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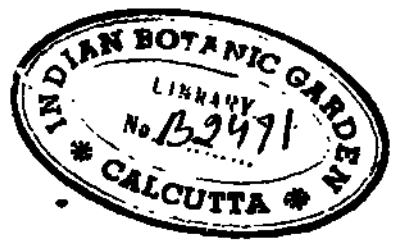
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MAGNOLIA, MICHELLE ET KADSUR.E NAPALENSES*

Next after the stately *Rhododendrum arboreum*, the members of the family of *Magnoliaceae* claim the most conspicuous rank among the vegetable productions of Nipal, whether we consider the magnificence and fragrance of their flowers, the beauty of their foliage, or the general elegance of their growth. They are without exception large deciduous forest trees, yielding excellent wood for the purposes of carpentry and joinery, and not only admitting of being introduced into Bengal (three of the five growing with great luxuriance in the Honourable Company's botanic garden at Calcutta), but holding out fair prospects of standing the winter even of Europe. They blossom during the summer and ripen their fruits about the close of the rains; during winter, that is to say, from the beginning of November to the end of February, they shed their leaves in common with the majority of the trees of that Europe-like country; and in March they are again full of buds, which soon are succeeded by those of the blossoms. These buds are of a nature which is, I believe, peculiar to this family, and unite, at once, their own proper function, of protection to the tender shoots, to that, belonging more properly to the office of stipules. They consist of two, at first fleshy, afterwards membranous scales, which are always more or less downy, cohering in the shape of a cylindric tube, whose base is inserted circularly round the branch and obliquely along a protuberance on the upper side of the petiol, which latter scarcely extends beyond this said insertion and is first totally destitute of any leaf-like appearance. As soon as the bud has come to its full size it splits into two equal lobes, beginning from the base and ascending along that side, which is opposite to its insertions on the petiol and soon drops off in the form of two large stipules.—The flower buds are large, solitary, erect, of an oval form, mostly clothed with wool or down, lifted up on a short, stout, columnar peduncle, and in *Michelia* always axillary; they are enveloped in two entire, membranous, rounded spathes, the outer one much sooner caducous than that within, which is contracted at the base into a cylinder, closely embracing the upper part of the peduncle. When it is considered, that these noble trees are natives of a country, where the heat is never intense, and where they are expo'sed, during four months of the year, to a rather severe winter, sometimes even to falls of snow; that they are deciduous, and lastly, that they are extremely well furnished with protection for the tender leaves and blossoms; reasonable hopes may be entertained of their standing the winter even of *England*, equally well with many other plants from those regions, which I have already had the happiness of introducing, and which I believe, have answered every expectation.—To the practical botanist such details as these are neither uninteresting nor unimportant; I shall therefore resume them in treating of each particular species.

My two *Magnoliae* are entirely new, and they certainly yield to none of North America in splendour and magnificence; one of them furnishes a very useful sort of wood, called *Chaump*, which is highly prized for furniture.—Two of the *Micheliae* have been noticed by professor De Candolle, in his invaluable *Systema Naturale*; but his descriptions are rather short and deficient, owing to their having been made from dried specimens, which were collected above twenty years ago, by my friend and pre-

* The following account of these genera was presented to the Medical and Physical Society of Calcutta in May 1823, and it is with the consent of that highly meritorious body, that I am permitted to introduce it here in its original form, with very few additions or alterations,

decessor Dr. Hamilton; and a superficial acquaintance with the plants of this tribe is sufficient to convince any one, how very difficult it is to fix on decisive and discriminating characters for them, even under every advantage of observing them in their wild and most luxuriant state. I have little doubt, however, that the descriptions were intended for the very species, with which I have identified them. I am further corroborated in this assertion by a consideration of the *habitat*, which the learned author, on the authority of the discoverer, has assigned to the trees in question, namely at Nara-yoon Huttee, where my two *Magnoliae* do certainly not grow. That his *Michelia Doltsopa* cannot possibly be my *Magnolia excelsa* is likewise obvious from the fact, that this tree is limited to one single station in that part of Nipal, which Dr. Hamilton and myself were allowed to visit, namely the great valley and its vicinity, and considerably elevated above the latter.

I have purposely avoided referring to the venerable Rumphius, because there cannot be any question of his *Sampaccas* being distinct from mine, and quoting them as doubtful synonymes, would only be adding to the existing difficulties of the genus. I may, however, observe, in this place, that *Michelia parviflora* De Cand. which has been described and figured in the fine *Icones Selectae* of the Baron De Lessert, the munificent patron of Botany in France, vol. 1. p. 22. t. 85, as the Ternate or small variety of Bonga Sjangpacca of Herbar. Amb. 2. p. 200, appears to me as not by any means belonging to the genus.

The genera *Kadsura* and *Mayna* have hitherto been involved in considerable doubt. The first of these was discovered about a century ago in Japan by Engelbert Kaempfer, and has been accurately described by him in his *Amoenitates exoticæ*. Thunberg afterwards gave an account of the plant in his *Flora japonica*, with the addition of a description of the flower, omitted by his predecessor, under the Linnean name of *Uvaria japonica*, which was retained by all succeeding writers, until Jussieu suggested the idea of establishing it as a distinct genus in the family of *Annonaceæ* (*AnnaL du museum d'histoire naturelle*, 16. p. 340; which both Dunal and De Candolle have subsequently adopted. Roxburgh, who received it from Sylhet, calls it *Uvaria heteroclita* in his manuscript *Flora indica*. The other genus, *Mayna*, was first described by Fuseé Aublet, who found it at Cayenne, but had no opportunity of seeing the female flowers or the fruit. It is on this authority alone, and aided by very scanty materials indeed, that Jussieu and De Candolle have referred *Mayna* to the family of *Magnoliaceæ*. That these two illustrious botanists should have ultimately failed in deciding on the proper station of the above-mentioned shrubs, in the natural system, is not surprizing, when it is recollected, that their conclusions could only be founded on data, which were not calculated to afford much insight into natural affinities; on the contrary, it will be seen from the following descriptions, how closely their sagacity made them approach the mark and how impossible it would have been to proceed a single step farther, without being aided by a knowledge of the internal structure of the seed. These two genera ought, I think, to be united into one, which has a very strong affinity to *SJnsandra* of Michaux: so strong, indeed, as to render it extremely doubtful if they ought to be separated from each other. In this case the last mentioned name would be far preferable to the barbarous *Kadsura* or *Mayna*, and I should accordingly have adopted it, if it were not derived from a character, which is inapplicable to the species with distinct stamina. They all belong to the family of *Menispermecæ*, connecting it with *Magnoliaceæ* and *Annonaceæ*, and perhaps constituting a new intermediate order, as has-already been hinted by Professor De Candolle (*Syst. Nat.* 1. p. 544.) «

Since this was written, I have been put in possession, through the kindness of my most excellent friend Dr. Abel, of all the splendid botanical works of Baron Humboldt, whose *TVintera granatensis*, *Plant. æquinoc. t. 1. p. 205. t. 58. (Drymis, nov. gen. 5. p. 53.)* bears a strong generic resemblance to our plants. This circumstance leads me to suspect that they must be referred, together with that genus, to Mr. Brown's new



order of *Winterete*, alluded to by De Candolle, loc. cit. p. 548. It will be seen, hereafter, that Dr. Hamilton actually considered one of the *Kadsuræ* as a species of *Drymis*.

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• It is not a little remarkable that Nipal should produce two distinct shrubs, resembling a plant of French Guiane, another of North America and a third of Japan to such a degree, as to be difficultly separable from the former, and scarcely at all to be recognized as different from the last: and that they should serve to connect them all under the standard of one genus only.

None of the preceding plants possess to my knowledge any particular medicinal properties, nor are they admitted into the *materia medica* of India. The fruit of both my *Kadsurce* are eaten by the hill-people. They have all more or less of an aromatic pungency diffused in their leaves and seeds, especially in the pulpy arillus of the latter, and their flowers are in most instances delightfully fragrant, . The wood of the arborescent species is very useful, and not inferior to that of our *Champa* of Hindoost'han (*Mivhelia Champaca*, Linn.); that of my *Magnolia excelsa* is, as I have already mentioned, highly valued for furniture.

MAGNOLIA INSIGNIS, Wall TAB. 1.

Arborea, foliis oblongis acuminatis subtus glaucis, gemmis ferrugineo-tomentosis; floribus terminalibus solitariis novem-petalis; petalis tribus exterioribus calyciformibus reflexis; alabastris laevibus; strobilo ovato dense imbricate, capsulis verticalibus tetraspermis.

Nomen Newarrense, *Seete Soak*,

Crescit praecipue in collibus prope *Sankoo* convallis Napaliae; etiam observavi ad cacumen montis *Sheopore* adque latus ejus septentrionale, altitudine sex usque ad decem miile pedum.—Floret Aprili, Majo; fructus maturescunt Octobre.

Arbor vasta, ramosa, trunco recto, saepe quatuor vel quinque pedes diametro emetente, comâ dense frondosa expansa et umbrosa. Rami glabri, striati, cinerei, calloso-punctati. Ramuli virides, glaucescentes, crassi, cylindrici, laeves, notati vestigiis annularibus, horizontalibus vel obliquis, a lapsis stipulis manentibus, approximatis, vijiosulis, demum glabris et distantioribus. Folia versus summitates valde approximata, patentia, undique sparsa, oblonga, in luxuriantibus ramis inagis elongata et sub-cuneata, in vetustioribus ad formam ellipticam tendentia, acuminata, integerrima, deorsum parum angustiora, basi acuta, coriacea, firma, uncias sex ad decem longa, plana, laevissima, atroviridia, lucida, subtus glauca et opaca, pube adpressâ baud copiosâ solubili et evanidâ, conspersa, costâ gracili elevatâ, nervis copiosis parallelis numerosis approximatis tenuibus ad marginem anastomosantibus, siccitate utrinque, imprimis subtus, eleganter reticulato-venosa.—Petiols gracilis, teres, sesqui-aut bipollicaris, glaber, basi subtus parum intumescens, superius ootatus piagd elevata piand lineari unguem long& extrorsum obtus& et rotundatâ, primum villosul&, olim stipulas vel gemmam adfigente. Stipulce (fig. 15, 16.) duge, opposite, oblong®, acutae vel acuminatae, plagas istae petiolarum et lineolae annulari rameae inserunt, ramum ipsum omnino amplectentes, valde deciduae, initio connatae in gemmam oblongam, densissimè cinnamomeo-tomentosam intus laevem, juxta latus ramum spectans demum fissam citoque delabentem.—Flores (fig. 1.) speciosissimi, fragrantissimi, ex albo rosei, campanulato-patentes, terminatae, solitariae, erectae, tres quatuorve pollicibus longae, laeves, suffulti pedunculo laevi columnari crasso mediè cicatricem orbiculari em gerente, superne pallido sub albicante. Alabastra erecta, ovato-oblonga, obtusa, basi rotundata, bipollicaria, involuta spathâ (fig. 8.) Jato-ovat& subrotundatâ. membranae laevi, basi contractae in collum breve, cylindricum, dimidiae superiori pedunculi parti aretè adpressum, medio ejus insertâ, caducâ.—Calyx petaloideus, triphyllus, erubescens^ demum fuscescens: sepala oblonga, obtusa, deorsum parum angustata, reflexa

et directis dependentia, coriacea, parallel[^] et viridiusculé nervosa, parum reticulata, tri-pollicaria. *Petala* octo vel novem, valde crassa et coriacea, alba, demum flavicantia* sursum rosea, figurA et magnitudine satis ab invicem discrepantia, Scilicet obovata, cuneata vel oblonga, obtusa, vel acutiuscula, parallelé et graciliter vasculosa, seriebus tribus apici jfedunculi, circum basin tori, alveolis majusculis inserta; interiora sensim breviora saepiusque angustiora, una cum sepalis staminibusque subito delabentia. *Columnna fructificationis* ovato-conica, sesquiunciam longa, basi integrum fere pollicem crassa. *Torus* (fig. 2.) sub-lignosus, crassus, sanguinei coloris, columnaris, dimidia inferiore parte pnnctis eleganter decussantibus á staminum insertione inscriptus; superne cum ípsis ovariorum basibus conferruminatus,—*Stamina* (fig. 3, 4.) plurima imbricata, adpréssa, lineas octo longa, interiora sensim elevatiora, apicibus oblique truncatis rhomboideis regulariter decussantia. *Filamenta* brevissima, crassiuscula, carnosae, rufa; *antheae* lineari-oblongae, apiculatae, utrinque loculiferae, oculis albicantibus introrsum (fig. 4.) dehiscentibus, polline albo e particulis cylindricis conflato.—*Ovaria* (fig. 5, 6.) plurima, cuneata, sub-quadrangularia, e viridi glaucescentia, minutim punctulata, glabra, arete imbricata, vertice truncata rhomboidea sulco perpendiculari intermedio-exsculpta; inferiora magis latitudine verticali, superiora plus longitudine extensa, fabrica fibroso-lignosa; unilocularia, (fig. 7.) loculo ad basin locato laevi lucido angusto, 4-6-spora: *ovula* grandiuscula, angulo interiori loculi per paria adfixa. *Stylus* ex angulo superiore verticis ovarii surgens, erectus, subulatus, tres lineas longus, deciduus, dorso sulco notatus, apice parum patulus. *Stigma* latus externum styli occupans, scabriusculum, constans papillis numerosis minutis.—*Capsulae* valde numerosae, dense imbricatae, verticales, magiitudine et figura variantes, unguem digiti medii baud superantes, compressae, laeves, purpureae, dispositae in *strobilum* (fig. 9.) ovato-oblongum, quinque-pollicarem, obtusum, erectum, suffultum pedunculo lignoso columnari bipollicari nudo, vestigiis insertionis spathae partiumque floris inscripto; vertice rhomboideá verticaliter juxta suU cum perpendicularem dehiscentes in valvas (fig. 10.) duas plano-concavas ligneas, iutus tegumento chartaceo laevissimo nitente munitas.—*Semina* (fig. 11.) tria vel quatuor, ovata, dorso convexa, hinc angulata, sibi invicem adpressa, magnitudinis pisi majoris, coccinea, laevia, angulo loculi interiori, bases valvularum connectenti, adfixa ope funiculorum brevium sericeorum niveorum, horumque" elongatione fere semi-pollicari demum extra cavitatem dependentia. *Ovula* aliquot minuta, sterilia s. abortiva, emarida observanda sunt ad basin seu angulum interiorem loculi, inter funiculos. *Arillus* (fig. 12.) carnosus, lineam dimidiam fere crassus, ruberrimus, odore et sapore parum aromatico, ad basin seminis, axi strobili obversam, insculptus fove& umbilicali parvoS. *Integumentum* exterius durum, fere osseum, leviter scrobiculatum, atrum, nitidum, compressum, lenticulare, crassiusculum, extremitate superiore perforatum umbilico interno, illo exteriori diametricé opposito. *Integumentum interim* constans pellicula tenuissimâ *perispermum* involvente carnosum acqueo-pallidum, cavitatem exacté replens. *Embryo* (fig. 13.) minutus, in parte supreme perispermii prope umbilicum inter num pendulus, *rectus*, niveus; *cotyledones* ovatae, obtusae; *radicula* subturbinata, obtusa, *supera*, I #

OBSERVATION.

It is scarcely possible to contemplate a more magnificent object than this noble tree exhibits, both when it is covered with flowers and in fruit. Nothing can exceed the former in elegance; they are very large, of a white or yellowish*white colour, tipped with pink, while the reflected calyx or rather calycine petals are of a brownish red tint, elegantly reticulated with greenish nerves and veins; their smell is agreeable somewhat resembling that of *Magnolia glauca*, and though not very strong, yet the accumulated fragrance of the innumerable blossoms, with which this tree is covered at one and the same time, extends to a great distance. They are of no long duration, as

the leaves of the corolla and calyx soon drop off together with the stamina, leaving the ovaria quite naked ; these in the course of five or six months become ripe capsules, disposed in large purple erect cones, which contrast elegantly with the scarlet seeds suspended on white, capillary, longish threads and hanging down loosely in all directions. The dark, elegant and thick foliage contributes to render the sight extremely agreeable. It is only during the winter months, from November to February, that the tree is altogether naked. The stipulation or gemmation is remarkable and belongs, as has already been noticed, to all the members of the family. The buds are axillary and terminal, long, subcylindric, inserted *radically* the branch and on the protuberance which occupies the half of the petiol; at first there is no leaf at all, but gradually a small elevation becomes observable on the back of the bud, just above its base, which quickly grows out, becoming the upper part of the petiol and at length expanding into a leaf; the bud itself in the mean time rapidly increases in length and width, together with the tender branch which it encloses, and at length it splits along the outside and drops off in the form of two stipules, leaving behind it a circular, either horizontal or more or less oblique vestige of its insertion on the branch, and a flat lengthened prominence on the petiol, reaching from its base *top* above the middle.

I have only seen this tree in abundance at Sankoo in the valley of Nipal; on Sheopore it grows very sparingly. Its wood is of a pale yellow colour, close-grained, and probably very applicable for carpenters use; it is however not employed by the hill people, who, I am sorry to say, care little about cutting down the most glorious trees of their country, such as the Uhododendrons, even for the most trivial purpose of fuel and rafters.

The present species unites the two sections of the genus as doubtfully proposed by De Candolle, loc. cit, p. 450, The fruit is densely imbricated, strobiliform, with pendulous seeds, and the spathe is one-leaved as in the American species; but the dehiscence of the anthers is decidedly interior like those of Asia. For reasons, which I shall explain in treating of *M. excelsa*, I think, that all the spike-fruited species might conveniently be removed to *Michelia*; of their number is *M. fuscata*, which I have had an opportunity of examining in October 1818, when it ripened its fruit for the first time in the Honourable Company's botanic garden and of which I take this opportunity of giving a carpological account.

Capsula ovata, lateribus *sub*ibboso-convexis, obliquè acutis, punctis parvis collosis asperis, magnitudinis baccae Grossularine minoris, cinerascens, sessilis, patens, decem vel plures, baccas paucas abortivas parvulis intermixtas, dispositas in spicam oblongam hinc inde curvam, tripollicarem, fructum *Michelite* plane referentem, pedunculatam. *Vasculum* divaricate, plano-concavum, intus rugosum, nitidum. *Semen* unicum, circumscissum, ovatum, parum obliquum, loculo exactè correspondente, basi umbilicatum, mox post dehiscen- tiam extra suam cavitatem funiculo sericeo laxè dependens.—Nucula, embryoque inversus exactè ut in *Magnolia insigni*.

It is not a little surprizing that, according to the accurate Gaertner, the embryo of *B. grandiflora*, Linn, is erect, Carpol. 1. p. 343. t. 70; whereas it is unquestionably intern with a *superior radicle* in the three species which I have examined.

Before concluding I may remark, that I have found a few individuals in the forests of Nipal, of a tree; which I hesitate not pronouncing to be Roxburgh's *Liriodendron grandiflora*, notwithstanding I have only observed them in foliage. This noble tree blossoms annually at the botanic garden, but has not as yet ripened its fruit; the stipulation of the family is peculiarly beautifully illustrated by this species.

MAGNOLIA EXCELSA, Wall TAB. 2.

Arborea, foliis oblongo-ellipticis, acuminatis, subtus valde glaucis; alabastris gemmis-

«pie ferragineo-barbatis; floribus solitariis, axillaribus; petalis duodecim, calycinis nullis; capsulis globosis, remotis, spicatis, monospermis.

Nomen Parbutteanum *Champa* s. *Chaump*.

Observavi tantummodo in monte Sheopore Napaliae, ad elevationem ab oceano sen, tem circiter mille pedum, florens Martio, fructibus maturis Octobre.

Arbor 50-ad 80-pedalis, admodum ramosa, trunco valde crasso, cortice varie fisso et rimoso. *Ramidi* crassi, teretes, fuscescentes, juniores grysei, punctis callosis majusculis conspersi, vestigiis stipularum delapsarum annularibus, horizontalibus vel obliquis, notati.—*Folia* sparsa, patentia apprximata, pollicem et dimidiam circiter distanda, coriacea et firma, oblongo-elliptica, in acumen lineare acutissimum semiunciale kbeuntia, integerrima, margine subinaequalia obsoleté que repanda, basi acuta spithamaead dodrantalia, supra Jaevia, lucida, saturaté viridia, leviter plicata; subtus valde glauca, fere pruinosa conspersaque pilis brevibus ferrugineis adpressis, aetate j>labra costâ prominulâ graciK, ner'vis alternantibus ad marginem anastomosantibus!" more' generis, praeprimis dum sicca, pulchré reticulato venosa. *Petiolus* pollicaris et narum ultra, teres, gracilis, leviter sulcatus, basi parum intumescens, supra vestigio linear! piano elongate notatus.—*Stipulat* dua> opposite, memhranaceae, oblongae, acuminata? sesqui- ad bipollicares, tomentp densissimo sericéo cinnamomeo vestitae, intus laeves! more generis supra descripta, initio in gemmam sub-cylindricam dense barbatam connatae, mox solitap citoque caducae, vestigiis istis annularibus ramorum linearibusque petiolornm manentibus—*Mores* axillares, solitarii, inagni, erecti, albi, fragrantés, campanulato-patentes, pedunculo elevati valde crasso brevi columnari, vix dimidium pollicem emetente, «innamomeo-tomentoso, ad medium uotato vestigiis duobus annularibus paullo distantibus. *Alabastra* oblonga, acuta, cinnamomeo-tomentosa, mollis!" sima, bipollicaria, *spathis* involuta monopb^llis: exteriore fugacissima, interiore tomentos^, intus laevi argenteA diutius manente. *Petala* (fig. 1.) 12 vel 13 coriacea, crassa, glaberrima, oblongo-ovata, obtusa, deorsum angustiora, fere bipollicaria, interiora sensim aagustiora et breviora, basi debilissimé viridescencia, coeterum alba, triplici disposita serie quadripetalâ, intimâ nunc quinquepetalâ.—*Columna genitalium* (fig. 1,3.) sesquipollicaris, erecta, basi crassior. *Stamina* (fig. 2.) plurima, laxé imbricata/inaequalia, tertiam petalorum partem lougitudine aequantia; *Jilamenta* brevissima, carnosâ, crassil! uscula; *antherce* adnatae, marginales, paullo introrsum dehiscentes.—*Ovaria* (fig. 4.) parva, fusco-puberula, tetraspora; *ovula* angulo interiori loculi ope funiculorum bre- vLssimorum decurrentium adfixa. *Stylus* ovario longior, subulatus, recurvus, suprd papilloso-asperulus. *Bacas* (fig. 5,6.) parvae, globosee, calloso-verrucosse, glabriuscula3, cinerâscentes, magnitudine nucis avellanae, basi latâ sessiles, pluribus effoetis interspersae, in spicariiquadripollicarem curvam dig<stge, hiatu semicirculari supra dehiscentes in valvulas duas divaricatas concavas. *Semen* (fig. 7.) unicum, grandiusculum, ovatum, subreniforme, coccineuni, baccatum, plend maturitate extra loculum suum de.pendens, ventre exsculptum urabilico minutissimo.—*Arillus* carnosus, mollis, ruber.—*Integumentuui encterius* atrum, crustaceum; *interius* tenuissimum. *Perispermum* carnosum, hyaUnum. *Embryo* wt in priore specie.

OBSERTATION.

This is at all times a very beautiful, large tree, especially when in blossom. I have only met Wlh it on mount Sheopore, where it is confined to one single spot •' a Umita- on which is not of very rare occurrence among the plants of Nipal; thus *Orèhis* (*Hâbena- ria*) *gigantea*, Exot. Bot. is solely to be met with in a particular place of `Na<r-Ar- joon, *Lyelha crtspa*, Brown and *Daphne Gardneri*, Wall, are confined to one Li" cular place on Sheopore. The wood is greatly prized by the inhabitants of Nïoäl .as also at Patna, where it is employed for various objects of joinery and carpentry and

is commonly sold under the name of *Champ*. Its texture is very fine, the colour at first greenish, but soon changing into pale yellow.

I am doubtful whether to consider this fine tree as a *Magnolia* or a *Michelia*; it has entirely the structure of the flower and spicate rounded capsules of the latter genus, while the colour and smell of the flower and the solitary pendulous seed is that of the former. Perhaps a salutary reform might be effected by removing all the species of *Magnolia*, as it stands at present, which are furnished with rounded spicate, not imbricate, capsules to *Michelia*, which arrangement would, in all probability, comprize most, if not all *Guillimiae*, De Candolle 1. c. p. 450 et p. 455; a suggestion which has indeed been hinted at by himself in p. 447.

MICHELIA DOLTSOPA, *De Candolle*. TAB-3.

Foliis elliptico-ovatis, valde acuminatis, subtus puberulis, longé petiolatis; alabastris gemmisque ferrugineo-tomentosis; petalis quindecim, interioribus angustissimis.

Michelia Doltsopa, De Cand. syst, nat. 1. p. 448.

Incolit varias sylvas Napaliece, tam vallis ipsius quam montium minorum huic vicinis, florens Aprili et Mayo; fructifera sub-pluviis.

Arbor magna umbrosa, altitudine 60-pedali, trunco satis regulari crasso.—*Ramuli* teretes, cicatricibus plus minusve obliquis annulati, densé vestiti villositate sericeâ i'uscâ; setate proveciores glabri, cinerei, calloso punctati.—*Folia* magis forsân quam in reliquis remota, patentissima, integerrima, ad marginem leviter undulata, ovata, in acumen gracile, longum attenuata, basi acuta, nunc rotundato-acuta, palmaria ad JO-pollicaria, coriacea, suprà laevissima, lucida; subtus parum glaucescentia puberula, siccitate utriusque venuloso-reticulata.—*Petiolus* valde gracilis, pollicaris et sesquipollicaris, teres, ferrugineo-villosus, ultra medium notatus vestigio insertionis stipularum gracili elongate.—*Stipulæ* aureo-v, fusco-villosae, connatae? in gemmani cylindricam acuminatam elongatam. *Flos* (fig. 1.) axillaris, solitarius, illo *Champacæ* vulgaris fere dimidio major, petiolo parum longior, flavus, valde fragrans. *Alabastrum* cylindrico-oblongum, densé vestitum tomento fusco velutino, bipollicare, spathæ (fig. 2.) duplici caducissimè induturn. *Pedunculus* brevis, velutinus, cicatricibus duabus annularibus notatus.—*Petala* quindecim valde patula, ternario ordine disposita, quinque scilicet in singulo ordine, oblongo-spathulata, acuta, ad basin angustatam munita pube furfuraceâ punctis minutissimis impressis interspersâ; coeterum glabra; interiora valde angusta, fere linearia. *Antheræ* subsessiles dorso latiore in apiculam subcarnosam desinente: loculamenta lateraliter dehiscentia. *Torus* ovariorum velutinorum cylindricus sursum antheras sessilis. *Stylus* (fig. 3.) brevissimus, recurvatus, valde papillosus.

OBSERVATION.

As far as it is possible to judge from the short description of professor De Candolle, made from dried specimens of trees, which even in their natural and growing state are difficult of discrimination, I conclude that this is the species described by him under the name given above. *Latifolia* or *macrophylla* would have been an appropriate name, and one at once indicative of the chief specific distinction of the tree; it would at any rate be far preferable to a vague native name, which my most valued friend Dr. Hamilton, though in general inclined to employ such on the spur of the moment, in the hurry and inconvenience of travelling, for the purposes of easier reference, probably did not intend as a permanent one. No nation on earth is more fertile in the production of names of plants than those of India, who appear to have coined appellations in the hope of multiplying real or supposed virtues ad infinitum. This evil is greatly aug-

mented by the people often inventing names on the spot. If a specific or generic appellation is to be derived from any native language, which can never be necessary, and but rarely prove expedient, the Arabic or Sanscrit ought to be the only sources from whence they are to be derived.

MICHELIA KISOPA, *De Cand.* TAB. 4.

Foliis lanceolatis, acuminatis, glaberrimis, [^]revé petiolatis; *alabastris* gemmisque cinereo-villoculis; *petalis* duodecim, oblongis, subsequilibus.

Michelia Kisopa, DQ Cand. syst nat 1. p. 448.

Reperi in pluribus sylvis Napalise, eodemque anni tempore cum priore specie florentem et fructiferam.

Arbor excelsa, ramosissima. *Ramuli* glabri, teretes, cinerei, calloso-punctati, cicatricibus stipularum solitis notati. *Folia* sparsa, approximate, patentia, valde coriacea, rigida, oblonga vel lanceolato-oblonga, acuminata, basi nunc rotundata, mine acuta, supra valde lucida atroviridia, subtus pallida atque opaca, pubescentia aetate evanida dispersa, utrinque dum sicca elegantiter reticulato-venosa; 5-7 pollicaria.—*Petiolus* gracilis, teres, pollicaris, e basi ultra medium supra notatus plagam elevatam planam lineari elongate. *Gemma stipulacea* oblonga, acuta, petiolum juniorem fere sequans, argenteo-vel cinereo-villosa.—*Alabastrum* axillare, solitarium, erectum, ovatum, breviter pedunculatum, semipollicare, cinereo-villosum; *spathae* (fig. 4.) cito deciduae, ovato-subrotundae, obtusissimae. *Flos* (fig. 1.) parvus, dilute flavus, odore valde debili, pedunculo suffultus crasso, annulato, villosulo.—*Petala* duodecim acuta, lineari-cuneata, pollicaria. *Anthera* fere sessiles, numerosae, laxè imbricatae, lineares, apiculis nudis cuspidatae; locula marginalia, introrsum parum dehiscentia.—*Ovaria* (fig. 3.) ovata, sericeo-villosa, coarctata in columnam cylindricam, supra torum (fig. 2.) antherarum pedicello angulato semiunguiculari elevatam. *Styli* recurvati, pubescentes, papilloso. *Capsulae* (fig. 5, 6.) subglobosae, basi nunc latè subadnatae nunc subcuneatam quasi pedicellate, cinereae, punctatae, majores quam in antecedente specie, dispositae in spicam tortam quadripollicarem, pluribus abortivis intermixtis. *Semina* tria vel quatuor, ovata, coccinea.

OBSERVATION.

This species [^]nes very near to *M. Cfiampaca*, but besides being a larger forest tree, its leaves are, generally speaking, narrower and the flowers much smaller. I have scarcely any doubt of its being the same as that noticed by De Candolle, although his specific character does not well apply to it, the leaves being almost always more or less acute or attenuate at the base. The fleshy part of the seeds is aromatic, and that more so than in the other species.

MICHELIA LANUGINOSA, *Wall.* TAB. 5.

Foliis oblongis, acutis, subtus [^]mis gemmis alabastrisque cinereo-lanuginosis.

Eadem fere ac precedens incolit loca, eodemque tempore florens; sed rarior est arbor.

Arbor magna et procera, ramosissima. *Ramuli* obtecti cortice cinereo calloso-punctato; juniores uti foliorum pagina inferior, petiolus, alabastra, gemmaeque vestiti lanugine densa decumbente mollissimam cano-argenteam. *Folia* valde approximata, altera, subbifaria, patentissima, oblonga, acuta, basi parum rotundata, apice cuspidata, 5 ad 10

pollicaria, valde coriacea[^] supra lucida, iranc parum glaucescentia, subtus densissim6 tomentosa, vix aetate glabriora, nervis parallelis, numerosis, ad marginem integerrimum arcuatim anastomoſantibus, venis reticulatis tomento reconditis. *Petiolus* pollicaris, setate parum glabrior, supra notatus vestigio stipularum elongato. *Stipulce* valde deciduse, oblongae, densissim6 tomentosael, gemmas formantes oblpngas, petiolum subaaquantes. *Ala** *bastra* axillaria, solitaria, oblonga, sesquipollicaria, lanuginoso-barbata. *Spatfice* (fig. 2,3.) duae, oblongte, cito evanidse, *Flos* (fig. 1.) pallid6 flavens, odoratissimus, brevissim6 pedunculatus; *petala* numerata variantia, decem ad quatuordecirn, cuneata, acutiuscula, disco parum saturatius colorata, interiora parum angustiora. *Pedunculus* vix duas lineas longus, lanuginosus, crassus. *Columna genitalium* (fig. 4.) oblonga, petahs plus dimidio brevior. *AntJwrw* (fig. 5, 6.) valde caducae, introrsum dehiscentes; /fc/a>#&#a farevissima, purpurascens. *Ovaria* (fig. 7, 8, 9.) ovata, villosa. *StyH* erecti, columnee subadpressi. *Bacca** (fig. 10,11.) magnse, cerasos medioqres aquantes, obovatae, deor[^]sum paullo angustiores et fere pedicellatae, *pedicello* admodum lato; cinerese, calloso-punctatae, coeterum glabrae, maturitate fuscescentes, tri-quadrispermae, aggregatae in spicam brevem, ovatam, longius pedunculatam. *Semina* (fig. 12.) magna, coccinea, avillo aromatico.

