flowering-stem about a foot long, slender, covered with keeled, compressed, membranous sheaths, gradually becoming larger upwards, and investing the ovary like a spathe. Sepales cream-coloured, membranous, lanceolate, an inch and a half long, the upper one erect, the lateral ones deflexed and slightly united at the base beneath the claw of the lip. Petals similar in colour and structure, oblong-lanceolate, spreading horizontally, and eventually a little reflexed at the apex. Lip very large, entire, plane, elegantly marked with various shades of purple, darkest towards the base; claw fleshy, with three elevated, yellow, longitudinal ridges extending posteriorly under the excavated base of the column, and terminating anteriorly in a central clawate and two lateral auricular extremities. Column with a rich purplish violet-coloured, winged appendage, divided into five segments. Anther terminal. Pollen-masses solid, broadly ovate.
This plant, which is perfectly new to this country, is a native of the Brazils, from whence it was received with many other rarities by the Birmingham Botanical and Horticultural Society in the autumn of 1835. The flower is strikingly handsome, the delicate cream-coloured sepals and petals presenting a fine contrast with the unusually large and beautifully-marked labellum. The scape appears to bear only one flower, but this is of long duration, having remained in perfection nearly three weeks. Upon the whole it cannot fail to be regarded as an elegant and most valuable addition to our present stock of orchidaceous plants. It is nearly allied to Oncidium, particularly O. lanceanum, with which it agrees in the subconnate lateral sepals, the shape and appendages of the column, the terminal anther, the solid and sulcated pollen-masses, and the not very dissimilar caudicula and gland, differing from it chiefly, though not entirely, in the more lengthened claw, and entire (not 3-lobed) state of the labellum.

It requires the protection of the stove, and should be planted in rough, sandy peat, mixed with a considerable portion of fine drainers, using also plenty of drainers at the bottom of the pot. The creeping stems, from which the pseudo-bulbs grow, ought to be entirely upon the surface. To facilitate increase, the stems may be cut half through (which will cause young shoots to be sent out), and finally cut through a month or more before dividing.

The generic name, which we have given to this plant, is derived from μακρος, long, and Χιλος a lip, in allusion to the unusual size of that part of the flower. The specific name Fryanus, in compliment to —— Fry, Esq., for many years a resident in the Brazils, to whom the Birmingham Botanical and Horticultural Society are indebted for repeated importations of scarce and valuable plants.

Fig. 1, posterior oblique view of the pollen-masses, caudicula, and gland, magnified; 2, anterior view of the column, showing its connexion with the claw of the lip; 3, lateral view of the same.