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THE

PARADISUS LONDINENSIS:

OR

COLOURED FIGURES

OF

Plants

CULTIVATED IN THE VICINITY OF

THE METROPOLIS.

BY WILLIAM HOOKER,

PUPIL OF FRANCIS BAUER, ESQ.

BOTANIC PAINTER TO THEIR MAJESTIES AT KEW.

" Hic ver assiduum atque alienis mensibus æstas."

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PREFACE.

THE present taste for *Botany*, so general among all ranks, and the great encouragement given to works of merit in that fascinating science, first emboldened the Publisher of the present undertaking to solicit assistance from several distinguished Collectors of Plants in the vicinity of the Metropolis. Having been at length enabled by their liberality to bring forward, among the rest of his brethren, some of the efforts of his pencil, it would be dastardly in him not to own that his hopes of success overbalance his fears; it now only remains with the Public at large to appreciate his labours, and become his best patrons. Anxious however for fame, rather than inordinate profit, he will be content with very small interest for the sums advanced; and the descriptions of his figures will be corrected, or often wholly drawn up, by a Botanist more learned than himself. It may not be improper to add a few words respecting that department of the work.

In all similar publications which have hitherto appeared, not even excepting the most respectable, a considerable portion of each page has been filled with useless repetitions of the classes, orders, and generic characters of the sexual system. No one who pretends to the least knowledge of the science is without the *Genera Plantarum* of *Linne*, nor any one who is solicitous to gain deeper information, without that of *Jussieu*. The transcendant merit of the last author, however, having yet never been detailed among us, the natural order to which he refers each genus here figured will always be inserted preceding its character; this will be only given with the first species, making such alterations, or remarks, as the investigation of it suggests. Botany, like all other sciences, has lately made a rapid progress in improvement, and in no branch so conspicuously as that which relates to the affinities of genera; more might be said on this head, if it were not already anticipated in a short but most energetic paragraph of the Edinburgh Review. With regard to the Plants themselves, such only as are new, uncommonly beautiful, or incompletely figured by others, will be selected; and of these the harvest is abundant.

Trillium Grandiflorum

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PLATE I.

TRILLIUM GRANDIFLORUM.

Large Flowered Trillium.

ORDO NATURALIS.

Asparagi. *Juss. Gen. p.* 42.

Calyx triphyllus, persistens. Petala tria, calyce majora, persistentia. Antheræ crassæ, terminales, lateraliter dehiscentes. Pericarpium succulentum, 1-loculare, polyspermum. Stigmata 3, lateralia. *Canlis apice 3-phyllus, foliis latis verticillatis: in horum centro 1-florus. Genus a Paride non tantum structurâ antherarum sed etiam fructu 1-loculari discrepans.*

T. foliis late rhombeo-ovatis, acuminatis; floribus subpendulis; calycis foliolis cuneatis; petalis calyce longe majoribus, spatulato-lanceolatis.

T. rhomboideum. var. γ. grandiflorum. *Michaux Fl. Boreali Am. v.* 1, *p.* 216.

Sponte nascentem in *Upper Canada,* legit Franc. Masson.

This plant, communicated by George Hibbert, Esq. I believe has never before been figured, but I have little doubt the synonym above quoted belongs to it, and that it is a legitimate species. The petals in fading are tinged with a blush colour. It has been some years in this country, flowering soon after it rises out of the ground; and, like the rest of the genus, should be cultivated in a moist shady situation.

REFERENCES TO THE PLATE.

1. The Calyx.
2. The Anthers and Germen.
3. The Germen magnified.
4. Transverse section of the seed vessel.

Protea acuifolia

Published by W. Hooker June 1. 1805.

W. Hooker fec.

II.

PROTEA ACUIFOLIA.

Needle-leaved Protea.

ORDO NATURALIS.

Proteæ. *Juss. Gen. p.* 78.

Bractea 1 sub singulis floribus, involucro aliarum majorum sæpe cinctis. Corolla varie 4-fida, laciniis apice liberis vel cohærentibus, persistens. Pericarpium crustaceum, 1-loculare, 1-spermum, deciduum, usque in germinationem clausum. *Genus procul dubio dividendum; folia simplicia decompositaque, flores diclines hermaphroditosque, ut taceam differentias bractearum, nunc conjungens.*

**Folia simplicia, integerrima.*

P. foliis sublinearibus, teretiusculis, mucronatis, punctatis; fasciculis cernuis; bracteis involucri exquisite ciliatis.

P. nana. *Thunb. Diss. n.* 29. P. rosacea. *Linn. Mant. p.* 189, Leucadendron nanum. *Berg. Pl. Cap. p.* 22. Conophoros capensis Pini folio. *Pet. Gaz. p.* 40. *f.* 25. *f.* 7.

Sponte nascentem in *Roodesand,* montibus, legit C. P. Thunberg.

Floret a *Septembri,* in *Decembrem.*

There is no figure of this species but Petiver's imperfect engraving; it was communicated by Messrs. Lee and Kennedy, whose liberality in giving specimens of their rarest plants to Botanists does them so much honour. The outer bractes are disposed into a very regular rose, and constitute the chief beauty of the flower, which has no smell; their margin is ciliated with very short white hairs. Corolla towards the top covered with brown hairs. Style long, and standing out from the centre towards the bractes. It flowers here, as at the *Cape of Good Hope,* from the latter end of Spring to the middle of Summer, and may be propagated by cuttings planted in sandy loam, under a bell glass, during the months of May and June.

Bryophyllum calycinum

Published by W. Hooker June 1 1805

Hooker fecit

III.

BRYOPHYLLUM CALYCINUM.

Calyculated Bryophyllum.

ORDO NATURALIS.

Sempervivæ. *Juss. Gen. p.* 307.

Calyx longus vaginæformis, diu vegetus. Corolla 1-petala; Tubus rhombeus ore contracto; Limbus 4-fidus; marcescens. Filamenta 8, ad os tubi duplici serie inserta. Pericarpia 4, basi squamas tot melliferas exserentia. *Suffrutex, facie Crassularum. Folia opposita, succulenta, prima ultimaque simplicia, reliqua ternata vel pinnata duobus paribus foliolorum, crenata ibidemque sobolifera. Flores terminales, paniculati. Nomen a* βρυω *germino,* φυλλον *folium.*

B. calyce corollâ multo breviore, parum 4-angulo.

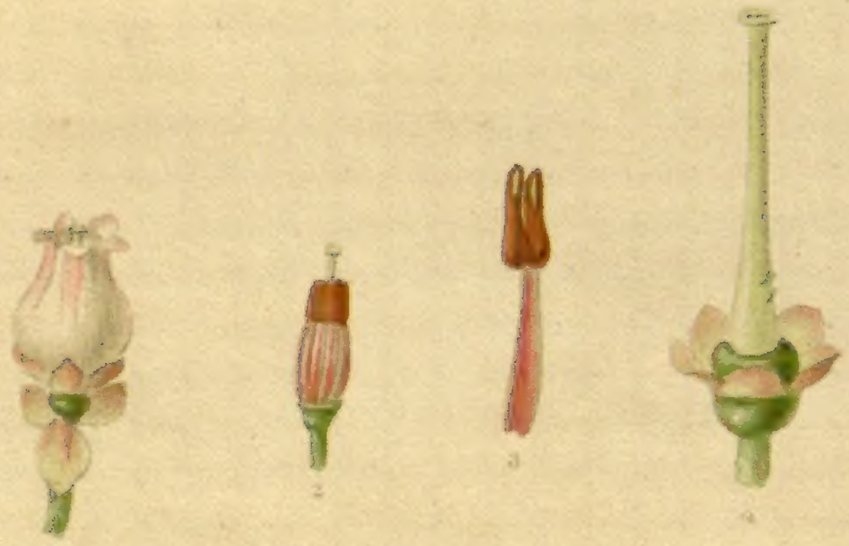
Sponte nascitur in Insulis *Moluccas,* unde in Hortum Botanicum *Calcuttæ* translatum fuit, anno 1798.

Floret sub finem mensium pluvialium.

This singular plant was sent into this country from *Bengal* by Dr. Roxburgh, and has lately flowered in the stove of the Right Honorable Charles Grenville, at Paddington. It will soon be very common, for young plants are produced in abundance from the crenatures of the leaves. The Cotyledon Pinnata of *Lamarck, in Encycl. Bot. v.* 2. *p.* 141. which that author describes with yellow flowers, may possibly be another species; but though I have examined a specimen of this also, gathered by Ant. Hove, a Polish Gardener, in the Island of *Johanna,* and sent in spirits to Sir Joseph Banks, I cannot be absolutely certain about the matter, none of its flowers being sufficiently advanced.

REFERENCES TO THE PLATE.

1. The Corolla stript of the Calyx.
2. The Germen and Nectarium.
3. A transverse section of the Seed vessel magnified.
4. The Corolla spread open, shewing the insertion of the filaments.
5. An Anther magnified.



Vaccinium buxifolium

Drawn & Pub. by W. Hooker, July 1. 1805.

IV.

VACCINIUM BUXIFOLIUM.

Box-leaved Vaccinium.

ORDO NATURALIS.

Ericæ. *Juss. Gen. p.* 159.

Pericarpium inferum, 4-5-loculare, succulentum, clausum, deciduum. Semina 10-30 in singulis loculis. Corolla monopetala limbo brevi, 4-5-fido; decidua. Antheræ 8-10, valvis apice oblique foraminosis. *Frutices, quidam humillimi, gemmiferi. Folia alterna, in plerisque dentata, autumno decidua vel sempervirentia. Flores solitarii fasciculati spicative, sæpius axillares.*

* * *Folia sempervirentia.*

V. foliis obovatis, dentatis, glabris, subtus æquatis: spicis e superioribus axillis, dense multifloris: stigmatibus hemisphæricis.

V. brachycerum. *Michaux Fl. Boreali-Amer. v.* 1. *p.* 234.

Sponte nascentem circa *Winchester* in *Virginia,* legit A. Michaux.

Floret apud nos *Maio.*

A beautiful dwarf species, resembling V. *Vitis Idæa,* from which however it may always be distinguished by the capitate stigma. The stems creep a little under the ground, and are covered with a short rough pubescence. Leaves sometimes oval, without any callous dots on the under surface: midrib hairy on its upper surface. Flowers blush-coloured. Common peduncle very short. Calyx and Corolla generally five-cleft. Filaments 10, attached at the very base to the corolla, but inserted like it, in the receptacle which surrounds the top of the fruit, having antheræ shorter than in many others, and without a spur. It thrives best in light sandy vegetable mould, among rocks, and other shrubs.

REFERENCES TO THE PLATE.

1. A Flower magnified.
2. The Anthers and Germen.
3. An Anther magnified.
4. The Calyx and Germen magnified.

Magnolia acuminata

Drawn & Pub. by W. Hooker July 1. 1805.

V.

MAGNOLIA ANNONÆFOLIA.

Annona-leaved Magnolia.

ORDO NATURALIS.

Magnoliæ. *Juss. Gen. p.* 280.

Calyx 3-phyllus, petaloideus, sæpius caducus, in quibusdam nullus. Petula 6-9, decidua. Antheræ filamentis confluentes. Pericarpia numerosa, in Strobilum stipitatum imbricata, oblonga, 1 locularia, 2-valvia, 2-sperma. Semina e pericarpió dehiscente, filo pendula. *Arbores et Frutices aromaticæ. Folia autumno decidua vel sempervirentia, sæpius grandia. Stipulæ intra foliaceæ, vaginales. Flores terminales, albi flavescentuli virides purpureive, solitarii, in quibusdam grandes. Bractea* 1, *calyci proxima vel inferius sita, vaginalis, caduca.*

* *Calyx nullus.*

M. foliorum laminis lanceolatis: petalis valde inæqualibus, exterioribus pedunculo 2-plo longioribus: pericarpiorum stipite superne lævi.

Floret apud nos, ab *Aprili* in *Junium.*

A low shrub, lately brought into this country from *China,* and now in flower in the stove of the Right Hon. Charles Greville. It appears to me a legitimate species, though very nearly allied to the M. Fuscata of the Botanists' Repository, which I would distinguish by the following name and character. M. *Versicolor;* foliorum laminis obovato-lanceolatis: petulis inæqualibus, exterioribus pedunculo 4-plo longioribus: pericarpiorum stipite toto pubescente. The flowers in both diffuse a similar fragrance, resembling at a distance that of a ripe apple, but when nearly approached more like a melon: and this odour I suspect proceeds from the glands with which the petals abound, not from the antheræ.

REFERENCES TO THE PLATE.

1. The Anthers and Germen.
2. The Germen and Receptacle.
3. An Anther magnified.
4. A Germen magnified.

Gompholobium psoraleæfolium.

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VI.

GOMPHOLOBIUM PSORALEÆFOLIUM.

Psoralea-leaved Gompholobium.

ORDO NATURALIS.

Leguminosæ. *Juss. Gen. p.* 345.

Sect. 4. Corolla papilionacea. Filamenta receptaculo inserta, distincta. Pericarpium 1-loculare, 2-valve.

Calyx grandis, inflatus, profunde 5-fidus: Carina obtusissima. Filamenta decidua. Pericarpium castum (germen auctorum) latum, gravidum ventricosum, polyspermum, tenuiter stipitatum. Stylus involutus. Stigma angustum, obtusum. *Frutices graciles. Stipulæ minutæ, inflexæ. Folia atro-viridia, 3-nata pinnataque. Flores pedunculis brevibus axillaribus sæpius 2-floris, flavi. Bracteæ 2 juxta receptaculum, minutæ.*

* *Folia Ternata.*

G. caule angulato, glabro cum rore : foliorum laminis 1 $\frac{1}{2}$ lineam latis, anguste obcuneatis, convexinsculis: carina discolori, valde fimbriatâ.

Sponte nascentem juxta *Port Jackson*, legit D. Burton.

Floret *Octobri, Novembri*; apud nos *Junio.*

This plant was communicated by Messrs. Lee and Kennedy, and has been hitherto known in their nursery by the name of *Latifolium;* but I dare not quote the plant Dr. Smith has taken up under that title in the Annals of Botany as the same; for he describes the leaflets "*obovato-oblonga*" and "*venosa.*" The young stem, if observed through a microscope, is covered with dark green dots, of which I find no traces in the leaves. The calyx in a young state is very similar both in colour and shape to the future pod, so that the whole plant to a careless observer has the appearance of being in fruit before it flowers. It may be propagated by cuttings.

REFERENCES TO THE PLATE.

1. The Calyx.
2. The Anthers and Germen.
3. The Germ and Receptacle.
4. The Legume opened, shewing the Seed.
5. The Stigma magnified.

VII.

PODALYRIA ARGENTEA.

Silvery Podalyria.

ORDO NATURALIS.

Leguminosæ. *Juss. Gen. p.* 345.

Sect. 4. **cujus definitionem vide sub No. 6.**

Calyx basi replicatus, 5-fidus, parum irregularis. Vexillum grande, basi incrassatum: Carina parva, alis obtecta. Filamenta persistentia. Pericarpium sessile, gravidum ovale et ventricosum, polyspermum. Stylus vix arcuatus. Stigma capitatum. *Frutices, pleræque sericeæ. Stipulæ angustæ, cauli adpressæ. Folia simplicia laminis latis crassisque. Flores pedunculis axillaribus, solitarii vel breviter spicati, albidi colore mox in roseum mutabili. Bracteæ caducæ, gemmaceæ. Nomen, ob Vexillum basi lyratum, a vocibus Græcis,* πους *pes* λυρα *lyra, derivarem; nec a filio Æsculapii.*

P. foliorum laminis ovali-lanceolatis, sericeis: pedunculis 2-3-floris; calyce carinæ adpresso: vexillo lateribus integro.

P. biflora. *Sims in Bot. Mag. p.* 753. *cum Ic.* bona. P. biflora. *Poiret en Encycl. Bot. v.* 5. *p.* 444. P. biflora. *Lamarck in Encycl. Bot. Illustr. t.* 237. *f.* 3. pessima. Sophora biflora. *Retz. Obs.* 1. *p.* 30.

Sponte nascentem juxta *Stellenbosch*, legit F. Masson.

Floret apud nos fine *Maii, Junio.*

Professor Retzius first distinguished the species of this genus, but having only seen dried specimens, his characters want much correction. Dr. Sims has given a very excellent description of that here figured, and not omitted a character of great importance, namely, the insertion of the filaments in the receptacle, which in the flowers he examined were only seven in number, but in ours constantly ten. The calyx is also five-cleft, not three-toothed, and probably much more hairy in wild specimens than those of our gardens. A large melliferous gland at the base of the claw of the vexillum, is, I believe, common to the whole genus, which as it stands in Willdenow's work is still a jumble of heterogeneous species, containing, 1st. Those with pinnated leaves and long spikes of flowers, already separated by Lamarck; 2dly. A low thorny shrub with diphyllous petioles, and flat monospermous pods, allied to Halodendrum: 3dly. Those with ternate leaves and a stipitate pod: 4thly. Those with ternate leaves and very large stipules, from North America: 5thly. The true Podalyrias with simple leaves.

REFERENCES TO THE PLATE.

1. The Vexillum.
2. The Calyx, Anthers and Germen.
3. Back View of the Calyx.
4. The Germ and Receptacle.
5. The Stigma magnified.

Printed by D. N. Shury, Berwick-street, Soho.

Gladiolus [illegible]

Drawn & Pub. by W. Hooker Aug.t 1. 1805.

VIII.

GLADIOLUS CONCOLOR.

Self-coloured Gladiolus.

ORDO NATURALIS.

Irides. *Juss. Gen. p. 57.*

Sect. 3. *Flores spicati, sub pericarpio bracteis duabus.*

Bracteæ spathaceæ, plus minus convolutæ, totæ vegetæ. Corollæ Tubus sensim parum latior: Limbus varie irregularis, ventre curvo brevissimo infundibuliformi. Antheræ secundæ. Stigmata simplicia, obcuneata. Pericarpium subovale. Semina plus minus alata, membranâ interdum prorsus deficiente. *Radix tuber quotannis periens, novo pluribusve ratione numeri gemmarum super vetustum dum foliatur enatis, sphæricum tunicis reticulatis stupaceisve, basi fibras exserens. Caulis firmus, rarissime decompositus. Folia ensata, vel cruciatim 4-angula. Quæ cum Iridēis veris sub pericarpio bracteâ destitutis nunc militant genera, forsan posthac nomine Crocēarum ob diversam inflorescentiam separandæ; nondnm vero satis intelligo Galaxiam. Gladiolus, in serie naturali, ordiendo a G. Namaquensi Bot. Mag. f.* 592. *Antholyzas proxime sequitur, omnes facile distinguendas ventre corollæ longiore compresso: ad has itaque G. Watsonium Bot. Mag. f.* 450, 649, *et G. Quadrangulum Bot. Mag. f.* 567. *refero.*

* * *Tristi affines, foliis sæpius margine dilatato* 4*-angulis.*

G. foliis 4-angulis: corollæ limbo tubo plus quam 2-plo longiore, laciniis obovato-lanceolatis acuminulatis, inferioribus vix approximatis; antheris longis, post anthesin spiralibus.

Sponte nascentem in Promontorio *Cap*, legit Jac. Mulder.

Floret apud nos *Maio*.

This species was communicated by the Right Hon. Charles Greville, but has long been in our gardens, for I cultivated it at Chapel Allerton in the year 1790. It differs from G. Tristi *Linn.* in the shape of the laciniæ of the corolla, and from G. Recurvus, *Bot. Mag. f.* 578, in having them acuminated. I have not observed the Antheræ become spiral after the pollen is discharged in any other species, but it may possibly be the case, and if so the above specific character must be altered. The whole flower is of one self colour, if I may be allowed to use the language of a Florist.

REFERENCES TO THE PLATE.

1. Part of the Corolla spread open, shewing the insertion of the Filaments.
2. The Leaf cut transversely.

Aphyllanthes juncea

Drawn & Pub. by W. Hooker Aug. 1. 1805.

IX.

APHYLLANTHES JUNCEA.

Rush-like Aphyllanthes.

ORDO NATURALIS.

Junci. *Juss. Gen. p.* 43.

Bracteæ glumaceæ; ultima calycis instar receptaculum corollamque amplectens, 5-fida laciniis imbricatis. Corolla receptaculo turbinato insidens, regularis, 6-partita laciniis interioribus parum latioribus, in cunabulis convoluta, marcescens. Filamenta 6, infra medium laciniis adnata stylumque stipantia, inde erecto-patentia. Antheræ versatiles. Pericarpium 3-loculare, loculis 5-spermis. *Planta dodrantalis habitu Junci. Radix perennis fibris rigidis. Caules tenues, e gemmis numerosis cæspitosi, simplicissimi, basi folio unico rariusve altero mox arido cincti, apice alio consimili sed longe minore terminati, cylindrici, læves. Folia ipsa teretiuscula margine in stipulam intrafoliaceam glumaceam producto, obtusa. Flores solitarii vel duo, sessiles, ephemeri.*

A. monspeliensis. *Poiret in Encycl. Bot. v.* 4. *p.* 499. A. monspeliensis. *Lam. Illustr. f.* 252. pessima. A. monspeliensis. *Linn. Sp. Pl. ed* 2. *p.* 422. A. monspeliensium. *J. Bauh. Hist. Pl. v.* 3. *p.* 336. Caryophyllus cæruleus Monspeliensium. *C. Bauh. Pin. p.* 209. A monspelliensium. *Lob. Adv. p.* 190. Bragalou. *Occitanis.*

Sponte nascitur in *Provence, Languedoc, Algiers,* collibus sterilibus.

Floret *Aprili, Maio.*

This genus has no real affinity to *Juncus,* however similar in general appearance. It comes nearer *Asphodelus* than any other I have yet examined, having its few leaves obtusely mucronated, with their margin dilated into a chaffy stipule, the receptacle articulated, and one sessile seed near the centre of each cell. The name, as we learn from Lobel, was given before his time by some of the Montpellier Botanists; not that they supposed the plant totally destitute of leaves, but from their being few and soon withered. It grows plentifully near Castelnau, where I gathered it in the year 1786, and will thrive with us under any dry wall. Nothing can be more faulty than Poiret's description, though it appears he had the living plant before him; he says, " Chaque fleur offre plusieurs *Bales* univalves, six *Petales,* Filamens " attachés à l'orifice de la corolle, *Fruit* contenant un grand nombre de semences." Then, by way of corollary to the above, he adds, " Ce genre est si voisin des *Juncus* qu'il n'y a guères " que la corolle que les distingue."

REFERENCES TO THE PLATE.

1. A leaf spread open.
2. A Lacinia of the Corolla, shewing its monopetalous base and the insertion of the Filament.
3. The Calyx.
4. The Germen magnified.
5. Transverse section of the Seed Vessel.
6. The young Seed more magnified.

Drawn & Pub.d by W.Hooker Sept.r 1.1805

X.

MOREA ODORA.

Perfumed Morea.

ORDO NATURALIS.

Irides. *Juss. Gen. p.* 58.

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* Sect. 1. *Flores fasciculatim paniculati, sub pericarpio bracteâ nullâ.*

Corolla 6 partita, varie in variis expansa et inæqualis, dum fatiscit involuta, caduca. Antheræ longæ, inter angulos styli accumbentes. Stigmata 3, sub tot fornicibus 2-auritis squamiformia. Pericarpium oblongum. Semina subrotunda. *Radix stipitiformis et perennis; vel tuber quotannis periens novis super vetustum dum foliatur enatis, sæpius ovatum tunicis plus minus rigidis et craticularibus. Caulis gracilis vel crassus, tenax. Folia bifaria ensataque; vel pauciora sensim attenuata, concava marginibus versus apicem in caudam plus minus teretem confluentibus. Flores pedunculati. Ab Iride solum differt tubo nullo. In memoriam Roberti More, Armigeri comitatus Salopiensis, cognitione et amore plantarum olim præclari, hoc genus dicavit Ph. Miller: igitur Morea rectius scribendum.*

* *Corollæ Laciniæ parum diffórmes.*

M. foliis glabris cum rore multo intus, rigidis; corolla laciniis recurvo-horizontalibus, sublyratis lateribus versus apicem involutis; interioribus fere duplo angustioribus; stigmatum fornicibus amplis.

Sponte nascentem in Promontorio *Cap*, legit F. Masson.

Floret apud nos *Maio.*

A most fragrant species, smelling like the Lily of the Valley, and communicated by E. Woodford, Esq. It appears to me nearly allied to M. Edulis. *Bot. Mag. f.* 613. being equally rigid with similar contorted branches or peduncles; and I believe in both, flowering roots never produce any radical leaves. There is no pubescence in any part of the Herba, but the stem is very finely striated.

REFERENCES TO THE PLATE.

1. The Germen and Anthers
2. Back and front view of an Anther magnified.

Protea glaucophylla.

Drawn & Pub.d Sep.r 1. 1805 by W. Hooker

XI.

PROTEA GLAUCOPHYLLA.

Glaucous-leaved Protea.

Ordinem Naturalem et Characterem Generis, vide sub, No. 2.

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* *Folia simplicia, integerrima.*

P. caule decumbente; foliis 3-5 pollices longis, spatulato-lanceolatis, mucronulatis, utrinque glaucis, lateribus recurvis: fasciculis nutantibus; bracteis involucri grandibus, brevissime ciliatis.

P. Acaulis. *Thunb. Diss. n.* 49. Leucadendron Acaulon. *Linn. Sp. Pl. ed.* 2. *p.* 135. Lepidocarpodendron acaulon, &c. *Boerh. Hort. Lugd. v.* 2. *p.* 191. *cum Ic.*

Sponte nascentem infra montem *Taffelberg*, legit C. P. Thunberg.

Floret apud nos, a *Junio* in *Septembrem*.

Though so different in the leaves, this shrub is undoubtedly of the same genus with that Protea figured in the first number of this Work, and was likewise communicated by Messrs. Lee and Kennedy. As it always has a stem, though a very short one, I very willingly adopt their name. It reaches to about a foot in height in our gardens, sending out short decumbent lateral branches, and not growing very rapidly. The leaves are often tinged with a bright red near their base. Flowers without any smell; the whole fasciculus of which is about two inches and a half in diameter when fully expanded, but not so shewy as in many others.

Printed by D. N. Shury, Berwick-street, Soho.

Crossandra undulaefolia

Drawn & Pub. by W. Hooker. Sept. 1. 1805

XII.

CROSSANDRA UNDULÆFOLIA.

Waved-leaved Crossandra.

ORDO NATURALIS.

Acanthi. *Juss. Gen. p.* 102.

Sect. 1. ***Stamina quatuor, didynama.***

Calyx 5-phyllus: foliolis convoluto-imbricatis, interioribus sensim minoribus. Corollæ Tubus gracilis basi ampliatâ, ad insertionem staminum tumidulus, fauce pervius: Limbus unilabiatus, 3-fidus laciniis emarginatis, quarum laterales in cunabulis circa mediam plicatam convolutæ. Antheræ subsessiles, marginibus valvarum fimbriatis. Stigma 2-fidum. Pericarpium loculis 2-spermis. *Frutex erectus, facie* Justiciarum. *Folia opposita, integra. Flores dense spicati, terminales. Bracteæ 3 sub singulis floribus, mediâ maximâ. Nomen a* χρόσσος *fimbria, et* ανηρ *vir.*

C. foliorum laminis ovato-lanceolatis, undulatis.

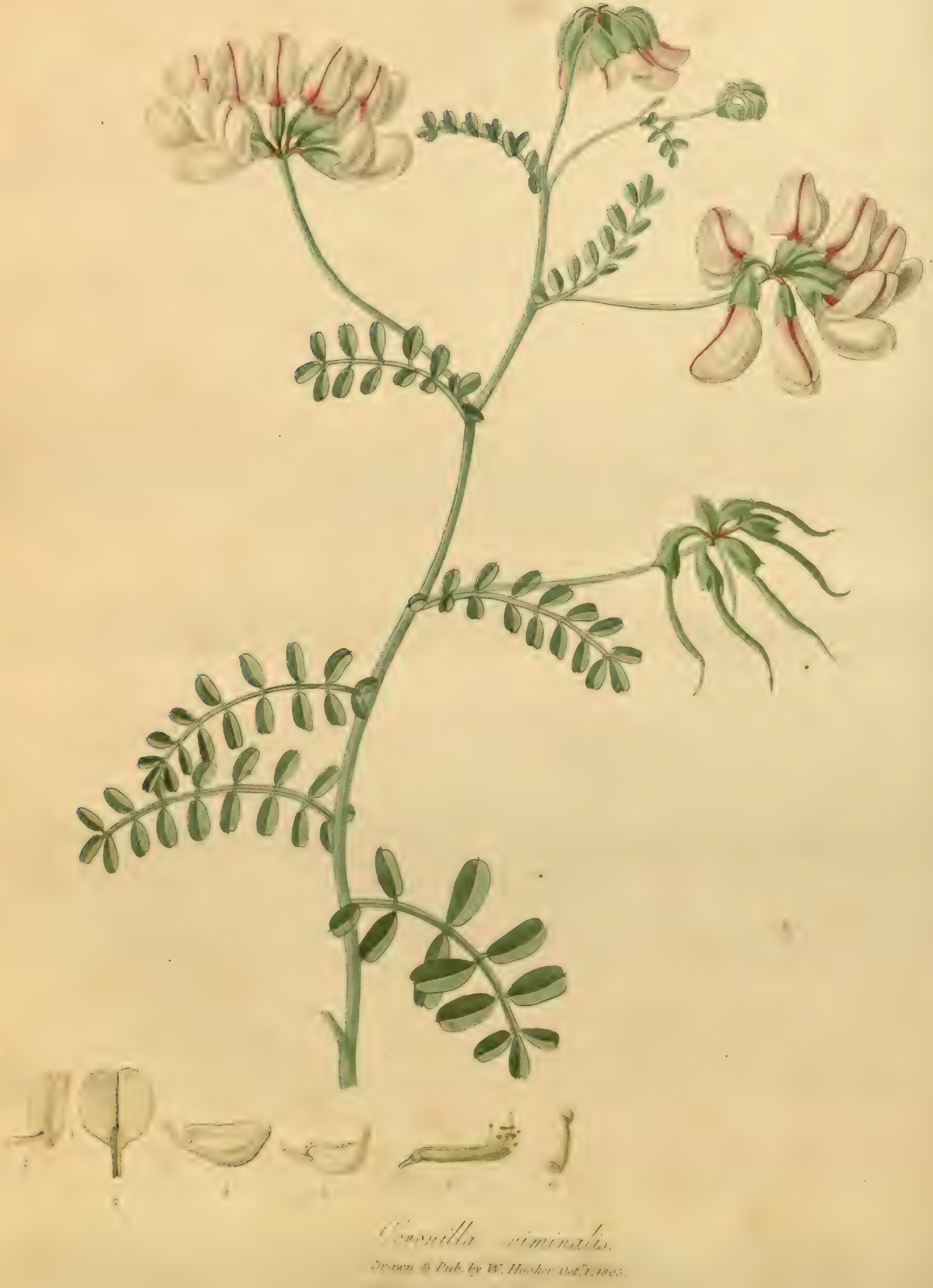
Ruellia Infundibuliformis. *Roxb. MSS.*

This shrub comes much nearer the frutescent *Acanthi* of Linnè than any *Ruellia* in the structure of the flower; but it differs so materially even from them, as to constitute a new genus. I find from Dr. Roxburgh's Manuscripts, that it is common in the Pagoda Gardens of *Bengal*, where it grows to a pretty large size, flowering all the year round. The stem is round, jointed, and finely pubescent with opposite branches. Petioles jointed at the base. Flowers in terminal spikes. Bractes ending in a sharp bristle, though the leaves are obtuse. Corolla of a dull orange colour: Tube very slender, dilated at the base, where it is smooth; from thence pubescent especially on the inside below the anthers, and somewhat angular: middle segment of the Limb narrowest. Anthers curiously fringed. Pericarpium swelled at the base into a round nectary. Communicated by the Right Hon. Charles Greville.

REFERENCES TO THE PLATE.

1. The Bractes.
2. Part of the Tube of the Corolla expanded, shewing the insertion of the Anthers.
3. An Anther magnified.
4. The Germen and Stigma.

Printed by D. N. Shury, Berwick-street, Soho.



Crotalaria retusa.

Drawn & Pub. by W. Hooker Oct.r 1. 1805.

XIII.

CORONILLA VIMINALIS.

Osier-like Coronilla.

ORDO NATURALIS.

Leguminosæ. *Juss. Gen. p.* 363.

Sect. VIII. Corolla papilionacea. Stamina 10, diadelpha. Legumen articulatum, articulis-monospermis. *Folia simplicia, aut ternata, aut sæpius impari-pinnata. Stipulæ a petiolo distinctæ.*

Calyx compressus dorso carinato : labio superiore 2-dentato, inferiore 3-fido. Corollæ vexillum ecallosum lateribus reduplicatis : Alæ super Carinam parum convolutæ, inflatæ. Pericarpium gracile, stylo persistente acuminatum. Semina cylindracea. *Herbæ aut suffrutices. Folia impariter pinnata. Pedunculi axillares, umbellatim multiflori. Genus mihi videtur, ut olim magno Tournefortio, a* Securidacâ *et* Emero, *prorsus distinctum.*

* *Caulis suffruticosus.*

C. caule vix angulato ; foliolis 6-10-jugis, plus minus obovatis retusisque cum mucrone, glaucis ; umbellis 6-10-floris ; pericarpiis longissimis, sursum arcuatis.

Sponte nascentem juxta *Mogadore,* legit P. M. A. Broussonet.

Floret apud nos a *Maio,* in *Novembrem.*

The seeds of this Coronilla were sent to me by the indefatigable Botanist above mentioned in the year 1798, soon after he had collected them. That it might not be lost among us, I communicated them to Messrs. Lee and Kennedy, by whose labours so many new plants are not only introduced but increased in this country. I am surprised to find it omitted in Desfontaine's rich and valuable *Flora Atlantica.* No plant is more easy to cultivate in a greenhouse, for cuttings easily strike root, and its seeds ripen every year. The stem is nearly quite round. The Leaves vary considerably in size ; and the Flowers, like most of this genus, gradually change their colour from a pale to a deeper purple.

REFERENCES TO THE PLATE.

1, 2. The Vexillum.
3. The Alæ.
4. The Carina.
5. The Anthers and Germen.
6. The Stigma magnified.

Cattleia . Magnifica

Drawn & Publ.d by W. Hooker Oct.r 1818.

Castalia Magnifica

XIV.

CASTALIA MAGNIFICA.

Magnificent Castalia.

ORDO NATURALIS.

Nymphæēæ. *Ann. of Bot. v. 2. p. 57.*

Sect. 1. Monogynæ.

* *Stigma placentæforme, radiis tot quot loculi fructus.*

Calyx 4-5-phyllus, marginem tori cingens. Petala 12-30, pericarpio a basi fere usque ad medium imbricata: Filamenta 30-140, pericarpio altius imbricata, libera. Pericarpium 10-28-loculare, in partu putrescens, Nectarium 1, umbilico stigmatis sessile, unioniforme. Semina numerosa, parietibus sessilia, folliculo cincta. *Flores albi, rubri, cæruleive,* Magnoliarum *æmuli. Cum uterum totum, quasi ob pudicitiam, occultent species hujus generis,* Castalias *dixi.*

* *Laminæ foliorum usque ad petiolum fissæ.*

C. foliorum lobis divaricatis, acuminatis : toro medioliformi. *Pudica,*

Nymphæa odorata. *Kenn. in Bot. Rep. n.* 297, *cum Ic.* Nymphæa odorata. *Dryand. in Hort. Kew, v. 2. p.* 227.

Sponte nascentem in *Virginia,* legit J. Clayton.

The Flowers diffuse a spicy odour, somewhat resembling *Aniseeds.*

C. foliorum lobis approximatis, vix acuminatis : toro cymbaliformi. *Speciosa :*

Nymphæa alba. *Smith in Engl. Bot. n.* 160. *cum Ic.* in quâ Nervi foliorum stirpem monocotyledonem perperam referunt. Nymphæa alba. *Linn. Sp. Pl. ed.* 2. *p.* 729.

Sponte nascitur in Ins. *Great Britain,* aquis lente fluentibus.

The flowers are not without smell, as Dr. Smith relates, but have an agreeable perfume; and the detail he gave publicly, at the Royal Institution, of their descending under water in the night, is equally erroneous. I am sorry to find that Botanist has taken offence at the preface of this work (1): had I not long known him to be very *sensitive,* even before I named a genus after him in the Hortus Kewensis, I should have said much more upon the subject. Whether the passages he quotes contain any thing like exultation, and which of us treads most closely in the steps of the great Linnè, I leave others to judge; but the next time he pays my labours a compliment, I beseech him not to do this at the expence of a friend, whom he *affects* to value and respect so highly, as the author of the *Plantæ Guianenses,* the descriptions and figures of which, in point of botanical accuracy, far excel any given to the world by him.

(1) Vide Exot. Botany, p. 86.

* * *Laminæ foliorum peltatæ.*

Mystica, C. foliorum laminis suborbicularibus, argute dentatis, utrinque glabris: toro medioliformi: petalis interioribus minimis.

Nymphæa Lotus, *Sims in Bot. Mag. p.* 797. *cum Ic.* Nymphæa Lotus, *Pl. Rar. Hung. v.* 1. *p.* 13. *f.* 15. Nymphæa Lotus, *Willd. Sp. Pl. v.* 2. *p.* 1153. Nymphæa Lotus, *Savign. in Ann. du Mus. v.* 1. *p.* 366. Nymphæa Lotus. *Hasselq. Res. p.* 471. Lotus, &c. *Alp. Exot. p.* 214. *cum figuris.*

Crescit juxta *Peeze* in *Hungary,* aquis calidis.

Though I have followed other authors in quoting the above synonyms, I am not absolutely certain that the Hungarian plant here taken up, is the same with the Ægyptian Lotus; for in that, Savigny says, the Petioles are hispid, and Hasselquist describes the Peduncles perforated with only 4 large tubes; in this the whole Herba is smooth, and the Peduncles are perforated with 6 large tubes. The Flowers have the brandy-like smell of Nymphæ Lutea, *Linn.* continuing expanded till the evening.

Sacra. C. foliorum laminis ovalibus, dentatis, subtus pubescentibus maculatisque: petalis albis, parum inæqualibus.

Nymphæa Lotus, *Marquis of Blandf. in Bot. Rep. n.* 391. *cum Ic.* Nymphæa pubescens, *Willd. Sp. Pl. v.* 2. *p.* 1154. Nymphæa Lotus, *Roxb. MSS.* Ambel, *Rheed. Hort. Mal. v.* 11. *p.* 51. *f.* 26.

Sponte nascentem in *Hindostan,* paludibus, legit G. Roxburgh.

Tne flowers of this and the following *Castalia,* which are both sacred plants in Hindostan, expand in our climate from the very first twilight to about 10 A. M. after which they gradually close, being quite shut by noon. In this their odour is pungent and vinous, but very different from that of the Hungarian Lotus.

Magnifica. C. foliorum laminis suborbicularibus, dentatis, subtus pubescentibus immaculatisque: petalis puniceis, parum inæqualibus.

Tab. 14. 15.

Nymphæa Rubra, *Roxb MSS.*

Sponte nascentem in *Hindostan,* paludibus, legit G. Roxburgh.

I have only seen a singie specimen of this truly magnificent plant, which flowered for the first time in this country in a large tub of water plunged in a common hotbed, at J. Vere's, Esq. It appears from Dr. Roxburgh's valuable manuscripts, preserved in Sir Joseph Banks's library, that the flowers are sometimes 7 or 8 inches diameter and inodorous. He regards this and the foregoing as varieties, but I am induced to believe they are legitimate species for the following reasons: 1st. The leaves of this are rounder and often variegated with large deep red blots on their upper surface, but never spotted on their under surface; 2dly, The dichotomous branches of the primary nerves are more frequently uninterrupted by transverse nerves till they reach the margin; 3dly, The economy of the flower in this genus renders any adulterous intercourse with other species very difficult. Both these Hindostan plants are well established in the princely aquarium of the Marquis of Blandford, where I hope another year to have the honour of describing them minutely, and fully ascertaining whether they should be kept separate or joined together.

C. foliorum laminis late ovalibus, integerrimis, subtus pubescentibus: floribus parvis. *Edulis*;

Nymphæa Coteka, *Roxb. MSS.*

Sponte nascentem in *Hindostan*, paludibus, legit G. Roxburgh.

I only know this species from Dr. Roxburgh's figure and description.

C. foliorum laminis orbicularibus, argute dentatis, utrinque glabris, nervis subtus valde prominentibus: petalis longis: antheris apice productis. *Ampla*;

Nymphæa foliis amplioribus, &c. *Brown Hist. Jam. p.* 243.

Sponte nascentem prope *La Vera Cruz*, legit G. Houstoun.

The petals and stamina of this species are very numerous, and a leaf of it sent to Sir Joseph Banks some years ago measured above 2 feet in diameter. I trust ere long it will enrich our collection of aquatics.

C. foliorum laminis orbicularibus, plus minus repando-dentatis, utrinque glabris; nervis primariis numerosis, tenuibus: antheris apice productis. *Scutifolia*,

Nymphæa Cærulea. *Sims in Bot. Mag. n.* 552. *cum Ic.* Nymphæa Cærulea, *Kenn. in Bot. Rep. n.* 197. *cum Ic.* Nymphæa flore cæruleo, &c. *Breyn. Prodr.* 2. *p.* 77.

Sponte nascentem in Promontorio *Cap*, legit F. Masson.

This species is now very common in our stoves.

C. foliorum laminis orbicularibus, integerrimis, utrinque glabris; nervis primariis paucis, subtusque prominulis: stigmatis radiis brevissimis. *Stellaris*.

Nymphæa Stellata, *Kenn. in Bot. Rep. n.* 330. *cum Ic.* Nymphæa Cærulea, *Jard. Malm. n.* 6. *cum Ic.* Nymphæa Cærulea, *Savign. in Ann. du Mus. v.* 1. *p.* 336. *cum Ic.* N. Stellata, *Willd. Sp. Pl. v.* 2. *p.* 1153. Citambel, *Rheed. Hort. Mal, v.* 11, *p.* 53. *f.* 26.

Sponte nascentem in *Ægypt*, legit C. Savigny.

From a specimen in Sir Joseph Banks's Herbarium, gathered by Forskhol, there is no doubt that this is the Ægyptian plant described by Savigny, whose figure is copied without much improvement in the *Jardin de Malmaison*. It appears to grow all over Hindostan, and I believe the plant of New Holland found by Sir Joseph Banks in Endeavour river, also to be the same.

Printed by D. N. Shury, Berwick-street, Soho

Eucalyptus obliqua

Drawn & Pub. by W. Hooker Nov. 1, 1805.

XV.

EUCALYPTUS OBLIQUA

Oblique-leaved Eucalyptus.

ORDO NATURALIS.

Myrti. *Juss. Gen. p.* 323 *et* 451.

Sect. I. Antheræ dorso apicis supra insertionem filamenti callosæ.

† Calyx apice receptaculi confluens, operculiformis, sub anthesin deciduus basi truncatâ. Petala nulla. Filamenta ad marginem receptaculi densissime imbricata, decidua. Pericarpium receptaculo immersum, 3-4-loculare, superne dehiscens. Stigma sæpius angustum. Semina plurima singulis loculis, colo subrotundo sessilia, angulata. *Arbores excelsæ, gummiferæ, cortice quarundam ut in* Taxo *et* Platano *deciduo. Gemmæ vix ullæ. Folia primo anno opposita, dein sæpius alterna, plus minus verticalia et inæquilateralia, coriacea, sempervirentia. Flores fasciculuti, pedunculo communi subinde decomposito ex axillis foliorum inferiorum tenellorum, his sæpe cadentibus quasi laterales, vel ramulo parum ultra producto demum terminales. Nomen a vocibus Græcis* ευ *bene, et* καλυπτω *tego, concinnavit egregius Botanicus L'Heritier.*

* *Flores juxta basin ramulorum quasi laterales.*

E. foliis valde inæquilateralibus, anguste obovato-cuneatis, subfalcatis: fasciculis simplicibus: pedunculis teretibus: calyce brevi, convexo, acuminulato.

E. obliqua. *Smith in Linn. Trans. v.* 3. *p.* 287. charactere generis a L'Herit. mutuato. E. obliqua. *L'Herit. in Ait. Hort. Kew. v.* 2. *p.* 157. E. obliqua. *L'Herit. Sert. Angl. p.* 18. *f.* 20.

Sponte nascentem in *Van Diemen's Land* plagis australibus, legit D. Nelson.

Floret apud nos *Junio, Julio.*

This rare tree flowered abundantly last year at Isaac Swainson's, Esq. Twickenham, and is now full of fruit, so that I hope it will be more common in our gardens; for it is with great difficulty propagated. Some years ago I succeeded in raising a small branch, which having been accidentally wounded had made a large deposit of returning sap; this was cut off close to the new bark, and planted in an old hotbed. It is a native of the *colder*, not the *warmer* parts of New Holland, as Dr. Smith asserts, bearing the temperature of the freezing point without injury; and was first introduced into this country in the year 1774, by Captain Furneaux, along with Leptospermum *Lanigerum*, and Sideroxylum *Sericeum*. The abovementioned author, both in his Botany of New Holland, and in the Linnean Transactions, has copied l'Heritier's generic character from the Hortus Kewensis, only quoting him after the name. Jussieu very differently adds in his work, "*Caracter ex D. L'Herit. Sert Angl.*" That Solander never intended to confound it with Metrosideros appears by the following extract from his MSS. "*Genus a Metrosideris distinctum ob absentiam petalorum et superiorem partem calycis integram, calyptraformem, deciduam.*" I believe I am correct in my description of the Inflorescentia, which is most frequently axillary, but sometimes passes gradually into a terminal compound Fasciculus; for even in the most luxuriant specimens of the various species collected by Sir Joseph Banks, I have always found a small leaf, or cicatrix of a leaf, at the base of each common Peduncle.

REFERENCES TO THE PLATE.

1. The Operculum.
2. An Anther magnified.
3. A ripe Fruit.
4. A Seed magnified.

† In E. Resiniferâ. *Andr. Bot. Rep.* Operculum duplex delineatur; exterius nondum ipse vidi, nec in quibusdam speciebus vel ullam ejus cicatricem.

Dahlia Frustranea

Drawn & Pub.d by W. Hooker, Nov.r 1, 1805

XVI.

DAHLIA SAMBUCIFOLIA.

Elder-leaved Dahlia.

ORDO NATURALIS.

Corymbiferæ. *Juss. Gen. p.* 177.

Sect. VI. Receptaculum foliolis calycinis persistentibus paleaceum. Pericarpium apice plus minus 2-dentatum. Flosculi exteriores sæpius ligulati.

Bracteæ 5-9, basi planâ calycis imbricatæ, reflexæ, spatulatæ, subæquales. Calyx polyphyllus: foliolis 7-9 exterioribus inferne in cylindrum simplici serie positis, interioribus sensim angustioribus. Flosculi ligulati tot quot foliola exteriora calycis, grandes, ovales, feminei, haud raro steriles; infundibuliformes hermaphroditi, plerique fertiles. Pericarpium compressum latere interiore prominentiore, obsolete 2-dentatum. *Plantæ altæ rudesque, radice tuberosâ fasciculatâ. Caulis teres, basibus petiolorum annulatus. Folia opposita, plus minus decomposita, aspera. Flores autumnales, speciosi, pedunculis longis terminales, ramulis foliisque superioribus sensim minoribus quasi paniculati, ante florescentiam cernui flosculis ligulatis nocte conniventibus. Genus* Coreopsidi *et forsan* Uvedaliæ *proximum, certo non* Alcinæ.

D. foliis pinnatis; petiolo crasso, toto alato: flosculis ligulatis $1\frac{1}{2}$-2-pollices longis, incurvo-horizontalibus.

Variàt α. Flosculi ligulati carnei.
β. Flosculi ligulati pallide rosei, *t.* 16.
D. rosea. *Thouin in Ann. du Mus. v.* 3. *p.* 159. *t.* 3. *f.* 3.
γ. Flosculi ligulati purpurei.
D. pinnata. *Haworth in Bot. Rep. n.* 408, *cum Ic.* vix fideli. D. pinnata, *Cav. Ic. v.* 1. *p.* 57. *t.* 80. ad exemplar ligulis multiplicatis.

Sponte nascitur in *Mexico.*

Floret apud nos *Septembri, Octobri.*

The beautiful plant figured in the annexed plate is undoubtedly a mere variety of the Dahlia *Pinnata* of Cavanilles, but it has been mistaken by that celebrated gardener Monsieur Thouin for his *Rosea*, which is a very distinct species (if Cavanilles is to be trusted) with bipinnated leaves; this last being, perhaps, also confounded in the *Annales du Museum*, with the *Pinnata*, under the title of *Purpurea*. As all the species appear to vary like the Aster *Chinensis*, both in the colour and multiplication of the ligulated florets, I shall give them more appropriate names; and I am happy to express my obligations to the Right Honble Lord and Lady Holland, as well as Mr. Buonaiuti, who have in the most liberal manner facilitated my inquiries, and communicated specimens of the different plants now flowering in great magnificence at Holland House. Some valuable remarks are made by Monsieur Thouin, respecting the cultivation of these plants, which succeed best in a very rich loamy soil. The roots were killed by the frost at Paris the winter before last, and therefore should be sheltered in the beginning of December with a thick covering of moss and straw. Until their seeds are more plentiful, they may be propagated by cuttings, and dividing the roots; this last operation should be performed late in the Spring, when the stems are just appearing above ground.

REFERENCES TO THE PLATE.

1. The Calyx.
2. An outer Palea of the Receptacle.
3. An inner Palea.
4. Part of one of the ligulated Florets.
5. The abortive Stigma contained in it.
6. A tubulose Floret.

1

2

3

Drawn & Pub. by W. Hooker Nov.1.18.

XVII.

DIOSCOREA TAMIFOLIA.

Black Bryony-leaved Dioscorea.

ORDO NATURALIS.

Asparagi. *Juss. Gen. p.* 40.

Sect. III. Flores dioici. Pericarpium inferum.

Torus medioliformis. Petala 6, toro inserta, interiora angustiora, persistentia. Filamenta toro inserta alternis interioribus. Pericarpium 3-angulum angulis in plerisque valde compressis, 3-loculare septis angustis, 3-valve, margine dehiscens. Semina duo singulis loculis, complanata margine alato. *Radix tuberosa. Caules annui, sinistrorsum volubiles, plus minus angulati, in quibusdam aculeati, axillis foliorum sæpe bulbiferi. Folia alterna opposita verticillatave, simplicia vel 3-5-7-loba, etiam peltata, glabra vel pubescentia. Flores spicati aut racemosi, axillares, singuli Bracteis duabus suffulti. Genus, pro certo, fructu infero gaudens, et* Rajaniæ *proximum.*

D. caule gracili, parum angulato, lævi: foliis alternis; laminis cordatis apice pandurato, acuminatis, 11-nervibus, utrinque glabris: spicis masculis fasciculatis, simplicibus.

D. bulbifera. *Linn Sp. Pl. ed.* 1. *p.* 1033. D, foliis cordatis, &c. *Linn. Fl. Zeyl. n.* 359. Rhizophora Zeylanica, scammonii folio, &c. *Herm. Par. p.* 217. *cum Ic.* Ricophora indica, bryoniæ nigræ similis, &c. *Plukn. Alm. p.* 321. *t.* 220. *f.* 6. Katu Katsjil. *Rheed Hort. Mal. v.* 7. *p.* 69. *t.* 36.

Sponte nascitur circa *Candanate* et *Oedampore.*

Floret apud nos *Julio, Augusto.*

I believe all the above synonyms belong to this plant, though the specimen of Dioscorea *Bulbifera* in Linnè's Herbarium is a very distinct species, he having originally taken it up solely from other authors; and as most of the species of this genus are bulbiferous, I have not retained the name. It was in flower all *July* and *August* last, in the stove of the Right Honble Sir Joseph Banks, at Spring Grove: his liberality, like the rain from Heaven, falls upon all, so it will soon be in the possession of those who wish to cultivate it. I saw two other plants at Sion House, but they were likewise males. The stem in the thickest part was only one line in diameter, bearing a bulb from the size of a small chestnut to that of a pea, in the axilla of every leaf. Leaves pale yellow green with the margin of the Petiolus undulated towards the top; longitudinal nerves most commonly eleven. Flowers fragrant, like some of our Willows, in very slender pendulous spikes, which come out in bunches from five to three together. Petals first white, then of a dull red, lastly of a dark mahogany colour, the three inner much narrower. Anthers white, inserted at the base.

REFERENCES TO THE PLATE.

1. A Flower magnified.
2. An Anther more magnified.
3. The abortive Stigma magnified.

Parnassia tenuifolia.

Drawn & Pub.d by W. Hooker Jun.r Lon.

XVIII.

REAUMURIA LINIFOLIA.

Flax-leaved Reaumuria.

ORDO NATURALIS.

Ficoideæ. *Juss. Gen. p.* 315.

In omnibus generibus hujusce ordinis quæ adhuc investigavi, insertio partium est prorsus hypogyna vel epigyna, scilicet Toro seu Receptaculo cum quo Calyx extus confluit, nec unquam perigyna, ut vult celeberrimus auctor.

Sect. I. Pericarpium superum.

Calyx profunde 5-fidus, subæqualis, persistens, foliis obvallatus. Petala 5, in cunabulis oblique imbricata, uno latere ciliata, basi intus Alas 2 ciliatas exserentia. Filamenta plurima, basi in phalanges 5-6-7 quasi ob numerum confluentia, nec cito decidentia. Styli 5, basi approximati, subulati. Capsula 1-locularis, septis 5-parietalibus, polysperma. Semina longa, apice crassiora. *Fruticuli facie* Salsolarum *vel* Aizoonum. *Folia glauca, sparsa, in ramellulis sæpe conferta, crassiuscula, punctata, salsuginosa. Flores albi roseive, solitarii, ramulorum plurium terminales, sæpe quasi paniculati.*

R. foliis ovato-lanceolatis lineari-lanceolatisque, acutis, planiusculis: petalis calyce multo longioribus.

R. hypericoides. *Poiret in Encycl. Bot. tom* 6. *p.* 85. R. foliis ellipticis, &c. *Lam. Illustr. t.* 489. *f.* 2. *e.* La Billard. mutuatâ. Hypericum alternifolium. *La Billard. Pl. Syr. Dec.* 2. *p.* 17. *f.* 10.

Sponte nascentem juxta *Syriæ* desertum aridis, legit I. J. La Billardière.

Floret apud nos a *Julio*, in *Octobrim*.

When I first saw this rare and curious plant, I took it for an *Aizoon*, nor is there the smallest affinity in any part of it to *Hypericum*; for the leaves are alternate and acute, not opposite and blunt; their glands contain salt, not a stinking oil; the filaments are inserted absolutely under the fruit and remain some time before they fall off, not upon a thick receptacle round the fruit and deciduous; the Antheræ are obtuse above their insertion, not terminating in a gland; the Stigmata are very slender and acute, not thick and globular; lastly, the seeds are few, long and smooth, not many oval and tuberculated. I venture therefore to give a new appellation to this species, though the Banksian school, in which I have been educated, inculcates great forbearance in this respect. It was communicated by Mr. John Bell, of Brentford, so famous for his collection of Oriental plants. Poiret describes the filaments of the *Reaumuria Vermiculata* from a dried specimen very faithfully "*inserées sur le receptacle*;" but in this species, which I suppose he has taken up from La Billardière's figure, he says erroneously they are "*disposées sur un seul rang autour de l'ovaire.*" La Billardière describes them simply "*basi coalita in* 5 *et ultra phalanges,*" as they really are, forming a little hollow or saucer under the fruit, which is only attached to the receptacle by the centre of its base, not its whole disc; so that the filaments are completely hypogynous. The botanical part of the *Encyclopedie* is a work of such inestimable value, though Dr. Smith has thought fit to abuse it, that one of the greatest compliments I can pay the authors, is to point out such important mistakes as the above.