OBSERVATION*

It is impossible to confound this tree with any of the preceding kinds; the dense, *soft* tomentum, which covers all its parts, readily distinguishes it from them all. The fragrance of the flowers is less powerful and therefore more agreeable than in the other species.

KADSURA:

Juss. in *Annal. du Museum d'hist. natur.* 16. p. 340. Dunal *Anonac.* p. 25% 55 et 57, De Cand. *system. nat.* 1. p. 465.

Mayna[^] Aubl? *Schisandra*, Michaux. *Uvaria*, spec. Thunb. et Linn.

Flores unisexuales, pentandri-polyandri, polygyni, ape tali. *Sepala* novem, nunc duodecim, ternatim triserialia, alternantia. *Stamina* completa, *Jilamentz's* carnosis; vel incompleta, *antheris* sessilibus, receptacuU foveolis adnatis, *Ocaria* conferta super receptaculum carnosum, disporea. *Styli* nulli. *Stigmata* solitaria, carnosae, emarcescentia, oblongo-clavata, medio adfixa, utrinque libera. *Baccce* distinctas, reniformi-ovatae, mono-vel dispermsB, capitatae, aut spicatae. *Perispermum* homo[^]neum, carnosum, *JEmbryo* dicotyledoneus. *Radicula* infera; vel centrifuga?

Classis Linneana: *Monoecia* vel *Dioeda*, *pentandria* xelpolyandria*

Ordo. naturalis: *Menispermew.* *Winterer*, Brown?

Habitus. Frutices volubiles, glabrae. *Folia* alterna, subcarnosa, denticulata, exstiv pulata. *Flores* axillares, subsolitarii, fragrantese* *Baccce* carnosae, rubr[^]e, edules.

OBSERVATION.

I have already hinted (p. 2.) at the supposed identity of *Mayna* with this genus. As far asecan he gathered from t||e imperfect description and figure, given by that author, in the *Histoire des plantes de la Guiane* 2. p- 922. t 352, the general form of the flowers agree; but there exists a remarkable difference in the monophyllous calyx and in the stipulated leaves of Aublet's plant. Until, therefore* we are better acquainted with that plant, it can only be admitted as a doubtful species. It agrees best with my *K. gran** *diflora*, both of them being furnished with distinct filaments; but the four-sided anthers.

recorded by Aublet, are wanting here.—Michaux's *Schisandra* seems to differ from the genus, solely in having a one-seeded berry, and in the shape of the seed, which is attributable, together with the slight modification in the posture of the embryo, to the first mentioned structure.

KADSURA GRANDIFLORA, Wall. TAB. 14.

Dioica, polyandra; nutantibus, somptuosis; pedunculis, setis longioribus, medio bracteatis; staminibus complanatis subulatis; bacis dispermis, spicatis, rachis crassa, clavata.

Observavi frequenter in monte Sheopore Nepaliae, nee alibi; florentem Aprili, Majori fructigeram Octobre.

Frutex late volubilis et scandens, omnibus partibus glaberrima. Rami numerosi, telongati, graciles, vix penam anserinam crassiores, fusci, calloso-punctati, epidermide fetate demum soluta; tenelli glaucescentes, rubicundi. Gemmae parvae, axillares, subcylindricae, acutae, squamis oblongis, ciliatis, bifarie imbricantibus, quibusdam persistentibus, basesque ramulorum juniorum laxe ambientibus. Folia valde copiosa, approximata, patentia, alterna, lanceolato-oblonga, 4-6-pollicaria, subcarnosa, ad lucem visa minutim pellucideque punctulata, acuminata, basi cuneata et per petiolum leviter decurrentia, remote denticulata, dentibus subulatis, incrassato-subglandulosis laete viridia, supra racida, novella rufescentia, aetate opaciora, subtus pallida, penninervia, costa gracili, nervis obliquis, alternis, venis reticulatis. Petiolis teres, gracilis, supra sulcatus, pollicaris, basi inarticulata, simplici. Stipulae nullae, nee ullum earum vestigium. Fibras magni, admodum fragrantis, nutantes, axillares, solitarii, vel sparsi circum basin ramulorum novorum, globoso-campanulati, pollicem transversum emetientes, ex albo flavicantes, extus versus basin saepe purpurascens. Sepala novem, ternario ordine disposita, ovato-rotundata, obtusa, crassa et subcamosa, integerilma, interiora sensim minora. Aestivatio laxe itobricata, globosa. Pedunculus teres, laxis, bipollicaris, aequalis, basi saepius squamula gemmaeae. Wak alterave munitus. Masculorum (fig. 6, 7) stamina (fig. 8.) circum quindraginta, calyce parum breviora, clavata, aggregata in acervum ovato-tilto si receptaculum carnosum, leviter elevatum (filamentorum bases connata?). Filamenta breviter erecta, subulata, alba, carnosae. Antherae duatae, compressiusculae, obtusae, disco carnosae, utrinque dehiscentes loculo angusto, longitudinali, extrorsum verso; pollen albidum. Nullum pistillorum rudimentum. Femineae (fig. 1, 2, 3.) masculis parvis majores, sepalaque exteriora saturatius colorata. Ovaria (fig. 4, 5.) admodum ininuta, numerosa, lenticularia, extrorsum oblique acuta, subtus gibboso-convexa, sursum notata marginula rectilinea, sessilia, spiraliter et densissime aggregata super receptaculum carnosum, oblongum, sepala majora subaequans. Ovula duo minutissima, lateri loculi marginulae istius obverso adfixa, oblique pendula. Stylus nullus. Stigma sessile, carnosum, lineale, scabriusculum, perpendiculare, utrinque liberum, apice obtusum leviterque recurvum, basi ovario adpressum, medio apiculae hujus insertum. Baccae (fig. 9, 10.) ovato-subreniformes, sessiles, coccineae, laeves, nitidae, magnitudine Ribesiae majoris, valde numerosae, supernae apiculae breviter, fuscis, decurrente notatas, biloculares, dispermae, dispositae in spicam laxam pendulam, digidum crassam, clavatam, sex ad novem pollices longam, insidentem pedunculo gracili, apice leviter incrassato, coeterum vero immutata. Rachis carnosae et crassa, punctulata, flavicaris. Carb pallide rubra mollis lineam crassa. Semina (fig. 11, 12, 13, 14.) dua, fusca, horizontaliter unum super alterum posita, septo pulposo separata, reniformia, leviter complanata, lateribus convexis, obtusa, hilo sursum, i. e. Versus apiculam verticis baccae spectante. Integumentum exterius coriaceum, laeve, sub lente minutim punctulatum; intus tenuissimum, perispermium arete involvens. Perispermium album, carnosum, teres, in figuram semilunarem curvatum, extremitatibus obtusis approximatis, dorso convexo notatum fascia vascu-

loram tenui fusc& alters extremitate exsculptum cavitate minut&, embryonifer&, superficiei apicis proxinil Embryo minutissimus, subglobosus, albas. *Radicula* centrifugal

OBSERVATION.

This is a very handsome, fragrant plant. The natives eat the fruit. The embryo is so minute, that I have not been able as yet to dissect it properly; but I trust, that the plants, which I brought with me from Nipal to the Hon. Company's botanic garden and which are at present thriving very well, will enable me to determine its*structure at some future period*

KADSURA PKOPINQUA, Wall TAB. 15.

Dioica, polyandra; *Jloribus* eubfasciculatis, erectiusculis; *pedunculis* petiolum vix tequantibus, medio bracteatis; *antheris* sessilibus, immersis; *baccis* dispermis, spicatis; *rachi* tuberculossL

Observavi in monte Sheopore, rariusque in collibus ad Sankoo, Napaliae. Floret Majo et Junio; fructus maturescunt Octobre.

Frutex ramosissima, valubilis, glaberrima, ramis, gemmisque ut in priore specie. *Fo** *lia* interstitiis duplo vel triplo longiora, ovato-lanceolata, in acumen desinentia longum et gracile, remoté denticulata, interque dentes obsolete sinuata, nunc fere integerrima, basi rotundat& vel acutiuscul&, carnosa, firma et fragile, 5-6-pollicaria, lucida, subtus pallida, nervis capillaceis versus marginem anastomosantibus, siccitate reticulata, ad lucem visa minutim punctulata; in plantis novellis luxuriantibus maculis pallidé viridibus subalbicanibus variegata.—*Peti*lus* crassiusculus, brevis, semipollicaris, ceterum ut in antecedente. *Stipules* nullae.—*Flores* axillares, solitarii vel geminati, illis dimidió minores, fere inodori, leviter nutantes, patentissimi, initio pallidé flavi, dein aurantiaci, dioici, aestivatione in globulum pisi magnitudinis imbricati. *Pedunculus* teres, petiolum subsequans, nunc tertia parte brevior, basi squamulis duabus lanceolatis, emarcidis, deciduis, versusque medium instuctus *bracteolá* carnosd., semiamplectente, *ovat&*, *obtus* patuM, dorso convexd, persistente. *Masculorum* (fig. 1,2.) *sepala* novem, ternario ordine alternatim disposita, patentia; *exteriora tria* valde parva, ovata, inaequalia; reliqua subrotunda, crassa et coriacea, membranaceo-marginulata, sub lente punctulata, prioris speciei dimidio minora.—*Anthene* (fig. 3j, 4, 5.) parvae, lanceolate, sessiles, duodecim ad quindecim, tessellatim immerse receptaculo carnosso, subgloboso, demum valvularum triangularium adinstar hiantes leviterque reflexae, biloculares, dorso carnosae, apice liberae, loculis, parallelis, distinctis lateraliter dehiscentibus.—*Foeminci* (fig. 6,7.) quoad sepala masculis simillima.—*Ovaria* (fig. 8.) minima, valde numerosa, carnosa, ovata, supra et intusYnarginulA parum elevata notata, imbricata in acervilum subglobosum. *Stylus* nullus. *Stigma* prioris.—*Bacca* (fig. 9,10.) globosae, carnosae, laeves, coccineae, parum minores quam in antecedente, fabrica vero interná omnino similes, dispositae in spicam brevem pedunculatam, sexpollicarem, cylindricam, rachi parum incrassatS, valde asper4 propter tubercula numerosa baccas adfigentibus.

OBSERVATION.

This is altogether a smaller species than *K. grandijlora*; particularly the flowers. It approaches to *Schisandra coccinea*, Mich. Flor. boreal, amer. 2. p. 219. t. 47. and Curt, bot. mag. 34. n. 1413. The flowers are at first pale yellow, but become afterwards deep orange-colored, especially the inner leaflets. The male receptacle is globular, fleshy,

sessile, not larger than a pepper-corn before expansion, marked with from twelve to fifteen superficial pores, which are arranged in a quincunx or decussated manner from the basis to the top; in these the anthers are completely sunk, their two-lobed apexes being only visible above the surface. Immediately after expansion these pores open, their lower sides turning gently downwards and resembling so many small, triangular, acute, valves, each having a distinct, two-lobed, two-celled anther attached to its inner or upper surface, its apex being free and somewhat shorter than that. When the anthers burst, each cell appears to be two-lobed. It may perhaps be advantageous to consider the receptacle as the connate filaments; and the above-mentioned antheriferous valves, as the free apices of these latter, *

KADSURA JAPONICA, *Bunzl*

Dioica, polyandra; *fioribus* subsolitariis erectiusculis; *pedunculis* petiolo longioribus; *antheris* sessilibus, immersis; *baccis* dispersis, capitatis.

Kadsura, Jussieu, in *Annal d'i Mul* 16. p. 340.

Kadsura japonica, *Dunal Anonac.* 57.—*De Cand. syst. nat.* 1. 466.

Uvariajaponica Linn. *spec. plant.* 756.—*Thunb. jap.* 237.

XJvaria heteroclita, *Roxb. Mss. et Icon.*

JDrymisi F. Hamilton, *Icon. pict. in hort. bot. Calcutta* asservata.

JFkito Kadsura, sive *Sane Kadsura*, aliis *Orenj Kadsura*; *Kenkoo*; *Kaempf. amoen.* \$ 476 et 785. *tab.* 477.

Crescit in montosis prope Sylhet, ubi detexit beatus M. R. Smith. Specimina tarn viventia quam sicca misit collector horti hujus F. De Silva.—Floret sub initio pluviarum; fructus matures profert Octobrc, Novembre.—In horto botanico Calcutta floruit prhn& vice Junid, 1823.

OBSERVATION.

This interesting shrub does not grow in Nipal; it has hitherto only been found in Japan and at Sylhet, on the eastern frontiers of Bengal; probably also at Gualpara, where I conjecture that my worthy friend Dr. Hamilton met with it. I have had opportunities of examining it both in its cultivated and dried states. It is extremely like the preceding species (for which reason I have called the latter *K. propinqua*); nor can I distinguish it except by the capitate berries, and by the other, less prominent marks, which I have introduced in the specific character.—Kaempfer's figure is excellent.

COLQUHOUNIA, *Wall*

Calyx cylindricus, fauce aequali, 5-dentat&; fructifer clausus. *Corolla* bilabiata; labium superius fornicatum, bidentatum; inferius trilobum, lobis lateralibus fauci ampliatæ utrinque insertis, intermedio minore, integro. *Stamina* adscendentia; *antherarum lobi* divaricati, nudi. *Stigma* bilobum, lobo superiore brevior. *Ovula* solitaria, pendula I *Achenia* maxima, alata. *Perispermum* copiosum; *Embryo* erectus.

Habitus. Prutex lat6 volubilis, supern^ tomento stellato, ferrugineo: rami juniores alternatim compressi, subarticulati. *Folia* ovalia, serrata, scabriuscula, odore debili aromatico. *Flores* pulchri, coccinei, fasciculati, axillares, subverticillati, nunc subracemosi.

Syst. Linn. *Didynamia Gymnospermia.*

Ordo. natural. *Jjabiatee.*

Dixi in honorem amici aestumatissimi Roberti Colquhoun, Scotiae Baroneti, historiae naturalis fautoris indefessi, qui hortum botanicum Calcutta ditavit plurimis plantis viventibus seminibus, speciminibus, nee non observationibus, phytographiam regionis Kumaon spectantibus.

COLQUHOUNIA COCCINEA, Wall. TAB. 6.

Legi in variis montibus Napalise: Chesapanee, Chandaghiry, Sheopore; etiam in sylvis minus elevatis Suembonath, Gokurna, &c. *Floret* sub fine pluviarum et tempore frigoris, ab Octobre usque ad Februarium. Fructus maturescunt Martio.

Nomen Parbutteum *Aesinallae*; Newarrense *Goontomah*.

Frutex ampla super alias frutices arboresque minores volubilis. *Rami* longissimi, orgyales, obsolete tetragoni, pennam cygneam ad digitum crassi, a punctis minutis, copiosis scabriusculi, tomento parco hinc inde conspersi, dilute ferruginei, juniores gracillimi, obsolete 4-angulares, sulcis duobus oppositis notati, ad insertionem foliorum alternim dilatato-complanati lineaque elevati. *S.* annulari subarticulati, tomento vestiti denso, ferrugineo, lepidoso, stellato, ciliato, friabili. *Folia* opposita, ovata, acuminata, 3-5-pollicaria, vetusta duplo majora, patentia, obtuse crenulata, basi acuta integriora, utrinque a tomento parco asperula, supra atro-viridia, rugosa, opaca, subtus pallida, costis nervisque suboppositis, arcuatis, prominentibus, tomentosis, venis transversim reticulatis; novella densissime tomentosa, incana. *Petioles* unguiculares, semiteretes, tomentosi, supra plani. *Flores* (fig. 1.) magni, inodori, fasciculati, plerumque ternarii, axillares, subverticillati; verticilli nunc brevissime pedunculati, saepius fere sessiles, in ramulis junioribus approximati, subracemosi. *Pedunculi* teretes, patentes, petiolo triplo breviores, tomentosi, basi, nunc quoque medio, bracteolis duabus oppositis, linearibus, persistentibus muniti. *Calyx* (fig. 2.) basi subcylindricus, sursum ampliatus et subcampanulatus, membranaceus, scariosus, persistens, semuncialis, tomentosus, intus laevis, nitidus, obsolete 5-nerviis, reticulatus, leviter incurvus, dorso parum convexior, limbo 5-dentato, patentiusculo; dentibus triangulari-ovatis, acutis, uni-nerviis, post florescentiam clausis et subvalvatis. *Corolla* (fig. 4.) coccinea, calyce duplo longior, viliis canis, molibus brevibus, hyalinis, articulatis extus obsita; tubus brevis, ejus indricus, incus, mox ampliatus in faucem ventricosam, lateribus leviter compressam, subtus foveolatam, per viam, nudam. *Labiis* bilabiatus; *labium superius* adscendens, ovatum, fornicatum, apice bidentatum, dentibus lanceolatis, obtusiusculis, basi dorsi leviter contracta; *inferius* majus, patens, tripartitum, lobis integerrimis obtusis, lateralibus oblique ovatis, leviter recurvis, fauci utrinque insertis et quasi interlabialibus: intermedio duplo fere illis brevior, descendente, concaviusculo, linguaeformi, citius emarcescente. *Stamina* (fig. 5.) quatuor, absque rudimento quinti, intra galeam adscendentia, baud plane ab illa recondita, sinus (more families, ut dudum monuit eel. R. Brown in Prodr. Fl. Nov., Holl. 1. p. 500.) interlabialibus, primariisque labii inferioris, intra faucem inserta. *Filamenta* crassiuscula, linearia, villosula, colorata, apice parum dilatata et incurva; superiora duo breviora. *Antherae* parvae, oblongae, nutantes, purpurascens: lobi divaricati (sursum et deorsum), nudi, obtusi, rimae continue longitudinali et quasi communi dehiscentibus, *polline* flavo majusculo. *Ovaria* quatuor, oblonga, planiuscula, apice parum obliqua et crenulata, imposita disco hypogyno annulari, angusto, obsolete quadri-lobo, flavicanti, centro parum elevatiore subconico; unilocularia, monospora: *ovulum* teres, ex apice placentulae erectae, fungosae pendulum! *Stylus* filiformis, laevis, purpurascens, longitudine staminum, unacum illis adscendens. *Stigma* bilobum, lobis subulatis acutis, patulis, superiore dimidio brevior. *Achenia* (fig. 7.) quatuor (rarius unum duove cassa), grandia, calyce (fig. 6.) persistente, haud aucto, dentibus conniventibus subvalvatis clauso parum breviora, ejus fundo, supra discum hypogynum fere immuta-

turn inserta, erecta, glabra, exsucca, basi obalia, conniventia, convexiuscula, intus obtusè carinata subtrigotia, apice terminata alâ membranaced, parum recurvd; oblong&, extremitate subtruncatâ hinc, convexâ, inde acutâ, levissimé crenulatâ, margine altero rectilineo, subsulcato, crassiore, altero (exteriore) convexo scindente; epidermide obducta tenuissim&, fuscescente; 1-locularia 1-sperma, indehiscentia. *Semen* (fig. 8, 9.) obovatum, compressiusculum, obtusum, basi acutiusculum, album, laeve, infra apicem *suspensim'funiculo* longiusculo, descendente, supra basin placentæ fungosae, erectae, liberae inserto. *Integumentum* simplex, tenuissimum. *Perispermum* crassiusculum, carnosum, album, embryonem aretè involvens, conforme. *Embryo* (fig. 10.) ovatus, planus, erectus. *Cotyledones* maximae, ovatae, obtusae, basi subcordatae. *Plumula* inconspicua. *Radicula* conica, acuta, brevis, infera.

OBSERTATIO.

Genus pulcherrimum, *Leucadi*, jSurm. (R. Brown 1. cit. 504.) et *Dracocephalo* quod am mod o affine, ab utroque et a tota fere familia diversum fructus magnitudine et forma, positione ovuli penduli seminisque suspensi, et perispermo copioso. Odor foliorum partiumque noyellarura citrinus, debilis. *Wall. loc. cit.*

, Since the preceding account was sent home to the Linnean Society, from whose Transactions I have almost literally copied it, I have found a second species growing on the summit of Sheopore, blossoming during the height of the rainy season, which has also been brought to me from the far more elevated regions towards Gosain-Than, from Kuniaon and Sirinagur. t This shrub is exactly like the preceding in height and stature. All its upper parts are very densely clad in stellate, soft, separable tomentum ; becoming somewhat smoother by age. The leaves are ovate, attenuato-acute, obtusely and unequally dentate, entire and roundish at the base, four or five inches long, pubescent above, covered underneath with white tomentum. *Petiols* hoary.—*Flowers* resembling those of the former, disposed in small spikes. This plant may be called *Colquhounia vertita*.

BEAUMONTIA, Wall

Ediitidis species, Roxb.

Calyx quinquephyllus, foliaceus, coloratus. *Corolla* campanulata, *ttibo* brevifauceque esquamatis, laciniis subsequilateris. *Stamina* filiformia laxa, *antheris* subexsertis, sagittatis, medió stigmati adljarentibus, lobis posticis polline vacirs. *Ovarimn* biloculare, suffultum *annulo hypogyno*, quinquelobo. *Stigma* oblongum, apiculd bifida. *JFb-liculi* duo maximi, cohaerentes. *Semina* ad umbilicum sericeo-comosa. A

Classis Linneana : *Pentandria monogynia*.

Ordo naturalis, *Apocynae* verw.

Habitus. *Frtttcx* maximus, volubilis, lacté copioso fartus. *Folia* opposita, perennantia, magna, oblongo-obovata, juniora, uti rami novelli, ferniginei, ciliis axillaribus et interpetiolaribus subulatis, sphacelatis. *Cymce* terminales. bracteate, pedunculis brevibus articulatis parum ramosis, dichotomis. *Flores* maximi, istos Portlandiae acmuli, nivei, speciosi, fragrantés. *Sepala* inagna, bractefonnia, rubicunda, vasculosa. *Fimctus* cylindricus, pendulus, cucumerinus, giganteus; demum in duos secedens folliculos. *Coma* ampltt) sericea.

Genus liinc *Parsonsw* illinc *Lyomiw* affine, ab ilia^ diversum figurâ corollae, abhacc6

corollâ fructuque. Nominavi in honorem Dominae Dianae Beaumont, scientise botanices et horticulture in Anglia devotissimae earundumque fautrici munificae, cujus benignitati hortus Calcuttensis plurimas debet plantas exoticas praecipue Europaeas.

BEAUMONTIA GRANDIFLORA, Wall. TAB. 7.

Echites grandiflora, Roxb. hort. beng. p. 20.

Incolit sylvas depressas montanasque Bengal^o orientalis, Chittagong, Sylhet, coet. Etiam habui e Noakote, Napalire. Floret a niense Februario usque ad finem Aprilis. *Fructus* maturescunt post integram annum.

est omen bengalense: *Dhootura Luta*, propter formam florum, istos Daturse quodammodo referendum; nomen quod etiam convenit *Biittneriae aspens*, Colebr. (vid. Roxb. flor. ind. 2. p. 383.)

Frutex ramosissimus, praevalte super arbores volubilis, nuncjuxta terrain longitateque extensus, valde frondosus, trunco crasso, cortice cinerascete, spongioso. *Kami* longissimi, nutantes, robusti, valde lactescentes, cylindrici, cinerascetes, dum juniores tomento ferrugineo, copioso, brevi, mollissimo obtecti, supernè obsoletè quadrangulares* *Folia* opposita, interstitiis longiora, patentia, subdependentia, oblongo-obovata, apice rotundata cum acumine brevi, angusto; basi parum angustata et acutiuscula; undulata, integerrima, supra lucida, atro-viridia, laevia, subtus pallidiora, opaca, costa crassa, nervisque elevatis, suboppositis, obliquis, ad margines anastomosantibus, albicantibus puberulis, coeterum glabra, venis majoribus, inter nervos transversalibus, parallelis, approximatis; chartacea, sex- ad octopollicaria, quin, in luxuriantibus nempe ramis, pedalia; juniora subtus, juxta vassorum tractus ferruginea. *Petioliteretes*, crassi, semipollicares ad pollicares, supra leviter sulcati, aequales, pubescentes, mine ferruginei. *Stipules* axillares nisi corpuscula quaedam glandulosa, subulata, sphacelata, in omnibus axillis recondita, quandoque serie simplici trans ramum migrantia. *Cyma* inagna terminalis, ovata, octo- ad duodecimflora, rarius subaxillaris foliorum paris superiorum, ad basin saepe aucta foliolis aliquot parvis floralibus lanceolatis, fere sessilibus. *Peduncululi* breves, crassi, articulati, bis terve dichotomi; *pedicelli* pollicares, subcomplanati biflori. *Bractea* membranacea sparsae, plerumque solitaria ad divisuras, subimbricatae, villosae, deciduae, ovatae, acutae, undulate, semipollicares, e viridi ruiescentes, venis reticulatis, ferrugineis. *Flores* plerumque terni, nivei, initio parum viridescetes, demum flavicantes, admodum fragrantis, quinquepollicares. *Calyx* (fig. 1.) magnus, quinquephyllus. *Sepala* ovato-lanceolata, cuspidato-acuta, undulata, villosa, pallide viridia vel albicantia, ferrugineo-reticulata, erectiuscula, subimbricantia, bracteis figura et colore similia. *Glandulae* subulatae, minutae intra singulum sepalum serie regulari ordinatae, basi corollas adpressae. *Corolla* coriacea, crassa, campanulata, extus pubescens, intus laevis, nitida, longitudinaliterque nervoso-sulcata, quatuor pollicibus longa, limbo patente, quinquefido, tres pollices emittente, faucibus nudis, pervia; deorsum sensim attenuata basi contracta in tubum viridescetem, semipollicarem, intus a filamentorum basibus decurrentibus costantani, calyce parum breviorum. *Laciniae* ovatae, acutae, planae, patentes, laevibus subaequalibus, basi parum contractae, aestivatione imbricatae in conum ventricosum. *Stamina* (fig. 2.) parallela, extra faucem parum prominula, flaccida. *Filamenta* filiformia, carnosae, laevia, alba, leviter compressa, basi tubo intus adnata, stylo parumper breviora, ideoque parum curva, apice leviter incrassata. *Anthera* ovato-sagittatae, acuminatae, dorsogibbosae, carnosae, stigma occultantes, huicque medio adnatae, corpus formantes ovatum, leviter pentagonum, acutum; utrinque longitudinaliter loculo angusto dehiscentes; lobis posterioribus longis, subulatis, conniventibus incurvatis, liberis, polline vacuis. *Pollen* pallide flavescens. *Ovarium* parvum, ovatum, pilosulum, biloculare, polysporum, ovulis numerosis, insertis placentae interioribus, carnosum, septo adnatae; inmersum et fere occultum annulo

hypogynus carnosus, convexo, subquinelobo, flavescens. *Stylus* (fig. 3.) filiformis, laxus, apice clavatus dilatatusque in *stigma* oblongum carnosum, glutinosum, in medio antheras adfigens, apicula biloba tenninalum. *Folliculus* (fig. 4.) maxime, oblongus, subcylindricus, obtusus, viridis, demum lutescens, glaber, nunc parum tuberculatus, basi retusus, pedunculo lignoso crasso brevi insidens, pendulus, pedalis, diatetro tripollicari, lignoso-coriaceus, plenè maturitate longitudinaliter debiscens in duos lobos (fig. 5.) recales, extus convexos, intus planos et parallelos, parum distantes. *Caro* valde erassus, coriaceo-spongiosus, longitudinaliter lignoso-fibrosus, initio rufescens, demum fuscus. *Dissepimentum* nil nisi latera interiora utriusque lobi incurva, plana, parallela, erassa, coriacea, e basi usque ad apicem rima longitudinali intus placentifera fissa. *Laculamentum* in singulo lobo unicum, oblongum, tunicè valde nitida, laevi, alba vestitum. *Receptaculum* (fig. «y) tenue, membranaceum, sublineare, foraminibus pluribus longiusculis pertusum, retiforme, apicibus adfixum *placenta?* gracili, longae, dehiscenti demum liberum.—*Semina* (fig. 7, 8.) valde numerosa, densè imbricata, pendula, cuneiformia, pollicaria, angulata, papilloso-rugosa, fusca, *rapid* longitudinali ventrem, percurrente umbilico parum contracto et excavato, corioso, *Membrana* exterior fusca; sub* spongiosa; *interior* tenuissima, albumini arcte applicata. *Coma* densa, longa, sericeo-splendens, setula minutà, ex umbilico orta, quasi stipitata, semine ipso duplo longior.—*Albumen* confirme, carnosum, lacteum. *JE/bryo* (fig. 9, 10.) niveus, carnosus, lactescens. *Cotyledones* maximae, crassae, oblongae, obtusae dorso convexiusculo venulosae. *Madicia* supra t^lindrica, brevis.

OBSERVATIONES.

This truly magnificent plant was introduced into the Hon. Company's botanic garden by the late Mr. John Roxburgh from Chittagong in the year 1810, and has since grown to an enormous size, some of the individuals overtopping the largest trees, with stems measuring at the base from 11 to 13 inches in circumference. It is at all times extremely ornamental; chiefly, however, when covered to excess by its ample bunches of superb, snow-white, most delightfully fragrant blossoms, when it is also clothed with a profuseness of dark green, shining, large leaves. The fruit is probably the largest of the whole tribe, being twelve inches long, sometimes even longer, and proportionally thick, hanging down perpendicularly, not unlike like a large green cucumber. It is produced in great plenty; its internal structure is extremely elegant, the seeds being very numerous, and beautifully arranged, each furnished with a long, silky, extremely soft and delicate coma. The shrub is easily propagated both by seeds and layers; in short, I know of no vegetable production, more noble, more desirable, more ornamental in all its stages than the one I have now described, and which, I hope I have been so fortunate as to succeed in introducing into the gardens of Great Britain.

HEMIPHRAGMA, Wall, in Act. Linn. 13. p. 611.

Calyx 5-partitus. *Corolla* infundibuliformis: limbo patente 5-fido subaequali. *Stamina* 4, aequalia, antheris nudis, liberis. *Stigma* simplex, acutum. *Bacca* globosa, exsucca, incompletè 2-ocularis, polysperma, *dissepimento* placentifero sursum fisso.

Syst. Linn. *Tetrandria Monogynia*, floribus monopetalis, monocarpis, inferis. An potius *Didynamia Angiospermia*?

Ord. Natural. *Scrophularinae*, Brown.

Habitus. Herba gracilis, repens pilosula. *Folia* duplicis indolis; caulina et ramea orbiculato-reniformia, opposita, subsessilia, deutata; alia acerosa, gracillima, conferta

in fasciculos petiolatos. *Flores* solitarii, parvi, rosei, brevè pedicellati, ebracteati, alterni vel oppositi in axillis foliorum majorum, vel terminates fasciculorum. *Baccae* globosae, ruberrimae, nitidae.

HEMIPHLAGMA HETEROPHYLLUM, Wall, loc.cit. 612.—TAB. 8.

Planta sat communis in montibus Napaliae, saxatilis, florens et fructifera toto fere anno, praecipue ab Octobre ad Februarium.

Caulis gracillimus, pedalis bipedalisque, prostratus, per distantiam pollicum trimum vel quatuor radicans, radiculis simplicibus, pallidis, fibrillosis; obsolete quadrangulari, epidermide fuscescente, secedente. *Limbi* pauci versus extremitatem caulis, tenerrimi, breves, indivisi, oppositi, acutanguli, asperuli a pilis brevibus, articulatis, patentibus, hyalinis. *Folia* bifolia. *Caulina* ovato-cordata, subreniformia, plana, patentia, membranacea, citius emarcescentia, opposita et fere amplexicaulia, brevissime petiolata, unguicularia ad pollicaria, remota, interdum pollices plures distantia, obtusa, acutiuscule trilobato-dentata, lobis baseos integris, rotundatis; utrinque pilosula, subtustrinerviale viterque reticulato-venosa, siccitate ferruginea; superiora et ramea ovata, vel suborbiculata, pauca, bracteiformia, illis ter quaterve minora. *Folia alia* subulato-acerosa, bi-vel trilineararia, semitercia, supra sulcata, pilosula, acuta, laete viridia, nitida, sessilia, undique patentia, 20-30-circiter conferta in fasciculos (fig. 1.) ovatos, unguiculares, brevè petiolatos, patentes, axillares et oppositos foliorum caulinarum, vel terminales. *Petioles* foliorum majorum vix bi-lineares, supra sulcati, pilosuli, lineola elevata tenerrima caulem, vel ramum ambientes. *Stipulae* nullae. *Flores* (fig. 2, 3.) parvi, solitarii, axillares foliorum, vel terminales fasciculorum, pedicello insidentes brevissimo, villosi, ebracteati. *Calyx* (fig. 4.) subovatus, persistens, dense villis, profundè quinque-partitus, laciniis patentiusculis, linearibus, purpureo-acutis. *Corolla* (fig. 5.) rosea, calyce duplo
cens; limbiis patens, quinque-raro sexfidus, admodum obscure bilabiatus, aestivatione imbricatus, laciniis ovatis, obtusis, mine subretusis, duabus superioribus parum latioribus i faux pervia, nuda. *Stamina* quatuor, oequalia, parum supra faucem elevata, medio tubi inserta; antheris ovatis, erectis, parum conniventibus, utrinque longitudinaliter deliiscentibus, nudis. *Pistillum* staminibus parum brevius; ovarium (fig. 6, 7.) subrotundum, laeve, disco hypogyno exiguo, annulari, flavicante suffultum, biloculare, polysporum, ovulis insertis placentae, dissepimento apice minutim perforato utrinque adnatae; stylus teres, brevis; stigma leviter incrassatum, simplex, acutum. *Bacca* (fig. 8, 9, 10.) ovato-globosa, magnitudine pisi, stylo persistente coronata, suffulta calyce patentissimè, haud aucto, coccinea, laevis, nitida, inscripta lineis gracillimis impressis quatuor, e vertice cruciatim decurrentibus, commissuras valvarum mentientibus, cultro difficiliter in totidem valvulas partibilis, nunquam sponte dehiscens; membrana exterior tenuissima, chartacea; caro spongiosa, pallida, basi copiosior, vertice tenuior. *Dissepimentum* incompletum, membranaceum, tenuissimum, vertice perforatum hiato inversè triangulari, aetate ultra medium baccae deorsum extenso. *Placentae* duae, semilunato-bicornes, spongiosae, convexae, biatui dissepimenti utrinque adnatae, ibique confluentes, medio crassiores, sursum attenuatae, rugosulae. *Semina* numerosa, minuta, pallide ferruginea, ovata, sessilia, punctata, mox soluta fundumque baccae utrinque occupantia. *Integumentum* simplex. *Perispermum* carnosum, aqueo-pallidum, tenue, seminibus conformè. *Embryo* dicotyledoneus. *Radicula* centripeta.

OBSERVATIO.

Plantula elegantissima *Scrophularinis* potius quam *Gentianeis* Juss. associanda, ab his discrepans corollâ staminibusque, ab illis quadammodo abluens structure fructus.

An *Solanearum* civis? Nomen imposui a septo incompleto, quasi dimidiate—Wall.*
Lcit.

To the preceding account, which is almost literally extracted from the 13th Vol. of the Linnean Transactions, I have nothing to add, except that I have hitherto found it impossible to make the plant live in Bengal.

SCHOEPFIA FRAGRANS, Wall, in *Roxb. Jlor. ind. %p.* V88. TAB. a

Foljis lanceolatis, acuminatis; racemis axillaribus, solitariis; bvario triloculari; drupa ovatii, mono-sperm a.

Nomen Parbutleanum: *Haloomaphe*.

Crescit in sylvis minus eltfvatis Napalire, a Bechiaco, usque ad convallem magna?n, ubi satis frequens. Etiam incolit loca magis elevata, septentrionalia. Floret sub pluviis; fructus maturescunt Decembre-Martio.

Arbuscula, *trunco* irregulari, diametrum pollicum tres yel quatuor emetiente, *cortice* crasso, spongioso, molli, rngoso, ex albedo flavescente; *ligno* levi, cinereo. *Mamitev** etes, albicantes, leviter flexuosi, uti reliquae partes glaberrimi; *gemmce* copiosae, parvce, squamis constantes numerosis. *Folia* spai'sa, approximata, interstitiis pluries longiora, bi-tripollicaria, integerrima, lanceolata, acuminata, basi acuta, lateribus parum inaequalia, subcarnosa, fragilia, avenia, supra atro-viridia, lucida, subtus pallida, nervis aliquot obsoletis, obliquis, capillaribus, ad margi«em reticulatis; -setate flavicantia. *Petioli* trilineares, teretes, suprd sulcati, basi articulati, siccitate mox decidni. *Stipuke* nullse. *Flores* (fig. 1,2.) flavi, fragrantissimi, dispositi *inracemos* simplices, axillares, subsessiles, tenuos, folio dimidio breviores. *Pedunculus*, uti *rachis*, gracilis, teres, nudus, basi circumdatus sqgmulis gemmaceis, nunc parum ultra adscendentibus, bracteolas mentientibus crassas, ovatas, subpedicellatas^ gibbosas. *Pedicelli* sex vel septem, iiliformes, subclavati, unguiculares. *Calyx* (fig. 3.) parvus, duplex (judicio author urn) uterq;e monophyllus: alius inferior (*Iractea calyiformis*> milii) pedicelli apici insertus ovariumque suffultiens, divisus in lobos duos tresve ovatos, acutos, inaequales, membranaceo-marginulatos, intermedio majori nunc bi- vel tridentato; alter (*calyx verus*) superior, obsoletus, margine angustissimo, integerrimo ovarium coronans. *Corolla* (fig. 4.) subcavnosa, infundibuliformis; *lulus* cylindricus, unguicularis, basi obscure pentagonus, apice leviter ampliatus ii|*Jimbwn* quinquefidum, laciniis lanceolatis, acutis, aestivatione valvatis, vix inaequalibus; *faux* pervia, ad basin singular lacinice munita fasciculo pilorum succuleritorum minuto, erecto, filamentum occultante. *Filamenta* brevissima, erecta, subulata, laciniarum basi, infra acervulos istos pilorum inserta, iisdemque opposita, inde per tubum lineis capillaceis decurrentia. *Antherte* ad faucem corollae erects, biloculares. *Ovarium* (fig. 5, 6.) carnosum, oblongum, calycibus multo longius, lineas tres emotiens, vertice Kerens discum carnosum, latum, conicum, obtusum, intra corollae tubum prominulum; triloculare, trisporum. *Ovula* cylindrica, loculis breviora, ex apice axis pendula. *Stylus* filiformis;tubi longitudine. *Stigma* clavatum, carnosum, parvum, trilobiim. *Drupa* (fiff.-7, 8.) baccata, oblonga, obtusa, laevis, ex albo flavescens, magnitudine fere fructus Oleaj sativa?, calyce sic djcto inferiore, persistente suffulta, vertice inscripta vestigiis insertionis corolla et calycis superior^ fere obliterated. *Caro* mollis, lineam crassus. *Putamen* (fig. 9.) tenue, cbartaceum, oblonguui, album, lineis numerosis, parallelis, longitudinalibus, elevatis, anastomosantibus notatum, uniloculare, monospermum, vertice umbilical earni arctius adhaerens. *Perwpernm* (fig. 10.) amygdalinum, album, putaniini conforme, parum rugosum. *Integumentum* simplex, tenue, ferru<rineum, spongiosum, ad verticem seminis notatum vestigiis linearibus ovariorum duormn abortivorum et axis ovarii. *Embryo* (fig. 11. 12.) minutus, lacteus, CThndricus, rectus, ad ^erticra perispermi locatus, inversus. *CotyUdoms* parallel®, ovatae.

obtusae, dorso convexae, dimidium ipsius embryonis emetientes. *Radix* supera, subturbinata, Hæam demidiam e superficie perispermi remota. *Plumula* inconspicua.

OBSERVATION,

Mons. de Jussieu has justly observed in an excellent memoir chiefly on the families of *Caprifoliaceæ* and *Jorantheæ*, inserted in *Annal. du muséum d'histoire naturelle*, 12. p. 300, that this genus is the connecting link between those families, belonging, however, more properly to *Lorantheæ*. I would add that it is nearly allied to *Santalaceæ*? of Mr. Brown. The account which the first mentioned immortal botanist has given of the fruit, taken from the manuscript of the accurate Richard, as far as it goes, agrees exactly with the present species. The difference between the structure of the ovarium and that of the fruit has, however, not been noticed; and as Schreber describes the genus, as having a three-celled berry with several seeds, the number of the abortive ovula may perhaps vary. In my tree there are invariably found three ovula, one of which only comes to maturity; the other two are abortive, remaining attached to the upper end of the cavity of the putamen, as does also the axis of the ovarium, in the shape of withered, flattened threads.—*Hæneha*, Ruiz et Pavon flor. peruv. (not of the prodromus) belongs probably to this genus, as has been remarked by Schultes, in *syst. veg.* 5. p. viii.—The fruit bears some resemblance to *Rhysospermum*, Gaert. carp. suppl. p. 232, t. 224, which is the same as *Nbtelaea*, Vent, according to Mr. Brown, (*prodr. nov. holl.* 1. p. 523).—The perfume of the flowers is of a most delightful kind, and may be perceived on steeping them in waim-water even long after they have been dried.—Wall, loc* tit.

SPHAEROCARYA, Wall, in *Roxb. Flor. inch* 2. 371-

Calyx quinquepartitus. *Petala* quattuor, minuta, staminibus totidem alternantia. *Squamula* quinque, fimbriatae, inter stamina laciniisque calycis. *Ovarium* absque ullo disco. *Stylus* indivisus. *Drupa* infera. *Nux* glabra, suturis destituta

Systema Linneanum : *Pentandria monogynia*, sectione floribus superis, pentapetalis, fructu drupaceo.

Ordo naturalis: *Rhamnacearum* sectio dubia, fructu infero, insuper abluens embryone inverso.

SPHAEROCARYA EDULIS, Wall. TAB. 10.

Hand rara in sylvis vallis Napalia? montiumque vicinis. . Floret Aprili, Majo. Fruct. Octobre.

Nomen Newarrensæ *Lushpoo* ; etiam *Eal-Murisee*.

Nomen Parbutteum *Bun-Amb*.

Arbor frondosa et umbrosa, cortice cinereo. *Ramuli* teretes ; juniores, foliaque tenella oblecta villis longis, sericeis, nitidis, copiosis. *Gemma** (fig. 12.) majusculæ, ovatae, sericeo-pilosæ, squamis imbricatis rotundatis. *Folia* alterna, patentia, ovato-oblonga, acuminata, integerrima, basi acuta, marginibus subrecurvatis, supra laevia, lucida, juxta nervos sulcatis, subtus pallidiora, costis nervisque paucis alternis, obliquis, villosis, elevatis, venis reticulatis ; subcarnosa, tri- ad sexpollicaria, in luxuriantibus ramis usque ad novem-pollicaria, decidua, tempore florescentiæ germinantia. *Petiolus* vix semi-unguicularis, convexus, supra sulcatus. *Stipule* nullæ. *Racemi* solitarii, sessiles, terminales vel axillares foliorum supremorum, dense villosi, bi- tripollicares. *Flores*

(fig. 1,2.) pauci, alprni, virides, inodori, parvi et inconspicui, *pedicellis* insidentes brevibus, clavatis carnosis, nudis. <7a/y.rsu penis, quinquepartitus, una cum corolla emarcescens, persistens; *laciniis* (fig.3,4.) triangulares, acutae, apice villosae, intus glabrae, patentes, vix semilineam longae, aestivatione valvatae. *Petala* quinque, minuta, ovata, obtusa, laciniis calycinis multo» minora, infra fissuras calycis inserta. *Filamenta* quinque, brevia, erecta, glabra, petalis alternantia, basi laciniarum calycis inserta iisdemque opposita. *Anther* & erectae, biloculares, albae. *Squamulae* quinque minutissimae, pilis fasciculatis succulentis barbatae, inter filamenta et lacinias insertae?. *Ovarium* (fig. 5, 6.) inferum, clavatum, majusculum, nitidum, pubescens, vertice, intra florem, concaviusculâ, uniloculare, monosporum. *Ovulum* succulentum, oblongum, erectum, elevatum chorda spirali, carnosum, subdiaplanâ, fundo ovarii insertâ, perque canalem proprium angustura in cellulam oblongam, propriam ovuli conductâ. *Stylus* brevis, cylindricus. *Stigma* convexum, obsolete bilobum. *Demum* fig. (7, 8, 9.) pyriformis, pollices duas et demum longa, sesquipollicem crassa, epidermide oblecta luteo-viridi, tenaci; extremitate superiore rotundata et excavata foveolâ centrali profundâ lacinias calycinas incrassatas, petala filamenta stylumque emarcida occultante; basin versus attenuata, cuneiformis; unilocularis. *Caro* pallidâ fuscus, mollis, subglutinosus, tertiam pollicis partem crassus, fibroso-vascularis. *Nux* (fig. 10, U.) solitaria, magna, globosa, glabra, sine ulla sutura, cavitatem omnino replens eoque firmiter adherens, hinc inde notata foveolis parvis carni arctius adherentibus, vertice obsolete apiculatâ, basiparum scabra perforata foraminulo exiguo. *Putamen* cinereum, vix lineam crassum, uniloculare, monospermum. *Perispermum* amygdalinum, album, nuci conforme, usque ad medium perforatum canaliculâ obsolete e fundo seminis, prope foraminulum istud putaminis surgente, sursum oblitteratâ, vestigium chordae ovuli includente. *Integumentum* simplex, ferrugineum, tenue. *Embryo* albus, oblongus, brevissimus, intra verticem perispermi oblique locatus. *Cotyledones* oblongae parallelae. *Radicalis* supera, conica.

OBSERVATION.

The inhabitants of Nepal are very fond of the fruit of this tree, which however, to a European palate holds out but little temptation. The wood is nearly white, of a firm texture, and appears to me suited to the work of the cabinet maker; it is used, only, for firewood and posts. The direction of the ovulum and that of the embryo are directly contrary, the former being decidedly erect, while the latter is pendulous.— *Wall. he. cit.*

PASSIFLORA NAPAENSIS, Wall. TAB. 11.

Fruticosa, scandens, laevis; *foliis* indivisis, integerrimis, ovato-cordatis, acutis, glaucis, basi subtus petiolisque medio glandulosis; *pedunculis* axillaribus, bi-trifloris, bracteis sparsis, *subulatis*, *perianthii* foliolis oblongis, alternis quinque angustioribus.

Crescit rarius in sylvis convallis Nepalicae ad Pusputnath, Nag-arjhoon, etiam montis Chandaghiry. Floret Junio, Augusto. Fructus maturescunt versus finem pluviarum.

Frutex tenuis, ramosa, glaberrima, scandens et volubilis. *Cfl.* gracillimus, cortice tectus gryseo. *Limbi* longi, gracillimi, vix filo emporetico crassiores, pallidi, glauci; tenelli pubescentes. *Folia* petiolata, alterna, patentia, interstitiis paullo longiora, ovato-cordata, cuspidulato-acuta, integerrima, nunc obsolete crenulata, sinubaseos parvo, lobisque rotundatis, nunc (basi folii rotundatâ) fere obsolete, bi-tripollicaria, membranacea, laevissima, vaide glauca et opaca; paginâ superiore interdum variegata maculis amplis, albicantibus, inferiore tri-vel quinque-nervi, nervis gracilibus, in junioribus foliis puberulis, exterioribus brevissimis, parum reticulatâ, ad basin costae, utrinque, glandule orbiculatâ, sessili, plano-convexâ, viridi, lucidâ, nunc geminatâ, quandoque pluribus

inter nervos vagis. Petioli teres, gracilis, filiformis, supra sulcatus medioque, vix paulo infra, glandulis duabus, parvis, cylindricis, brevibus, alternantibus, approximatis. Stipulae nullae, nisi ciliae axillares, subulatee, minutae, carnosae, fasciculatae, emarcescentes. Cirrhi axillares, solitarii/filiformes, spiraliter torti, indivisi, laeves, nudi, folio sesqui vel duplo longiores. Pediculi axillares uniflori, nunc bi- vel triflori, filiformes, petiolo dimidio breviores, puberuli, bracteolis quibusdam sparsis, subulato-linearibus, emarcescentibus instructi. Involucrum nullum. Flores (fig. 1, 2.) inter minores, vix ultra pollicem transversum, emetientes, albi, externe dilute viridescentes, inodori. Perianthium decempartitum, patenti-recurvum, fundo convexo, parum prominulo; laciniae oblongo-lineares, obtusae, membranaceo-marginatae; alternae angustiores, petaloides. Corona triplex, concolor: exterior setaceo-multiradiata, patentissima, perianthii foliolis plus dimidio brevior; media huic proxima, haud vero contigua, plicato-multifida, inflexa, basi urceolata, lobis (fig. 3.) lineari-lanceolatis, versus columnam conniventibus, acutis, propter margines sursum revolutos supra canaliculatis; intima constans annulo obsolete, angusto, integerrimo, puberulo, basi pedicelli ovarii purpurascens cingente. Columna perianthio brevior. Filamenta subulata, recurvato-patentia. Antherae ovatae, leviter deflexae. Ovarium ovato-subglobosum. Styli devaricati, filamentis breviores. Stigmata clavata. Bacca (fig. 4.) sphaerica, nuda, laevis, flava? diametri linearum trium.

• OBSERVATION.

This species comes near to *Passiflora pallida*, Linn., which Sir J. E. Smith has justly observed (Rees's Cyclopaedia, in loco) consists of two different species, namely one described by Plumier and the other by Piso. Loureiro's *P. pallida* (Flor. cochinch. 2. p. 527) is no doubt a distinct plant, as pointed out by Willdenow, in his edition of that work (2. p. 645.); it seems to differ from ours in having opposite, ovate leaves, and much larger flowers. These two last mentioned species appear, therefore, to be the only ones which have hitherto been found in India; unless *P. coerulea* considered as a native of China, where Loureiro, in the above quoted work, says it grows wild; but this has been doubted by Sir J. E. Smith (loc. cit.) The present species is not without its elegance, although it is far behind most of the members of this beautiful genus. It is rather an uncommon plant in Nijpal.

LILIUM GIGANTEUM, Wall. TAB. 12.13.

Caule folioso, racemoso; foliis petiolatis, sparsis, cordatis, amplissimis; floribus infundibuliformi-campanulatis, intus glabris.

Sjire, rectius Sjiroi et Osjiroi. Kaempf. Amoen. Exot. p. 870. Ejusd. Icon, select, a Banksio edit., p. 3. t. 47.

Zalmjocandidum, Thunb. jap. p. 133?

Crescit in monte Sheopore, versus medium ejus, ad loca humida, umbrosa.

Floret sub pluviis, a mense Maii, usque ad finem Julii. Fructus maturitatem attingunt Octobre.

Bulbi ovato-globosi, aggregati, magnitudinis pomi mediocris, vetustuti maximi, constantes squamis pluribus crassis, carnosis, ovatis, truncatis, planiusculis, glabris, subpatulis. Caulis strictus, cylindricus, uti tota planta glaberrimus, cylindricus, sulco lateraliter interrupto saepius notatus, e basi, diametrum pollicarem ad bipollicarem emetiente, aequaliter attenuatus in apicem calami scriptorium ad digitum minimum erasam, quatuor ad septem pedes altus, fructifer adhuc elatior, cavus et inanis, nee septis interstinctus, parietibus duas tresve lineas crassis. Folia magna, sparsa, plana, mem-

branacea, patula, petiolata, quaedam remotiora, alia approximationi, saepe interstitiis plus duplo longiora, lato-ovata, cbrdata, attenuato-aciiminata, sinu profundo subdecurrente, lobis lbtis, rotundatis, distantibus, leviter repanda et undulata, membranaceo-marginulata, nitida, supra saturate viridia, subtus pallidiora, cost& amplâ, crassa, albicante, nervis obliquis, distantibus, venis capillaceis, reticulatis, venula insuper indivisa, submarginall; inferiora maxima, novempollicaria ad pedalia, longius petiolata, superiora sensim minora, minus profulide cbrdata, summa tripollicaria, brevissimè petiolata, gracilius et longius acuminata basi subrotundata, subintegrâ. *Petiolis* crassi, fusco lato canaliculati, margine scindentibus, basi latissima tertiam caxillis partem amplectente, infimi folia equantes vel superantes > superiores iisdem his terve breviores, summi brevissimi, latissimi, pollicari vel infrâ, marginati. *Flores* maximè fundibuliformi-campanulati, oblique nutantes, octo ad decem dispositi in racemum amplissimum, terminali, nudum, pedalem Tel Sesquipedalem; albi, extus deorsum viridescens, intus rufescentes, fragrantissimi; *tubtis* viridescens; digitum medium fere crassius, tridactylis, obtusum triangularis, basi retusa inssqualiter subtrilobis, sensim difertus in *limbum* sequaliter patulum, subrevolutum, quadri- ad quinquepollicarem. *Pedunculi* teretes, crassi, breves, semipollicares/fecurvato-nutantes. *Flores ante anthesis* virides, deflexi, *bracteis* obtecti magnis, foliaceis, ovatis, albicantibus, caducissimis, insertionis vestigium infra singulum pedunculum linquentibus aiguantum, semilunare, utraque extremitate ascendens; praeterea *bracteola* interna, alba, linearifolia, ascendens, pollicem longa, supra basin singuli pedunculi inserta. *Petala* (fig. 3.) oblongo-spathulata, inferiore flavidii parte valde crassa, vix lineas quatuor lata, exteriori dilatata in laminam lanceolatam, acutiusculam, minutim striatam, intus ad marginem spectantibus derisissimis rufescentem; basi subtus gibboso-convexa, supraque fere latiuscula, mellifera leviter excavata, pagina superiore sulco exarato longitudinali, extrorsum obliterate; intermarginibus hinc parum inaequalibus; *tria exteriora* parum latiora, dorso convexo costato; *interiora tria* costata, elevata utrinque sulco, «feculpt4 profundo margines petalorum exteriorum recipientes. *Stamina* parallela, fere, cerniventim, supra faucem oris > exserta, limbo parum breviora, longitudine parum inaequalia. *Filamenta* alba, carnosa, plana, petalorum basi inserta, sulcibus interiorum incunibentia, cumque illis canaliculatis formantia nectariferam, apice teretia, *antherae* oblongae, obtusiusculae, pallide avse, rectae, leviter versatiles. *Ovarium* (fig. 4.) oblongum, obtuse triangulifera, litfeis sex notatum, nitidum, sesquipollicare trilobulare, *ovulis* orbiculatis planis, fere absque numero placentae, in singulo loculo bijugae, dupli serie parallela insertis. *Stylus* crassus, rectus, filamentorum longitudine, infra stigma leviter incrassatus. *Stigma* prismatico-trilobum, obtusum, vertice triangulari, scabro, mucoso. *Capsula* (fig. 5.) ovato-prismatica, angulis obtusis, tetrasa cum cuspidata, tateribus concavifloris, basi clavata, pollices duos et dimidium longa, duos lata, fusca, glabra, coriacea; *valvula* margine incrassatae, infrorsum pectinatae serie simplici ciliarum longissimarum, angustissimae. *Semina* (fig. 6.) innumera, levissima et tenuissima, triangularia, oblique obovata, membrana lata, tenuissima marginata, basi angustata et retusa, semipollicaria. *Coetera* ut in Lilio bulbifero; Gaert. carp. 2. p. 16-1. 83.

OBSERVATION.

* This majestic Lily grows sometimes to a size which is quite astonishing; a fruit-bearing specimen of the whole plant, which is destined for the Museum of the Hon. East India Company, measures full ten feet from the basis of the stem to its apex; its general height, however; when in full blossom, is five or six feet, and in that state it is a truly stupendous object. The flowers are proportionally large and delightfully fragrant, not unlike those of the common white Lily. The outer three petals are closely united to those within by their acute margins insinuating themselves under the dorsal rib of the latter, each

side of which is deeply furrowed. The filaments are inserted with their flat broad base just above the little cavity at the base of each petal and continue closely applied for about half their length to the furrow which proceeds from thence, forming a nectariferous canal, which leads to the above mentioned cavity. *Kaempfer's* figure is a tolerable representation of my plant before its flowers expand; but it is impossible for me to say, if it is actually intended for the same species. My ever-to-be-lamented benefactor and patron, the late Sir Joseph Banks, observes in the above quotation, that Thunberg refers this figure to *L. candidum*; but this last is a widely different species. I have ventured to quote Thunberg's plant, because the extraordinary length, which he ascribes to its flower seems to indicate, at least, that it cannot be the same as Linneus's *L. candidum*. The root is at first very small, consisting almost of a solid mass; a number of leaves soon spring up from thence and it is the very thick and fleshy bases of these, which afterwards constitute the large bulbs. A number of these are often found surrounding the base of the stem, the whole forming a mass as large as an infant's head. Although I have repeatedly procured its roots I have never been able to succeed in making them shoot out any plant, or even survive one season in the Honorable Company's botanic garden*

HOLBOELLIA, Watt

Plores monoici. *Perianthium* hexaphyllum; *foliolis* duplici serie, online ternario* alternation dispositis. *Masculi*: *Stamina* sex parallel a, distincta; *antheris* adnatis, extrorsis. *Glandula* sex ovatae, filamentorum basibus oppositae, iisdemque adnatae* *Rudimenta* pistillorum centralia. *Foeminei*: *Ovaria* tria, distincta, oblonga, attenuata. *Styli* nulli. *Stigmata* simplicia, sulcata, evanida. *Stamina* sex sterilia, completa, pistillorum bases ambientia. *Baccae* saepius tribus pauciores, divaricatae, oblongae, carnosae, sessilis, corticatae, folliculares, intus longitudinaliter dehiscentes, uniloculares, polysperniae. *Semina* nidulantia, oblongo-ovata v. reniformia; *perispermo* copioso; *embryone* minuto, radícula *infra* vel *centrifuga*.

Classis Linneana: *Monoetia hexandria*.

Ordo naturalis: *Menispermeae* ver&; ab hisce tamē nonnihil abluens diffinitione radiculae, *inferd* vel *centrifuga*. A generibus tribus, sectionem harum foliis compositis insignitam constituentibus, distinguitur sequentibus. A *Lardizabala* Ruiz et Pavon, floribus hexaphyllis, staminibus liberis, stigmatibus sulcatis, evanidis, baccis follicularibus, unilocularibus, pulpd polysperma. A *Statintania*, De Candolle, differt staminibus baud coalite nee aristatis; a *Bursaia*, du Petit Thouars absentia carollae (perianthii nempe foliola in nostris plantis uniformia* petaloidea vel sepaloidea) filamentorum basibus distinctis, et fructus fabrica haud drupacea nee monosperma. Abludit praeterea floribus monocicis, qui in illis dioici vel polygami. Habitus generalis *Lardizabala biternata* (in Itinere Perousii, tab. 6, 7, et 8 optime delineate) magis adhuc, quoad folia, *Stauntonice* accedens.

Habitus: *Frutices* magnae, extensae volubiles, gemmiferae, glaberrimae* *Folia* aU terna, peltatim digitata, foliolis integerrimis, coriaceis, trinerviis, petiolis omnibus utraque# extremitate intumescens et articulatis. *Racemi* fasciculati, subcorymbosi, nudi, laxi, axillares vel ad basin ramulorum, pauciflori. *Florēs* albi, extus parum purpureascentes, fragrantēs* *Baccae* magnae, tumidae, purpureae, abortivae saepius tribus pauciores, esculentae. Getius consecratum amico et praeceptori carissimo, Frederico Ludovico Holboel, Horti Botanici Regii Hafniensis hortulano dexterrimo, botanico peritissimo, open Hornemanni *Flora Dania Oeconomica* nuncupate aliisque contributori, quique hortum Calcutta ditavit thesauris seminum frequentibus, amplissimis omniumque fertilissimis,

EOLBOELLIA LATIFOLIA, Wall. TAB, 16.

Foliolis ternis vel quinis, ovatis; floribus racemosis; baccis ovatis.

Parbutt. *Gooplea*; *Baegul*.

Frequens in sylvis montanis Napalise, Cheesapany, Chandaghira, Sheopore, coet Florens Martio-Majo. Fruct. Octobre,

Frutex ampla, ramosa, valde volubilis, omnibus partibus glaberrima, surgens e radice lignosâ, ramosissimâ. Caulis cylindricus, valde tortuosus, frequenter diametruni pollicuin tnum ad quinqueemetiens, corftV0 crasso, suberoso, molli, cinereo, vel flavicante, ligno einerascente, radiato, paroso, levi. *Rami* longissimi, teretes, cinerei; juniores flagelliforines, glauci, subcirrhati. *Gemma* magnie, ovatee, *squamis* obtectse coriaceis, lato-ovatis, cuspidato-acutis, diutius persistentibus et ramorum novel 1 orum basin ambientibus. *Folia* patentia, petiolata, remotiuscula, peltatim digitata, ternata vel quinata, palmaria. *Petioles* graciles, teretes, supra plani, basi apiceque articulati et oblongo-intumescences, tri-quadripollicares; *partiales* illis simillimi, sed graciliores et breviores, pollicares ad bipollicares, intermedio longiore, dumque tribus plures laterales longitudine decrescentes, utrinque articulato-incrassati, verticillatim patentissimi. *Foliola* tria vel quinque, ovalia, acuta, rarius acuminata, nunc rotundato-acutiuscula, basi rotundata; integerrima, leviter complicata, apicem versus parumpcr recurvata, firma et coriacea, laevissiina, siccitate flavicantia, tri- ad quinquepollicaria, quin niajora, supra atro-viridia, Jucida, ad vasorum tractus leviter sulcata, basi, ad utrumque latus insertionis petioluli, notati tuberculo minuto oblongo, glanduliformi; subtus opaca, pallida, subglauescentia, trinervia, costd gracili elevata, nervis lateralibus in arcus anastomosantes, submurginales delitescensibus; prseterea iiervi e costalateraliterprogrediuntur aubtransversales, breves, remotiusculi, alternantes; venae reticulatae capillares. *Stipulce* nullae. *Flores* subcampanulat^ nutantes, albi, semipollicem longi, valde fragrantis, dispositi in racemos simplices, fasciculatos, subcorymbosos, laxos, axillares, vel circum basin novellorum ramorum subsparsos, petiolis breviores. *jtestivalio* valvata.—*Pedunculi* graciles. subcomplanati; *communis* pollicaris, bipollicarisve, basi ssepius squamis gemmaceis aliquot circuindatus; *partiales* filiformes, subclavati, pollicares, basi articulate suffulti bracteolâ lineari, meinbranaceâ, patula, mox decidua. *Masctdi* (fig. 1, 2.) in distinctis racemis. *Foliola perianthii* parum carnosa, oblonga, exteriora obtusiuscula, interiora paullo angustiora, introrsum hamoso-acuta. *Stamina* (fig. 4, 5.) distincta, parallela, recta, contigua, aequalia, perianthio parum breviora, subclavata ;?&&-*menta* subulata, carnosa, apice ab anthera denudata, basi extns glanduld carnosa, sessili, plana, ovata, adnaU; *antlierct* lineares, albae, loculis angustis, remotis, fihunenti dimidio superiori parti longitudinaliter adnatis, extrorsum dehiscensibus. *Rudimenta* (fig. 3.) pistillorum tria, subulata, carnosa, intra stamina, hiscedimidio breviora. *Flores foeminei* (fig. 6, 7.) masculis parum breviores, foliolis paullo latioribus. *Pistilla* (fig. 8, 9, J 0.) tria in centro floris, parallela, apicem versus leviter divergenti-recurvata. *Ovarid* oblongo-cylindrica, attenuata, foliolis perianthii interioribus opposita; intus obsolete sulcatafacileque juxta longitudineminduas valvulas divisibilis, unilocularia, polyspora: ovulis parietibus undique, salvo sulculo isto, adnatis. *Styli* nulli, nisi apices ovariorum. *Stigmata* simplicia, parva, obliqua, obtusa, sulcata, evanida. *Stamina* (fig. 11.) sex sterilia, clavata, pistillorum bases circumposita, hisce multo breviora, erecta, filamentis crassis, brevissimis; antheris grandiusculis, polline vacuis. *Bacce* (fig. 12, 13.) ssepiissime duee, nunc tres, divaricatae, raro solitariae, apici dilatatee pedunculi lignosi, parum elongati, penduliinsertæ, ovato-oblongse, utrinque obtusee atque rotundate'e, pollice^ tres longae, sesquipollicem crassae, atropurpurea3, nitidae, tumidae et torosae, superficie nempe inaequali et undulata, nunc pafim senulosae, latere interno inscriptae suturalongitudinali, undulata, crassiuscula, juxtaque earn plenii maturitate, a basi usque ad apicem dehiscens in valvas duas aequales, folliculares, crassas; uniloculares, polyspermse. *Cortex* carnosus^ treslineas crassus, intus obtec-

tus cuticuſ tenui, e granis crustaceis vel subosseis conflata, a carne facile separabilis. *Caro* alba, mollissima, spongioso-reticulata, ab axi cylindrica, solidâ, carnosâ, usque ad peripheriam divisa in cellulas concentricas, horizontales, alternas, seriebus sex ad octo sibi invicem impositas, approximatas, septis tenuissimis, pulposis separatas, monospermas. *Semina* (fig. 14, 15, 16, 17.) valde copiosa, numero cellularum correspondent, horizontalia, centrifuga, oblonga vel rhomboidea, laevissima, atra, lucida, unguem longa, ad basin latiusculam, rotundatam /nscripta *rimd umbilicali* lineari; apice paullo angustiora, lateribus planiusculis, margine altero convexiore, altero angustiore. *Testa* coriacea, secus dorsum seminis paullo crassior. *Integumentum interim: pellicula* tenuis, fusca, albumini arete applicata. *Albumen* amygdalino-carnosum, album, semini conformis, extremitate umbilicali, distantia minutâ ab ipsa peripheria, exsculptum cavitate exigua, mucilaginosâ, embryoniferâ. *Embryo* brevissimus, vix lineam longus, trochleari-oblongus, niveus. *Cotyledones* duse, ovatae, obtusae, contiguae. *Radicula*, cylindrical dimidiam embryonis longitudinem efficiens, in terra.