REFERENCES TO THE PLATE.

1. The Calyx.
2. A Petal.
3. Back and front view of an Anther magnified.
4. The Germen and Styles.
5. A Stigma magnified.

Dahlia variabilis

Drawn & Pub.d by W. Hooker, Dec.r 1805

XIX.

DAHLIA BIDENTIFOLIA.

Bidens-leaved Dahlia.

Ordinem Naturalem et Characterem Generis vide sub No. 16.

D. foliis majoribus bipinnatis; petioli gracilo, vix alato: flosculis ligulatis, 10-12-lineas longis, parum reflexis.

Variat α. Flosculi ligulati lutei. *t.* 19.

β. Flosculi ligulati saturate miniati.

D. coccinea. *Sims in Bot. Mag. n.* 762. *cum Ic.* bonâ. D. coccinea. *Cav. Ic. v.* 3. *p.* 33. *t.* 265.

Sponte nascitur in *Mexico.*

Floret apud nos *Septembri, Octobri.*

The specific characters and descriptions of Cavanilles seldom do him any credit, and respecting this Dahlia he has blundered as usual; for its leaflets are neither more acuminated than those of the others, nor smooth on their lower disk; and the ligulated florets of the second variety are of a deep marygold colour, not scarlet; so that I do not wonder at Dr. Sims hesitating to quote him. It is a more delicate species than the other: the stem frequently tinged with purple, quite round, and covered with a fine glaucous dew: principal leaves bipinnated often with one or two very small leaflets at the base of the partial petioles: Flowers a little fragrant, but when they decay exhaling a stronger smell, more like that of Saffron. The variety with yellow flowers has only been lately introduced into this country from Madrid, by the Right Honble Lady Holland, and flowered for the first time this Autumn.

REFERENCES TO THE PLATE.

1. An outer Palea of the Receptacle.
2. An inner Palea.
3. Part of one of the ligulated Florets.
4. The abortive Stigma contained in it.
5. A tubulose Floret.

Printed by D. N. Shury, Berwick-street, Soho

Ipomoea pannifolia

Drawn & Pub. Dec. 1. 1805 by W. Hooker

XX.

CONVOLVULUS PANNIFOLIUS.

Cloth-leaved Convolvulus.

ORDO NATURALIS.

Convolvuli. *Juss. Gen. p.* 132.

Sect. I. Stylus unicus.

Calyx 5-phyllus: foliolis arcte imbricatis et fornicatis, apice plus minus lamellaribus, interioribus minoribus: persistens. Corollæ Tubus brevis: Limbus amplissimus, in cunabulis 5-plicatus cuneis totidem repando 5-fidus: decidua. Filamenta ore tubi inserta, basi dilatata canaliculataque, medio limbi approximata. Pericarpium crustaceum, 2-3-loculare loculis 2-spermis, valvis una cum basi styli a septis dehiscentibus, Stigma 2-3-partitum, laciniis angustis longis. *Herbæ et Frutices volubiles, lactescentes. Folia multarum postice 2-fida. Flores a mane ad post meridiem semel expansi; pedunculis axillaribus, 1-20-floris, dichotomis cum impari; pedicellis in fructu deflexis et incrassatis, uno lateralium fere semper deficiente. Genus hucusque vastum, e diversa structurâ filamentorum, stigmatum et pericarpii, ni fallor, in plura dividendum. Character supra in posterum recognoscendus, cum ob insolitas æstatis pluvias, nullius legitimi* Convolvuli *fructum maturum obtinere potui.*

C. caule angulato: foliorum laminis hastato-cuneatis, utrinque hirsutis: pedunculis 2-3-floris: corollæ tubo $1\frac{1}{2}$ lineam longo, laciniis mucronulatis: pericarpio tenero hirsuto.

Floret apud nos *Augusto. Septembri.*

This species was communicated by Messrs. Lee and Kennedy, who received the seeds from *Lisbon;* and I suspect it to be a Teneriffe plant, but this is merely from its apparent affinity to *Convolvulus Canariensis,* nor am I yet certain if the stem is frutescent like that species. The leaves are of a pale green colour, halberd shaped, and very hairy on both sides like a piece of woollen cloth. Bractes narrow and attenuated. Calyx hairy, Corolla very pale purple with the inside towards the base darker, its margin and the wedge-shaped folds of the limb pubescent. Filaments white, towards the bottom covered with a glandulous pubescence. Anthers blue. Nectarium yellow with a whitish margin. The Pericarpium, which I only saw in a young state, was 2-locular, with two seeds in each cell. Style white, about 3 lines long. Stigmata white, longer than the style, spreading out wide, quite linear and obtuse.

REFERENCES TO THE PLATE.

1. Part of the Corolla spread open, shewing the insertion of the Filaments.
2. The Germen and Stigma.
3. Transverse section of the Capsule magnified.

Printed by D. N. Shury, Berwick-street, Soho.

Leucojum autumnale.

Drawn & Pub. Jan. 1. 1806. by W. Hooker.

XXI.

LEUCOJUM AUTUMNALE.

Autumnal Leucojum.

ORDO NATURALIS.

Narcissi. *Juss. Gen. p.* 54.

Sect. II. Pericarpium inferum.

Pericarpium ovale, parum 3-angulum, succulentulum. Torus disco pericarpii placentæformis. Petala margine tori confluentia, æqualiter expansa, intus sulcata interioribus vix minoribus. Filamenta toro intra petala inserta, brevia. Antheræ convergentes, foramine versus basin angustato dehiscentes, obtusæ. Stylus clavatus, in aliis parum attenuatus. Stigma angustum. Semina 4-9 in singulis loculis, ovalia. *Plantæ spithameæ vel* $1\frac{1}{2}$*-pedales. Bulbus ovatus tunicis in collum protensis. Folia læte viridia, angustissima latave. Pedunculus valde anceps vel teretiusculus. Flores* 1-7, *albidi, pedicellis pendulis. Bracteæ* 1-2, *spathaceæ, sub florescentiam adhuc vegetæ.*

* * *Folia angusta : stylo parum attenuato.*

L. fasciculis 1-3-floris : petalis 3-4 lineas longis, retusis cum mucrone obtuso.

L. autumnale. *Brot. Fl. Lus. v.* 1. *p.* 552. L autumnale. *Poiret Voy. v.* 2. *p.* 144 ? L. Autumnale. *Desf. Fl. Atlant. v.* 1. *p.* 282 ? L. autumnale. *Linn. Sp. Pl ed.* 2. *p.* 414. L. autumnale. *Loef. Res. p.* 136. L. bulbosum autumnale. *Besl. Hort. Eystt. Aut.* 3. *p.* 6. *f.* 1. L. bulbosum tenuifolium, minus, flore rubello. *Grisl. Vir. n.* 1573. L. bulbosum autumnale, *Park. Par. p.* 110. Trichophyllon. *Renealme Sp. p.* 101. *cum Ic.* L. bulbosum autumnale, &c. *Clus. Hist. Pl. lib.* 2. *p.* 170.

Sponte nascentem prope *Oporto,* legit P. Lœfling : juxta *Lisbon,* collibus aridis, legit G. Grisley : haud procul a *Badajoz,* legit C. L'Ecluse.

Floret *Septembri, Octobri,* mox post pluvias æquinoctiales.

Many rare and beautiful bulbous plants, formerly cultivated here by Parkinson, have long been lost in our gardens, and this is among the number ; but it has lately been again introduced by E. Woodford, Esq. at whose sale I purchased it ; and as the bulbs encrease plentifully, I hope it may now be preserved. The flowers appear after the first autumnal rains a considerable time before the leaves, which are so narrow as to give me some suspicion that it may constitute a distinct genus from the broad-leaved *Leucojums.* Professor Brotero has ascertained another similar species which flowers later, nor dare I yet positively affirm that Grisley was wrong in distinguishing a third with narrow leaves. In the plant here figured the Peduncle is of a dark mahogany colour, slender, quite straight, smooth, and scarcely angulated. Bractea reddish, of one leaf. I could perceive no smell in the flowers. Pedicelli of a dark mahogany colour, very slender, pendulous, but after flowering erect. Petals white with a rose-coloured base, lanceolate, and emarginated with an intermediate blunt point as if they were tridentated, especially the outer ones. Filaments white, inserted within the petals. Anthers yellow and large. Style white, a very little narrower towards the top. Stigma minutely pubescent.

REFERENCES TO THE PLATE.

1. A Petal.
2. The Flower stript of the Petals.
3. An Anther magnified.
4. The Stigma magnified.

Hibiscus splendidissimus

Drawn & Pub.d June 1.st 1806 by W.H. Fitch

XXII.

HIBISCUS GRANDIFLORUS.

Large-flowered Hibiscus.

ORDO NATURALIS.

Malvaceæ. *Juss. Gen. p. 273.*

Sect. III. Filamenta corollæ vaginâ inserta, indefinita. Fructus simplex, multilocularis.

Calyx plus minus 5-fidus, bracteis 5-12 in unam aliquando coalitis involucratus. Filamenta versus apicem vaginæ ore 5-dentatæ dense sparsa. Stylus apice 5-fidus. Stigmata subrotunda, holosericea. Pericarpium figurâ et consistentiâ varium, 5-loculare valvis totidem ab apice centro vacuo relicto dehiscentibus. Semina 8-30 in singulis loculis, septis duplici serie ad angulum internum inserta. *Herbæ aut Frutices. Folia integra, lobata vel profunde fissa, nervis quorundam subtus glanduligeris. Flores solitarii, axillares, interdum foliis superioribus minoribus vel prorsus deficientibus quasi spicati, nec unquam forte terminales. Pedunculus imâ basi altiusve articulatus. An huc referendæ species calyce deciduo? Genera autem totius Ordinis, ni fallor, e structurâ pericarpii et vaginæ staminiferæ solâ pendent, bracteis calycem alteram simulantibus excludendis.*

* * *Caulis aculeatus.*

H. caule fruticoso: stipulis angustis: foliorum laminis palmato-5-3-fidis, subtus eglandulosis: bracteis 9-10 erectis, lineari-attenuatis: calyce valde tomentoso.

Sponte nascentem ad ripas fluminis *Hawkesbury*, legit G. Paterson.

Floret apud nos *Augusto, Septembri.*

A new species, which flowered luxuriantly last summer, in the garden of the Right Honble. Charles Greville at Paddington; but though its corolla is fine and gorgeous, it forms a rambling prickly shrub, and will be little esteemed here. In affinity it comes nearer to H. *Cannabinus, Radiatus* and *Ficulneus*, than any others; from the first of which it may be distinguished by having no gland on the principal nerves of the leaves, and from all of them by its exceeding woolly calyx. It has been used in New Holland for making ropes.

REFERENCE TO THE PLATE.

1. Part of the Calyx spread open.

Pelargonium nummulifolium

Drawn & Pub. by W. Hooker Jan.y 1 1806.

XXIII.

PELARGONIUM NUMMULIFOLIUM.

Coin-leaved Pelargonium.

ORDO NATURALIS.

Gerania. *Juss. Gen. p.* 268.

Sect. II. **Fructus rostro spirali intus barbato.**

Calyx foliolo supremo majore vix regularis. Nectarium dorso tori plus minus elongati pedicellumque simulantis cuniculare. Corolla irregularis. Filamenta 10, basi in vaginam coalita, 3-8 sterilia. *Herbæ vel Frutices. Radix tuberosa, in multis rapiformis. Caulis carnosus rarius succulentus, vel nullus. Stipulæ interdum spinescentes. Folia alterna vel in ramis floriferis sæpe opposita, rarius peltata, simplicia aut varie decomposita etiam ternata pinnataque, aliquando succulenta. Flores in uno dioici,* 1-40 *fasciculati. Bracteæ involucrantes. Pedunculi solitarii, oppositifolii vel foliis oppositis laterifolii, in acaulibus interdum decompositi: pedicellis infra torum nunc brevissimis nunc longioribus. Genus vastum et proculdubio legitimum, ut in aureo suo libro* Philosophia Botanica, *jamdudum monuit Linnè.*

* *Acaulia: radice rapiformi: filamentis 5-sterilibus.*

P. foliorum laminis ovalibus, integerrimis, pubescentulis: bracteis recurvulo-patentibus: pedicellis infra torum vix ullis: petalis obovatis parum inæqualibus.

Sponte nascentem in Promontorio *Cap,* legit J. Nevin.

Floret apud nos a *Junio* in *Septembrem.*

There can be no doubt that the plants formerly known by the name of Geranium constitute several distinct genera, notwithstanding all that has been said to the contrary in the Botanical Repository; and it is unfortunate for the author, that the opinion of Linnè, which appears to be his strong rock, is not *for* but *against* him. This Pelargonium flowered during most of last summer at the Hammersmith Nursery, and is nearly allied to one figured very beautifully in the 354th plate of the above mentioned work, but the leaves and the petals differ so much that I cannot quote it for the same: its root is also tuberous, and in this country should be carefully preserved from moisture on a dry shelf, after the leaves decay. The whole herb is covered with a very fine pubescence.

REFERENCES TO THE PLATE.

1. A Flower without the Petals.
2. Base of the Torus magnified, to shew the Nectarium.
3. The Stamina spread open, magnified.

Protea mucronifolia.

Drawn & Pub.d Feb.y 1. 1806. by W. Hooker.

XXIV.

PROTEA MUCRONIFOLIA.

Dagger-leaved Protea.

Ordinem Naturalem et Characterem Generis vide sub No. 2.

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* *Folia simplicia, integerrima.*

P. foliis 1-1½ pollicem longis, lineari-lanceolatis, mucronatis, epunctatis, planiusculis: bracteis involucri anguste cuneatis, integerrimis.

Sponte nascentem in *Roodesand* montibus, legit J. Niven.

Floret apud nos a *Julio* in *Decembrem.*

This new Protea was communicated by Mess. Lee and Kennedy: in a natural series, which is the grand object that all true Botanists keep in sight, whether species or genera are to be determined, it must be placed near P. *Acuifolia.* There is a peculiar delicacy of tint in its velvet corolla, scarcely to be imitated by the painter, but exclusive of this obvious difference in colour it may always be distinguished from P. *Acuifolia* by the Bracteæ, which are gradually attenuated and entire, not broader towards the top and ciliated. The author of the Exotic Botany having sent an *oblique shot* against the very appropriate name given to that species by the distinguished collectors above mentioned, I might leave them to defend it: "*quæ non nonfecimus ipsi vix ea nostra voco*:" but as in my opinion he attempts to mislead the taste of the public, I shall very willingly say a few words to vindicate their appellation. Two others had already been given to the plant, *Nana* and *Rosacea*: the first of these is so erroneous, that Linnè himself did not scruple to change it: the latter was adopted by that great man from the form of the flower, not its colour, which in the figure of this work is too brilliant, and in that of the Exotic Botany still more unnatural. Many species are now discovered which have similar flowers, and the comparison with a Rose in any sense is far from accurate, their real structure approaching more to that of an Artichoke; indeed this very species belongs to the Scolymocephali of old authors. Against the mere name *Acuifolia* nothing can be urged with reason: for in its composition, using the dative case *folio acui simili,* was certainly more elegant than the genitive *folio acus*; and as for the resemblance, it is so forcible, that our vulgar gardeners have hitherto and probably will for ever persist in calling it, the *Needle-leaved Protea.* Formerly, before the admirable invention of trivial names, as they have been vaguely called, the full specific character was the only title by which vegetables could be referred to, either in conversation or writing; so that a new one, or any necessary alteration of the old one, was both a heavy clog upon the memory, and swelled the catalogue of synonyms enormously. These difficulties being happily removed, shall the ignoble precedent of such dark times, when a plant that is hoary * was actually called black, now prevail? in this golden age, when flowers from every region of the earth † are showered down upon us in such profusion, are we still to examine them with our senses in fetters, deriving no advantage from the new lessons they teach? I hope for better decisions from English botanists.

* Marrubium Nigrum

† Mr. Brown has brought home near 70 species of Eucalyptus, many of which were thrown down from their high and inaccessible branches, by the Parrots.

Printed by D. N. Shury, Berwick-street, Soho.

Cacalia bicolor

Drawn & Pub. by W. Hooker Feb.ʳʸ 1.1806.

XXV.

CACALIA BICOLOR.

Two-coloured Cacalia.

ORDO NATURALIS.

Corymbiferæ. *Juss. Gen. p.* 177.

Sect. I. Receptaculum paleis nullis. Pericarpium papposum. Flores flosculosi.

Calyx 4-13-phyllus, parum infundibuliformis aut cylindraceus, bracteis aliquot juxta basin sparsis. Pericarpia sessilia vel pedicellata. Pappus exquisite dentatus. Receptaculum marginibus scrobiculorum nunc obtusis æquatum nunc membranâ dentatâ coronatis scabrum. *Herbæ, vel Frutices succulenti. Folia planiuscula, dentata, facie sæpe Sonchorum et Tussilaginum; vel succulenta, simplicia, pinnatifida, bipinnatave. Flores albi, lutei, aurantiacive: paniculis 5-150-floris; terminalibus. Genus e collatione plurium specierum in vivis tantummodo stabiliendum: non nullas bracteis carentes juste separavit Cl.* Schreber, *sed utinam alio titulo; cum species succulentæ Africanæ, quæ receptaculo scabro ab herbaceis Europæis longe abludunt, antiquum Kleiniæ nomen potius sibi vindicent.*

* *Herbaceæ.*

C. foliis laciniato-dentatis, succulentulis, inferioribus lanceolatis, superioribus plus minus sagittatis, nervis supra pubescentulis: paniculis raris: calycibus 11-13-phyllis, erectis.

C. Bicolor, *Willd. Sp. Pl. v. 3. p.* 1731.

Sponte nascitur in Insulis *Moluccas.*

Botanists are obliged to Dr. Roxburgh, who has introduced so many Hindostan plants into Great Britain, for the knowledge of this Cacalia; and I learn from his useful Manuscripts, that it was sent to the Botanic Garden at *Calcutta*, from the *Moluccas*, in 1798. Stem dark purple, from a foot and a half to five feet and a half long, divided near the base into several spreading branches, a little angulated and generally smooth. Leaves in shape like those of Souchus, of a dark purple colour underneath and sometimes towards the edges of the upper surface: nerves pubescent on the upper surface. Panicle divided into long branches resembling uniflorous peduncles with scattered Bractes: those under the calyx pretty closely imbricated. Calyx of about twelve leaves, dark purple on the outside, closely imbricated and quite erect. Florets orange-scarlet, a little higher than the calyx, and very numerous, the tube dilated at the base. Seeds as they are commonly called rough, and crowned with a very finely toothed down, scarcely pedicellated. Receptacle rough with a narrow toothed membrane which surrounds the scars of the seeds: in this respect it differs very materially from the Alpine Cacalias of Switzerland, and I doubt even if it can remain in the same genus with the African shrubby species. It was communicated by the Right Honble, Charles Greville.

REFERENCES TO THE PLATE.

1. The Calyx.
2. A Floret magnified.

Campanula alliariæfolia

Drawn & Pub. Feb. 1st 1806 by W. Hooker.

XXVI.

CAMPANULA ALLIARIÆFOLIA.

Alliaria-leaved Campanula.

ORDO NATURALIS.

Campanulaceæ. *Juss. Gen. p.* 163.

Sect. I. Antheræ discretæ.

Calyx profunde 4-6-fidus dorso sinuum in quibusdam auriculato. Corolla campanulata, limbo 4-6-fido. Filamenta basi dilatata et super torum melliferum fornicata. Pericarpium inferum, turbinatum, 2-6-loculare, inter nervos in foramina tandem diruptum. *Herbæ aut Suffrutices. Caulis nunc gracillimus, nunc crassus. Folia inferiora multarum in orbem conferta; superiora haud raro figurâ diversa, in bracteas sensim transeuntia. Flores terminales paniculati. Numerus 5-narius frequentissimus est in flore, et 3-narius in fructu.* Campanulacearum *genera, ut opinor, e structura corollæ imprimis stutuenda, probe autem consulta inflorescentiâ, quæ forte nunquam in uno eodemque multum differt.*

* * *Calyx dorso sinuum in Auriculam producto. Pericarpium 3-loculare.*

C. foliis radicalibus petiolatis, late cordatis, crenato-dentatis, subtus tomentosis; caulinis mox sessilibus, ovatisque: floribus laxe paniculatis: calycis margine integerrimo: corollâ extus hirtâ.

C. Alliariæfolia, *Willd. Sp. Pl. v.* 1. *p.* 920. C. Orientalis Alliariæ folio, &c. *Tournef. Cor.* 3.

Sponte nascitur in *Gurgistan* montibus.

Floret *Augusto, Septembri.*

I believe this Oriental plant, communicated both by Mr. Donn from the Botanic Garden at *Cambridge*, and by Mr. Bell from his own private collection, has never before been figured. Stem from 3 to 5 feet high, straight and rigid, terminating in a loose pyramidal panicle, the upper branches of which commonly produce about 3 flowers each. The radical leaves have long petioles and broad cordate laminæ with a very wide sinus at the base, but I cannot call them Kidney-shaped with Willdenow: those upon the stem become gradually smaller, sessile, and ovate: they are all crenato-dentate, and more or less downy especially on the under side. Pedicles slender and very short, downy. Calyx downy, between each division at the base dilated into a reflexed ear-shaped appendage: these nearly cover the Germen. Corolla white, an inch long or more, limb much shorter than the tube, hairy on the outside especially towards the margin as if ciliated. Filaments white, very hairy at the dilated part. Anthers long, pale yellow. Style thick, hairy from above the middle. Stigmas sometimes only 2, when the fruit is consequently 2-locular, a proof of how littte importance mere number is in this genus. I am yet ignorant whether this species is bienuial or perennial.

REFERENCES TO THE PLATE.

1. The Calyx.
2. The Stamina and Pistillum.
3. The Seed Vessel magnified.
4. Transverse section of the same.
5. A Radical Leaf.

XXVII.

PROTEA LACTICOLOR.

Milk-coloured Protea.

Ordinem Naturalem et Characterem Generis vide sub No. 2.

P. foliis parum obliquis, elliptico-lanceolatis, obsolete mucronulatis, basi præcipue subtus lanatis: bracteis involucri interioribus pube sericeâ fimbriatis: stigmatibus angustissimis.

Sponte nascentem in Promontorio *Cap*, legit J. Niven.

Floret apud nos a *Januario* in *Martium*.

For this Protea Mr. Hooker is indebted to George Hibbert, Esq. of Clapham, a Gentleman who is only rivalled by his Majesty in the number of rare plants he has introduced, and which he takes all opportunities of communicating to Botanists with the most unbounded liberality. I believe it will be found to have a very near affinity with the *Speciosa*, and it is not improbable that it may have been originally produced from that species, impregnated by the pollen of some other. A celebrated periodical writer, to whose opinions I should pay greater deference if he worked more in the garden and less in the closet, does not believe in the Linnean theory respecting this branch of botanical physiology; but all my observations confirm it strongly. That some of these productions are hybrid by no means invalidates the doctrine: they are not *all* so, and the distinguished gardener who has lately collected such a number of *Ericas* and *Pelargoniums* at the Cape, may possibly throw additional light upon the subject, when he returns. The stem of this Protea at Clapham is already 5 feet high, the younger branches red and woolly while tender. Leaves pale green with the middle nerve and base of the upper surface red, sessile, an inch and a half broad, from 3 to 4 inches long, scarcely oblique, horizontally recurved or spreading, elliptic-lanceolate, very entire, obsoletely mucronate, woolly on the under surface especially at the base, often very convex, and hard. Fasciculus of flowers about 3 inches long, and from $1\frac{1}{2}$ to 2 in diameter. Lower Bractes of the Involucrum pale green with their tops withered, gradually longer and of a paler colour, outside sericeous, inside smooth: Upper Bractes of the Involucrum suddenly enlarged and like Petals, of a milky whiteness, the innermost fringed with a pubescence resembling the finest silk. Petals very narrow and curling back directly after they are expanded as in the rest of this tribe, bearded with brownish hairs up to their middle, and their points beyond the Anthers spoon-shaped. Stigma narrower than in any Protea I have yet examined.

Tetragonolobus siliquosus

Drawn & Pub. March 1. 1806. by W. Hooker

XXVIII.

SWAINSONA CORONILLÆFOLIA.

Coronilla-leaved Swainsona.

ORDO NATURALIS.

Leguminosæ. *Juss. Gen. p.* 345.

Sect. VI. Corolla papilionacea. Filamenta diadelpha. Pericarpium 1-loculare, 2-valve. *Folia impariter pinnata. Stipulæ a petiolo distinctæ.*

Torus obconicus. Calyx calathiformis, laciniis 3-inferioribus hiantibus. Vexillum grande, intus 2-callosum: Alæ horizontaliter propendentes: Carina alis longe major, obtusa. Stigma terminale, barbâ stylum decurrente cinctum. Pericarpium oblongum, turgidum, membranaceum, polyspermum. *Suffrutices e* Novâ Hollandiâ *facie aliquâ* Indigoferarum. *Foliola multijuga, ovalia vel obovata. Flores coccinei purpureive, spicis longis axillaribus. Bracteæ* 3 *duabus pedicello sparsis. Genus charactere magis quam re ipsâ ad* Coluteam *respondens, pericarpio crassiore non scarioso, et alis horizontaliter propendentibus facile dignoscendum: itaque in memoriam* Isaaci Swainson *Armigeri, qui alter* Clifortius *pictori hujusce operis locupletissimum suum hortum aperuit, nominavi.*

S. Foliolis anguste obovatis, subtus glaucis.

Sponte nascentem prope fluvium *Hawkesbury*, legit P. Good.

Floret apud nos a *Junio* in *Octobrem.*

Another species of this beautiful genus has been figured and described in the 792d number of the Botanical Magazine, by the name of *Colutea Galegifolia;* also in the 319th number of the Botanical Repository, by the name of *Vicia Galegifolia;* but I have not yet compared them in a living state. This was communicated by the Right Honble Charles Greville, and has perfected seeds in his garden. Stems several, suffruticose, new ones shooting out from the root and bottom every year. Stipules short but broad, embracing the stem, somewhat cordate and acuminated. Leaves dark green, pinnated with from 8 to 12 pairs of leaflets and an odd one, quite smooth, glaucous underneath. Peduncles axillary, much longer than the leaves, striated, covered with a very fine pubescence which appears silky through a microscope. Pedicels quite round. Spikes from 9 to 20-flowered. Bractes 3 to each pedicel, one at its base, two scattered higher up. Torus or receptacle marked with ten linear depressions. Calyx about 2 lines long, shortly 5-fid with the two upper divisions approximated, finely ciliated. Corolla purple: Vexillum marked with a whitish spot near the base, recurved, above its claw almost round, emarginated: Alæ small, hanging forward horizontally like two flaps: Carina large, above its claws united into one petal, very round and blunt, the point itself a little obliquely truncated. Filaments diadelphous. Anthers emarginated. Style very pale green, sulcated, hairy on the inside. Stigma yellow, very small. Pericarpium turgid, but not thin and scarious like that of *Colutea.* Seeds numerous and roundish.

REFERENCES TO THE PLATE.

1. Back view of the Vexillum.
2. The Anthers and Stigma magnified.
3. The Stigma more magnified.
4. The Seed vessel in an advanced state.

Columnea rotundifolia

Drawn & Pub. March 1. 1806. by W. Hooker

XXIX.

COLUMNEA ROTUNDIFOLIA.

Round-leaved Columnea.

ORDO NATURALIS.

Scrophulariæ. *Juss. Gen. p.* 117.

Sect. III. **Genera Scrophulariis affinia, oppositifolia.**

Calyx profunde 5-fidus. Corolla longissima: Tubus dorso basis super nectarium reniforme gibbus: Limbus ringens; labio superiore fornicato; inferiore 3-partito, laciniis duabus versus latera divaricatis. Filamenta 4, toro basique corollæ simul inserta, in vaginam dorso fissam breviter coalita, inde filiformia, parum didynama. Antheræ post anthesin connexæ. Pericarpium albidum, subglobosum, 1-loculare Colis 2 parietalibus late 2-lobis, polyspermum, succulentum, secundum Swartz demum dehiscens. Stigma 2-lobum. *Fruticuli repentes et ad truncos arborum scandentes. Caulis carnosus. Folia in quibusdam grandia laminis sæpius serratis, carnosa. Flores pulchre phœnicei, solitarii vel bini. Pedunculi axillis alternis rarius oppositis, Bracteis 2 ad basin. An corollæ figurâ parvi æstimatâ in eodem ordine cum* Besleriâ, Gloxiniâ *et* Cyrillâ *recensendum genus?*

C. foliorum laminis late ovalibus, integerrimis: pedunculis 5-6 lineas longis: calycis laciniis dente leno alterove profundo: corollæ labis superiore vix emarginato.

Sponte nascentem in Ins. *Trinidad*, legit D. Buchanan.

Floret apud nos ab *Octobri* in *Februarium*.

Of this beautiful genus, at least seven distinct species are preserved in Sir Joseph Banks's Herbarium. That now figured, which was sent by E. Woodford, Esq. from his very choice collection near Rickmansworth with the name of *Scandens*, is among them: but I can find no serratures in the leaves, either of the dried or fresh specimen. Willdenow indeed in transcribing Swartz's specific character of his *Scandens*, has changed *foliis integris* to *foliis integerrimis*, and if Swartz's plant is the same with ours, very properly so. In the real *Scandens* of Plumier and Jacquin, the leaves are more ovate, always dentated; peduncles shorter; divisions of the calyx more wedge-shaped, scarcely at all dentated; and the upper lip of the corolla evidently emarginated. In this plant the Stem is slender, creeping, roundish with very short hairs. Leaves opposite: Petioles two lines in length, nearly cylindrical, hairy: Laminæ pale green, about an inch long, horizontally recurved, widely oval or round, scarcely acuminated with the point itself obtuse, hairy on both sides, fleshy. Flowers solitary, from the alternate and sometimes opposite axils of the leaves. Peduncles tinged with red, half an inch long or more, very hairy. Bractes small. Calyx tinged with red, deeply 5-cleft: its divisions lance-wedge-shaped with one or two deep teeth on each side. Corolla 2 inches long or more, carmine; upper lip semi-elliptical and scarcely emarginated; lower lip recurved with the lateral divisions higher and more divaricated than in other species. Filaments pale carmine, slightly hairy towards the top. Anthers pale yellow, connected after the pollen is discharged by one valve lapping over that of another. Nectarium pale yellow. Pericarpium while young a little comprest. Style pale carmine, slender and still more contracted immediately under the stigma, slightly hairy towards the top. Stigma pale carmine, divided into two obtuse lobes.

REFERENCES TO THE PLATE.

1. The gibbous base of the Corolla.
2. The Filaments united at the base.
3. The Germen and Style.
4. Transverse section of the Seed Vessel.

Crocus sativus

Drawn & Pub. by W. Hooker, Jan. 1, 1806

XXX.

CROCUS SEROTINUS.

Late-Flowering Crocus.

ORDO NATURALIS.

Irides. *Juss. Gen. p. 57.*

Sect. II. **Pericarpium bracteis vestitum.**

Bracteæ 1-2, longe spathaceæ, hyalinæ, præter aliam sub pedunculo. Corollæ Tubus angustus, basi subterraneus: Limbus amplus, profunde 6-fidus, regularis. Stigmata obcuneata, cristata, plus minus fissa. Pericarpium oblongum, torulosum. Semina parum succulenta. *Radix tuber a novis ratione numeri gemmarum super vetustum dum foliantur prodeuntibus quotannis exhaustum, plerumque sphæricum tunicis stupaceis. Stipulæ* 5-9, *fere totæ subterraneæ, spathaceæ. Folia* 3-7; *radicalia, anguste linearia basi imâ valde dilatata, supra per vittam albidam spongiosam depressiuscula, subtus in carinam planam extantia. Flores axillares, solitarii vel duo fasciculum mentientes. Pedunculus in florescentiâ vix ullus, fructu maturo demum usque ad superficiem terræ elongatus.*

* * *Folia latiuscula.*

C. Bracteis 2 sub pericarpio : Corollæ limbo basi obsoletissime barbato, clauso urceolari : Stigmatibus profunde multifidis.

C. montanus Antumnalis. *Park. Par. p.* 16. Crocum montanum. 1 *Clus. Hist. Pl. lib.* 2. *p.* 208. *cum Ic.* Crocum montanum. *Clus. Rar. Hisp. p.* 264. *cum Ic.* Pie de Borro. *Lusitanis.*

Sponte nascentem in *Portugal*, locis rupestribus haud procul a mari, legit C. l'Ecluse.

Floret *Novembri.*

The latest of the Autumnal Crocusses, and perfectly distinct from the *Nudiflorus*, with which Dr. Smith has confounded it in his *Flora Britannica* and *English Botany*. Its deeply cut stigmata and yellow stipulæ indeed shew some affinity to that species, but the leaves of this always appear at the same time with the flower, after those of the Nudiflorus are past and gone. From all the varieties of the Blue Spring Crocus, it may be immediately distinguished by having two Bractes under the Pericarpium, and scarcely any beard at the base of the limb. The inflorescence of this genus is not very easily understood : that the peduncles come out of the axilla of a leaf is very evident, but occasionally two appear together as if fasciculated, and I have described them as such in the first volume of the *Annals of Botany*. A careful dissection however of many specimens when in fruit now leads me to think differently, and that one of the peduncles ought rather to be considered as a branche of the other; for neither the peduncles nor bractes are placed exactly in the same plane, but one a little higher than the other : this is confirmed by the analogy of *Trichonema*, a genus which as Mr. Kerr (lately Gawler) justly observes is nearly allied to *Crocus*. It is one of the few rare plants which escaped the devastation of my predecessor at Mill Hill, and in a mild season is a great ornament to our gardens, flowering close under a south wall till the beginning of December.

REFERENCES TO THE PLATE.

1. Inside of an Anther and Filament before the Pollen is discharged.
2. The Anthers and Stigmata just before the flower expands.

Printed by D. N. Shury, Berwick-street, Soho.

Drawn & Pub. by W. Hooker Apr. 1.1831

XXXI.

YUCCA RECURVIFOLIA.

Recurved-Leaved Yucca.

ORDO NATURALIS.

Lilia. *Juss. Gen. p.* 48.

Petala toro confluentia, marcescentia. Filamenta toro inserta, crassa, clavata. Antheræ post anthesin minutæ. Pericarpium superum, oblongum, versus basin foveis 3-melliferum, 3-loculare, carnosum. Stigma grande, mitræforme, profunde umbilicatum. Semina angulo interno loculi duplici serie inserta, plana. *Frutices Suffruticesve facie* Agavium. *Caulis cylindraceus, parum decompositus. Folia imbricata basibus dilatatis, anguste lanceolata, sæpius spinose mucronata, rigida, perennia. Flores paniculis terminalibus. Bracteæ* 1-2 *sub singulis ramis pedicellisque. Torus pedicello articulo connexus. In serie naturali* Fritillariæ *et* Lilio *certe proximum genus est, licet prima facies adeo dispar. Pericarpii dehiscentiam adhuc nescio.*

* *Caulescentes.*

Y. foliis viridibus, recurvo-deflexis, margine rare filamentosis: petalis interioribus parum latioribus.

Sponte nascentem in *Georgia*, legit J. Cree.

Floret *Julio, Augusto.*

This species flowered last summer in the open ground, at Isaac Swainson's Esq. Twickenham, forming a panicle 5 feet long above the leaves. It has been hitherto supposed a variety of the *Gloriosa*, but it is more nearly allied to the *Filamentosa*, differing however from that in many respects. Stem in our gardens from 1 to 3 feet high. Leaves green and recurved, not bluish and straight as in the *Gloriosa*, linear-lanceolate, very entire with the margin at length peeling off into a few short filaments, spinous at the point, concave, striated, smooth on their upper surface, very rigid. Flowers exhaling a strong smell mixed with that of citron. Panicle of an oval-pyramidal form, with alternate branches, some of the lower 2 feet long, and of a dark purple colour where exposed to the sun. Bractes dark purple. Torus dark purple, shaped like the nave of a wheel. Petals dull purple with a few minute spots where exposed before they expand, elsewhere of a very pale lemon colour, not quite regular, the 3 upper being more recurved; the inner series only a little broader than the outer, not much broader as in the *Filamentosa*, or so perceptibly uncinate at the points. Filaments whiter than the Petals. Anthers dull yellow and very minute.

REFERENCES TO THE PLATE.

1. An Anther and the top of the filament magnified.
2. Back view of an Anther, shewing the partial filament.
3. The Pistillum, natural size.
4. Transverse section of the young fruit magnified.

Sabbatia gracilis

Drawn & Pub. by W. Hooker Apl. 1806

XXXII.

SABBATIA GRACILIS.

Slender Sabbatia.

ORDO NATURALIS.

Gentianæ. *Juss. Gen. p.* 141.

Calyx basi cyathiformis, inde 5-12-fidus sinubus latis, laciniis foliaceis. Corollæ Tubus brevis, medioliformis: Limbus 5-12-partitus. Filamenta 5-12, ore tubi nunc in marginem promimulo inserta, incurvo-erecta. Antheræ demum revolutæ. Pericarpium succulentulum, ovale, 1-loculare. Stylus erectus. Stigma longum, 2-partitum laciniis mox spiralibus. Semina scrobiculata. *Herbæ annuæ, graciles. Folia sæpius angusta. Flores albi, carnei: corymbis raris densissimisve, ramo uno frequenter deficiente dichotomis. In memoriam duorum Botanicorum* Liberati *et* Constantini Sabbati, *dixit Adanson.*

S. foliis anguste ellipticis: corymbo raro: calyce 5-fido, laciniis linearibus: corollâ longitudine calycis.

Chironia gracilis. *Michaux Fl. Bor-Amer. v.* 1. *p.* 461. Chironia campanulata. *Linn. Sp. Pl. ed.* 2. *p.* 272.

Sponte nascentem in *New Jersey*, legit J. Bartram.

Floret *Julio.*

Perhaps no genus has hitherto been less understood than *Chironia*, its supposed essential character of spiral Anthers, only occurring in one species. This I first learnt from the beautiful annual here figured, two plants of which appeared last summer in my garden, in a border which had been deeply trenched the preceding year, and formerly contained North American plants sent to the celebrated *Peter Collinson, Esq.* by John Bartram. Upon examining the other species of that country I find they must all be referred to *Sabbatia* of Adanson, a genus which that author seems to have established, without knowing much about it, from *Chlora Dodecandra.* *Sabbatia* differs from every other genus I have yet seen in *Gentianeæ*, 1st in the Calyx being deeply divided into narrow leafy segments with broad sinusses: 2dly in the tube of the corolla, which is turban-shaped: 3dly in the anthers, which after the pollen is ejected, are revolute with thin recurved valves: 4thly in having an exceeding long 2-fid stigma which is finally spiral. As the Anthers in dried specimens soon fall off, it is probable that both Linnè and all other authors except Walter have mistaken the divisions of the Stigma for Anthers. That botanist has given an accurate definition of the genus very properly adding a mark of doubt after *Chironia.* The stem in the larger of the plants at Mill Hill was 18 inches high, pale green, slender but erect, angulated and smooth. Leaves near the root appeared to have formed a small rose, and to have been obovate, growing gradually narrower towards the top of the stem, pale green, opposite, and smooth. Corymb with long dichotomous branches, in the other plant of only three flowers. Bractes none except the leaves gradually narrower. Calyx yellowish green, in the primary flower rather longer than the Corolla, which is pale pink with a yellow base. Filaments and Anthers yellow. Pericarpium just appearing above the tube, greenish. Style and stigma yellow. Seeds very minute and black. Besides the North American *Chironias* mentioned above, *Swertia difformis* of Linnè must be referred to this genus.

REFERENCES TO THE PLATE.

1 An Anther magnified.
2. The Stigma magnified.
3. The seed vessel opened.
4. The transverse section of the seed vessel.
5. 6. A seed natural size and magnified.

Hibiscus acetosella

Drawn & Pub.d by W.J.Hooker May 1.1806

XXXIII.

HIBISCUS ACERIFOLIUS

Maple-leaved Hibiscus.

Ordinem Naturalem et Characterem Generis, vide sub No. 22.

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* *Caulis inermis.*

H. caule lignoso : stipulis per angustis : foliorum laminis basi rotundatis, palmato-3-fidis, profunde dentatis : bracteis 7, calyce brevioribus, ligularibus.

Locus natalis haud innotuit, apud *Sinenses* cultus.

This is unquestionably a very distinct species from the *Syriacus* of Linné, in which the leaves are wedge-shaped at the base with much shorter petioles. It was sent to Mr. Hooker by E. Woodford, Esq. in whose stove it flowered during the months of *Febuary* and *March* last. Branches slender and while young pubescent. Stipules very narrow and soon turning ash-coloured. Petioles an inch long or more, very slender and pubescent on their upper side. Leaves palmate, the upper ones 3-fid, deeply toothed, acuminate, a little pubescent while young. Flowers axillary, dark purple. Peduncles thicker and shorter than the Petioles, pubescent. Bractes in the 3 flowers I saw 7, half an inch long and very narrow. Calyx longer than the Bractes, divided to the middle into wedge-shaped segments. Corolla semidouble. It may easily be propagated by cuttings.

Eustoma silenifolium

Drawn & Pub. by W. Hooker May 1 1830

XXXIV.

EUSTOMA SILENIFOLIUM.

Silene-leaved Eustoma.

ORDO NATURALIS.

Gentianæ. *Juss. Gen. p.* 141.

Calyx profunde 5-fidus laciniis dorso plus minus alatis. Corollæ Tubus infundibuliformis apice contractiusculo: Limbus tubo longior, profunde 5-fidus, intus fasciis variegatus. Filamenta 5, juxta medium tubi inserta et parum longiora, undique erecta, inferne lineari-lanceolata. Antheræ parum sagittatæ. Pericarpium oblongum, 1-loculare placentis breviter stipitatis, succulentulum. Stylus brevis, erectus. Stigma amplum, profunde 2-lobum. Semina scrobiculata. *Herbæ annuæ, facie* Pneumonanthium. *Caulis perfoliatus. Folia glauca, oppositа, oblonga, lævia. Flores cærulei; corymbis raris dichotomis terminalibus. Nomen á voce Græcâ* ευστομος, *ob os corollæ pulchrum.*

E. caule teretiusculo: foliis obovato-lanceolatis: calycis laciniis dorso vix alatis.

Lisianthus glaucifolius. *Jacq. Ic. Collect. v.* 1. *p.* 64.

Sponte nascentem in Ins. *Providence,* **legit M. Catesby.**

Floret apud nos *Augusto.*

Three very distinct genera, which agree in nothing but having a persistent corolla and 1-locular fruit, are confounded under *Lisianthus* in Willdenow's Species Plantarum: 1st the true *Lisianthi* of Browne and Swartz, which are shrubs with long stamina reclined towards the lower side of the flower, and a small hemisphærical stigma: 2dly the plant now figured, which has short regular stamina and a deeply 2-lobed stigma: 3dly the species of Aublet and Mutis, which are herbaceous with a long irregular flower more like a *Bignonia*, and curved versatile anthers; these last I have named after Sir Thomas Cullum, Bart. in a dissertation upon *Gentianeæ*, which I am preparing for the Linnean Society. I only know one more species of Eustoma, which is the *Gentiana Exaltata* of Linné referred by him to that genus solely from Plumier's imperfect figure: it is by no means the taller plant of the two, but differs, as far as can be ascertained from the dried specimens in Sir Joseph Banks' herbarium, in having a more angulated stem, longer leaves, a greater number of flowers, membrane of the calyx broader, and the filaments inserted a little higher. They have both glaucous leaves, in our plant not unlike those of *Lobel's Catchfly*. Stem slender, from 1 $\frac{1}{2}$ to 2 feet high, with a few radical leaves. Flowers only one or two. Calyx not so glaucous as the leaves, with its interstices obtuse as if perforated, which character is still more conspicuous in the other species. It flowered, two years ago, in the collection of W. Manning, Esq. Totteridge.

REFERENCES TO THE PLATE.

1. Filament and Anther seen in front and behind magnified.
2. Pistillum magnified.
3. Fruit opening, natural size.
4. Transverse section of the fruit.
5. A Seed, natural size and magnified.

3

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Trillium sessile.

Drawn & Pub.by W.t Hooker May 1.1806

XXXV.

TRILLIUM FŒTIDUM.

Stinking Trillium.

ORDO NATURALIS.

Asparagi. *Juss. Gen. p.* 42.

Calyx 3-phyllus, persistens. Petala 3, calyce majora, persistentia. Filamenta 6, alterna petalis inserta. Antheræ crassæ, apice filamenti confluentes, lateribus dehiscentes. Pericarpium succulentum, 6-angulum, 1-vel 3-loculare. Stigmata 3, latus interius stylorum decurrentia. Semina placentis 3 e medio sinuum latiorum stipitatis, nunc connatis unde fructus 3-locularis evadit, 2-plici serie inserta. *Caulis apice* 3-*phyllus*, *foliis latis verticillatis; in horum centro Flos sessilis*, *pedunculatusve. Genus a* Paride *structurâ antherarum potissimum discrepans.*

T. foliis late rhombeis; flore parum nutante, pedunculato: petalis calyce vix longioribus multo latioribus, ovato-acuminatis marginibus juxta apicem involutis: pericarpio 3-loculari.

Variat α. Petala alba.
T. rhomboideum β. *Mich. Fl. Boreali-Am. v.* 1. *p.* 215.
β. Petala pallide purpurea nervis saturatioribus.
In *Horto Kewensi* a F. Masson transmissum.
γ. Petala atro-purpurea.
T. erectum. *Sims in Bot. Mag. n.* 470. *cum Ic.* an perperam fucatâ?
δ. Petala atro-rubra.
T. erectum. *Linn. Sp. Pl. ed.* 2. *p.* 484. Paris foliis 3-nis, &c. *Linn. Amæn. v.* 1. *ed. Holm. p.* 154. Solanum triphyllum brasilianum. *C. Bauh. Prodr. p.* 91. Solanum triphyllum canadense. *Corn. Pl. p.* 166. *cum Ic.*

Sponte nascentem in *Virginia* sylvis, legit J. Bartram.

Floret apud nos *Aprili*, *Maio*, mox post foliationem.

Of the above varieties I have only seen the second and last, neither of which agree in colour with the plant of the Botanical Magazine, so that another figure will not be useless. A more important reason for giving it however is to shew the structure of its fruit, which is 3-locular, though that of the species delineated in the first plate of this work is as certainly 1-locular. When I offered, a very short time before the publication of the *Paradisus Londinensis* in June last, to assist Mr. Hooker, all the *Trilliums* in our gardens were faded, so that I was under the necessity of drawing up the Generic Character from dried specimens; but having these two now living in my own collection, I am enabled to amend it. In the 855th number of the *Botanical Magazine* the first species is referred to T. *Erythrocarpum* of Michaux, but if correctly still remains uncertain; for Michaux describes the leaves "*basi rotundatis subcordatis*," which ours are not; and what appears extraordinary, Mr. Kerr (lately Gawler) after excluding the synonym I quoted, doubts whether it be not the same! From a specimen in Sir Joseph Banks' herbarium which has been collated with Linné's, there is not a shadow of doubt, that the species now figured is his *Erectum*. Leaves shaped like a broad lozenge with three principal nerves and many others diverging. Flower very fœtid like carrion. Petals nearly the colour of old mahogany, sometimes longer than the calyx and always broader. Anthers about 3 lines long, dark mahogany colour with yellowish valves. Fruit dark mahogany colour. As the Flower is never erect, I have given it an appellation which at least will not deceive the botanical student. Dr. Smith in his *Exotic Botany* says, "*it is to be wished that botanists whose authority ought to be decisive, would never give just cause for complaint*" on this head, but that "*erroneous or bad names must and ought to be corrected.*" In reply to the first part of this criticism levelled at me, I have to say that I am not ambitious of obtaining any authority in the way that he does, nor can I ever tread in his botanical steps. Light and darkness cannot be more opposite to each other, than his views in the science and mine, for whether he lectures in print or by word of mouth, it is still for gold; and soon after in the same work he himself changes the names of no less than six plants*.

REFERENCES TO THE PLATE.

1. A Petal, shewing the insertion of the filament. 2. Germen and Styles magnified.
3. Transverse section of the Seed Vessel.

* Roxburghia *Viridiflora*. Gompholobium *Fimbriatum*. Protea *Ochroleuca*. Hastingia *Coccinea*. Eriocalia *Major*. Eriocalia *Minor*.

Phyllodoce Taxifolia

Drawn & Pub. by W. Hooker June 1. 1806

XXXVI.

PHYLLODOCE TAXIFOLIA.

Yew-leaved Phyllodoce.

ORDO NATÚRALIS.

Ericæ. *Juss. Gen. p.* 159.

Calyx profunde 5-fidus. Corolla 1-petala, decidua. Filamenta 10, toro inserta. Antheræ juxta apicem foramine obovato dehiscentes. Pericarpium superum, 5-loculare; septis e marginibus valvarum, ab axi dehiscentibus. Semina elliptica, scrobiculata *Fruticulus semper-virens. Folia alterna, lateribus reduplicatis quasi subtus sulcata ut in* Ericâ. *Flores ex axillis* 2-9 *ultimis fasciculum mentientes, ramo nunc prolifero. Bracteæ* 2 *ad basin pedunculi præter folium, persistentes. Nomen poeticum, exemplo immortalis Linné in* Andromedâ, *ad hoc genus selegi, quod toto anno etiam sub nive foliis ornatur. Illi valde affinis est* Erica Daboecii *Sp. Pl. quam ob dehiscentiam fructus olim ad* Menziesiam *retuli, uti nuper Jussieu; sed cum inflorescentiâ longe diversâ folio tantum absque bracteis pedunculo subjecto, nec non receptaculo seminum abludat, potius erit sui generis.*

P. foliorum laminis linearibus, obtusis: corollæ tubo urceolari.

Erica! cœrulea. *Willd. Sp. Pl. v.* 2. *p.* 393. Andromeda taxifolia. *Pall. Fl. Ross. Part* 2. *p.* 54. *t.* 72. *f.* 2. Andromeda cœrulea. *Fl. Dan. t.* 57. Erica foliis acerosis, &c. *Gmel. Fl. Sib. v.* 1. *p.* 131. *t.* 57. *f.* 2. Andromeda cœrulea. *Linn. Sp. Pl. ed.* 2. *p.* 563. Erica rarior Norvegica. *Linn. Amæn. v.* 1. *ed. Lugd. Bat. p.* 332. Andromeda foliis, &c. *Linn. Fl. Lapp. n.* 164. *t.* 1. *f.* 5.

Sponte nascentem in *Lapland* abunde, legit C. Linné: in *Labrador* collibus siccis, legit J. Banks Baronettus: in *Kamschatka* et *Americæ Borealis* oris occidentalibus lat. 52. rupibus muscosis, legit G. W. Steller.

Floret apud nos, *Maio.*

This little Northern shrub differs so essentially in its fruit from *Andromeda*, a genus first established by Linné in his Flora Lapponica from our English species the *Polifolia*, that I am obliged to separate it. Nor can it be referred to *Menziesia*, though the dissepiments are contiguous with the margin of the valves; for its whole habit is discordant and the calyx deeply divided. In fact, the genera of *Bicornes* which have that character in common are so unlike each other, that though Jussieu has made use of it to separate them into two orders, I must with all due deference to such high authority, offer a different arrangement of them in a dissertation I am now writing. The Stems occasionally attain a foot in height, growing among rocks and mossy banks. Leaves like those of many Ericas, shining green with a whitish line running through the middle of their under surface, linear, ciliated with short glanduliferous hairs at the reduplicature which is not the true margin as is commonly supposed, obtuse. Flowers on solitary long peduncles, issuing from 2 to 9 of the uppermost axils of the leaves. Bractes 2 at the base of each peduncle besides the leaf which supplies the place of a third bracte, and becomes gradually a little shorter and more like a bracte in specimens with many flowers, all persistent and not caducous as in *Menziesia*. Calyx finely hairy and viscid. Corolla purple, varying to pale red or white, never blue, for which reason Professor Pallas has very justly changed the name of *Cærulea* to *Taxifolia*. Anthers long, without nerves, obtuse at the base. Communicated by the Rt. Honble. Charles Greville.

REFERENCES TO THE PLATE.

1. Front and back view of a Stamen, magnified.
2. Pistillum, magnified.
3. Transverse section of the Germen, shewing in one Cell the insertion of the Seeds.
4. The Fruit bursting, a little magnified.
5. Seed natural size and magnified.

Protea longifolia

Drawn & Pub. by W. Hooker June 1. 1806

XXXVII.

PROTEA LONGIFOLIA.

Long-leaved Protea.

Ordinem Naturalem et Characterem Generis, vide sub No. 2.

* *Folia simplicia, integerrima.*

P. foliis 2 lineas latis, 6 pollices longis. lineari-spatulatis, margine scabriusculis, acutiusculis apice mox sphacelato, glabris, punctatis : bracteis involucri spatulatis, minute ciliatis, obtusis.

Sponte nascentem in Promontorio *Cap*, legit J. Nevin.

Floret apud nos ab *Aprili*, in *Junium*.

A new species from the *Clapham* collection. Stem 3 feet high, slender but stiff, not much branched ; while young yellowish green with a tinge of red at the base of the same year's shoot. Leaves dull green inclining to an olive colour, narrow, very long, not so much twisted as in many species, a little concave towards the top, finely dotted on both sides and thick: Nerve scarcely perceptible, except by its colour which is of a dull red on the upper surface. Fasciculus of flowers quite erect, a little more than 2 inches in diameter, almost truncated. Involucral Bractes yellowish green with a dull red tinge on the outside especially of the lower ones, spatulate and finely ciliated, the last series narrower but scarcely higher than that immediately preceding. Petals yellowish with rose-coloured tips, and a fine white pubescence. I did not chuse to dissect the Fasciculus, though the liberality of the owner would have permitted it, the plant being yet exceeding scarce, and apt to decay where cut, if the air is not excluded from the wound by grafting clay. The finest Protea Cynaroides I have ever seen, when its stem was rotted half through by an accident, was in this manner recovered by Mr. *Hibbert's* skilful gardener, who is far above the quackery of making a secret of any thing he knows in horticulture.

. Magnolia macrophylla

Drawn & Lith. by W. Hooker June 1.1830

XXXVIII.

MAGNOLIA CONSPICUA.

Conspicuous Magnolia.

Ordinem Naturalem et Characterem Generis, vide sub No. 5.

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* *Calyx nullus.*

M. foliis post flores prodeuntibus, petiolis gracilibus, laminis late obcuneatis: petalis 9, 3 exterioribus vix minoribus: germinibus ovato-lanceolatis.

Le Yu-lan. *Mem. Chin. tom.* 3. *p.* 441.