HOLBOELLIA ANGUSTIFOLIA, Wall TAB. 17.

JFbfolis senis nonisve, lineari-lanceolatis; *pedunculis* bi- trifloris, subfasciculatis; *baccis* oblongis.

Nomina vernacula, statio, tempus florendi, fructuumque maturatio eadem ac praecedentis.

Habitus omnino prioris, sed statura gracilior et minor. Tota glabra. *Rami* perquam longi, viminei, valde tortuosi et volubiles, nunc radicantes. *Folia* longius petiolata quam in illa specie; *petioli communes* foliolis saepe sesqui ad duplo longiores, supra sulcati; novella rubicunda. *Foliola* septem ad novem, in forma ovato-orbiculata, peltata, verticillatim patentia, lineari-lanceolata, attenuata et subacuminata, cuspidata, basi rotundata, parumper repanda, integerrima, laevissima, lucida, coriacea, sed minus firma quam in altera specie, tripollicaria ad sex pollicaria; intermedium longius, petiolo partiali gracili, pollicari suffultum; lateralia utrinque decrescentia, breviusque petiolata; duo bases reliquis. duplo breviora, petiolo brevissimo insidentia; circumscriptio generalis folii hinc subovalis evadit; superficies inferior glauca, reticulata, ad basin obsolete trinervia, juxta tractum vero costae elevatae nervis brevibus, subtransversalibus, intra marginem arcuatim anastomosantibus instructa. *Pedunculi* axillares, lateralesque, subfasciculati, bi- triflori, teretes, laeves, petiolis bis terve, quin pluries breviores; fructigeri valde elongati, laxi. *Flores* (fig. 1—6.) albi, extus parum purpurascens, suaveolentes, structura omnino priori aemuli; *pedicelli* ad basin bracteata lineari, patula, suffulti. *Baccae* (fig. 7.) saepessimè duse, oblongo-cylindricae, pollicem crassae, tres longae, undulatae, nitidae, purpureae, latere interiore dehiscentes. *Semina* (fig. 8, 9.) ovato-reniformia, minorum quam in priori specie; *embryo* (fig. 10.) in altera perispermii extremitate locatus, centrifugus.

OBSERVATION.

These two shrubs are easily distinguished from each other. The first species is by far the strongest, growing sometimes to a gigantic size, I brought specimens down with me, for the Honourable East India Company's Museum, of a trunk, as thick as a good sized arm. Its leaves are broad, ovate, either ternate or quinate, about as long as the common petiol; the flowers quite white, collected in clusters; the berries large and ovate, the seeds oblong. The second species has long-petioled leaves; the leaflets from seven to nine, narrow- or linear-lanceolate, scarcely two-thirds of an inch broad; the peduncles few-flowered, and the flowers attaining soon after expansion a purplish colour;

the berries are not so thick, and of an oblong shape; the seeds reniform. The natives of Nipal eat the fruit of both plants, the pulp of which has a sweetish, but otherwise insipid taste.—Can Thunberg's two *Raianice*, *quinata* and *hexaphylla* (Flor. japon. p. 148 et 149) possibly belong to this genus?

ARUM NEPENTHOIDES, Wall TAB. Ifc

Caulescens, erectum, laeve, dioicum, vaginis petiolisque variegatis; *foliis* binis, peltatim* quinatis, *foliolis* lanceolatis, acuminatis; *spatha* terminali, pedunculate, *limbo* trilobo: *lobis* lateralibus reniformibus, horizontalibus, intermedio acuto, fornicato; *clava* spadicis obtusissim&, nuda, vix exsertu, basi truncato-retusa; *staminibus pistillisque sterilibus* nullis. *

Legi in sylvis Sheopore montis, florens et fructigerum tempore pluvioso.

Tuber depresso-orbiculatum, carnosum, fuscum, undulatum, laeve, intus rufescens, Venice comosum radiculis longis, crassis, teretibus, pallide rubris, parum fibrillis • *Canalis* erectus, carnosus, teres, bi- usque ad quadri-pedalis, laevis, nitidus, basi pollicem ad duos crassus, *vaginis* aliquot indutus remotis* alternantibus, oblongis, arete adpressis, obtusissimis, hinc fissis, infimis brevissimis; medio diphyllus, superne gracilior, nudus, florifer, pennae cygnet vix crassior; totus variegatus maculis parum elevatis, scabriusculis, transversalibus et subannularibus, lateritiis, striisque hisce alternantibus, perpendicularibus, copiosis, parallelis, violaceis. *Folia* dua, subopposita, erecto-patentia, petiolata, peltatim-digitata, quinata, circumscriptione orbiculato-cordata, *Foliola* lanceolata, in acumen gracile attenuata, sessilia, deorsum angustata, basi subacuta, dorso drantalia ad spithamaea, inferiora duo hinc gibbosiora; membranacea, laevissima, supra atroviridia, nitida, subtus glauca, costae elevate, nervisque gracilibus, remotis, alternantibus. *Petiolus* teres, laevis, attenuatus, foliolis duplo longior, striis violaceis medio confluentibus annulatus, basi subacuta, pennam cygneam crassam, infra apicem vagina (fig. 2.) in ligulam, brevissimam, obtusissimam productae insertae. *Spatha* (fig. 1.) solitaria, terminalis, apice caulis spithamaeae pedunculi in modum elevata, laevis, erecta, sex ad octo pollices longa, extus ex albo viridiuscula, pulcherrime picta; intus emaculata, fascescens; subnervia et subavenia; dimidia inferior pars convoluta in cylindrum pollicem crassum, ornatum striis brevibus, violaceis, numerosissimis, geminatis, longitudinaliter seriatis; *limbus* patens, trilobus: *lobi* laterales orbiculato-reniformes, horizontaliter patentissimi, obtusissimi, sesquipollicares, superius convexi, fuscescentes, radiatim punctati, subtus concavi, albicantes, parallelae venulosi; *intermedhis* triplo major, recte adscendens, ovatus, fornicatus, apice leviter Jecurvus, subacuminatus, marginibus vix repandis, baseos parum contractae lateribus recurvatis, sensimque in lobos istos laterales auriculaeformes abeundibus, dorso convexo, inscriptus lineis quinque albicantibus, latiusculis, parallelis, minime elevatis. *Spadix* erecta, laevis, tubo spathae parum longior, apiceque leviter supra faucem elevata, dioica; mascula foeminae parum gracilior, et ima cum spatha brevior; pars dimidia inferior teres, e basi ultra medium dense staminifera vel pistillifera; coeterum nuda, absque genitalibus sterilibus, aliisque appendicibus, teres, gracilis, violaceo-punctata; pars dimidia superior, seu *clava*, cuneiformi-cylindrica, alba, punctulata, laevis, obtusissima, intus spongioso-fibrosa, medio contracta, basi iterum parum dilatata, subtruncata et retusa. *Filamenta* valde numerosa, distincta, brevissima, subconica, seriebus quinque vel sex spiraliter ordinata, apice gerentia *antheras* tres vel quatuor verticillatas, nudas, globosas, uniloculares, vertice dehiscentes rimae brevi transverse; *stamina* superiorum sunt majores, violaceae, subreniformes: inferiorum vero minores, citius emarcescentes, flavicantes, globosae: omnes tamen polliniferae. *Ovaria* (fig. 3, 4, 5, 6.) indistinctae spadice, ovato-subrotunda, numerosissima, seriebus circiter duodecim dense imbricata, unilocularia, vertice purpurascencia, continentia ovula

qiiædam erecta. *Stylus* brevissimus, columnaris, purpureus. *Stigma* orbiculato-re* niforme, subpeltato, cinerascens, pubescens. *Baccæ* (fig. 7, 8, 9, 10, et Tab. J20. fig. 6.) obovatae, laeves, carnosae, coccineae, nitidae, vertice leviter retusâ notatre rudimento subulato, minuto, sphacelato styli, deorsum a pressura mutua parum angulares, uniloculares, di- ad tetraspermae, epidermide tenuissimâ obiectae, lineas octo longae, super axin spongiosam, foveolatam, crassam, densé imbricatae in strobilum cylindrico-oblongum, obtusum, quinque ad sex pollices longum, duos fere crassum. *Caro* mollis, tenuis, pallida, excavata loculo amplo, laevi, aequali. *Semina* (fig. 11.) subglobosa, magnitudine grani piperis nigri, angulo uno alterove notata, dorso convexiora et subgibbosa, vertice mucrone exigua ab angulis confluentibus, basi que hilo crassiusculo munita, erecta, laevia, nitida, cinerea, suffulta *funiculis* brevibus, carnosis, e fundo loculi ortis, uno altero demum parietalibus. *Integumentum* coriaceum, crassiusculum, intus auctum membranâ purpurascēte, mucoso-carnosæ, tenuissimæ, versus hilum parum incrassata. *Perispermum* (fig. 12. et Tab. 20. fig. 7, 8.) crassum, sub-carneum, album,- figure seminis; pars peripherica, semilineam crassa, fabricæ molliori, et colore e viridi cyaneo distincta; basi leviter retusum, vertice *poro* minuto, convexiusculo perforatum. *Embryo* cylindricus, rectus, vel leviter arcuatus, lacteus, totam axin perispermi, salv4 infima ejus parte, occupans; extremitas superior (radicalis?) paullo crassior, rotundata, porum istum perispermi omnino occupans, ita ut, a substantia ejus denudata, immediate tegatur seminis integumento propria (*epispermio*); extremitas inferior, (*cotyledonea*?) hilo opposita, ab hocce parum remota, obtusiuscula. Interstitium inter duas extremitates parum contractum, supra medietatem lateraliter fissum rima (Tab. 20. fig. 10.) brevi, lon^itudinali, introrsum et sursum in *cavitatem gemmiferam* embryonis parvulam, centram, pervia. *Genynula* (Tab. 20. fig. 11.) admodum minuta, conica, cavitate propria sua inclusa, pendula, basi nempe lat& substantial ipse cotyledoneae sursum accretæ, apice liberæ, directione obliquæ versus rimam pvtprnam descendente, centrifuge.

OBSERVATION.

This species of *Arum* is very remarkable on account of the singular form of the inflorescence, and the beautiful manner, in which the whole plant, with the exception of the leaflets, is variegated. It is difficult to express in a description, the beautiful manner of this variegation; but the figure of the plant in Tab. 18, will give a pretty correct idea of it. In general it consists of annular, radiated bands, alternately purple and red, the latter somewhat elevated. The fanciful form and decoration of the spathe represent somewhat the appearance of one of the pitchers of *Nepenthes liafflesiana* of my late, most deeply lamented friend William Jack, excellently described by him in the 3d Appendix to the 2d Vol. of Malayan Miscellanies, of which superb plant I brought innumerable specimens back with me from Singapore, which were subsequently forwarded (in February 1823) to the Museum at the India House, on the Hon. Company's ship General Hewett.—This resemblance has suggested the specific name. The female inflorescence is larger than the male; especially the spadix. The separation of the sexes in distinct plants, and the absence of barren stamens and pistils, as well as of all other appendages on the spadix, have afforded good characters for this and the two following species.—The difference in size and colour of the anthers attached to the upper and lower half of the staminiferous portion of the spadix, seems to be unconnected with any sterility; they are all polliferous and appear to be equally perfect. The singular structure of the embryo, discovered by Mr. Brown in the family of *Aroideæ*, and by the late Mr. Richard in the whole class of *Endorrhixie* (*Monocotyledones*), was first promulgated by the former in his Prodr. flor. nov. holland. 1. p. 334, and subsequently, by the latter, in his Analyse du fruit*; nor should

* For the English version of this admirable little Work I am indebted to the translator John Lindley, Esquire, from whom I received it, together with a copy of his valuable monography On Roses, while I was in Nipal, and to whom I take this opportunity of presenting my warmest thanks.

I ever have thought of looking for the minute fissure and gemmula, if they had not previously been pointed out by those immortal botanists. The gemmula is fixed with its broad basis to the vault of its cavity, just in the centre of the upper extremity of the embryo ; its free apex points obliquely downwards and outwards, so as to protrude towards the fissure, which commences a little above the middle of the embryo and extends towards its upper extremity.— By an oversight the perfectly mature seed has been represented on the plate exhibiting another species, namely *Arum speciosum*, Tab. 20. fig. 6, 7, 8, 9, 10, and 11. instead of Tab. 18; a circumstance, which the reader is requested to bear in mind.

ARUM COSTATUM, Watt. TAB. 19.

Acaule, laeve, dioicum ; folio solitario, ternato, foliolis senicordato-ovatis, valde acuminatis, undulatis, sessilibus, subtus nervis numerosis, parallelis, elevatis, approximatis* lias, anastomosantibus; scapo petioli dimidium vix sequente ; spatha cylindraceo-convolute, striata, intus carinata, faucein appendiculata, limbo integro, ovato, fornicato, acumine treti, brevi, filiformi ; clava spadicis basi subtruncata, apice longissima, flagelliformi, descendente, spatula fere triplo longiori.

Habitat et floret cum priore.

Titler magnum, orbiculatum, parum depressum, carnosum, fuscescens, comomifibris copiosis, teretibus, crassis, dilute rufescentibus, subnatis. Folium unicum, radicale, erectum, ternatum, am plum, uti omnes plantae partes laeve, circumscriptione trilobo-cordatum, diametrum sesquipedalem emetens, sinu baseos profundo, lobisque fere contiguis. Petiolus crassus, carnosus, pallide virens, striatumlineis plurimis, parallelis, roseis, pallidis, bipedalis, basi unicum. scapo, quem sulco satis profundo, subligulato amplectit, sesquipedalem crassus, vaginatus, supernus nudus, hinc exsculptus sulco levi, margine obtuso, sursum attenuatus. Vagina duae vel tres, membranaceae, strigatae, tibi albi infuscescentes, alternae; infima brevis, adpressa, acutiuscula; reliquae laxae amplexantes, lanceolatae, attenuato-acuminatae, erectae, sursum libere et leviter convolutae: summa et intima, longissima, scapum excedens. Foliola sessilia, purpureo-marginata, undulata, in acumine lineare, fere bipollicare desinentia, coriacea, pedalia, supra atroviridia, lucida, subtus praedita costa e basi crassissima extrorsum valde attenuata, nervisque innumeris, perquam approximatis, parallelis, obliquis, elevatis, parum ramosis et anastomosantibus, versus marginem arcuatis, venulaeque gracili connexis; intermedium ovato-ellipticum, basi attenuatum, costaque robusta quasi petiolatum; lateralia patentissima, illo parum angustiora, senicordata, latere interno baseos valde obliquo, subexsciso, externo producto in lobum magnum, rotundatum, quadripollicarem, lobo folioli oppositi fere contiguum. Scapus petiolo dimidio brevior, basi sexpollicari ab hujus parte inferiore amplexus, erectus vel obliquus, nunc subrecurvus, teres, digitum minimum crassus, apicem incrassatam versus purpurascens. Inflorescentia terminalis, erecta, inodora, dioica, speciosa; mascula (fig. 1.) minor, gracilior. Spatha atropurpurea, extus ornata striis albis, parallelis, latis, versus apicem limbi anastomosi duplici, ab invicem parum distantibus, connexis, intus costata carinis totidem angustis, attenuatis; tubus cylindraceo-convolutus, tripollicaris; faux ampla, porum obliqua, nuda, margine leviter revoluta ; limbus integer, ovatus, adscendens, imbricatus, apice nutans, acuta, terminata processu, vel acumine filiformi, tereti, descendente, pollicari, concolore; in mascula limbus, una cum processu isto oblique adscendit. Spadix gracilis, basi inclusa, bipollicaris, teres purpurea, et maxima parte obtecta organo fructificationis, supernus nuda et absque organo sterilibus appendicibusve. Clava gracilis, teres, atropurpurea, basi cuneata, propter rugos longitudinales sublobata, infra fornicem leviter ventricosa, mox vero abiens in flagellum gracilimum, longissimum, undulatum, exsertum, oblique descendens, concolor, processum spathee

longe excedens, pedale et ultra; in spadice *masculâ* (fig. 2.) basi vix incrassata, flagello quadripollicari. *Mascula*: *Jllamenta* sparsa, distantia, teretia, brevia, carnosâ, terminata verticillo *antherarum* quinque vel sex reniformium, lulearum. ~ltomie«(fig. 4): *ovaria* (fig. 5, 6, 7.) densissimè imbricata, laevia, ovata, oligospora; *stigmata* subsessilia, sub* truncata.

OBSERVATION.

This handsome species is readily distinguished by its leaves, which are strongly marked with innumerable parallel, closely approximated nerves, proceeding in an oblique direction from the strong middle rib towards the margin, and here and there united by means of a few short ramifications. The spathe is beautifully striped on both sides and keeled within: the stripes unite under the apex of the limb by a double line.

ARUM SPECIOSUM, Wall. TAB. 20.

Acaule, laeve, dioicum; *radice* repente; folio solitarib, ternato, *foliis* ovato-cordatis, repandis, acuminatis, petiolalis* distanter nervosis, *petiolo* variegato; *scapo* brevissimo; *spatia* striatâ, ecostata, basi cylindraco-convolutâ, fauce nudâ, *limbo* lato-ovato, integro, fornicato, in acumen lineare, longum attenuato-; *clavâ* cuneatâ, apice filiformi, spalhâ dimidi6 longiore.

Habitat in monte Sheopore. Florens sub pluviis.

Radix crassa, carnosâ, repens, quatuor ad sex pollices longa, • diametro bipollicari, squamis multis lanceolatisj membranaceis, aridis, ferrugineis oblecta, e latere inferiore *demittens Jibras* longas, teretes, albicantes, ramulosas. *Folium* unicum, radicale, erectum, uti omnes partes laeve, circumscriptione trilobo-cordatum, lobis distantibus, pedale. *Petiolus* crassus, teres, carnosus, bipedalis, zonis plurimis, parallelis, radiatis, purpureis annulatus, basi tubulosâ scapum fere totum involvente, ostio obliquo, nudo. *Vagii* UB duae, unilaterales, dimidiatse, membranaceae, fuscae, striatulae, lanceolatae: inferior brevis, superior attenuato-acuminata, petioli dorso adpressa, scapum longitudine parum excedens. —*Foliola* ovato-cordata, decem-pollicaria, ad pedalia, acuminata, purpureo-marginata, repanda, vix undulata, coriacea, petiolis partialibus suffulta pollicaribus, crassis, sulcalis, submarginatis; pagina superiore lucidâ, inferiore pallidâ, costâ mediocri, nervis remotis, gracilibus, parallelis, versus marginem arcuatim anastomosantibus; tenuissimè et reticulatim venosa; lateralia vix minora, semicordata, lobis rotundatis. *Scopus* teres, erectus, albus, petiolo quater brevior, ejusque basi vaginalis; apice tripollicari exsertus, purpureo-rasceffs, supernè vix dilatatus. *Inflorescentia* leviter nutans, dioica, inodora, speciosissima, purpurea, basi intus albicans, absque costis vel carinis, striis ornata usque ad apicem. fere parallelè decurrentibus; *mascula* vix minor. *Tubus spathe conxolutus*, cylindricus, quatuor pollices longus, diametro sesquipollicari, intus albicans, extus striis rufescentibus notatus; *faux* pervia, nuda; *limbus* maximus, *integer, adscendens, ovatus, subfornicatus, pedalis, palmam latus, basi intus pallidus, supernè striatus, venulosus, apice nutante attenuatus in acumen gracillimum, lineare, tripollicare, versus tubum incurvum, atropurpureum. Tota *ipadicis* (fig. 1.) basis oblecta organo fructificationis, absque appendicibus; *clava* digitum fere crassa, cuneata, semi-inclusa, flava, attenuata in flagellum descendens, teres, gracile, deoempollicare, purpureum, undulatum, limbo spathe dimidi6 circiter longius. *Mascula Jllamen* longiuscula, teretia, sparsa, approximala; antherse praecedatis speciei.—*Foeminea* (fig. 1, 2, 3, 4.) prioris.

OBSERVATION.

A very superb plant, belonging to the less frequent productions of Nipal. Like hoik the preceding species it inhabits dark and shady parts of the high mountain of Sheppore, and has hitherto resisted my endeavours to make it survive a hot season in Bengal. Fig. 7, 8, and 9 belong to *Arum nepenthoides*.

CINCHONA GRATISSIMA, Wall TAB. 21.

Foliis ovato-oblongis, acuminatis, subtus ad nervos villosis; *panicula* terminali, multiflora; *calyce* villosa, *laciniis* longis, linearibus, deciduis; *corolla* glabra, *tubo* longiusculo, cylindraco, *lobis* subrotundis, concavis. Wall, in Roxb. flor. ind. 2. p. 151.

Crescit copiose in rupibus subnudis Nag-tjroon, aliisque montibus minoribus Nipaliae; etiam ad Bechiako et Koolakan, florens toto fere anno. Etiam habui e montibus Tundooa, Sylhet vicinis, ubi floret Septembre.

Nomen Newarrene et Parbutteum *Toongnusi*. Bengalense *Usookooll*.

Arbuscula ramosa, sedecimipedalis, *trunco* aequali, diametrum sexpollicarem attingente, oblecto *cortice* tenui, fusco, scabro. *Lignum* compactum, pallidum, albidum. *Ramuli* oppositi, cinerei, callosopunctati; juniores rufescentes, puberuli. *Folia* opposita, patentia, approximata, acuminata, ovato-oblonga, basi acuta, marginibus subundulata, ciliata, coriacea, quadri-adsesquialteraria, glaberrima, supra lucida, subtus pallida et opaca, costa elevata, nervis villosis, obliquis, parallelis, approximalis, ad axillas acervulo pilorum munitis. *Petioli* teretes, pubescentes, pollicares vel sesquipollicares, nunc rufescentes. *Panicula* lanceolatae, canaliculato-acuminatae, lineas quinque longae, glabra?, valde decidua?. *Panicula* terminalis, sessilis, ovato-rotunda, folia superiora longitudine subaequans; *rami* decussati, incano et dense villosi. *Bractea* infra divistras ad basin pedicellorum oppositae, lineares, longae, caducse. *Flores* (fig. 1, 2.) magni, speciosi, rosei, ternati, fragrantis. *Calyx* villosus, *pedicello* brevi, subcarnoso insidens, divisus in *lacinias* (fig. 3.) quinque lineares, erectas, acutas, subinaequales, nunc inaequilateras, coloratas, basi leviter angustatas et subarticulatas, caducas, villosas, intus glabras, sex-ad duodecim lineas longas. *Corolla* (fig. 4.) glabra, calyce duplo longior, subcarnosa; *tubus* cylindricus, gracilis, sursum parum ampliatus, *faux* pervia, nuda; *limbus* patens, tubo dimidio brevior, *laciniis* subrotundis, concavis, obtusis, crenulatis, basi subcordato-retusis. *Filamenta* brevissima, infra faucem; *antherae* lanceolatae, vix exserto. *Ovarium* (fig. 5, 6.) oblongo-cuneatum, carnosum, villosum, biloculare; *wula* super *placentam* septalem, carnosam dense imbricata; *stylus* filiformis; *stigma* clavatum, carnosum, divisum in lobos duos, lanceolatos, margine revolutos. *Capsula* (fig. 7, 8.) oblongo-clavata, parum villosa, fasca, lineas octo longa, leviter compressa, apice truncata notata vestigio insertionis calycis, bilocularis, inscripta sulcis oppositis duobus, juxtaque hos usque ad basin a cutam dehiscens in locula duo, *membrana exterior* carnosae, demum coriacea; *interior* chartacea. *Dissepimentum* parallelum, planum, constans membrana interna uliusquoculorum inflexa, maturitate ab apice usque ad basin in duas partes divisum, apice ostio rotundato excisum. *Placenta* lineari-oblonga, foveolata, demum libera; *locula* (fig. 9, 10) fissura interna ab ostio dissepimenti ad basin usque longitudinaliter dehiscentia, ideoque quasi bivalvia. *Semina* (fig. 11, 12.) copiosa, minuta, cuneata, ascendente, dense imbricata, ferruginea, rugosa et scabra, apicem obtusum versus membranula venosa, angustula, crenulata, inaequali cincta,

OBSERVATION.

It is impossible to conceive any thing more beautiful than this tree, when covered with its numerous round panicles of pink-coloured, very fragrant and large blossoms. I have

been told that it grows sometimes to a much greater size than that, mentioned above, which is the one I have observed it to attain. The ovary and half ripe capsule show a peculiar structure; they appear four-celled, when divided horizontally, in consequence of the inner tough membrane continuing, after it has formed the dissepiment, to turn further inwards, penetrating almost through the fleshy placenta to the opposite or external side of the cell, which latter, in consequence, appears to be subdivided into two compartments. —Wall. loc. cit.

HYMENODICTYON, Wall. loc. cit. p. 148.

Calyx adnatus, quinquedentatus. *Corolla* infundibuliformis, limbo quinquefido. *Mlamta* brevissima, glabra, infra faucem adfixa; *anthera?* exsertae, limbo breviores. *Capsula* nuda, bilocularis*, bivalvis, dissepimento ventrali contrario, demum bipartito. &w«naplrna, cincta membranâ reticulata(undenomen), imbricata super placentam, septi commissurae adnatam, demum liberam.

Classis Linneana : *Pentcnidria monogynia*, sectio floribus monopetalis superis, capsulaque biloculari, bivalvi.

Ordo naturalis : *Rubiacearum* subdivisio secunda, sectio tertia (Jussieu in Mémoires du museum d'histoire naturelle, 6. p. 365 et sequ.)

Habitus Arboreus excelsae, umbrose, ramulis compressis, foliis oppositis, coriaceis, stipulis glanduloso-ciliatis. *Flores* inconspicui, pubescentes, virides, densi, fasciculati, in paniculam digesti terminalem, vel in racemos cylindricos, pedunculatos, axillares terminalesve, simplices vel parce ramosos. Pedunculus communis apice gerens bracteam aridam venosam lanceolatam, longe pedunculatam convexam. Affinitas praecipua *Macrocnemo*, *Mussaendte*, *Chwhonce* atque *Exostemmati*. Differt a primo h or um generura staminibus glabris seminibusque alalis ; a secundo fructus structure et coisistenti&; utroque vero approximatur folio bracteave illa singulari florali, in eo tamen abluende, quod ex apice pedunculi coitnunis, nee ut in illis e basi ipsius calycis, prodeat. A posterioribus duobus generibus distinguilur capsula nuda haud bipartibili, dissepimentoque contraries, juxta axim in duas partes aequales dirumpente, valvulis adnatas. Semina insuper majora et eorum ala basi bifida; figura tandem corollas magis *Cinchona*, antheris exsertis *TUxoslemmati* cognatum. Wall, l.cit.

^m HYMENODICTYON FLACCIDUM, Wall l.cit.p. 152. TAB. 22.

Foliis elliptico-ovalis, supra glabris, nitidis; stipulis oblongis, spathulatis ; racemis axillaribus, gracilibus, laxis ; capsulis oblongis.

Observavi ad descensum septentrionalem montis Sheopore, versus basin, in sylvis densissimis, floribus capsulisque praecedentis anni vacuis onustum mense Junio. Etiam habui e Noakote, eadem mense florentem.

Arbor mediocris, umbrosa, cortice cinereo, glabriusculo. *Rami* patuli; superiores bi- vel trichotomi, glabri; tectelli leviter compressi, basi circumdati squamulis aliquot gemmaceis, ovatis, concavis, brunneis. *Folia* valde copiosa, versus apices ramorum approximata, patentia, ovato-elliptica, acuminata, basi attenuato-acuta, coriacea, sex- ad decempollicaria, parum undulata, glabra, nitida, juxta nervos leviter sulcata, subtus pallida, opaca, costa nervisque obliquis, elevatis, parallelis, pubescentibus, ad axillas favcolatis puberulisque; reticulato-venulosa. *Petiolus* teres, crassus, glaber vel puberulus, pollicaris, apice una cum basi costae rufescente. *Stipules* oblongae, spathulatae, obtusae, glabrae, membranaceae, subpetiolares, unguiculares ad pollicares, emarcescentes, deciduae, basi parum contractae, papillaceo-venulose, denticulis siliacelatis ciliatse, infra basin et in axillis petiolorum

glandulis subulatis, minutis, atris, serie simplici dispositis. *Racemi* flaccidi, penduli, axillares, solitarii, foliorum circiter longitudine, graciles, cylindrici, densè obsiliyfor[^]bus (fig-1.) approximatis, fasciculatis, ternatis vel quinatis, viridibus, pubescentibus, inodoris. *JPedunculus communis* pubescens, bipollicaris, apice instructas *bractea* vel *foliolo florali* patentissimo, lanceolato-oblongo, membranaceo, acuto, integerrimo, pallid[^] viridi, vel subalbicante, pubescenti, rugosulo, nervoso-venoso et reticulato, tripollicari, sup^r& convexo, subtus concavo, *petiolo* glabro, tertià parte brevior. *Pedicelli* brevissimi; 0 singuli bracteolà minut&, lineari. *Catycis lacinice* (fig. 2.) brevissimae, lineares. *Corolla tubus* (fig. 3.) calycis laciniis duplo longior, gracilis, villosa; *limbus* subplicatus, campanulatus: *laciniis* lanceolatis, acutis, basi membranulà tenuissimè unitis. *Stamina* infra faucem inserta, glabra: *Ji lament a* admodum brevia; *antherce* lineares, erectae, *exsertae*'' limbo paullo breviores. *Ovarium* (fig. 4, 5.) ovatum, pubescens, biloculare; *ovula* numerosissima, lanceolata, plana, marginata, super placentam carnosam, septalem densè imbricata; *stylus* capillaceus, glaber, corollà bis longior: *stigma* clavatum, obtusum, glabrum. *Capsula* (fig. 6, 7.) oblongo-ovata, fuscescens, decem lineas longa, glabra, calloso-punctata, bilocularis, bivalvis, juxta ventrem valvarum septifera; *semina* baud vidi.

OBSERVATION.

* This species comes near to my *Hymenopogon thyrsiflorum* {*Cinchona*, Roxb.) which differs, however, in having broader, ovate, subcordate, downy leaves, and much thicker, both terminal and axillary, subcompound racemes; its capsules, too, are broader and almost oval.—*Wall. I. cit.

SARCOPYRAMIS, Wall .

Calyx inversè poramidalis, ore truncato, quadridentato, dentibus compressis, ciliatis, persistentibus, interstitiis nudis. *Corolla* tetrapatala. *Stamina* octo; *antherce* simplices, rectae, nudaë. *Ovarium* semiadnatum, vertice infandibuliformi-quadrilobum. *Cap* sula* quadrata, calyce basi cincla, apice quadrialata; quadrilocularis, quadrivalvis, polysperma; valvulae foliaceo-dilatatae.

Classis Linneana: *Octandria monogynia*.

Ordo naturalis: *Melastomacea*, R. Brown; generibus *Rhexia* et *Osbeckia* intermedia urn. *Stomandra*, beat. Guil. Jack, (Act. Soc, Linn. 14. p. 10.) affine.

Planta annua, carnosa, subsimplex, ramis paucis instructa. *Folia* opposita, serrulata, pilosula. *Flores* terminatae, umbellatae, majusculae, roseae.—Nomen sumpsit e consistentia et figura ovarii.

SARCOPYRAMIS NAPALENSIS, Wall. TAB. 23.

Legi in inonibus vallis Napaliae majoris Sheopore, Chandaghiry, aliisque ad loca urabrosa, humida, saxosa. Floret Julio — Septembre. Fructus maturescunt Octobre et Novembre.

Planta subsimplex, herbacea, erecta, lael6 vinctis, mine rubicunda, carnosa, subdiaphana, glabriuscula, sex- ad duodecim pollices alta. *Radix* gracilis, fibrosa; interdum elongata, subrepens. *Caulis* laevis, acutè letragonus, basi pennam anserinam crassus, sursum attenuatus, angulis scindentibus, per pares approximatis, lateribus duo oppositis itaque lateralibus. *Rami* pauci, vunc alterni versus apicem caulis, erectiusculi, breves; nunc sub-

nulli. *Folia* opposita, subdecussantia, petiolata, interstitiis duplo longiora, Li- ad quadripollicaria, suprema nunc valde approximata; magnitudine inequalia, altero uenipe ejusdem paris tertio vel dimidio breviora; fere membranacea, ovata* aquiniata, basi inaequali acuta, extrorsum crenato-serrulata; serraturis acutis, setula terminatis, supra atroviridia, lucida, setis hyalinis, brevibus, rectis conspersa, trisulcata; subtus pallidiora, saepeque purpurascens, quinquenervia, nervis extimis gracillimis, submarginibus; transversim venulosa, juxta tractus vasorum pilosula. *Petioles* carnosus, graciles, sulco angusto exarati, asquales, folio dimidio vel triptio breviores, laeves. *Stipulae* nulla?, nisi series transversalis ciliarium subulatarum, succulentarum, caulem inter petiolorum insertiones ambientium. *Flores* (fig. 2, 3. idem dissectus fig. 4.) tres ad quinque, ternales, umbellati, ratione magnitudinis plantarum sat magni, rosei, inodori, glabri, suffulti pari uno vel duobus foliolorum floralium lanceolatorum, subsessile, semipollicarium. *Inflorescentia* (fig. 5.) conica, imbricata. *Pedunculi* carnosus, brevissimi, laeves, rufescentes. *Calyx* (fig. 8. idem staminibus inflexis fig. 7. idem ovario foecundato fig. 9.) carnosus, laevis, obovatus, acutè tetragonus, persistens, ad latera convexiusculus, ore truncato, quadrato, juxta margines scindentes, nudos leviter exciso; angulis in dentes totidem desinentibus porrectos, compressos, verticales, patentes, apice oblique truncatos, ciliatos setis simplicibus, hyalinis, utrinque patenssimis, duplici serie dispositis, juxta angulos ipsius calycis quandoque decurrentibus. *Petala* (fig. 4.) quatuor, ovata, carnosa, cuspidato-acuta, integerrima, patentissima, rosea, laevia, nitida, lineas quatuor emittentia, calyce duplo longiora, basilatim infra ostium calycis inserta, dentibus alternantia. *Stamina* (fig. 5, 6.) octo, petalis parum breviora, erecta, parallelaequalia, serie simplici annulari equidistanter calyci inserta, dentibus calycinis petalisque alternatim opposita. *Filamenta* alba, filiformia, carnosa. *Antherae* conformes, simpliciter, erectae, flavae, oblongo-cuneatae, nudae et absque ullis appendicibus, basi acutiusculae, apice leviter dilatata, subbiloba poris duobus, oblique hiantibus dehiscentes, aestivatione una cum apicibus filamentorum rectè deflexae. *Ovarium* (fig. 4, 5.) ovatum, carnosum, dimidia inferiore parte fundo calycis arcu accretum, superiore tetragono-pyramidatum, lateribus convexum, liberum, juxta margines operamentum angustissimum brevissimum, demum evanida, angulis internis summi calycis adhaerens, unde cellulose parietales quatuor formantur, antheras, clauso adhuc flore deflexas, per pares recipientes; apice contractum, truncatum, quadrilobum, lobis carnosus, brevissimis, latiusculis, obtusissimis, ciliatis minutimque crenatis, in hiatum infundibuliformem, quadrangularem conniventibus, post fecundationem aperiuntur; quadriloculare; *locula* rotunda, angulis exterioribus opposita, *ovula* repleta sub-cylindricis, placentae axili, convexae, sessili, carnosae adfixis. *Stylus* brevis, rectus, cylindricus, laevis, deciduus, vertice quadrilobus ovarii basi inclusus, perque axin inde decurrens. *Stigma* parvum, convexum, puberulum. *Capsula* magnitudinis pisi communis, laevis, quadrata, excepta ipsa basilatim libera, inferiore dimidia parte obtecta calyce paullo ampliato, desiccato, membranaceo, angulis quatuor sursum valde prominentibus et porrectis notato, vertice coronata alis quatuor terminalibus, rotundato-ovatis, obtusis, levissimè crenulatis, venulosis erectis, margine contiguus; quadrilocularis, vertice quadrivalvis: valvae triangulares, dissepimentis oppositae, alis istis seorsim terminatae. *Dissepimenta* angusta, tenuissima. *Semina* crebra, parva, fusca, cuneato-triangularia, basi acuta glabriora, verticem obtusam versus punctis minutis, elevatis pillosa, receptaculis axilibus inserta;

OBSERVATION.

I cannot refer the plant, which has just been described, to any of the established genera of *Melastomaceae*, although I have every reason to suppose, from having communicated specimens to my inestimable friend Mr. A. B. Lambert, that it must be included among the descriptions of the new genera of that most difficult and extensive

tribe, which were presented, two years ago, to the Wernerean Society of Edinburgh by the curator of his herbarium, that indefatigable and excellent botanist Mr. David Don. In general appearance it resembles an *Eocacum*; but its flowers and fruit are those of a widely different family, and decidedly mark it as a member of the one, under which I have placed it. The structure of some parts of the flower and of the fruit is very peculiar and not easily explained. I will attempt to exhibit it in a clearer light, perhaps, than I have done above. The calyx forms a fleshy, inversed pyramid, with somewhat convex sides, and sharp, rather prominent and almost straight angles; its mouth is four-sided, open, with slightly concave, naked margins, and protruding corners, which form four vertically compressed, fleshy teeth, acutely truncated and flattish at the apex, and there ciliated by two rows (one along each margin) of short, pellucid, subulate, most spreading bristles, which sometimes continue from the point, whence the two rows diverge, a little way downwards on the sharp back of the teeth, towards the angles of the body of the calyx which, in every other respect, is perfectly free from hairiness. The ovary is considerably shorter than the calyx, to the bottom of which its lower half is uniformly attached; the remainder has a pyramidal figure, with convex sides, and curved, obtuse margins, which are connected with the internal angles of the calyx, by means of four very narrow, short, and thin membranes, whereby four lateral broadish cells are formed, corresponding to the sides of the calyx and the ovarium, in which the anthers are hidden by pairs, in their nodding state, during the aestivation of the flower. Its vertex is suddenly contracted into a short, quadrangular, truncated cone, consisting of four very short, fleshy, rounded, slightly uneven and ciliated lobes, which are parallel to its sides, having their margins closely applied to each other, and leaving an inversely pyramidal opening between them, into which the base of the style descends before it enters the axis of the ovary. In proportion as this latter increases in size, it rises above the mouth of the calyx, the above mentioned connecting membranes disappear, and its rounded angles become prominent; in this state a double pyramid is represented, the lower apex of which is supported by the peduncle, and the middle (or the opposed bases) is surrounded by the very narrow mouth of the calyx and its protruding angles; the upper, contracted and truncated apex is perforated. The capsule is dry, four-sided, smooth, marked round the middle by the withered teeth of the calyx, and crowned with the four lobes of the ovary, which have now become as many membranous, rounded, small wings; bursting at the vertex into four short valves, each having a dissepiment along the middle of the base and terminating into a wing. The situation of the cells is contrary to the direction of the wings; the seeds are very minute and numerous.

MYRSINE SEMISERRATA, *Wall in Roxb. Jlor. ind. 2. p. 294.* TAB. 24-

Arborea, erecta; *foliis* extrorsum acuté serrulatis, basi integerrimis | *floribus* fasciculatis, pedunculatis *stylo* brevi; *stigmatibus* dimidiato, laciniato-fimbriato.

Nomen Parbutteum et Newarrense : *Bilsee* et *Berese* ; etiam *Kalikath*.

Communis in omnibus fere quas visitavi Napaliae sylvis, usque ad apices montium Chandaghiry et Sheopore, florens et fructifera tempore frigido, a Decembre ad Martiurn. Etiam habui e Kumaon et Sirinajpir.

Arbor ramosa, triginta ad quadraginta pedes alta, *trunco* diametrum semipedalem attingente, vestito *corlice* glabro, pallido. *Rami* cinerei, terestes, calloso-punctati; *ramuli* laeves, angulosi. *Gemmae* terminales, graciles, conicae, punctis copiosis, resinosis, rufescentibus conspersae; *squamae* lanceolatae. *Jb&asparsa*, approximate, patentia, lanceolata, mine lineari-lanceolata, acuminata, utrinque attenuata, coriacea, firmam triad quinq̄epollicaria, extrorsum, raro e basi usque ad apicem, nunc uq̄ mod6 latere cus-

pidato-serrulata; in luxuriantibus ramulis quandoque rufescentia, integerrima; laevia, lucida, conspersa punctis copiosis, resinosis, pellucidis, rufis, juxta marginem leviter revolutum. Jineolam huic appoximalam dispositis; costâ sublus parum elevata, nervis capillaceis, ohliquis* intra marginem arcuatim et reticulatim anastomosantibus. *Petiolus* brevis, vix ultra duas lineas emetiens* punctatus, suprâ plamusculus. *Stipulte nuUve.* Flores (fig. 5.) parvi, inodori, tetrandri vel pentandri, omnes hermaphroditi vel masculis interspersi, sex ad duodecim conferti in fasciculos axillares, numerosos, rotundatos, basi amplexos *bracteos* ovatis, deciduis, fuscis. *Pedunculi* semipollicares, graciles, filiformes, obsoleté angulati, subclavati, centrales fascicilorum interdum abortivi vel nulli. *Calyx* persistens, punctis notatus copiosis, elevatis, resinosis; *denies* quinque, lanceolati, acuti, p&teites, ciliati. *Corolla* (fig. 7.) rotata, erubescens, punctata* calyce duplô longior; *lacini* lanceolatae, recurvae, dentibus calycinis alternantes; *tubus* brevissimus. *Filamenta* brevissima, la-

ciniis opposita, earumque basi inserta; *antherae* D magnae, ovalse, erectae, aurantiacae, utrinque longitudinaliter dehiscentes. *Pistillum* (fig. 6, 8.) punctatum, stamina parum longitudine excedens. *Ovarium* (fig. 9, 10.) ovatum, uniloculare, tri- tetrasporum; *ovula* placentas erectas, carnosae, globosae lined circulari semiimmersae; *stylus* brevis, columnaris; *stigma* carnosum, subinfundibuliforme, limbo amplo, unilateral, irilobo, laciniato* fimbriato. *Flores masculi* (fig. 1, 2, 3, 4.) minores quam hermaphroditi, antheris violaceis, cum rudimento centrali pistilli. *Drupa* globularis, leviter depressa, apiculata, monosperma, rubra, magnitudinis pisi minoris, calyce immutato suffulta, laevis, nitida. *Caro* mollis, pulposa. *Semen* erectum, globosum, *Putamen* crustaceum, glabrum. *Integumentum* membranaceum. *Perispermum* cartilagineum, semini conforme, albicans, foveolatum et superficialiter ruminatum. *Embryo* longus, cylindricus, horizontal, leviter curvus, diametrum perispermii sequans, totumque fere excurrens, *Cotyledones* eemicylindrici, obtusi, intus plani; *radicula* obtusa.

OBSERVATION

"The wood of this species is of a chocolate colour, radiated, compact and heavy; it is much esteemed by the hill people for various carpenters works. They eat the fruit/* *Wall. loc. cit.*

MYRSINE CAPITELLATA, *Wall I cit.* 295. TAB. 25:

Arborea, erecta; foliis oblongo-lanceolatis, integerrimis, coriaceis; floribus subsessilibus, axillaribus, capitellatis; stylo elongato, crasso; stigmatibus integro, glabro, obtuso.

Noraen Parbutteum; *Syade*.

Nevvarrense; *Bhoe Billoo*.

Valde communis in Napaliae sylvis/florens et fructifera hyeme.

Avhof priori habitu et inagnitudine similis. *Ramuli* crassi, angulati. *Folia* approxinata* ta, sparsa, palentia, coriacea, firma, Oblongo-lanceolata vel subbivata, integerrima, acuminata, basi acuta, quinque- ad septem-pollicaria, juxta marginem copiose punctulata, superne lucida, inferne pallida parumque glaucescentia, costâ elevata, nervis obsoletis capillaribus. *Petiolus* crassus, brevissimus, sulcatus, nunc rufescens. *Flores* (fig. 1, 2, 3.) polygami, sessiles, viridiusculi, punctis conspersi copiosis, minutis, elevatis, resinosis, fuscis, aggregati in capitula parva, rotundata, axillaria, vel lateralia ad vestigia foliorum delapsorum, subsessilia vel suffulta *pericarpium* communi sublignoso, brevissimo, coloranari, e *Iractcolis* minutis, ovatis, concavis, persistentibus scabriusculo. *JSstivatio* valvata. *Calyx* (fig. 4.) urceolatus, dentibus quinque ovatis, aculis. *Corolla* (fig. 5.) calyce bis longior; *tubo* brevi; *laciniis* recurvatis, lanceolatis. *Filamenta* brevissima, subulata;

anthera oblongaj, erectse. *Ovarium* (fig. 6, 7.) globulare. *Stylus* carnosus, crassus, corollae¹ bis longior) medio intumescens, apicem versus parum curvus, basi vertici ovarii depressi parum immersus; *stigma* obtusum, obscuré, bilobum. *Flores masculi*, foemineis parum majores. *Fructus* (fig. 8.) quadummodo minor quam prioris speciei; coeterum omnino similis.

OBSERVATION.

"The wood of this tree is hard and durable like that of *Myrsine capitellata* and is used for similar purposes. The fruit is also eaten."* *Wall. he. cit.*

CRYPTOCHILUS, *Watt.*

Flores resupinali. *Perianthii* foliola exteriora connata in tubum, fundo peruliferum; apice libera, dentiformia. *Labellum* oblongum, nudum, ecartatum, inclusum, subsessile, basi gynostemii apteri elongatae adnatum. *Anthera* terminalis, decidua, bilocularis. *Massae* pollinis octo, cereaceae, per pares filo communi, elastico cohaerentes.

Classis Linneana: *Gynandria Monandria.*

Ordo naturalis: *Orchidearum* sectio quinta Browniana.

Habitus. Planta parasitica, rupicola, bulbis bifoliis, uniscapis. *Flores* sanguinei, tubulosi, tridentati, spicati, secundi; ante anthesin dislichi.

Genus, *Masdevallite*, Ruiz et Pavon et *Stelidi*, Swartz, intermedium; distinctum floribus tubulosis, ore tridentatis, propter foliola perianthii exteriora, salvis ipsis apicibus, connata; labello subsessili, incluso (unde nomen) basi gynostemii elongatae adnatae massis pollinis octo; habitu magis *Stelidi* accedens.

CRYPTOCHILUS SANGUINEA, *Wall.* TAB. 20.

Legi in Napalia, ad cacumen Chandaghiry, saxicolam, florentem Junio. £ monibus Cacliar, Sylhet confinibus, misit M. R. Smith, anno 1815.

Herba parasitica, repens, laevis, *radiculis* fuscis, filiformibus, ramulosis, glabris. *Bulbi* ovali, vel oblongi, pollicari¹ carnosissimi, obtusi, diphylli, nitidi, aetate nudi, vel vestigio uno alterove vaginarum emarcidarum basi circumdati; dum juniores graciles, subcaulescentes, vaginis que induti qualuof vel quinque lanceolatis, acuminatis, complicatis, bifariis, basi inbraculis, pallidis, lincatis, margine dilute purpureis, bipollicaribus, inferioribus decrescentibus—*Folia* duo ex apice bulbi, erecta, leviter divergentia, lanceolata, acuminata, apice minutim bidentata, basi acuta, sex- ad octo pollicaria, deorsum parum complicata, extrorsum plana cum sulco medio; coriacea, laevia, supra atroviridia, lucida, subtus glauca, opaca, iseptem-lineata, costis carinalis, marginibus purpurascens. *Petioles* crassi, canaliculati basi parum dilatati: exterior paulo major, margines interioris applectens. *Scapus* ex apice bulbi, erectus, teres, carnosus, crassus, nudus, atro-purpureus, basi viridescens, longitudine foliorum, apicem versus leviter complanatus. *Racemus* terminalis, erectus, solitarius, quadripollicaris, ante florum expansionem complanatus, anceps, digitum latus; postea oblongus, secundus. *Rachis* purpurea, carnosissima, planiuscula, flexuosa, demum recta. — *flores* sanguinei, inodori, carnosissimi, pollicares, cylindrici, approximati, alterni, initio distichi et patentes, post anthesin secundi et ascendentes; extus pilis cauis, mollibus, adpressis, geniculatis conspersi; pedicellis suffulti brevissimis, terelibus, pilosis, lineam longis. *Bractea* infra singulum florem solitaria, linearis, acuminata, canaliculata, unguicularis, laevis, purpurea, carnosissima, parum incurva, directione floribus opposita secunda, persistens. *Perianthii* foliola exteriora tria connata in tubum (fig. 1, 2.)

oblongum, tridentatum, emarcescentem, medio levissimè ventricosum, lateribus bases gynostemii adnatum, basi antrorsum productum in perulam brevissimam, conicam, obtusam, apiceparum contractum; dentes faucis lanceolati, subulato-acuminati, subpatuli, inferior (torsione ovarii summus) lateralibus parum major, bilinearis. *Foliola interior a duo* (fig. 3.) distincta, tubo exteriorum tertid breviora, erecta, linearia, fl#va, laevia, obtusa, deorsum parum angustata, basi gynostemii lateraliter utrinque inserta. *Label- lum* (fig. 4.) auticum, inclusum, flavum, oblongum, foliolis interioribus perianthii parum longius, marginibus versus basin incisurâ parvâ utrinque interrupts; subunguiculatum, ungue brevissimâ, coneaviusculâ, subtus convexâ, processui gynostemii absque articulatione insertâ, cumque ilia perulam floris occupante. *Lamina nuda*, ovata, <canaliculata, subcomplicata, leviter recurva, parum incrassata, obtusa et fere retu\$. *Ovariwn* clavato oblongum, villis brevibus, canis obsitum, pedicello duplo longius, sexstriatum. *Gynostemium* (fig. 5.) brevissimum, erect urn, nudum et inappendiculatum, carnosum, clavatum, labello duplo brevius, leviter adscendens, hinc planiusculum, basi ulterius productum. *Gynizus* anticus, semiorbiculatus, cavus, mucosus. *Clinan* driwn* terminate, quadridentatum: dentibus minutis, subcrenulatis, duobus posticis fissurâ profundiore separatis. *Anthera* (fig. 6.) terminalis, mobilis, decidua, conica, bilocularis, obtusa, basi truncata. *Massce pollinis* (fig. 7.) octo, subulatse, cereaceae, minutsB, viridiuscula^, per parés, ope fill communis granulosi, elastici, anthera? parieti antico adhserentes. *Capsula* clavata, tubo floris emarcido, recto, fusco coronata, carnosâ, pubescens; maturam baud vidi.

OBSERVATION.

I can discover no difference between this rare Nepal plant and that of the Cachar mountains. It is a very elegant object when in blossom, differing in the structure of its flowers from all the Orchidese with which I am acquainted. I^call it^ a rare plant, for I have only met with it once, and that on a single spot on mount Ghândaghiry.



CHRYSOBAPHUS, Wall.

Perianthium subringens, secundum. *Labelli basis* horizontalis, tubulosa, gynostemium liberum hinc amplectens, inde in calcar breve producta; *lamina* adscendens, biloba, unguiculata. *Anthera gynigo* biglanduloso supposita, antica, mobilis, basi adfixa. *Masses pollinice* duse, clavate, bisectiles, e granis subulatis conflatre; *caudiculis* squamulâ vaginante solutâ inclusis retinaculo communi apici gynostemii insertis.

Classis Linnseana: *Gynandria monandria*.

Ordo naturalis: *Orchidearum* sectio secunda Browniana?

Habitus. Herba terrestris, radicum parasitica. Caulis basi subrepens, radiculis simplicibus fibrosis; supernè bracteat. *Folia* pauca versus basin plantae, subcordata, bolosericea, vasculis ornata anastomosantibus, aureo-fulgentibus (unde noraen.) Flores racemosi, parvi, albidii, laming magn&, adscendente, volucriforini, biloba.



CHRYSOBAPHUS ROXBURGHII, Wall. TAB. 27/

Foliumpetolatum, Rumph. Amb. 6. p. 93. t. 41. f. 3.

Pr^venit yi pluribus locis Indiae orientalis continentis et insularum, montosis, sylvanis. Amboina, Everardus Rumphius. Montes Cachar dictse, Sylhet confines, M. R. Smith, qui plantas vivas pluries misit. Ceylona, Thomas Hardwick. Ipse legi in sylvis umbrosis templorum Sumbhunath et Pusputnath convallis Napalise, florentem

Februario. In horto botanico Calcuttensi viget floretque mensibus Novembre—
Januario.

Caulis teres, simplex, carnosus, basi-pennam scriptoriam cr&ssus, subrepens, vestigiis annulatus foliorum delapsorum, fibras paucas radicales exserentibus simplices, villosas, ad axillas saepe proliferas; inde erectus, sex- ad octopollicaris, attenuatus, fuscenscens, villis minutis, hyalinis, articulatis, quandoque capitellatis, conspersus, basi foliosus, supernè bracteatus. *Folia* quatuor vel quinque, approximata, sparsa, patentia, plana, ovata, subcortata, basi leviter retusa vel rotundata, acuta, pollicaria, bipollicaria, subcarnosa, parum inaequilatera, suprâ holosericea, atroviridia, sub lente visa minujim papillosa, subtus dilutè purpurascens, nitidissimè picta nervis octo decemve parallelis, vix elevatis venisque plurimis transversim reticulatis, ad paginam superiorem colore aureo fulgentibus, aetate coccineis; ad inferiorem vero laetè viridibus. *Petioli* breves, vix unguiculares, canaliculati, desinentes in vaginulas breves, aridas, tenuissimas, membranaceas, nervoso-striatas, caulem aretè amplectentes, ore obliquas, lobuloque obtuso brevi utrinque auctas. *Bracteae* alternæ, remotiusculæ, membranaceæ, lanceolatae, acuminatae, pollicares, dilutè rubescentes, glabra, basi in vaginulam brevissimam desinentes, sursum patulae, cito emarcescentes. *Flores* (fig. 1.) mediocres, albi, odorati, patentes, alterni, distantes, racemum terminalem, erectum, quadri- ad quinquepollicarem, oblongum formantes. *Rachis* teres, gracilis, recta, puberula. *Perianthium* (fig. 2.3.) ex viridi rufescens, extus villis mollibus vestitum, secundum, subringens, angulo recto ex summo ovario divergens, cum reliquis partibus floris anticis post expansionem introrsum vel posticum; subtus ventricosum, suprâ ringens. *Foliola* distincta; *exteriora* tria magnitudine subaequalia, in galeam conniventia ovatam, ventricosogibbosam; quorum *anticum* ovatum, concavum, tres lineas longum, apice acutâ paullo recurvum, basin floris suffultiens; *postica* oblongo-lanceolata, inaequilatera, margines antici obtegentia, acuta, basi angustata et obliqua in lobulum desinentia labelli basi parallelum. *Interiora* duo minora, albida, marginibus rufescentibus, laevia, falcata, obliquè acuminata, exterioribus occultata, basi contractè gynostemii basi lateraliter inserta. *Jabellum* (fig. 5.6.) *abum*, laeve, perianthio triplo majus; basis horizontalis, carnosae, oblongae, cucullato-tubulosa, dorso convexa, subtus perforata hiatu obliquo, in lobulos duos desinente, circum basin gynostemii inserto; posticè subcalcarata, bidentata; cavitas laevis, propter callos duos parietales, convergentes sub-bilocularis. *Lamina* e dorso basis labelli adscendens, unguiculata, ovarium longitudine sequans, sursum leviter reclinata, biloba, lobis oblongis, obtusis, integerrimis, fere unguicularibus, patulis, verticalibus (superficiebus nempe internis oppositis) basi semilunariter excisae angulo antico insertis; *unguis* lanceolatus, lobis parum brevior, leviter canaliculatus, ciliis longis, patentissimis, concoloribus, subulatis, simplici serie ordinatis marginatus. *Gynostemium* (fig. 7. 8.) breve, sessile, conicum, carnosum, versus galeam reclinatum, cavitate labelli semiinclusum, cuspidulâ recurvatâ terminatum, postice carinatum et rimâ longitudinali sulcatum. *Anthera* (fig. 8.) piagna, ovata, acuminata, verticalis, mobilis, persistens, bilocularis, basi rotundata, ope pedicelli brevissimi adfixa. *Clinandrium* magnum, planiusculum, fere totam gynostemii partem anticam occupans. *Masses pollinice* (fig. 8. 9.) duae, clavatae, sectiles, medio umbilicatae, pendulae, e corpusculis conflatae numerosissimis, subulatis, facilè solubilibus, in caudiculas abeuntes parallelas et contiguas, extra apicem antherae porrectas, vaginatas squamula propriâ tenuissimâ, pendulâ, liberâ cumque ea retinaculo communi, globoso, minuto apicis gynostemii adfixas. *Gynixus* anticus, super clinandrium positus, basi utrinque glandulâ convexâ, sessili, viscosâ, munitus, medio sulcatus, apice porrectâ squamulas istas vaginales, caudiculas*, necnon retinaculum adfigens. *Ovarium* sessile, parum villosum, cylindricum, tricostatum, apice contractum et parum incurvum, longitudine bracteae lanceolatae suppositae, mox spiraliter tortum.

OBSERVATION.

There is a degree of intricacy in the flowers of this singular plant, which renders their description not a very easy undertaking. By the aid of the accompanying plate,

I hope their structure will be rendered intelligible. I have not been able to assign it with any certainty to any known genus; even the division of the natural family to which it belongs, is a question of doubt with me. Under these circumstances, I have ventured to constitute it into a new genus, coming nearest to *Goodyera*, and, as far as my observation goes, limited to one single species.

The difficulty which Rumphius experienced in transferring the wild plant into his garden, has been abundantly felt by me; and it was only after many fruitless attempts that I at length succeeded in inducing it to survive a couple of years in the Calcutta botanic garden, by planting it on a raised bed, in a rich soil, containing a good quantity of pebbles. It is prolific from the axils of the fallen leaves at the base of the stem, to which it dies down as the hot weather sets in: new shoots issue forth at the commencement of the rains, in June. I cannot imagine an horticultural object more worthy of accomplishment, than the introduction of this elegant little plant into the gardens of Europe; but although I have in former years repeatedly sent growing plants home, I have reason to fear, that they have all perished during the voyage.

The plant might with propriety be called *Chrysobaphus Petola*; Daun Petola being, according to the above quoted author's testimony, the name, by which the Malays designate it, from a fancied similarity of its painted leaf to a dress so called. But having expressed the allusion in the generic name, I wish to dedicate the plant to * the memory of my late friend and predecessor, as a token of my respect for that truly great and good man, who had expressed himself so highly delighted with its beautiful foliage, shortly before quitting his beloved garden for ever.

The upper surface of the leaves is soft, like velvety of a peculiarly bright green color, and elegantly reticulated with nerves and veins of a perfectly golden color and lustre; underneath they are purplish, with green ramifications. The flower is placed vertically on the incurved apex of the ovary, the vaulted perianthium forming its inferior and inner part, as soon as expansion takes place; while the lip occupies the upper and outer part. The body of the latter is horizontal; its anterior part is concealed within the leaves of the perianth; the exterior extremity is free and slightly calcarate; it is hollow, forming a short tube, which receives part of the column through a central slit underneath; its cavity is smooth, and subdivided by two lateral callous tubercles, which almost meet each other at their obtuse ends. The lamina ascends in a slightly recurved direction, and is vertically two-lobed, with a ciliated claw.



DENDROBIUM LEOPARDINUM, Wall. TAB. 28.

Arborum parasiticum, laeve, bulbis pluribus-, seriatis, oblongis, basi floriferis, vertice monophyllis; foliis coriaceis, rigidis, oblongis, obtusis, petiolatis; floribus fasciculatis, pedunculatis, globoso-campanulatis; processus gynostemii apice adscendente, liberâ.

Legi in monte Chandaghiry, super arborum truncos parasiticum, florens Junio.

bulbi plurimi, aggregati, in seriem elongatam approximati, alternates, carnosî, uti tota plantalaeves, ovato-oblongi, leviter complanati, sesqui- ad bipollicares, monophylli, squamis interspersi et involuti aridis, magnis, ipsos quandoque superantibus, reticulatis, aetate retiformibus; radiculos e basi emittentes longas, simplices, fibrosas. *Folium* unicum ex apice bulbi, erectum, coriaceum, crassum et rigidum, oblongum, obtusum, nunc denticulis binis, obsolete terminatum, basi acutum, quinque- ad septempollicare, supra atro-viride, striatum, juxta medium canaliculatum; subtus pallidum, costâ elevate carinatâ, *petiolo* suffultum bipollicari, rigido, canaliculato, basi subarticulato parum dilatatâ, quandoque squama bulbi involute. *Flores* (fig. 1.) magni, inodori, globoso-campanulati, basi latè hinc productiore, calcar breve, obtusissimum aemulante, nutantes, pedunculati, tres quatuorve fasciculati e basi vel latere bulbi, nunc duplo numerosiores

in fasciulis duos dispositi. *Pedunculi* carnosi, teretes, clavati, purpureo-punctulati, puberuli, ad basin circumdati *bracteis* latè ovatis, acutis, tres vel quatuor lineas longis, laxè imbricantibus, pallidis, punctulatis. *Perianthium* (fig. 2.f ex fusco flavescens, punctis crebris purpureis utrinque guttatum, crassiusculum, intus lucidum; *foliis* ovatis, acutis, regulari ordine dispositis, conniventibus; *exterioribus* fere pollicaribus, coneaviusculis: *lateralibus* obliquè ovatis, basis latae medio processui columnae insertis; *antico* parum angustiore, torsione ovarii postico et superiore. *Foliola* interiora illis duplo minora, erecta, basi columnae lateraliter inserta. *Labellum* (fig. 2. 3.) valde erasum et carnosum, fere omnino inclusum, lato-ovatum, acutiusculum, recurvatum, suprâ atro-purpureum, medio profundè sulcatum et bicarinatum, secus latera deflexum, subtus concavum et albicans, basi utrinque dentibus aliquot cristatum, sinu centrali articulatione laxâ adfixum extremitati adscendenti, liberae baseos columnae? celerum mobile, sessile, apice vix extra foliola perianthii lateraliter protrudens. *Gynostemium* (fig. 2.) inclusum, erasum, subtruncatum, posticè planum et submarginatum, foliis interioribus brevius, basi productum in processum triplo longiorem, planum, suprâ purpureo punctatum, horizon tale m₅ extremitate libera adscendente incurvât, cum basis labelli centro articulationem. *Gynixus* (fig. 4.) posticus (torsione ovarii anticis) subquadratus, mucosus, latere utroque glandulâ carnosa, flava, convexâ munitus. *Clinandrium* terminatum, planiusculum, utrinque unidentatum, anticè adfigens *antheram* (fig. 5.) opercularem, mobilem, conicam, acutam, basi truncatam, bilocularem: loculis fundo septiferis. *Massae pollicariae* (fig. 5.) quatuor, cereae, lanceolatae, planae, per pares contiguae. *Ovarium* breve, triangulare, lateribus bisulcatis, puberulum.