Locus natalis haud pro certo innotuit, apud *Sinenses* jam ab anno 627 culta species.

I do not find any description of this *Magnolia*, introduced several years ago by the Rt. Honble. Sir Joseph Banks, except that in the work above mentioned, where it is said to resemble a naked Walnut-tree with a Lily at the end of every branch. This gives a good idea of its habit, in which it approaches nearer the *Acuminata* than any other yet discovered, forming like it a pyramidal head, and reaching the height of from 30 to 40 feet. Leaves more wedge-shaped than in the other Oriental species, deciduous early in Autumn. Flowers appearing early in Spring before the leaves, exhaling very little smell in our cold climate, terminal. Peduncle green with whitish spots, short and thicker towards the top, articulated immediately under the flower at the insertion of the bracte, below which it is pubescent. Bracte of a dull brown colour, 2 inches long or more, its outside very pubescent, inside naked with minute wrinkles. Petals in about 20 flowers which I have seen, constantly 9, white with a very faint tinge of red at their internal base, spreading out into a wide cup contracted just above the stamina, widely spatulate, entire, obtuse, smooth on both surfaces, hollow, and of the consistence of soft white leather, all large especially the 3 which constitute the middle series: Nerves not very apparent. Filaments 70 to 90, white with a carmine coloured base, about a line and a half long, incurved and broader toward the top. Anthers white with yellow valves, narrower than the filaments, their cells terminating below the top. The above description was made at Spring Grove, but for the figure Mr. Hooker is indebted to his kind patron the Rt. Honble. Charles Greville.

REFERENCES TO THE PLATE.

1. The Leaves, some time after the plant flowers.
2. Back and front view of an Anther magnified.
3. Stigma magnified.

XXXIX.

PELARGONIUM PULCHELLUM.

Neat Pelargonium.

Ordinem Naturalem et Characterem Generis, vide sub No. 23.

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* *Acaulia: radice rapiformi: filamentis 5 sterilibus.*

P. foliis pinnatifidis, laciniis 3-5-lobis: pedicellis brevissimis: calycibus ventricosulis, viscidulo-pubescentibus: petalis spatulatis, inferioribus angustis.

Sponte nascentem in Promontorio *Cap*, legit J. Niven.

Floret apud nos *Junio, Julio.*

The tuberous rooted Pelargoniums from the *Cape of Good Hope*, are so numerous and distinct in their habit, that it is greatly to be wished some character could be found to separate them as a genus. In every flower of the specimen of that now figured which I examined, the Anthers were persistent, not falling off soon after shedding their pollen as in most other Pelargoniums: but whether this circumstance is peculiar to the whole section, or even constant in this one species, I have not yet had an opportunity of ascertaining. It seems allied to Mr. Kennedy's *Roseum*, well figured in the Botanical Repository, and the Calyx being considerably swelled at the base may perhaps distinguish it from that and some others: to give a good specific character however in such a genus requires more time than I can now spare. Introduced by G. Hibbert, Esq. in 1800, and known in our nurseries by the name of the Advertised Geranium.

REFERENCES TO THE PLATE.

1. An upper Petal magnified.
2. A Flower stript of its Petals.

Bromelia aquilega

XL.

BROMELIA AQUILEGA.

Water-holding Bromelia.

ORDO NATURALIS.

Bromeliæ. *Juss. Gen. p. 49.*

Sect. II. Pericarpium inferum.

Pericarpium oblongum, 3-loculare. Calyx 3-phyllus. Corolla 3-petala, basi squamis mellifera Semina plurima, oblonga, compressa. *Plantæ rigidæ, quædam parasiticæ. Folia radicalia,. sæpius serrato-spinosa. Flores spicati paniculative. Bracteæ oblongæ, coloratæ. Genera antiqua* Plumieri, *quæ sub hoc confudit* Linnè, *omni procul dubio restituenda.*

B. foliis latis, serrato-spinosis, basi tumidis, apice subtruncatis: paniculâ longâ: floribus sessilibus.

Sponte nascentem in Ins. *Jamaica*, legit D. Hurlock.

Floret apud nos rarissime, *Septembri* et *Octobri.*

I received this plant from the above mentioned Island fifteen years ago, and cultivated it while I resided at *Chapel Allerton*, but without ever seeing its flowers, which were produced I believe for the first time in this country *September* 30th, 1804, in the stove of Isaac Swainson, Esq. at *Twickenham.* No specimens being preserved, I cannot describe any part of it from my own knowledge except the leaves, which are of a faint green, sharply serrated, and so much dilated at the base, as to retain a considerable quantity of water: this in our stoves is soon loaded with *Confervas.* The Peduncle I am informed was more than 3 feet high, and covered with a mealy pubescencc, like other plants of this Natural Order. The flowers exuded a liquid of the colour and consistence of milk, in such abundance as to drop from them.

I dare not yet quote the Bromelia *Bracteata* of Swartz, as being the same plant with this, for he describes the stigma 3-fid, and neither Houstoun's own specimen from *La Vera Cruz*, nor that from the *Mosquito Shore*, both preserved in Sir Joseph Banks' herbarium, agree sufficiently with the dissections before me. I have little doubt however that it is a true Bromelia, a genus which I think with Jussieu very distinct from the *Ananas* or *Pine-apple*: if it should be brought to flower a second time, I hope to describe the whole plant more completely.

REFERENCES TO THE PLATE.

1. A Flower.
2. A Flower dissected, without the Calyx.
3. Front and back view of an Anther magnified.
4. Stigma magnified.
5. Young Fruit cut longitudinally, magnified.

XLI.

GOODIA LOTIFOLIA.

Lotus-leaved Goodia.

ORDO NATURALIS.

Leguminosæ. *Juss. Gen. p.* 345.

Sect. V. Corolla papilionacea. Stamina 10, diadelpha. Legumen 1-loculare, 2-valve. *Frutices aut Herbæ. Folia simplicia; 3-nata aut rarius digitata. Stipulæ imo petiolo adnatæ, aut distinctæ.*

Torus minutus. Calyx ventricosulus, laciniis 3 inferioribus longioribus. Corollæ Vexillum ecallosum: Alæ minores, subhorizontales: Carina profunde 2-fida, obtusa. Stigma terminale, capitatum. Pericarpium dolabriforme, membranaceum, 2-spermum. *Frutex humilis, glaucus. Folia 2-nata cum impari, nec verè ternata; foliolis obtusis cum mucronulo. Stipulæ a petiolo distinctæ, imbricatæ, caducæ: partiales nullæ. Flores spicis terminalibus. Bracteæ* 3, *duabus juxta calycem subopppositis, caducæ. Genus tam herbâ quam fructu apprime distinctum, quod in memoriam impigerrimi hortulani* Petri Good, *sacrum velim: labores ejus testantur numerosissimæ species in Horto Kewensi, quarum semina e* Novâ Hollandiâ *transmisit: itaque "his saltem accumulem donis, et fungar inani munere."*

G. foliis glaucis, adultis lævibus: stipulis longiusculis, cuneatis: leguminibus latissimis.

Sponte nascentem in *New South Wales*, legit P. Good.

Floret apud nos *Maio.*

No one, in my opinion, can put in a stronger claim to have his memory perpetuated by a plant being named after him, than the industrious Botanic Gardener, especially when his life falls a sacrifice to his exertions in a distant climate. I know nothing more of *Peter Good* than that he left a very lucrative situation to collect seeds for his Majesty in *New South Wales* where he died, and that all the best and rarest plants from that country now at *Kew*, have his name attached to them. This shrub is of humble growth, flowers and ripens seeds soon with us, by which as well as cuttings it may readily be increased. It is sold by most of our nurserymen for a *Crotalaria*, from which genus it totally differs in the fruit, nor can it be joined with the smallest pretence to any other yet established in this vast Natural Order. Stem slender, while very young thinly scattered over with fine hairs. Stipules distinct from the petiole, closely imbricated, long, wedge-shaped, caducous. Leaves glaucous, 2-nate with an odd leaflet, not truly 3-nate: it is a common but very important error in botanists to describe all leaves that consist of 3 leaflets only as 3-nate; for in the truly 3-nate leaf, the middle partial petiole is never inserted higher than the lateral ones; and such a structure indicates to him who looks a little deeper than the surface, very different relations and affinities: Petioles slender, scarcely longer than the leaflets: Leaflets oval, sometimes obovate, while very young scattered over their under surface with fine hairs. Flowers in a long spike. Bractes 3, small and caducous. Calyx yellowish green and very round at the base. Standard yellow with 2 deep red spots above the claw, visible on both surfaces: Wings transversely wrinkled and towards the base of a sooty colour: Keel greenish yellow. Filaments diadelphous. Stigma truly terminal and capitate. Pod hatchet-shaped, with never more than 2 seeds in my specimens, one of which is often abortive.

REFERENCES TO THE PLATE.

1. A Flower without the Corolla magnified.
2. The young Germen and Stigma.
3. A ripe Seed Pod.

Woodfordia floribunda

Drawn & Pub. Augst. 1. 1806. by W. Hooker

XLII.

WOODFORDIA FLORIBUNDA.

Many-flowered Woodfordia.

ORDO NATURALIS.

Salicariæ. *Juss. Gen. p.* 330.

Torus calycem mentiens, infundibuliformis, coloratus, persistens. Calyx apice tori 10-12-phyllus: foliolis alternis minoribus. Petala 5-6 sub foliolis minoribus, perangusta, cuneata. Filamenta 10-12, apice nectarii inserta, basi plus minus confluentia, longissima, æqualia, adlatus inferius reclinata. Antheræ obtusæ. Pericarpium sessile, oblongum, crustaceum, 2-loculare placentâ centrali. Semina plurima, obcuneata. *Frutex ramosissimus, glandulis minutis nigris undique aspersus. Folia fere* Punicæ, *adversa, anguste ovato-cuneata. Flores in racemis brevibus, axillaribus,* 3-15-*floris. Bracteæ foliaceæ, mox parvæ. Genus a* Lythro *filamentis longissimis æqualibus, a* Grisleâ *iisdem nectario continuis et fructu abludens: itaque in memoriam* Imperatoris Johannis Alexandri Woodford, Armigeri, *qui stirpes calidissimarum, ne dicam omnium regionum, tam feliciter colit et Botanicis largitur, nominavi.*

W. foliis adultis subtus tomentosis: floribus sæpius dodecandris: petalis valde attenuatis.

Grislea tomentosa. *Dryand. in Pl. Corom. v.* 1. *p.* 20. *t.* 31. sectione fructus plane falsâ. Lythrum fruticosum. *Linn. Sp. Pl. ed.* 2. *p.* 641.

Sponte nascentem in *Hindostan,* collibus et vallibus provinciarum borealium, legit G. Roxburgh.

Floret mensibus pluviosis, et initio siccorum.

This beautiful shrub was raised two years ago at the *Brompton* Botanic Garden from seeds sent by Dr. Roxburgh, and has already flowered in the stove of E. J. A. Woodford, Esq. who is peculiarly successful in cultivating plants from the hottest climates: I have therefore named it after him. Jussieu was certainly right in suspecting it to be a distinct genus from *Lythrum*, and the other great Botanist quoted in the first synonym, to whose authority I pay my willing homage, would possibly not have referred it to *Grislea,* though it is so similar in habit, if he had dissected the flower instead of trusting to the drawing. I do not however attach much importance to the pericarp being 2-locular, as even in *Grislea* there are rudiments of a parietal dissepiment: but the filaments of that genus are inserted quite distinct from each other a little above the nectarium, which projects into a rim as in *Lagerstræmia;* neither do any of the remaining parts correspond, except the double calyx, a character common to other genera of the order.

Since the introduction of the *Fuchsia Coccinea,* we have had few plants so ornamental as this, and it likewise may be propagated very freely by cuttings. The only difference I find between indigenous and cultivated specimens is, that the former have a thicker nap on the under surface of the leaves, but when our plants become older they will probably lose even this trifling shade of difference.

The stem and principal branches are erect: cuticle of the bark soon peeling off. Leaves while young more or less brown, afterwards dark green on their upper surface but much paler underneath and in old plants nappy or cottony, opposite, almost sessile, wedge-shaped with the base rounded and apparently cordate, nearly horizontal, facing the light in two ranks upon all the branches which are not erect, very entire, obtuse, somewhat shining with short hairs and minute black glands interspersed on both surfaces but especially underneath: Nerves depressed. Flowers from 3 to 15 in short axillary racemes upon almost every branch. Bractes only differing from the leaves in size; soon very small. Torus (or partial receptacle of each flower) resembling a calyx, bright red with a greenish base, and retaining its colour till the fruit is ripe, funnel-shaped, below the insertion of the filaments melliferous; somewhat hairy and sprinkled with the same black glands as the leaves. Calyx continuous with the Torus, of 10 or 12 leaflets the alternate ones very small, all red and broad-wedgeshaped, somewhat hairy and glandulous. Petals 5 or 6, pale red, inserted on the Torus under the smaller leaflets of the calyx which they exceed in length but scarcely in breadth, very narrow-wedgeshaped, almost smooth. Filaments 10 or 12, more or less confluent at the base, continuous with the top of the nectarium and not inserted distinctly above it as in *Grislea,* all of the same length considerably beyond the calyx, reclining, awl-shaped and smooth. Anthers dark red, obtuse with a bifid base. Pericarp greenish red, nearly half the length of the Torus before impregnation, sessile, 2-locular with a central spongy placenta: dissepiments very thin. Style red, thicker than the filaments, reclining, cylindrical and smooth. Stigma slightly two-lobed. Seeds numerous, pale brown, small and wedge-shaped.

REFERENCES TO THE PLATE.

1. A Flower, magnified.
2. Front and back view of an Anther magnified.
3. Germen and Stigma magnified.

Magnolia macrophylla

Drawn & Pub. by W. Hooker Aug.t 1, 1806

XLIII.

MAGNOLIA AURICULARIS.

Eared Magnolia.

Ordinem Naturalem et Characterem Generis, vide sub No. 5.

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* *Calyx nullus.*

M. petiolis gracilibus: foliorum laminis rhombeo-obovatis, basi auritis, subtus lævibus cum rore glauco: pedunculis longis: petalis venosis.

M. auriculata. *Desrouss. in Encycl. Bot. tom.* 3. *p.* 673. M. auriculata. *Bartr. Trav. p.* 339. M. Fraseri. *Walt. Fl. Car. p.* 159. *cum Ic.*

Sponte nascentem ad origines fluminis *Savannah* abunde, montibus altissimis, legit G. Bartram.

Floret fine *Maii, Junio.*

One of the rarest species in the English gardens, for which Mr. Hooker is also indebted to E. Woodford, Esq. This does not grow so high as some of the others, seldom exceeding 25 or 30 feet in its native soil It was discovered by William Bartram on the high ridges, which separate the waters of the *Savannah* river from those of the *Tennessée*, near cascades and rivulets. Stems several from one root, ash-coloured, round, and smooth while young: the branches come out irregularly and are incurved, forming a head more or less conical. Stipules attached to the petioles nearly their whole length. Leaves from 7 to 12 inches long, in a rich humid soil even 2 feet long, from 3 to 5 inches broad or more, frondose, which term I adopt from Jacquin to express that the leaves are approximated near the extremities of the branches, being more thinly scattered below, deciduous: Petiole reddish, short and very slender: Lamina or expanded part of the leaf light green on its upper surface, covered with a fine glaucous dew or meal underneath but without any pubescence, rhomboid-obovate with the base protruding into 2 ears, obtuse, very entire, and a little waved. Flowers fragrant especially when they first expand. Peduncle in my specimen 2 inches long, marked with the scars of two gemmaceous bractes besides a third still remaining close to the petals, smooth. Petals $3\frac{1}{2}$ to 4 inches long, white but soon changing to a dull yellow, more or less tinged with red near the base, obovate and finely veined, which last character is particularly conspicuous in dried specimens.

Besides this, I have lately seen two more Magnolias with auriculated leaves, brought over by Mr. Lyon. One of these is the *Pyramidata* of William Bartram, who discovered it on the banks of the *Alatamaha* and *Susquehannah* rivers: the leaves are small, from 4 to 7 inches long, more attenuated toward the footstalk than in the *Auricularis*, smooth and quite green on their under surface, answering most exactly to Michaux's specific character of his *Auriculata*, so that I suspect he has confounded it with the species now figured. The other is the *Macrophylla* of that indefatigable botanist, discovered by him in the Western regions of the river *Tennessée*: it resembles very much the *Tripetala* in habit, but may be instantly distinguished by the pubescence of its foliage.

. Veronica globularis.

S. G. Vi. 1. Tab. Ber. Aug. 1. 1806

XLIV.

MENZIESIA GLOBULARIS.

Globular Menziesia.

ORDO NATURALIS.

Rhododendra. *Juss. Gen. p.* 158.

Sect. I. Corolla 1-petala.

Calyx brevissimus, parum 4-fidus. Corolla ventricosa limbo brevi recurvo, decidua. Filamenta 8, toro inserta. Antheræ juxta apicem foramine obovato dehiscentes. Pericarpium superum, 4-loculare; septis e marginibus valvarum, ab axi dehiscentibus; placentis longis. Semina scobiformia. *Frutices humiles. Folia alterna, frondosa, late lanceolata, autumno decidua. Flores spicâ brevissimâ terminali medio ramulorum novorum quasi fasciculati, cernui. Bracteæ* 3 *ad singulos pedunculos* 2 *interioribus perangustis, gemmaceæ, caducæ. Genus herbâ et inflorescentiâ* Azalearum *ut hodie nuncupantur, calyce et corollâ* Vaccinii, *apprimè distinctum. Species jam detectæ sunt*

Urceolaris. M. foliis subtus extra nervos glabris: calyce vix 4-fido: corollæ tubo urceolari.
M. ferruginea. *Smith Ic. Pl. ined. n.* 56.
Sponte nascentem in *Americæ Borealis* oris occidentalibus copiose, legit A. Menzies.

Globularis. M. foliis subtus extra nervos pubescentibus: calyce 4-fido: corollæ tubo globoso.
M. Smithi. *Mich. Fl. Boreali-Am. v.* 1. *p.* 235.
Sponte nascentem in *South Carolina*, legit A. Michaux.
Floret apud nos fine *Maii, Junio.*

It gives me no little satisfaction to describe a new *Menziesia*, for one cannot be too frequently reminded of such a liberal botanist as it is named after. Upon comparing specimens of the original species gathered by himself on the West coast of *North America*, with this from *South Carolina*, I have ventured to separate them. I am aware that as far as length of flower is concerned, some *Andromedas*, *Vacciniums*, and *Ericas*, which are pure varieties, differ as much; but until individuals between these two are discovered, I think they should not be joined, and as the colour of the flower is the same in both, I have changed their names for others by which they may be instantly distinguished. Nothing can sound more uncouthly than *Menziesia Smithi*, besides it is not the one described by that botanist.

The figure was made from one of the plants in the rich collection which Mr. Lyon is now selling, who informs me that the stem seldom attains more than 3 feet in height: it is erect and round with spreading branches coming out generally 3 together as if verticillated, but unequal in length: cuticle of the bark detached in long reticulated shavings. Stipules gemmaceous, caducous. Leaves alternate, frondose: Petiole short, hairy: Lamina broad-lanceolate, nearly quite entire, terminated by an obtuse callus, somewhat hairy on the upper surface, very glaucous and pubescent on the under surface besides longer flat hairs scattered upon the nerves; some of these hairs towards the base of the principal nerve come out two or three together as if deeply cloven. Flowers in a very short terminal spike surrounded by the young branches, drooping. Peduncles half an inch long or more, yellowish green, scattered over with glanduliferous hairs. Bractes 3 under each peduncle, the two inner ones very narrow and bearded with long hairs, gemmaceous, caducous. Calyx yellowish green, evidently divided into 4 round segments pectinated with glanduliferous hairs. Corolla yellowish tinged with red: Tube about a line and a half long, globular and smooth: Limb in 4 recurved semicircular divisions. Filaments 8, coming off with the corolla as if they were attached to it, but really inserted in the receptacle, about as long as the tube, gradually narrowed, flattish, smooth. Anthers emarginated at the base. Pericarpium broad-conical, while young covered with glanduliferous hairs. Style erect and straight: Stigma obtuse with 4 knobs in the disc: by these which terminate Correa's *Chorda Pistillaris.* the impregnating matter of the anthers is absorbed, for upon destroying one of them in several *Ericas* before the flower expanded, the corresponding cell of the capsule proved always abortive. Seeds long and narrow, obliquely truncated where they are inserted, more or less torn at the other end.

REFERENCES TO THE PLATE.

1. Part of a Flower cut open to shew the insertion of the filaments, magnified.
2. Pistillum, a little magnified.
3. Transverse section of the young Fruit, more magnified.
4. Stigma, magnified.
5. Front and back view of a Stamen, magnified.

Convolvulus farinosus

Pub. by W. Hooker Sept. 1806

XLV.

CONVOLVULUS FARINOSUS.

Mealy Convolvulus.

Ordinem Naturalem et Characterem Generis, vide sub No. 20, ubi dele *deflexis* post fructu.

C. caule sericeo: foliorum laminis cordato-sagittatis basi sinus prominente, repando-dentatis, supra glabris: paniculis 3-7-floris: corollâ 5-6 lineas longâ, limbo argute 5-fido: stigmatibus glabris.

C. farinosus. *Jacq. Hort. Vind. v.* 1. *p.* 13. *t.* 35. C. farinosus. *Linn. Mant. p.* 203.

Locus natalis haùd pro certo innotuit, forsan *Rio Janeiro*.

Floret apud nos a *Julio* in *Octobrem*.

There is a peculiar delicacy in the foliage of this *Convolvulus*, which renders it well worth the care of those who cultivate annuals. If raised in a hotbed early in Spring and placed close under a south wall about the end of May, it will flower abundantly and ripen seeds in the open air: but to insure this, the pot should be plunged in the ground upon a flat tile, filling the hole with fine gravel; for if the plant is turned out into rich soil it grows too luxuriantly. The principal stem is not so thick as a crow's quill, and covered with a short silky pubescence, which at a little distance has more or less the appearance of dust. Leaves remote from each other, though apparently crowded from the number of branches: Petiole about an inch long, its base tinged with dull purple, very slender, finely channelled: Lamina from $1\frac{1}{2}$ to 3 inches long, yellowish green and smooth on the upper surface, paler and pubescent underneath especially while young, cordate-sagittate with the base itself of the sinus prominent, repand-dentate, the point finely mucronate, nearly flat. Panicle from 3 to 7-flowered. Peduncle very slender and round. Bractes small, tinged with dull purple toward the top. Pedicels turned upward after flowering, not down as in many others: such anomalies deserve the closest attention of the physiological botanist. Calyx tinged with purple like the Bractes, slightly pubescent; its leaflets narrowly ovate and mucronate. Corolla $\frac{1}{2}$ an inch long or more; Tube pale green, funnel-shaped, 5-angular, shining: Limb pale rose colour, its wedge-shaped folds externally coloured like the tube and shining; segments wedge-shaped, really obtuse as Jacquin accurately describes them, though from being somewhat acuminate they appear sharp. Filaments whitish, attached to the tube nearly its whole length, thinly covered with a glandular pubescence. Anthers pale blue. Pollen white. Nectarium deep yellow. Pericarpium before impregnation pale yellow with a purple tinge, 2-locular with 2 seeds in each cell in above a hundred specimens which I took the trouble of examining: Jacquin describes it 4-locular with 1 seed in each cell, and perhaps it may be so occasionally, for other species vary in this respect. Seeds black, minutely tuberculated.

REFERENCES TO THE PLATE.

1. Part of the Corolla spread open shewing the insertion of the Filaments.
2. Pistillum.
3. Transverse section of the Seed Vessel.
4. A Seed magnified.

Ouratea crassifolia

... Pub. by W. Hooker, Sept.1 1806

XLVI.

GARDENIA CRASSICAULIS.

Thick-ſtemmed Gardenia.

ORDO NATURALIS.

Rubiaceæ. *Juss. Gen. p.* 196.

Pericarpium 1-loculare, clausum: pariete membranaceo aut lignoso: placentis tot stipitatis quot lobi stigmatis, fructu maturo succulentis et coloratis: in nonnullis diu persistens. Calyx plus minus tubulosus, 5-9-fidus laciniis in plerisque verticalibus et membranâ stipulaceâ connexis, basi persistens. Corolla pergaminea: Tubus anguste infundibuliformis, mediocris longus ve: Limbus planus, profunde 5-9-fidus: decidua. Antheræ 5-9, ore tubi infra medium dorsi insertæ ramento brevissimo supra quod plus minus adnatæ. Stigma clavatum, 2-5-lobum. Semina numerosa, placentis nidulantia. *Frutices sempervirentes, plures brachiati, gummiferi. Folia ampla, opposita 3-nave, obtusa. Stipulæ intrafoliaceæ, vaginantes, in cuneas 2 æquales aut 1 latere tantum fissæ. Flores fragrantes, solitarii aut paniculâ 3-florâ, in dichotomiis ramorum novorum terminales, interdum 1 latere supraaxillares gemmâ foliiferâ ad eorum basin latente, breviter pedunculati. Bracteæ ad flores solitarios nullæ. Genus pulchrum, fructu 1-loculari ab affinibus facile dignoscendum, cujus legitimæ sunt species* G. Radicans *Thunb.* G. Florida *L.* G. Thunbergia *L.* G. Latifolia *Sol.* G. Gummifera *L. præter quinque non descriptas in Herbario Banksiano.*

G. foliorum laminis rhombeo-lanceolatis, undulatis: calyce spathaceo, hinc fisso, laciniis cucullatis: pericarpio lignoso.

G. Thunbergia. *Thomps. Bot. Disp. No.* 10. *cum Ic.* G. Thunbergia. *Thunb. Diss. n.* 3. G. Thunbergia. *Linn. Suppl. p.* 162. Thunbergia capensis. *Mont. in. Act. Holm.* 1773, *p.* 288. *t.* 11. Bergkias. *Sonnerat. Voy. p.* 48. *t.* 17, 18. Wilde Catjepiring *Hollandis.*

Sponte nascentem juxta fluvium *Van Staad's*, sylvis, legit C. P. Thunberg.

Floret a fine *Januarii* in *Martium:* apud nos quoque per æstatem.

When such botanists as Linnè and Montin differ in opinion, it is natural for the most experienced observer to hesitate. Jussieu accordingly does not venture to decide the genus of this fragrant shrub; and it is only after a long and minute investigation of every species now referred to *Gardenia* by Willdenow, that I follow the first of these great men, and say with him, "*quis hanc Gardeniam esse negare potest.*" The structure of the Calyx and Fruit was the only reason for separating it: as to the Calyx, it does not correspond exactly in any species either of true or false *Gardenia;* and in one from the coast of *Guinea*, most closely allied to this, the segments are not cucullate but flat as in the *Otaheite* species: as to the Fruit, in the original *Gardenia* it is 2-locular as was at first supposed, but 1-locular with two, three, and even four parietal placentas exactly as in this, only at last they become scarlet and more succulent; in the consistence of the paries or shell, I find an insensible gradation throughout the whole genus, from the thin and almost transparent skin of *Florida* to the thick woody coat of *Thunbergia*; so that there is not a doubt left in my own mind upon the subject. The stem of this species is much thicker than in the others, and affords a good specific name now first proposed, for I think generic and specific titles should not in any instance whatever be confounded: it attains the height of 10 or 12 feet, is round with a smooth ash-coloured bark, a little hairy while young, sending out from the base all the way up many spreading branches which are at first verticillated, but in time alternate from the decay of the weakest. Leaves from 2 to 3 inches long, generally in threes, sometimes opposite or even in fours; Petiole short: Lamina deep green with the under surface paler, nearly

horizontal, rhomboid-lanceolate, sometimes a little sinuated, very entire, obtuse, smooth on both surfaces except in the angles of the principal nerves, where they are inflated into a little bubble and bearded underneath, more or less waved, while tender very gummy: Nerves almost as prominent on the upper surface as underneath. Stipules bursting on one side, the top generally remaining entire. Flowers solitary at the end of almost every branch, exhaling a most delightful odour like that of the *Nyctanthes Sambac L.* Thunberg however describes it "*parum ingratum*" and in a hotter climate it may prove too powerful. Peduncle short and thick. Pericarpium only about a quarter of an inch long before impregnation, afterwards swelling to the size of an hen's egg, oval, woody but the placentas or receptacles of the seeds fleshy, remaining for years before it falls off. Calyx from $1\frac{1}{2}$ to 2 inches long, spathaceous as if made up of a stipule and from 7 to 9 spoon-shaped leaflets inserted just below its top, bursting on one side, hairy especially within. Corolla white, gradually fading to a buff color: Tube from $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long, straight or in horizontal branches curved a little upwards, hairy towards the top of the inside, narrow-funnel shaped. Limb about 2 inches in diameter, deeply divided into from 7 to 9 or even 10 obovate segments. Anthers pale yellow, 6 or 7 lines long, above the tube horizontally recurved, obtusely mucronated. Nectarium pale yellow. Style finally longer than the tube: Stigma pale yellow, club-shaped, divided generally into 4 lobes; but I found one flower in which it was only 2-lobed, which is the natural number, and with only 6 divisions in the corolla. Seeds obovate and exceedingly comprest. Communicated by the Right Honble. Charles Greville, in whose collection it has also flowered some years ago.

REFERENCES TO THE PLATE.

1. Germen and Stigma.
2. Transverse section of the young Fruit magnified.
3. Longitudinal section of a ripe Fruit.
4. Front and back view of a Stamen.

XLVII.

LILIUM CONCOLOR.

Self-coloured Lilium.

ORDO NATURALIS.

Lilia. *Juss. Gen. p.* 48.

Petala toro confluentia, recta aut revoluta, plus minus unguiculata sulco ibidem longitudinali melifero, decidua. Filamenta toro inserta, longa, subulata. Antheræ grandes, post anthesin incumbentes. Pericarpium superum, figurà varium, 3-angulum, 3-loculare, 3-valve, 6-costatum, membranaceum. Stylus in plerisque longus. Stigma clavatum, 3-lobum lobis sæpe recurvis. Semina angulo interno loculi 2-plici serie imbricata, plana. *Herbæ humiles vel altæ. Radix bulbosa, squamis cuneatis imbricata, quotannis periens novis in axillis foliorum radicalium vel squamarum enatis. Caulis gracilis crassusve. Folia quædam radicalia, reliqua alterna aut verticillata, plus minus lanceolata, obtusa. Flores speciosi,* 1-50 *spicati, pedicellis nunc approximatis quasi corymbosi, erecti vel cernui. Bracteæ* 1-2 *sub singulis pedicellis, foliaceæ.*

L. foliis sparsis subverticillatisque, lineari-lanceolatis: floribus erectis: spicâ 1-3-florâ corymbosâ: petalis recurvo-patentibus, fere æqualibus: stylo brevissimo.

Floret apud nos *Julio.*

One of the rarest species of this gaudy genus, and as far as I know in no other collection yet than the Right Honble. Charles Greville's, who does not know from whence he received it. From the short style, it was supposed to be the L. *Camschatcense* L. but that plant is most probably a *Fritillaria:* this is unquestionably a true *Lilium*, with the club-shaped stigma of that genus, the pistillum however in all the flowers appeared imperfect, without any seeds in the germen of those I dissected: a very faithful representation of it is given by Mr. Hooker. The tallest of the four plants which flowered was only a foot high. Stem slender, tinged with dark purple, slightly pubescent. Leaves deep green, paler underneath, radical ones in roots that did not flower very narrow and petiolated, the others sessile and towards the top of the stem somewhat verticillate, linear-lanceolate, very finely serrated, obtuse, smooth and a litfle striated: Nerves very slender. Flowers from 1 to 3, in a short corymbose spike. Pedicels about 2 inches long, not differing in structure from the stem, but of a darker purple. Petals of a deep scarlet colour, somewhat yellower at the base but without any spots, attenuated into broad yet evident claws as in the L. *Philadelphicum* to which species this seems nearly allied, recurved-spreading, lanceolate, very obtuse and glandulous at the top, almost equal in breadth. Filaments scarlet with their base of a deep orange colour. Anthers scarlet, large and incumbent. Pollen scarlet. I have not yet had an opportunity of seeing the root.

REFERENCES TO THE PLATE.

1. Pistillum.
2. A Petal, shewing the Nectarium.

Billardiera Mutabilis

Drawn & Pub. Oct. 1. 1806 by W. Hooker

XLVIII.

BILLARDIERA MUTABILIS.

Changeable Billardiera.

ORDO NATURALIS.

Rhamni. *Juss. Gen. p.* 376.

Sect. XI. Stamina toro inserta petalis alterna. Fructus drupaceus aut baccatus.

Calyx 5-phyllus, coloratus, deciduus. Petala 5, basi contigua, calyce 2-plo longiora, decidua. Filamenta 5, extus canaliculata. Antheræ ante anthesin in quibusdam convergentes. Pericarpium basi inter filamenta prominens et melliferum, oblongum basi styli persistente, succulentum, clausum, 2-loculare loculis pulpâ farctis, deciduum. Stigma glutine hemisphæricum, defloratum plus minus 2-lobum. Semina numerosa, medio septi funiculis brevissimis 2-plici serie imbricata. *Frutices graciles, contra solem volubiles ramulis varie deflexis. Gemmæ parvæ, subrotundæ. Folia alterna, subfrondosa, in cunabulis convoluto-imbricata, brevissime petiolata, oblonga, quædam inferiorum haud raro serrata. Stipulæ nullæ præter gemmarum basin pedicellorum minutæ, caducæ; in unifloris nullæ. Genus* Pittosporo *in serie naturali proximum: hoc citra dubium ponit Fructus tener liquore oleoso subaromatico scatens, et Embryo in perispermo cartilagineo juxta hilum minutus.*

B. foliorum laminis lineari-lanceolatis: floribus sæpius solitariis: petalis demum purpureis rubrisque; pericarpio fusiformi, lævi.

Sponte nascentem in *New South Wales*, legit G. Paterson.

Floret apud nos a *Junio* in *Septembrem*.

This curious genus was first established by Dr. J. E. Smith in his specimen of the Botany of *New Holland*, in honour of John Julian La Billardiere, M. D. and the very imperfect character there given, is copied by that indefatigable French botanist in the work he is now publishing, without any alteration. Neither of these celebrated authors have guessed rightly about its affinity: for the habit, total absence of stipulation, and albuminous seeds, remove it as far from *Capparides*, as its polypetalous flowers and placentation from *Solaneæ*. For the present it may be inserted along with *Pittosporum*, among the *Rhamni* of Jussieu, but when that assemblage of dissimilar genera is reformed, these two will constitute a separate Order. The species now figured comes very near to the B. *Fusiformis* of La Billardiere, and before I read his description I had given it the same name, but as he says the germen is silky and the flowers panicled in that, I dare not join them. It may easily be increased by cuttings, and the seeds also ripen here. Stem dark purple while young, very slender, twining contrary to the sun, but the shorter branches which are numerous and alternate hang down more or less, round and hairy. Leaves of a dull green, paler underneath, shortly petiolated, alternate, somewhat frondose or approximated near the end of the branches as in *Pittosporum*, narrow and linear-lanceolate, waved, but not serrated in any specimens I have seen, the point recurved and mucronate, more or less hairy. Flowers without smell, pendulous, terminal, solitary or rarely 2 together, the peduncle of the first branching out a little above its base. Peduncle dark purple, thicker near the flower, round and hairy. Calyx pale yellow: leaflets unequal in size but regular, erect, lance-wedge-shaped, very entire, obtusely mucronate, hairy on both surfaces, considerably thickened and prominent at the base. Petals 5, pale yellow, changing as they decay first to a

purple and lastly a red colour, similar in structure to the calyx but twice as long, recurved towards the top, not so thick at the base and quite smooth. Filaments 5, pale yellow, erect, shorter than the petals, towards the base wider and externally channelled, smooth. Anthers pale yellow, obtuse with a bifid base. Torus connected with the peduncle by a joint. Pericarpium superior: before impregnation bright green, about the length of the calyx, nearly cylindrical, jutting out between the filaments into as many small lobes which are abundantly melliferous, perfectly smooth, 2-locular: after impregnation an inch long or more, when cut transversely pouring out a slightly aromatic oil from several vessels near the margin: at last yellow and pulpy. Style pale green and short. Stigma at first truncated and hollow, then hemispherical with a whitish clammy liquid, lastly imperfectly 2-lobed. Seeds dark brown, round and compressed. From my own collection at *Mill Hill*.

REFERENCES TO THE PLATE.

1. Stamen seen in front and behind.
2. The Pistillum with the stigma magnified.
3. The young Fruit cut transversely.
4. A seed.

Columnea mirabilis

Drawn & Published by W. Hooker

XLIX.

CYMBURUS MUTABILIS.

Changeable Cymburus.

ORDO NATURALIS.

Vitices. *Juss. Gen. p.* 106.

Sect. II. **Flores spicati, in spicis alterni.**

Calyx compressus, foveâ pedunculi nidulans. Corollæ Tubus curvus: Limbus parum infundibuliformis, inæqualiter 5-fidus. Filamenta 2 sterilia. Antheræ longæ, lobo alio in alium perpendiculari. Stigma pileiforme. Pericarpium 2-spermum, pelliculare. *Herbæ vel Suffrutices. Folia opposita, serrata. Flores spica caudatâ terminali sessiles, pedunculo ad singulos in cymbam* Rottbolliæ *instar exsculpto. Bracteæ solitariæ. Hoc genus a* Verbenâ, *sub nomine* Sherardiæ *olim separavit Vaillant, et* Stachytarphetæ *nuper Vahl: isto autem titulo canoni* 249 Phil. Bot. *repugnante, a vocibus* κυμβη *et* ωρα *etymon petivi: ejus species sunt* Orubica L. Indica L. Jamaicensis L. *et forsan plures.*

C. foliorum laminis ovatis, subtus tomentosis: bracteis apice patulis setaceisque: calycis dorso vix in dentem producto: corollâ extus viscidulo-pubescente: stigmate integro.

Stachytarpheta Mutabilis. *Vahl. Sp. Pl. v.* 1. *p.* 208. Verbena Mutabilis. *Vent. Jard. Malm. n:* 36. *cum Ic.* Zapania Mutabilis. *Lam. Illustr. Gen. p.* 59. Verbena Mutabilis. *Jacq. Ic. Collect· v.* 2. *p.* 334. Sherardia teucriifolio, flore coccineo. *Vaill. Sex. p.* 49. Verbena Orubica, Teucriifolio, Primulæ veris flore, &c. *Herm. Prodr. p.* 388. Verbena Americana, &c. flore coccineo spicato. *Breyn. Prodr.* 2. *p.* 103.

Sponte nascitur in Ins. *Aruba*, et regionibus adjacentibus continentis.

Floret apud nos a *Julio* in *Octobrem.*

No plants which belong to one and the same Natural Order, can be more distinct in genus, than those which are above separated from the true *Vervains* : by the latter I mean such as have the habit and structure of *Verbena Officinalis* L. in which the Peduncle is like that of most other vegetables, Calyx roundish, Filaments all fertile, Anthers short with parallel lobes, Stigma unequally bifid, Seeds four. The species now figured has been erroneously referred to Scopoli's genus of *Zappania* by Lamarck, but I believe that botanist is right in quoting *Verbena Orubica* for it, as far as regards the real plant from that Island, cultivated in Simon de Beaumont's garden in the year 1688. Both Plukenet's figures however belong to Linnè's blue-flowered species "*spicâ foliosâ*," first taken up by him in *Hortus Cliffortianus:* this I have ascertained by examining the specimens themselves in the British Museum. There is a report among the gardeners that our plant came from *Peru*, and the *Verbena dichotoma Fl. Per. v.* 1. *p.* 23. *t.* 34. *f.* 6. certainly resembles it; but as the Stigma is described 2-lobed, Bractes as long as the Calyx, Calyx 5-dentated, and no mention made of the colour of the flowers, I hesitate to add it to the other synonyms. Ours is now common in the collections about *London*, having been sent to Mr. Hooker by several of his patrons, and may be increased by cuttings.

The Stem becomes somewhat woody with widely spreading branches, sharply 4-cornered and hairy. Leaves yellowish green: Petiole $\frac{1}{2}$ an inch long or more, convex on its upper side, bordered with the lamina decurrent almost to the bottom: Lamina $2\frac{1}{2}$ to 4 inches long, ovate, serrated, obtuse, hairy, paler and more nappy underneath, wrinkled. Flowers in a long spike. Peduncle hollowed out for each flower as in some of the Grasses. Bractes shorter than the calyx. Calyx $\frac{1}{2}$ an inch long, exceedingly comprest with 2 deep furrows next to the peduncle,

hairy externally. Corolla an inch long or more: Tube dark red with a whitish bottom, cylindrical, on one side within thickly bearded with erect hairs: Limb deep scarlet, gradually changing to a lilac tinge, more than twice as long as the tube, externally slightly viscid-pubescent; its lower part only a little wider than the tube, somewhat compressed with two furrows in front, where it is internally bearded above the insertion of the barren filaments, up to its mouth, in the same manner as the Tube is below the insertion of the fertile filaments; its upper part horizontal with a deep purple heart-shaped mark about the mouth, divided into 5 short rounded segments, of which the two uppermost are widest, and the middle of the others narrowest. Filaments whitish, short, bearded on one side, barren ones very narrow. Anthers pale yellow, the upper lobe shorter and placed perpendicularly over the other. Pollen consisting of 3 or sometimes 4 globular bodies confluent with a still larger central one. Pericarpium only consisting of a thin pellicle adhering to the seeds, but continuous with the style, so that they cannot be called naked. Style pale yellow, reaching to about the mouth of the limb, smooth. Stigma green, cap-shaped, smooth.

The apparatus of hairs in the corolla to prevent, as I conjecture, minute insects from robbing the flowers of their honey, is very curious. Many botanists, even Jussieu and Gærtner, describe the seeds in several genera of this Natural Order, as naked: on this subject I must refer my readers to some observations in the *Generic Characters of English Botany collated with those of Linnè*, *p.* 15. under *Myosurus*, which are corroborated by Monsieur Turpin's valuable physiological paper in the last number of the *Annales du Museum d'Histoire Naturelle*.

REFERENCES TO THE PLATE.

1. A Flower shewing the Tube.
2. Calyx.
3. Part of the Corolla spread open, magnified, shewing the insertion of the Filaments.
4. A Stamen more magnified.
5. Pistillum.
6. Stigma magnified.
7. Receptacle stript of the Bractes.
8. Pollen highly magnified.
9. Transverse section of the seed vessel magnified.

Justicia irregularis.

Drawn & Pub. Oct. 1. 1806 by W. Hooker.

L.

JUSTICIA VIRGULARIS.

Twigged Justicia.

ORDO NATURALIS.

Acanthi. *Juss. Gen. p.* 102.

Sect. II. Filamenta duo, nec ulla sterilia.

Calyx 5-phyllus: foliolis post lapsum corollæ convergentibus. Corollæ Tubus basi inflatus, inde plus minus compressus: Limbus 2-labiatus; labio superiore emarginato, inferiore varie 3-fido. Filamenta ore tubi ad latus inferius inserta. Antheræ lobis plus minus obliquis. Stigma emarginatum. Pericarpium loculis 2-spermis, septo valvis cohærente. *Herbæ aut Frutices. Folia opposita, rarius* 3-*na. Flores in axillis solitarii pluresve, nunc foliis sensim repenteve in bracteas transeuntibus spicâ simplici aut decompositâ terminales. Bracteæ ad singulos flores* 2, *præter aliam loco folii ubi spicati. Genus vastum, nec a structurâ antherarum, ut opinor, in plura dividendum, lobis vix unquam omnino parallelis: figura corollæ et dehiscentia pericarpii forsan limites certos et naturales suppeditet.*

* *Flores axillares, aut foliis in bracteas transeuntibus demum spicati.*

J. foliorum laminis lanceolato-cuneatis margine recurvo, subtus punctatis: floribus in axillis alternis, secundis: corollæ labio inferiore profunde 3-fido: antherarum lobis parum obliquis.

J. quadrifida. *Vahl. Sp. Pl. v.* 1. *p.* 124. J. Coccinea. *Cav. Ic. v.* 2. *p.* 77. *t.* 199.

Sponte nascitur in *Novâ Hispaniâ.*

Floret apud nos a *Junio* in *Septembrem.*

A low shrub, flowering abundantly now in the stove of Isaac Swainson, Esqr. at *Twickenham.* Stem slender, more or less tinged with purple, compressed between the joints with two downy stripes from the insertion of the petioles. Leaves yellowish green: Petiole very short, its inside pubescent: Lamina from $1\frac{1}{2}$ to 2 inches long and 4 to 5 lines broad, lance-wedge-shaped, very entire with the margin recurved, acute, covered with an exceeding short pubescence scarcely perceptible to the naked eye, punctated on the under surface, where it is also while young abundantly bedewed with vesicles, from the oil of which a fœtid smell resembling that of *Asclepias Fruticosa*, L. and some *Cleomes*, is diffused. Flowers only in the alternate axills of the upper leaves, which gradually decrease in size so that the inflorescence changes to a slender thin spike, all pointing one way. Bractes small, wedge-shaped. Peduncle of each flower very short and thick. Calyx thickly covered with vesicles. Corolla bright scarlet with the base orange: Tube at the inflated part smooth, above it hairy, and within thickly bearded: Upper Lip emarginated: Lower Lip deeply divided into three segments. Filaments orange-scarlet, channelled. Anthers sagittate, their lobes somewhat oblique. Nectarium large, saucer-shaped. Pericarpium broad-spatulate, comprest and shining. Style scarlet and filiform. Stigma emarginated. Seeds ash-coloured, tuberculated.

I should certainly have retained the late Professor Vahl's name of *Quadrifida*, if it had been correct: that of *Coccinea* has long since been given to another species by Aublet.

REFERENCES TO THE PLATE.

1. The Corolla spread open shewing the insertion of the Filaments.
2. Calyx and Pistillum.
3. Germen magnified.
4. Front and back view of a Stamen magnified.
5. Stigma magnified.
6. Capsule.
7. The same open, the Seed thrown out.
8. A Seed.

Clitoria cordifolia

Chapman & Pub. by W. Hooker

LI.

CLITORIA CALCARIGERA.

Spurred Clitoria.

ORDO NATURALIS.

Leguminosæ. *Juss. Gen. p.* 345.

Calyx brevis longusve, 5-fidus laciniis 2 superioribus approximatis. Corollæ Vexillum grande, alas et carinam obumbrans. Filamenta diadelpha. Pericarpium longum, sublineare suturâ utroque margine latâ, isthmis fungosis sæpe incompletis interceptum. Semina plurima, subovalia. *Herbæ volubiles. Folia pinnata cum impari; foliolis sæpius* 1-*jugis. Stipulæ a petiolo distinctæ. Flores resupinati, spicis axillaribus,* 1-4-*floris. Bracteæ* 3, *duabus ad calycem. Nomen generis aptissimum imposuit Petiver, selegit Dillenius, reformavit Linne, sancivit demum Jussieu, tot tantique viri: itaque delendum a pio illo Botanico, qui Vaillantium in* Hypno *nuperrime castigavit, relinquo.*

C. foliolis 1-jugis cum impari: vexilli dorso in calcar unguem premens tumido.

Variat α. foliolis angustis, elongatis.

β. foliolis ovato-oblongis.
Clitorius trifolius, &c. *Dill. Hort. Elth. v.* 1. *p.* 90. *t.* 76. *auctoritate ejus speciminis.*

γ. foliolis ovatis.
C. virginiana. *Swartz Obs. p.* 282. C. virginiana. *Linn. Sp. Pl. ed.* 1. *p.* 753. Clitorius alter trifoliatus, &c. *Clayt. in Gron. Fl. Virg. ed.* 1. *p.* 73. *auctoritate ejus speciminis.* Fœnum Græcum phaseoloides. *Plukn. Alm. p.* 175. *Phyt. t.* 90. *f.* 1.

Sponte nascentem in Ins. *Barbadoes*, legit Francis Lord Seaforth.

Floret apud nos *Julio, Augusto.*

If Linne had examined the flowers of this *Clitoria*, he would have been much gratified, for in the vexillum there is a singular appendage which distinguishes it not only from its congeners, but all the papilionaceous plants I have yet seen; and as it is certainly indigenous in the hotter Islands of *America*, I have no scruple in changing the name, for one which at the same time serves as a specific character. The genus is nearly allied to *Phaseolus* and *Dolichos*, with which Jussieu has placed it, who very judiciously enquires if the species with 3-nate leaves ought to be separated. Such a difference would, in all probability, be attended with others more material in the fructification; but the leaves of these *Clitorias* are really pinnate, not 3-nate; for though only consisting of a single pair of leaflets besides the odd one, two are placed below upon the common petiole. Gærtner's account of the embryo in another species merits a further investigation: in ours, the Plumula is very conspicuous. The Vexillum alone is never resupinated, but the whole flower, and it is one among many others which prove the superiority of Jussieu's *Delineatio Generis*, if I may be allowed the expression, to Linnè's. Can there be a stronger proof of this, than the condition in which the copies of these two great men's *Genera Plantarum* are usually found? While the pages of one book remain unsullied, those of the other are dirtied and worn with being perpetually turned over.

This species varies both in the shape of the leaves, size of the flowers, and colour of the seeds; which is not uncommon with leguminous annuals. I have the *Glycine Bimaculata Curt.* from *New Holland* with narrow and broad leaflets; and the seeds of the early white *French Bean* sometimes produce variegated or quite brown ones; the quantity of iron in the soil I have some reason to suppose may occasion this. The variety γ here figured was communicated by the Rt. Honble. Charles Greville. Stem slender, only about 3 feet high, hairy. Leaflets egg-shaped, hairy especially near the margin. Flowers in short spikes, seldom more than two-flowered.

Bractes striated. Calyx much shorter than in other *Clitorias*, scarcely comprest. Standard externally of a dull yellow colour and pubescent, internally lilac with a yellow middle variegated with red streaks and smooth, furnished with a solid spur just above the claw: Wings and Keel pale lilac, adhering closely together. Nectarium very large, like a ruffle. Pericarpium narrow with prominent sutures. Seeds brown with a greyish cloud in the middle.

REFERENCES TO THE PLATE.

1. The Vexillum, shewing the Spur.
2. The Carina.
3. The Alæ.
4. Calyx and Pistillum.
5. Stigma magnified.
6. Anthers magnified.
7. Stamina natural size.
8. The Nectarium, with part of the Germen, magnifie

Canna Iridiflora.

Drawn & Pub. by W. Hooker Nov 1 1806

LII.

CRINUM YUCCÆFLORUM.

Yucca-flowered Crinum.

ORDO NATURALIS.

Narcissi. *Juss. Gen. p. 54.*

Sect. II. Pericarpium inferum.

Corollæ Tubus longus, cylindraceus apice parum dilatato, in quibusdam diu vegetus: Limbus priusquam expandit subtus ventricosior, dein regularis irregularisve, 6-partitus. Filamenta ore tubi inserta, inferiora magis arcuata, nunc cum stylo deorsum secunda. Pericarpium membranaceum. Semina pauca in singulis loculis, bulbiformia. *Bulbus porriformis aut subrotundus. Folia quadantenus* Agavium, *multifaria, toto anno prodeuntia lateribus dum juniora complicatis. Pedunculus* 1-26-*florus, solidus. Bracteæ interiores ramentaceæ. Characterem suum ad* C. Americanum *proposuit Linne: huic jungo ejus* C. Asiaticum, C. Erubescens, *L. fil.* C. Commelini, *Jacq.* C. Giganteum, *Kenn.* Amaryllidem Ornatam, *L. fil.* Tulipam Javanam, *Rumph.* Lilio-narcissum Ceylanicum, &c. *Commel.* C. Longifolium, *Thunb. omnia ab* Amaryllide, *præter fructum, vel solâ herba dignoscenda. Species limbo magis irregulari separare, vetuit* C. Giganteum *Kenn.*

* *Limbo irregulari.*

C. foliis parum angustatis, rare crenulatis, basi undulatis: fasciculo 2-4-floro: corollæ limbo tubo $\frac{1}{3}$ breviore; laciniis anguste lanceolatis: antheris infra medium insertis, mucronatis.

Sponta nascentem in *Sierra Leon*, legit A. Afzelius.

Floret apud nos *Augusto, Septembri.*

When Linnè constituted his genera of *Crinum* and *Amaryllis* in the Hortus Cliffortianus, few liliaceous plants were known in Europe; and of the great number since introduced, almost every species with a bulbous root, and germen inferum, however discordant in habit, has been referred to one or the other of those genera. The celebrated Solander first lessened the number of false *Crinums*, by establishing a distinct genus from the *Africanum*, which has germen superum: the younger Linnè next separated the *Angustifolium* and *Obliquum* by the name of *Cyrtanthus;* and both their MSS. are published in the Hortus Kewensis: lastly, Jacquin has removed *Tenellum*, to his genus of *Strumaria.* Full as much remains to be done in *Amaryllis*, and Mr. Kerr (lately Gawler) from whose exuberant descriptions some honey may be always gathered, has in the 661st and 923d numbers of the Botanical Magazine, given a full detail of the different seeds observed in that genus: but I suspect that those which are bulbiform are never accidental, or found in the same plant which produces flat membranaceous ones; on the contrary they appear to me connected with other characters in the leaves and flowers, by which in time those plants will be divided into easy and certain genera. That Mr. Kerr's remark on this subject under A. *Longifolia.* is founded on a mistake, I have learnt from Mr. Wykes. What the *Bulbine Asiatica* of Gærtner is I am yet ignorant, certainly no plant in our collections; if I should guess at any one in particular, it would be the *Cæpa Sylvestris* of Rumph.

I wish the specific differences of the plant now figured were as well ascertained as its genus; two others exceedingly similar from the same country are known in the stoves about London, by the names of *Ornata* and *Uniflora*, the last of which is probably a weak bulb of the former.

Our plant differs so much from both, in the structure of its anthers, that I think it safest for the present to distinguish it. Mr. Hooker is indebted to the Compte de Vandes for the specimen, whose judicious gardener has long known what an advantage it is to plants, especially bulbous ones, to cut off their flowers. Leaves undulated like those of *Ornata*. Peduncle obtuse. Bractes not beginning to fade till the flowers are past. Pericarp sessile. Tube of the corolla yellowish green, wider at the top: Limb white with a dull red broad stripe in the middle of each segment, internally paler, the upper segment approximated. Filaments white. Anthers inserted below their middle, scarcely bifid at the base and terminating in a long point, finally curved and of a lead colour. Style purple towards the top. Stigma dark purple, 3-lobed.

REFERENCES TO THE PLATE.

1 An Anther magnified.
2 The Germen cut transversely.

Cynoglossum officinale.

Drawn & Pub.d by W. H. Fitch Nov.r 1.st 1836.

LIII.

CYMBURUS URTICÆFOLIUS.

Nettle-leaved Cymburus.

Ordinem Naturalem et Characterem Generis, vide sub No. 49.

C. foliorum laminis ovali-lanceolatis, nervo medio subtus rare hirto, cæterum glabris: bracteis totis adpressis, ovato-acuminatis: calycis dorso edentulo: stigmate integro.