OBSERVATION.

This species has some resemblance in the shape of its flowers to *Anguloa superba*, Humb. et Bonpl. nov. gen. i. 343. tab. 93. The leaves are remarkably stiff and glossy. The flowers are very showy, of a pale yellow color, marked with innumerable purple, small spots; the outer sepals, as well as the labellum, are very thick; the latter dark purple on the upper, and almost white on the under surface. Their structure is entirely that of the genus to which I have referred the plant.



LILIUM LONGIFLORUM, Wall. TAB. 29.

Caule gracili, folioso, apice paucifloro, nunc unifloro; foliis sparsis, numerosis, valde approximatis, linearibus, acuminatissimis, sessilibus; floribus hypocrateriformibus, nutantibus, tubo longissimo, fauce campanulatâ nudâ, limbo patenti.

Incolit sylvas densas Sheopore montis, florens Augusto.

Bulbus (fig*3.) ovatus, solitarius, bi-tripollicaris, constans squamis carnosissimis, crassis, subgibbosis, albis, acutis; aretè imbricantibus, e basi emittens fibras longas, copiosas, ramulosas, teretes, subinde parum ramulosas, nunc subtuberosas. *Caulis* erectus, gracilis, integerrimus, attenuatus, pallidus, uti tota planta laevis, quatuor ad sex pedes altus, parte inferiore nudâ cicatrisatus a lapsu foliorum, superne dense foliosus; basis ejus repens pennam cygneam usque ad digitum minimum crassa, fibrosa et oblecta squamis fuscis, parvis, lanceolatis, more filicis, caules plures propellens, saepe omni bulbi vestigio orbata. *Folia* valde copiosa et approximata, media vix pollicem distantia, erecto-patentia, hinc, attenuato-acuminata, basi angustata, adnata, quinque ad sex pollicaria, pallida, suprâ nitida, leviter complicata, ad lucem visa lineata, subtus glaucescentia, subquinqvenervia, carinata; inferiora sensim breviora et remotiora; summa tria quatuorve infra flores subverticillata. *Flores* duo tresve ternales, raro solitarius, pedunculati, magni, albi, suaveolentes, septem ad novem uncias longi, dum clausi nutantes, clavati; post anthesin patentissimi, hypocrateriformes, tubo obtusè triangulari longissimo, digitum minimum crasso, basi subgibboso leviterque

retuso, extrorsum sensim ampliato in limbum amplum, patenti-recurvum, tubidimidium subsequantem, sexlobum, lobis lato-lanceolatis, exterioribus tribus paulò angustioribus; fauce campanula*[^] magn&, nuña. *Pedunculi* crassi, teretes, bipollicares, ad medium saepissimè monophylli. *Sepala* (fig. 1.) ovato-lanceolata, obsoletè repanda', acuminata, deorsum attenuata in unguem linearem, fere prismaticum; exteriorum laminae interioribus parum angustiores; earum ungues dorso convexi, marginibusque intra cogtam mediam, depressam, utrinque sulco profundo exaratam, interiorum receptis. *Stamina* (fig. 1.) parallela, recta, conniventia; *Jilamenta* plana, alba, unguum basi inserta; tria interiorum sulcibus incumbentia canaliculosque formantia. *Antherae* exsertae, pollicares, lineares, rect&, polline aureo-flavo. *Ovarium* (fig. 2.) oblongum, sesquipollicare, triangulare, angulis subbilobis; *ovula* plana, serie geminata in singulo loculo disposita. *Stylus* rectus, filiformis, apice clavatus. *Stigma* parum extra antherarum apices prominens, crassum, mucosum, trilobum, lobis gibbosis, magnis. Capsulae maturae baud visa?

OBSERVATION,

This is a very distinct and noble species, with a tall and slender stem, two thirds of which are thickly furnished with long and linear leaves. The flowers are white, fragrant, extremely large, with a very long and narrow tube, which is gradually widening into an ample, spreading limb; there are generally two or three at the apex of the stem; sometimes only one. In size they exceed those of *Lilium giganteum* (see page 21. tab. 12, 13.) The claws of the three exterior sepals are closely united to those within, in consequence of their sharp margins being confined within the deep furrow, which is formed on each side of the dorsal rib of the latter. The base of the stem I have repeatedly found horizontal, creeping and scaly like that of a fern, without any remainder of a bulb, but marked with a number of vestiges of old stems. I forgot to mention under the Habitat, that this lily is also found towards Sirinuggur, and that I have received plenty of fine specimens collected by Mr. Robert Blinkworth.



EUONYMUS GRANDIFLORA, Wall TAB. 30.

Foliis obovato-oblongis, obtusis, argutè serrulatis; pedunculis gracilibus, complanatis, folia subsequantibus, tri- ad sexfloris; capsulis globosis, pendulis, obsoletè quadrangularibus, calyce tumido, recurvo suffultis, seminibus subgeminatis, dependentibus.

Euonymus grandiflora, Wall, in Roxburghii Flor. Ind. ii. 404.

Sylvae convallis Napaliae. Floret mensibus Aprili, Maio; fructus maturescunt Septembre.

Arbuscula ramosa, duodecim circiter pedes alta. *Rami* graciles, teretes, grysei, uti omnes partes laeves; *ramuli* oppositi, subcomplanati, obsoletè quadrangulares, sulcis duobus oppositis, gracillimis notati. *Folia* opposita, coriacea, oblonga vel ovata, obtusa, nunc⁹ apice roscundata, acut[^] serrulata, basi integr&, auctiuscula, tri-quadrilicaria, utrinque lasevia, supr& lucida, subtus pallida, nervis suboppositis, capillaribus, venisque reticulatis. *Petioli* brevissimi, sulcati. *Pedunculi* axillares, oppositi, gracillimi, filiformes, complanati, folia subaequantem, tri- sexflori; *pedicelli* divaricati, basi articulate suffulti bracteolis binis minutis, deciduis. *Flores* (fig. 1. 2. 3.) magni, albi, inodori, parum nutantes, tetrapetali, tetrandri, lineas decem lati. *Calyx* planus, subtruncatus, niargine notatus lobulis quatuor obsoletis, erectis, obtusis, ciliatis; post expansionem sensim recurvus, intumescens, carnosus, supr[^]t nitidus, atro-viridis, subtus concavus. *Petala* (fig. 3.) quatuor, magna, patentia, alba, plana, orbiculata, margine crispatis. *Stamina* (fig. 3.) brevissima, distantia, erecta, demum recurva; *Jilamenta* subulata, persistentia, disco convexo, carnosio calycis basi immersa; *antherae* ovatae, erectae, didymae.

Ovarium ovato-pyramidatum, semiimmersum, nitidum, quadriloculare, polysporum: *ovula* e placenta axili pendula; *stylus* brevis, persistens; *stigma* obtusum. *Capsula* (fig. 4.) globosa, obsoletè quadrangularis, magnitudine cerasi, suffultatcalyce persistente, grandefacto, truncato, convexo, subtus concavo; quadrilocularis, quadrivalvis. *Semina* ovata, atra, lucida, ad medium usque vestita *arillo* coccineo, nitido, minutim lobato et verrucoso; plerumque duo ex singulo loculo, ope funiculorum brevium pendula.

Frutex dum floribus et capsulis onustavalde elegans. Wall, loco citato.



PRIMULA-PETIOLARIS, Wall. TAB. 31.

t3espitosa, Isevis, foliis ovalibus, utrinque rotundatis, repahdo-dentatis, crispis; petiolis gracilibus, nudis, elongatis; pedunculis radicalibus pluribus, unifloris, petiolis brevioribus; limbo corolla? piano, laciniis dentatis.

Primulapetiolaris, Wall, apud Roxb. Flor. Ind. II. 23.

Primula Cushia, Hamilt Illustr. J. E. Smith in literis.

Legi frequenter super rupibus ad loca opaca, humida, fontana, Sheopore aliorumque montiutn. Ad ortum Bagmattee fluminis, Fr. Hamilton. R. Blink worth misit specimina in Kamaon lecta. Floret a Februario ad Aprilem.

Planta cespitosa, Isevis, radice crass&, carnosd, sub truncate ut in *Primula acauli* cui planta nostra accedit, rufescente, odore anisato; *radiculis* copiosis, densis, fibrillosis. *FoKa* vald[^] numerosa, terre prostrata, tripollicaria, ovalia, utrinque obtusa, nunc apice basive acutiuscula, rugosula et venulosa, marginibus ingequaliter sinuato-dentatis, crispis, dentibus acutis, subulatis, prsecipuè in junioribus plantis; utrinque glabra, subtus pallida, ferè albicantia, nervife parallelis, suboppositis, transversalibus. *Petioli* graciles, teretes, supr[^]t exarati sulco profundo, acuto, tri- ad sexpollicares. *Pedunculi* plures, radicales, erecti, uniflori, petiolis parum breviores, teretes, vix puberuli, ad basin bractea ovata, membranacea, acuminate instructi; rard duo tresve basi uniti pedunculoque communi brevissimo suffulti. *Flos* magnus, pallidè coeruleus, inodorus; rarissimè dilutè roseus. *Calyx* (fig. 1.) subinfundibuliformis, quinquangularis; *dentibus* lanceolatis, acuminatis, leviter glanduloso-ciliatis. *Corolla*: (fig. 2.) *tubus* cylindricus, calycem bis superans; *limbus* initiq parum infundibuliformis, demuin planus, divisus in *laciniis* quinque patentissimas, obovatas, apice bi-tridentatas, vel crenulatas, tubum longitudine aequantes; fauxluteola, pervia. *Antherte* versus medium tubi sessiles. *Stigma* oblongum. Wallich loco citato.

OBSERVATION.

I have somewhat modified the specific character, and have added a few points to the description, which was printed six years ago in Roxburgh's Flora Indica, having since then had an opportunity of examining this handsome and rather common species in its native soil. I was assured that its Newar name is *Jhooe Soak*; but in a letter from the illustrious President of the Linnaean Society, I am informed that my most worthy friend Dr. Hamilton sent specimens of the plant borne, labelled *Primula Cushia*: a name which he no doubt derived from native sources, and which I should have adopted on the present occasion, in preference to mine, if any faith could be put on the correctness of the appellations, which the people of Nepal so bountifully, and that often at a moment's warning, bestow on the vegetable productions of their country; and if it were not so very seldom, that any plant can be identified by means of them.



PRIMULA ROTUNDIFOLIA, Wall TAB. 32. (fig. sinistra.)

Foliis rotundato-cordatis, grossè dentatis, subtus umbellâque luteo-farinosis; petiolis gracilibus, longissimis; *involucro* setaceo, pedunculis dimidio brevioribus; *tubo* corolla? longo, *laciniis* ovatis crenulatis, aw[^]e perviâ, leviter inarginatâ.

Primula rotundifolia; Wall. 1. cit. 18.

Incolit rupes elevatos versus Gossain Than Himaleya; floret Julio.

Species pulcherrima, radice divisâ in fibras graciles, rubicundas. Folia numerosa, patentia, rotundato-cordata, obtusa, dentibus notata triangularibus, acutis, subinaequalibus, sinu baseos integro, lobis rotundatis, bipollicaria; suprâ glabra, parum reticulata; subtus densè obsita farinâ luteo-albâ. Petioli graciles, canaliculati, quater ad sexies foliis longiores, dum juniores farinosi, aetati glabri, ad basin membranacei et dilatati, ibique interspersi squamis radicalibus ovatis, acutis ut in *P. denticulata*. Scapus laevis, gracilis, teres, octo ad decem pollices longus, erectus, inanis. Umbella magna, hemisphaerica, patens, farinosa, pollices tres lata. Flores purpurei, circiter duodecim. Pedunculi puberuli, semipollicares; capsuliferi duplo longiores. Involucris bracteolae lanceolatae, pedunculis breviores, persistentes. Calyx (fig. 1.) quinquefidus, basi gibbosus; laciniis lanceolatae, acutae, utrinque farinosae. Corollae (fig. 2.) tubus cylindricus, calyce quadruplo longior, supernè sensim dilatatus; apertura ampla, pervia, annulo membranaceo, flavicante marginata; limbus planus, patens, tubi dimidium sequans, lobi obovati, subretusi, leviter crenulati. Filamenta medio tubi inserta; antherae oblongae. Ovarium cylindricum, leve; stylus filiformis; stigma subcapitatum, infra faucem. Capsula (fig. 3.) fusca, laevis, oblonga, calyce duplo longior, dentibus dehiscens quinque ad octo, inaequalibus, demum in totidem valvas recurvas separatis. Placenta globosa, pedicellata.

Primula rotundifolia, Pallas, quae admodum a nostra planta differt, eadem est ac *P. sibirica* Jaq. Wall. loc. cit.

PRIMULA FLORIBUNDA, Wall. TAB. 33.

Pubescens, absque ulla farina; foliis obovatis, obtusis vel acutiusculis, inaequaliter sinuato-dentatis, in petiolum marginatum attenuatis; scapis numerosis, debilibus, subdiffusis, foliis longioribus; floribus pedunculatis, valdè copiosis, dispositis in verticillis pluribus; involucris magnis, foliaceis, lanceolatis; calyce ovato corollaque pubescentibus.

Legi super rupibus humidis, umbrosis, prope Sansedarra et in monte Karkaulee, in Deyra Doon, florentem et capsulis non usque tamen maturis Aprili.

Radix sublignosa, cylindrica, attenuata, longius descendens, fibras emittens aliquot ramulosas. Folia densè conferta, super terrain patula, obovata, vel subovata, bi-usque ad quinquepollicaria, saepius acutiuscula, valdè irregulariter sinuato-dentata, dentibus triangularibus, acutis, nunc subincisa, utrinque mollia propter villos canos, breves, juxta vasorum tractus copiosos; dum juniora densè villosa; supra saturate viridia, subtus pallida, costis et nervisque alternis, obliquis, elevatis; vix reticulata, subcarnosa, basin versus attenuata, petiolo suffulta canaliculata, marginata, bi-tripollicaria. Scapi sex ad octo, graciles, debiles, nunc, dum fructigeri, terse incumbentes, foliis dimidio vel duplo longiores, villosuli, teretes, carnosuli, dimidiâ inferiore parte nudi, superiore gerentes verticillos tres ad quinque, raro pauciores, convexas, parum distantes. Fibræ flavae, odoratae, villosuli, pedunculati, numerosi, patentes. Pedunculi teretes, pollicares, villosi, nudi. Involucrum verticilli constans bracteis tribus ad quinque, quin septem, sessilibus, distinctis, lanceolatis, acuminatis, acutè et inaequaliter dentatis, viridibus, foliaceis, pollicaribus, nunc longioribus, pedunculos excedentibus, erecto-patulis, persistentibus. Calyx (fig. 1.) villosulus, ovatus, tubo corollae dimidio brevior, laciniis lanceolatis, longè acuminatis, patentibus. Corolla (fig. 2.) magnitudinis mediocris, extus villosula; tubus gracilis, longiusculus, semipollicaris, medio parum dilatatus; limbus patens, planus, tubo brevior, laciniis cuneato-obovatis, integerrimis, retusis; faucis nuda, pervia. Stamina in medio tubi. Phylidium glabrum; ovarium globosum; stylus filiformis;

stigma subcapitatum in fauce. *Capsula* (fig. 3. 4. 5.) ovata, laevis, straminea, intus lucida, calyce campanulato, parum aucto inclusa, magnitudine grani piperis, ad medium dehiscens in valvulas quinque subaequales, lanceolatas, acutas. *Placenta* globosa, foveolato-rugosula, pedicellata. *Semina* (fig. 6.) copiosa, atra, leviter angulata.

OBSERVATION.

This curious and elegant plant is the second species of East Indian Primroses with whorled flowers, which has come to my knowledge. A description and figure of one of these, *P. prolifera*, Wall, was laid before the Asiatic Society of Calcutta, about eight years ago, and subsequently inserted in the 13th volume of their Researches. It differs in being perfectly smooth in all its parts, whereas ours is covered with many short, whitish, subdiaphanous hairs; its leaves are oblong, minutely dentate; ours obovate, notched, and toothed, with broad triangular teeth. In that, I have only observed one erect scape to each root; in this there are always several, and frequently as many as eight spreading, or decumbent scapes, the upper part of which has rarely less than three, and often twice as many rounded verticils, each consisting of about a dozen of yellow, fragrant, pubescent, slightly spreading flowers; each supported by an involucre of three, five, or even seven large, foliaceous, lanceolate, dentate, acuminate, villous bractes, which are linear only during the infancy of the inflorescence. The calyx is rounded, subglobular at the base, and not tubular: the lobes of the corolla entire, and not crenulate, as in *P. prolifera*. To *P. verticillata* of Forskael, it seems to come nearer than to the species just mentioned; but it differs chiefly in being villous, and destitute of all mealiness, and in the tube of the corolla being much shorter.

I discovered our plant in full flower and fruit in April 1825, among rocks, in cool, moist, and shady situations, near mountain streams or springs, in that part of Sirmoor which forms the delicious Deyra Doon, (the valley of Deyra;) which is elevated about 2300 feet above the sea, according to the measurements of my excellent friend Captain Alexander Gerard; especially near Sansedarra, (or the Dripping-Cave,) and on the mountain called Karkaulee, which confines the valley to the northward, at an elevation of about 2500 to 3000 feet above the level of the latter.



PRIMULA STUARTII, Wall TAB. 34.

Foliis oblongis, acutis, margine revolutis, integerrimis, vel pectinato-dentatis: dentibus teretibus, parallelis, approximatis; per petiolum decurrentibus, subtus umbellâque multiflorâ farinosis; scapo foliis longiore; calyce ligulato, tubum sequante; fauce nudâ, infundibuliformi; laciniis obovatis, retusis, integerrimis vel denticulatis.

Primula Stuartii, WALL, apud Roxb. Flor. Ind. ii. page 20.

Habitat in Himalaya, versus Gossain Than. Floret et fructus profert tempore pluvioso. JEtiam habui e montibus Kamaon, ubi legit R. Blink worth.

Nomen Parbutteum (*generate* hujus generis et Androsacearum) *Nitaha*.

Planta pedalis et ultra, radice carnosâ, constante fibris rubicundis, longis, crassis, teretibus. *Folia* numerosa, erectiuscula, cum petiolis pollices octo ad decem emetientia, oblonga, vel lanceolato-oblonga, acuta, deorsum attenuata at sepius per petiolum decurrentia, ad margines dum juniora revoluta, nunc integerrima (fig. B.); sepius vero pectinata dentibus creberrimis, parallelis, teretibus, brevibus; plana, subcarnosa, supra pallida, subglaucescentia, subtus pedunculis, calycibusque utrinque, dense pulverulentis farinâ flavicante, subsulphureâ; tenuiter reticulata, costâ prominente. *Petioli* folia longitudine requantes, marginati, basi circumdati bracteis pluribus ovatis, acutis, membranaceis. *Scapus* ex singula radice unicus, erectus, teres, foliis semel bisve longior, crassiusculus. *Umbella* erecta, patens, subglobosa, duodecimflora; rard ad centrum subcomposita. *Involucrifoliola* lanceolata, acuta, uninervia, basi subconnata, tres lineas longa. *Floret*

magni, odorati, flavi, vel atropurpurei. *Pedunculi* leviter anguiosi, in&quales, fructigeri (fig. 3.) elongati, quandoque tripollicares. *Calyx* (fig. 3.) quinquecarinatus, infundibuliformis,* utrinque pulverulentus; *lacinie* ligulatae, erectiusculae, acutae, vel obtusae, tubo corollae parum breviores. *Corolla** (fig. 4.) laciniae ovatae, nunc obovatae, parum retusae?, tubum aequantes, integerrimae vel (fig. 2.) dentibus copiosis linearibus fimbriatae. *Anthere* ad medium tubi. *Stigma* in fauce, leviter retusum. *Capsula* (fig. 5. 6. 7.) oblonga, calyce persistente parum brevior, fusca, laevis, initio parum farinosa, inaequaliter dehiscens in valvas quatuor vel quinque, nunc bidentatas. *Semina* minuta. *Placenta* (fig. 8.) subcylindrica, elongata, fere sessilis.

OBSERVATION.

The above description is chiefly taken from the account I have given in Roxburgh's Flora Indica. The specimens which I procured from Gossain Than, while I was in Nepal, have strengthened me in the opinion, that, notwithstanding the striking difference observable in some of them, they belong to one and the same species, varying in the following respects. The margins of the leaves are more or less revolute, and either perfectly entire, or fringed with very numerous, short, cylindrical teeth, placed close to each other. The flowers are delightfully fragrant, generally bright yellow, but sometimes of a deep purple color. The margins of the laciniae are either entire, or fringed with many unequal, linear teeth. The plant is large and showy; the fruitbearing stalk measures sometimes full two feet in height. The under side of the leaves, the involucre, peduncles, and calyces are covered with much yellow mealiness, as are also all the tender parts.



WULFENIA OBLIQUA, Watt. TAB. 35.

Puberula, foliis alternis, ovatis, basi obliquis, altero latere valde abbreviatis, utrinque puberulis; racemis terminalibus, gracilibus, secundis; corollis tubulosis, labio superiore bidentato, inferiore elongato, angustato, obsolete tridentato.

Legi in sylvis Nepalite, florentem et fructigeram sub fine pluviarum. Etiam habui e montibus Pundua, Sylhet confinibus.

Herba carnosae, pallidae, pube hirsuta, brevissima conspersa, pedalis, sesquipedalis, erecta, subdichotoma ramosa, vel fere simplex. *Radix* fibrosa. *Caulis* teres, lineatus, subdiaphannus, basi pennam cygneam crassus, super insertionem foliorum parum intumescens, sursum attenuatus et emittens ramulos paucos, graciles, alternos, plerumque simplices. *Folia* alterna, remota, patentia, membranacea et teretia, breviter petiolata, tri- ad quinquepollicaria, oblique ovata, acuminata, integerrima, obscure repandula, basi valde inaequalia: latere altero rotundato, nunc subcordato; altero duplo angustiore, plus minusve abbreviato, attenuato, obtuso; utrinque ad vasa puberula, supra atroviridia, lucida, subtus opaca et pallida, nervis valde copiosis, approximatis, parallelis, oblique arcuatis, ad marginem usque excurrentibus, venulosa; siccitate coerulescentia, discis interdum rufidulo. *Petioles* teretes, puberuli, supra plano-sulcati. *Racemi* caulis et ramorum terminales, paniculati, oblongi, attenuati, recti, secus Mida, densiflori, digitum longi. *Flares* (fig. 1. 2.) parvi, ascendentes, secundi, alterni, cylindrici, dilute coerulei, approximati, unguem longi. *Pedunculi* bilineares, basi bracteolae lineari suffulti, *rachisque* teretes, puberuli. *Calyx* (fig. 3) oblongus, quinquefidus, puberulus, membranaceus; *laciniae*? lanceolatae, acutae ciliatae. *Corolla* (fig. 4.) calyce duplo longior, glabra, tubo parum incurvo, cylindrico, albicante, limbo parvo, bilabiato, fauce nuda, personata, palato convexo. *Jabium superius* brevissimum, vix lineam emetiens, recurvum, obtuse bidentatum; *inferius* elongatum, angustum, subtus concavum, superiore triplo longius, tridentatum, acutum, dentibus lateralibus minutis, nevolutis. *Filamenta* quatuor infra labium superius tubi medio inserta, capillacea, glabra, didynamae; *intermedia* duo sterilia, brevissima; *anthera* (fig. 5.) peltatae, subreniformes,

glabræ, vix faucem attingentes, labii superioris basi oblectæ, conniventes et contiguæ, baud verò connexæ. *Pistillum* (fig. 3.) longitudine stamium duorum fertilium. *Ovarium* parvum, ovatum, leviter compressum, glabrum, bisulcatum, basi hinc munitam *annulo* membranaceo, incompleto, angustissimo, adpresso, persistente; uniloculare, *ovulis* copiosis, insertis super placentis duabus latis, oppositis, parietalibus. *Capsula* (fig. 8.) glabra, ovata, compressa, fusca, calyce persistente oblecta (fig. 7.) eodemque paulò brevior, lineas duas emetens, basi suffulta nectario isto incompleto, immutato, unilocularis, infra medium bivalvis: valvulae (fig. 10.) planæ, bidentatæ, dentibus triangularibus, acutis. *Placenta* (fig. 9. 10.) duæ, oppositæ, parietalibus, ovatis, subcarnosæ, valvamm axi longitudinaliter insertæ, superficie planâ, seminiferis contiguæ, unde sectio capsulae immature ovarique primo intuitu bilocularis evadet. Semina valdè minuta, et copiosa, ferruginea.

OBSERVATION.

In the structure of the ovary and capsule, the plant recedes somewhat from the character of the family of *Scrophulariaceæ*, as well as from the genus under which I have placed it. As far as I can judge from a dried specimen of *Wulfenia carinthiaca*, which I owe to the liberality of Prof. De Candolle, the curiously interrupted, lateral, annular nectary of the ovary exists also in that species. The leaves of our plant are very oblique at their base; one side being sometimes an inch shorter than the other, leaving the base of the rib half naked. Since the plate was struck off, I have had the pleasure of receiving specimens of another oblique-leaved species from P. J. Noton, Esq. Assay Master at Bombay, gathered by that gentleman in a swamp near Nilgherry, which I have great satisfaction in calling *Wulfenia Notoniana*, and which may be distinguished by the following specific character: *Caule* carnoso, hinc lineis, dense villosis notato; *foliis* alternis, ovatis, obliquis, basi dimidiato-cordatis, supra juxta costam et margines pilosis, subtus laevibus; *racemo* terminali, brevi, secundo; *rachi* pedunculisque villosis; *labio* inferiore corollæ indiviso, maximo, obovato. The flowers are much larger in this species, than in *W. obliqua*.



ADAMIA, Wall

Calyx ovario adnatus, limbo quinquedentatus. *Petala* quinque, dentibus calycinis alternantia, epigyna, verticem ovarii ambientia. *Stamina* decem, quorum alterna petalis opposita. *Styli* quinque. *Stigmata* clavata, sub-biloba. *Bacca* infera, coronata, subquinquelocularis, polysperma.

Classis Linnæana *Decandria pentagynia*.

Ordo naturalis: '*Araliaceæ*'?

Genus consecratum memorise amici et fautoris carissimi, sempiternè colendæ, beati John Adam, armigeri, in consiliis supremis Calcuttensibus quondam præsidis, botanices, horticulturae et rerum agrestium in Indiis orientalibus strenui et indefessi promotoris.

Habitus. Frutex elegans, ramosa. Folia opposita, serrata, exstipulata. Flores paniculati, cyanei. Fructus valdè numerosi, coerulei, baccati.



ADAMIA CYANEA, Wall. TAB. 36.

• Incolit apricos saxosos, montanos, a Bechiaco usque ad vallem mag-nam; floret Maio, Junio; fructus maturi Octobre—Decembre.

Nomen Parbutteum *Bansook*.

Frutex ramosissima, paniculata, tri-quadripedalis. *Caulis* pollicem ad sesquipollicem crassus, *cartice* spongioso, albicante, glabro, *ligno* pallido. *Rami* oppositi, teretes vel obsolete quadrangulares, glabri, glaucescentes; supernè purpurascens, pilis adpressis puberuli; juniores cum foliis densè villosi. *Folia* opposita, patentissima, approximata, subcarnosa, oblongo-lanceolata, acuminata, utrinque attenuata, serrata, serraturis incurvis, cuspidato-acutis; suprik opaca, rugosula, glabra, *subtus* pallida, juxta eostam nervosque elevatos, parallelolos, approximatos, obliquos pubescentia, transversimque reticulato-venosa. *Petioli* pollicares, teretes, suprâ plani, propter basin folii acutam, integerrimam, decurrentem parum marginati. *Stipules* nullae, nisi lineola elevata, nunc puberula, bases petiolorum connectens. *Panicula* nungna, terminalis, lato-ovata, nuda, vel foliolis floralibus lanceolatis, integerrimis, paucis basi munita, foliorum supremorum pari brevior, densiflora; ramis oppositis, villosis, apice subtrichotomis. *Bracteae* nullae. *Flores* (fig. 1. 2. 3.) valdè copiosi, dilutè coerulei, nunc rosei, extus albicantes, inodori, plures fasciculati vel subumbellati, *pedunculis* brevibus, villosis, subcoloratis. *Calyx* superus, i. e. ovario cohaerens, limbo parvo, libero quinque-dentatus, dentibus miautis, patulis, ovatis, acutis, distantibus, puberulis. *Corolla* carnosa, glabra, quinquepetala, *cestivatione* valvata et ovato-obtusa. *Petala* lanceolata, acuta, trilineararia, patentissima, demum recurva, basi lat4 calyci, intra limbum inserta dentibusque ejus alternantia. *Stamina* decem patentia, petalis paulò breviora, bisque alternatim opposita, subsequalia; *jilamenta* subulata, coerulescentia, carnosa, glabra; *antherce* magnae, ovatae, biloculares, basi insertae, ante anthesin quinque petalis opposite deflexae, reliquae erectae (fig. 4.). *Ovarium* (fig. 6.) inferum, globosum, magnitudine grani piperis nigri, pubescens, pseudo-quinqueloculare, vertice intra petala parum elevatum; *ovula* minuta, placentis quinque parietalibus, carnos^s adfixa. *Styli* quinque, erectiusculi, carnosi, apice dilatati in *stigma* clavatum, compressum, nmarginè intumescens et subbilohum (fig. 5.). *Baccae* (fig. 8. 9. 10.) admodum copiosae, paniculate, globosae, glabrse, cyaneae, magnitudine fructus ribesise, carne crassS., pallidi, spongiosd, subquinqueloculacLs, polysperma, *ihfvc* verticem convexam, centro retusam et stylis persistentibus terminatana, coronata calycis dentibus persistentibus, marginulâ angustissimd unitis. *Semina* (fig. 11. 12. 13.) numerosissima, minuta, pyriformia, striatula, placentis quinque parietalibus carnosis, demum evanidis inserta, sessilia, totam cavitatem fructus replentia. *Integumentum* simplex, fuscum, membranaceum. *Perispermum* carnosum, semini conforme. *Embryo* cylindricus, axin fere totam perispermi occupans. *Cotyledones* ovatae, obtusae, dorso convexsB, brevesr. *Radicula* obtusa, hium respiciens.

OBSERTATION.