Stachytarpheta jamaicensis. *Vahl Sp. Pl. v.* 1. *p.* 207. Verbena jamaicensis. *Linn. Sp. pl. ed.* 2. *p.* 27. Verbena jamaicensis. *Jacq. Obs. Fasc.* 4. *p.* 6. *t.* 85. Verbena erecta divisa, spicis e divaricationibus superioribus assurgentibus. *Brown Hist. Jam. p.* 115. Verbena foliis obtuse ovalibus, &c. *Linn. Hort. Cliff. p.* 10. Verbena folio subrotundo serrato, flore cæruleo. *Sloane Hist. Jam. p.* 171. *t.* 107. *f.* 1. Sherardia teucriifolio, flore purpureo *Vaill. Sex. p.* 49. Valerianoides. *Boerh. Hort. Ludg. v.* 2. *p.* 270.

Sponte nascentem in Ins. *Barbadoes* copiosissime, ad viarum margines, legit H. Sloane.

Floret apud nos in caldariis, toto fere anno.

Though not so handsome a species of the genus, as that figured last month, yet it deserves a place in the stove from being almost constantly in flower, where it ripens seeds in abundance. Sir Hans Sloane in the work above quoted recommends a decoction of the herb in dropsical cases, telling us that it was prescribed by the natives of the *West Indies* in his time for other disorders, and Jacquin found it sensibly pungent to the taste. The plant is particularly luxuriant at Isaac Swainson's, Esq. who communicated the specimen. Stem not annual, but in time somewhat woody, hairy while young. Leaves bright green. Petiole long: Lamina oval-lance-shaped, sharply serrated, the principal nerve towards the bottom hairy underneath, elsewhere smooth. Flowers in a very long slender spike, without smell. Peduncle deeply hallowed out for each flower, the cavity shining. Bracte closely prest to the calyx, membranaceous towards the base, and slightly torn or crenulate. Calyx only about two lines and a half in length, exceedingly comprest, four-toothed, the dorsal nerve terminating below the top. Corolla violet-blue, internally bearded as in C. *Mutabilis*. Filaments white. Anthers sulphur-coloured. Stigma greenish, cap-shaped and smooth.

Erythronium glaucum

Drawn & Pub. by W. Hooker Dec.r 1. 1806

LIV.

ORNITHOGLOSSUM GLAUCUM.

Glaucous Ornithoglossum.

ORDO NATURALIS.

Junci. *Juss. Gen. p.* 43.

Sect. IV. Pericarpium 3-loculare vel 3 basi coalita. Flores paniculati vel spicati.

Petala 6, cuneiformia, supra basin scrobiculo mellifera, persistentia. Filamenta 6, toro inserta, decidua. Antheræ parum sagittatæ. Pericarpium ovale, 3-angulum, 3-loculare, medio loculorum dehiscens. Styli 3, graciles, divaricati. Semina margine septorum duplici serie imbricata, ovata, succulentula. *Radix tuberosa, fere* Erythronii, *quotannis periens novâ dum foliatur ad apicem enatâ. Caulis turioniformis. Folia succulenta, equitantia inferioribus approximatis. Flores spicati, pedicellis longis apice clavatis. Bracteæ solitariæ, foliaceæ. Genus ab affinibus ejusdem regionis, insertione filamentorum, dignoscendum. Nomen a vocibus* ορνιθος *et* γλωσσα, *ob petala avium linguas referentia.*

O. foliis glaucis: pedicellis longis.

Melanthium viride. *Thunb. Prodr. p.* 67. auctoritate ejus speciminis. Melanthium viride. *Linn. Suppl. p.* 213.

Sponte nascentem in Promontorio *Cap*, legit J. Niven.

Floret apud nos *Octobri, Novembri.*

Under a specimen of this plant preserved in the Banksian Herbarium, some botanist has written "*forte alius generis.*" Of this there can be no doubt, as well as that the other plants from the same country must be removed from *Melanthium*, which is an American genus approaching nearer to *Veratrum:* both in them, and *Wurmbea* the root resembles that of *Colchicum*, and the young shoot springs from the side near the bottom, an additional reason for separating our plant. That it is the *Melanthium Viride* of Thunberg, I have ascertained from his own specimen, but the plant figured under that name in the *Botanical Repository t.* 233, though evidently a congener, cannot be the same with ours, unless it is very faulty indeed both in the colour and dissections.

It was sent to George Hibbert, Esq. from the *Cape of Good Hope* by his collector, and is also now in flower at Messrs. Lee and Kennedy's nursery. Root tuberous, more or less crooked, annually reproduced at the top of the preceding one, sending out fibres in a cluster from the bottom. Stem running horizontally when the root is near the surface of the ground before it emerges, round and smooth. Leaves glaucous, crowded at the bottom of the stem as if they were radical, somewhat bifarious, lance-wedge-shaped, very entire, obtuse, smooth, hollow. Flowers at first apparently radical, afterwards elevated in a manifest spike of from 5 to 20 flowers. Bractes only differing from the leaves in size, the lowest very large, the upper ones in specimens that have many flowers scarcely an inch long. Pedicles glaucous, long, round and club-shaped at the top. Petals dark purple with the disc glaucous and their margins towards he bottom white, reflexed, wedge-shaped, very entire, obtuse, equal in size; near the base hollowed out into a dull yellow oval nectarium above which they are besprinkled with small dark purple spots, and as soon as the fruit begins to swell, their sides are more curved over the nectarium; persisting. Filaments yellowish green with very minute dark purple spots towards the top, inserted in the receptacle quite distinct from the petals, reflexed, awl-shaped, smooth, deciduous. Anthers dull yellow with a purple tinge, somewhat sagittate, inserted below the middle. Pollen deep yellow. Pericarpium while young yellowish green, oval, 3-angular, shining. Styles 3, yellowish green with very minute dark purple spots towards the top, diverging from the very bottom, gradually attenuated. Stigma yellow, spatulate and convex. Seeds large, and as far as I can judge from some that are many years old fleshy or succulent.

REFERENCES TO THE PLATE.

1 A Petal magnified.
2 The Pistillum, with a Stamen shewing its insertion in the receptacle, magnified.
3 Back view of a Stamen.
4 Stigma magnified.
5 Young fruit cut transversely, magnified.

Hamelia grandiflora

Drawn & Pub.d by W. Hooker Dec.r 1.1800

LV.

HAMELIA GRANDIFLORA.

Large-flowered Hamelia.

ORDO NATURALIS.

Rubiaceæ. *Juss. Gen. p.* 196.

Sect. IX. Fructus monocarpus, multilocularis loculis polyspermis. Stamina 5, aut plura.

Pericarpium succulentum, 5-loculare. Calyx brevissimus, 5-fidus. Corollæ Limbus longissimus, parum 5-gonus, basi contractus, dein plus minus dilatatus latere inferiore nunc ventricosiore, breviter 5-fidus. Filamenta orc tubi inserta ibidemque parum dilatata. Antheræ longissimæ, adnatæ. Stigma clavatum, 5-gonum. Semina placentis stipitatis sessilia. *Arbores Fruticesve. Folia sæpius* 3-4-*na. Stipulæ parvæ, interfoliaceæ. Flores cymis terminalibus. Bracteæ ad ramos inferiores, mox prorsus deficientes.*

H. foliorum laminis lanceolatis, vix pubescentibus: corolla 13-15 lineas longâ, superne ventricosâ.

H. ventricosa. *Swartz. Fl. Ind. Occ. v.* 1. *p.* 446. H. grandiflora. *L'Herit. Sert. Angl. p.* 4. *t.* 7. Campanula arborescens, &c. *Browne Hist. Jam. p.* 166. Nerio affinis arbor versicolore materie, &c. *Sloane Hist. Jam. v.* 2. *n.* 63. *t.* 183. *f.* 2.

Sponte nascentem in Ins. *Jamaica*, plagis septentrionalibus, legit H. Sloane.

Floret ab *Aprili*, in *Octobrem.*

Sir Hans Sloane informs us, that in its native soil, this species of *Hamelia* becomes a large tree, affording planks which are beautifully variegated, called by the Cabinet-makers *Spanish Elm*, *Prince Wood*. I formerly cultivated it at Chapel-Allerton, where, by letting the roots run in the tan, it soon attained the height of 12 feet, and ripened fruit, which the *H. Patens* with the very same treatment constantly refused to do. From one of these fruits preserved in spirits, the dissection of that part has been drawn, but the figure is from a specimen sent by the Comte de Vandes. I have adopted L'Heritier's name, not only on account of its right of priority, but because there is another species with a flower still more ventricose.

Stem while young tinged with red, minutely pubescent. Leaves 3 or 4 in a whorl, petiolated, varying in breadth, lance-shaped, somewhat pubescent near the margin, attenuated at the point so much as to be almost sharp, tinged with deep red as they decay. Stipules small, recurved at the point, evidently pubescent. Flowers in closer cymes and less numerous than in the *H. Chrysantha* of Swartz, which it is difficult to distinguish from this when not in flower, at least in our stoves. Peduncle slightly pubescent. Pericarpium nearly smooth. Calyx edged with red Corolla bright gold colour, the lower side more ventricose. Filaments inserted in the mouth of the tube and converging at the base over the nectarium, they afterwards surround the style with a slight inclination to the lower side of the limb. Anthers nearly an inch long, attached to the front or rather immersed in the substance of the filament. Stigma club-shaped, slightly 5-gonous. From comparing the flowers with several others of the same Natural Order, it appears to me that the real tube extends no farther than the insertion of the filaments, and that all beyond ought to be considered as a limb divided only at the top.

REFERENCES TO THE PLATE.

1. The Corolla spread open, shewing the insertion of the Stamina.
2. Calyx and Pistillum.
3. Transverse section of the Fruit.
4. One cell of the same magnified.
5. A Seed magnified.

Lecythis Florida

Drawn & Pub. by W. Hooker Dec.1 1806

LVI.

LACATHEA FLORIDA.

Florid Lacathea.

ORDO NATURALIS.

Aurantia. *Juss. Gen. p.* 259.

Sect. III. Filamenta 60-200. Antheræ reniformes. Fructus polyspermus.

Calyx profunde 5-fidus, deciduus. Corolla rotata, profunde 5-fida, decidua. Filamenta basi corollæ inserta ibidemque parum coalita. Pericarpium ligneum, sphæricum, 5-loculare, 5-valve; basi apiceque fissuris 10, alternis permedium loculorum, dehiscens. Semina 5-7 in singulis loculis, axi imbricata, cuneiformia, angulata. *Arbor facie* Gordoniæ, *per hyemem denudata. Gemmæ conicæ. Folia frondosa, laminis obovato-lanceolatis, serrulatis. Flores grandes, in ultimis axillis subsessiles. Sui generis esse suadent calyx, insertio filamentorum, et pericarpium: doleo quidem, ut in hoc ordine tot genera unicâ specie absolvantur; sed cavere ne* " ordines ad genera reducamus imo tandem et classes" *in* Phil. Bot. *monet Linnè. Nomen a vocibus* λα *valde et* καθημαι *sedeo, petitum.*

L. foliis vix acuminatis, junioribus subtus tomentosis.

Gordonia pubescens. *Mich. Fl. Boreali-Am. v.* 2. *p.* 42. Gordonia pubescens. *L'Herit. Stirp. p.* 156. Gordonia Franklinia. *L'Herit, Stirp. p.* 156. Gordonia pubescens. *Cav. Diss. p.* 308. *t.* 162. Franklinia Alatamaha. *Marsh. Arbust. p.* 48.

Sponte nascentem infra *Fort Barrington*, solo humido arenoso, legit J. Bartram.

Floret *Augusto, Septembri.*

Nothing evinces the sound judgment of a botanist more than his opinions respecting genera: it behoves him therefore who labours in this branch of the science, to proceed cautiously, and study if possible, all the genera allied to that which he means to establish. Linnè first promulgated the important truth that they are *natural;* or in other words, that they depend upon a certain degree of conformity in the fructification of different vegetables, which decides the matter imperatively, and often contrary to our will and pleasure: for while some genera consist of a hundred, two hundred, and even three hundred species, in others such a peculiarity of flower and fruit is confined to one individual. In numerous genera moreover, the stigma is seldom ready to receive the pollen discharged by its own anthers, whereas in those which consist of a single species, there is often a physical impossibility for it to imbibe that of any other; and our great master's theory respecting the origin of the vegetables which cover this earth, is strongly corroborated by the above facts.

From these considerations I must follow John Bartram, the venerable discoverer of the tree now figured, in separating it from *Gordonia*, though against the authority of that excellent botanist L'Heritier: he knew so little about it however as to make two species of it; nor has he been more correct in joining its neighbouring genus *Stuartia* with *Malachodendron;* they do not even correspond in habit when botanically examined, the petioles of the latter being *gemmitegi*, the leaves not rolled back at their base, the flowers produced on the branches of the same year, the pericarpium slightly immersed in the receptacle, besides having 5 styles; he has thus led astray two botanists who stand high in modern story, Willdenow and Smith.

I have given this genus a name from its wide receptacle, as there is not a shadow of a pretence to call it *Franklinia:* it differs from *Gordonia* in the filaments not being inserted in 5 solid bodies; from *Hæmocharis* (G. *Hæmatoxylum* Swartz) in its monopetalous corolla; from *Stuartia* in its deciduous calyx; from *Malachodendron* in its simple style; and from all of them in the structure of its fruit and seeds. Nothing could be more luxuriant than the flowers were this autumn in the open air at Messrs. Lee and Kennedy's nursery, where the drawing was

made; but the dissection of the fruit is from one imported some years ago, by Mr. Allport, seedsman, along with those of the *Illicium Floridanum*, and *Nelumbium Luteum*.

In its native soil it attains the height of 20 feet. Stem erect with branches radiated as in *Terminalia;* of the secondary ones, those which tend towards the principal stem or branch are shorter and sometimes entirely wanting. Leaves alternate, frondose or crowded near the extremities of the branches: Petiole from 5 to 3 lines long, cottony especially on the upper side which is scarcely channelled: Lamina from 5 to 3 inches long, horizontal, generally obovate-lanced, more or less serrated, slightly acuminated, on the upper surface bright green and almost smooth; underneath cottony especially while young: nerves flat on the upper surface. Flowers agreeably fragrant, nearly sessile, in the axills of 3 or 4 of the uppermost leaves. Peduncle solitary, thick and top shaped. Bractes generally two, small and leafy, close to the calyx. Calyx whitish, about $3\frac{1}{2}$ or 4 lines long, deeply divided into 5 round ciliated segments, deciduous. Corolla white, 3 inches or more in diameter, deeply divided into 5 horizontal obovate segments, of which the outermost is less than the others, more concave and ciliated like the calyx, deciduous. Filaments gold colour, inserted in the corolla and somewhat higher towards the middle of each segment. Anthers pale yellow with a large callous disc. Pericarpium while young whitish and very silky, somewhat top-shaped, when fully grown spherical. Style pale yellow, much thicker than the filaments, cylindrical, smooth. Stigma whitish and deeply 5-lobed. Seeds bright brown, angulated without any wing.

REFERENCES TO THE PLATE.

1 Calyx.
2 A Stamen magnified.
3 Pistillum.
4 Transverse section of the young fruit.
5 A ripe fruit.
6 The same splitting.
7 A seed.

Dianthus pomeridianus

Drawn & Pub. Jan 1 1807 by W. Hooker

LVII.

DIANTHUS POMERIDIANUS.

Afternoon Dianthus.

ORDO NATURALIS.

Caryophylleæ. *Juss. Gen. p.* 294.

Sect. V. Calyx tubulosus. Stamina 10, alternis interdum epipetalis. Styli 2, 3, 5.

Calyx fere cylindricus, bracteis 4-8 squamaceis basi imbricatus. Petala 5: Unguis longus, disco intus in quibusdam membranâ 2-plici alatus: Limbus obcuneatus. Filamenta alterna nunc epipetala. Styli 2, sæpius revoluti. Pericarpium membranaceum, fere cylindricum, 1-loculare, apice 4-fariam dehiscens. Semina compressa, plus minus alata. *Herbæ suffruticesve cæspitosi. Folia in plerisque glauca, lineari-attenuata. Flores solitarii, aut paniculati, nunc in corymbum arcte conferti. Essentia generis in calyce et seminibus.*

* *Flores rare paniculati.*

* * *Filamenta alterna epipetala.*

D. bracteis 4, brevissimis, obtuse acuminulatis: calyce versus apicem striato: petalis emarginatis, parum dentatis, lateribus revolutis.

D. pomeridianus. *Smith in Linn. Trans. v.* 2. *p.* 300. D. pomeridianus. *Linn. Sp. Pl. ed.* 2. *p.* 1673. Caryophyllus sylvestris et saxatilis, flore magno lacteo subtus ad spadiceum vergente. *Tournef. Cor. p.* 23.

Sponte nascentem juxta *Constantinople*, legit F. Hasselquist.

Floret apud nos *Augusto, Septembri.*

A rare species never before figured, which I regret that I had not time to describe in August 1805, when it flowered at Isaac Swainson's, Esqr. for I fear the plant is no longer in our gardens. The branch sent to me had only a single flower, which being put into water expanded five successive days, beginning to unfold its petals about two p. m. and not closing them till midnight. Linnè says the flower opens at half past twelve and shuts at noon, which it possibly may in the open air. The perfume it exhales is delightful, and there is an uncommon elegance in its figure, so if the plant ever comes into my possession, I shall endeavour to make it common. A specimen of it has been sent to Mr. Lambert by Pallas, with the name of *Vespertinus*.

Lilium pumilum

drawn & Pub. by J. Sweet *W. Hooker*

LVIII.

CHAMÆNERIUM HALIMIFOLIUM.

Orache-leaved Chamænerium.

ORDO NATURALIS.

Onagræ. *Juss. Gen. p.* 317.

Sect. III. Pericarpium inferum, membranaceum. Stamina bis tot quot petala. Stylus unicus.

Pericarpium longissimum, 4-loculare, 4-valve. Torus modioliformis basi melliferâ, deciduus. Calyx 4-phyllus. Petala 4, plus minus inæqualia et sursum approximata. Filamenta basi dilatata et convergentia, tandem deorsum secunda. Stylus deorsum curvus. Stigma 4-partitum. Semina papposa. *Herbæ perennes. Folia alterna, anguste lanceolata. Flores spicis brevibus longissimisve pedicellati. Bracteæ foliaceæ, haud raro supra basin pedicellorum insertæ. Ab* Epilobio *in non paucis distinctum genus, ut fatetur Linnè, et quum seminibus papposis jam tertium detexit Menzies, haud dubitem separare. Synonymon antiquum retineo, nec contra* Phil. Bot. *regulam* 224. *sed a vocibus* χαμαι terra ναος humidus, *derivatum.*

C. foliorum laminis cæsiis, sæpius integerrimis, exquisite pubescentibus, succulentulis: spicis brevibus: antheris infra medium insertis, obtusis.

Epilobium frigidum. *Retz. Prodr. ed.* 2. *n.* 459. Epilobium latifolium. *Gunn. Fl. Norv. n.* 1066. Epilobium latifolium. *Fl. Dan. t.* 565. Epilobium corymbosum. *Rottboll in Act. Hafn. v.* 10. *p.* 440. *t.* 8. *f.* 23. Epilobium, &c. *Gmel. Fl. Sib. v.* 3. *p.* 164. *n.* 34. Epilobium latifolium. *Linn. Sp. Pl. ed.* 2. *p.* 494. Bredmjelte. *Norwegis.*

Sponte nascentem in Ins. *Bellisle*, rupibus humidis juxta mare, legit J. Banks, Baronettus.

Floret *Julio*, *Augusto.*

No one, though a very experienced botanist, would guess at the affinity of this plant when out of flower. It is quite a sea-side species, creeping by the root, and should be cultivated in a moist salt soil, without which it will hardly thrive. Stems slender, trailing upon the ground with scarcely any rudiments of angles. Leaves of a pale grey colour, narrower than in the French Willow, Linnè's *Epilobium Angustifolium* β, a few near the bottom sometimes serrated, the rest very entire, lance-shaped, finely downy on both surfaces, somewhat succulent with the nerves not prominent. Flowers large and shewy. Torus very short. Leaflets of the Calyx narrow as in the *Epilobium Rosmarinifolium* of Hænke. Petals when first expanded perfectly regular, afterwards more or less approximated towards the upper side. Anthers greenish red, ending in a blunt point. Pollen green. Style bending down, the divisions of the stigma incurved-spreading.

The smell of the whole herb in withering is very unpleasant, and I believe peculiar to this species, which was communicated by the Right Honble. Charles Greville.

REFERENCES TO THE PLATE.

1. An Anther magnified.
2. The Stigma magnified.

Tradescantia crassifolia

Drawn & Pub. Jan.ʸ 1. 1807, by W. Hooker

LIX.

TRADESCANTIA CRASSIFOLIA.

Thick-leaved Tradescantia.

ORDO NATURALIS.

Junci. *Juss. Gen. p. 45.*

Sect. II. Pericarpium 3-loculare. Flores petaloidei.

Calyx 3-phyllus. Petala 3, regularia. Filamenta 6, villis articulatis barbata. Antheræ sæpius lunatæ. Stigma plus minus 3-lobum. Pericarpium demum crustaceum. Semina pauca, in papillum embryotegum ad latus prominula. *Herbæ carnosæ. Caules sæpe decumbentes, geniculati. Folia alterna, basi vaginantia, ovata, rarius* Caricum *instar lineari-attenuata. Flores in unâ eademque specie colore variabiles, sæpius cærulei, cymis plerumque coarctatis et fasciculos mentientibus secundi, pedicellis in fructu deorsum arcuatis. Bracteæ ad basin pedicellorum solitariæ, præter majorem foliaceam ad basin ramorum.*

T. foliorum laminis ovatis, subtus margineque lanatis: cymis coarctatis: petalis calyce longe majoribus, late ovalibus: stylo vix longitudine filamentorum: stigmate amplo.

T. crassifolia. *Willd. Sp. Pl. v. 2. p. 17.* T. crassifolia. *Cav. Ic. v. 1. p. 54. t. 75.* malâ.

Sponte nascentem circa urbem *Mexico*, juxta aquas decurrentes, legit J. C. Mutis.

Floret apud nos a *Julio* in *Novembrem.*

One of the handsomest species of this genus, and its flowers are fragrant like the *Heliotropium Peruvianum*, but not larger than in the *T. Virginiana*, though Willdenow says "*Flores maximi hujus generis.*"

Stems several, trailing upon the ground, branching at almost every joint, roundish except near the inside of the leaf where they are flattened, somewhat woolly. Leaves from 3 to 2 inches long: Petiole yellowish with green nerves: Lamina ovate, towards the top of the branches gradually more lanceolate, quite obtuse, though the wool gives it an appearance of being sharp, upper surface smooth and shining, more or less concave. Flowers in close cymes resembling bunches. Bractes at the two first divisions of the cyme large, the rest very small. Pedicles woolly. Calyx 4 lines long, woolly. Petals deep violet, paler towards the base, from 8 to 7 lines in length, horizontal, oval, somewhat waved, dissolving into a jelly soon after twelve or one p. m. Filaments violet, thick at the base. Anthers yellow and moon-shaped, their valves narrower than the solid part, which is only connected with the filament by an exceedingly small point. Pericarpium while young thickly bearded with soft whitish hair, its base smooth and abundantly melliferous. Style not so long but of the same colour as the filaments, cylindrical, smooth. Stigma nearly white.

Communicated by J. Vere, Esqr. in whose collection I have just seen the *Castalia Sacra* flowering most luxuriantly, and am glad to correct my error respecting the opening of its flowers. Contrary to those of the *Hungarian* species, they certainly begin to expand, as the Marquis of Blandford says, in the dusk of the evening, remaining fully blown all night, and are closed by 9 or 10 a. m.

REFERENCES TO THE PLATE.

1 A Stamen magnified.
2 The Pistillum magnified.
3. Transverse section of the Seed Vessel, more magnified.

1

2

Astrantia helleborifolia.

Drawn & Pub. Feb. 1. 1807. by W. Hooker.

LX.

ASTRANTIA HELLEBORIFOLIA.

Hellebore-leaved Astrantia.

ORDO NATURALIS.

Umbelliferæ. *Juss. Gen. p.* 218.

Sect. IV. Anomalæ, involucello et umbella florem compositum constituentibus.

Umbella 3-5-radiata præter centralem pedunculum longiorem, lateralibus rarius decompositis: bracteis foliaceis. Umbellula multiflora, plus minus hemisphærica: pedicellis gracillimis: bracteis coloratis, extus variegatis. Calyx profunde 5-fidus. Petala valde inflexa. Pericarpium ellipticum, jugis 10 crispo-muricatis. *Herbæ perennes*, 1-2-*pedales*. *Folia radicalia*, *longe petiolata*, *palmata digitatave*, *serrata*, *mitius spinulosa*. *Flores polygami*, *in umbellulis lateralibus nunc omnes masculi*, *fertilibus sæpe brevius pedicellatis*. *In serie naturali* Eryngio *proximum genus*.

A. foliis 3-fido-palmatis; laciniis subintegris; serrulatis: bracteis involucelli 9-12, late lanceolatis, serrulatis: floribus omnibus longe pedicellatis: pericarpii commissurâ latâ.

Sponte nascentem in regionibus *Caucasi*, legit D. Adams.

Floret *Junio*, *Julio*.

Some valuable observations are made by Jussieu in his 12th class, respecting the difficult genera of *Umbelliferæ*: but though I agree with him and Crantz, that the primary characters should be taken from their fruit, surely Artedi's distinctions afford excellent secondary characters. Indeed in several genera, as this of *Astrantia*, the structure of the partial Involucrum is so singular as to overpower every other character, and when there is no Involucrum at all, that circumstance ought to be mentioned: for, as one of the most learned botanists now living has remarked, it is sometimes of as much consequence to know what parts are absent, as what parts are present, in a genus.

In the 16th number of *Exotic Botany*, that author tells us he must dissent from Linnè, respecting this genus, by considering the inflorescence as a single umbel. Now analogy, which is the only reason he assigns for this notion, leads me to describe it with Linnè and all other writers, as a compound umbel: for even in *A. Minor*, the peduncles if carefully examined will not be found truly alternate, and in the other species they evidently proceed from one common centre. Gærtner's authority on this point, is too ambiguous to be brought forward, for though he does say "Umbella simplex," he immediately contradicts those words by adding "Involucrum utrumque polyphyllum."

For this new species, Mr. Hooker is indebted to his kind friend Mr. Bell. It may be instantly distinguished from *A. Major*, which it most resembles, by the serratures of the partial Involucrum. Root tuberous. Stem in my specimen 14 inches high with only 2 small leaves, furrowed, smooth. Leaves 3-cleft, the lateral divisions much larger, all nearly undivided and serrulated. Umbel of only 3 or 4 peduncles, lateral ones short. Bractes of the Involucrum large. Partial Umbel an inch and a half in diameter. Pedicells capillary and the fruitful ones longer than in other species. Bractes of the partial Involucrum wide-lanceolate, serrulate, pale pink, their under surface variegated with green and white. Pericarpium somewhat obovate and compressed with 10 longitudinal furrows and as many ridges, which are minutely undulated and rough. Divisions of the Calyx wedge-shaped. Petals whitish, narrow, exceedingly incurved, the mid-rib shining. Anthers brownish purple. Styles whitish, a little recurved, and somewhat narrower towards the top. Stigma obtuse.

REFERENCES TO THE PLATE.

1. A sterile Flower magnified.
2. A fertile Flower magnified.
3. A Petal highly magnified.

Bignonia grandiflora

Drawn & Pub. Feb.ry 1807. by W.m Hooker

LXI.

BIGNONIA GRANDIFLORA.

Large-flowered Bignonia.

ORDO NATURALIS.

Bignoniæ. *Juss. Gen. p.* 137.

Sect: II. **Fructus capsularis, 2-valvis, rarius 3-valvis.**

Calyx teres angulatusve apice 5-fido. Corollæ Tubus brevissimus aut longiusculus: Limbus plus minus ventricosus, 5-lobus, parum irregularis. Nectarium callosum, figurâ varium. Filamenta 5, medium sterile. Antheræ divaricato-2-lobæ. Pericarpium siliquæforme, 2-3-valve, septo valvis contrario. Stigma 2-3-lamellare. Semina alata. *Arbores aut Frutices, nunc* Hederæ *more fibris scandentes. Folia opposita, impariter pinnata, forsan etiam digitata aut simplicia. Flores paniculis confertis aut diffusis. Bracteæ ad basin ramorum caducæ.*

* *Folia impariter pinnata.*

B. caule volubili: foliolis ovatis, serratis, acuminatis: paniculâ diffusâ: calyce angulato, inæqualiter 5-fido: corollæ tubo brevissimo, limbo late infundibuliformi: nectario cotyliformi.

B. grandiflora. *Ic. Kæmpf. p.* 1. *t.* 21. B. chinensis. *Lamarck in Encycl. Bot. v.* 1. *p.* 418. B. grandiflora. *Thunb. Fl. Jap. p.* 253. Rjosjo. *Kæmpf. Amæn. p.* 856.

Sponte nascentem in Ins. *Nipon*, legit C. P. Thunberg.

Floret apud nos *Septembri, Octobri.*

The genus of *Bignonia*, as first established by Tournefort and adopted by Linnè, includes at least three others, which Jussieu has separated, but by barbarous names. One of these, to which our plant belongs, is the original species figured in the *Institutiones Rei Herbariæ* of his illustrious countryman, and now vulgarly known throughout Europe, by the name of *Bignonia:* I must not hesitate therefore in restoring it, and to those with a dissepiment parallel to the valves, I would apply Pluknet's apt and classical synonym of *Leucoxylon.*

Only a very small part of the specimen, communicated by E. Woodford, Esqr. could be shewn, the panicle at *Springwell* last summer spreading two feet in width and three feet in length: by forwarding this plant under glass in the early part of the season, it never fails to flower, and is one of the most splendid ornaments of that collection.

Stem comprest, and climbing luxuriantly if not confined in a pot. Leaves pinnate with an odd leaflet: Petiole at the base and leaflets somewhat kneed with their margins frequently winged by a membrane, bearded between the leaflets: Leaflets ovate, serrated, acuminate, rough with rudiments of minute bristles especially on their upper surface, the lateral ones hollowed out more on one side than the other toward the base. Flowers in a large terminal panicle. Peduncle more angulated than the stem, its branches first opposite, then dichotomous with an odd flower in the middle. Bractes falling off long before the flowers expand. Pedicels round. Torus like the nave of a wheel, smooth. Calyx an inch and a half long, angulated, resembling that of many Daturas. Corolla pale orange on the outside, deep orange-scarlet within, especially the nerves and bottom: Tube very short, projecting externally at the insertion of the barren filament into a bristle: Limb widely funnel-shaped. Barren filament very small. Anthers inserted near the top. Nectarium saucer-shaped, 10-lobed. Stigma finely torn, or ciliated.

REFERENCES TO THE PLATE.

1. Corolla not expanded, shewing the projecting bristle.
2. Its tube laid open, and Stamina.
3. Two views of an Anther magnified.
4. The Nectarium.
5. The Pistillum.
6. A young Fruit cut transversely, magnified.

Dianthus collinus

Drawn & Pub. Feb 1. 1807. by W. Hooker

LXII.

DIANTHUS COLLINUS.

Hill Dianthus.

Ordinem Naturalem et Characterem Generis vide sub, No. 57.

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* * *Flores paniculis densiusculis.*
* * * *Filamenta omnia toro inserta.*

D. foliis 5-nerviis, scabris: bracteis ultra medium calycis, longe acuminatis: calyce fimbriato: petalis inciso-dentatis disco rarè barbatis.

D. collinus. *Kitaib. Pl. Hung. v.* 1. *p.* 36. *t.* 38.

Sponte nascitur in *Hungaria*, collibus apricis, etiam inter frutices locis planioribus.

Floret apud nos *Julio*, *Augusto*.

Another rare species of this beautiful genus, easily increased, and ripening seeds every year. According to Kitaibel, it varies in having few or even solitary flowers, but this is probably only the effect of a poor soil: in our gardens I have always found it much branched. I think it is most nearly allied to *D. Atrorubens* of Jacquin, from which it may in all states be distinguished by its rough leaves with 5 nerves and long acuminated bractes.

Leaves gray. Calyx dark red, finely striated. Torus long and orange-coloured toward the top where abundance of honey exsudes. Petals inserted upon the torus, at the base of the shorter filaments: Claw whitish, its disc projecting into a deeply furrowed keel embracing the opposite filament: Limb purple with three deeper spotted stripes besides larger spots disposed transversely in the segment of a circle, obverse-wedge-shaped, cut-dentated, finely bearded on the disc. Anthers dull blue, inserted a little below the middle. Pollen dark blue. Stigmas purple, revolute, gradually confluent with the style.

The drawing of this was made at Isaac Swainson's, Esqr. Twickenham.

REFERENCES TO THE PLATE.

1. The Claw of a Petal magnified.
2. The Torus with the Stamina.
3. A Stamen magnified.
4. Pistillum.
5. A Seed magnified.
6. Part of the Calyx.

Carpoty za spiralis

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LXIII.

CARPOLYZA SPIRALIS.

Spiral Carpolyza.

ORDO NATURALIS.

Narcissi. *Juss. Gen. p. 54.*

Sect. II. Pericarpium inferum.

Pericarpium membranaceum, torulosum. Corollæ Tubus brevis, infundibuliformis; Limbus regularis, 6-partitus. Filamenta ore tubi inserta, regularia basibus erectis. Semina pauca in singulis loculis, bulbiformia, marginibus septorum una cum valvis ab apice secedentium diu adhærentia. *Bulbus ovatus. Folia perangusta, linearia. Pedunculus ab uno latere foliorum quibus crassior, tenax, basi spiralis. Bracteæ interiores ramentaceæ. Differt a* Crino *tubo brevi infundibuliformi, ab* Amaryllide *seminibus bulbiformibus, a* Strumariâ *figurâ genitalium, ab* Hæmantho *pericarpio membranaceo, et ab omnibus suâ facie. Nomen a vocibus καρπος et λυζω, ob singularem rictum fructus.*

C. foliis glabris, parum tortuosis.

Amaryllis spiralis. *L'Herit. Sert. Angl. p.* 10. *t.* 13. mala. Crinum tenellum. *Jacq. Ic. Collect. Suppl. p.* 43. Hæmanthus Spiralis. *Linn. fil. in Ait. Hort. Kew. v.* 1. *p.* 405. Hæmanthus Spiralis. *Thunb. Prodr. p.* 58.

Sponte nascentem prope *Cape Town*, legit F. Masson.

Floret apud nos *Decembri, Januario.*

When a plant has been removed to various genera by eminent botanists, among whom L'Heritier, Jacquin, the younger Linné and Thunberg must ever be ranked, it will generally constitute a new one: this is unquestionably the case with that now figured.

It was given to me many years ago, by the late Mr. Aiton, and will live in the open air under a south wall, if covered in severe frost; but to produce plenty of seeds, it should be placed on the front flue of a stove.

Bulb the size of a Spanish nut, brown but its fibres white and large. Leaves 5 or 6, bright green, scarcely half a line in breadth, from two to four inches long, spreading flat upon the ground in every direction, somewhat flexuose, linear, nearly half round, very entire, obtuse, smooth, dying in *July* if the earth is kept very dry, fresh ones appearing with the first showers of autumn. Peduncle from one side of the leaves, and about equal in length, fully as slender at the base where it is dark shining purple and spiral like a cork screw, towards the bractes green and thicker, erect, round, smooth and very tough. Bractes withering after the first flower expands. Fascicle of 3 or 4 flowers, succeeding each other in our climate very slowly, so that the seeds of the first are often ripe before the last is faded. Pedicels very long, bright green, round, smooth. Pericarpium green or tinged with dull red while young, somewhat three-lobed, afterwards knobbed by the projecting seeds. Corolla white with a dull rose-coloured tinge and yellowish tube, its segments lanceolate, the outer ones terminated by a long point, the inner ones more erect, all nearly equal in breadth. Filaments inserted in the orifice of the tube, erect at their base, short and awl-shaped. Anthers very pale yellow, slightly emarginated with a bifid base, after the Pollen is discharged almost round. Style white, regularly attenuated and not swelled as in *Strumaria*, triangular, smooth. Stigma trifid, the divisions emarginated and covered with a glandular pubescence. Seeds dark green, and remaining attached to the margin of the dissepiments for some time after they are separated.

REFERENCES TO THE PLATE.

1. A Flower laid open.
2. The Pistillum.
3. A transverse section of the Fruit.
4. The same as opened naturally with some of the Seeds remaining.

Annesleu grandiflora

Drawn & Pub. March 1. 1807. by W. Hooker

LXIV.

ANNESLIA FALCIFOLIA.

Scythe-leaved Anneslia.

ORDO NATURALIS.

Leguminosæ. *Juss. Gen. p.* 137.

Sect. I. Corolla regularis. Legumen 1-loculare vel isthmis fungosis multiloculare. Stamina definita aut indefinita.

Calyx regularis, profunde 5-fidus. Corolla infundibuliformis, profunde 5-fida. Filamenta numerosissima, nectario basi corollæ adnato inserta. Pericarpium compressum marginibus prominentibus, 1-loculare, 2-valve, polyspermum. Stigma pileiforme. *Frutices inermes. Folia 2-pinnata pinnis multijugis. Flores fasciculis axillaribus geminis, foliis ibidem sæpe caducis aut nunquam productis. Stipulæ Bracteæque caducæ. Genus a* Mimosâ *pericarpio non articulato, ab* Acaciâ *insertione filamentorum, apprime distinctum, et gaudens floribus speciosissimis; itaque in memoriam nobilis botanici Georgii* Annesley *Vicecomitis* Valentia R. S. L.S.S. *dixi. Huc referenda aliæque* Grandiflora *L'Her.* Mimosa.

* *Folia ad flores caduca, vel nulla.*

A. caule pubescente; foliorum pinnis 6-8-jugis; foliolis multijugis, fere sessilibus, falcatis basi retrorsum acuminatâ: filamentis 2-2½ pollices longis: pericarpio hirsuto.

Acacia Houstoni, *Willd. Sp. Pl. v.* 4. *p.* 1062. Mimosa Houstoni, *L Hert. Sert. Angl. p.* 30. Icon absque titulo. *Reliq. Houst. t.* 26. Gleditsia Inermis, *Linn. Sp. Pl. ed.* 2. *p.* 1509. Acacia Americana, &c. *Ph. Mill. Ic. p.* 4. *t.* 5.

Sponte nascentem prope *Vera Cruz*, legit G. Houstoun.

Floret apud nos a *Septembri* in *Novembrem.*

The shrubs which belong to *Anneslia* differ widely from *Mimosa* in the structure of their fruit, and from *Acacia* in the insertion of their filaments, both genera of Tournefort's which Gærtner has judiciously restored. Indeed, the latter difference would remove them to another Order of Jussieu's work, but its character will probably be altered in a future edition by that great botanist; for, the filaments of many *Leguminosæ* are not perigynous, even in his sense of the word, and this moreover when their number is definite, as in *Cassia*, where each is inserted separately upon a globular receptacle distinct from the calyx.

In the Annals of Botany, I have called a plant, not before described by any botanist, *Euryale*, being ignorant that the friends of Lord Viscount Valentia in *Hindostan*, had selected it to perpetuate his memory: but its horrid prickles render the name of one of the Furies far more suitable to it. I am happy therefore now to offer him a truly magnificent genus, and I have followed the example of Linné, by taking his family name rather than title, which is liable to merge in a higher.

The drawing was made from a specimen sent by Messrs. Malcolm and Doughty, with the name of *Grandiflora*, and not having then time to examine the original one in Soho Square, I described it as such: that name is consequently engraved upon the plate. Some benefit however will, I trust, accrue to the science from my blunder; for both the specific name and character above given will prevent these two plants from ever being confounded again.

Stem while young covered with a rich brown pubescence. Leaves abruptly 2-pinnate: Petiole very slender, geniculated at every ramification: Pinnæ from 5 to 8 pairs, gradually longer, the last often 5 inches in length: Leaflets from 22 to 50 pairs, almost sessile, those near the extremities shorter than the others, which are about 6 lines in length, shaped like a scythe, their outer side broader and lengthened at the bottom into a sharp angle, dark green and smooth on their upper surface, pale and silky underneath. Stipules more or less recurved, ear-shaped, ciliated, sharp at the point, pubescent, deciduous: besides these, another much smaller with equal sides termi-

nates the petiole. Flowers without smell, 4 or 5 in each fascicle. Peduncles in pairs from the upper axils, the leaves there commonly falling off while young, 6 or 7 lines long, round, pubescent. Bractes under each pedicle, soon falling off. Pedicles about one line in length. Torus, or partial receptacle of each flower cylindrical, and covered by the parts inserted upon it. Calyx one line and a half in length, deeply divided, externally pale brown from its pubescence, white smooth and finely wrinkled within, literally flowing with honey below the insertion of the filaments. Filaments at the bottom yellow, then for a short space whitish, afterwards deep scarlet with whitish tops, from 2 to $2\frac{1}{2}$ inches in length, nearly equal, spreading, thread-shaped, smooth. Anthers yellow, very small, inserted near the middle, erect. Pollen large for the size of the anther, oval. Pericarpium before fœcundation yellow, only about a line in length, and smooth: when fully grown from 3 to 5 inches in length, comprest with prominent margins and hairy. Style coloured like the filaments, reclined, round, smooth. Stigma very pale yellow, cap-shaped.

REFERENCES TO THE PLATE.

1. The Pericarpium of Anneslia Grandiflora, a part of the Valve cut off to shew the Seed.
2. The Calyx of Anneslia Falcifolia.
3. A part of the Corolla of the latter species expanded to shew the insertion of the Filaments.
4. Two views of an Anther magnified.
5. Two views of the Stigma magnified.
6. A Seed of Anneslia Grandiflora magnified to shew its Hilum and Micropyle.
7. The Pistillum.

Rothmania longiflora

Drawn & Pub March 1 1807 by W Hooker

LXV.

ROTHMANNIA LONGIFLORA.

Long-flowered Rothmannia.

ORDO NATURALIS.

Rubiaceæ. *Juss. Gen. p.* 196.

Pericarpium ovale, succulentum, 2-loculare: Colis (seminum receptaculis) duobus, hemisphæricis, medio septi stipitatis. Calyx tubulosus, breviter 5-fidus laciniis verticalibus, tandem deciduus. Corolla pergaminea: Tubus cylindraceus apice infundibuliformi, nunc longissimus: Limbus profunde 5-fidus, recurvus: decidua. Antheræ 5, ore tubi infra medium dorsi insertæ ramento brevissimo. Stigma anguste clavatum, 2-lobum. Semina numerosa, colis nidulantia. *Arbores humiles, facie* Portlandiæ. *Folia opposita, in ramis horizontalibus adversa. Stipulæ* 2, *interfoliaceæ, acuminatæ, deciduæ. Flores fragrantes, ramulis fere omnibus terminales, sessiles, nunc ramulis coarctatis et stipuligeris absque foliis quasi pedicellati. Bracteæ nullæ?*

R. corollæ tubo 5-6 pollices longo: laciniis ovali-lanceolatis.

Sponte nascentem in *Guinea*, legit J. Brass.

Floret apud nos *Augusto, Septembri.*

Rothmannia is a genus established by Thunberg so long ago as the year 1776, in the *Stockholm Transactions*, but the younger Linné supposing that the fruit of *Gardenia* was 2-locular like this, joined them together in the *Supplementum*. I believe no genus is more legitimate in all *Rubiaceæ*, for even if its fruit was 1-locular as in *Gardenia*, the habit and structure of the flower, which approach nearer to *Portlandia*, differ sufficiently to separate it: they scarcely agree in any thing but their sessile Anthers, a character which will probably remove them and some others of this extensive Order, to a section by themselves.

This splendid species flowered three years ago in the collection of W^m^. Manning, Esqr. *Totteridge:* his gardener knew nothing more about it, than that it was sent to his master by the Captain of a *Guinea* ship, and there is a specimen in Sir Joseph Banks' Herbarium, collected by Mr. Brass, which leaves no doubt of its being indigenous there. When I saw it, all the flowers were fading, but still retained a pleasant smell, which the gardener said had been exceedingly powerful and like that of the *Azorian Jasmine*.

Stems several, the principal one of 3 or 4 inches diameter having been cut down, erect, branching regularly into a conical form, near the top changed very abruptly to a pale ash colour, very finely pubescent. Leaves opposite, one of them in the smaller branches generally less than the other: Petiole very short: Lamina deep green, paler beneath, horizontal or somewhat recurved, lanceolate, very entire, obtuse, smooth on both surfaces, rather prominent in the angles of the nerve, under which there is a gland, but it is not hairy as in the other species from the *Cape of Good Hope*, sometimes a little waved: Nerves many and prominent on both surfaces. Stipules two, pointed, falling off. Flowers terminal upon the rudiments of little branches, which are covered with two or three pair of small stipules, but no leaves. Pericarpium before fœcundation about 3 lines in length, nearly cylindrical. Calyx very tomentose or cottony within, and its segments short. Corolla very shewy: Tube 5 or 6 inches in length or even more, externally very cottony while young, marked with 5 strong nerves in the wide part running up the middle of each segment: Limb slightly cottony on both sides, the segments oval-lanceolate, very entire, obtuse, most beautifully variegated toward the base with deep purple spots which run into each other. Anthers long and recurved. Stigma narrower than in *Gardenia*, and not so much club-shaped.

REFERENCES TO THE PLATE.

1. Two views of an Anther.
2. The young Fruit cut transversely.

Viola glandulifera.

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LXVI.

OXALIS GLANDULITEGA.

Gland-covered Oxalis.

ORDO NATURALIS.

Rutaceæ. *Juss. Gen. p.* 296.

Sect. I. **Folia stipulacea. Filamenta 10, toro inserta.**

Calyx 5-phyllus, persistens. Petala 5, annulo filamentorum inserta, supra ungues in plerisque confluentia, decidua. Filamenta plus minus confluentia, basi inter petala mellifera, alterna longiora nunc dentem exserentia, marcescentia. Pericarpium membranaceum, 5-angulum, 5-loculare, 10-valve. Styli 5, persistentes. Stigmata in plerisque barbata. Semina 2-12 in singulis loculis, rugosa, ex arillo pellucido elastico simul cadente longe disjecta. *Herbæ acidæ, succulentulæ. Radix fibrosa, aut moniliformis, aut bulbus squamosus in turione quotannis enatus. Caulis præter turionem subterraneum nullus, aut brevis, aut longus; nunc repens. Folia alterna; digitata, aut* 3*-nata foliolo uno duobusve nunc deficientibus, aut* 2*-nata cum impari, aut pinnata; varie glanduligera: petiolis, sæpius basi articulatis et in stipulas dilatatis. Flores solitarii, aut cymis circinatis secundis. Pedunculi solitarii, axillares, sæpius basi articulati. Bracteæ 2, interdum sparsæ.*

* *Pedunculi* 1*-flori.*

* * *Folia* 3*-nata: foliolis oblongis.*

O. caule pubescente: foliolis anguste obcuneatis, emarginatis, pubescentibus: bracteis ad calycem perangustis: calycis apice recurvulo: petalis retusiusculis: filamentis exquisite viscidulis: stylis brevibus.

O. arcuata. *Jacq. Diss. p.* 67. *n.* 46. *t.* 31.

Sponte nascentem in Promontorio *Cap*, legit J. Niven.

Floret apud nos *Octobri.*

The genus of *Oxalis* has certainly some affinity to the *Geranēæ*, at the end of which Jussieu has placed it; but I believe, as he himself hints, that it is still more nearly allied to the genera in the first section of *Rutaceæ*, especially *Fagonia*, and that it may connect these two Orders. With true *Rutaceæ* it has no connexion, and being very extensive, it will be necessary to divide it into more genera, if proper characters can be found: nor can I easily persuade myself that the woody species of *South America*, or the sensitive species of *Ceylon*, should be joiued to the bulbous ones of *Africa*.

Nothing can exceed the accuracy of the figures in Jacquin's dissertation. I have compared the greater part of them with living specimens, without finding the smallest error in his dissections; besides which I have seen about forty more species from the same country, and whoever considers their genitalia physiologically will not be surprised at this number. The Stigmata of many, as in *Erica* and *Pelargonium*, are seldom fœcundated by their own anthers, and when they imbibe the Pollen of others brought by Insects, the product is often not a variety, but a legitimate species differing from both its parents.

Most of the other *Oxalides* have very conspicuous orange-coloured glands in their leaves, but in this, which was communicated by George Hibbert, Esqr. they are buried in the parenchyma under the cuticle, and as the name of *Arcuata* is not a good one, for small plants are quite straight, I have proposed another from that singular circumstance.

Bulb large, ovate. Stem from 6 to 15 inches long, slender, round, minutely pubescent, sometimes much branched. Leaves crowded at the extremities: Petiole slender, tinged with red, dilated at the base but not into evident stipules, round and pubescent: Laminæ from 3 to 5 lines long, narrow, obversely wedge-shaped, very entire, emarginated, pubescent especially underneath, the outer ones somewhat inæquilateral. Flowers solitary, in several of the axils,

erect, and only expanded when the sun shines. Peduncles pale red, much thicker than the petioles but nearly the same length, reclined, round, very pubescent. Bractes greenish red, near the calyx and generally opposite to each other. Calyx marked near the top with two rows of glands, obtuse. Petals about 7 lines long: Claw pale yellow and shining: Limb in the part which is exposed while rolled up of a dirty pink, elsewhere of a brilliant rose-colour with deeper veins, obovate, a little oblique, smooth. Filaments white, shining, the 5 shorter about as long as the calyx, the 5 others almost twice as long and without teeth. Anthers roundish. Styles white, shorter than the lower filaments, spreading, round, smooth. Stigma pale green, hemisphærical and projecting between the filaments.

REFERENCES TO THE PLATE.

1. A leaf of the Calyx magnified.
2. The Genitalia magnified.
3. The bottom of a Petiole magnified.
4. Two views of an Anther magnified.
5. A single Petal.
6. The young Fruit cut open and magnified.

Bryobrittonia longipedicellata

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Erodendrum amplexicaule

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LXVII.

ERODENDRUM AMPLEXICAULE.

Stem-clasping Erodendrum.

ORDO NATURALIS.

Proteæ. *Juss. Gen. p.* 78.

Sect. I. Pericarpium deciduum, 1-loculare, 1-spermum, clausum.

Corolla 2-labiata, labio altero angusto. Pericarpium fusiforme, undique barbatum. Stigma cylindraceum, obtusum. *Frutices facie varii. Folia simplicia, perangusta latissimaxc. Flores in capitulo truncato terminali aut laterali. Bractea* 1 *inter singulos prater Involucrum majorum coloratarum, rigidæ. Multas species a* Proteâ *sub titulo* Leucadendri, *qui ad aliud genus restituendus, in* Sp. Pl. *separavit Linné, postea advenientibus novis iterum conjunxit. Huc ideo citandæ omnes, quas in hoc opere jam descripsi. Nomen ab* ερως *et* δενδρον, *hisce fruticibus valde amatis.*

* * *Flores e caule vetusto laterales.*

E. caule decumbente: foliis amplexicaulibus, cordatis, mucronatis, glabris cum rore, carnosis: bracteis involucri extus pubescentibus, fimbriatis.

Sponte nascentem in *Hottentots Holland*, montibus, legit J. Niven.

Floret apud nos, a *Januario* in *Martium.*

In the second number of this work, it was remarked that the genus of *Protea* ought to be divided; and having since become acquainted with most of the different fructifications it contains, or at least presuming so, I venture to distinguish the present shrub, and those hitherto figured, by the name of *Erodendrum.* This species approaches nearest to the *Cordifolium* in affinity, and was introduced by George Hibbert, Esq. M. P. in whose collection it has lately flowered.

Stem two or three feet long, decumbent, round, smooth, branching near the bottom. Leaves not unlike those of some *Crassulas*, glaucous with a red margin, horizontal, heartshaped, very entire, mucronated, glossy when their fine meal is rubbed off, fleshy: Nerves only visible near their insertion. Flowers lateral, from the old part of the stem. Peduncle short, slender, entirely covered with Bractes, which are gradually lengthened into a dark mahogany coloured fringed Involucrum, internally paler and smooth, those between each flower very short. Corolla white and smooth as far as the Anthers, then bright red and bearded with white hairs. Calli white, one of them frequently bifid. Style very thick at the base, white. Stigma rose-coloured, cylindrical, fluted with 8 grooves, obtuse.

I shall now add some other genera confounded with *Protea:* among their secondary characters, the structure of the Bractes, which parts by a little sophistry Linné describes as a Calyx, is fully as important as that of the Corolla or Pericarpium.

Leucadendrum. *Plukn.* Corolla 2-labiata, labio altero angusto. Pericarpium ventricosum cuticulâ pergamineâ, basi barbatum. Stigma clavatum, obtusum. *Frutices incani. Folia apice nunc* 3-*dentata. Flores in capitulo subrotundo terminali. Bractea* 1 *inter singulos Involucro majorum nullo, rigidæ.* P. Conocarpa, Totta, Pubera, &c.

Mimetes. Corolla profunde 4-fida. Pericarpium *Leucadendri?* Stigma angustissime clavatum, obtusum. *Frutices incani aut sericei. Folia in quibusdam apice* 3-*dentata. Flores in capitulis oblongis axillaribus. Bractea* 1 *inter singulos præter Involucrum aliarum coloratarum, scariosæ. Nomen a* μιμητης, *cum diversa genera simulet.* P. Hirta, Cucullata, &c.

Protea. *Linn.* Corolla profunde 4-fida, persistens. Pericarpium ventricosum absque Callis, interdum hirsutum. Stigma clavatum, emarginatum. *Frutices Arboresve. Folia integra. Flores dioici, in capitulo subrotundo terminali. Bractea* 1 *inter singulos Involucro sterilium nunc majusculo, fœmineorum uniformes et lignosæ.* P. Argentea, Levisanus, Parviflora, &c. *An ultima separanda ob Bracteas?*

Eurysperm̃um. Corolla profunde 4-fida. Pericarpium compressum margine alato, læve. Stigma clavatum, emarginatum. *Frutices humiles. Folia integra. Flores dioici, in capitulo globoso terminali. Bractea* 1 *inter singulos foliis ultimis Involucri speciem præ se ferentibus, fœmineorum uniformes et lignosæ. Nomen ab* ευρυς *et* σπερμα, *seminibus latis.* P. Strobilina, L. Pallens, &c.

Chasme. Corolla profunde 4-fida. Pericarpium compressum margine alato, læve. Stigma clavatum, emarginatum. *Frutices robusti. Folia integra, nunc diversa in eadem stirpe. Flores dioici, in capitulo oblongo terminali. Bractea* 1 *inter singulos Involucro majorum nullo, fœmineorum infra apicem concretæ et lignosæ, unde Strobilus cancellatus. Nomen a* χασμη, *ob rimas fructus.* P. Comosa, &c.

Aulax. *Berg.* Corolla 4-fida. Pericarpium ventricosum absque Callis, barbatum. Stigma clavatum, retusum. *Frutices glabri. Folia integra. Flores dioici in spicis corymbosis terminalibus. Bractea* 1 *inter singulos præter quas nullæ, fœmineorum exterioribus sterilibus Involucrum mentientibus, acerosæ.* P. Pinifolia *fœmina cujus est* Bracteata, P. Aulacea *fœmina cujus* Umbellata, &c.

Atylus. Corolla 4-fida, decidua. Pericarpium ventricosum absque Callis, varie barbatum. Stigma fusiforme, obtusum. *Frutices rigidi. Folia integra aut pinnatifida. Flores monoici, in capitulo oblongo terminali, fœmineo masculis nunc cincto. Bractea* 1 *inter singulos Involucro majorum nullo, uniformes, lignosæ. Nomen ab a et* τυλος, *et defectum Callorum.* P. Fucifolia, Anemonefolia, &c.

Serruria. *Burm.* Corolla profunde 4-fida. Pericarpium ventricosum, pedicellatum, plus minus barbatum. Stigma clavatum, obtusum. *Frutices humiles. Folia instar* Abrotani *et* Crithmi *pinnatifida. Flores in capitulo globoso, simplici vel corymboso, terminali, ipsi interdum pedicellati. Bractea* 1 *inter singulos Involucro majorum nullo, membranaceæ. In honorem Botanices Professoris* Jos. Serrurier *dixit auctor, itaque non* Serraria. P. Cyanoides, Sphærocephala, Glomerata, &c.

Spatalla. Corolla profunde 4-fida, laciniâ dorsali majore. Pericarpium ventricosum, pedicellatum, plus minus barbatum. Stigma spatulatum, obtusum. *Frutices ramis longis. Folia perangusta. Flores in fasciculis* 1-4-*floris, nunc pedicellatis, spicatis, terminalibus. Bractea* 1 *ad basin* 4 *flores cingentes nullis interstinctis, membranaceæ. Nomen a* σπαταλαω, *ob stigma amplum.* P. Racemosa, Lanata, &c.

Paranomus. Corolla profunde 4-fida. Pericarpium ventricosum cuticulâ pergamineâ, basi barbatum. Stigma clavatum, obtusum. *Frutices humiles. Folia nunc simplicia et decomposita in eadem stirpe. Flores in fasciculis* 4-*floris, spicatis, terminalibus. Bractea* 1 *ad basin* 4 *flores cingentes nullis interstinctis, rigidæ. Nomen a* παρα *et* νομος, *tot partibus anomalis.* P. Lagopus, Sceptrum, &c.

REFERENCES TO THE PLATE.

1. A single flower with its Bracte, before and after it expands.
2. The same magnified.
3. Pistillum magnified.
4. Stigma very highly magnified.
5. Young fruit stript of its hairs, also a longitudinal section magnified.
6. The four Calli magnified.
7. Corolla and Stamina magnified.
8. Two views of the Fruit natural size.
9. A Seed.
10. The Embryo.

Castalia pygmæa

Drawn, & Pub. April 1 1807. by W. Hooker.

LXVIII.

CASTALIA PYGMÆA.

Small Castalia.

Ordinem Naturalem et Characterem Generis vide sub, No. 14.

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* *Laminæ foliorum usque ad petiolum fissæ.*

C. foliorum lobis parum acuminatis: toro modioliformi: petalis 12-14, exterioribus vix pollicem longis: stigmate 7-8-radiato.

Sponte nascitur forsan in *China*.

Floret apud nos a *Junio* in *Septembrem*.

A new species, hitherto cultivated in our stoves, but which may possibly succeed in the open air, for it ripened seeds early in June in that of Charles Walsham, Esq. at *Whetstone*, where the drawing was made. I afterwards saw it at *Kew* in greater perfection, with many flowers expanded at the same time, one of which is described below, my liberal friend Mr. Aiton gathering the specimen almost before I could ask for it; nor am I less indebted to Mr. Bauer for shewing me his inimitable dissections of the germinating Embryo, the first leaf of which appears to consist of a simple petiole without any lamina; in other respects it agrees with that of our English species, the two cotyledons only protruding their petioles so far as to exclude the plumule, as in *Tropæolum, Corylus, Quercus*.

Leaves smaller than in any yet discovered: Petiole slender, round, smooth: Lamina dark green tinged with purple underneath, from 2 to 3 inches diameter, almost orbicular, very entire, obtuse, smooth. Flowers exhaling a sweet odour resembling that of our garden *Polyanthus*, not aromatic as in the *C. Pudica*. Peduncle dull green, thicker than the petiole, round, smooth, not striated, perforated longitudinally with 4 tubes. Torus yellowish green, shaped like the nave of a wheel, slightly 4-angular. Calyx green with the top darker, inside white the middle nerve of each leaflet not so transparent as in other species. Petals 12 to 14, white with a tinge of green on the outside of the four next to the calyx especially towards their tops, oval, very entire, obtuse, horizontally incurved, hollow, the interior ones gradually smaller and more elliptical: Nerves scarcely distinguishable. Pericarpium while young only about 3 lines in diameter and pale yellow, afterwards not larger than a Spanish nut. Filaments 44, pale yellow, incurved. Anthers yellow, the outer ones somewhat recurved, obtuse. Stigma yellow; its divisions or rays horizontally recurved to about the middle where they are suddenly bent inwards, broad, lanceolate, obtuse; pubescent on the disc as far as a little beyond the divisions, and there only imbibing the fœcundating fluid of the Pollen. Nectarium more oblong than in the others.

REFERENCES TO THE PLATE.

1. A Pistil natural size, the calyx petals and stamens being pulled off.
2. One of the outermost and innermost stamens magnified.

Southwellia ? Nobilis

Drawn & Pub. May 1, 1907, by W. Hooker

LXIX.

SOUTHWELLIA NOBILIS.

Noble Southwellia.

ORDO NATURALIS.

Sterculiaceæ. *Vent. Jard. Malm. n.* 91.

Calyx cyathiformis, laciniis 5 in tiaram apice coalitis. Masc. Antheræ 10, apice tori pedicellæformis glomeratæ. Herm. Antheræ ut in masculis. Perianthium coriaceum, lobis 3-5 post anthesin discretis. Semina sessilia, carunculâ ad hilum. *Arbores proceræ. Folia simplicia, oblonga. Stipulæ a petiolo distinctæ. Flores racemis longis ex axillis imis nudis turionum. In memoriam* Sophiæ Southwell, *nobilis viduæ* Edoardi Lord De Clifford, *amore et culturâ plantarum dudum inclytissimæ. Huc* S. Balanghas *plurcsque species in Herbario Banksiano.*

S. foliorum laminis 4-12 pollices longis, parum obovato-lanceolatis, adultis lucidis, membranaceis: pedunculo raré pubescente: stigmate breviter 3-5-lobo.

Sterculia monosperma, *Vent. Jard. Malm. p.* 91. cum Ic. Sterculia Balanghas, *Cav. Diss.* 5. *p.* 286. *t.* 143. pessimâ. Sterculia Balanghas. *Linn. Sp. Pl. ed.* 2. *p.* 1430. Sterculia foliis, &c. *Linn. Fl. Zeyl. n.* 350. Cavalam. *Rheed. Hort. Mal. v.* 1. *p.* 89. *t.* 99.

Sponte nascentem in Ins. *Ceylon*, legit P. Herman.

Floret *Februario*, in natali solo tunc foliis denudata.

Monsieur Ventenat, in the work above quoted, has justly observed that the plants at present known by the name of *Sterculia* form a separate Natural Order, of which I may possibly give the characters in a future number, when another genus sold by the nurserymen for *Helicteres* *Apetala* is figured; but I think that the first section of Jussieu's *Tiliaceæ* has no immediate affinity to them, and that they differ still more by the structure of their seeds, from his last section of *Malvaceæ*. More than twice the number in Willdenow's Species Plantarum are already discovered, and besides those I know imperfectly several others, of all which only one belongs to the original genus with digitated leaves.

Forskhol seems to have been the first botanist, who thought correctly about *Sterculia*, having so long ago as 1763 separated his *Culhamia*, which is a congener but undoubtedly not the same species with *S. Platanifolia* from Japan. Another pupil of the immortal Linne, whom our country is so proud of, Dryander, next separated *Heriticra* in the Hortus Kewensis, and a second species has been added to that by Symes, in his Embassy to Ava. I believe the genus now proposed to be fully as legitimate, of which I have seen three species in our gardens: the first here figured; a second from the Nicobar Isles, with hairy leaves, and very dichotomous pedunCles; lastly, a third from the coast of Guinea, with heart-shaped hairy leaves. They all agree in the curious form of the calyx, are large trees with flowers smelling like *Vanilla*, and worthy of being honoured with the family name of Dowager Lady De Clifford, whose stoves have for so long a period been devoted to the cultivation of tender exotics.

This species is become pretty common: the tree at Lady De Clifford's, from which the drawing was made is very large, and corresponds with Rheede's description more than any I have seen elsewhere, often ripening fruit. With regard to the specific name, *Balanghas* is every way inadmissible, being confined to a much smaller district than its other barbarous appellations of *Cavalam*, and *Clompanus*. I have therefore called it *Nobilis*, from the grandeur of its foliage, that from the coast of Guinea, *Regalis*, as its calyx still more resembles a regal crown, and the species from the Nicobar Isles, *Principalis*. The last term has been criticized by one who professes himself a friend to this work, as bad Latin! instead of exposing his name, however, I will refer him to three of the purest writers of the golden Age; Cicero, *de fato*, 18. principalis et perfecta causa; Tacitus, *Hist.* 2. 59. 3. nullo principali paratu sed veteri egestate conspicuus; and Livy, *lib.* 4. 19. porta principalis.

Stem in its native country 2 and 3 feet in diameter, exsuding a mucilaginous sap when cut, forming a large head and thick grateful shade, but without leaves for a short period, as it is in our stoves if properly treated and kept dry in the autumn. Leaves alternate: Petiole thicker at the top and bottom: Lamina often a foot long, somewhat obovate, pubescent while young especially underneath: Nerves prominent on the upper surface though not so much as underneath. Stipules and Bractes soon falling off. Flowers in long racemes at the bottom of the young branches, from axils the leaves of which are generally abortive. Peduncle viscid and pubescent. Calyx pale dull yellow, 3 lines long or more, cyathiform, melliferous at the base: its divisions arched and united at the points, hairy, their sides revolute. Torus resembling a pedicle within the calyx, reclined, longer in the male than the hermaphrodite flower. Anthers perfect in all the flowers I examined, whether male or hermaphrodite, generally 10, in twins or their lobes quite distinct. Pericarpium from 3 to 5-lobed, before impregnation of a bright scarlet colour, soon after this the style falls off and the lobes begin to separate so as to appear at last distinct fruits, ripening unequally one lobe being often green when another is brown, of a beautiful crimson colour within. Style pale dull yellow, bent down closely toward the anthers till impregnation has taken place. Stigma very slightly lobed. Seeds first red, then deep purple, lastly of a black lead colour, and not all ripening at once even in the same pod: Embryo large, immersed in a thick Perispermum: Cotyledons flat, with several parallel nerves: Radicle remote from the Hilum at the contrary end of the seed. Frequently only one seed comes to perfection, but the natural number is from 5 to 8, and I have no doubt that if Monsieur Ventenat had carefully examined the suture of his fruit, he would have found traces of them, and not made a distinct species from that single character.

REFERENCES TO THE PLATE.

1. A Male Flower magnified.
2. An Hermaphrodite Flower cut open, magnified.
3. The Fruit just beginning to change colour, but not full grown, with part of one Lobe cut off to shew the seeds.
4. A ripe Seed, shewing the Caruncle at the Hilum, also cut transversely shewing the Embryo in the middle of the Perispermum.
5. The Embryo.
6. The pedicelliform Torus and Anthers of a Male Flower, highly magnified.
7. The same of an Hermaphrodite Flower, with the Pistil.

Cradendrum tenax

LXX.

ERODENDRUM TENAX.

Tough Erodendrum.

Ordinem Naturalem et Characterem Generis vide sub No. 67.

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* *Flores terminales.*

E. foliis 7-9 lineas latis, 5-6 pollices longis, lanceolato-spatulatis, mucronatis apice mox sphacelato, subpunctatis, adultis lævibus, evidenter nervosis: bracteis involucri exquisite sericeis ciliatisque, ultimis perangustis.

Sponte nascentem in *Hottentot's Holland*, legit J. Niven.

Floret apud nos a *Februario* in *Maium*.

I have long had a suspicion that many plants of this genus both here and at the *Cape*, are hybrid or mules from a defect in their stigma, which though it retains the pollen for a long period in those grooves so well shewn by Mr. Hooker in his dissections of the *Amplexicaule*, I have constantly found dry without any secreting surface. It may however at last exsude the liquid necessary to imbibe the contents of the pollen, and if so this accounts for the great number of species.

The present shrub is nearly allied to the *Longifolium* figured in our 37th number, and is also from the *Clapham* collection: but I cannot regard it as a variety, for exclusive of the great difference in the foliage, the bractes of the Involucrum are more silky and the last series of them exceedingly narrow: nor is the adult plant even totally destitute of pubescence.

Stem very tough, pale green tinged with red. Leaves grey, not olive-coloured as in the *Longifolium*, red toward the bottom, middle nerve very thick and conspicuous, by which it may also be distinguished from the *Longifolium*. Fasciculus of flowers erect, two inches or more in diameter. Bractes of the Involucrum yellowish green tinged with red, the upper ones spatulate, obtuse, minutely silky and ciliated. Petals in the specimen sent to me had been all expanded some days, and were pale yellow. Pollen pale ochre colour. Stigma exceedingly narrow, with only 4 grooves perceptible through a single lens.

Tab 71

1 2 3 4 5

Claytonia spatulæfolia

Drawn & Pub. June 1 1807 by W. Hooker

LXXI.

CLAYTONIA SPATULÆFOLIA.

Spatula-leaved Claytonia.

ORDO NATURALIS.

Portulaceæ. *Juss. Gen. p.* 312.

Calyx 2-phyllus. Petala 5, retusa. Filamenta 5, toro intus mellifero inserta, petalis opposita. Pericarpium 1-loculare, polyspermum, 3-valve, ab apice dehiscens. Stylus 1. Stigmata 3, obcuneata. *Herbæ, radice* Cyclaminis *instar tuberosâ. Folia pauca; radicalia in petiolos sub terram pariter vagantes attenuata; caulina* 2, *sæpius opposita. Flores in spicis circinatis interdum decompositis, longe pedicellati. Bractea pedicella infimo opposita, squamæformis. An congeneres* C. Sibirica L. *et* Perfoliata Willd. *pericarpio forsan, tanquam radicatione, abludentes?*

C. foliis spatulatis: calycis foliolis obtusis: petalorum nervis valde coloratis.

C. caroliniana. *Mich. Fl. Boreali-Am. v. i. p.* 160. C. virginica β. *Soland. in Ait. Hort. Kew. v.* 1. *p.* 284.

Sponte nascentem in *South Carolina* montibus excelsis, legit A. Michaux.

Floret apud nos *Aprili, Maio.*

A legitimate species of this curious genus, which, notwithstanding Clayton's observation, I have no doubt is dicotyledonous. Dr. Sims indeed, in the 941st number of the Botanical Magazine, has ingeniously brought forward several characters, in which *C. Virginica* resembles the *Asphodeli*, but the petals of his figure are not correct, being represented lanceolate and sharp, instead of obovate and retuse. The two Siberian species are different in habit to ours, with only three seeds in the pericarpium, which bursts with elasticity; and they must probably be restored to their former title of *Lemnia*.

Root about the size of a Spanish nut, dull brown, sending out short fibres from various parts near the top. Leaves few, radical ones attenuated into petioles, which as well as the stem run under ground for a short space like those of most *Cyclamens*, from one to two inches long, spatulate, quite entire, obtuse, smooth, succulent. Stem, where broken, perforated by a tough string. Flowers in a simple circinate spike. A small bracte embraces the stem opposite to the first pedicle in both species. Calyx of two leaves one embracing the other, both obtuse. Petals and filaments inserted in the Torus which projects into a melliferous rim exactly as in *Dianthus*, so that there is not a shadow of pretence for placing *Portulaceæ* in a different class. Anthers bright purple, deeply divided both at the top and bottom. Seeds impregnated by a central chord continuous with the style, generally six in number.

REFERENCES TO THE PLATE.

1. A Petal magnified, showing the cicatrix in the torus, where the filament was inserted. 2. Two views of a Stigma magnified. 3. Pistillum natural size. 4. Tranverse section of the young Fruit magnified. 5. A young Seed magnified.

Begonia Nitida

Pub. June 1.1827. by W. Hooker

LXXII.

BEGONIA NITIDA.

Shining Leaved Begonia.

ORDO NATURALIS.

Hydrocharides, *Juss. Gen. p.* 67.

Masc. Petala 4, 2 exterioribus oppositis majoribus. Filamenta numerosa. Antherа filamento confluens quasi marginalis, obtusa. Fœm. Pericarpium inferum, 3-angulum, 3-loculare alis tot plerumque inæqualibus, intra quas a basi dehiscens. Petala ut in masculis, sed angustiora et sæpius 5. Styli 3. Stigmata 2-fida, spiraliter lyrata. Semina numerosa, colo 2-lamellari in singulis loculis sessilia. *Herbæ Suffruticesve carnosæ. Caulis teres. Stipulæ* 2, *amplexicaules, caducæ. Folia alterna ; laminis inæquilateralibus, varie dentatis. Floris monoici, Paniculis axillaribus impari-dichotomis, foeminei rarissime in eadem paniculâ. Bracteæ* 2, *caducæ.* B. Ferruginea L. *sui generis est ; huic cæteris affinior* B. Urticæfolia *L. aliæque species posthac distinguendæ.*

B. stipulis acute carinatis : foliorum petiolis teretibus : laminis oblongis, obsolete dentatis, nitidis præcipue junioribus : pericarpii alâ unâ maximâ subrotundâ.

B. Nitida. *Stirp. Rar. p.* 17. *t.* 9. B. nitida. *Dryand. in Linn. Trans. v.* 1. *p.* 159. B. nitida. *Dryand. in Ait. Hort. Kew. v.* 3. *p.* 352. B. obliqua. *L'Herit. Stirp. Nov. v.* 1. *p.* 95. *t.* 46. B. minor. *Jacq. Ic. Collect. p.* 126. B. purpurea. *Swartz. Prodr. p.* 86.

Sponte nascentem in Ins. *Jamaica*, locis umbrosis, legit G. Wright.

Floret apud nos a *Maio* in *Novembrem.*

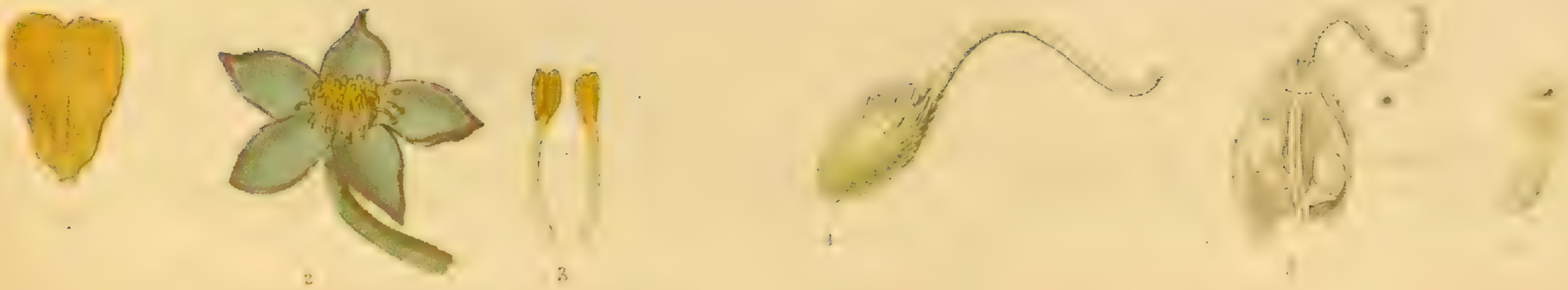
The structure of the stigma appears to me of great consequence in determining all true *Begonias*, and to indicate a peculiar conformation in their fruit: as such therefore I only consider those species in which that part is forked like the lyre of the ancients, and have drawn up my generic character to exclude the others. In Mr. Dryander's complete dissertation above quoted, every species then known will be found, to which five more have since been added by other botanists. Of these, *B. Ferruginea* and *Urticæfolia*, I am fully persuaded, ought to be separated; *B. Crenata* and *Tenuifolia*, if their 2-locular fruit is not the effect of abortion, will constitute a third genus; and the species without stem perhaps a fourth.

One of the last section was described by the late Dr. J. G. Koenig, under the name of *Falkea tenera*, and the receptacle of its seeds is said to be "membranacco-3-alatum:" in those cultivated in our stoves, that part consists of six wings or plates covered with seeds, two in each cell; and having now ascertained beyond a doubt that they are dicotyledonous, I suspect that *Hydrocharis, Stratiotes* and *Vallisneria* also belong to the same great division of vegetables.

No *Begonia* yet discovered is so ornamental as that here figured, which was communicated by Robert Thornton, Esq. of Clapham. Stems several, from 3 to 5 feet high, quite smooth, and spotted with small long whitish tubercles. Stipules sharply keeled, in which particular they differ from all I have yet examined in this genus. Leaves yellow green, alternate: petiole quite round, smooth: lamina oblong, one side far larger than the other; slightly dentated, quite smooth and shining while young. Flowers in large axillary panicles: female much fewer, and I believe always distinct from the males. Peduncle deep red, inclining to scarlet. Pericarpium, at first whitish green: one wing very large and rounded. Petals rose-coloured, inserted at the bottom of a yellow round torus: in the females crowning the pericarpium, generally 5 in number, paler and more spatulate, withering slowly, without falling off. Filaments from 30 to 40. Anthers yellow, rather longer than the filaments, lanceolate, obtuse. Styles 3, yellow. Stigmata the same colour, but twice as long, twisted and divaricated into the figure of a lyre.

REFERENCES TO THE PLATE.

1. A Stamen. 2. A young Fruit, the petals cut off to show the stigmata. 3. The same cut transversely, to show the six receptacles of the seeds. 4. A Seed highly magnified.



Burtonia grossulariafolia

Drawn & Pub. June 1 1807 by W. Hooker

LXXIII.

HIBBERTIA GROSSULARIÆFOLIA.

Gooseberry-leaved Hibbertia.

ORDO NATURALIS.

Dillenēæ.

Calyx 5-phyllus, persistens. Petala 5 unguibus latis, rarius plura, toro inserta, in plerisque decidua. Filamenta 10-200, toro simplici serie inserta aut imbricata, persistentia, nunce in phalanges coalita aut 10 ultima duplo majora. Antheræ filamentis confluentes, sæpius longissimæ. Pericarpium 1, 5-20-loculare; aut 3-13, 1-locularia; disco tori supera, stellata glomeratave. Styli longi. Stigmata brevissima, aut stylo deficiente longa et 1-lateralia. Semina 1-18 in singulis loculis pericarpiisve, juxta marginem interiorem 2-plici serie inserta, Chordâ pistillari in tot arillos cupulæformes varie laceros desinente, albuminosa: Embryo minutus. *Arbores Suffruticesve. Folia alterna, petiolata, in cunabulis lateribus conduplicata. Stipulæ per marginem petioli ut in* Magnoliâ *intrafoliaceæ caducæque, aut nullæ. Flores sæpius oppositifolii, forsan nunquam terminales. Bracteæ solitariæ, caducæ aut persistentes.*

Wormia. Rottb. Calyx foliolis subrotundis. Petala 5-6, decidua. Filamenta numerosa, imbricata. Antheræ longissimæ. Pericarpia 5-6. Styli sensim attenuati. Stigmata emarginata. Semina 8-12. *Arbores foliis dentatis vel integerrimis, sæpius retusis. Stipulæ grandes. Flores albi flavive, paniculâ juxta apicem ramorum oppositifoliâ secundâ simplici aut dichotomâ.*

Colbertia. Calyx foliolis subrotundis. Petala 5, decidua. Filamenta numerosa, imbricata, 10 ultima duplo longiora. Antheræ longissimæ. Pericarpium 5-loculare. Stigma sessile, 5-radiatum. Semina 9-13. *Arbor foliis* Dilleniæ. *Stipulæ nullæ. Flores flavi, fasciculis e nudo ramo lateralibus. Bracteæ squamaceæ, caducæ. In memoriam inclyti* Colbert, *Horti Regii Parisiensis fautoris, qui vites ibidem loco stirpium rariorum consitas ipse eradicavit: itaque* "his saltem accumulem donis." D. Pentagyna. *Pl. Cor. t.* 20.

Dillenia. L. Calyx in fructu valde ampliatus. Petala 5, persistentia. Filamenta numerosa, imbricata. Antheræ longissimæ. Pericarpium 17-20-loculare. Stigma sessile, 17-20-radiatum. Semina 14-20. *Arbor foliis* Mespili Japonicæ, *serratis, subtus pubescentibus, nervis parallelis. Stipulæ nullæ. Flores albi, solitarii aut rare paniculati pedunculis terminalibus? fragrantes. Bracteæ nullæ?*

Hibbertia. Kenn. Torus plus minus modioliformis. Calyx in fructu connivens. Petala 5, decidua. Filamenta 16-200, basi interdum in phalanges coalita. Antheræ longæ vel breves. Pericarpia 2-13, glomerata. Styli cylindracei. Stigma emarginatum. Semina 2-10. *Frutices aut suffrutices. Folia parva grandiave, rarius integerrima, subtus plus minus sericea. Stipulæ nullæ. Flores flavi, solitarii aut rare paniculati, pedunculis quasi terminalibus ramo autem e subjectâ axillâ mox prodeunte revera oppositifoliis. Bractea foliacea, persistens. Genus nomine* Georgii Hibbert, *armigeri, decoratum, unde æternam gratiam obtinebit apud Botanicos. Huc, ut nunc opinor, referendæ.*

Volubilis. 1. Dillenia volubilis. Vent. Choix de Pl. n. 11. cum Ic. Dillenia scandens. Willd. Sp. Pl. v. 2. p. 1251. Dillenia turnerætlora. Gawler Recens. p. 27. H. volubilis. Kenn. in Bot. Rep. n. 126. cum Ic. Dillenia speciosa. Curtis in Bot. Mag. n. 449. cum Ic. *Caulis volubilis. Foliorum Laminæ obovato lanceolatæ, subdentatæ. Flores solitarii. Bractea juxta calycem. Filamenta numerosissima. Antheræ apice foraminosæ. Pericarpia* 5-9, *polysperma.* Juxta *Port Jackson*, legit D. Burton.

Obcuneifolia. 2. Candollea cuneiformis. La Bill. Pl. Nov. Holl. tom. 2. p. 33. t. 176. *Caulis erectus. Foliorum Laminæ obcuneato-lanceolate, subdentatæ. Panicula* 1-2-*flora. Filamenta numerosa, in phalanges coalita. Pericarpia* 5-7, *disperma.* Juxta *Cap Diemen*, legit J. J. La Billardiere.

Grossulariæfolia. 3. H. crenata. Andr. in Bot. Rep. n. 187. cum Ic. optimâ. *Caulis decumbens. Foliorum Laminæ suborbiculares, dentatæ. Flores* 1-*rii, pedunculis longis. Torus sub florescentiam prominens. Filamenta numerosa. Pericarpia* 10-13, *disperma.* Juxta *King George's Sound*, legit Rtus. Brown.

ANGUSTIFOLIA. 4. Dillenia procumbens. La Bill. *Pl.* Nov. Holl. tom. 2. p. 16. *t.* 156. *Caulis decumbens. Foliorum Laminæ lineari-lanceolatæ, integerrimæ. Flores* 1-*ni, pedunculis brevibus. Filamenta* 16-24. *Pericarpia* 3-5, 2-4-*sperma.* Juxta *Cap Diemen*, legit J. J. LA BILLARDIERE.

A wrong type having been used for this sheet of the *Paradisus Londinensis*, it is necessary to reprint it, and I gladly seize the opportunity of joining the plant called *Burtonia* in the 73d plate to *Hibbertia* It has since ripened seeds, and the original species of our gardens has likewise flowered in greater perfection than usual, the valves of its anthers splitting and discharging their pollen far below the top, so that these two plants, with some others from *New Holland*, differ much less than I at first supposed. The essential character of the genus therefore as now described, consists in its deciduous petals, clustered fruits, and cylindrical styles. *Colbertia* and *Dillenia*, have a large sessile radiated stigma.

Stem dark red, slender, trailing on the ground, round, hairy. Leaves at first bright green, afterwards darker, and tinged with red: petiole short, hollow, dilated at the bottom: lamina nearly orbicular, toothed, nerved, rough, with very short hairs, somewhat wrinkled. Flowers like those of *Potentilla*, solitary, without smell, on peduncles which come out here and there opposite to the leaves. Bracte small, placed near the bottom of the peduncle, persistent. Calyx of 5, egg-shaped wedged leaflets. Petals 5, yellow, obcordate, converging closely during the night, deciduous. Filaments from 60 to 70, short, persistent, and changing from yellow to red after the petals are gone. Styles long, recurved so as to project between the filaments. Stigmata emarginated. Pericarpia from 10 to 13, glomerated and bearded with long white hairs. Seeds 2, pale brown, about 1 line in diameter, globular, smooth, surrounded to the middle by a white shining Arillus irregularly laciniated: Testa thick and hard: Albumen filling the whole cavity of the testa, somewhat cartilaginous: Embryo exceedingly minute, near the Hilum, 2-cotyledonous.

As *Hibbertia* belongs to an Order hitherto undefined, I have above prefixed some of the characters of it, as well as of other genera in it. On these occasions, it has been remarked in the eighth volume of the Linnean Transactions, that I should name the Order from the most conspicuous genus, altering its plural termination to *ēæ* long instead of the fastidious *oideæ*, and that thus all confusion, when it is necessary to write or speak of both in that number, is avoided.

REFERENCES TO THE PLATE.

1. A Petal. 2. Calyx, Stamina and Pistilla somewhat magnified. 3. Two views of a Stamen highly magnified. 4. A Pistillum highly magnified. 5. The same cut open, to show the insertion and number of seeds. 6. Stigma highly magnified.

Leucoium pulchellum

Drawn & Pub. July 1. 1807 by W. Hooker

LXXIV.

LEUCOIUM PULCHELLUM.

Neat Leucoium.

ORDO NATURALIS.

Narcissi. *Juss. Gen. p.* 54.

Sect. 1. Pericarpium inferum. Filamenta toro placentæformi, ad eorum basin mellifero inserta. Antheræ foramine versus basin angustato dehiscentes. *Flores penduli. Bracteæ sub florescentiam vegetæ.*

Pericarpium ovale, succulentulum. Petala fere æqualia, juxta apicem contractiuscula maculâ viridi. Antheræ obtusæ. Stylus clavatus. Stigma truncatum. Semina nigra, ovalia, lucida. *Herbæ* 6-18 *pollicares. Bulbus ovatus, nunc magnitudine ovi Gallinæ. Folia* Narcissi *sed læte viridia,* 4-6 *lineas lata. Flores albi. Pedunculus anceps, sæpius valde compressus.*

L. foliis incurvo-patentibus: pedunculo 3-7-floro, valde ancipiti margine integerrimo: pericarpio sub florescentiam saturate viridi.

L. Bulbosum minus, *Besl. Hort. Eystt. Vern. tert. Ord. fol. xvii. f.* 3. L. hexaphyllum majus. *Vallet Jard. t.* 24.

Locus natalis haud pro certo innotuit.

Floret apud nos versus finem *Martii, Aprili.*

In the 21st number of this work, I expressed a suspicion that *Leucoium Autumnale*, from its very different habit, would constitute a genus: that plant afterwards ripened seeds, which have left no doubt about the matter, being comparatively large, whitish, irregularly angulated, and more like bulbs than the black round seeds of *Leucoium*. Accordingly, it is necessary to give another generic character, and to the narrow-leaved species, I shall in future apply the poetic title of *Acis*. These two genera with *Galanthus*, form a separate section in the order, distinguished by the white spongy torus covering the top of the pericarpium, as well as by their anthers: in the former the filaments are inserted distinct from the petals, and honey exudes from the base of each, while in most genera of the other sections, it is discharged from three glands, as in *Hyacinthus*.

The *Leucoium* now figured is a real species, hitherto confounded with *L. Æstivum*, and its differences were first pointed out to me by Mr. Haworth, a botanist, from whose accuracy I have repeatedly profited. It is reported to grow wild in some parts of this island, producing seeds plentifully in our gardens. Bulb often the size of an hen's egg. Leaves appearing in November, of a deeper green and generally broader than in *L. Æstivum*, very entire, quite smooth. Flowers smaller, from three weeks to a month earlier, exhaling a more perceptible and unpleasant smell. Peduncle the same colour as the leaves, very entire at the edges, not glaucous and crenulated as in *L. Æstivum*. Pedicles from 3 to 7, slender and very long, of a dark green colour, as well as the young fruit. Petals white, with a green spot below the top, their nerves not so conspicuous, and almost all parallel, the inner ones broader. Filaments white. Anthers yellow, inserted at the base, where each cell being emarginated they appear divided into four equal lobes. Style white, with a green spot below the top, club-shaped. Stigma truncated. Seeds from 13 to 20 in each cell, black, oval, shining.

REFERENCES TO THE PLATE.

1. Pistillum and Stamina, highly magnified. 2. A transverse section of the Pericarpium. 3. A Seed.

LXXIV.

LEUCOIUM PULCHELLUM.

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ORDO NATURALIS.

Narcissi. *Juss. Gen. p.* 54.

Sect. 1. Pericarpium inferum. Filamenta toro placentæformi, ad eorum basin mellifero inserta. Antheræ foramine versus basin angustato dehiscentes. *Flores penduli. Bracteæ sub florescentiam vegetæ.*

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L. foliis incurvo-patentibus: pedunculo 3-7-floro, valde ancipiti margine integerrimo: pericarpio sub florescentiam saturate viridi.

L. Bulbosum minus. *Besl. Hort. Eystt. Vern. tert. Ord. fol. xvii. f.* 3. L. hexaphyllum majus. *Vallet Jard. t.* 24.

Locus natalis haud pro certo innotuit.

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REFERENCES TO THE PLATE.

1. Pistillum and Stamina, highly magnified. 2. A transverse section of the Pericarpium. 3. A Seed.

Carpothamnus vaginiflorus

Drawn & Pub. July 1 1807 by W Hooker

LXXV.

EURYSPERMUM SALICIFOLIUM.

Willow-leaved Euryspermum.

ORDO NATURALIS.

Proteæ. *Juss. Gen. p.* 78.

Sect. 1. Pericarpium deciduum, 1-loculare, 6-spermum, clausum.

Corolla profunde 4-fida. Nectaria ? 4, linearia. Pericarpium compressum margine alato, læve. Stigma obovatum, retusum. *Frutices, nunc robusti. Folia integra. Flores dioici, in capitulo subrotundo terminali. Bractea* 1, *inter singulos, præter involucrum foliorum sensim flavescentium ultimis parvis: fœminearum majores et demum lignosæ. Nomen ab* ευρυς *et* σπερμα, *seminibus latis. Huc referendæ* Protea Strobilina *L.* Protea pallens. *Thunb.* &c.

E. caule pubescente: foliis $1\frac{1}{2}$-2 lineas latis, lineari-spatulatis, longe mucronatis, pubescentulis; capitulis masculis numerosis: pericarpio latissimo, emarginato.

Sponte nascentem juxta *Taffelberg*, legit J. Niven.

Floret *Julio*, apud nos *Martio, Aprili.*

In a former number I have already separated this and several other genera from *Protea*, printing in Roman type only such of their characters as came strictly within the limits prescribed by Linne for defining a genus; and I still purposely follow Jussieu in that respect, not only to show the artifice, by which the first of those great men sometimes evaded his own law, but the real importance of the inflorescence. No one indeed will constitute a genus from it alone if he can help it; but when he cannot, let him speak the honest truth, nor forget its dictates so far, as to call the same identical part at one time a bracte, and at another a calyx. These remarks may serve as an answer to a very indefatigable botanist, who told me that two of my characters were both alike, and whose name is perpetuated by a genus in this very order, which is distinguished solely by its inflorescence.

The shrub now figured is a male, and from the *Hibbertian* collection, where it flowered so luxuriantly, that by the action of cutting the specimen, a cloud of pollen filled the conservatory: no wonder therefore if in a country where this may chance to fall upon females nearly allied, not only endless varieties, but many species of the genus are produced. In habit it approaches very near to *Protea Parviflora* Thunb. but they may be distinguished by the leaves, which in our plant terminate in a long sharp point.

Stem from 3 to 7 feet high, erect, branching with great symmetry, round, pubescent even when old, tinged with red towards the extremities. Leaves yellowish green, not so much twisted as in many others, linear-spatulate, scarcely pubescent on their upper surface, those near the flowers pale yellow, and gradually dilated into very short bractes of the same colour. Flowers numerous, without smell. Bracte between each flower small, and only bearded towards the top. Corolla yellow, quite smooth. Anthers deeply emarginated. Nectaries? 4. inserted in the torus between the petals, resembling a bristle, but more obtuse: hitherto doubting whether these bodies secreted honey, I have called them Calli, but in several flowers examined fresh while the sun was shining, I saw a thick moist substance exuding plentifully. Stigma clubshaped, and apparently perfect, but there is not even a rudiment of a pericarpium.

REFERENCES TO THE PLATE.

1. A head of flowers magnified, being cut longitudinally, to show the manner in which they are inserted. 2. One of the Bractes which separates the Flowers, magnified. 3. A single Flower lightly magnified, showing the Stigma. 4. The Nectaries magnified.

Erodendrum formosum

Drawn & Pub. July 1.1807, by W. Hooker

LXXVI.

ERODENDRUM FORMOSUM.

Handsome Erodendrum.

Ordinem Naturalem et Characterem Generis, vide sub. No. 67.

* *Flores ramis majoribus terminales.*

E. foliis ellipticis margine crasso, tenellis tomentosis: bracteis involucri fimbriatis, inferioribus inter se liberis: corollâ extus tomentosâ, apice valde attenuatâ: antheris perangustis: stigmatis apice crasso.

Sponte nascentem in *Hottentots Holland,* montibus legit *J. Niven.*

Floret apud nos *Maio, Junio.*

The doubts expressed in the last number respecting the production of honey, by those four narrow callous bodies, found in several genera of this Natural Order, are fully confirmed since that sheet was printed. The quantity with which the style of *Erodendrum* *Melliferum* is besmeared, first induced me to suppose that it was secreted by some other part; and from the observation of Mr. HIBBERT's intelligent gardener, who has watched the species now figured with much patience, it unquestionably proceeds from the thick part of the corolla under the anthers. He discovered, that as soon as ever the corolla begins to split, a small quantity of this substance exudes, which, gradually increasing, at length falls in a large drop upon the pericarpium below: afterwards, and not before, the two lips separate. I have examined all the species now in flower at *Clapham,* and am quite assured that this is the situation of the nectaria in *Erodendrum;* but I still remain utterly ignorant of the designation of the four callous bodies: they are inserted in the torus, alternate with the petals, generally very narrow, but sometimes dilated or bifid, and the liquid I saw upon them in *Eurys*pernum *Salicifolium,* must either have been their own proper secretion, or moisture condensed during the night.

Varieties and hybrid species of *Erodendrum* are probably endless: this may be easily distinguished from those in our gardens with a similar foliage, by the fringe of its bractes, which is pretty equally disposed, not forming a thick tuft at the top. The lower bractes are also more separate from each other than in any I have seen, not closing till the flowers begin to fade; and the anthers are exceedingly narrow, but contain perfect pollen.

Stem low, flowering when a foot and a half high, erect, very tomentose. Leaves from 4 to 6 inches long, and 1 to $1\frac{1}{2}$ broad; while young whitish, with a thick brown margin, and very tomentose; afterwards pale green, and finally quite smooth, except their margin, finely dotted, when seen through a microscope, by the scars of the pubescence; their callous point rather acute while tender, variously twisted; lateral nerves evidently branched. Flowers without smell. Bractes of the involucrum gradually narrower, longer, and more pink; those of the last series about half the breadth of the next below, their fringe silky. Corolla narrow, externally ash coloured and tomentose, beyond the anthers exceedingly attenuated. Style green. Stigma brilliant deep pink, curved at the base, thickened at the top, towards the front of which it has a whitish secreting orifice.

Stylidium glandulosum

Drawn & Pub. Aug.t 1.1807. by W. Hooker.

LXXVII.

STYLIDIUM GLANDULOSUM.

Glandular Stylidium.

ORDO NATURALIS.

Campanulaceæ. *Juss. Gen. p.* 164.

Pericarpium inferne 2-loculare. Calyx 2-labiatus, labiis varie fissis. Corollæ Tubus brevis: Limbus irregularis, 5-fidus laciniâ unâ minimâ, basi varie glandulosus tentaculisque ornatus. Nectarium mitræforme. Stylus longus, compressus, reclinato-deflaxus, e levissimo tactu in latus oppositum transiliens. Stigma amplum, convexum, lateribus barbatum. Antheræ 2, disco stigmatis sessiles, didymæ lobis obversis. *Herbæ Suffruticesve facie* Lobeliarum. *Folia alterna, nunc in rosas condecompositisve. Bracteæ ad ramos solitariæ. An omnium stylus irritabilis, ejusque directio similis? ferta, sæpe glandulosa, succulentula. Flores carnei purpureive; paniculis terminalibus, simplicibus*

* *Suffruticosæ.*

S. foliis 5-9 lineas longis, linearibus, vix crenulatis, mucronatis, glabris: paniculâ decompositâ. corollæ laciniâ minimâ disco toto glandulosâ; tentaculis 4.

Sponte nascentem in *New Holland*, oris occidentalibus, legit Rtus. Brown.

Floret apud nos a *Maio* in *Augustum*.

The genus of *Stylidium* was established by Swartz, from four species, in a paper communicated to the Berlin Academy, previous to the publication of the 4th volume of Willdenow's Species Plantarum, in 1805, where a very insufficient character of it first appeared.

In the same year, on the 8th of July, a memoir of La Billardiere's was read at the French Institut, when he gave the title of *Candollea* to several more species; and a full extract from this, with figures and dissections, was immediately printed in the Annales du Museum, by which all their parts, if we except the Embryo and curious œconomy of the Style, may be pretty well understood; the author then supposing that they would prove the foundation of a new Natural Order between *Orchideæ* and *Scitamineæ*.

The real affinity of the genus however to *Campanulaceæ* of Jussieu, was first at least promulgated by Smith, who in his Exotic Botany for January, 1806, being yet unacquainted that two of the species in Willdenow's work were the very plants there figured, which he had himself sent to Swartz, proposes them under a third name of *Ventenatia*. His character of the stigma I have no doubt is accurate, as well as the information he quotes at secondhand from Mr. König, respecting the irritability of the style, but that gentleman will probably change his opinion respecting the separation of their regular-flowered genera from *Campanulaceæ*; for, if *Forstera* has a regular flower, they cannot even form a section in the order.

For this species, Mr. Hooker is indebted to E. J. A. Woodford, Esq. I saw it in flower at Kew, in July, 1804, and upon the return of Mr. Brown, who had only collected specimens in fruit, this *irritable* genus, from a circumstance not worth detailing here, excited a considerable degree of curiosity, and became the subject of much conversation. Doubts arose respecting what part was the stigma, the tentacular parts of the limb, the large gland covering the lower segment, and the melliferous callosity at the base of the style, being all regarded as such, by different inquirers. Whether this humming of our British hive of botanists was wafted over to Paris, I cannot say, but in a note presented to the Directors of the Museum d'Histoire Naturelle on the 14th of May, 1806, La Billardiere, from a new examination of dried specimens, takes up the last opinion! He says that "*what has hitherto been called style, is the filament, with the true style at its base, or in other words, the stigma is almost sessile.*" He also acknowledges the affinity of the genus, as well as of *Forstera*, to *Campanulaceæ*, and tells us that in *Phyllachne* the stigma is likewise placed at the bottom.

My own opinion on this point has never varied, which is, that the anthers are inserted upon the stigma, its secreting part being in the middle of them. I think also with Smith, that no genus can

be more truly gynandrous, but instead of his corollary, "*it shews that class to be founded in nature*," I should say, *it shews that class to be purely artificial*, for the genus has no affinity whatever with *Orchideæ*. After the corolla is fully expanded, the style is exceedingly irritable, especially in the sunshine, snapping back, if its lower bended part be touched, to the other side of the pericarpium, but soon gradually returning to its former position; and I suspect that this motion is intended to drive off, if not destroy, insects which come to sip the honey, rather than to promote the ejection of the pollen. My reasons for believing these parts to be style and stigma are, 1st, their near resemblance to the same parts in the neighbouring genus of *Goodenia*, where the secreting part is in the bottom of the fringed cup: 2dly, two vessels which project like ribs from the style down to the seeds, and which do not appear to originate where the corolla is inserted: 3dly, the honey which exudes from the mitre-shaped gland at the bottom of the style, a substance very rarely, if ever, produced by the stigma: 4thly, the pollen is abundantly discharged between and round the anthers, nor does it appear scattered upon the corolla by the motion of the style.

Stem erect, much branched, smooth. Leaves yellow-green, dilated at the base into the rudiment of a petiole, closely imbricated, reclined-spreading, nearly linear, scarcely crenulated, sharply mucronated, smooth, fleshy. Flowers nodding, without smell. Panicle more divided than in most of the other species. Peduncle terminal, solitary, at length appearing axillary in the forks of the new branches of the stem, from 3 to 6 inches long, slender, erect, flexuose, round: branches alternate, from 11 to 3-flowered, reclinate, and while young recurved-circinate: covered closely with hairs terminated by a red gland. Pedicles from 2 to 1 line long. A lanceolate-wedge-shaped bracte, somewhat hairy underneath, is placed at the bottom of each branch, but none at the pedicles. Pericarpium narrowly pear-shaped, 2-locular nearly up to the middle, very hairy. Calyx about 1 line long, erect-incurved: upper lip tripartite, lower divided only to the middle; divisions of both linear-lanceolate: hairy on the outside. Corolla irregular: Tube pale yellow, 1 line long, broader at the bottom and top, slightly twisted, so that the little divison of the limb is reflected between the lips of the calyx: Limb at first tawny, then rose-coloured, from 2 to $2\frac{1}{2}$ lines long, slightly hairy on the outside; divisions very entire, obtuse; somewhat convex, 4 of these are bifarious, nearly horizontal, oval with a round yellow viscid gland at the base of their inside, the two upper being larger and rather inæquilateral; the 5th is very small, exceedingly recurved, round with the adjacent sinusses ventricose, and entirely covered by a yellow gland: Tentacles 4, yellow; two at the base of the small division, and confluent with its margin, about $\frac{1}{2}$ a line long, horizontally divaricated, narrowly wedge-shaped; two at the base of the upper side of the next divisions, placed a little within the margin, similar but smaller. Nectarium orange colour, mitre-shaped, one side rather shorter, appearing as if pressed to the base of the style. Style $3\frac{1}{2}$ lines long, reclined over the little division of the limb; at the first curvature, which is the irritable part, somewhat dilated, elsewhere linear, compressed, smooth. Stigma confluent with the style below the middle of its back, 1-lateral, its face turned towards the upper side of the style, almost orbicular, convex, bearded at the sides with thick succulent hairs. Anthers 2, dark violet with yellowish sides, attached to the face of the stigma; their lobes opposite to each other and not parallel as in most vegetables, 1-locular, 2-valved, splitting without any motion of the style. Pollen white. Seeds numerous, very minute.

REFERENCES TO THE PLATE.

1. Pericarpium and Calyx magnified. 2. Corolla, Style and Stigma magnified. 3. The Stigma and Anthers, highly magnified. 4. The Nectarium at the base of the Style, with a portion of the Style, highly magnified. 5. Different views of the Pericarpium and Seeds.

Paeonia edulis

Drawn & Pub. Aug. 1. 1817 by W. Hooker

LXXVIII.

PŒONIA EDULIS.

Esculent Pœonia.

ORDO NATURALIS.

Ranunculaceæ. *Juss. Gen. p.* 231.

Sect. 11. Pericarpia polysperma, follicularia, rostrata, latere superiore dehiscentia.

Calyx 5-6-phyllus: foliolis exterioribus plus minus foliaceis: persistens. Petala 5-11, ampla, decidua. Filamenta numerosissima. Nectaria 3-20, intra filamenta margine tori tubercularia, basi sæpe 2-loba. Pericarpia 2-9, sessilia, glomerata, coriacea. Semina primum succulenta et colorata, demum nigrescentia. *Herbæ Suffruticesve. Radix e tuberibus cylindraceis. Caules crassi. Stipulæ* 2-3, *gemmaceæ, persistentes. Folia alterna, 2-ternata 2-pinnatifidave, nunc angustissime laciniata. Flores albi rosei puniceive, etiam flavi; Paniculis* 1-5 *floris, terminalibus. Bractea una alterave juxta calycem.*

* *Herbaceæ.*

P. foliis 2-ternatis: foliolis obovato-lanceolatis sæpius integris basique confluentibus, acuminulatis, supra præter nervos marginemque glabris, subtus lucidis: petalis 8-10, interioribus angustis: pericarpiis 3-nis, glabris.

Variat α: Petala alba cum rubore aliquo extus.
P. albiflora. *Kenn. in Bot. Rep. p.* 64. *cum Ic.* P. Albiflora. *Pall. Fl. Ross. v.* 2. *p.* 90. *t.* 84. P. lacteo flore, &c. *Ammn. Pl. Ruth. p.* 77. *J.* 103.
β. Petala pallide rosea.
γ. Petala rosea.

Sponte nascentem trans Lacum *Baical*, convallibus herbidis, legit J. G. Gmelin.

Floret medio *Junii*, apud nos initio mensis.

In that golden legacy, the Philosophia Botanica, Linné has said, "*Botanicus verus observationibus plantas illustrat, nec in vago nomine acquiescit;*" and most authors agree, that names taken from colour ought rarely to be admitted, especially if that character is liable to vary, as in this *Pœonia*, which I have therefore called *Edulis*. The inhabitants of the country where it grows wild, as Pallas informs us, eat the root boiled in soup: and Gmelin says, that they powder the seeds to mix with tea. Both probably communicate something of the flavour of bitter almonds, for which *P. Anomala* is in still greater request there. Our specimen was communicated by John Bell, Esq. who has all the varieties above enumerated; and I raised seeds of the last in the year 1794, sent from *Petersburgh* with the title of Mongol Parsnep.

Stems tinged with red, scarcely so thick as the little finger, from 18 to 24 inches high, somewhat angulated, smooth. Leaves 5 or 6, biternate: petiole long, nearly linear, thicker at the base, half round, its upper side red and channelled: Leaflets horizontally recurved, obovate-lanceolate, generally entire, their upper surface dark green with a tinge of red, and smooth except the nerves, which like the margin are beset with very minute stiff hairs, their under surface paler and shining, terminating in a little point. Flowers diffusing a smell not disagreeable at a distance, which proceeds from the anthers, erect. Panicle of from 1 to 3 flowers. Peduncle thicker near the calyx, its lateral branches rather higher than the middle one. A bracte or two resembling a leaflet, is often scattered near the calyx, the leaflets of which gradually become petaloid, and the innermost retuse. Petals from 8 to 10; in the second variety here figured pale rose colour, and the inner ones much narrower. Filaments about half an inch long. Anthers long, more or less twisted after the pollen is discharged. Nectaries only 2 or 3, and those frequently imperfect. Pericarps almost constantly 3, with a rudiment of a fourth in the center.

Linum hypericifolium.

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LXXIX.

LINUM HYPERICIFOLIUM.

Hypericum-leaved Linum.

ORDO NATURALIS.

Caryophylleæ. *Juss. Gen. p.* 299.

Sect. 7. Genera *Caryophylleis* affinia.

Calyx 4-5-phyllus persistens. Petala 4-5, supra ungues breviter coherentia, unà decidua. Filamenta 4-5, inferne dilatata et confluentia rudimento sterilis interjecto, quædam dorso basis glandulam melliferam gerentia, persistentia. Pericarpium 3-5-loculare; Septis 6-10, alternis incompletis et nunc vibrissis axi connexis, 6-10-valve. Styli 3-5, longi. Stigmata oblonga vel subrotunda. Semina 2 in singulis loculis, juxta apicem axis funiculo brevissimo inserta. *Herbæ, aliæ annuæ, aut Suffrutices. Folia alterna, rarius opposita verticillatave, margine sæpe membranacea, in quibusdam Callis 2 stipulata. Flores colore varii; paniculis cymosis, terminalibus, ante florescentiam cernuis. Pedicelli apice articulati. Bracteæ foliaceæ, inter pedicellos sparsæ.*

* *Folia alterna.*

L. foliis ovato-cuneatis, pubescentibus: paniculâ densâ: bracteis longe ciliatis præter glandulas margine sessiles: corolla $1\frac{1}{2}$ pollicem diametro; petalis apice rotundatis, crenatis: pericarpio superne pubescente.

Sponte nascitur in regionibus Montis *Caucasi.*

Floret apud nos *Junio.*

In defending that remark of the preface to this work, which relates to the generic characters of other periodical writers, against the accusation of Dr. J. E. Smith, I have shewn how little affinity *Linum* has to *Geranium;* and a more careful examination of the genus, confirms the propriety of placing it, with Adanson, near the *Caryophylleæ.* The merits of this aged Frenchman have lately been vindicated, in very elegant and instructive language by Cuvier, and now that he is dead, I hope the first mentioned botanist will make the same apology for abusing his labours, which he has just conceded to those of Lamarck.

Jussieu, though he inserts *Linum* at the end of *Caryophylleæ*, appears not quite satisfied respecting this affinity, but some of his doubts will perhaps be removed by observing, 1st, the similitude in its Herba to that of *Pharnaceum*, *Spergula*, and *Lychnis:* 2dly, its inflorescence: 3dly, the close analogy of its scarious persistent filaments, one or two of which have frequently a melliferous gland at their base, like those in *Stellaria:* 4thly, the structure of the fruit, which hitherto has been misunderstood; for it is only partially 6-10-locular, the alternate dissepiments being narrow and often ragged, as in *Lychnis Dioica:* 5thly, the embryo, which is surrounded with a mucilaginous perisperm, and its cotyledons not corrugated. I must not conceal however two characters, in which this genus differs materially from the *Caryophylleæ:* 1st, the callous stipulation of some of the frutescent species is distinct, and not confluent with the margin of the leaf: 2dly, the pedicel is articulated at or near its top. From these differences, *Linum* may possibly constitute an Order by itself.

This beautiful species was communicated by John Bell, Esq. It is a hardy perennial, and may be increased by dividing the roots in autumn when the rains begin to fall, as well as by seeds.

Stems thicker than a crow's quill, from 18 inches to 2 feet high, round, pubescent. Leaves inclining to glaucous green, closely scattered so as to appear almost verticillated in some places, sessile, spreading, ovate-wedge-shaped, gradually more pubescent towards the top of the stem, obtuse, flat: Nerves 7 to 5. Panicle close, of 5 or 6 short branches. Bractes much narrower than the leaves, and ciliated with long hairs intermixed with sessile glands. Pedicels very short. Leaves of the calyx similar to the bractes but smaller. Petals from the bottom of the claw nearly to its top yellow, then for a short space white, beyond the claw rose-coloured with deeper tinted lines changing

to purple at the bottom, obovate, rounded and crenated at the top: the claw within besprinkled with short glands. Filaments pale yellow; whether there is a melliferous gland at the external base of two or three of them as in *L. Perenne*, I could not ascertain in the single flower I dissected. Pericarpium yellowish green while young, pubescent from above the middle. Styles 5, pubescent at the base.

REFERENCES TO THE PLATE.

1. One of the complete dissepiments, shewing the seed and short funiculus by which it is inserted, magnified. 2. One of the imperfect dissepiments split in the middle, magnified. 3. Transverse section of the fruit near its top, shewing the central insertion of the seeds in 3 of the cells, magnified. 4. The same near the middle.