I am not able satisfactorily to assign this shrub to its proper place in the natural system. To the 12th class of Jussieu it appears to have a greate^affinity than to any other, on account of its inferior, single germen, polypetalous corollâ, and number of styles and stamens; but it differs in having an erect embryo, which is lodged in a soft and fleshy perisperm, and in bearing opposite leaves, the petiols of which are even, not sheathing at the base. In habit it approaches to *Rubtaceae*; but the polypetalous corolla, numerous stamens, and absence of stipulas, distinguish it. It has a slight connexion with the polypetalous *Caprifoliaceae*, and with Jussieu's ambiguous section of *Ericaceae* with an inferior fruit. Under all these circumstances, I suggest the family of *Araliceae* for its temporary station. It is a branchy shrub, which delights in open and exposed mountainous situations. Either as covered with its large panicles of pale-blue or pink flowers, or loaded with a profusion of deep blue berries, the plant is an object of great elegance, and as such, is very desirable in gardens. I am not aware that any part of it is employed for economical or medicinal purposes.

THUNBERGIA COCCINEA, Wall. TAB. 37.

Scandens, foliis oblongo-ovatis, cordatis, subhastatis, sinuato³-dentatis, acuminatis ; racemis longissimis ramisque pendulis ; corollae fauce compress[^], limbo reflexo.

Habitat in sylvis densis Napalise, super arbores altos scandens; prsecipue inter Hetounra et Chesapanny, juxta flumen Rapy tortuosum ; florens tern pore pluvioso et frigido; fructus maturescunt prseterlapsis mensibus tribus. Emontibus Pundua, Sylhet confinibus, specimina sicca florentia et fructigera olim misit M. R. Smith, et nuperius F. De Silva lecta ad finem pluiarum. In horto botonico Calcuttensi floret initic? anni, capsulaeque maturescunt Martio.

**Frutex* ramosissimus, altè super arbores scandens, *canle* nodoso, valdè torto, digitum medium crasso, *cortice* gryseo, glabro oblecto, *ligno* minutim et radiatim poroso. *Rami* longissimi, graciles, flaccidi, penduli, compressorquadrangulares, virides, scabriusculi, ad insertionem foliorum nodoso-incrassati. *Folia* opposita, patentia, vel adscendentia, petiolata, ovata vel oblonga, attenuato-acuminata, sinuata, dentata, dentibus remotis, obtusiusculis, ad basin plerumque angulata, cordata, sinu lobulique obtusis, nunc has tat a lobis divaricatis, plus minusve elongatis ; pilis raris, adpressis, utrinque asperula, opaca, suprk atro\iridia, subtus pallida, quinquenervia, nervis carinatis, reticulato-venosa, quinquepollicaria ad palmaria; superiora oblongo-cordata, fer& integerrima, brevè petiolata vel sessilia. *PetioK* graciles, teretes, suprk plano-sulcati, marginibus promiuentibus, acutis, basi apiceque incrassati, saepius curvi vel torti, pollicares ad tripollicares, summorum foliorum unguiculares vel infrk. *Stipulce* nullae. *Racemiterminales* ramorum, flaccidi, penduli, multiflori, valdèelongati, pedales, bipedales, quin tripedales, oblongi, foliaceo-bracteati. *Pedunculus* communis tenerimus, filiformis, vix puberulus, teres, ad insertionem fascieulorum oppositorum dilatato-incrassatus et tuberculatus. *Bracteae* foliaceae, lanceolatae, sessiles, iraldè acumi^{*} natse, iitegerrime, trinervia*, pedunculis dimidio longiores, opposite infra singulos fasciculos, pubescentes, novelise purpurascens; inferiores sentsim majores, foliis similes. *Flores* (fig. 1.) speciosi, coccinei, pollicem longi, inodori, tres ad sex seriatim approximati in fasciculos oppositos, pollicem vel duos distantes, quorum inferius par axillare foliorum summorum sessilium. *PeduncuU* adscendentes, clavati, puberuli, fer& pollicares. *Calyx* (fig. 2,) membranaceus, spatliaceus, compressus, obloogus, apice bidentatus, hinc fissus, demumque per totuni dorsum divisus in *sepala* duo lanceolata, acuta, ciliata, purpurascens, trinervia, nervis viridibus gracilibus. *Corolla* (fig. 2.) tubus compressus, sepalis parum longior, ferè pollicaris, lsevis, flavescens, deorsum angustatus, basi dilatat[^] circumdatus annulo carnosissimo, inaequaliter crenulato, albidissimo, persistente, oalyce niultoties brevior. *Limbus* reflexus, quinquelobus, tubo parum brevior: *lobi* obovato-rotundati, retiisi, siipernè levissiniè crenulati, laeves, plani, suprik coccinei, subtus flavicantes, fere unguiculares, laterales tubo adpressi, inferior parum descendens ; int[^]rtfledii reliquis vix minores. *Faux* oblonga, compressa, nuda, *Filamenta* quatuor fertilia, didynama, carnosissima, lsevia, complanata, flavicantia, basi parum dilatata supra basin tubi inserta. *Anthera* erectae, oblongae, compress[^], cuspidatae ; *locula* basi pilosula, bicalcarata, calcaribus subulatis, hyalinis, divergentibus, inaequalibus. *Filamentum* quintum sterile, inter bases filamentorum superiororum, subulatum, incurvum, trilineare. *Ovarium* ovatum, lseve, nitidum, *disco* hypogyno tumido, carnosissimo, flavo, semiimmersum. *Stylus* laevis, filiformis. *Stigma* clavatum, compressum, bilobum, obtusum, nutans, antheras parum excedens cumque iis faucem corollae occupans: lobus inferior pVicatus, superiorem paulò minorem amplectens. *Capsula* (fig. 3.) nutans, fusca, glabra, ferè sesquipollicaris, basi globoso-ventricosissima. cerasum parvum aequante, suffulta nectariis istis, duobus liypogynis, persistentibus, planis, coriaceis, pedunculum terminantibus; supernè abiens in rostrum solidum, rigidum, acutum, compressum, marginibus rotundatum; ab apice elastic[^] dessiliens in valvulas (fig. 4.) duas, recurvag; bilocularis, tetrasperma, seminibus duobus saepissim[^] abortivis. *Dissepimentum* con-

trarium, demum bipartitum, utrinque *zdfigens placentam* carnosam, convexam, seminis cavitatem replentem, maturitate evanidam. *Semina* (fig. 5. 6.) grandia, fusca, placentreformia, inaequaliter tri- vel tetragona, scrobiculato-rugosula, scabra, dorso convexa, marginibus subtruncatis, planiusculis, ventre concaviusculo, ad centrum ijmbilico parvulo notato. *Integumentum* simplex, membranaceum, arctè adhaerens. *Perispermum* nullum*.

OBSERVATION.

This beautiful species grows sometimes to a vast extent, covering large trees, and forming pendulous, green, thick carpets, ornamented with long festoons of scarlet racemes. The leaves vary considerable in figure, from round-cordate, to oblong, with hastate base. The flowers are arranged on each side of the fascicles in a simple series, on the prominent, semilunar tubercles of the common peduncle, on the upper or convex side of which the pedicels are inserted close to each other.

There are two other species which grow wild in Nepal; namely, a densely villos variety of *Thunbergia fragrans*, which I found on the mountains surrounding the great valley, in blossom and fruit during the rainy season; it is perhaps a distinct species, although nearly allied to that plant, in its wild state, as it is found on the coasts of Coromandel and Malabar; and *Thunbergia grandiflora*[^] Roxb. which has been figured in Botan. Register, vol. 6. 495. This noble climber is common in rocky and shady situations, in most parts of Hindostan. I have found it about Monghir and Rajmahal; in the Turrage of Oude, towards the foot of the hills; at Hurdwar, and in Deyra Doon. It grows wild also in China, and was introduced from thence by John Reeves, Esq. into the Honorable Company's botanic garden at Calcutta in 1820, where it thrives and blossoms luxuriantly. I took it at first to be a different plant from *Th. grandiflora*, the leaves of the young plants being strongly jagged and lobed; but I can discover no specific difference in the full grown shrub.

I have lately got possession of a new and exceedingly interesting species, with deep purple flowers, yellow within the tube, which was discovered on the *Nilghirry* "by my worthy friend the Venerable Archdeacon Hawtayne, and by him introduced into the botanic garden in 1824, where it blossomed soon afterwards, during the cold season. At the moment I write these lines, in January 1826, it is extremely ornamental, being covered profusely with flowers, as well as with unripe capsules. The shrub is thickly furnished with firm and leathery, glaucous, entire and nearly sessile leaves, which contrast beautifully with the purple inflorescence. It may be characterised in the following manner: *Thunbergia Hawtayneana*, Wall, scandens, herba vis, glauca, foliis ovato-cordatis, obtusiusculis, subsessilibus, amplexicaulibus, coriaceis, integerrimis; floribus axillaribus oppositis; tubo elongato, limbo patentissimo; seminibus semiglobosis, levis.

Besides the above, I have a species from Madagascar, introduced by my most excellent friend C. Telfair, Esq. of the Mauritius, under the name of *Th. angulata*, which seems to be different from *Th. alata*, Bot. Mag. vol. 51. N. 2591. It has not yet blossomed.



GYMNEMA NAPALENSE, Wall TAB. 38.

Volubile; foliis ovato-oblongis, acuminatis, glabris, basi cordatis; cymis folio brevioribus: floribus densis, subumbellatis, fauce nudis.

Legi in pluribus locis depressis et montanis, florens e mense Junii, ad Novembrim. In horto botanico Calcutta* floret et fructus producit sub pluviis.

Frutex magna, ramosissima, volubilis, valde lactescens. Rami teretes, glaberrimi, subnodosi; juniores puberuli, fuscescentes. Folia opposita, patentia, membranacea, glabra, oblonga, vel ovato-oblonga, acuminata, basi cordata, lobis rotundatis, nunc

* The intricate structure of the seed, I shall be able to explain in a subsequent page.

ovatabasiretusa; quatuor- ad sexpollicaria, interstitiis plerumquelongiora; suprâ atrovi-
ridia, nitida, subtus glauca, minutim reticulata, costd nervisque intra marginem arcua-
tim anastomosantibus, puberulis ; novella pilosula. *Petioli* unguiculares vel semipol-
licares, teretes, supr& sulcati, basi intra axillam, apiceque in centro'sinus muniti acer-
vulo ciliarum subulatarum. *Cyma*> extra-axillares, foliis plus minusve breviores, pedun-
culate, densiflorae. *Pedunculi* teretes, pilosuli, bi- tripollicares; *partia*ks inaequales;
bractew minufce, subulatae ad divisuras. *Fhres* (fig. 1. 2.) brevè pedicellati, umbellati,
flavi, inodori, glabri, *cedivatione* valvati. *Calyeis lacinite* (fig. 3.) ovatae, obtuse,
adpresse, ciliatae, corolla quadruplo breviores. *Corolla* (fig. 4.) urceolata, glabra;
lacinice ovatae, acutae, patulae, ad lentem ciliatae; *faux* nuda, edentula, pervia. *Tubus*
stamkies (fig. 5. id. transv. sect. fig. 6.) cylindricus, longiusculus, attenuatus, inclusus,
nudus, quinesulcatus, salcis lineola elevata carinatis, deorsum ulterius productus in
lobulos quinque minutos, cum filamentorum basi continuos. *Anther*<B ovatae, obtusae,
membranul& alb& marginatae, supra stigma conniventes totumque fere obtegentes.
Masseae pollinis cereaceae, lineari-cuneatae, erectae, per paria *corpusculis* oblongis, su-
catis, ope pedicelli brevissimi basi insertis. *Ovaria* oblonga, lasevia; *stylus* brevissimus;
stigma (fig. 8. 9.) quinquangulare, quinquelobum : lobis compressis, subdivaricatis.
Folliculi (fig. 10.) duo, laeves, fuscii, subulati, acuminati, bipollicares, valdè divaricati.
Semina (fig. 11.) plana, ferruginea, marginulata, com4 sericeâ coronata.

OBSERVATION.

The leaves of this climber vary considerably, from ovate to oblong, with almost
parallel margins. The valvate aestivation of the corolla connects the plant in some
degree with *Leptadenia*, from which it is otherwise distinct. I have another species
from Nepal, which I found growing very rarely about the valley. I subjoin the speci-
fic character of that and some other Indian species of *Gymnema*.

Gymnema hirsutum, Wall. Volubile, hirsutum ; foliis ovatis, acuminatis, basi
rotundatis; corymbis folio brevioribus, flexuosis; floribus racemosis, longè peduncu-
latis, bracteis minutis, copiosis, squarrosis ; corollae fauce nudae. A

Legi in monte Chandagiry, etiam ad Sanko, floribus et folliculis maturis Augusto.

Gymnema sagittatum, Wall. Volubile, leve; foliis oblongo-ovatis, acuminatis,
basi obtusis; corymbis folia subaequantibus, trifidis, puberulis; corollis subcampanu-
latis, fauce edentulis; antheris subsagittatis.

Specimina e montibus baud procul a Sylhet distantibus misit De Silva.

Gymnema attenuatum, Wall. Volubile, leve, foliis lanceolatis, valdè attenuatis;
corymbis gracilibus, flexuosis, folio sublongioribus; corollis subrotatis, fauce edentulis;
massis divaricatis, subhorizontalibus, ovatis; corpusculis apice bidentatis.

In hortum botanicum introductum e Sylhet a De Silva, 1822; floruit insequente
anno. An proprii generis ?

Gymnema parvifolium, Wall. Volubile, ramis umbellis que villosis ; foliis ovatis,
glabris, utrinque acutis, umbelae petiolo vix longioribus ; corollis rotatis, fauce corona-
tae dentibus quinque carnosis, laciniis interjectis.

E China in hortum botanicum introduxit dom. J. Reeves, anno 1820. Floret apud
nos Decembre. An *G. sylvestre*, Br. ?

Gymnema acuminatum, Wall. Volubile, dens& tomentosum; foliis ovatis, acumi-
natis, suprâ glabris ; umbellis axillaribus, subgeminatis, petiolos sequantibus ; corollis
rotatis, fauce subulato-dentatis.

— *Asclepias acuminata*, Roxb. Cat. Hort. Beng. p. 21 •

Habitat in Chittagong.

DACTYLICAPNOS, Wall.

Petala quatuor, decidua, cruciata: duo exteriora sessilia, basi sequaliter calcarata, interiora unguiculata. *Stamina* quinque vel sex, in phalanges duas coacta. *Bacca* cylindrico-oblonga, polysperma.

Herba glabra, glauca, caule ramisque filiformibus, tortilibus, ope petiolorum cirrhorum scandentibus. *Folia* bi- aut triternata. *Racemi* axillares vel oppositifolii, longè pedunculati. *Fructus* carnosus, indehiscens.

Classis Linnseana : Diadelphia.

Ordo naturalis : Fumariaceae.



DACTYLICAPNOS THALICTRIFOLIA, Wall. TAB. 39.

Legi in monte Sheopore floribus fructibusque maturis Augusto. E Noakote etiam habui, Maioflorentem.

Radice indolem ignoro. *Caulis* bi- tripedalis, gracillimus, teres, uti tota planta glaber, glaucescens, valdè tortus, apice nunc cirrhosus. *Rami* filiformes, alterni, semel bisve divisi. *Folia* alterna, subdistantia, patentissima, petiolata, bi- vel triternata, nunc geminato-biternata. *Petioli* filiformes, teretes, variè torti; primarius infra divisionem semipollicaris vel pollicaris, interdum abiens in cirrhum capillaceum, dichotomè ramosum, bi-pollicarem; *partiales* longiores, quandoque inaequales, aheruter nunc cirrhosus. *Foliola* ovata, acuta, integerrima, basi cuneato-acuta, vel obtusa, membranacea, pollicaria aut infra, supra nitidula, subtus valdè glauca, ad basin quinquenervia, extrorsum multinervia, propter nervos bifurcatos, capillaceos, parallelos, ad apicem usque excurrentes; *petioli* unguiculati, nunc astricti cirrhorum insistentia. *Racemi* pedunculati, axillares vel oppositifolii, interdum terminates ramorum caulisque, solitarii, nudi, folia longitudini subaequantem vel iisdem parum longiores, floribus (fig. 1.) circiter quinque, magnis, oblongis, compressiusculis, nutantibus, luteis, ore rufescentibus, pollicaribus, fragrantibus, basi dilatata bicornutis, pedunculatis, subfasciculatis. *Pedunculi* filiformes; *pedicelli* unguiculares, basi suffulti bracteoidi lineari, acuti; fructigeri pollicares, subclavati. *Calyx* diphyllus: *sepala* (fig. 2.) minuta, ovata, acuta, basi subcordata, sub lente minutim denticulata, glaberrima, caduca. *Petala* valdè caduca: *exteriora* (fig. 3. 4.) oblonga, canaliculato-plicata, sessilia, apice acuta, cucullata, leviter patula, marginibus valvatim parallela, basi producta in calcar obtusum, leviter incurvum, tres lineas longum. *Interiora* (fig. 5. 6.) exteriora longitudine sequantia, iisdem verò multò augustiora, unguiculata; *lamina* ovata, sagittata, dorso convexo carinata, apice productiore obtusè oppositè accreta, demum libera, marginibus versus basin bilobis, faucem corollae lateraliter claudens; *unguis* longus, capillaceus. *Filamenta* connata in phalanges duas (fig. 3. 4.) complanatas, petalorum medio, ad marginem ostii calcaris intus adfixas, apice libera, subulata, *antheris* quinque vel sex, distinctis, ovatis, minutis, cucullis petalorum inclusis. *Pistillum* (fig. 2.) longitudine staminum. *Ovulum* (fig. 7.) oblongum, laeve, uniloculare; *ovula* plurima, placentis duabus parietalibus, longitudinalibus, oppositis, incerta. *Stylus* capillaceus. *Stigma* majusculum, planum, quadratum, marginibus semilunaribus, angulis porrectis. *Bacca* (fig. 8. 9.) carnosae, mollis, dilute violaceae, intus aqueo-pallidae, oblongae, cylindricae, attenuatae, acutae, stylo coronatae, ferè pollicaris, basi nuda leviter retusa, unilocularis. *Semina* (fig. 11) valdè numerosa, atra, subreniformia, complanata, punctulis notata minutissimis, seriatis, ad hilum instructa carunculo brevi, carnosae, arilliformi, inserta placentis (fig. 10.) duabus oppositis, parietalibus, oblongis, verrucosis, totam cavitatem replentia.

OBSERVATION.

I have thought it right to separate this very pretty plant from *Diclytra* and *Adluma*, and to form it into a distinct genus, approaching to them* by its flowers, but differing from all the *Fumariaceae* by its fleshy, indehiscent fruit. In habit it agrees most with the last mentioned, and with *Cysticapnos*. I have denominated it from the figure of its fleshy, oblong, subcylindric berries.



CORYDALIS CHAEROPHYLLA, 2teG wtd. TAB. 40.

^f Erecta, glauca, radice fibrosa, caule anguloso, foliis tripinnatifidis, foliolis inciso-lobatis; floribus densè racemosis; bracteolis ovatis, infimis serrulatis et pedicellum ferè sequantibus; siliquis clavatis, pedicello longioribus.

Corydalis chaerophylla, De Cand. prodr. i. 128.

Legi in montis Sheopore sylvis florentem Junio, fructigeram Julio.

Herba erecta, gracilis, subcarnosa, pallida, glaucescens, laevis, bipedalis et ultra. *Radix* longa, attenuata, rariuscula, fibrillis aliquot capillaribus munita. *Caulis* obtusè et inaequaliter angulatus et sulcatus, pennam anserinam crassus, basi integerrimus, supernè divisus in ramos subsimplices, alternos, longiusculos, graciles. *Folia* remotè, alterna, triangulari-ovata, radicalia longè petiolata, caulina brevè petiolata vel sessilia, tripinnatifida, palmaria vel infra; *pinna* opposita, quadri- vel quinquejugae, oblongae, inferiores petiolatae, exteriores sessiles et marginulè angustè, attenuate decurrentes; *pinnulae* bipollicares, adnatae; *lobi* lanceolati, utrinque inciso-lobati, subtus valdè glauci, lobulis acutis. *Petioli* graciles, sulcati, basi dilatati; *partiales* inferiores interdum remote, ita ut folium ternato-bipinnatifidum reddatur. *Pinnae* et *pinnulae* exteriores confluentes in acumen attenuatum, pinnatifido-lobatum. *Racemi* terminati, subpedunculati, graciles, teretes, valdè attenuate densiflori, tripollicares. *Floras* (fig. 1. 2.) numerosi et approximati, pallidè lutei, inodori, unguem circiter longi. *Pedicelli* capillares, trilineares, *bracteolis* ovatis duplo longiores, infimas vero remotiusculas, utrinque serrulatas subsequantes. *Calyx* (fig. 3.) minutus, sepalis subreniformibus, dentatis. *Corolla* calcar descendens, attenuatum, limbum aequans. *Filamenta* (fig. 3.) basi dilatata, apice triantherifera. *Stigma* planum, tridentatum. *Siliqua* (fig. 4. 5.) clavata, turgida, nutans, sevis, unguicularis, deorsum attenuata in pedicellum quadruplo brevior, vertice dilatata acutiusculè coronata stylo capillaceo, bilineari. *Semina* septem vel octo, reniformia, atra, lucida, ad hilum minutim arillata.

OBSERVATION.

This plant varies in stature from one to three feet. All its green parts are glaucous, especially the under side of the leaves. The bracts, particularly the lower ones, are furnished with a few toothlets. The fruit is club-shaped, about half an inch long, terminated by the persistent, naked style, and turgid with many black, shining, reniform seeds.



CORYDALIS MEIFOLIA, Wall. TAB. 41.

Erecta; radice longà, subfusiformi; foliis supradecompositis, segmentis capillaceis; floribus terminalibus, laxè racemosis, longè pedunculatis; bracteis decompositis, setaceis; siliqua pedunculo pluries brevior.

Crescit in alpebus Gossain Than, floret Augusto.

Herba pedalis, laevis, carnosa, erecta. *Radix* valdè crassa et longa, subfusiformis, saepius divisa in ramos plures, collo pollicem et ultra diametro emetiente. *Cauleg*

plures, cespitosi, striati, erecti, teretes, basi simplices nudique, petiolis interspersi emarcidis foliorum radicalium; supernè divisi in ramulos plures, simplices, approximates, paniculatos. *Folia* alterna, circumscriptione oblonga, supradecomposita, glaberrima; *pinna* alternantes, inferiores remotiusculae; *segmenta* ultimà capillaceo-setacea, teretia, trilinearia ad unguicularia. *Radicalia* plura palmaria, petiolos sulcatos, basi dilatatos sequantia; *caulina* brevius petiolata; sunima subsessilia. *Racemi* terminates, breves, laxiusculi, ovati, obtusi, sessiles, bipollicares, basi foliosi, supernè *bracteis* instructi (fig. 2.) foliaceis, setaceo-decompositis. *Flores* (fig. 1. 3.) magni, flavi, longè pedunculati, nutantes; inferiores ex axillis foliorum supremorum, pedunculis instructi bipollicaribus; superiores pedunculis pollicaribus suffulti. *Sepala* reniformia, laciniato denticulata. *Iambus* clausus, purpureus; *galea* caring dorsali latè, per dimidium calcaris conici, obtusi decurrente; *petala* *lateralia* carind dorsali angustiore. *Filamenta* basi dilatata, apice subulata, bi- vel triantherifera. *Stigma quadratum*, subsagittatum, margin e inferiore concavo, nervo intermedio conspicuo, utrinque diviso in ramos duos, parallelos, arcuatos. *Siliqua* (fig. 4.) cuneata, compressa, longè-pedunculata, stylo coronata, tetra- ad hexasperma. *Semina* atra, lucida.

OBSERVATION.

It is impossible to confound this remarkable species with any other. The leaves are many times subdivided, and resemble at first sight those of *Meum athamanticum*; but their ultimate segments are distinct, and not verticillate, as in that plant, and almost setaceous. The flowers are large and beautiful, of a yellow color, with purple summits, resembling those of *Carydalis nobilis*, but without its delicious fragrance, on long peduncles, the lowermost axillary from the terminal leaves, the rest supported by decomposed, large and foliaceous bractes; the whole forming a broad, ovate, somewhat loose raceme, which terminates the stem and branches.

 CORYDALIS LONGIPES, *De Cand.* TAB. 42, *Jg. sinistra.*

Radice ramosâ; caule procumbente, vel erecto, gracillimo; foliis tri-ternatis, lobis obovatis, subincisis, obtusis; bracteis inferioribus incisis; siliquis lineari-cuneatis, pedunculos subsequantibus.

Fumaria bulbosa, Thunb. jap. 277 (haud Linnei) ?

Corydalis decumbens, Pers. Enchirid. ii. p. 269?

Carydalis longipes, De Cand. prodr. i. 128.

Legi in Sheopore versus cacumen; etiam habui e Gossain Than et e Kamaon. Floret Julio.

Radix gracilis, perpendicularis, ramosa. *Caulis* leviter angulosus, tenuis, diffusè ramosus, basi procumbens, inde erectus, pedalis, nunc elongatus bipedalis, uti tota planta glaucescens, pallidus, laevis. *Folia* triternata, segmentis longius petiolatis; *lobis* obovatis, obtusis cum cuspidula, bilobis vel integris, deorsum attenuatis, unguicularibus vel pollicaribus; *radicalia* longius petiolata; *petioli* omnes teneres, graciles. *Racemi* terminates, pollicares, post florationem parum elongati. *Flores* (fig. 1.2.) secundi, flavi, pedicellis *bracteis* lanceolatas, inferiores subincisas excedentibus. *Sepala* reniformia, ciliato-fimbriata. *Siliquae* (fig. 3.) lineari-cuneatse, compressse, stylo brevi terminate, nutantes, unguiculares, pedicellos sequantes, nunc distinctius cuneatse iisdem parum breviores. *Semina* plura, minuta, atra, lucida.

OBSERVATION.

I have slightly modified the diagnosis of this plant, and of *C. chcerophylla*, given by professor De Candolle, in his admirable prodromus systematis naturalis regni vegetabilis. In the present species, the capsule varies from linear-cuneate, to almost obovate-cuneate, sometimes equalling the pedicels, at others shorter than these. The

bractes towards the lower part of the raceme, where the flowers are remote, differ from the rest in being lobed. The plant comes certainly near to *C. sibirica* (Gmelin. flor. sibir. 4. 65. t. 33.) as has been justly remarked by the above-mentioned author. I am not quite certain if the specimens which I have received from K^{amaon}, and which were gathered by Mr. Robert Blinkwork, do not belong to a distinct species. I have quoted, with much hesitation, *Corydalis decumbens*, which is *Thunberg's* (not Linneus's) *Fumaria bulbosa*, not having seen the novi commentarii acad. imper. Petropolitane, vol. 12, in which there is a description and figure of the plant.



CORYDALIS JUNCEA, Wall. TAB. 42, fig. dextra.

Radice . . . ; caule erecto, simplicissimo, integerrimo, di-triphylo; foliis lineari-lanceolatis, integerrimis; racemo elongato; siliquis pedunculum subaequantibus.

Incolit rupes ad Gossain Than Himaleyse. Floret et fructus producit Augusto.

Radicem haud observare licuit. *Caulis* (scapus?) simplicissimus, erectus, teres, striatus, basi pennam anserinam vix crassus, sursum attenuatus, pedalis, usque ad tripedalis, inanis, uti coeterse partes laevis. *Folia* (an *bracteae* censenda? *radicalia* nulla observavi;) remotissima, saepe duo, vix nunquam ultra tria, lineari-lanceolata, acuta, basi attenuata, sessilia, integerrima, lineata, ad lucem visa nervis pluribus, capillaribus, parallelis instructa, pollicaria, sesquipollicaria, plana, erecto-potentia. *Hacemus* terminalis, erectus, cylindricus, attenuatus, multiflorus, spithamseus vel dodrantalis, *floribus* (fig. 1. 2.) flavis, fauce purpureis, nutantibus, uodique sparsis, superioribus approximatis, inferioribus sensim remotioribus. *Pedunculi* unguiculares, *bracteis* lineari-lanceolatis tertio longiores, fructiferi pollicares. *Calcar* cylindricum, obtusum. *Siliqua* (fig. 3.) deflexa, oblonga, compressa, tetra- ad pentasperma, semipollicaris, pedunculum subsequans, coronata stylo persistente. *Semina* atra, nitida.

OBSERVATION.

A very remarkable and distinct species. I have not seen the root of it; nor have I observed any radical leaves among the numerous specimens, which were brought to me from Gossain Than, while I was in Nipal. I am therefore unable to decide whether to attribute a stem or scapus to the plant. The flowers are middling sized, crowded at the top of the raceme, but becoming remote downwards.

Besides the plants of this family, which I have described above, I possess three others, which are natives of India. I here subjoin some remarks on them.

Corydalis diphylla. Wall. Radice . . . Caule brevi, simplicissimo, vel ramulo unico axillari instructo, medio bifolio: foliis oppositis, petiolatis, triternatis, segmentis cuneatis, obtusis, inciso-bilobis vel integris; bracteis lineari-oblongis, cuspidatis, majusculis, pedicellum floriferum superantibus, fructiferum sequantibus.

I have not seen the root or radical leaves of this little plant, which is about eight inches high, and grows on the mountains about Serinagur, whence Mr. Blinkworth sent me many specimens. The stem is very slender, scarcely thicker than a crow quill, rarely sending forth a short, raceme-bearing branch, which is furnished with a pair of less compound leaves. Petiols two, opposite, spreading; thrice three-sected, slender; partial ones equal, about * an inch and a half or two inches long; the exterior divisions extremely short, or entirely wanting, so that the leaflets appear more or less sessile. *Leaflets* cuneate, obtuse, glaucous, tapering downwards, half an inch to eight lines long, entire, or furnished with a lateral, oblong lobe. *Flowers* slender, yellowish, an inch long, pointing to one side, from six to ten, forming an oblong

raceme, an inch in length, but afterwards gradually increasing to twice or thrice that dimension, supported by the slender continuation of the stem. *Bracies* linear, oblong, cuspidate, striated, their base embracing the rachis; at first about three lines long, exceeding the peduncles; afterward considerably increasing, until they become half an inch or more in length, under the fruit-bearing, filiform *peduncles*, which they nearly equal. *Sepals* cristate. *Petals* purple at their upper end; *lamina* of the lower one rounded; mouth slightly open. *Spur* transversal, slender, tapering. *Siliqua* compressed, linear, acute at both ends, crowned, deflexed; I have not seen it in its ripe state. It has much resemblance to, and probably belongs to the same section with *C. verticillaris*, and *oppositifolia*, De Cand. Syst. nat. ii. p. 114.

Corydalis Govfniana, Wall. Radice . . . : Foliis omnibus petiolatis, oblongis, bipinnatis; pinnis cuneatis, profundè pinnatifidis, lineari-oblongis, obtusis cum cuspidula, integris vel bilobis; racemis laxis, secundis; bracteis cijneiformibus, inciso-lobatis, pedunculis superantibus, supremis lanceolatis, integris.

A specimen of this beautiful plant was communicated to me in 1819, by Dr. Go van, who had found it on the mountains of Gurwal. It seems to be intermediate between *Corydalis nobilis* and *bracteata*. The *radical leaf* measures about a span in length, including its petiol, and is of an oblong contour, with about five pairs of opposite *pinnte*, each an inch and a half, or two inches long, the lower three short-petioled, the rest sessile. *Leaflets* alternate, an inch long, cuneate, deeply divided into three to five linear-oblong, entire or two-cleft lobes, obtuse, with a short point. *Stem* seemingly simple, slender, with a pair of long-petioled, pinnate leaves, which are three or four inches long, with leaflets resembling those described above. In one specimen, the cauline leaves are opposite; in another, alternate and remote. *Racemi* rounded or oblong, with unilateral, crowded, yellow flowers entirely resembling those of *C. nobilis*. All the *bractes*, except the uppermost, are foliaceous, subimbricate, cuneate at the base, divide! «t tber ^nd intv tiiI cf nœri*r*r Hucal, a^umtimro rouetf; iney are as far as an inch long, and exceed considerably the peduncles: those at the apex of the raceme are lanceolate and entire. *Calycine leaflets* reniform, laciniato-dentate. *Calcar* long, transversal. Fruit not seen.