2

Rhododendrum officinale

Drawn & Pub. Sept.r 1. 1807. by W. Hooker

LXXX.

RHODODENDRUM OFFICINALE.

Officinal Rhododendrum.

ORDO NATURALIS.

Rhododendra. *Juss. Gen. p.* 158.

Calyx 5-partitus, sæpe obsoletus. Corolla plus minus infundibuliformis, dorso basis gibbosiore: Limbus 5-partitus, laciniis 2 inferioribus longioribus: decidua. Filamenta 5-10, reclinata, plus minus inæqualia. Antheræ apice 2-foraminosæ. Pericarpium superum, 3-10-loculare, ab apice dehiscens Septis e marginibus valvarum axi tunc solutis, Colis oblongis. Stylus superne crassior. Semina plus minus scobiformia. *Frutices, plures sempervirentes. Gemmæ oblongæ, tumidæ. Folia parva aut grandia, apice callosa, in quibusdam subtus furfurosa. Flores spicis brevissimis, terminalibus. Pedicelli sæpius longi. Bracteæ* 3 *interioribus perangustis, caducæ. Huc, ut opinor, referendæ omnes* Azaleæ *præter* Procumbentem; *numerus enim solus staminum in toto ordine ludit, atque herbâ inflorescentiâ, filamentis, antheris, polline filo viscido adhærente, denique fructu, cum cæteris* Rhododendris *quam amicissime consentiunt.*

** *Sempervirentia.*

R. foliorum laminis $1\frac{1}{2}$-$2\frac{1}{2}$ pollices longis, parum obovatis, supra valde reticulatis, adultis utrinque glabris: calice repando; corollâ late infundibuliformi; tubo brevi, laciniis obovatis.

R. Chrysanthum. *Woodv. Med. Bot. v.* 3. *p.* 403, *cum Ic.* ad exemplar Herbarii Banksiani. R. Chrysanthum. *Linn. Suppl. p.* 237. R. Chrysanthum. *Pall. Fl. Ross. v.* 1. *p.* 44. *t.* 30. R. Chrysanthum. *Koelp. Monogr.* R. Aureum. *Georgi It. p.* 214. Andromeda, &c. *Gmel. Fl. Sib. v.* 4. *p.* 121. *t.* 54.

Sponte nascentem circa Lacum *Baical*, lateribus montium borealibus, legit J. G. Georgi: ultra Flumen *Lena* abunde, legit J. G. Gmelin: in *Camschatka* et Ins. *Bering*, legit J. W. Steller.

Floret ab initio *Junii* in *Julium.*

The natural Order of the *Bicornes* has been divided into two by Jussieu, who places the genera which have dissepiments continuous with the margin of the valves in one, and those which have them inserted in the middle of the valves in the other: but with great deference to his opinion, I must follow Linne in uniting all these genera under one Order, as far as that character is concerned; for it would separate plants so closely allied that they have hitherto been referred to the same genus, such as *Calluna* and *Erica*, *Phyllodoce* and *Andromeda*. The structure of the fruit and seeds in this Order is unquestionably of primary generic importance: that of the anthers and the mode in which the pollen is discharged, appears to me the next material character: a third I believe will be found in the general form of the corolla and its being deciduous or persistent. This last distinction indeed may possibly supersede all others, and detach the numerous *Ericas* of our gardens with some other genera into an Order by themselves, for I have now seen about 350 legitimate species, exclusive of varieties: but I fear there is no end to them, and that new ones may be produced *ad libitum*, as in *Pelargonium*; those alluded to, however, have all been raised from seeds gathered at the *Cape.*

To the genus of *Rhododendrum* therefore, I have no hesitation in referring all the *Azaleas* of other authors, except *Procumbens*: they agree minutely in habit, inflorescence, filaments, anthers, grains of pollen adhering to each other by a glutinous thread, fruit, and seeds; but the tube of the corolla varies exceedingly in length in different species, and mere number of stamina appears to be of no consequence whatever, for *Azalea Lapponica* which approaches so nearly to *Rhododendrum Ferrugineum* has often 8, *Rhododendrum Caucasicum* sometimes as few as 5, and *Azalea Indica* as many as 10. The pollen of the deciduous leaved species will also impregnate the evergreen ones, and many individuals raised in this way from *Rhododendrum Ponticum*, may be seen in Mr. Thompson's nursery at *Mile End.*

The very rare species here figured has long been famous among the Siberian hunters, for the medicinal effects of an infusion of its young leaves in rheumatic disorders, but remained unknown to Europeans, till GMELIN and STELLER saw it wild about the year 1740. KOELPIN afterwards, in the year 1779, wrote an express treatise recommending it in venereal cases, and PALLAS informs us, that it is now gathered by the *Cossacs* in the neighbourhood of the River *Jenisea*, for exportation. This remedy however is yet seldom prescribed in *Great Britain*, and in inflammatory habits does harm: taken in strong doses also, like many other vegetables which abound in viscid oil, it proves a narcotic poison.

I have lately seen great numbers of young plants in different collections, but they are very difficult to rear, and when fully grown require that protection from keen frost, which the snow affords them in Siberia. Our specimen was communicated by E. J. A. WOODFORD, Esq.

Root penetrating deep among rocks and stones. Stem from 6 to 18 inches high, according as the shrub descends towards the vallies, round, viscid-pubescent while young. Buds large, and some of their interior scales remaining like narrow stipules upon the stem. Leaves dark green, crowded near the extremity of the branches, from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, and about 1 inch broad, spreading somewhat obovate, very entire, obtuse; finely reticulated on their upper surface, underneath viscid-pubescent while young especially on their nerves, afterwards smooth. Flowers from 6 to 10 in very short terminal spikes, nodding. Bractes viscid-pubescent. Calyx scarcely distinguishable. Corolla resembling the Primrose in tint, and described by GMELIN only as yellowish, not gold-colour, the middle upper segment variegated with greenish spots, all of them somewhat obovate and hollowish. Filaments and anthers of a very pale primrose colour. Pollen white. Fruit tinged with red, viscid-pubescent except the melliferous callus at its base. Style very pale green. Stigma red.

REFERENCES TO THE PLATE.

1. Two views of a Stamen, with the Pollen magnified. 2. Pistillum magnified, and a transverse section of the young Fruit, magnified.

Ipomæa repanda

Curtis & Pub Sept.1. 1807. by W. Hooker

LXXXI.

IPOMOEA REPANDA.

Repand Ipomoea.

ORDO NATURALIS.

Convolvuli. *Juss. Gen. p.* 132.

Calyx foliolis 5 imbricatis, persistens. Corolla 1-petala: Tubus brevis, ore filamentis ibidem insertis et dilatatis clauso: Limbus varie dilatatus, cuneis 5 dorsalibus stellatus inter quas plicatus, in cunabulis convolutus, sæpius obsolete 5-fidus: decidua. Filamenta 5, laciniis alterna. Antheræ sagittatæ. Nectarium cotyliforme. Pericarpium membranaceum aut crustaceum, septo singulis alternisve seminibus interstincto aut præter liram parietalem nullo 1-4-loculare, varie dehiscens. Stylus 1-2, simplex vel 2-fidus. Stigma 2-3-4-fidum, aut tot quot laciniæ styli simplicia. Semina 4-6, Colo ad basin pericarpii sessilia: Hilo zonali: Cotyledonibus corrugatis. *Herbæ aut Frutices, pleræque lactescentes. Folia alterna. Flores a mane ad vesperem semel expansi: Paniculis* 1-20-*floris, axillaribus vel terminalibus, impariter dichotomis: Pedicellis in fructu deflexis et incrassatis. Bracteæ ad ramos solitariæ.*

Sect. 11. Styli basis pericarpio dehiscente caduca.

Ipomoea L. Corollæ Limbus longissimus, anguste infundibuliformis, plus minus curvus. Filamenta Stylusque lateri superiori accumbentia. Pericarpium membranaceum, 2-3-4-loculare, in valvas tot quot semina dehiscens septis relictis. Stigma capitatum, 2-3-4-lobum. *Herbæ aut Frutices, volubiles. Folia simplicia vel decomposita. Flores axillares.*

I. caule fruticoso: foliorum laminis plerisque cordatis, repandis, paucis inferiorum 3-5-fidis, mucronulatis, utrinque glabris, subcarnosis: paniculis multifloris.

I. repanda. *Jacq. Hist. Amer. p.* 28. *t.* 20.

Sponte nascentem in Ins. *Martinique*, collibus fruticosis, legit N. J. Jacquin.

Floret ibidem *Decembri, Januario.*

Several distinct genera are confounded under *Convolvulus* and *Ipomoea.* The essential character of the latter, as established by Linne from Tournefort's *Quamoclit*, I believe consists in the long narrow limb, and perhaps in the irregular inclination of the filaments, which for the present I venture to make one of its differences: this point can only be determined by comparing the flowers of *Convolvulus Jalapa*, and other species allied to that, with such as have filaments leaning to one side. Many of the rest with a capitate stigma, now promiscuously scattered in both genera, have the base of the style adhering to the valves, not falling off when the pericarpium splits; and this character I suspect will divide all the plants of the Order into two sections, without interrupting their natural series.

The *Ipomoea Repanda* was formerly cultivated at *Chapel Allerton*, seeds of it being given to me by Dowager Lady Harewood, sent to her from *Tobago* in the year 1797, which flowered abundantly: it has lately been again introduced into the stoves about *London*, and well deserves more care than is usually bestowed upon this tribe of plants. The root is perennial, not annual as Jacquin guessed, and every cutting of the plant will grow; but without the branches are permitted to extend a great length at the top of the house, they will hardly flower.

Stem ash-colour with a brown and purplish tinge, round, smooth, fleshy. Leaves somewhat fleshy: Petiole tinged with purple when exposed to the sun: Lamina dull green more glaucous underneath where the nerves are often tinged with purple, generally cordate, sometimes in luxuriant branches 3-lobed or 5-lobed, more or less repand, ending in a small point quite distinct from the margin, smooth on both surfaces. Flowers without smell, in short dichotomous axillary panicles. Peduncle smooth. Bractes very small. Calyx deep crimson with a paler and more glaucous hue near the edge: Leaflets unequal, round, attenuated towards the margin, embracing the tube very closely. Corolla crimson, about 2 inches long, thickish in substance: Tube very short: Limb scarcely funnel-shaped, its divisions more plicated and less expanded than in other species. Filaments broad and hairy at the base, closing the orifice of the tube so completely that when the corolla falls, it pulls off the stigma by its weight. Capsule generally 2-locular with 2 seeds in each cell, and 4 valves.

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LXXXII.

MYROBROMA FRAGRANS.

Fragrant Myrobroma.

ORDO NATURALIS.

Orchideæ. *Juss. Gen. p.* 64.

Sect. 1. Monandræ.

Pericarpium longum, teretiusculum, succulentum, demum 3-valve. Petala 6: 5 expansa: Labellum inferne lateribus styli accretum, inde apicem amplectens: cum stylo decidua. Anthera dorso styli margine inserta, mobilis, 2-locularis, 4-valvis. Pollen grumosum. Stigma operculo semicirculari absconditum. *Frutices parasitici. Caulis truncos radicibus instar* Hederæ *cirratis scandens, crassitie digiti, teres. Folia remotiuscula oblonga, glabra, dura. Flores spicis ex ultimis penultimisve axillis. Nomen a vocibus μυρον et βρωμα, ob fructum unctuosum, quibusdam in deliciis.*

M. foliis tenuissime striatis: petalis non undulatis; labello intus fascem squamarum fimbriatarum os claudentium exserente, lobo medio valde retuso.

Epidendrum Rubrum. *Lamarck in Encycl. Bot. v.* 1. *p.* 178. Vanilla flore albo, fructu breviore coralino. *Plum. Gen. p.* 25. *MSS.* 3. *t.* 100.

Sponte nascentem in Ins. *Dominique*, legit C. Plumier.

Floret *Aprili, Maio*, apud nos *Junio.*

The *Vanilla* of our shops is a native of Mexico, first brought into Europe by the Spaniards; and samples of it, as we learn from L'Ecluse, reached London in 1602, being sent to him by Hugh Morgan, Queen Elizabeth's apothecary. The plant now figured is certainly a different species to this, but corresponds minutely with the excellent description above quoted, drawn up by Lamarck from Plumier's MSS. Aublet, in the supplement to his *Plantes de La Guiane Françoise*, describes three species of *Vanilla*, none of which appear to be ours: he says they are only found in a brackish soil near the sea, and that the aromatic flavour of their fruit is not perceptible, till after it has been partly dried and cured.

Professor Swartz, in his dissertation upon *Orchideæ*, has joined the fruit sold in our shops, to the flower of a very different genus, his *Epidendrum Claviculatum*, which has a deciduous anther, and pollen in two bifid solid masses; nor is it yet known even if their seeds agree.

Two genera therefore at least, if not three, being already confounded under the corrupt appellation of *Vanilla*, I do not hesitate to get rid of it. *Vainilla*, as the word ought to be spelt, is a diminutive of *Vaina*, a sheath or scabbard; but if in defiance of Linne's canon in *Philosophia Botanica*, such names are to be continued by those, who are unable or too indolent to invent more scientific ones, every country will demand to participate with Spain in the honour; and we shall have from Norway *Rotterump*, *Nellikrood*, from Sweden *Backsippa*, *Skogsfioler*, from England *Daffodil*, *Pissabed*, from Holland *Pyehout*, *Yserboom*, from Prussia *Knorpellippe*, *Doppelsach*, from Russia *Utschumuchta*, *Karagutscha*, from France *Tripmadame*, *Caillelait*, from Italy *Garofanata*, *Articicha*, from Turkey, *Garhanna*, *Tugak*, like the jargon of Babel, disgracing our lovely science. I particularly lament that Jussieu dissents from Linne on this head: such a practice in my humble opinion will cause more confusion than any change of name whatever, the same drug being often produced by plants that have no affinity to each other; *Gum Arabic*, *Sugar*, *Camphor*, that elastic substance called *Caoutchouc* are familiar instances. Fortunately for botanists who have a classical taste, the Presidents of the Royal and Linnean Societies in all works published by themselves or under their direction, set a different example.

This species is in several collections, but hitherto has only flowered in that of the Right Hon. Charles Greville. Root of one or sometimes more fleshy fibres produced at the side of each leaf; these send out short cirrhi adhering very closely, like those upon the stem of *Ivy*. Stem green

with very minute whitish dots, about the thickness of the little finger in its upper part, round, smooth, its juice acid and caustic as in *Arum*. Leaves alternate at 5 or 6 inches distance: Petiole yellowish green, short, very hollow: Lamina green, from 4 to 6 inches long and $1\frac{1}{2}$ to 2 broad, recurved especially at the point, elliptic-lanceolate with the base not quite equilateral, very entire and almost transparent at the margin, acuminated, smooth on both surfaces, finely striated, somewhat convex, exceedingly tough. Flowers exhaling a fragrant smell like that of many *Pancratiums* especially during the night, in a short terminal spike. Bracte of the lowest flower not differing from a leaf, the rest suddenly shortened wedge-shaped and rounded at the top. Peduncle flexuose. Pedicel whitish, about $\frac{1}{2}$ an inch long, cylindrical, smooth. Pericarpium about 2 inches long and 2 lines and a half in diameter before the petals fall, incurved, slightly twisted, almost cylindrical with its extremity swelled, smooth, 1-locular. Petals 6: 5 greenish yellow, 3 outer ones 2 inches and a half long, recurved, middle one spatuled-lanceolate, the two lower somewhat falcated; two inner ones paler rather shorter and more erect, spatulate with a strong middle rib on the outside which terminates below the top in a recurved awl-shaped point; very entire, obtuse, smooth, hollow, not waved: Labellum very pale yellow with white edges, shorter than the other petals, melliferous at the bottom, united to the sides of the style almost up to the stigma, from thence embracing the top, swelled in front like the flower of the *Foxglove*, slightly 3-lobed; lobes revolute especially the middle one, which is more crenated, very retuse, and plicated; mouth of the tubular part covered by a fringed tassel of imbricated obversely wedge-shaped scales, above this covered in the disc by 7 rows of yellow tubercles; all dissolving into a gelatinous consistence, and falling off with the style. Style pale yellow, $1\frac{1}{2}$ inch long, incurved, finely bearded in front nearly up to the stigma, above it hollow and dilated with falcated sides. Anther pale yellow, inserted in the back margin of the style, moveable like a hinge but not to be detached without force, nearly globular, its base projecting into 2 horns, 2-locular with a partition in each cell, 4-valved. Pollen white, grumous, and I believe discharged in separate grains but adhering very closely to its receptacle within the valves in both the anthers which I dissected. Stigma whitish, just under the top of the style in front, covered by a semicircular flap projecting from under the anther, emarginated, hollow, its mouth shut by two opposite curved spurs, very gelatinous. Seeds inserted on 3 parietal lobed receptacles.

REFERENCES TO THE PLATE.

1. The upper part of the Style, somewhat magnified shewing the anthers and flap which cover the Stigma. 2. The inside of the upper part of the Labellum. 3. A view of the under side of the Anthers when its valves have split, highly magnified. 4. A front view of the Style highly magnified, the flap being lifted up to show the stigma.

Corytis . hirsutiflorus

Drawn & Pub. Oct. 1. 1807, by W. Hooker

LXXXIII.

CORYBAS ACONITIFLORUS.

Aconite-flowered Corybas.

ORDO NATURALIS.

Orchideæ. *Juss. Gen. p.* 64.

Sect. 1. Monandræ.

Pericarpium membranaceum. Petalorum supremum, galeæ instar, fornicatum : Labellum grande, supremo connivens, compressum, margine nunc pectinatum : reliqua longe minora. Stylus apice lateribusque dilatatis 3-lobus, cui infra stigma pulvinar subrotundum apponitur. Anthera dorso styli infra marginem inserta, mobilis, 2-locularis. Pollen granulosum. *Herbæ pulchellæ. Radix tuberosa, superne fibras paucas succulentas exserens. Caulis circiter pollicem longus. Folia* 3, *medium tantummodo completum reliquis bracteæformibus. Flores solitarii. Nomen a floribus* Κορυβαντος *velatum caput simulantibus. Character ad exemplar fere defloratum cum sicco alius speciei collatum, itaque recognoscendus.*

C. folio medio reniformi acuminulato : labelli margine valde revoluto.

Sponte nascentem in *New Holland*, legit Alexr. Gordon.

Floret apud nos *Julio*.

For this curious plant, Mr. Hooker is indebted to the Countess of Essex, whose collection at *Cashiobury*, will soon be, like every thing else there, truly princely and magnificent. The specimen was much decayed when it reached me, but by comparing it with a dried one both of this and another species, liberally given to me by E. J. A. Woodford, Esq. I am enabled to draw up the following description.

Root whitish, spindle-shaped with one short fibre at the top, its base terminating in a bulb about the size of a pea. Stem about an inch long, round, smooth. Leaves 3, of which only the middle one can be called complete: Petiole embracing the stem: Lamina circular, kidney-shaped, very entire, shortly acuminated, bright green on the upper surface, paler underneath, exceeding finely papulose, the two lowest pair of side nerves semi-circular and concentric. Flower solitary, of a dark violet blue colour. Pericarpium while young green and obpyramidal, its alternate angles smaller. Upper Petal large, vaulted over the Labellum which is nearly as large, melliferous on both the internal sides near the base, revolute at the margin and in this species I believe quite entire, but in another indented-ciliate: the remaining Petals very small. Style small, buried within the labellum, behind the anther and at the sides of the stigma dilated into 3 lobes; a whitish tubercle or bolster covers the front below the stigma. Stigma nearly orbicular, concave. Auther yellow, inserted far below the margin of the style, 2-locular. Pollen in the living specimen dissolved upon the stigma : in a dried one of both species moistened by boiling water, apparently consisting of separate grains.

REFERENCES TO THE PLATE.

1. A flower, half of the upper Petal being cut away to show the Labellum. 2. Half of the Labellum shewing one of the Nectariums near the base. 3. Style, natural size. 4. 5. A side and front view of the Style highly magnified, showing the lowest Petals, Bolster, Stigma and Anther.

Pancratium Horsfieldium

LXXXIV.

PANCRATIUM NERVIFOLIUM.

Nerved-leaved Pancratium.

ORDO NATURALIS.

Narcissi. *Juss. Gen. p.* 54.

Sect. 11. Pericarpium inferum. Filamenta corollâ 1-petalâ inserta. Antheræ sæpius longæ. *Flores erecti vel nutantes. Bracteæ in plerisque cito emarcidæ.*

Pericarpium membranaceum, 3-valve, medio loculorum dehiscens. Corollæ tubus cylindraceo-infundibuliformis: Limbus 6-partitus: Corona ore tubi producta, plus minus 6-fida, varie dentata. Filamenta margine coronæ inserta, per medium ejus laciniarum decurrentia, regularia. Stylus parum reclinatus. Semina albida vel nigrescentia, 2-plici serie inserta, bulbiformia, pluribus sæpius cassis. *Radix bulbosa, tunicata. Folia valde diversa,* Narcissorum Agavium *aut* Saussurearum *æmula. Pedunculus ab uno latere inter folia radicalis, obtusus ancepsve. Flores* 1-20-*ni, in multis nivei et fragrantes.*

* *Fasciculus multiflorus.*

P. foliorum laminis subrotundo-cordatis, acuminulatis: corollæ tubo æqualiter 6-angulo, estriato; laciniis tubo parum longioribus patentissimis, spatulato-lanceolatis: coronâ brevissimâ, usque ad ultra medium 6-fidâ laciniis 2-dentatis.

Crinum nervosum. *L'Herit. Sert. Angl. p.* 8. P. amboinense. *Linn. Sp. Pl. ed.* 2. *p.* 419. Narcissus amboinensis, &c. *Comm. Hort. v.* 1. *p.* 77. *t.* 39. Cæpa sylvestris. *Rumph. Herb. Amb. v.* 6. *p.* 160. *t.* 70. *f.* 1.

Sponte nascentem in Ins. *Java*, sylvis montium abunde, legit J. J. La Billardiere: in Ins. *Amboyna* ad oras sylvarum, legit G. E. Rumph.

Floret ultimis mensibus pluviosis, apud nos *Julio.*

This is the true *P. Amboinense* of Linne, and I believe that *Crinum Nervosum* of L'Heritier, from the *Philippine* Isles, is the same plant. He probably trusted to Rumph's figure, in which no corona appears; but in Sir Joseph Banks' herbarium there is a specimen of our plant, gathered by Mr. Christopher Smith not many years ago in the Island of *Amboyna*, and if a *Crinum* with such leaves had likewise been indigenous there, he would hardly have neglected to send it.

Leaves from 3 to 5, of a pale yellow green colour: Petiole long and narrow: Lamina very large, nearly circular-cordate, quite entire, shortly acuminate, smooth on both surfaces: Nerves very strong, the lateral ones semicircular and parallel. Flowers without smell, many in the fascicle, spreading in every direction. Peduncle from one side of the root, pale green, almost quite round, smooth. Bractes soon withering. Pedicels yellow green, small, not so much angulated as might be expected from their number. Pericarpium at first only the size of a pea, nearly globular: afterwards more or less swelled according to the number of seeds. Corolla 3 inches long or more: Tube very pale yellowish green becoming quite white towards the top, much narrower at the bottom than the pericarpium, about an inch and a half long, gradually a little dilated, 6-angular, not striated: Limb white, somewhat longer than the tube, very spreading, divided to the base; divisions spatulate-lanced, very entire, not so mucronated as in others and the claw below the point very small, convex near the bottom, from thence concave, striated, the 3 interior ones rather broader: Crown white with a yellowish bottom, 3 times shorter than the limb, funnel-shaped, scarcely narrower at its base than the tube, divided to below the middle into 6 segments the sides of which terminate in a tooth falcated towards the filament, of a thicker substance than in several species. Filaments white, rather shorter than the limb, incurved-spreading, tubulate, smooth. Anthers after the pollen is discharged incumbent and curved. Pollen orange coloured. Style white, below the tube thicker than

the filaments, above it somewhat reclined to one side, 3-angular, smooth. Stigma white, scarcely wider than the style, imperfectly 3-lobed.

Professor WILLDENOW describes the filaments of several *Pancratiums* as inserted in the teeth of the crown; but I think this species shews that the teeth must be lateral in all, and that the membrane which runs up the sides of the filament is rather the real top or apex: a parallel instance occurs in *Convolvulus*, in some species of which the top of each segment, there indubitably ascertained by the wedge and point, is the least prominent part of the limb.

The drawing of this rare plant was made at E. J. A. WOODFORD's, Esq. and I believe it is in no other collection except Kew.

Streptothes sanctæ

Drawn & Published 1st Jan.ry 1827, by W. Hooker

LXXXV.

PRENANTHES SUAVIS.

Sweet-smelling Prenanthes.

ORDO NATURALIS.

Cichoraceæ, *Juss. Gen. p.* 168.

Sect. 11. Receptaculum nudum. Pericarpia papposa.

Calyx serie plus minus simplici 5-8-phyllus, longus, basi bracteis parvis imbricatus, 5-12-flosculosus. Pericarpia angusta, teretiuscula apice truncato, striata. Pappus sessilis, longus, pilis exquisite denticulatis. Receptaculum scrobiculatum. *Folia* Sonchorum, *inferiora nunc subpalmata. Flores albi purpureive: Paniculis sæpius amplis. Essentia generis, quâ a* Chondrillà *discrepat, est in pappo sessili, non in simplici serie aut numero flosculorum.*

P. foliis inferioribus subpalmatis, lobis sinuato-dentatis, raré hirsutis: paniculâ laxâ subcorymbosâ: floribus cernuis: calycibus 9-11-flosculosis, foliolis apice incurvis ciliatisque.

P. alba. *Mich. Fl. Boreali-Am. v.* 2. *p.* 83. P. alba. *Walt. Fl. Car. p.* 193. P. alba. *Linn. Sp. Pl. ed.* 2. *p.* 1121. P. folio scabro, &c. *Clayt. in Gron. Fl. Virg. p.* 113. auctoritate ejus speciminis. P. floribus plurimis, &c. *Linn. Hort. Cliff. p.* 383.

Sponte nascentem in *Virginia*, legit J. Clayton: in *South Carolina*, legit J. Walter.

Floret *Augusto, Septembri.*

The genus *Prenanthes* was established by Vaillant in the Memoirs of the French Academy for the year 1721. Linne, as appears both in the *Prælectiones* and *Genera Plantarum*, formed his character principally from our indigenous plant, the *Sonchus lævis laciniatus muralis, &c.* of the older botanists; and to distinguish the genus from *Chondrilla*, which he had then never seen, he assigned to it fewer florets in a simple series: yet he did not hesitate to join this plant now figured, and some others, which have neither the leaflets of the calyx nor florets in a simple series, to *Prenanthes*. Lamarck unites these two genera; and even Jussieu says under *Prenanthes*, "genus vix a *Chondrillâ* distinctum," taking no notice of either in a subsequent dissertation published in the 6th volume of the *Annales du Museum*, though written expressly to amend or confirm his generic characters, by the observations of Gærtner. It is to this great carpologist, that we are indebted for the best criterion of knowing *Prenanthes* from *Chondrilla*, namely that the pappus is sessile in the former, and its seeds not so wedge-shaped, compressed and ribbed, as in *Chondrilla*. Such of my readers therefore as have taken their ideas of *Prenanthes* from Linne's *Muralis*, will not find this American plant correspond, for that is a true *Chondrilla* with stipitate pappus. In the figure of *English Botany* indeed, that important part is erroneously represented sessile, no mention whatever of it being made in the description; but in *Flora Britannica* Dr. Smith says "Pappus parum e semine elevatus," quoting Gærtner's figure only before the generic character, which is again copied verbatim from Linne.

Root tuberous with numerous fibres. Stem dull purple, 3-6 feet high, near the bottom often as thick as one's finger, angulated, slightly hairy, simple with a few short branches from the upper axils, the flowers of which succeed those of the principal panicle. Leaves dull green: lower ones more or less palmated, deeply 7-5-lobed with broad sinusses, and longish round petioles slightly channelled, the margin of the lamina more or less decurrent below the lobes, sharply toothed, somewhat hairy, the upper ones gradually more simple oblong and shortly petiolated. Flowers cernuous, smelling like those of the *Persian Cyclamen*. Panicle spreading, its lower branches shorter yet somewhat corymbose and divaricated. Pedicels from 5 to 2 inches long, pendulous, slightly woolly. Bractes at the bottom of each branch solitary, others scattered upon the pedicels besides 9 or 10 imbricated at the bottom of the calyx. Calyx brighter purple than the branches: Leaflets 11-9, incurved-spreading at the top where the edge is whitish and finely ciliated, elsewhere smooth, nearly linear, carinated. Pericarpium before the corolla falls whitish green, afterwards nearly linear, smooth, stri-

ated. Down rich brown, sessile, far longer than the pericarpium, minutely bristled. Corolla white, from $5\frac{1}{2}$ to 6 lines long, split on one side from above the middle; its top 5-toothed, externally of a pale soot colour and rough, elsewhere smooth, before it expands 5-angular and truncated in the outer florets somewhat obliquely. Filaments white, attached to the tube a little below its orifice, arched. Anthers dull brown. Pollen yellow, but not so abundant as in many syngenesious plants. Style attenuated towards the base, below the anthers white and smooth, above them greenish but thickly beset with minute black bristles. Stigmata revolute, externally bearded like the style, internally of a yellowish green.

This species is hardy, ripens seeds pretty freely in the open air, and was communicated by Messrs. NAPIER and CHANDLER.

REFERENCES TO THE PLATE.

1. A single Flower. 2. A ripe Fruit. 3. The Receptacle.

Pancratium tinnegélium.

LXXXVI.

PANCRATIUM TIARÆFLORUM.

Tiara-flowered Pancratium.

Ordinem Naturalem et Characterem Generis vide sub No. 84.

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* *Fasciculus* 1-*florus.*

P. foliorum laminis viridibus, vix pollicem latis, lineari-lanceolatis: corollæ tubo perangusto; laciniis tubo multo longioribus, recurvo-horizontalibus; coronæ laciniis profunde 2-dentatis: filamentis valde incurvis.

P. Zeylanicum. *Linn. Sp. Pl. ed.* 2. *p.* 418. P. spathâ &c. *Linn. Fl. Zeyl. p.* 126. Narcissus Zeylanicus &c. *Comm. Hort. v.* 1. *p.* 75. *t.* 35. Narcissus Zeylanicus flore albo 6-gono odorato. *Herm. Hort. Lugd. p.* 691. *cum Ic. in p.* 693. Lilium Indicum. *Rumph. Herb. Amb. v.* 6. *p.* 161. *t.* 70. *f.* 2.

Sponte nascentem in Ins. *Ceylon*, ad margines viarum, legit J. G. Koenig.

Floret apud nos *Julio.*

A very scarce species at present in the collections about *London*, and communicated by Thomas Evans, Esq. of *Stepney*. The figure in Commelin's work, I am told, is excellent: all the others hitherto published are bad.

As I did not see the plant till long after the flower was past, I can only add that the leaves are green with a slight glaucous tinge underneath, about an inch wide in the broadest part, somewhat bifarious, linear-lanceolate with their extreme point obtuse, smooth on both surfaces, striated, narrowly keeled. The flowers do not entirely lose their fragrance even when dried, and it appears to differ from every species yet discovered, in having filaments so much incurved as to nearly meet in the centre, and resemble a royal tiara. *Catulli pola* of *Hortus Malabaricus* quoted for our plant by Linne, belongs to *P. Verecundum* of Solander, which I now believe is a distinct species from *P. Maritimum.*

Uvaria undulata

Sowerby del. et lith. W. Hooker Jun.

LXXXVII.

MAGNOLIA GRACILIS.

Slender Magnolia.

Ordinem Naturalem et Characterem Generis vide sub No. 5.

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* *Calyx 3-phyllus.*

M. foliorum laminis obovato-lanceolatis, acuminatis, nervis subtus vix evidenter anastomozantibus: stipulis a supra medium petioli decurrentibus: floribus ante folia prodeuntibus: petalis exterioribus circiter 2 pollices longis.

M. tomentosa. *Thunb. in Linn. Trans. v. 2. p.* 356. Kobus. *Kæmpf. Ic. Select. t.* 42. M. glauca *α. Thunb. Fl. Jap. p.* 286. Sini et Confusi, vulgo Kobus, &c. *Kæmpf. Amæn. p.* 845. Kobus. *Kæmpf. Descr. Pl. Jap. MS.* in Brit. Mus. *n.* 2915.

Sponte nascentem in Ins. *Nipon*, legit E. Kæmpfer.

Floret fine *Aprilis, Maio.*

A distinct species from *M. Purpurea* of our gardeners, and sent from *China* some years ago to the Rt. Honble. Charles Greville. Its branches are more slender, petioles dark chestnut colour especially early in the season, leaves not so broad or finely nerved, and the flowers fade before the foliage is entirely expanded, besides other minute differences. Kæmpfer has described them very accurately, and I am greatly obliged to Mr. Planta for facilitating my access to that botanist's herbarium and manuscripts, preserved in the British Museum.

Stem erect with many long slender horizontal branches. Leaves alternate, very different in size: Petiole from 3 to 5 lines long, within the stipule smooth and concave: Lamina light green, the under surface paler, from 3 to 9 inches long, $1\frac{1}{2}$ to 3 inches broad, somewhat recurved-spreading, obovate lanced, while tender finely ciliated, acuminate the point itself obtuse, finally smooth except the nerves, which are not so minutely subdivided as in *M. Purpurea*. Stipule pale green, from 7 to 10 lines long, inserted above the middle of the petiole, finely pubescent. Flowers without smell, terminating the last year's branches when the young leaves are just beginning to appear. Peduncle yellow-green, thick, 5 lines long, erect, gradually wider towards the top, round, as far as the bracte pubescent, above it almost smooth. Bracte surrounding the peduncle near its top, already fallen off in very young flowers. Calyx greenish brown, from 11 to 13 lines long: Leaflets recurved-spreading, nearly equal, narrowly wedge-shaped, very entire, obtuse, smooth with a slight dew. Petals 6, pale purple with their outside exceedingly dark but the colour gradually vanishing on both sides till the inside at last is almost white, three outer ones about 2 inches long, three inner ones narrower and shorter, obovate-wedge-shaped, obtuse, smooth on both surfaces with a slight dew, of the consistence of soft leather: Nerves deeper coloured. Filaments from 52 to 64, dark purple, scarcely $\frac{1}{2}$ a line in length, thick but the base itself where they are inserted so narrow as to leave a very small scar. Anthers dark purple with paler valves, confluent with the filament, about two lines long, incurved, gradually attenuated, obtusely mucronated, smooth, thick; the cells appearing immersed in their sides, and oblique at the base, so that the front valves are shorter than the dorsal ones. Pericarps from 34 to 41, dark purple and fiddle-shaped while young. Stigmata pale ochre-colour with the back dark purple, recurved, narrowly wedge-shaped, obtuse, channelled, exceedingly papulose.

REFERENCES TO THE PLATE.

1. A Flower without calyx and petals, magnified. 2. Three views of a Stamen highly magnified.
3. A single Pistillum highly magnified.

Bouvardia triphylla

Drawn. & Pub. by W. Hooker Nov. 1. 1807

LXXXVIII.

BOUVARDIA TRIPHYLLA.

Three-leaved Bouvardia.

ORDO NATURALIS.

Rubiaceæ. *Juss. Gen. p.* 196.

Sect. III. Pericarpium fere totum inferum, 2-loculare, polyspermum. Stamina 4. *Caulis herbaceus vel fruticosus. Folia opposita.*

Pericarpium compressum, membranaceum, septi lamellis solutis præter rimam intra calycem contrariam 2-valve. Calyx profunde 4-fidus sinubus 1-2-denticulatis. Corolla longa: Tubus inferne cylindraceus fauce ibi villis clausâ, inde 4-gonus et angustissime infundibuliformis: Limbus brevissimus, 4-partitus: extus pappillaris. Antheræ ore tubi subsessiles. Stigma 2-partitum laciniis ovalibus. Semina sessilia, orbicularia, late alata. *Frutex erectus. Caulis teretiusculus. Folia sæpius* 3-*na, ovato-cuneata. Stipulæ intrafoliaceæ, vaginales, inter petiolos* 1-2-*cuspidatæ præter denticulos minores. Flores coccinei, inodori: Paniculis terminalibus corymbosis. Bracteæ parvæ. In memoriam* Caroli Bouvard, *Horti Parisiensis Botanicorumque olim fautoris.*

B. foliorum laminâ margine scabrâ, acuminulatâ: corollâ 8-10 lineas longâ.

Variat α: Foliorum lamina anguste ovato-cuneata.
Houstonia coccinea. *Kenn. in Bot. Rep. n.* 106. *cum Ic.* Ixora Americana. *Jacq. Hort. Schonbr. v.* 3. *p.* 9. *cum Ic.* Ixora ternifolia. *Cav. Ic. v.* 4. *p.* 3. *t.* 305.
β: Foliorum lamina late ovato-cuneata.

Sponte nascentem in *Mexico*, legit L. Née.

Floret apud nos a *Julio* in *Octobrem*.

Two varieties of this beautiful shrub now ornament many collections about *London*, of which the one here figured has shorter leaves and does not grow so high, but I can find no other differences. It has no immediate affinity to *Houstonia* or *Ixora*, nor did Sir Joseph Banks ever think that it had, though his testimony is so positively quoted to corroborate the former name in the Botanist's Repository. I have therefore called it after Charles Bouvard, M. D. who was superintendant of the Jardin Royal at *Paris*, and a real friend to that noble establishment in its infancy. The genera to which in my opinion it most nearly approaches, are *Manettia*, *Nacibæa*, and *Lygistum*. Of *Manettia* nothing is yet known but what Linne has inserted in the Mantissa from Mutis' MSS. for there is no specimen in his herbarium; and it will probably be distinguished by its nectary, which is there said to be hollow. *Nacibæa* of Aublet contains two plants unquestionably different in genus: the calyx of *Coccinea* has 8 segments nearly equal, and the orifice of the limb closed by long hairs: in *Alba*, exclusive of its habit, the anthers are inserted upon long filaments. *Lygistum* of Browne does not agree with either of Aublet's plants in its calyx and corolla, both parts of great importance in dividing the *Rubiaceæ*; yet these various fructifications with another 5-androus genus of Forskhol's, have been jumbled together by Professors Swartz and Vahl.

Bouvardia differs from all of them in its long 4-angular corolla, as well as in habit, and inflorescence. Cavanilles informs us that it was introduced into the Royal Garden at *Madrid* in the year 1792, and ripened fruit in the autumn of 1795, the cells of which he describes 1-seeded! The best method of cultivating the plant here, is to place it in an airy glass frame during the winter, for it is more tender than many Mexican plants, and rarely produces seeds, but may be propagated by cuttings.

Stem of our plant a foot high, erect, roundish, somewhat 3-angular and while tender minutely hairy, the branches in each whorl of different lengths. Leaves generally in threes: Petiole very short: Lamina broadly ovate-wedge-shaped, rough at the margin, smooth except the upper surface of the middle nerve. Stipules intrafoliaceous, sheathing, between the petioles divided into 1 or 2 dagger-shaped segments besides smaller teeth. Flowers without scent, erect. Panicle terminal, closely co-

rymbose. Peduncle from 5 to 6 inches long, generally surrounded by 3 longer ones from the last axils, from 7 to 3-flowered, like the stem in structure but more slender. Pedicels in threes or opposite, the upper ones shorter, and the last middle flower often sessile. Pericarpium broader than long, obconical, comprest, very minutely hairy; within the calyx whitish, exquisitely holosericeous and melliferous, its cuticle there instantly turning yellow upon being wounded, 2-locular with many seeds in each cell. Calyx yellow-green, very similar to the stipules in structure, divided into 4 narrow segments with broad sinusses in which there is often an additional tooth. Corolla from 8 to 10 lines long: Tube whitish at the lowest base, from thence scarlet, its inside paler and nearly white towards the top, 4-angular from below its middle: Limb scarlet with ovate segments: externally rough with minute papillæ, deciduous. Anthers pale yellow, almost sessile, inserted near the mouth of the tube, erect, linear. Pollen pale yellow. Style white, reaching to beyond the middle of the tube, erect, cylindrical, smooth. Stigma very pale scarlet, divided into two thick oval segments recurved at the margin. Seeds blackish brown, imbricated upon a globular receptacle in each cell, orbicular and bordered with a thin membrane.

REFERENCES TO THE PLATE.

1. Calyx and Pistillum. 2. Corolla laid open and magnified, shewing the insertion of the stamina. 3. A Stamen highly magnified. 4. Fruit nearly ripe. 5. Transverse section of the same. 6. Receptacle of the seeds naked and covered. 7. Two views of a seed magnified.

LXXXIX.

CALYPSO BOREALIS.

Northern Calypso.

ORDO NATURALIS.

Orchideæ. *Juss. Gen. p.* 64.

Sect. 1. Monandræ.

Pericarpium membranaceum. Petala 6: 5 sursum expansa: Labellum sacciforme, dorso basis 2-calcaratum, latere inferiore oris barbigerum. Anthera infra marginem styli inserta, mobilis, 2-locularis, 4-valvis. Pollen lamellis 4 solidis. Stylus latè alatus. Stigma operculo 2-lobo absconditum. *Herba pygmæa. Radix tuberosa, basi fibrosa, ad latus præcedentis quotannis enascens. Folium tantummodo unicum præter bracteas vaginantes, ovale, maculis sæpius tessellatum. Flos solitarius. Nomen a καλυπτω, cum genitalia lato apparatu protegit hoc genus.*

Limodorum boreale. *Swartz in Willd. Sp. Pl. v.* 4. *p.* 122. Cymbidium boreale. *Swartz in Nov. Act. Ups. v.* 6. *p.* 76. Cypripedium bulbosum. *Smith Spic. p.* 10. *t.* 11. Cypripedium bulbosum. *Linn. Sp. Pl. d.* 2. *p.* 1347. Serapias scapo 1-floro. *Gmel. Fl. Sib. v.* 1. *p.* 7. *t.* 2. *f.* 5. Orchis Lapponica monofolia. *Rudb. Camp. Elys. v.* 2. *p.* 209. *f.* 10.

Sponte nascentem in *Nova Scotia*, legit A. Menzies: in regione superiori fluminis *Lena* usque ad lat. 55. locis inter sylvas apertis, legit J. G. Gmelin: in *Lapmark*, legit O. Rudbeck, filius.

Floret *Maio, Junio.*

Professor Willdenow has remarked in his work above quoted, that this most rare and curious plant constitutes a distinct genus; but I do not think with him that it has a very near affinity to *Limodorum* or *Aerides*. It approaches rather in my opinion to some of the North American *Arethusas*, and Swartz in his first dissertation had placed it not far from one, the *Limodorum tuberosum* L. which is a legitimate *Arethusa*.

The poetic name now selected for it, in conformity to one of Linne's canons, is the more appropriate, as the stigma is totally covered. I am indebted to Mrs. Haliburton of *Halifax* in *Nova Scotia* for living plants, of which that here delineated flowered early in *May* last at *Mill Hill*, under the protection of a hotbed frame.

Root a small tuber which sends out a few yellowish fibres at the base. Leaf solitary: Petiole very pale green, dilated at the base and confluent with the tuber: Lamina yellowish green, somewhat egg-shaped, more or less checquered with dull purple spots, in another specimen they were scarcely visible, and Gmelin observed some without any spots whatever. Peduncle from 3 to 6 inches high, pale whitish green tinged with dull red. Bractes 3 or 4, semitransparent, tinged with dull red. Pericarpium obconical, very finely hairy. Petals: 5 whitish purple, narrowly lanceolate-wedge-shaped, the 2 lowest somewhat falcated. Labellum darker than the other petals especially internally, where it is beautifully variegated with zebra stripes which appear through its whole substance, dependent, shaped like a poke or sack and terminating behind in a double spur, bent back round the orifice the lower part of which as well as much of its internal surface is bearded with yellow glandular hairs. Style dull purple, bordered by a whitish broad membrane, near the top under the anther ending in a retuse or 2-lobed flap which hides the stigma. Anther yellow, inserted in the hollow part of the style above the flap but below the margin, almost round, easily detached, consisting of 2 cells each again divided, and 4 valves. Pollen in 4 solid masses, and adhering at a very early period to the 2 blunt lobes of the flap.

REFERENCES TO THE PLATE.

1. A side view of the Style somewhat magnified, with the Pollen adhering after the anther itself had fallen off. 2. A front view of the Style highly magnified, its flap partly raised upwards to shew the Stigma. 3. A front and back view of the Anther magnified. 4. The Pollen magnified.

. *Mesembryanthemum . tricuspidatum*

Drawn & Pub.d Dec.r 1.st 1824 by W Hooker

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XCI.

JATROPHA MULTIFIDA.

Multifid Jatropha.

ORDO NATURALIS.

Euphorbiæ. *Juss. Gen. p.* 384.

***Sect.* 1. Styli plures, distincti, sæpius tres.**

Monoica Polygamave. Masc. Calyx 5-fidus. Petala 5, toro inserta, nunc basi confluentia. Nectarium cotyliforme, plus minus 5-lobum. Filamenta 8-10-12, medio nectarii fasciculata. Antheræ longiusculæ loculis marginalibus. Foem. et Herm. in dichotomiis inferioribus pauci. Pericarpium 3-angulum, 3-loculare, 3-spermum. Styli 3, 2-fidi. Stigmata 6, obtusa. Reliqua ut in masculis. *Herbæ Fruticesve, succo lacteo limpidove scatentes. Caulis spongiosus, ramis 2-chotomis. Folia alterna, lobata aut multifida. Stipulæ 2, sæpius decompositæ. Flores paniculis oppositifoliis corymbosis impariter 2-chotomis. Bracteæ ad ramos solitariæ, in pedicellis haud raro sparsæ. Species auctorum calyce carentes, ut opinor, ad proprium genus repellendæ.*

J. foliis profunde palmatis, 11-9-fidis, utrinque lævibus; petiolo tereti; laciniis pinnatifidis, cuneatis, longissime mucronatis: stipulis multifidis.

J. multifida. *Desrous. in Encycl. Bot. tom. 4. p.* 9. J. multifida. *Swartz Obs. p.* 368. J. assurgens, &c. *Brown Hist. Jam. p.* 348. J. foliis multipartitis, &c. *Linn. Hort. Cliff. p.* 445. Manihot folio, &c. *Dill. Hort. Elth. v.* 2. *p.* 217. *t.* 173. Ricinoides americanus, tenuiter diviso folio. *Breyn. Cent. p.* 116. *t.* 58. Avellana purgatrix novi orbis. *J. Bauh. Hist. v.* 1. *p.* 322.

Sponte nascentem in *La Guiane*, legit F. Aublet.

Floret toto fere anno.

A very ornamental species of this genus, and as such cultivated in the gardens of the West India islands, for which Mr. Hooker is obliged to Madame La Comtesse de Vandes, in whose stove it has formerly ripened fruit. The whole plant abounds with a clear purgative juice, very bitter, and hardening by exposure to the air into a brown gum. A single seed bruised and mixed up with butter has sometimes been prescribed, but it is a dangerous medicine, acting violently. Possibly, if the embryo was taken out, its effects might be moderated.

Stem from 5 to 10 feet high, somewhat woody, divided into a few scattered or dichotomous branches, glaucous while young. Stipules multifid, their divisions bristly. Leaves alternate: Petiole glaucous, round, from 5 to 8 inches long, smooth; Lamina of 9 or 11 divisions, each of which is pinnatifid, and every point terminates in a long bristle, deep green on the upper surface, glaucous on the under surface, smooth: sometimes one or two of the divisions is quite entire or abruptly truncated. Flowers in large cymose panicles, the peduncle pale coral colour, thick and certainly opposite to the leaf, not terminal as Swartz describes it. Bractes ciliated with succulent hairs, soon falling off. Calyx of the male flower pale coral colour. Petals deeper scarlet than the calyx, obovate. Nectarium yellow, saucer-shaped and 5-lobed. Stamina, in about 30 flowers which I took the trouble of examining, constantly 8. Filaments scarlet. Anthers orange colour with pale yellow valves. All the female flowers were dropped off, when I saw the plant.

REFERENCES TO THE PLATE.

1. A single male Flower. 2. A Petal. 3. The Nectarium in the center of which the stamina are inserted. 4. A Single stamen highly magnified.

Lab 9.

XCII.

SMITHIA SENSITIVA.

Sensitive Smithia.

ORDO NATURALIS.

Leguminosæ, *Juss. Gen. p.* 345.

Sect. VII. Corolla papilionacea. Stamina 10, diadelpha nunc æqualiter. Pericarpium in aliis articulatum. *Herbæ foliis conjugatis aut abrupte pinnatis, rarius nullis, petiolo in cirrhum setamve desinente. Stipulæ a petiolo distinctæ.*

Calyx ventricosus, 2-labiatus : labiis integris, inferiore minore. Vexillum obcordatum : Alæ obtusæ, vexillo breviores : Carina sublinearis, basi fissa, longitudine alarum. Filamenta phalangibus 2 æqualibus. Pericarpium calyce inclusum ; in articulos 4-7, stylo flexuoso tantum connexos, orbiculatos, 1-spermos, divisum. Semina reniformia. *Herbæ annuæ, nunc pusillæ. Folia* 4-10-*juga, sensitiva, margine et dorso setis, præter Stipulas grandes sursum deorsumque productas, suffulta. Pedunculi* 2-6-*flori. Bracteæ* 3, *duabus calycem exteriorem simulantibus. In memoriam* JACOBI EDWARDI SMITH, M. D. &c. *botanici inclytissimi et din mihi carissimi, genus nominavi, totâ descriptione necnon icone in* Horto Kewensi *a me concinnatis : in* Prodromo *nihilominus, quo dignius ejus votis redderem,* DRYANDRUM *auctorem citavi, qui petitus hac solâ occasione haud dedignatus est, ut facete dixit, nostram prolem sibi assumere donec fateri vellem meam. Hæc tantum ob asseverationem in* Smith's Intr. to Botany, *p.* 378.

S. caule decumbente : stipulis infra insertionem auriculatis : foliolis parum obovatis.

S. sensitiva. *Ait. Hort. Kew. v.* 3. *p.* 496. *t.* 13.

Sponte nascentem in *Coromandel*, pascuis subuliginosis, ibi pecorum pabuum gratum, legit J. G. KOENIG.

Floret apud nos *Julio, Augusto, Septembri.*

A curious annual, first introduced into this country in the year 1785, when it ripened seeds at *Kew* and *Chapel Allerton*, which I communicated to Monsieur THOUIN, at *Paris* in 1786. The specimen here figured grew spontaneously in the hot gravel before the greenhouse at *Mill Hill*, last *August*, its seeds having no doubt escaped from several plants removed there from a hotbed the preceding summer ; and it affords an additional instance of the power which ripe seeds have to resist cold, as well as an useful hint to gardeners in the cultivation of annuals from hot climates.

I had the honour of naming the genus in *Hortus Kewensis*, notwithstanding Dr. SMITH has thought fit to quote *me* against *myself* relative to this point in a late publication, which I leave him to settle with his own heart. Not that I ever thought the plant at all adequate to commemorate his botanical merits, for it is a low mean-looking hispid annual ; and such is still my opinion of *some* of his labours, that if, like NAPOLEON the great, I had kingdoms instead of genera to bestow, he should wear one of the most brilliant diadems in my gift : its sensitive faculty however rendered it in his estimation worthy of perpetuating his name, and in my *Prodromus*, to dignify the genus far more than either he or I could, Mr. DRYANDER permitted this child of pure friendship and solid merit, to pass for his till the real father owned it.

Two species are all hitherto discovered : this grows wild in several parts of *Hindostan*, affording a grateful and nutritious food to cattle : the other is a native of *New Holland*, and though taller, its flowers are still less conspicuous. Respecting their natural affinity, alas, I differ likewise from Dr. SMITH, thinking them far more nearly allied to *Vicia, Ervum*, and especially *Eschynomene*, than to *Hedysarum* : the fruit of *H. Vespertilionis* is indeed included within the swoln calyx, but that is the only near mark of resemblance, its foliage being impari-pinnate.

Stem generally decumbent, slender, round, sometimes smooth, with many branches. Leaves alternate: Petiole very short below the first pair of leaflets, bristly on the under side: Leaflets in from 4 to 10 pairs, obovate, bristly on their margin and under side of the middle nerve, sensitive so as to fall when touched, like some *Mimosas*. Stipules often nearly hiding the stem, elongated both above and below the part where they are inserted with a little ear-shaped lobe on their lower half which runs into a very long bristly point. Flowers without smell. Raceme short, from 2 to 6-flowered with abortive rudiments of others. Peduncle filiform, longer than the leaf immediately under it. Pedicel shorter than the calyx. Bractes 3; one at the base of the pedicel, similar to the stipules but scarcely elongated below its insertion; 2 at the top, larger, ovate-lanceolate, and resembling an outer calyx. Calyx ventricose, 2-labiated: lips entire, ovate-lanceolate, the lower one smaller and more keel-shaped, both harsh and striated. Petals yellow. Filaments equally divided into two sets. Anthers oblong. Pericarpium included within the calyx, divided into from 4 to 7 roundish muricated lobes, only connected by the zigzag style. Stigma simple. Seeds kidney-shaped.

REFERENCES TO THE PLATE.

1. Calyx including the ripe Fruit. 2. Stamina magnified. 3. Fruit magnified. 4. Part of the Fruit separated. 5. A Seed magnified.

Randia longiflora

Drawn & Pub.d June 1.st 1809. by W. Hooker

XCIII.

RANDIA LONGIFLORA.

Long-flowered Randia.

ORDO NATURALIS.

Rubiaceæ. *Juss. Gen. p.* 196.

Pericarpium succulentum, 2-loculare: Colis hemisphæricis medio septi plus minus stipitatis. Calyx 5-fidus nunc usque ad basin, tandem deciduus. Corolla decidua: Tubus cylindraceus apice infundibuliformi, in quibusdam longissimus: Limbus 5-partitus. Antheræ 5, ore tubi sessiles apicibus sæpius exsertis. Stigma clavatum, 2-lobum. Semina numerosa, nidulantia. *Frutices Arborescæ, ramis sæpe ut in* Terminalia *frondosis, nunc spinosi: Folia opposita uno plerumque minore, sæpe ad summitates ramorum confertim frondosa. Stipulæ* 2, *interfoliaceæ, acuminatæ, deciduæ, inferiores absque foliis gemmaceæ. Flores terminales,* 1-*rii, vel dense racemosi. Bracteæ ad flores* 1-*rios nullæ. Huc referendæ plures* Gardeniæ *fructu* 2-*loculari: an quoque* Rothmanniæ, *quarum altera in hoc opere depicta?*

R. petiolis longis: laminis lanceolatis: corollæ tubo 9-10 pollicari, extus glabro; laciniis revolutis, ellipticis, ad latus apicis retusiusculis.

Locus natalis haud innotuit, forsan *Sierra Leon.*

Floret apud nos sub finem *Novembris, Decembri.*

This genus was named by Houstoun in honour of Mr. Isaac Rand, one of his botanical contemporaries, and adopted by Linne in the Appendix to *Hortus Cliffortianus.* Thunberg afterwards joined it to *Gardenia*, where it has been left by all subsequent writers except Lamarck, though it differs essentially in the structure of the fruit, which is 2-locular. I cannot hesitate therefore to restore its first title, and now doubt whether *Rothmannia* must not be absorbed in it. Both the *Rothmannias* correspond with the plant now figured in habit as well as fruit, but the tube of their flower seems to be more swelled at the top: its mere length is of no generic importance, differing exceedingly in one and the same plant of another *Randia*, as well as in some legitimate *Gardenias*, and in *Oxyanthus*, a genus lately established by Decandolle from *Gardenia Tubiflora* of the Botanist's Repository.

Stem of the plant in Mr. Hibbert's collection 6 feet high, erect, round, smooth while tender: Cuticle soon peeling off: Branches opposite, one shorter or in the partial branches altogether wanting, horizontally reclined, frondose, slender and without leaves for a considerable space, lateral branches being again produced near the extremities, before the stem itself or central part of each shoots out, exactly as in *Terminalia.* Leaves opposite, one less than the other, very closely frondose at the end of the branches: Petiole longer than in any true or false *Gardenia* I have seen, nearly round: Lamina often 7 inches long, lanceolate, while tender ciliated with hairs prest to the margin which is somewhat uneven, so that I should not be surprised to meet with a serrated leaf in *Rubiacea.* Stipules solitary on each side, interfoliaceous, but at the end of the branch gemmaceous where the leaves being crowded the stipules embrace the base of the petiole immediately above them and seem infrafoliaceous. Flowers at first exhaling a slight lemon-like perfume, terminal with new branches and leaves close under them. Peduncle scarcely a line in length. Pericarpium before fœcundation about 3 lines in length, somewhat obovate, smooth. Calyx from 5 to 6 lines in length, divided to the bottom without any sheathing part round the tube: its divisions horizontally reclined and almost linear. Corolla leathery: Tube 9 to 10 inches in length, somewhat dilated at the very base, from thence to beyond its middle yellowish green cylindrical and internally pubescent, at the top funnel-shaped and more 5-angular: Limb whitish, fading to a pale buff, $1\frac{1}{2}$ inch in length, 5-partite: its divisions revolute, elliptical, obtuse but near the top somewhat emarginate from being tightly lapt over each other before expansion. Anthers scarcely reaching to the interstices of the limb. Nectarium yellow, convex, producing so much honey, as to fill the tube half full. Style slender, gradually thickened towards the stigma, which is club-shaped 2-lobed and 10-angular below apparently from the impression of the anthers: much of the pollen adheres to this 10-angular part, but the caruncular-ed orifice of the stigma is beyond and a little higher than the top of the anthers, so that insects probably promote the fœcundation.

REFERENCES TO THE PLATE.

1. Two views of an Anther. 2. Transverse section of the Young Fruit.

Hibiscus trifoliatus

Drawn & Pub.d Jan.1 1808. by W. Hooker.

XCIV.

HIBISCUS TILIÆFOLIUS.

Lime-leaved Hibiscus.

Ordinem Naturalem et Characterem generis vide sub No. 22.

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* *Caulis arboreus, inermis : bracteis in calycem exteriorem confluentibus.*

H. stipulis auriculatis : foliorum laminis subrotundo-cordatis, rarissime 3-lobis, plus minus crenatis, acuminatis, subtus tomentosis glandulâ plerumque unicâ : bracteis 9-10 : petalis uno latere valde truncatis.

H. Tiliæfolius. *Prodr. p.* 383. H. tiliaceus. *Cav. Diss.* 3. *p.* 150. *t.* 55. *f.* 1. pessima. H. tiliaceus. *Linn. Sp. Pl. ed.* 2. *p.* 976. H. foliis, &c. *Linn. Fl. Zeyl. p.* 259. Althea maritima, &c. 2. *Browne Hist. Jam. p.* 214. Malva arborea, &c. cortice in funes ductili. *Sloane Hist. Jam.* 1. *p.* 215. *t.* 134. *f.* 4. Alcea malabarica, abutili folio, &c. *Ray. Hist. p.* 1070. Ketmia indica, Tiliæ folio. *Tourn. Inst. p.* 100. Alcea indica sinarum, flore luteo malvaceo. *Plukn. Amalth. t.* 355. *f.* 5. Novella. *Rumph. Herb. Amb. v.* 2. *p.* 218. *t.* 73. Pariti s. Tali pariti. *Rheed. Hort. Mal. v.* 1. *p.* 53. *t.* 30.

Sponte nascentem in Ins. *Jamaica*, oris maritimis, legit P. Browne.

Floret apud nos, *Augusto, Septembri.*

A common maritime shrub between the Tropics, for I can find no difference in specimens from both hemispheres, and probably *H. Elatus* of Swartz is no more than a variety occasioned by a different soil and situation. The leaves in all are frequently *integerrima*, and have a long melliferous gland on the under side of the principal nerve or sometimes also on the two lateral nerves. Our plant flowered last summer in the stove of Madame La Comtesse de Vandes.

Stem in its native soil, according to Browne 16 or 18 feet high, and soon attaining the same height here. Leaves resembling those of the *Lime* tree, more or less hoary on their under surface, generally crenated, their petiole long and almost round. Stipules ear-shaped, very hoary, soon falling off. Flowers without smell, axillary, but the leaves gradually decreasing in size and the branch dividing into forks, they form a thin panicle. Bractes 9 or 10, confluent at the base into an outer calyx. Calyx much longer than the bractes ; deeply divided into 5, wedge-shaped, very entire, obtuse, 3-nerved segments. Petals similar to those of many other species, but more obliquely truncated on one side.

Tab 95

Psyche triflora

XCV.

BYBLIS LINIFLORA.

Flax-flowered ~~Boycia~~. *Byblis*

ORDO NATURALIS.

Droserēæ.

Classis XIII. *Juss. Gen. p.* 228. Petala Staminaque toro hypogyno inserta.

Calyx 5-8-partitus, persistens. Petala 5-8, calycis laciniis alterna, sæpe unguiculata, marcescentia. Stamina petalis numero æqualia et alterna, vel dupla quæ adduntur iisdem opposita, marcescentia. Pericarpium figurâ varium, membranaceum, 1-4-loculare, 2-5-valve, ab apice cum septis axi solutis dehiscens. Stylus simplex ant plures, nunc dichotomi. Stigmata in multis capitata. Semina parietibus ant colo centrali inserta, sessilia funiculisve stipitata, pendula, albuminosa: Embryo rectus, in extremitate hilo remotâ. *Herbæ, Suffrutices, ant Frutices, sicci nigrescentes. Folia alterna, inferiora plerumque in rosam conferta, basi dilatata et aliquando intus ciliis stipulata, pilis glanduligeris abundantia, marcescentia, in cunabulis circinata. Flores axillares aut terminales, erecti. Pedunculus in cunabulis circinatus. Bracteæ sparsæ vel nullæ.* Aldrovandam *ad* Portulaceas *potius referam. Locus Ordinis forsan inter* Caryophyllēas *et* Saxifragēas.

DROSERA. J. L. Rossolis. T. Filamenta 5-8. Antheræ basi insertæ, latæ. Pericarpium oblongum, 1-loculare, 3-5-valve. Styli 3-4, sæpius dichotomi. Stigmata clavata. Semina numerosa, parietibus sessilia, tenella ant effœta scobiformia. *Herbæ uliginosæ. Folia in rosas conferta, figurâ admodum varia, piloso-glanduligera, nunc basi intus stipulata; in* Rotundifoliâ, *ut fertur, irritabilia muscasque involventia. Flores terminales, Paniculâ simplici ant 2-chotomâ, rarius 1-florâ. Bracteæ sparsæ.*

LADROSIA. Filamenta 5. Antheræ basi insertæ, oblongæ. Pericarpium conicum, 1-loculare, 5-valve. Styli 5, simplices. Stigmata capitata. Semina plura, fundo inserta funiculis longis, obovata. *Suffrutex 7-18-pollicaris, in aridis nascens. Folia inferiora conferta, lineari-attenuata, piloso-glanduligera. Flores terminales, Paniculâ 2-7-florâ, corymbosâ. Bracteæ sparsæ.* Drosera Lusitanica L. *Nomen a λα et δροσος, ob copiam roris.*

IREON. Burm. Roridula. J. L. Filamenta 5. Antheræ basi in Callum desinentes supra quod insertæ, lineares. Pericarpium obiongum, 3-loculare, 3-valve. Stylus simplex. Stigma convexiusculum, 3-lobum. Semen 1 in singulis loculis, juxta apicem axis sessile, oblongum. *Frutex 3-pedalis, montium* Koude Bocke Veldt. *Folia inferiora conferta, lineari-attenuata nervo lato, piloso-glanduligera. Flores terminales, Paniculâ simplici. Bracteæ foliaceæ. Nomina Generica, ab adjectivo Latino petita, secundum* Phil. Bot. 235. *Botanico indigna sunt; et* Gloriosa, Mirabilis, *jam exclusit* Jussieu.

BYBLIS. Filamenta 5. Antheræ supra basin insertæ, oblongæ. Pericarpium turbinatum, 2-loculare, 2-valve. Stylus simplex. Stigma hemisphæricum, 2-lobum. Semina plura, fundo inserta funiculis brevibus, obovata. *Herba* Novæ Hollandiæ, *facie aliquâ* Spergularum. *Caulis fusiformis. Folia perangusta, non conferta, rare piloso-glanduligera. Flores axillares, 1-rii, pedunculis longis. Bracteæ nullæ. Nomen a nymphâ* Byblide, *ob folia lacrymas stillantia.*

DIONÆA. Ell. J. L. Filamenta 10. Antheræ basi insertæ, subrotundæ. Pericarpium late pyramidale, 5-lobum, 1-loculare, 5-valve. Stylus simplex. Stigma exquisite multifidum. Semina numerosa, fundo sessilia, obovata. *Herba uliginosa e* South Carolina. *Folia in rosam conferta: Petiolus* Citri Aurantium: *Lamina 2-loba, inciso-ciliata; disco rubra glandulosaque, ubi spinulæ irritabiles, quæ lobis repente conduplicatis insecta transfigunt. Flores terminales, Paniculâ corymbosâ rarius decompositâ. Bracteæ sparsæ.*

B. foliis lineari-attenuatis: pedunculis apice angulatis.

Sponte nascentem in *New South Wales*, legit A. Gordon.

Floret apud nos *Novembri, Decembri.*

From the collection at *Cashiobury*, which now contains some of the finest *New Holland* plants in this country. It is probably annual, and I understand very liable to damp off in moist weather, but well worth preserving, if possible, by the curious botanist.

Root spindle-shaped with few fibres. Stem erect, spindle-shaped, round, nearly smooth. Leaves alternate, very narrow, gradually increasing from $\frac{1}{2}$ an inch to 2 inches in length, sessile, somewhat dilated at the base, finely attenuated, rolled inwardly before they are developed, scattered with minute glanduliferous hairs. Flowers solitary in the axils of most of the upper leaves, erect. Peduncle rather longer than the leaf below it, thicker and angulated near the calyx where it is more hairy than lower down. I could find no bracte whatever in any of the peduncles. Calyx 5-phyllous, persistent: Leaflets spreading, ovate-lanceolate, very entire, their extreme point obtuse, 3-nerved, much more hairy than the rest of the plant. Petals 5, pale blue, inserted in the receptacle, alternate with the leaflets of the calyx, incurved-spreading, obovate with very short claws, imbricated laterally before the flower opens, somewhat retuse, smooth, not falling off when they wither. Filaments 5, whitish, twice shorter than the petals with which they are alternately inserted in the receptacle, spreading, almost linear, smooth. Anthers pale blue with deep-coloured edges, inserted a little above the bottom, erect, 2-locular, 4-valved, opening towards the front. Pericarpium superior, somewhat comprest, 2-locular, 2-valved, its dissepiment contrary and adhering to the valves. Style simple, erect, nearly cylindrical, smooth. Stigma large, 2-lobed, papulose and very moist with its natural exsudation. Seeds black, many in each cell, inserted at the bottom upon a central receptacle by short chords, obovate, scrobiculated.

REFERENCES TO THE PLATE.

1. A single leaflet of the Calyx magnified. 2. Front and back view of a Stamen highly magnified. 3. Transverse section of a Young Fruit near its base, magnified. 4. Young Fruit highly magnified. 5. A Seed magnified.

Curcuma aromatica

Hooker & Pub. Feb. 1 1826 by W. Hooker

XCVI.

CURCUMA AROMATICA.

Aromatic Curcuma.

ORDO NATURALIS.

Cannæ, *Juss. Gen. p. 62.*

Sect. II. Pericarpium 3-loculare, polyspermum. Anthera didyma, 2-locularis, 4-valvis. Stylus gracilis, inter loculos antheræ retentus. Stigma cy thiforme.

Calyx 3-fidus latere nunc rupto. Corollæ Tubus ventricosulus, barbâ clausus: Limbus exterior 3-partitus, interior 2-labiatus; L. superius incurvum, 2-partitum; L. inferius recurvum, 3-fidum laciniâ mediâ minore. Filamentum latum. Anthera 2-calcarata apice calloso. *Herbæ acaules. Folia fere* Cannarum, *multifaria. Flores in Thyrso*, 2-4-*ni. Pedunculus brevis, ante folia aut iisdem cinctus. Bracteæ* 5-6 *infra flores stipulaceæ: inde ad singulos fasciculos* 1-*riæ, coloratæ, marginibus versus basin cum dorso proximæ superioris confluentibus in sacculum, ultimæ steriles: præter has* 1 *minor singulos flores amplectens. Genera* Scitaminea *genitalibus distinguere, in tyrocinio a Societate Linneanâ edito, tentavit celeberrimus Historicus* Gulielmus Roscoe, *et multa feliciter: icones autem* Curcumæ *et* Philydri, *nescio quo errore, prorsus falsæ sunt; hoc insuper, pericarpio supero gaudens, ad alium Ordinem pertinent, nempe cum* Wachendorfiâ, Xiphidio, Hæmodoro, &c. *associandum.*

C. foliorum laminis totis viridibus, late lanceolatis, subtus pubescentibus: thyrso ovali, ante folia: antherâ ultra loculos retusâ.

Gaidoar, sive Zedoarium alterum, &c. *Camel. Syll. p.* 23.

Sponte nascentem in Ins. *Luzon*, locis opacis humidis, legit J. Kamel.

Floret apud nos *Maio*, paulo ante folia erumpunt.

"*Ed io anche sono Botanico*" may justly exclaim the celebrated historian of Lorenzo di Medici, who in the last volume of the Linnean Society's Transactions, has illustrated the genera of this Natural Order, by new characters, which are in general very satisfactory. No plants are more interesting, on account of their farinaceous or aromatic roots; and Father Kamel informs us, that those of this species are used like the *Zedoary*, for a sudorific.

With regard to its genus, notwithstanding the flowers appear before the leaves from a different bud, I cannot separate it from *Curcuma;* for, according to Dr. Roxburgh, his *Zedoary*, which is probably our very plant, flowers both without leaves, and again in the rainy season from the center of the leaves. In *Kæmpferia*, I have myself twice observed a parallel anomaly, and I suspect that in both genera, the flowering bud is always terminal, being in one case only developed later. On the contrary, in those plants of the Order which have a solid stem like *Alpinia*, terminal or radical Inflorescence is of real generic importance. *Curcuma* may easily be distinguished by its two-spurred anther, not very unlike that of some *Orchisses*: this terminates the filament, which probably is never 3-lobed as Mr. Roscoe describes it, nor has his figure the least resemblance to that of any Scitamineous genus known to me; but I have only examined in a living state, besides *Curcuma*, those of *Canna*, *Maranta*, *Thalia*, *Hedychium*, *Alpinia*, *Zingiber*, *Costus*, *Kæmpferia*, *Amomum*, and *Globba*.

Four species of the genus are now cultivated in the stoves about London: 1st, *Longa*, figured in Hortus Vindobonensis: 2dly, the true *Zedoary* accurately distinguished by Father Kamel, the leaves of which are smooth with a large purple cloud on their upper surface: 3dly, a plant with smooth leaves the petioles of which only are dark purple: 4thly, this here figured with leaves entirely green, pubescent underneath: all which are in the collection of the Rt. Hon. Charles Greville. A 5th species of *Curcuma*, is *Montana* of the Coromandel Plants, unless that turns out to be the third above mentioned.

Root pale brown, very gratefully aromatic as well as the whole herb when bruised, tuberous, articulated: fibres thick and fleshy. Flowers slightly fragrant in a short thyrse, from 2 to 4 clustered at the bottom of each fertile bracte. Peduncle pale green, appearing just before the leaves, from 2 to 3 inches long below the flowers, erect, round, jointed, pubescent. Bractes below the flowers pale

green, stipulaceous; then much larger and white, their margins towards the bottom coalescing with the dorsal rib of the next above them into a little sack which contains the flowers, upper ones gradually sterile and rose-coloured; besides these, a partial one quite white sheaths the bottom of every flower; all pubescent on both surfaces. Pericarpium before impregnation white, 3 lines in length, pubescent. Calyx white, unequally 3-fid and bursting on one side, externally pubescent. Corolla an inch and a half long: Tube pale yellow, narrowly funnel-shaped yet swelled towards the top, its orifice closed with a thick beard, the style passing in a narrow groove behind, externally almost smooth: Outer limb white with a pink tinge towards the top, 3-partite; divisions erect, broad-wedge-shaped, dilated into two ears at the base where the front ones unite, that behind quite distinct larger and terminating below its top in a little hood: Inner limb 2-labiate; upper lip pale yellow with deeper edges, 2-partite, its divisions incurved, broad-ear-shaped, waved, more or less torn; lower lip deep yellow, longer, recurved, broad-flapped, somewhat 3-fid the lateral segments broader and waved, its inside frosted with a double band of glandular pubescence. Filament pale yellow, inserted between the divisions of the upper lip and not attached to its disc, broad and thick. Anther white, confluent with the filament, erect; its midrib broad, externally hollow, and pubescent; terminating in an orange-coloured retuse smooth callosity; cells 2, marginal, very prominent, their base running into a white incurved smooth spur: valves opening somewhat obliquely. Pollen white. Style white, filiform, smooth, at last protruded beyond the anther. Stigma white, cup-shaped, finely ciliated. Nectaries 2, white, inserted on one side of the style in the disc of the pericarpium, wedge-shaped. Leaves from 5 to 7, resembling those of a *Canna*, the principal one from 3 to 4 feet long: Petiole deeply channelled: Lamina erect-recurved, broad-lanceolate, very entire, terminated by a long awled point which collects moisture from the atmosphere so copiously that it soon decays, their upper surface smooth with projecting nerves, under surface pubescent.

REFERENCES TO THE PLATE.

1. A front view of 2 Flowers. 2. Back view of a single Flower. 3. Top of the larger division of the outer Limb highly magnified to shew its hood. 4. A side view of the Stamen and Style in their natural situation. 5. Front and back view of the Stamen only. 6. Pistillum and Nectaries highly magnified. 7. Transverse section of a Young Fruit.

Tanyozanthus crumalifloru

Drawn & Pub. Feb.ry 1, 1806 by W. Hooker

XCVII.

ANIGOZANTHUS GRANDIFLORA.

Large-flowered Anigozanthus.

ORDO NATURALIS.

Irides. *Juss. Gen. p.* 59.

Sect. III. Genera *Iridibus* affinia.

Pericarpium inferum, crustaceum. Corolla pericarpio confluens, curva, tubulosa: Limbus brevis, 6-partitus, latere inferiore profundius hians: extus tomentosa, marcescens. Filamenta 6, ore tubi inserta, basi dilatata, parum sursum flexa. Antheræ mucronatæ. Stylus curvus. Stigma clavatum. Semina numerosa, colis 3 centralibus spongiosis imbricata, gigartoidea. *Herbæ facie* Argolasiæ. *Radix perennis, multiceps. Folia 2-faria, ensata apice introrsum falcato. Flores terminales, Paniculâ dichotomâ in cunabulis extrorsum circinatâ. Bracteæ sparsæ. Ordinem distinctum constituere genera hujus sectionis, jamdudum monuit* Jussieu, *quibus jungo* Philydrum, *non semper monandrum: bis in eo, duo stamina vidi, et rudimentum tertii.*

A. pedunculo inferne nudo: paniculâ laxâ: corollis 14-18-lineas longis.

A. Flavida. *Decand. in Red. Pl. Liliac. n.* 176.

Sponte nascentem in *New Holland*, oris occidentalibus, legit P. Good.

A singular genus, first raised in this country from seeds sent to his Majesty's garden by Peter Good; it is now in several other collections, being easily encreased by parting the roots, and only requiring protection in severe frost. Our specimen was communicated by the Marquis of Blandford. This species has likewise been raised at Paris, from seeds brought by Captain Baudin, and Decandolle who writes the descriptions of Redoute's *Plantes Liliacees*, was a long time undecided, whether to regard it as distinct from Billardiere's *A. Rufa*. After a minute comparison of both, he says that ours differs 1st, in having leaves four or five times longer, and truly sword-shaped: 2dly, in its stem being smooth towards the bottom: 3dly, in the wool being yellowish, not chocolate-colour: 4thly, in having a looser corymbus with fewer flowers: 5thly, in the flowers being considerably larger. He then selects with his usual accuracy, the following characters:

A. *Rufa*, foliis sublinearibus, caule a basi tomentoso, corymbo denso; tomento rufo.

A. *Flavida*, foliis ensiformibus, caule subglabro, corymbo laxo, tomento ochrolenco.

I described this plant when it first flowered at Kew, and was no less doubtful about its being a legitimate species: the difference in the size of the flower and *Billardiere's* figure however, then induced me to call it *Grandiflora*, which name I still retain, reserving those taken from colour exclusively for varieties.

Leaves radical, a few of the inner ones afterwards elevated by the peduncle and gradually shortened into bractes, bifarious, vertical, linear-lanceolate with the point falcated inwards, very entire, sharp, smooth, sword-like which term I use to express the transverse not the longitudinal figure of a leaf, finely nerved. Flowers without smell, nodding. Panicle terminal, many-flowered. Peduncle dark purple, from the centre of the leaves, about the size of one's little finger at the base, from 3 to 4 feet long, roundish: Branches forked, spreading and rolled back while young: towards the top somewhat rough with brown wool consisting both of stars and wedge-shaped fringed hairs. Pedicels about 3 lines long, more woolly. Pericarpium before impregnation greenish brown, when swelled by the seeds quite brown, very woolly except within the corolla where it is prominent, 3-locular with 3 central fungous colums or receptacles of the seeds. Corolla confluent with the top of the pericarpium, from 14 to 18 lines long, externally covered with thick yellowish green wool: Tube itself yellowish green, curved, somewhat funnel-shaped, the inner surface smooth: Limb short, externally of the same colour as the tube and woolly, its inner surface very dark purple but covered

with whitish stars so as to appear lead-coloured; its divisions very spreading but somewhat incurved and finally converging. Filaments 6, yellow with their dilated base green, the lower ones gradually longer, roundish. Anthers yellow with a thick orange coloured rib to which they are attached, pointed at the top. Pollen yellow. Style yellowish green, 3-angular, rather longer than the tube, smooth. Stigma yellowish green, club-shaped, finely papulose. Seeds black, numerous, shaped like those of a grape.

REFERENCES TO THE PLATE.

1. The two different sorts of Wool highly magnified. 2. A Flower laid open. 3. Two views of a single Stamen magnified. 4. Transverse section of the Young Fruit. 5. A ripe Seed.

Tulipa coronaria

Drawn & Pub. March 1. 1805 by W. Hooker.

XCVIII.

HOOKERA CORONARIA.

Garland Hookera.

ORDO NATURALIS.

Asphodeli. *Juss. Gen. p. 51.*

Sect. v. Corolla regularis, marcescens. *Flores fasciculati. Bracteæ tot, interiores ramentaceæ.*

Corollæ Tubus plus minus urceolaris : Limbus recurvus, 6-partitus. Filamenta 6, ore tubi inserta alternis nunc sterilibus et petaloideis, erecta. Antheræ prælongæ, basi insertæ. Torus melliferus. Pericarpium nonnihil stipitatum, ab apice dehiscens. Stylus erectus. Stigma amplum, varie 3-fidum. Semina oblonga, 2-plici serie inserta, angulata. *Herbæ e* California. *Bulbus perennis, sphæricus, tunicis reticulatis. Folia angusta, multifaria, lineari-lanceolata, obtusa. Flores cærulci, erecti. Pedunculus gracilis, e medio foliorum. In memoriam* Gulielmi Hooker, *pictoris hujusce operis, genus sacrum velim: duæ species innotuerunt.*

Coronaria. H. corollæ laciniis tubo parum longioribus : filamentis alternis sterilibus et petaloideis.

Pulchella. H. corollæ laciniis tubo brevioribus : filamentis brevissimis, omnibus antheriferis.

Sponte nascentem in *California*, utrasque legit A. Menzies.

Floret prior apud nos *Junio.*

For this and several other rare plants taken from a Spanish prize condemned at *Halifax* in *Nova Scotia*, I am indebted to Mrs. Haliburton of that place. It flowered in *June* last at *Mill Hill*, and is one of those mentioned in Dr. Smith's Introduction to Botany as countenancing Jussieu's idea that the flower of all 1-cotyledonous plants should be called a calyx. Dr. Smith's words are "*Two species of a new genus, found by Mr.* Menzies *on the west coast of* North America *have beautiful liliaceous flowers like an* Agapanthus *with* 6 *internal petals besides!*" My generic character with Mr. Hooker's dissections which are very accurate render any comment upon the above observation unnecessary, and the genus confirms instead of invalidating what I have presumed to say relative to this subject, in the 8th volume of the Linnean Society's Transactions.

I regret much to dissent so often from the celebrated lecturer just mentioned, especially respecting the affinity of plants. I place this with *Allium* in the *Asphodeli* on account of its genitalia, leaving other connexion, thinking that the reasons which he himself gives for keeping *Apocinum* in Pentandria, as clearly prove that *Sowerbæa* belongs to Triandria: for, I recollect no instance at this moment of an 1-locular anther except in *Canna*, and from its mode of insertion as well as the analogy of other scitamineous anthers, that seems to me rather half an anther, than a whole one: however, the radication, and stipulation fix *Sowerbæa* immoveably near *Dianella*, as well as the country it comes from. I shall probably be laughed at, for affixing any value to this last character, and still more so for thinking that whole genera and orders of vegetables have been hurled away from the surface of our globe along with the strata upon which they grew, in that convulsion called the deluge; but I have no doubt that future generations will make discoveries to strengthen this conjecture, and that in studying the affinities of vegetables, their geographical connexion may be frequently inquired into with advantage.

Root bright brown, similar in external appearance to that of many *Ensatæ*, but certainly perennial and not annually reproduced as in them, its outer coats finely reticulated, with fibres issuing

from the bottom. Leaves 5 in our plant, 2 of these were decayed above the middle, the other 3 quite fresh having already shot to some inches in length in the moss the root was packed in, sessile, spreading in every direction, linear-lanceolate, scarcely a quarter of an inch wide in the broadest part, very entire, obtuse, smooth, hollow, the under surface slightly furrowed, all decayed by the month of *August*. Flowers from 4 to 7 in a fasciculus, succeeding each other slowly, erect, smelling agreeably. Peduncle not so long as the leaves, rather narrower and paler, erect, cylindrical, finely striated, quite smooth, fistular at least by the time the fruit ripens. Outer Bractes greenish brown and not withered when the first flower expanded, spreading, obtuse, interior one whitish and very narrow. Pedicel of the first flower as long as the corolla, the others gradually shorter, slender, cylindrical, smooth. Corolla rather more than an inch long: Tube dull green with a tinge of blue, and 6 deeper lines running down from the middle of each division of the limb, somewhat contracted at the top so as to be rather pitcher-shaped than funnel-shaped, smooth on both surfaces: Limb violet-blue, divided to the base; divisions recurved, almost elliptical, very entire, obtuse, the three outer ones narrower and at the top projecting internally into a little claw by which they are held together before they are expanded: withering upon the torus without falling. Filaments 6, inserted in the orifice of the tube, decurrent, yellowish green with white edges, erect, quite smooth; those 3 which are opposite to the inner divisions of the limb wedge-shaped and bearing anthers: the other 3 considerably larger, elliptic-wedge-shaped, hollow, barren. Anthers yellow with paler edges, 3 lines long, inserted at the base where they are 2-fid, quite erect, broad-linear, deeply emarginated at the top, 2-locular, 4-valved, splitting rather towards the inside. Pollen deep yellow. Torus or receptacle yellow, projecting into 3 melliferous lobes to which the corolla adheres. Pericarpium before impregnation yellowish green, not so long as the tube, 3-angular with rudiments of 3 intermediate angles, 3-locular, smooth. Style yellowish green, reaching to about the bottom of the anthers, erect, triangular, smooth. Stigma yellow, large in proportion to the style, somewhat funnel-shaped, divided into 3 thick recurved wedge-shaped lobes furrowed on their upper side. Seeds from 5 to 7 in each cell, inserted on the internal margin of the dissepiments in a double row: in our plant only two of them ripened imperfectly and were black, fully a line long, 3-angular with a large chalaza at the bottom.

REFERENCES TO THE PLATE.

1. The Corolla spread open with the Stamina, one of the barren ones having a rudiment of an Anther at the top. 2. Pistillum. 3. Lower half of the Pericarpium magnified, shewing the melliferous receptacle. 4. A Seed magnified.

XCIX.

CEPHAËLIS PEDUNCULARIS.

Long-pedunculed Cephaëlis.

ORDO NATURALIS.

Rubiaceæ. *Juss. Gen. p.* 196.

Sect. x. Flores aggregati supra receptaculum commune, rarius coadunati. *Arbores aut Frutices, rarius Herbæ. Folia opposita.*

Pericarpium succulentum, 2-loculare, non dehiscens. Calyx varie 5-fidus, nunc hyalinus. Corollæ Tubus superne ventricosulus, fauce antheris barbâque clausus: Limbus crassus, 5-partitus; laciniis in cunabulis convergentibus, dorso apicis plus minus corniculatis. Antheræ 5, supra medium tubi subsessiles. Nectarium callosum, varie lobatum. Semen 1 in singulis loculis, fundo sessile. *Frutices sempervirentes. Caulis infra articulos tumidus. Folia sæpius lanceolata. Stipulæ plus minus in vaginam intrapetiolarem confluentes, 2-fidæ, basi intus calloso-pilosæ. Flores terminales, Capitulo densissime racemoso. Bracteæ coadunatæ, varie incisæ, persistentes.*

C. foliorum laminis lanceolatis, glabris: stipulis carinatis: capitulo longe pedunculato: bracteis exterioribus repando-dentatis: calyce barbigero: corollæ laciniis dorso corniculatis.

Sponte nascentem in *Sierra Leon*, legit H. Smeathman.

Floret apud nos *Januario, Februario.*

This plant approaches nearer to *Cephaëlis*, than any other genus in Jussieu's 10th section of *Rubiaceæ*, some of which have been injudiciously united by Schreber and Willdenow. Those botanists surely could not be conscious, whose decrees they were reversing, and that though Aublet's names might be barbarous, his genera were determined by one, whose authority in this branch of the science, is certainly equal, if not superior, to that of Linne himself. Numerus 4-narius and 5-narius, very rarely occur in the same genus of *Rubiaceæ*, in which Order that difference alone ought to lead us to inquire for others more material. Accordingly, *Patabea*, exclusive of number, will be found to differ from *Cephaëlis* in æstivation, the divisions of its limb being imbricated laterally: *Evea* most widely from both, not only in habit, its branches being supraaxillary like those of *Gardenia*, but in stipulation and the insertion of its filaments: *Carapichea* agrees still less than either of the former plants with *Cephaëlis*, having long projecting filaments with very short anthers.

Stem of our specimen, which was communicated by Madame La Comtesse de Vandes, not 2 feet high, erect, round, somewhat swelled below the joints, which for a short time after the stipules fall off are fringed with brown shining callous hairs, elsewhere smooth: Leaves dark green, opposite: Petiole very short broad and thick, its upper surface covered with minute pubescence: Lamina from 3 to 6 inches long, 2 or more broad, recurved-spreading, lanceolate, very entire, obtuse, smooth on both surfaces; midrib broad and prominent underneath. Stipules whitish green, very large but not united into a sheath within the petiole, 2-fid with ear-shaped segments, below the division sharply keeled in which character this species differs from every other yet discovered, towards the bottom of the inside bearded with callous hairs, deciduous leaving a wedge-shaped scar where they were attached. Peduncle pale-green, 3 inches and a half long, somewhat comprest with a narrow prominent rib running down the two flatter sides from the junction of the bractes, erect, sprinkled with hairs especially upon the ribs. Bractes resembling the stipules, but the bottom ones more winding-dentate, gradually smaller till scarcely any traces of them remain under the last flowers, the natural number being one to each branch and pedicel. Pedicels whitish green, $\frac{1}{2}$ a line long, round, smooth. Pericarpium before impregnation whitish green, scarcely a line long, obovate, smooth. Calyx whitish, nearly transparent, 1 line long, broad-funnel-shaped, divided nearly to the middle into 5 recurved wedge-shaped segments, which are bearded externally at the top with long hairs. Corolla white, about 2 lines long: Tube transparent, broad-funnel-shaped, its mouth closed by white hairs and the anthers: Limb recurved-horizontal, not so long as the tube, 5-partite; its divisions ovate-lanceolate, very entire, projecting behind their points into a thick blunt horn, smooth, convex

with a narrow channel in the middle: soon falling off. Anthers 5, very pale ochre-colour, inserted a little above their base upon exceedingly short filaments near the orifice of the tube, almost linear, somewhat retuse at the top, their valves opening in front. Pollen very pale yellow. Nectarium whitish green, crowning the pericarpium within the corolla, hemisphærical, not lobed, smooth. Style white, rather higher than the recurved limb, somewhat thickened towards the top, round, smooth. Stigma white, 2-partite: its divisions probably recurved but in our specimen erect, narrow, linear-lanceolate, convex, finely papulose.

REFERENCES TO THE PLATE.

1. A single Flower. 2. One Segment of the Calyx magnified, shewing its beard on the outside. 3. The Pistillum and Nectarium. 4. Corolla laid open magnified. 5. One division of its Limb highly magnified shewing its external horn. 6. Two views of a single Stamen magnified. 7. Two views of a Stipule.

Correa Colinsolia

Drawn & Pub. March 1 1808 by W. Hooker

C.

CORREA COTINIFOLIA.

Cotinus-leaved Correa.

ORDO NATURALIS.

Rutaceæ. *Juss. Gen. p.* 296.

Sect. II. Rutaceæ veræ, foliis exstipulatis.

Calyx cupulæformis, brevissime 4-fidus, persistens. Petala 4, toro inserta, supra basin varie cohærentia, decidua. Filamenta 8, toro inserta, alterna quæ petalis opponuntur latiora et longiora, decidua. Antheræ dorso apices filamentorum vaginantes. Nectarium astragaliforme, 8-dentatum. Pericarpium superum, 4-coccum, coccis basi apiceque tantum connexis. Stigma 4-fidum. Semina 2 in quovis cocco, Colo fungoso ad angulum internum sessilia. *Frutices* Novæ Hollandiæ, *sempervirentes. Gemmæ* 1-*riæ aut binæ, nudæ. Folia opposita, rarissime alterna, tomento stellato plus minus obtecta, minutissime glandulosa. Flores* 1-*rii, nunc vero ramellulis confertis quasi fasciculati, terminales. Bracteæ interdum* 2, *perangustæ, loco foliorum ultimorum.*

C. foliorum laminis plus minus orbiculatis, integerrimis, subtus præcipue tomentosis: floribus erectis: petalis vix cohærentibus: antheris apice retusis.

Variat α: petalis fere albis.

C. alba. *Vent. Jard. Malm. v.* 1. *n.* 13. *cum Ic.* C. alba. *Desf. in Ann. Mus. v.* 2. *p.* 32. C. alba. *Willd. Sp. Pl. v.* 2. *p.* 324. C. alba. *Kenn. in Bot. Rep. n.* 18. *cum Ic.*

β: petalis intus carneis.

Sponte nascentem juxta *Port Jackson*, locis mari vicinis, legit J. Caley.

Floret apud nos a *Novembri* in *Aprilem.*

This plant is highly honoured by perpetuating the name of that learned botanist *Joseph Correa de Serra*, whose dissertations are now increasing the lustre of the Annales du Museum, instead of our Linnean Transactions. Heavy indeed was the loss of this country, in every sense, when he went to *Paris.*

In natural affinity, I think with Billardiere, Desfontaines, and Ventenat, that the genus belongs to *Rutaceæ.* Unquestionably, it has no connexion with *Rhododendra*, to which Dr. Smith persists in referring it, all the genera of that Order differing greatly in their vernatio, æstivatio, and placentatio. By placentatio, I mean the manner in which the seeds are connected with the pericarpium: these in *Correa* are quite sessile, and without that remarkable appendage to their hilum, in which some other *Rutaceæ* approach the *Euphorbiæ.* I suppose Ventenat has mistaken the receptacle common to both the seeds of each cell, for this appendage, when he described them "*operculi cocculorum parieti non dehiscenti affixa;*" neither is the latter part of the sentence correct, for the cocca split on both sides to the very base by which action the seeds are thrown out. Every genus of *Rutaceæ* I have yet examined abounds with glands containing a strong smelling oil, which though exceedingly minute in *Correa*, are still distinguishable by the naked eye, if a leaf is held up against the sun; and such a similarity in the herbage, often supersedes apparently more striking resemblances of flower and fruit, proving the wisdom of Linne's adage, "*habitus occulte consulendus est.*"

According to Mr. Caley, this species is found near the sea, and it is worthy of observation that many plants growing in a salt soil, but which have no affinity to each other, agree in their pubescence: *Phebalium*, several *Atriplices* and *Statices*, *Hippophae*, *Eleagnus*, *Amygdalus Argentea* Lam. *Heritiera*, are instances in which it is composed of peltated scales. The petals of *Correa Alba* are described by all preceding authors white, but I have never yet seen them entirely so, and in the variety now figured from the collection of J. Beale, Esq. at *Edmonton*, their inside is deeply tinged with blush colour. I have therefore given the plant another name, for in our science no precedents can, or ought to authorize, even a partial departure from truth.

REFERENCES TO THE PLATE.

1. One of the shorter and longer Stamens. 2. Two views of an Anther magnified. 3. A Young Pericarpium. 4. A Scale of the Tomentum. 5. A Ripe Pericarpium. 6. Longitudinal Section of the same shewing where the Cocca join. 7. A single Coccum splitting with one of its Seeds imperfect. 8. The inner Lamina detached with both Seeds perfect. 9. A Seed magnified, shewing its naked Hilum. 10. Transverse section of the Albumen with the Embryo which is somewhat crooked.

CI.

ROSA SIMPLICIFOLIA.

Simple-leaved Rose.

ORDO NATURALIS.

Rosaceæ. *Juss. Gen. p.* 334.

Sect. II. Pericarpia numero indefinita, pariete interiore Tori ventricosi ad os coarctati sessilia, quasi infera, 1-sperma. *Frutices sæpius aculenti.* Rosæ.

Torus urceolaris globosusve, demum coloratus et carnosus. Calyx 5-phyllus: foliolis plus minus foliaceis, 2 sæpe integerrimis: persistens. Petala 5, decidua. Filamenta numerosa, ore tori inserta. Antheræ latæ. Pericarpia intra torum semina mentientia, in pluribus hispida. Styli plus minus exserti, nunc coaliti. Stigmata retusa. *Caules stoloniferi. Folia aut impari-pinnata, petiolis sæpe aculeatis, foliolis* 1-5-*jugis serratis, stipulis basin petioli alarum instar decurrentibus; aut in unâ simplicia exstipulataque. Flores terminales,* 1-*rii paniculative, in multis fragrantissimi petalisque multiplicatis.*

R. foliis cæsiis, simplicibus, exstipulatis.

R. simplicifolia. *Poir. in Encycl. Bot. tom.* 6. *p.* 276. R. berberifolia. *Willd. Sp. Pl. v.* 2. *p.* 1063. R. simplicifolia *Prodr. p.* 359. R. berberifolia. *Pall. in Nov. Act. Petrop. v.* 10. *p.* 379. *t.* 10. *f.* 5. R. simplicifolia. *Juss. Gen. p.* 452.

Sponte nascentem prope *Amadan* abunde, solo salito, legit A. Michaux: in campis infra jugum montium *Elvind*, legit G. A. Olivier: prope fluvium *Uldshar* in lacum *Allagül* fluentem deserti *Songarici*, legit J. Sievers.

Floret initio *Junii.*

The first account I find, of this rare species, is in the Appendix to Jussieu's *Genera Plantarum*, published in 1789, four years after it had been discovered by Michaux. From seeds sent by him when he returned to the Right Hon. Sir Joseph Banks, several plants were raised at *Kew* and *Chapel-Allerton*, but they all died in two years, no doubt for want of a proper soil. Afterwards in 1793, it was found by Sievers still farther eastward, on the south of the *Tarbagatai* chain of mountains near the river *Uldshar;* and his description with a figure in fruit has been printed by Pallas in the 10th volume of the Petersburgh Transactions. Still more lately, Olivier in his journey through *Persia* collected seeds of it, which have succeeded very well at *Paris*, and from one of his plants brought from thence by a friend of Charles Walsham's, Esq. which flowered at *Whetstone*, the annexed drawing was made.

I believe that this *Rose* would thrive better with us in the open air, if planted in a border of brackish earth, than by any other mode of cultivation; for, the root extends to a great length, sending up suckers as it runs along; and the tops of the *Elvind* mountains, in the valley below which Olivier first met with it, were on the 9th of *June* still covered with a little snow, so that it is probably exposed to many a cold blast there in the winter.

Stem of wild plants seldom exceeding 18 or 20 inches in height, the principal one of ours thickly beset with whitish prickles, which in the younger branches only appear in pairs immediately below each leaf: these pairs of prickles however are not analogous to the stipules of other species, as Jussieu supposes, for they are very differently inserted, and come out exactly in the same way in *Rosa Bracteata*, which has stipules besides. Leaves of a grey colour, alternate, almost sessile, much broader than in the plants which came up formerly from Michaux's seeds, so as to be nearly oval rather than obversely wedge-shaped, serrated, the points of the serratures sometimes terminating in an evident prickle, finely downy on both surfaces: Nerves scarcely visible. Flowers exceedingly fragrant, erect, solitary, at the ends of most of the branches. Peduncle short, finely downy, prickly. Torus, which Willdenow remarks has hitherto improperly been called a Calyx, globular, downy and beset with numerous small prickles. Leaves of the Calyx simple all quite entire without any ap-

pendage, lance-wedge-shaped, finely downy and prickly on their outer surface. Petals 5, yellow with a deep orange coloured base, spreading, obcordate, smooth. Filaments yellow, dilated towards the base and some of them cohering together, smooth. Anthers deep orange colour, emarginated both at the bottom and top. Pericarpiums about 26, hid within the Torus and according to SIEVERS not hairy like those of most other species; the Styles however which scarcely project beyond the orifice are evidently hairy. Stigmata deep yellow, somewhat capitated, emarginated.

Abroma pastuosa

Drawn & Pub. by W. Hooker, April 1. 1808

CII.

ABROMA FASTUOSUM.

Proud Abroma.

ORDO NATURALIS.

Malvaceæ. *Juss. Gen. p.* 271.

Sect. v. Stamina varie connexa, numero definita aut rarius indefinita.

Calyx 5-partitus, persistens. Petala 5, ovalia basibus unguium late fornicatis, decidua. Antheræ 15, sub interstitiis Cymbali 5-fidi 3 unà glomeratæ, didymæ. Nectaria 5, sub fasciculis antherarum toro inserta, callosa. Pericarpium membranaceum, 5-loculare Valvis tot alatis, e centro axis villis contexti solutum, Septis in 2 lamellas cum Colis secedentibus. Stigmata 5, cuneata, inferne in urceolum convergentia. Semina numerosa, Colis 2 lamellaribus imbricata, obovata, Arillum fungosum pedicellatum ad latus hili exserentia. *Arbores humiles. Folia* 7-5-*loba, in ramis florentibus sensim ovato-cuneata et minora, pilis simplicibus stellatisque nunc pungentibus armata. Stipulæ* 2, *persistentes. Flores nutantes; in Paniculis brevibus,* 2-4-*floris, oppositifoliis. Pedicelli in fructu erecti. Bracteæ* 2, *persistentes. Duas species vidi, præter quas, in fallor, tertiam detexit* Rtus. Brownē.

1. *Augustum.* A. caule pubescente: cymbali staminei laciniis retusis: pericarpii alis subtruncatis.

   A. augusta. *Willd. Sp. Pl. v.* 3. *p.* 1424. A. Wheleri. *Willd. Sp. Pl. v.* 3. *p.* 1425. A. Wheleri. *Retz Obs. Fasc.* 5. *p.* 27. A fastuosum. *Jacq. Hort. Vind. v.* 3. *p.* 3. *t.* 1. A. augusta. *Linn. Suppl. p.* 341. Theobroma augusta. *J. Mill. Illustr. cum Ic.* Theobroma augusta. *Linn. Syst. Nat. ed.* 13. *p.* 223.

   Sponte nascentem in *Bengal*, ad margines dumetorum, legit R. Williams.

2. *Fastuosum.* A caule hispido muricatoque: cymbali staminei laciniis obtusis: pericarpii alis longe acuminatis.

   A. fastuosum. *Gærtn. Fruct. v.* 1. *p.* 307. *t.* 64. *f.* 1. Althæa Luzonis peregrina altera. *Camel. Luz. in Ray. Hist. v.* 3. *p.* 12. *n.* 23. Althæa Luzonis, &c. *Pet. Gaz. t.* 102. *f.* 8.

Sponte nascentem juxta fluvium *Endeavour*, legit J. Banks, Baronettus: in Ins. *Luzon*, legit J. Kamel.

Floret apud nos, a *Junio*, in *Octobrim.*

No figure of this *Abroma* has yet been published, except Gærtner's of the fruit, and Petiver's reduced branch: it was communicated by Madame La Comtesse de Vandes, and will probably be found in several collections about London, confounded with the Bengal species. I have not the smallest doubt that they are perfectly distinct, the leaves of this being of a yellower hue, and its stellated pubescence penetrating the skin much more easily; the flowers are also smaller, and its seeds not so evidently tuberculated.

Willdenow's two species, nevertheless, are one and the same plant: he appears to have been led into this blunder partly by Linne's wrong description of Pedunculi axillares, and partly by Retzius' calling the leaves ovato-lanceolata. Retzius' specimen was sent by Koenig, and in flowering branches, which are Linne's Pedunculi, the upper leaves are ovato-lanceolata, so that we may conclude Retzius had no other. The true Pedunculi, I believe, come out opposite to the leaves, in all the species of this genus.

Gærtner's description of the seeds is not quite accurate: he says they are inserted "*margini dissepimentorum incrassato*," instead of the lamellar receptacles noticed by Jacquin in the other species, which are fully as prominent in this; and he did not examine the Arillus with his usual care, this appendage being neither "*incompletus*" nor "*rimâ incisus*," but a large fungous substance pressed to one side of the seed, and attached by a special pedicellus at the hilum.

Stem of our plant 10 feet high, divided near the top into several branches, the secondary ones immediately producing flowers upon short peduncles, muricated with very sharp tubercles and hispid

with bristles some of which are stellated. Leaves yellow-green, 7-5-lobed with a broader sinus at the petiole than in *Abroma Augustum*, in the flowering branches ovate-lanceolate and finally lanceolate, very hairy especially on the under surface. Stipules small, persistent, narrowly wedge-shaped, thick and convex on the outer surface. Flowers nodding; in short panicles of 2 or 4 flowers. Pedicels erect after the fruit begins to swell. Bractes 2 at the base of each pedicel, very like the stipules and persistent. Calyx divided to the base: segments 5, incurved-spreading, wedge-shaped, very entire: persistent. Petals 5, chocolate-colour, inserted at the base of the staminiferous Cymbal, pendulous: Claws dilated into a lyre-shaped cavity, variegated with yellow, bearded externally, and covering the anthers: Laminæ oval, finely downy especially on the outer surface: deciduous. Anthers 15, yellow, inserted by threes under the interstices of a chocolate coloured and yellow 5-fid Cymbal, the divisions of which are obtuse and bearded at the sides. Nectaries 5, yellow, inserted at the very bottom of the cymbal under the anthers, and I think in the receptacle rather than the Cymbal itself, transversely oblong, very prominent, callous. Pericarpium before impregnation minute and concealed within the cymbal, 5-angular, bearded in 5 rows: afterwards an inch and a half long or more, 5-locular with as many valves bordered by a membrane which ends at the top in a somewhat falcated wing, splitting from the center of the axis which is composed of long yellowish soft hairs. Stigmas 5, narrowly wedge-shaped, converging below the middle into a short ventricose tube. Seeds black, obovate, their arillus yellowish brown.

REFERENCES TO THE PLATE.

1. The Young Fruit magnified. 2. A single Petal detached, natural size. 3. A single Anther magnified. 4. The staminiferous Cymbal and Anthers magnified. 5. One valve of the ripe Fruit. 6. A Seed.

Chlamysporum paniculatum

Drawn & Pub. April 1 1809 by W. Hooker

CIII.

CHLAMYSPORUM JUNCIFOLIUM.

Rush-leaved Chlamysporum.

ORDO NATURALIS.

Asparagi. *Juss. Gen. p.* 40.

Sect. I. Flores hermaphroditi. Corolla toro inserta. Pericarpium superum.

Petala 6, exteriora sublinearia, interiora multo latiora fimbriataque, marcescentia. Filamenta 6, toro inserta, planiuscula. Antheræ basi insertæ, recurvæ, 2-loculares Valvis 4 anterioribus infra apicem desinentibus, alternæ nunc longissimæ. Pericarpium membranaceum, 3-angulum, 3-loculare, 3-valve, medio loculorum dehiscens. Stylus infra apicem tumidulus. Stigma angustum. Semina 2 in singulis loculis medio anguli interni sessilia, angulata, arillo 1-laterali obtecta. *Herbæ* Novæ Hollandiæ, *perennes. Radix ætate tuberculatus fibris simpliciusculis. Folia radicalia, angusta, in quibusdam ciliata scabrave. Flores ephemeri, in spicis paniculatis, ipsis confertis sæpe umbellas mentientibus. Pedicelli articulati. Bracteæ glumaceæ. Nomen a vocibus* χλαμυσ, σποροσ ; *seminibus pallio quasi amictis. Huc referenda* Ornithogalum Dichotomum Bill. *necnon forte ejusdem* Ornithogalum Triandrum.

C. foliis linearibus integerrimis: spicis laxe paniculatis, ipsis confertissimis: antheris recurvis, alternis longissimis.

Sponte nascentem prope *Port Jackson*, legit A. Gordon.

Floret apud nos *Septembri.*

I raised this plant two years ago from seeds taken out of a specimen communicated by E. J. A. Woodford, Esq. and it is now in Mr. Evan's collection at *Stepney*. In a natural series, the genus must be placed near *Dianella, Sowerbæa,* and others from the same country: it is also very probable, that the two *Ornithogalums* of Billardiere's *New Holland plants* belong to it, one of which is 3-androus; but as I only know them from his description and figures, I dare not yet insert that difference in my generic character.

Root pale brown, knotty with age, sending out many long fibres which are at first white and succulent. Leaves dull green, radical, outer ones very short like stipules, the longest upon our plant only about 3 inches in length, scarcely a line in breadth, sessile and somewhat sheathing at the base, almost linear, very entire, the point itself obtuse, flattish, striated on the outer surface. Flowers in a loose panicle of spikes themselves so close as to resemble umbels, but if minutely examined the pedicels will be found imbricated as in *Dianella,* erect. Peduncle dull green, in the wild specimen 18 inches long, from the middle of the leaves and scarcely thicker than they are broad, round, smooth, striated, divided into 3 or 4 remote simple branches, the lower ones flowering latest. Pedicels from 2 to 4 lines long, articulated near the bottom, above the joint paler and 3-angular, thicker near the flower, but not suddenly swelled out under it, as in another genus of this Natural Order sent by Mr. Woodford's collector for an *Antherium.* Bractes solitary at the bottom of every branch and pedicel, purplish with white scarious edges, broad-wedge-shaped, very entire, smooth: besides these, 3 or 4 others approaching to the leaves more in structure, are scattered below the branches. Petals 6, incurved-spreading, withering upon the receptacle: 3 outer ones more like a calyx but their inner surface purple, linear-lanceolate with very entire scarious margins, exceeding finely striated with several nerves: 3 inner ones much broader, all purple except the outside of the dorsal stripe, which corresponds in substance with the outer petals, but is rather narrower shorter and only striated with three nerves; obovate, their sides beautifully fringed and so tender that it is difficult to dry perfect specimens of them, without they are gathered immediately after they expand. Filaments pale yellow, inserted close to the base and opposite to the petals in the receptacle, short, gradually narrowed, smooth, flattish. Anthers purplish brown with paler edges

and tops, inserted at their base which is emarginated, firmly fixed and certainly not versatile as BILLARDIERE describes those of his *Ornithogalums*, recurved, 2-locular with 4 valves which split longitudinally but the anterior ones so much shorter, that the apertures left at the top resemble oblong pores, gradually narrowed, those three which are opposite the inner petals much longer. Pericarpium before impregnation yellowish, 3-angular, smooth: after it begins to swell greenish, when ripe tinged with purplish brown, membranaceous, 3-locular, splitting in the middle of the cells. Style yellow, about equal in length to the longest stamens, a little swelled under the top. Stigma truncated. Seeds black, 2 in each cell, inserted at the middle of the internal angle, sessile, nearly covered laterally by a yellowish waved callous Arillus.

REFERENCES TO THE PLATE.

1. A back view of the Corolla laid flat. 2. Stamina and Pistillum slightly magnified. 3. Front view of a Stamen before the Pollen is discharged with its upper part highly magnified. 4. A Ripe Fruit. 5. A Seed with its Arillus magnified.

Diapensia obtusifolia

Drawn & Pub. May 1. 1808. by W. Hooker

CIV.

DIAPENSIA OBTUSIFOLIA.

Obtuse-leaved Diapensia.

ORDO NATURALIS.

Ericæ. *Juss. Gen. p.* 159.

Calyx 5-phyllus, persistens. Corolla 1-petala : Tubus calathiformis: Limbus recurvulus, 5-partitus : decidua. Filamenta 5, lata, tubum inter lacinias terminantia. Antheræ didymæ, nunc basi rostratæ. Pericarpium fere totum superum, ovatum, 3-loculare, 3-valve, medio loculorum dehiscens. Stylus crassus. Stigma 3-lobum. Semina numerosa, Colo retuso ad angulum internum sessilia, subovata. *Fruticuli cæspitosi, sempervirentes. Caulis foliis emarcidis vestitus. Folia alterna vel suboppositа, in rosas conferta. Flores albi, pedunculo subnullo vel longiusculo* 1*-rii, terminales, erecti. Bracteæ* 3 *juxta calycem, præter unam alteramve infra sparsas. Genus in serie naturali forsan juxta* Azaleam *locandum, cujus duæ species innotuerant.*

Obtusifolia. D. foliis spatulatis, glabris: antheris obliquis, muticis.
D. lapponica. *Oed. in Fl. Dan. t.* 47. bona. D. lapponica. *Linn. Sp. Pl. ed.* 2. *p.* 202.
D. lapponica. *Linn. Fl. Suec. ed.* 2. *p.* 60. D. lapponica. *Linn. Fl. Lapp. n.* 88. *t.* 1 *f.* 1.
Sponte nascentem in *Lapland*, alpibus musco vestitis, legit C. Linne : in *Norway*, horridis scopulis, legit G. C. Oeder : in Ins. *Newfoundland*, rupibus maritimis, legit J. Banks, Baronettus : in *New Hampshire*, alpibus, legit J. D. Peck : in *Kamschatka*, legit J. Dixon.
Floret apud nos *Aprili, Maio.*

Cuneifolia. D. foliis lanceolato-cuneatis, inferne pubescentibus : antheris horizontalibus, basi rostratis.
Pyxidanthera barbulata. *Michaux Fl. Boreali-Am. v.* 1. *p.* 152. *t.* 17.
Sponte nascentem in *North Carolina*, montibus, legit A. Michaux.

This curious little shrub is now flowering in the collection of the Right Hon. Charles Greville, who received it from *Labrador :* in that dreary country, as well as others near the arctic circle, it grows plentifully upon the most barren maritime rocks, insinuating its slender roots into the crevices, where there is a little soil.

Linne first discovered it, and established the genus in *Flora Lapponica*, where after confounding it with two synonyms of *Androsace Lactea*, he accuses Tournefort of referring his *Lapland* plant, which that great botanist never saw, to a wrong genus. In the first edition of *Flora Suecica*, this error is corrected ; but the false impression he had received of its affinity continued so strong, that in *Species Plantarum* he joined another plant of the same Natural Order, *Aretia Helvetica*, to this genus. Jussieu places *Diapensia* at the end of his *Convolvuli ;* in a separate section however, and not without a query, if it really belongs to them.

From specimens in fruit liberally communicated by Professor Peck, the first suspicion arose in my mind that it belonged to *Ericæ*, which is now confirmed by examining the living plant, and all doubts, if any could remain, are taken away, by another species from the mountains behind *North Carolina*, which turns out to be the *Pyxidanthera* of Michaux. Probably, its immediate station, in a natural series, will be next to *Azalea Procumbens :* that plant constitutes a very distinct genus from the rest, and according to Jussieu's present definition of *Rhododendra*, would not even remain in the Order ; but I have already hinted under *Phyllodoce Taxifolia*, my opinion that the *Bicornes* of Linne cannot be separated.

Stems several, frondose, branching closely into little turfs or cushions, which Professor Peck informs me often become large and firm enough in the *White mountains* of *New Hampshire*, to bear the weight of a man standing upon them, very slender but woody and covered with the decayed leaves for years. Leaves dark green and more or less tinged with brown on their upper surface, yellowish green on their under surface, from 4 to 7 lines long, very closely imbricated, sessile ; their lower part erect, dilated into a thin membranaceous margin and hollow ; from thence recurved, spatulate, very entire, obtuse, quite smooth, slightly channelled with convex sides, flattish underneath, thick, hard. Flowers solitary, without smell in my specimen. Peduncles terminating most of the principal branches, from 6 to 10 lines long, nearly erect, cylindrical, smooth. Bractes 3, imbricated near the calyx, erect, oval, persistent : besides these one or two smaller are scattered lower down, and they are all

similar to the leaves in consistence. Calyx of 5 leaflets: these are somewhat imbricated, erect, oval, often slightly crenulated towards the top which is rather tumid, quite smooth, nearly equal in size, persistent. Corolla white, fully 3 lines in length: Tube bowl-shaped: Limb slightly recurved, divided to the base into 5 obovate very entire obtuse flattish divisions: smooth on both surfaces, deciduous. Filaments 5, white, terminating the tube between the divisons of the limb, broad, short, erect, somewhat narrower towards the top, quite smooth, hollowish. Anthers yellow, confluent with the filaments, retuse, didymous: lobes oblique, elliptical, 1-locular, 2-valved, splitting longitudinally; not much contracted after the pollen is discharged. Pollen yellow. Pericarpium green while young, hollow within the surrounding Torus upon which the calyx and corolla are inserted so as not to be quite superior, almost globular, 3-celled: when fully grown oval, splitting in the middle of the cells: Cola, or receptacles of the seeds, retuse. Style pale yellow, reaching to about the height of the anthers, columnar, round, smooth. Stigma deep yellow, 3-lobed, papulose. Seeds pale brown, numerous, sessile, somewhat egg-shaped, very finely scrobiculated.

REFERENCES TO THE PLATE.

1. Part of the Corolla magnified. 2. Two views of a Stamen more magnified. 3. Pistillum magnified. 4. The ripe Fruit natural size. 5. Transverse section of the Fruit with the Seeds taken out of one cell, magnified. 6. Longitudinal section of the Fruit, shewing the receptacle of the seeds with some still adhering, magnified. 7. A single Seed highly magnified.

Pungiformis grandiflorum

Drawn. Pub. May 1. 1808, by W. Hooker

CV.

EURYSPERMUM GRANDIFLORUM.

Large-flowered Eurispermum.

Ordinem Naturalem et Characterem Generis vide sub No. 75.

E. foliis spatulato-lanceolatis, apice late callosis, vetustis adhuc subtus pubescentulis, masculorum coloratis 2-2½ pollices longis: capitulis masculis hemisphæricis: petalis lineari-spatulatis.

Sponte nascentem in monte *Wynberg*, legit J. Nevin.

Floret apud nos versus finem *Maii, Junio.*

This is the handsomest species of the genus yet discovered, and one of those confounded in our gardens under the name of *Protea Decora;* but though male and female plants of all these are in Mr. Hibbert's collection, where the drawing was made, I have not time now to study them.

In the whole genus, the males are far more prolific and shewy than the females, as in the generality of animals; so we have here another striking analogy between the two kingdoms.

Stem of our plant 5 feet high, round, pubescent towards the top: Branches robust, not so much subdivided as in the others. Leaves pale green, the larger ones 6 or 7 lines broad and two inches long, almost sessile, scarcely twisted, spatulate-lanced, very entire, obtuse the point itself consisting of a broad smooth callosity, while young very downy on both surfaces, near the flowers often 2 inches and a ½ long and suddenly changed to a yellow colour, with the callosity of a reddish brown. Flowers diffusing a strong and disagreeable smell. Fascicle or head of flowers from 1 inch and a ½ to 2 inches in diameter, hemispherical. Bractes which belong exclusively to the head imbricated below the flowers and gradually increasing in size till they are 5 lines long by 3 broad, recurved at the top, ovate-wedged; between the flowers suddenly narrower till they are scarcely ½ a line in breadth but not shorter, incurved, linear-spatulate; all of them obtusely mucronated, and shining with the gum which exsudes from both surfaces. Torus between the bractes and flowers pubescent. Petals 6 or 7 lines long; pale yellow and coalescing into an arched tube to beyond their middle; from thence deep yellow and irregularly reclined; the uppermost flattish at the top; the other three a little narrower and approximated with hollower tops; linear-spatulate, very entire, obtuse, convex up to the anthers, then hollowish, smooth on both sides. Anthers about 2 lines long, somewhat arched, linear, retuse, smooth, discharging their pollen in part even before the petals expand. Nectaries ? pale yellow, 3 lines long, bristle shaped, smooth. Style pale yellow, gradually attenuated, finely emarginated, hairy near the bottom but without any rudiment of a pericarpium.

Crocus sagenaeflorus.

Drawn & Pub.d by W.Hooker Nov.1808

CVI.

CROCUS LAGENÆFLORUS.

Gourd-flowered Crocus.

Ordinem Naturalem et Characterem Generis vide sub No. 30.

** Folia angusta.*

C. bulbi tunicis vix striatis: foliis sub florescentiam parum exsertis: bracteis 2-1: corollæ laciniis ovalibus, interioribus multo latioribus: antheris longissimis, reclinatis: stigmatibus angustis.

Variat α: Corolla pallide ochroleuca Lineis 3 viridi-cæruleis disco laciniarum exteriorum.
C. vern. latifol. pallido flore. *Clus. Hist. Pl. lib. 2. p. 206.* C. vernus Mæsiacus 11. *Clus. Hist. Pann. p. 228.*

β: Corolla pallide ochroleuca.
C. albus major alter dictus Mæsiacus. *Park. Par. p. 161.* C. vernus Mæsiacus, flore albo *Theatr. Fl. t. 39.*

γ: Corolla aurea.
C. aureus. *Smith in Fl. Græc. p. 25. t. 35.* C. vernus latifolius aureus. *C. Bauh. Pin. p. 66.* C. vernus luteus sive Mæsiacus. *Park. Par. p. 166.* C. vernus luteus Mæsiacus flore aureo. *Park. Par. p. 166.* C. vern. latifol. aureo flore. *Clus. Hist. Pl. lib. 2. p. 206.* C. vernus Mæsiacus 1. *Clus. Hist. Pann. p. 226.*

Sponte nascentem prope *Sestum*, arenosis argillâ substratis, legit γ J. Sibthorpe.

Floret *Martio.*

The roots of our plant were communicated to me by Professor Sibthorpe for his *Crocus Aureus*, otherwise I should not have ventured to quote the figure in *Flora Græca*, as it represents the leaves much longer than the flowers, a circumstance I have never observed in ours. Possibly, it may have been drawn from a late flowering specimen. It has been cultivated however in our gardens, since the time of Parkinson, and is yet known in some by the name of the *Old yellow Crocus*. I have no doubt that it is the true *Crocus Mæsiacus* of former botanists, and perfectly distinct from the common one figured in the 45th number of the Botanical Magazine, to which Mr. Ker, (late Gawler) has since erroneously given that appellation: for, I find no mention of his plant in any author before Ray.

Both the Generic and Specific Characters in *Flora Græca* are very defective, as well as the description. For instance, "*Corolla 6-partita tubo longissimo*" is absolute nonsense: the author no doubt meant Limbus 6-partitus, but even that would have been incorrect, for it is only profunde 6-fidus.

Bulb from 7 to 12 lines in diameter, sphærical with a flat base: Coats dark bay, scarcely striated, the stipulaceous part beyond the bulb not decaying so soon as in most other species. Stipules from 5 to 6, whitish at first. Leaves from 4 to 9, somewhat more than one line broad, from 9 to 12 inches long, recurved-spreading, more attenuated at the top than in other species, the extreme point a little truncated; green on their upper surface and the back of the rib except a white stripe in front, ciliated with exceedingly minute bristles along the nerves, elsewhere smooth; glaucous on their under surface, with a fine dew or meal: Rib flat: Nerves exceedingly fine: concave with recurved sides, withering in *May* or *June*. Flowers nearly without smell. Panicle from 1 to 2-flowered. Peduncles white, solitary in the axils of from 2 to 4 of the inner leaves, that which terminates the bulb being generally 2-flowered, wedge-shaped, angulated, smooth, striated. Bractes solitary at the base of each peduncle except the terminal one, white and scarcely 2-lines long: two under the pericarpium, similar to the stipules but thinner, about 3 inches long, the inner one narrow or sometimes entirely wanting. Pericarpium very pale yellow while young, elliptical, smooth. Corolla from 4 to 5 inches long: Tube whitish nearly to the top, then yellow, slender but not "*filiformis*" either in size or figure, for it is rather wider towards the top, somewhat triangular with 6 incomplete furrows running a short way down from the limb, smooth: Limb gold-colour and very deeply so before it expands, from 12 to sixteen lines long, smooth with the bottom internally viscid-downy, deeply divided; Segments horizontally reclined, oval, quite entire, obtuse, one or two sometimes retuse, very finely nerved, the inner ones much broader: before it expands and during the night more or less gourd-shaped. Filaments yellow, 3 lines long, erect, linear, externally viscid-downy. Anthers whitish with gold-coloured valves, 5 lines long, spreading, broad-linear, emarginated at the top: after the Pollen is discharged, reclined and sagittate. Pollen gold-colour. Style whitish

with a yellow top, narrower than the filaments, reaching to about the top of them, somewhat 3-angular, smooth. Stigmas gold-colour, narrow, from a line to a line and a half long, divided deeply into very few segments, obversely wedge-shaped, plicated but not convolute, internally viscid-downy. Seeds produced plentifully, and bright brown, the hilum not discoloured as in some others.

REFERENCES TO THE PLATE.

1. The Stamina just before the Pollen is discharged. 2. A front and back view of a single Stamen at a still earlier period. 3. The Pistillum.

1 2 3 4 5

Primula Sedifolia

Drawn, & Pub. by W. Hooker. June 1. 1808

CVII.

PRIMULA SEDIFOLIA.

Sedum-leaved Primula.

ORDO NATURALIS.

Lysimachiæ. *Juss. Gen. p. 59.*

Calyx inferne plus minus utricularis, 5-fidus, persistens. Corolla hypocrateriformis: Tubus cylindraceus apice dilatato, ore plus minus 10-tuberculatus: Limbus profunde 5-fidus, laciniis sæpius retusis. Filamenta 5, tubo ad basin dilatatæ partis inserta, brevissima. Antheræ erectæ vel convergentes. Pericarpium membranaceum, 4-10-valve. Stylus cylindricus. Stigma capitatum. Semina 3-50, oblonga vel subrotunda. *Herbæ cæspitosæ. Folia confertim imbricata sæpius in rosas. Flores in fasciculis* 1-20*-floris. Pedunculi ex unâ alterâve axillâ foliorum novorum* 1*-rii, nunc fasciculo quasi radicali subnulli. Bracteæ sub singulis pedicellis* 1*-riæ, squamæformes. Essentia generis, ni fallor, est in tubo infra insertionem filamentorum contracto, os enim plus minus tuberculatum mire ludit in unâ eâdemque specie, et numerus valvarum seminumque pariter inconstans.*

P. foliis $1\frac{1}{2}$-2 lineas longis, lanceolato-cuneatis, integerrimis, obtusis, tomentosis: floribus solitariis, breviter pedicellatis.

P. Vitaliana. *Decand. Syn. p.* 207. P. Vitaliana. *Decand. in Lam. Fl. Franc.* 2. *ed. v.* 3. *p.* 450. P. Vitaliana. *Allion. Fl. Ped. v.* 1. *p.* 92. P. Vitaliana. *D'Asso Fl. Arag. p.* 166. Androsace lutea. *Lam. Fl. Franc.* 1 *ed. v.* 2. *p.* 253. Aretia Vitaliana. *Linn. Syst. Veg. ed.* 13. *p.* 162. P. Vitaliana. *Linn. Sp. Pl. ed.* 2. *p.* 206. Aretia foliis, &c. *Hall. Hist. Helv. v.* 1. *n.* 616. Rara quædam plantula, &c. *Allion. Stirp. Rar. p.* 24. Vitaliana, &c. *Sesler Epist. ed. Gallice. p.* 69. *t.* 11. Sanicula repens, &c. *Plant. Mart-Burs. in Linn. Amœn. Acad. v.* 1. *p.* 321. Auricula ursi alpina, gramineo folio, jasmini lutei flore. *Tourn. Inst. p.* 122. Sanicula alpina, angustissimis, &c. *Plukn. Alm. p.* 332. *Phyt. t.* 108. *f.* 6. Sedum alpinum F. Gregorii regiensis. *Column. Ecphr. v.* 2. *p.* 63. *cum Ic.*

Sponte nascentem in summitate montis *Xabalambre*, legit J. D'Asso: in altissimis jugis montis *Pellegrino*, legit L. Sesler: in *Piedmont* alpibus abunde, ad nivem deliquescentem, legit C. Allioni.

Floret *Junio, Julio:* apud nos *Aprili.*

This rare plant was communicated by Messrs. Lee and Kennedy, in whose nursery it seems to thrive as well as in its native Alps, and it is remarkable that another species from the same elevated regions, *P. Auricula* L. will live and flower abundantly, in the smokiest part of *London*, for years.

I cannot separate it from *Primula*, merely for having few seeds, even their number being inconstant, and the tubercles surrounding the orifice of the tube are still more so, in many species: the other two *Aretias* are probably congeners of *Androsace.*

The plant, when out of flower, is so like many *Sedums*, that about 200 years ago Father Gregory of *Regio* sent it to Columna for a new one: though the specimen was only in fruit however, its habit did not impose upon his more learned friend, who expressly says that he believes it to be "*suique et alterius generis.*" His ancient synonym affords an excellent specific name: that of *Vitaliana* was given to it by Sesler from Donati's Christian name, and not, as Decandolle supposes, from its leaves resembling those of the *Sedum* called *Vitalis* by ancient authors.

Root consisting of long fibres sent out from the stems, when bruised smelling, as Sesler observes, not unlike *Benzoin.* Stems slender, forming little turfs, some of the branches more elongated and in time naked towards the bottom, round. Leaves pale grey, reddish when they decay, closely imbricated, from $1\frac{1}{2}$ to 2 lines long, clustered into roses at the ends of the branches, lance-wedge-shaped, when more luxuriant linear-wedge-shaped, very entire, obtuse, tomentose, flat on their upper surface, rounded underneath, somewhat fleshy, marcescent. Flowers solitary, in one or two of the upper axils, without smell, erect. Peduncle generally none. Bracte solitary at the base of the Pedicel, scarcely differing from the leaves. Pedicel from $\frac{1}{2}$ a line to more than 1 line long, slender, round, slightly cottony. Torus thick. Calyx 2 lines and a $\frac{1}{2}$ long; from the base to the middle yellowish, tumid, obsoletely 10-angular the angles under the interstices very narrow; from thence green and 5-fid: Segments erect, semilanceolate, very entire, mucronated, their extreme point

sometimes a little recurved, hollow: thinly cottony on both sides. Corolla half an inch long, or more, salver-shaped: Tube yellow with a paler base, cylindrical nearly to the top, then ventricose, 5-angular, its orifice more or less swelled into 10 tubercles: Limb yellow, rather shorter than the tube, incurved-horizontal, deeply 5-fid; divisions obcordate, towards the top sometimes a little crenated, flat: smooth. Filaments inserted at the bottom of the dilated part of the tube, very short. Anthers yellow, obtuse, erect. Pericarp while young yellowish green, turnip-shaped, smooth: after impregnation greatly enlarged, finally elliptical, 5-valved. Style cylindrical. Stigma hemisphærical. Seeds 3 to 5, sessile upon a globular central receptacle, oval, hollow on the side by which they are attached.

REFERENCES TO THE PLATE.

1. Calyx. 2. Corolla laid open. 3. Two views of an Anther magnified. 4. Pistillum natural size. 5. Pistillum highly magnified. 6. Transverse section of the young Fruit highly magnified.

CVIII.

ERODENDRUM TURBINIFLORUM.

Top-flowered Erodendrum.

Ordinem Naturalem et Characterem Generis, vide sub No. 67.

* *Flores ramis majoribus terminales.*

E. caule nano: foliorum laminis 4-7 pollices longis, anguste lanceolatis, margine crassiusculis, mucronatis, adultis vix pubem dimittentibus, scabris: bracteis involucri spatulato-lanceolatis, extus tomentosis: corollis barbâ crispâ truncato-implexis.

Sponte nascentem in *Hottentots Holland*, montibus, legit J. Niven.

Floret apud nos *Maio*.

A most distinct and singular species from the collection of George Hibbert, Esq. If it is not hybrid, and ripens fertile seeds, the offspring will probably always exactly resemble the parent plant: for, the corollas terminate in long awns bearded with curling hairs, which are frizzled together into as impenetrable a fence as the wigs of our Bishops, and these must effectually put a stop to any such adulterous intercourse, as the late Peter Collinson reported to have taken place between the flowers of two apple trees, in a letter read by Dr. J. E. Smith to the Linnean Society. After the strict decorum of expression inculcated in that author's Introduction to Botany, and publicly blaming me for allusions of this sort, he would have been more consistent in omitting such a passage; but I defer what I wish to say upon the subject to another opportunity, after reminding him, that the attack there like all his others, is so notoriously unjust, as to do me service.

Stem very dwarf, flowering when a few inches high, thick, branching immediately under the flower. Leaves crowded: Petiole reddish, narrow, short, half round, flat on its upper surface: Lamina dull green, from 4 to 7 inches long, about 1 inch broad, variously reclined, narrowly lanceolate, with a thickish dull red margin more or less fringed, ending in a long point which soon withers, very hairy while young and not casting all its pubescence when old, rough and finely dotted especially on its under surface; the principal nerve large, lateral ones very slender; more or less waved, hard and tough. Flowers without smell. Bractes of the Involucrum deep claret colour but externally appearing whitish from the cotton with which they are covered, fringed, spatulate-lanced, smooth on their inner surface, gradually larger towards the flowers. Corolla dark red, narrow, externally covered with white cotton: divisions of the upper lip ending in a long awn, bearded at its extremity with brown curling hairs closely frizzled together into a level surface, so that the whole head of flowers is shaped like a boy's top: lower lip lanceolate at the extremity without any awn. Anthers pale yellow with a dark red spatulate top, narrow and long. Pollen yellow and abundant. Style dark red towards the top. Stigma dark red, somewhat flexuose at the base, clubbed at the end, grooved as in many others.

REFERENCE TO THE PLATE.

1. A magnified Petal.

Tab. 1.

Linnea g. 1. 2

Drawn & Pub. July 1808, by W. Hooker

CIX.

LACHNÆA GLAUCA.

Glaucous Lachnæa.

ORDO NATURALIS.

Thymelææ. *Juss. Gen. p.* 76.

Corollæ Tubus longus, basi dilatatus : Limbus 4-fidus, laciniâ supremâ minore : Glandulæ 8, ore tubi laciniis oppositæ, callosæ. Filamenta 8, ore tubi inter glandulas inserta, alterna sub interstitiis laciniarum breviora. Pericarpium carnosum. Stylus lateralis. Stigma capitatum, barbatum. *Frutices graciles. Folia alterna oppositave, nunc latiuscula. Flores fasciculo denso, terminali, breviter pedunculato. Bracteæ nullæ præter folia ultima in quibusdam ampliata.*

L. foliis glaucis, ovato-cuneatis, utrinque lævibus, planis, ultimis non majoribus : fasciculis 80-105-floris : corollis supra basin albidis.

L. buxifolia. *Lam. Illustr. t.* 292. *f.* 1. L. buxifolia. *Lam. in Encycl. Bot. tom.* 3. *p.* 373. Gnidia filamentosa. *Linn. Suppl. p.* 224.

Sponte nascentem prope *Stellenbosch*, legit J. Niven.

Floret apud nos *Maio, Junio.*

A fragrant species, diffusing the odour of the *Persian Iris*, and I believe first introduced by George Hibbert, Esq. for I saw it at *Clapham* many years ago. The gardener who then had the care of his collection took it for a *Borbonia*, some of the species of which genus it resembles in habit far more than *Buxus ;* but all the plants of this Natural Order may be generally distinguished when not in flower, by the toughness of their bark, and even the young cuticle does not readily separate upon attempting to pull off a leaf.

Much diversity of opinion has prevailed among learned botanists, whether the flower in this tribe of plants should be described as having a calyx or corolla, and Linne is most unjustly accused by Lamarck of using sometimes one term and sometimes the other, merely to make his generic differences appear the stronger. That he has used both terms is true, but not the reasoning upon it, for Linne's characters being founded on the absence or presence of certain additional parts in the perianthium, remain just as forcible, by whatever title they are called. Adanson first denied that it was a corolla, but the reason he gives, namely, that its base is not perforated by the receptacle, is founded in an error ; and he was probably deceived by the tenacity above mentioned, which is prevalent in every part of *Thymelææ*, even their filaments. Jussieu, though he uses calyx in this and the neighbouring Orders after Adanson, does not decide positively that it is so, and my own opinion that it is not, is strongly confirmed by the following reasons : 1*st*, its form and figure, often complicated, and which even in the green-flowered Daphnes does not resemble a calyx ; 2*dly*, its variety of structure, to which there is no analogy in other calyces ; 3*dly*, the perfume which proceeds from this part, and not from the anthers ; 4*thly*, the insertion of the filaments, not only higher or lower in the tube, but in its very mouth.

A tall shrub with few branches, round, quite smooth, and whitish green while young. Leaves glaucous especially on their upper surface, for which reason I suspect that they are resupinated, half an inch or more in length from 3 to 4 lines broad, sessile with the base jointed, attenuated at the margin and very minutely repand, obtusely mucronated, smooth : Nerves slender but more prominent on their upper surface : very finely dotted, flat, the last near the flowers not larger. Flowers erect, fragrant even before any of them are expanded. Fascicle very close, from 80 to 150-flowered. Peduncle whitish green, about 2 lines long, exactly similar to the branch except that it is pubescent, and thickened towards the top. Bractes none. Torus whitish green, $\frac{1}{2}$ a line long, obconical, pubescent. Corolla confluent with the receptacle : Tube whitish with the base where it is dilated dull violet, from thence very slender, from 6 to 8 lines long, incurved especially in the lower flowers : Limb white with a greenish top, 3 lines long, horizontally incurved, divided to the base with the 2 upper sinusses wider ; uppermost division lanceolate ; lateral ones larger and somewhat auriculate, lowest divison largest of all, lanceolate : Glands yellow, semielliptical, obtuse, concave, thinly pubescent at the base but shining, finally becoming whitish. Filaments white, very spreading, smooth. Anthers yellow, $\frac{1}{4}$ of a line long, emarginated. Pericarpium pale green while young, scarcely a

line in length, shaped like a ninepin, one side of the top rather more prominent where it is thinly pubescent, not melliferous at the base. Style inserted laterally near the top of the pericarpium, white, as high as the tube, capillary. Stigma white, much broader than the style, capitate, thickly bearded.

REFERENCES TO THE PLATE.

1. A single Flower highly magnified. 2. Two views of an Anther still more magnified. 3. Pistillum highly magnified.

Orchis fuscata

CX.

ORCHIS BRACTEALIS.

Bracteal Orchis.

ORDO NATURALIS.

Orchideæ. *Juss. Gen. p.* 64.

Sect. IV. Monandræ antherâ immobili, 2-loculari, 4-valvi. Pollen filo elastico dorso stigmatis adglutinato stipitatum. Ad hanc sectionem quoque pertinent *Disa, Satyrium* Sw. *Corycium, Disperis, Pterygodium.*

Petala 6: 5 sæpius in galeam conniventia: Labellum figurâ maxime varium, nunc calcarigerum: marcescentia. Anthera apice styli confluens, cuculliformis. Pollen filis in tuberculum commune aut 2 distincta desinentibus. Stigma in facie styli scutiforme. *Herbæ, rarius pubescentes. Radix varia, tubere ovato palmato aut cruriformi, novo ad latus sub florescentiam jam producto, unde tunc quasi duo; supra hoc e basi turionis fibras exserens. Folia radicalia,* 1 *vel plura interiorum demum pedunculo elevata. Flores spicis terminalibus, raris densisve. Bracteæ* 1*-riæ, interdum coloratæ.*

** *Radix palmata.*

O. bracteis flore multo longioribus: petalis 5 conniventibus, lateralibus basi valde protuberantibus; labello parum longiore, versus pedunculum refracto, sublineari, emarginato cum rudimento mediæ dentis, calcare scrotiformi vix retuso.

O. bracteata. *Willd. Sp. Pl. v.* 4. *p.* 34.

Sponte nascentem in *Pensylvania*, legit H. E. Muhlenberg.

Floret apud nos *Maio, Junio.*

Professor Swartz has shewn great judgment in many of the alterations which he has made in *Orchideæ*, but I cannot adopt his arrangement implicitly, because, as Dr. Sims has already remarked, it often joins plants totally discordant in habit and the structure of their genitalia; for instance, *Serapias Palustris* with *Ophrys Ovata, Epidendrum Cucullatum* with *Ophrys Corallorhiza;* or separates such as agree in those points, for instance *Satyrium Viride, L.* from *Ophrys Monorchis, Limodorum Tankervilliæ* from *Limodorum Altum, Jacq.* That he is right however in joining Linne's *Satyriums* to *Orchis*, I have always thought, and am glad to find that Professor Willdenow likewise follows Haller respecting them.

About the genus of our plant accordingly there cannot be a question, for it is so nearly allied to *Satyrium Viride, L.* as not to be easily distinguished: the chief differences I have been able to detect are, 1*st*, the great length of its bractes: 2*dly*, the two outside lateral petals are more hunched at the bottom; 3*dly*, the labellum is scarcely trifid except in the lower flowers, and so refracted as to touch the peduncle with its emarginated end; 4*thly*, the spur is not so dilated at the base and nearly obtuse. Professor Willdenow describes the leaves reticulated, but unfortunately they are not so in the live plant, neither are the lateral petals, "*recta,*" in any sense whatever.

Root palmated with succulent fibres issuing from the base of the young shoot. Leaves from 3 to 5, yellow-green with their under surface paler, one or two radical, the rest elevated by the peduncle, contracted at the base into a close sheath, from thence oval the upper ones gradually more like bractes, very entire, obtuse, smooth, channelled, sharply keeled, somewhat waved, with slender longitudinal nerves. Flowers without smell, cernuous. Spike from 2 to 4 inches long, many flowered, close. Peduncle yellow-green, thickish, erect, simple, angulated, jointed, smooth. Pericarpium while young yellowish green, sessile, twisted, oblong, 6-angular. Petals 6: 5 arched into a helmet; 3 outer ones yellow-green, the lateral ones larger and very protuberant at the base; 2 inner ones much paler and smaller: Labellum more yellow than the other petals with a tinge of brown towards the margin at the base, rather longer, bent back so as to touch the peduncle, oblong, emarginated with a rudiment of a middle tooth often quite perfect in the lower flowers; near the base dilated into 2 melliferous cavities, between which a short purse-shaped

spur full of honey hollowish in front and somewhat retuse hangs down; its inside rather convex with a blunt keel rising opposite the orifice of the spur and running down nearly to its middle, smooth, finely papulose. Style pale yellow-green, very broad and short, projecting into 2 thick obtuse ears at the sides of the anther, and under the cells into 2 tubercles which retain the filaments of the pollen. Anther yellowish brown with reddish valves, about a line and a half long, hooded, retuse: Cells remote at the base. Pollen whitish green: its 2 filament-like pedicels yellow and bifid at the top, their bottom terminating in a very glutinous tubercle which cannot be detached while young, but afterwards easily quits the style. Stigma green with the lower margin deep chestnut colour, shaped like the escutcheon of a coat of arms, umbilicated, very clammy.

REFERENCES TO THE PLATE.

1. Back view of a Flower magnified. 2. One of the lateral outer Petals. 3. One of the inner Petals. 4. The middle outer Petal. 5. Front view of the Spur cut off. 6. The Labellum and Genitalia highly magnified. 7. Transverse section of the young Fruit highly magnified.

Embothrium Speciosum

CXI.

EMBOTHRIUM SPECIOSUM.

Shewy Embothrium.

ORDO NATURALIS.

Proteæ. *Juss. Gen. p.* 78.

Sect. II. Pericarpium post dehiscentiam persistens, 1-2-loculare, 2-20-spermum.

Petala 4, varie cohærentia suturâ inferiore a pistillo premente magis fissâ, decidua. Nectarium basin pistilli semicingens. Pericarpium stipitatum, folliculare, 1-loculare, lignosum. Stylus apice clavatus. Stigma laterale. Semina numerosa, alâ terminata. *Caulis in multis crassus. Folia integerrima vel dentata. Flores spicâ interdum densissimâ terminales. Bracteæ ad pedicellos binos* 1-*riæ, præter majores nunc infra spicam coloratas, deciduæ. An repellendæ species* Novæ Hollandiæ *spicâ rarâ, petalis omnino liberis, stigmateque peltato?*

E. foliorum laminis plus minus obovato-cuneatis, dentatis, subtus glaucis : spicâ late pyramidali, bracteis coloratis involucratâ : petalis dorso cohærentibus.

E. speciosissimum. *Smith Nov. Holl.* 1. *p.* 19. *t.* 7. pulchra, sed parum fidelis.

Sponte nascentem juxta *Port Jackson*, legit D. Burton.

Floret *Octobri*, apud nos *Maio.*

The genus *Embothrium* was established by Forster from two shrubs of *Terra del Fuego*, and *New Caledonia*. Our magnificent plant, called by the natives in *New South Wales*, *War-ret-tah*, may perhaps be a congener of the first, but certainly not of the latter, which differs exceedingly in habit, and has a broad peltated stigma, like that of *E. Silaifolium:* the two-seeded species confounded with the above by Dr. J. E. Smith, are already separated by Mr. Brown, and named *Grevillea*.

It is now flowering for the first time in *Europe*, at *Springwell*, the villa of E. J. A. Woodford, Esq. but neither in his, nor in the various wild specimens before me, have I been able to find a flower with all the petals distinct, as Dr. J. E. Smith describes and figures them : what he likewise calls "*the back of the flower*" is really the front, the style being arched towards the centre of the spike, not its circumference.

An evergreen Shrub 8 or 10 feet high. Stem about 2 inches in diameter near the bottom, with a rough brown bark, generally simple till it flowers : Branches few, issuing immediately under the spike, long, erect : green and smooth while young with a slight dew. Leaves alternate, pretty close to each other, from 7 to 10 inches long, spreading : Petiole short, thickened at the base, somewhat convex on the upper as well as under surface : Lamina varying from 1 to 3 inches in breadth, so as to be more or less obovate-wedge-shaped, when narrowest spatulate, from above the middle deeply and unequally toothed, ending in a tooth but obtuse and sometimes bitten off, dark green and smooth on its upper surface, glaucous with a slight dew while young underneath ; Nerves many and reticulated ; hard and tough. Flowers erect, without smell. Spike terminal, so close as to form a broad pyramid. Peduncle from 2 to $2\frac{1}{2}$ inches long, gradually attenuated, entirely covered with bractes and flowers. Bractes about 10 under the spike, crimson with the top and margins of the outer surface tawny, from 3 to 2 inches long, reclinate, lanceolate, very entire, obtuse, towards the top of the inner surface slightly bearded with rusty pubescence : one under each pair of flowers, crimson, the lower ones an inch and a half long, gradually shorter till only a broad rudiment remains, in other respects similar to the others ; deciduous ; besides these some smaller gemmaceous scales at the very bottom of the peduncle fall off very early. Pedicels crimson, from 6 to 11 lines long, recurved-spreading, as the fruit swells bowed quite down, cylindrical and smooth. Petals crimson, about an inch long, cohering nearly to the top except the outer suture which is soon divided to the base by the style pressing against it, somewhat ventricose above the midddle, then contracted into an arched neck ; at the top ovate-wedge-shaped, very entire, obtuse, the 2 lower ones rather smaller ; externally smooth, internally finely papulose, deciduous without splitting into separate parts. Filaments dull tawny, about $\frac{1}{3}$d of a line long, obversely wedge-shaped, flat, smooth.

Anthers tawny, $\frac{2}{3}$ds of a line long, kidney-shaped, obtuse, 2-locular, 4-valved, convex behind, splitting in front. Pollen whitish. Nectarium tawny crimson, embracing the front of the base of the pistillum, shaped somewhat like an oyster's shell, smooth. Pericarpium elevated on a thick cylindrical smooth staff $\frac{1}{2}$ an inch long: before impregnation crimson, about a quarter of an inch long, cylindrical and only to be distinguished from the staff by the suture on the upper side: after impregnation greatly enlarged, finally the size of one's middle finger, curved round and smooth, splitting on the upper side. Style crimson, $\frac{1}{2}$ an inch long, somewhat thicker than the pericarpium before impregnation and clubbed at the top, smooth. Stigma whitish, lateral under the end of the style, oval, somewhat convex, finely pappillose. Seeds from 12 to 16, closely imbricated.

REFERENCES TO THE PLATE.

1. Two views of a Flower. 2. The Pistillum cut down the middle. 3. The Style thrown back to shew the Stigma, magnified. 4. Two views of an Anther, magnified. 5. The Fruit with a single Seed left in it.

Dianthus fragrans

Drawn & Pub.d Aug.t 1. 1808 by W. Hooker

CXII.

DIANTHUS FRAGRANS.

Fragrant Dianthus.

Ordinem Naturalem et Characterem Generis, vide sub No. 57.

* *Flores rare paniculati.*

*** *Filamenta omnia toro inserta.*

D. foliis vix $\frac{1}{2}$ lineam latis, glaucis, lineari-attenuatis, integerrimis : calyce cylindraceo : bracteis 6, infra medium calycis : petalorum limbo profunde multifido, imberbi.

Caryophyllus sylvestris v, species alia. *Clus. Hist.* 1. *p.* 284.

Sponte nascentem in *Austria*, legit C. L. Eclise.

Floret apud nos *Junio.*

The perfume of this species, which is not unlike that of *Narcissus Poeticus*, is constantly diffused, both day and night. It differs from *D. Plumarius* in having leaves quite entire, petals smooth on their inner surface, as well as shorter stigmata, and was communicated by Madame La Comtesse *de Vandes*, being easily cultivated either in a pot, or the full ground.

Stem from 4 to 6 inches long, very slender, glaucous, quite smooth, finely dotted with white spots through a microscope. Leaves glaucous, from $\frac{1}{2}$ an inch to about an inch long, very narrow, quite entire, gradually attenuated the point itself obtuse, smooth : their petioles or geniculated base yellowish and more swelled than in some others. Flowers generally solitary. Bractes 6, tinged with purple, the 4 upper ones shorter and broader, obovate with a point somewhat diverging. Calyx tinged with purple, an inch long, slender: its teeth short and finely pointed, but the extremity itself obtuse like the leaves. Petals white except the upper part of the claw which is tinged with pale yellow green ; their limb recurved, divided as far as the middle into many narrow segments, and hollow. Filaments white. Anthers very pale purple. Stigmata white, not so long as in *D. Plumarius*. Capsule long and narrow.

REFERENCE TO THE PLATE.

1. A Petal detached.

Salvia bicolor

CXIII.

SALVIA BICOLOR.

Two-coloured Salvia.

ORDO NATURALIS.

Labiatæ. *Juss. Gen. p.* 110.

Sect. 1. Stamina duo fertilia.

Calyx oblongus: labio superiore integro 3-fidove, inferiore 2-fido. Corollæ Tubus supra basin ventricosus: Labium superius fornicatum: inferius 3-fidum, laciniâ mediâ latiore. Filamenta stipitibus lateralibus inserta infra quos connata et tubum claudentia, inde sub labio superiore arcuata. Stylus in plerisque longissimus. Stigma inæqualiter 2-fidum. *Herbæ Suffruticesve, multæ aromaticæ. Folia integra, lobata, vel pinnatifida, sæpius serrata. Flores plures in axillis foliorum vel bractearum spicatis. Pollinis ejectionem promovent Insecta, basin filamentorum deprimentia dum mel sugunt.*

** *Herbaceæ.*

* *Calycis labio superiore 2-3-fido.*

S. foliorum laminis cordato-oblongis, repando-dentatis, hirsutis, rugosis: spicis prælongis, verticillis 6-floris: calycis labio superiore 3-dentato: corollæ fauce striato, labii inferioris lobo medio saccato, emarginato, oris mox emarcidis: filamentis brevissime stipitatis.

S. Bicolor. *Desfont. Fl. Atl. p.* 22. *t.* 2. S. Bicolor. *Desf. in Fourcr. Journ.* 3. 1792. *n.* 20.

Sponte nascentem prope *Mascar, Tlemsen*, inter segetes, legit R. L. Desfontaines.

Floret primo vere, apud nos *Julio.*

A biennial species from the collection of the Rt. Hon. Lady Holland, and yet rare in this country.

Leaves near the root petiolated, gradually more sessile and like bractes: Petiole pale green, half round, very hairy, flattish on the upper part: Lamina from 3 to 4 inches long, oblong-heart-shaped, repand-dentate, hairy especially underneath, wrinkled. Peduncle obtusely 4-angular, hairy, with several long branches. Bractes reflected, ovate-lanceolate, pointed. Flowers nodding, in a long close spike, generally 6 in a whorl. Pedicells tinged with red, about 4 lines long, round, hairy. Calyx green, 5 lines long: Upper lip 3-toothed, the middle tooth smallest: Lower lip more deeply divided: all the teeth sharply mucronated, its outside scattered over with glanduliferous hairs the oil of which is aromatic; but the leaves are nearly devoid of smell, their hairs not terminating in a gland, strongly nerved. Corolla an inch long or more. Tube whitish at the bottom then pale violet blue, not very gibbous over the nectarium as in many species, its mouth on the under side tumid and striated, below which it is internally bearded, elsewhere smooth: Upper lip bright violet blue, longer than the tube, exceedingly falcated and comprest, externally hairy: Lower lip somewhat longer than the tube, 3-lobed; the middle lobe white but soon decaying to a dull brown, very tumid, emarginated, slightly bearded underneath; side lobes bright violet blue, recurved. Filaments: fertile ones pale violet, terminating at the base in 2 dark coloured tubercles where they are confluent, inserted upon very short props, smooth: barren ones whitish and exceedingly small. Anthers dark chestnut colour, slightly emarginated at one end. Pollen white. Nectarium orange-colour. Young fruits yellowish green. Style whitish and thick at the base, then pale violet, flexuose, round, smooth. Stigma darker violet, its divisions narrowly lanceolate and nearly equal.

REFERENCES TO THE PLATE.

1. Calyx. 2. Calyx cut open shewing the Pistillum, magnified. 3. Two views of the fertile Stamina, magnified.

Pedalyria cleæfolia

Drawn. & Pub. Aug. 1. 1808 by W. Hooker

CXIV.

PODALYRIA OLEÆFOLIA.

Olive-leaved Podalyria.

Ordinem Naturalem et Characterem Generis vide sub No. 7, ubi dele *sessile* post Pericarpium, et insere *brevissime stipitatum.*

P. foliorum laminis elliptico-cuneatis, supra lævibus, valde coriaceis : pedunculis sæpius 1-floris, foliis brevioribus : calyce profunde fisso, laciniis angustis : alis laxe convolutis.

Sponte nascentem prope *Stellenbosch*, legit J. Niven.

Floret apud nos *Maio.*

A new species introduced by Messrs. Lee and Kennedy, in whose collection it flowered in *May* last. It is easily distinguished from all which I have seen, by the shape of the leaves, and total absence of pubescence on their upper surface even when very young.

Stem brown, erect: Branches alternate, frondose or somewhat clustered : upper part silky with pubescence which while young is of a silvery hue, but soon changes to brown. Leaves alternate, pretty close to each other: Petiole $\frac{2}{3}$ of a line long, spreading, cylindrical : Lamina from an inch to an inch and a half in length, spreading, elliptic-wedge-shaped, very entire, sharply mucronulated the point itself often so much bent down that the top of the Lamina appears emarginated, green and quite smooth on the upper surface, silky underneath as well as at the margin : middle Nerve thick and very evident, lateral ones scarcely to be distinguished : exceedingly coriaceous. Stipules 2, inserted on the prominent rib of the stem, about 2 lines long, distinct from the petiole, prest to the stem, silky and soon changing to a brown tint. Flowers without smell. Spike generally of a single flower, sometimes however of two or three. Peduncle shorter than the leaves, solitary in the axils of two or three of the lowest leaves of the young branches. Bracte fallen off in all the specimens I saw. Pedicel short, thicker than the peduncle. Torus obconical, comprest, externally silky. Calyx $4\frac{1}{2}$ or 5 lines long, deeply divided, externally pale brown and very silky: its divisions narrowly wedge-shaped. Vexillum about 8 lines long, 10 lines broad, quite smooth, deeply emarginated, lilac with a deeper shade surrounding a white horse-shoe-shaped spot at the bottom: Wings about 7 lines long, lilac, slightly folded together, smooth : Keel white, much less than the wings, of two distinct petals folded together.

REFERENCES TO THE PLATE.

1. The Calyx laid open. 2. Two views of the Standard. 3. One of the Wings. 4. One of the petals of the Keel.

Adina globiflora.

Drawn. & Pub. Soc.ᵗʸ L. Illus.ᵈ by W. Hart.

CXVI.

ADINA GLOBIFLORA.

Globe-flowered Adina.

ORDO NATURALIS.

Rubiaceæ. *Juss. Gen. p.* 196.

Sect. x. Flores aggregati supra receptaculum commune, rarius coadunati. *Folia opposita. Arbores aut Frutices, rarius Herbæ.*

Pericarpium membranaceum, obpyramidale, 2-loculare, 4-valve, ab apice dehiscens septo calyce coronato. Calyx profunde 4-5-fidus nunc dente inter lacinias. Corolla infundibuliformis, limbo 4-5-fido. Filamenta 4-5, ore tubi inserta, brevissima, extrorsum arcuata. Antheræ sagittatæ. Stylus longissimus. Stigma turbinatum. Semina 2-3 in singulis loculis, colo spongioso juxta apicem sessilia, oblonga, marginata. *Frutex humilis. Folia* Gardeniarum, *obtuse acuminata, tenella gummosa. Stipulæ 2-fidæ, basi intus callis barbatæ. Flores capitati, in rudimentis ramulorum axillaribus terminales. Bractea paleacea ad basin florum singulorum. Receptaculum pilosum. Nomen a voce* ἀδινος *confertus.*

A. foliorum laminis lanceolatis, glabris: stipulis patulis: pedunculis minute pubescentibus.

Sponte nascentem juxta *Wampu*, legit J. Robertson.

Floret apud nos *Julio, Augusto.*

This shrub came up in the earth of some plants sent from *Canton* to the Rt. Hon. Charles Greville. Specimens in fruit are preserved in Sir Joseph Banks's Herbarium, which shew that it constitutes a distinct genus from both *Cephalanthus* and *Nauclea.* In the former, the Stipules are wedge-shaped, and irregularly jagged with black callous points: the fruit is 2-locular, (for the 4-locular fruits described by Gærtner are only two grown together) with a 2-lamellar dissepiment, and solitary seed in each cell. In all the *Naucleas* I have examined, the stipules are entire, and more or less obovate: the fruit is 2-coccous with many seeds in each cell, not splitting into 4 distinct valves as in the genus now figured.

Stem of our Plant about 2 feet high, erect, round: Branches opposite, spreading: towards the top yellowish green, sprinkled with whitish oblong spots, very minutely downy. Leaves opposite: Petiole yellowish green, a line and a half long, spreading, half round, somewhat channelled, underneath and still more evidently at the margin minutely downy: Lamina from 2 to 3 inches long, yellowish green, more yellow underneath, very spreading, or horizontal, broad-lanceolate, quite entire, obtusely acuminated, smooth on both surfaces and gummy while young, each pair before they expand conduplicate, one often smaller than that opposite: Nerves prominent on both surfaces and tinged with brown while young. Stipules yellowish green with so many minute red spots as to appear quite red at first sight, about 2 lines long, divided to below the middle, each segment sharply ear-shaped, spreading, bearded at the bottom of the inside with brown callous bristles, elsewhere smooth and gummy while young, soon falling off. Flowers erect, terminal on little short axillary branches. Head round, about 4 lines in diameter exclusive of the styles. Peduncle yellowish green, slender, cylindrical, minutely pubescent. Receptacle hairy besides a long narrow chaffy Bracte at the base of each flower. Pericarpium before impregnation $\frac{1}{3}$ of a line long, yellowish green, obconical, slightly pubescent, 2-locular with from 2 to 3 seeds in each cell: when ripe pale brown with a blackish top, about 1 line long. Calyx yellow, deeply divided into 4 or 5 segments somewhat wedge-shaped but obtuse, externally very minutely pubescent especially towards the top: between one or two of the segments there is often a tooth. Corolla very pale yellow, about a line and a half long, funnel-shaped: Limb divided to the middle into 4 or 5 spreading wedge-shaped segments: smooth on both surfaces, deciduous. Filaments whitish, inserted in the mouth of the tube, very short, extremely arched with the convex side turned inwards so as nearly to fill the cavity of the mouth, awl-shaped, smooth. Anthers pale yellow, about as long as the filaments, spreading, somewhat sagittate, having

all discharged their Pollen when I saw them. Pollen pale yellow. Style pale yellow, 3 lines and a half long, erect, filiform, smooth. Stigma pale yellow, top-shaped, smooth, above the middle finely papulose. Seeds brown, bearded with a jagged narrow membrane.

REFERENCES TO THE PLATE.

1. A single Flower and Bracte. 2. Corolla spread open and magnified. 3. Inside view of a Stipule. 4. The Fruit crowned with the persistent calyx. 5. The same splitting into 4 valves. 6. The Seeds affixed to their receptacles, with the dissepiment after the valves are fallen off, magnified. 7. A single Seed highly magnified.

Leucadendrum grandiflorum

Pub. Sept. 1 1809 by W. Hooker

CXVI.

LEUCADENDRUM GRANDIFLORUM.

Large-flowered Leucadendrum.

ORDO NATURALIS.

Proteæ. *Juss. Gen. p.* 78.

Sect. 1. **Pericarpium deciduum, 1-loculare, 1-spermum, clausum.**

Petala plus minus cohærentia in labium unum vel duo, altero angusto. Pericarpium ventricosum cuticulâ pergamineâ, basi barbatum. Stigma obliquum, clavatum rimâ terminali. *Frutices incani. Folia apice nunc* 3-5-*dentata. Flores in capitulo subrotundo terminali. Bractea* 1 *inter singulos cum paucis gemmacis, involucro majorum nullo, rigidæ. Huc* Protea Conocarpa L. Totta L. Pubera L. &c.

L. foliis 3-6 lineas latis, $1\frac{1}{2}$-$2\frac{1}{2}$ pollices longis, lineari-lanceolatis, apice 3-4-dentatis, paucis integerrimis, utrinque pubescentibus: capitulo grandi: petalis omnibus apice cohærentibus: stylo crasso, $2\frac{1}{2}$-3 pollices longo.

Sponte nascentem prope *False Bay*, jugis montium, legit J. Nevin.

Floret apud nos *Junio.*

From the collection of George Hibbert, Esq. where it has flowered, and ripened seeds, for several years. Wild specimens are preserved in the *Banksian* Herbarium for *Protea Conocarpa*, but that species has much larger foliage with less flowers, which it has never yet to my knowledge produced in this country.

Stem 5 feet high, stiff but more slender and with longer branches than *Protea Conocarpa*, round, very hairy. Leaves grey, from 3 to 6 lines broad, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, sessile, linear-lanceolate, generally with 3 rarely 4 teeth at the top, some few quite entire, pubescent on both surfaces, not twisted, the sides towards the bottom bent down. Flowers in terminal heads 3 or 4 inches diameter. Peduncle very short, entirely covered with gemmaceous scales at the base, hairy. Bractes grey, quite hidden by the corollas rolling back, thick, hard, externally very hairy. Petals about an inch and a half long at the base yellowish green, from thence gradually gold colour with their limbs externally ash colour, cohering at the very bottom, from thence splitting into two parts the narrowest of which is the lower part of a single petal, at the top all united into one lip, very much rolled back and twisted after the style bursts from them, externally very hairy especially towards the top. Anthers black with yellow valves, narrow and long, obtusely mucronated. Pericarpium very hairy at the base, when ripe pale-ash colour and exactly like parchment in substance. Style gold colour, $2\frac{1}{2}$ to 3 inches long, incurved, gradually attenuated, round, smooth. Stigma deep crimson, somewhat oblique, 8-angular from the impression of the anthers, at the end terminating in a chink where the contents of the grains of Pollen are imbibed. Seed black, rather oblong, round obtuse at both ends, smooth.

REFERENCES TO THE PLATE.

1. A Young Flower. 2. A Flower expanded. 3. Stigma magnified.

Hookera pulchella.

Drawn & Pub. Sep.1.1808. by W. Hooker.

CXVII.

HOOKERA PULCHELLA.

Neat Hookera.

Ordinem Naturalem, Characterem Generis necnon Speciei vide sub No. 98.

Sponte nascentem in *California*, legit A. MENZIES.

Floret apud nos *Maio*.

This plant is the second of those two reported by Dr. J. E. SMITH in his Introduction to Botany to have "*beautiful liliaceous flowers like an* Agapanthus *with* 6 *internal petals besides.*" So strange an anomaly in a monocotyledonous genus immediately led me to doubt that lecturer's accuracy, and upon carefully examining the specimens in SIR JOSEPH BANKS's Herbarium, I found this doubt not only confirmed, but that one of them had actually flowered at *Mill Hill* the preceding *June*, when I described and named it *Hookera*, after the botanic painter of this work. Accordingly in *March* last, a figure of that species was published.

When DR. J. E. SMITH came to *London* in *May* following, at a meeting of the Linnean Society, he read the generic character of a *Moss*, which he thought proper to name *Hookeria*, after an excellent cryptogamist, and at a subsequent meeting he read his own generic character of my *Hookera*, made up from dried specimens and drawings given to him by MR. MENZIES, naming it *Brodiea*, after one of his patrons. Notwithstanding what he then said respecting the affinity of these two plants, such was the impression made upon several of the members present by the drawings which were produced, that they immediately exclaimed, the genus was allied to *Allium*, and this without knowing that I had already published a similar opinion, or had named the genus *Hookera*, a circumstance respecting which Dr. J. E. SMITH, to suit his own purpose, was utterly silent. It is of little importance which of these names is adopted by future botanists; for, if my ideas respecting the genus are right, they will be confirmed in spite of all Dr. J. E SMITH's opposition, whose multiplied acts of injustice to me whether open or concealed, I sincerely forgive.

In the *Hookera Pulchella* now figured, which flowered last *May* in the collection of ROBERT WILLIAMS, Esq. at *Mill Hill*, a specimen of which was examined both by Sir JOSEPH BANKS, Mr. DRYANDER, and Mr. BROWN, the flowers are 6-androus; but as the alternate filaments in this species are deeply emarginated, and their anthers drop off by the time that the corolla is completely expanded, I suppose Mr. MENZIES has only seen and figured them in that state, and thus led Dr. J. E. SMITH into the double error of describing the genus as purely 3-androus, and the alternate emarginated filaments as 6 additional petals. Such a structure is far from being uncommon in other plants allied to this, especially in *Allium* and *Ornithogalum*. I believe it will be met with also in some belonging to the Order of *Asparagi*. The genus to which, in my opinion, *Hookera* is most immediately allied is the *Ornithogalum* 2-valve of LINNE, well known in our gardens by the name of BELL's Onion, and figured in the 1037th plate of the Botanical Magazine, but there erroneously referred by Mr. KER (late GAWLER) to *Allium Striatum*.

Root pale brown, like that of *Narcissus Triandrus*. Leaves similar to those of *Hookera Coronaria*, except that they are longer and rather broader. Flowers from 6 to 11 in a fasciculus, succeeding each other slowly, so that the first blown flower was in fruit before the last opened, nearly without smell. Peduncle longer than the leaves, erect, round, smooth, very finely striated. Outer Bractes broad, withering soon: inner Bractes whitish, very narrow and gradually shorter. Pedicels green, very short, round, smooth. Corolla blue like our *Harebells*, from 8 to 6 lines in length: Tube somewhat pitcher-shaped, marked with 6 deeper lines: Limb shorter than the tube, divided to the base: divisions recurved, semi-lanceolate, very entire, the claw at the top of the 3 outer ones not so conspicuous as in the other species. Filaments white; those 3 which are opposite to the outer divisions of the limb, considerably longer and deeply emarginated. Anthers long and narrow. Torus abundantly melliferous so that the tube is half full of honey. Style reaching to the middle of the higher anthers. Stigma 3-lobed, but its lobes scarcely recurved.

REFERENCES TO THE PLATE.

1. A Corolla spread open. 2. Pistillum. 3. Transverse section of the young Fruit magnified.

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1831—2.

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