Fumaria parvilora, Lam. This is the only genuine East Indian species of the genus, which I am acquainted with. I have found it a very common and tedious weed in vegetable gardens throughout Hindustan, where it blossoms and bears fruit in the cold weather, and the beginning of the hot season. It is also found in similar situations in the great valley of Nipal, and at Noakote. The plant is very branchy, fleshy and glaucous, with angular *stem*, and much subdivided *leaves*; the ultimate segments are linear, channeled. *Flowers* pale pink, with green and purple summit. *Sepals* fimbriato-dentate. *Capsule* round, with scarcely any terminal point, supported by a thick, fleshy *peduncle*, which is longer than the bracte. Among the late Dr. Heyne's collection, there are some specimens labelled "*Fumaria officinalis*> 28th November 1816/" which, as far as regards the leaflets, certainly resemble that species more than *parvilora*; they are broadish, oblong-cuneate, with oblong segments; but the capsule is globular, and not emarginate.

In Bengalee, this plant is called *Bun-Sulpha*; in Hindustanee *Sulpha-saug*. It possesses a bitterish taste. Dr. Whitelaw Ainslie speaks of it in his valuable *Materia Medica of Hindustan*, p. 16, under the name of *Fumaria officinalis*, being in use among the Mahomedans as a diuretic, as employed in maniacal cases, and as a diobstruent. He says it is called *Pitpaprâ* in Hindustanee, *Shoutra* in Persian and Dukhanee, and *Bucklutulmêlic* in Arabic.

PODOCARPUS MACROPHYLLA, *Wall.* TAB. 43.

° Foliis uadique sparsis, lineari-sublanceolatis, acutis; amentis masculis elongatis, cylindricis; fructu globoso, suffulto receptaculo magno, supernè trilobo, basi bibracteato. #

Lignum Emanum, Rum ph. Amb. iii. p. 47. t. 26.

Sin. vulgo *Máki*, seu *Fon Máki*, i. e. *Máki legitima* (*Ksa' Máki*) Kaempf. Amoen. exot. 780 (fide Thunberg.)

Taxusinacrophylla, Thunb. Japqn. 276. Banks Icon. Kaempf. p. 2. t. 24.

In Amboina primum detexit Everardus Rumphius; in Japonia Engelbertus Kaempfer; China, Guil. Kerr (teste Hort. Kewensi.) Ipse reperi in convalle Napalise magna, ad Sanko, florentem Martio et Aprili, fructigeram Julio; et ad litora insulae Singapore floribus fructibusque onustam Octobre. E montibus Pundooa, Sylhet vicinis, misit Francis DeSilva. *

Nomen Newarrense *Goonsee*.

Arbor magna, sempervirens, pedes quadraginta ad quinquaginta alta, trunco recto, glabro, pedem, ad pedem et dimidiam crasso. *Rami* patentes, subverticillati, uti omnes partes keves, fuscescentes; juniores lsetè virides, parum angulosi, e lapsu foliorum tuberculato-cicatriscati. *Folia* valdè approximata, undique sparsa, vix subbifariè patentia, linearia, vel angustissimè lanceolata, attenuato-acuta, lineas quatuor ad quinque lata, basi acuta, plana, coriacea, supr& atro-viridia, nitidula, plicatula, juxtà longitudinem leviter convexa, cost& gracili, elevata, marginibus parallelis, convexusculis, integerrimis; subtus pallida et opaca, glaucescentia, avenia, enervia, cfbst4 latiusculâ, subsulcata; interdum subverticalia, rarò parum falcata; tenella lgetissimè virentia, parum flavicantia, nunc undulata. *Petioles* brevissimi, vix ultra tinea duas emetientes, supr& convexi, a basi folii subdecurrente obselet^ marginulati, nunc parum tortj. *Floras* dioiei. *Amenta mascula* (fig. 1.) cylindrico-oblonga, pennam cygneam crassa, poHicem ad duos longa, obtusa, recta, pallid^ lutea, sessilia, basi suffulta *squamis gemmaceis* pluribus, persistentibus, patentibus, imbricantibus, ovatis, acutis, concaviusculis, dorso subcarinatis, nervo elevato, interdum infra apicem, nunc obtusam, in cuspidulam excurrente, bilinearibus. *Antherte* (fig. 2. 3.) numerosissimse, approximatse, patentiusculse, parvse, nuda, receptaculo cylindrico, gracili insertse, sessiles, obovatse, cuspidul& terminatse, biloculares, oculis versus parietem inferiorem longitudinaliter dehiscentibus. *Floresfoeminei* (fig. 4.) solitarii, axillares, brevè pedicellati, nudi. *Ova* Wnniovato-rotundum, laeve, magnitudine seminis sinapeos, insidens *receptaculo proprio*, pedicelli floris continuo, eoque triplo ferè longiore et crassiore, viridi, cylindraco, apice obliquâ retuso et inaequaliter trilobato, basi bibracteato: *bracteolis* oppositis, linearibus, acutis, patulis, persistentibus, receptaculo dimidio brevioribus. *Stylus* nullus. *Stigma* obsoletum, obliquum. *Pericarpium* (fig. 5. 8. 9. 10.) nu#? obovato-globosum, magnitudine grassularise, laeve, viride, glaucum vertice obliquè apiculatum, basi acutiussculd foveae terminali receptaculi lateraliter insertum, uniloculare, monospermum, evalve et indehiscens. *Receptaculum* (fig. 6. 7. 9.) carnosum, molle, lseve, atropurpleum, pruinatum, oblongo-cylindricum, semipollicare, alobis apicis subdecurrentibus leviter sulcatum, nuce duplo ferè longius, basi retusâ suffultum bracteis istis duabus, apice concavd divisum in lobos tres inaequales, crassos, brevissimos, nunc acutiussculos. *Integumentum exterius* crassum, coriaceum, versus ^superficiem interiorem subcarnosum parumque porosum; *interim* tenuissimum, membranaceum, perispermo arct^ adhaerens. *Per is per mum* totam pericarpium cavitatem replens, tfarnosum, album. *Embryo* (fig. 11.) cylindricus, albus, obliquè adscendens in cavitate propri&, «dimidiam inferiorem partem axis perispermi occupante. *Cotyledmes* duae ovate, obtusse, dorso convex®, intus planse; *plmnula* minuta, obtusa, cotyledonum basibus oblecta; *radicula* infera, acutiusscula, parv& e basi perispermi distantis& remota.

totam pericarpii cavitationem replens, carnosum, album. Embryo (fig. 11.) cylindricus, albus, oblique adscendens, cavitate propria, dimidiam inferiorem partem axis perispermi occupante receptus. Cotyledones duæ, ovatae, obtusæ, convexæ, in tus plantæ plumula minuta, obtusa, cotyledonum basibus objecta; radícula infera, acutiuscula, brevi e basi perispermi distantia remota.

OBSERVATION.

I can discover no specific difference between the trees of the authors quoted above or FlatiVAAn tliam anrl fVircep rlf fi grlli4*+, TY. "p*a, l and K**11*?^1^1^ T!1^a grkoniog T^Q^ therefore be considered as having an extraordinary extent of geographical distribution. In regard to the genus to which I have referred the tree, I should have entertained no doubt whatever, if M. Mirbel had not attributed an *inversed* embryo to *Podocarpus asplenifolia* of Labillardiere, in an interesting memoir connected with the subject of the structure of seeds, inserted in the 16th vol. of *Annals du. museum d'histoire naturelle*, (p. 456. t. 6.) The same acute observer represents the embryo inverse in *Taxus baccata* (loc. cit. tab. 4;) while Gsertner describes it as being erect (Carp, 2. p. 66,) which it undoubtedly also is in *Taxus* (my *Podocarpus*), *macrophylla*. The general habit, male inflorescence and leaves of Kaempfer's *Nagi*, *Amcen. exot. p. 773. t. 774.* are much like those of our tree, but its leaves are considerably broader. Thunberg, in his *Flora japonica*, calls it *Myrica Nagi*, and Gaertner makes a new genus of it, under the name of *Nageia*, *carpol. 1. p. 191. t. 39*, from which Roxburgh's *Nageia Putranjiva*, *hort. beng. 71.* is certainly generically different. I shall have occasion to revert to this subject a few pages further on, in my observation on *Myrica sapida*.

* The wood of our tree is of a greyish white color, resembling in its structure common deal, and employed, as I was told by some Chinese inhabitants at Singapore, in the construction of boats, being light and durable. In Nepal, no use is made of it; but the natives of that country eat the fleshy receptacles of the fruit, which have a slightly resinous taste, but are otherwise very insipid. The fruit itself is not eatable.

I have retained the specific name *macrophylla*, from an aversion to multiplying names, but I believe that *Podocarpus asplenifolia* has much larger leaves.

Taxus chinensis, Roxb. *hort. beng. 73*, is, I strongly suspect, *T. verticillata*, Thunb. *jap. 276*, of which Sir J. E. Smith very justly remarks, in Rees's *Cyclopedia*, that Ksempfer's description (*Ken sin, item Sen bakv, vulgo Inu mdki, i. e. Mdki spuria, amcen. exot. 780*), points at its close resemblance to *T. macrophylla* and *spinulosa*; suggesting at the same time, that all three might be detached under a separate genus, distinguished by the structure of the anthers and the fruit. Its habit and leaves are certainly very like those of *Podocarpus macrophylla*. Both grow very freely in the Honorable Company's botanic garden at Calcutta; the former introduced from Nepal and Sylhet, the latter from China. They are easily propagated by cuttings. None of them has as yet blossomed.

TAXUS NUCIFERA, *Kampf. ?* TAB. 44.

Foliis solitariis, linearibus, remotis, Thunb. *japon. 275.*

Fi, vulgo *Kqja*, *Taxus nucifera*, Kaempfer. *amcen. exot. p. 814. t. 8151*

Taxus nucifera, Linn. *spec. plant. 2, p. 1472?* Gaertn. *carp. 2. p. 66. t. 91 ?*

In Japonia detexit E. Ksempfer. China, (*Hort. Kewens.*) Montes tibetanse, W. S. Webb. Sirinuggur, Kamroop et R. Blinkworth. Ipse legi in monte Sheopore, versus apicem, florentem Martio.

Nomen Newar. *Loosoah.*

vix ac ne vix discriminari queant, hypogaeae; *ventralis* majorem seminis partem efficiens, figuramque ejus determi nans; *dorsalis* quadruplo minor, mediam inferioremque partem superficiei^ dorsalis alter ins occupans, eaeque subimmersa, irregulariter orbicularis, margine obtuso, nunc pro parte replicato. *Embryo* parvus, ptanus, oblongus ad basin dorsi seminis; *radicula* infera, obtusa.



MYRICA SAPIDA, Wall. TAB. 45.

»

Foliis lanceolatis, acuminatis, integerrimis, deorsum valde attenuatis, basi acutis, subtus puberulis; amens distinctis, axillaribus, solitariis; masculis remotis, laxè racemosis; foemineis gracilibus; putamine puberulo, demum glabro.

Joobai, vulgd *Jamvia Momu*, Kaempf. amoen. exot. p, 798. Ejusd. icon, a Banksio edit. p. 2. t. 37.

Hab. in montosis, ad Sirinaggur, Kumaon, &c. Legi in montibus variis convallis Napaliae, florentem Martio, fructigeram sub pluviis.

Nomen vernac. *Kaephul*; Newarr, *Kobusi*.

Arbor umbrosa et frondosa, triginta circiter pedes alta, trunco crasso, cortice obtecto fusco, rimoso, scabro. *Rami* sparsi, patentes, tuberculati a vestigiis foliorum delapsorum, grysei, villosi; tenelli angulati, subsericei. *Folia* versus extremitates ramorum valde approximata, patentia, undique sparsa, lanceolata vel lanceolato-cuneata, acuta, vel subacuminata, deorsum attenuata, basi acuta, marginibus subrecurvis integerrima, rarissime notata denticulo uno alterove remoto, quadri- ad sexpollicaria, chartacea, supra lucida, lasevia, vasculis nunc puberulis; subtus pallida^ tamen nitidula, sub lente punctis minutis, resinosis conspersa, costis gracili, elevate nervisque capillaceis, reticulato-ramosis, versus marginem arcuatim anastomosantibus, puberulis; primordialis subtus magis pubescens grossè serrata, serraturis latis, cuspidatis. *Petioli* brevissimi, teretes, villosuli, tres lineas longi. *Stipulæ* nullæ. *Amenta* axillaria, vel lateralia (e vestigiis foliorum delapsorum) solitaria, erecto-potentia. *Mascula* (fig. 1.) in distincta arbore, composita, cylindracea, gracilia, obtusa, semipollicaria, usque fere pollicaria, lineas duas crassa, racemosa, alterna, remota, sessilia. *Pedunculus communis* filiformis, rectus, gracilis, nudus, villosus, foliis dimidio brevior, nunc eadem subsequans. *Partialis (rachis)* tenerrimus, glaber, subflexuosus. *Squama* (fig. 2. 3.) valde approximata, cuneato-obovatae, concavse, obtuse, ciliatse, minutae. *Stamina* (fig. 4.) quinque, longitudinesquamae. *Filamentasevia*; *antheræ* subrotundae, erectse, biloculares, utrinque longitudinaliter dehiscentes, valvulis demum divaricato-reflexis; polline majusculo, aureo, globuloso. *Amenta foeminea* (fig. 14.) simplicia, sessilia, foliis dimidio vel tertio breviora, gracilia, erectiuscula. *Pedunculus* teres, rectus, villosus. *Flosculi* (fig. 5.) subdistantes, sparsi, parvuli, bracteolis pluribus suffulti imbricatis, ovatis, obtusis, pubescentibus, ciliatis. *Ovaria* (fig. 6. 7. 8.) duo vel tria globosa, glabra, bracteis breviora, monospora; *ovulo* pendulo. *Styli* duo, carnosii, subulati, divaricato-patentes, scabriusculi, rufi, ovario duplo longiores, supra bracteas exserti. *Stigmata* acuta. *Drupe* (fig. 9. 10.) magnitudine cerasi minoris, subrotundae, sessiles, nude, laeves, superficie minutum granuloso-lobulatae, colore e rubro purpurascete, carne molli, dilute rubra. *Putamen* valde durum et crassum, ovatum, levissime compressum, rugosum et faveolatum, pube sericea, pauca, valde solubili conspersum, suturis vix prominulis, magnitudine putaminis cerasi. *Seminis* (fig. 11.) structura exacte ut in *Myrica cerifera*, Gaertn. carpol. 1. p. 190. t. 39.

OBSERVATION.

This tree has been described by my highly respected friend Major General Hardwick, under the name of *Ka-iy-pjiul* of Gladwin's *Materia Medica*, in the sixth vol

of Asiatic Researches, p. 380. In Nepal, I found it growing wild, and also cultivated in gardens. The fruit ripens in the rains, has a pleasing appearance, and a refreshing, acidulous taste. It is known there only by the name of *Kobusi*; to the westward it is called *Kaephul*. I venture to say that Ksempfer's tree is the same as ours: his description, however, agrees better with it, than the figure which he gives of the fruit; Thunberg only refers to it among his *plantce obscurce*, in his flora of Japan, p. 388. Its wood is hard, of a pale brown color. The leaves, on being rubbed, have a pleasantly aromatic, though faint smell: in very young plants, they are strongly serrated, but they soon lose their serratures, and as the tree grows up, they become perfectly entire. In the Honourable Company's botanic garden at Calcutta, the trees which were introduced from Nepal since 1818, have thriven luxuriantly, but as yet have not shown any disposition to blossom.

How far Roxburgh's *Myrica integrifolia*, Hort. beng. p. 71, is the same as our species, is a question which I cannot as yet decide. I possess no specimens of it; but judging from the manuscript account, and the figure preserved at the garden, I should think they are quite distinct. I subjoin Roxburgh's description.

" *Myrica integrifolia*. Leaves lanceolar, entire, smooth; scales of the female aments reniform-cordate, one or two flowered; drupes oval, granulated.

" *Sophee*, the vernacular name in Sylhet, where it is indigenous, and grows to the size of the apple tree in Europe. Flowering time December and January, and the fruit ripens in May, when they are picked by the natives, and used as a condiment: in their raw state, though inviting to the eye, they are too sour to be relished.

" *JBranchlets* very ramous; the tender shoots considerably hairy. *Leaves* permanent, alternate, approximate, round every part of the apices of the branchlets, short-petioled, lanceolar, entire, and perfectly smooth; length from three to six inches by about one broad. • *Stipule** none. *Femalo* **Am.onts* axillary, generally solitary, cylindric, rarely more than an inch long, considerably villous, many flowered. *Scales* reniform-cordate, somewhat acuminate; the back sprinkled with small, yellow, shining grains; one or two flowered, intermixed with many small, fleshy scales, resembling a perianth. *Germ*s minute, ovate, one-celled, containing a single ovulum, attached to the top of the cell. *Styles* two; or only one, two-cleft. *Drupe* oval, size of a prune. *Nut* oblong, thick and very hard, a little flattened, the two edges rather extended and somewhat sharp, densely clothed with an immense quantity of fine, white hair in penicilliform tufts. *Pulp* consists of closely impacted, but distinct, clavate, succulent, yellow bodies. *Seed* ovate, oblong. *Integument* single, membranaceous. *Perisperm* none. *Embryo* inverse. *Cotyledom* conform to the seed, amygdaline. *Radicle* superior."

The above account was no doubt taken from dried specimens; and although allowances must be made for a somewhat altered appearance of the growing plant, still there appear points of distinction between Roxburgh's tree and ours, which hardly admit of their being united into one species. The male inflorescence, which Dr. Roxburgh has not described, is delineated in his drawing: it consists of very small and short, axillary, simple aments, twice the length only of the petiols; the female aments are also very short; the fruit is full twice as large as ours. Some of the leaves appear remotely serrate. The following specific character might perhaps be adopted. *M. integrifolia*, Roxb. foliis lanceolatis, integerrimis, laevibus, deorsum attenuatis; amends distinctis, axillaribus, solitariis, simplicibus, brevissimis, flosculis approximatis; putamine barbato.

From the late Mr. W. Jack, I received in 1821, the outline of a female branch of a third species, under the name of "*Bua Lumbey*; *Myrica?* an *sapida* Wall. (*K[^]phul*)?" I found the tree in the forests of Singapore, covered with flowers, in October* 1822. From these sources I am able to give the following specific character and description of the tree, which I call *Myrica Farquhariana*. Foliis cuneato-lanceolatis, inte-

gerrimis vel acutè serrulatis, lsevibus, deorsum acuminatis, basi subobtusis; amentis distinctis, axillaribus, solitariis; masculis densè racetnoso-subpaniculatis, sessilibus; foemineis elongatts, erectis.

Arbor 12 pedalis, ramosissima. *Rami* rugosi, grysei; *ramuli* valdè approximati; *tenelli* puberuli. *Folia* ad apicem ramulorum admodum copiosa et approximata, sparsa, patentia, lanceolata, brevè acuminata, veloblongo-lanceolata, in foeminea arbore (an semper?) cuneato-lanceolata, obtusa; deorsum attenuata, basi acuta velobtusa, nunc retusa, margine leviter recurvo integer rim a vel remotissimè et acutè serrulata, tri- usque ad sex-pollicaria, utrinque lsevia, suprà lucida, subtus (ut in *M. sapida*) nervoso-venulosa, minutim rcsinoso-punctulata. *Petoli* brevissimi, pubescentes. *Amenta* axillaria, solitaria, distincta. *Mascula* brevissima, approximate, disposita in racemis axillaribus, admodum copiosis, basi subcompusiis, sessiuius, fuiuù uimiuiù ùreviuribus. *Jreduncuius communis* pubescens. *Squamae* et *stamina* ut in ilia specie. *Amenta foeminea* (ex icone a beato Gulielmo Jack communicata) gracilia, teretia, erecta, foliistertiò breviora vel eadeni subsequantia.

I believe this tree will be found entirely different from *31. sapida*. I saw only a few female arnents, and those quite withered and decayed, at Singapore. My dear friend Jack's drawing was, if I mistake not, copied from one in the possession of Colonel Farquhar, the late worthy Resident at Malacca and Singapore, who probably found the tree about the first mentioned place, and to whom I have dedicated it.

I had occasion above (under *Podocarpus macrophylla*^ p. 57) to allude to Roxburgh's *Nageia Putranjiva*. This tree differs so much in habit from Gsertner's *Nageia japonica*, which is Ksempfer's *Nagi*, that I suspect they are not congeneres. Roxburgh gives the following character of the genus, which he places in Dioecia triandria, in his manuscript Flora Indica. " *Nageia*: Male, calyx four-or five-leaved ; corol none. Female, calyx three-to five-leaved ; corol none; germ superior, three* Celled, Cells two-aecd^ed^ iittacfaiiiiejt of the ovulum superior; stjJe» two or three; drupe one-seeded, embryo inverse/ and furnished with a perisperm." He very properly observes that, with regard to the structure of its fruit, the tree is nearly allied to Gaertner's genus. I would suggest the generic name *Putranjiva*, derived from a legitimate Sancrita origin, for the tree in question, calling it *Putranjiva Roxburghii*, after its first describes Forskael's *Buxus dioica*, which is Vahl's *Myrica montana*, Symb. bot. 2. p. 99. has, according to this author and Sir J. £. Smith, (in Rees's Cyclopaedia,) a strong affinity to *Nagi*; and Willdenow has placed it under *Nageia*, in his edition of Spec. plant 4. p. 749. I am inclined to think it ought to be joined to *Putranjiva*. unles sltbe original name *Buams* was meant to indicate the peculiar *Ruscuslike* stucture of the leaves of Kaempfer's tree, in which case is ought probably to be placed with the latter.

TRICYRTIS, *lf%ll*.

Perianthium infer urn, subcampanulatum, hexaphyllum; *foliola exteriora tria* basi gibboso-saccata. *Stamina* longitudine perianthii, ejusdemque basi inserta. *Anthera*> anticse, nutantes. *Stylus* divaricato-trilobus. *Stigmata* sex, uncinata. *Cap-sula* prismatica, trilocularis, potysperma, apice dehiscens. *Semina* plana.

Classis Linneana. *Hexandria monogynia*.

Ordo naturalis. *JAlia*, Juss.

Habitus: Planta gracilis, erecta, caule subsiraplici, foliis cordatis, sessilibus, ampiexicaulibus. *Flares* terminates, pauci, pulchri, basi gibberibus tri bus, prominentibus notati (unde nomen.)

TRICYRTIS. PILOSA, Wall. TAB. 46.

Uvidaria hirta, Thunb. japon. p. 136 ?

Legi in montibus Sheopore et Chandagiry, florentem Junio et Julio, fructigeram Septembre-

Herba erecta, bi- tri- ad quadripedalis, villis obsita longis, sparsis, distinctis, hyalinis, mollissimis. *Madia* brevis, emittens fibras plures filiformes, teretes, pallidas. *Caulis*, nunc duo tresque, teretes, crassitie culmi avenacei, graciles, attenuati, nunc apice ramulos emittentes paucos, simplices, brevissimos, leviter inter folia flexuosi, pilosi, basi purpurescentes, omnino evaginati. *Folia* alterna, sessilia, erecto-patentia, membranacea, ovato-cordata, amplexicaulia, attenuata in acumen longum, subtrinervium, leviter undulato-repanda, integerrima, plana, quadri- ad sexpollicaria, sinu baseos profundo, saepius angusto, lobis ovatis, obtusissimis, fere semipollicaribus, utrinque mollissima propter pilos sparsos, sericeos, patentes; supra pallide viridia, juxta nervos sulcata, subtus albescentia, novem-nervia, costis gracili, nervos alternos, tenuissimos, admodum obliquos emittente; media caulis majora; caulium novellorum ovato-lanceolata, basi simplici, angustata, adnata; *Floralia* lanceolato-cordata, parva. *Panicula* terminalis, pauciflora, palmam longa, subdichotoma & ramulosa, foliolosa, pilosa. *Pedunculi* teretes, graciles, sesquipollicares, inferiores foliolo florali, superiores bractea lanceolata, unguiculari suffulti, uniflori, inarticulati, apice vix incrassati. *Flos* erectus, ex albo viridescens, inodorus, elegans, intus uti genitalia guttulis atropurpureis pictus, basi subtubulosus, tri-tuberculatus vel subtricalcaratus, limbo patenti, subcampanulato, parum revolutus, fere pollicari. *Foliola* (fig. 1. 2.) lanceolata, attenuato-acuminata, pollicaria, duplici ordine alternatim disposita: *exteriora* parum laeviora et longiora, extus puberula, basi exsculpta fovei melliferae, extus in tuberculum calcariforme protrudente, sesquilineam longum, truncatum, recte divergens; aestivatione valvata; *interiora* basi simplicia, absque fovea vel gibbere, marginibus aestivatione parallelis, haud vero contiguis. *Stamina* (fig* !•) perianthium longitudine aequantia; *filamenta* teretia, carnosae, purpureo-guttata, apice recurvata, nutantia, foliolis perianthii opposita, eorumque basi adfixa. *AntJierce* majusculae, ovatae, planae, biloculares, utrinque longitudinaliter dehiscentes, dorsum adfixae, extrorsum nutantes, anticlae. *Pistillum* (fig. 1.) longitudine staminum, erectum; *ovarium* (fig. 3.) oblongo-prismaticum, pallide viride, laeve, angulis prominentibus, lateribus sulco notatis, trilobulare, polysporum: *ovula* plurima, simpliciter serie axi adfixa. *Stylus* obscure triangularis, divisus in lobos tres, ipso longiores, trilineares, divaricato-patentissimos, asperulos, divisos in *stigmata* sex, capitellato-glandulosa, carnosae, recurvato-hamulosa, acuta. *Capsula* (fig. 4. 5. 6.) triquetropismatica, levis, pallide fuscescens, lateribus canaliculatis, sesquipollicaris, trilobularis, apice trivalvis, *valvis* brevibus, plicatis, angustatis. *Dissepimenta* ex inversis valvularum marginibus constructa. *Semina* (fig. 7. 8.) parva, densissime imbricata, plana, atrata, ovata, umbilico parvo, planiusculo notata, simplici serie axi inserta. *Integumentum* simplex, rugis densis, transversis, venulisque longitudinalibus paucis ornatum, laxius adhaerens. *Perispermium* confriosum, carnosum. *Embryo* (fig. 9.) minutus, subulatus, in cavitate mucosa, ad extremitatem perispermii umbilico oppositam, locatus.

OBSERVATION.

This very elegant plant is intermediate between *Uvularia* and *Fritillaria*, but seems to be generically distinct from both. From the former it differs in general habit and mode of inflorescence, in the absence of sheaths of the stem, in only the three outer petals being furnished with a nectary, in the anterior direction of the anthers, the structure of the style and stigma, in the dissepiment of the capsule being formed of the inverted margins of the valves, and finally in the flat, scaly seeds. From the latter it differs in the figure of the flowers, the above-mentioned partial existence of nectaries, the direction of the anthers, the three-lobed style, bifid stigmas, and finally in its

dissepiments, which are parallel, not contrary. From *Streptopus* the genus is distinct by its fruit, which is not a berry. Thunberg's *Vvularia Jiirta* may perhaps be this plant, and I have accordingly quoted it as a doubtful synonymon.



CRAWFURDIA, Watt.

Calyx tubulosus, quinquentatus. *Corolla* tubulosa vel campanulata, limbo quinquefido, cum vel absque lobulis accessoriis. *Filamenta* dilatata, e basi corollae. *Antherae* erectae. *Discus hypogynus* quinquelobus. *Stylus* erectus. *Stigmata* duo, recurva. *Capsula* clavata, compressa, pedunculata, calyce corollae emarcidis* oblecta, unilocularis, ad basin usque bivalvis, *vakis* prope marginibus seminiferis. *Semina* verticalia, imbricata, membranaceo-marginata, hinc biloba.

Classis Linneana : *Pentandria monogynia*, *sectio* floribus monopetalis, inferis, fructu capsulari.

Ordo naturalis: *Gentianeae*, Juss.

Habitus : Herbae glaberrimae, volubiles, ramis elongatis, gracillimis; foliis oppositis, trinerviis; floribus axillaribus, solitariis vel fasciculatis, magnis, speciosis, dilute caeruleis.

Dixi in honorem amici dilectissimi, *Joannis Crawford*, arraigeri, insulae Singapore gubernatoris, propter opus suum de archipelago Malayano * bene meriti, historiae naturalis totius, praesertim vero botanices fautoris strenui, ejusque studio addictissimi.



CRAWFURDIA FASCICULATA, Watt. TAB. 47.

~~Foliis lanceolatis~~ ; floribus subsessilibus, fasciculatis # dentibus calycinis elongatis ; corollis tubulosis, limbo laciniis accessoriis aucto.

Legi in monte Sheopore, florentera Septembre et Octobre. Etiam habui e montibus Pundua, florentem et fructigeram Decembre.

Radix fibrosa. *Caulis* teres, scandens, gracilis, uti tota planta Isevis, emittens ramos plurimos, longos, tenerrimos, teretes, super frutices late volubiles, tortiles, filo emporetico vix crassiores. *Folia* opposita, remotiuscula, nunc interstitia subaequantia, tri- ad quinquepollicaria, patentissima, lanceolata, e basi rotundato-acutiuscula attenuata in acumen longum; integerrima, margine membranaceo minutim crispata, trinervia, nervis gracillimis, subtus elevatis, ad apicem usque excurrentibus, utrinque glaberrima, glaucescentia, minutim reticulata. *Petioles* semipollicares ad pollicares, sulcati, basi diktat^, concaviusculd ramum marginulo elevato amplectentes, praeter quern nullum stipularum vestigium. *Flores* (fig. 1.2.) magni, pollicares, ad sesquipollicares, dilute caerulei, tres quatuorve fasciculati, axillares, tubulosi, inodori, brevissime pedicellati, petiolo dimidio vel duplo longiores, patentes. *Pedunculus* teres, crassiusculus, lineas duas vel tres longus, supra basin *bracteolis* duabus tribusve lanceolatis, acutis, viridibus, ipsum longitudinaequantibus. *Calyx* (fig. 3.) cylindrico-oblongus, quinquecarinatus, fere unguicularis, fauce subtruncata coronata dentibus quinque longis, compressis, erectis distantibus, calycem ipsum longitudinaequantibus. *Corolla* (fig. 4.) unicum calyce marcescens, Isevis, sub lente punctulata; *tubus* fere pollicaris, leviter plicatus, sursum vix ampliatum; *limbus* patens, plicatus, tubo triplo brevior, quinquefidus, aestivatione imbricatus: *lacina* ovata?, acuta?; *lobuli accessori* totidem interjecti, brevissimi, obtusi; *faux* huda, pervia. *Stamina* (fig. 4.) quinque corollae parum breviora, erecta, inclusa, parum inaequalia; *filamenta* complanata, supra basin corollae inserta, basi medioque dilatata, duo paullo breviora; *anthera* erectae, parallel*, libere, oblongae. *Ovarium* (fig. 5.) breve pedicellatum; pedicelli basis circumdata disco brevissimo, profunde et obtuse quinque-

* History of the Indian Archipelago, in three volumes, 8vo. 1830.

lobo, carnosio, flavicante; lineare, lseve, uniloculare, pluriovulatum: *ovula* planiuscula, margine extrorsum bilobo, parietibus oppositis duplici serie adfixa. *Stylus* teres, erectus, longitidine fer& ovarii. *Stigmata* duo teretia, papillosa, obtusa,*recurvata. *Capsula* (fig. 6. 7.) floris tegumentis obtecta, laevis, oblonga, complanata, coronata stylo persistente, demum bipartibili, f-pollicaris, longè pedicellata, unilocularis, ad basin usque bivalvis. *Valvulae* planiusculae, intus nitidae, trinervise, nervis marginalibus incrassatis. *Receptacula* foveolata, minuta, intra margines valvularum rectè lined disposita. *Semina* (fig. 9-10.11.12) plana, leviter convexiuscula, orbiculata, serie simplici imbricatim coordinata, superficiebus latera capsulae respicientibus, lsevia, fusca, alâ circumdata Jat&, tenuissimâ, membranacea, integerrimâ, ad marginem superiorem crassiorem seminis bilobâ, lobis parallelis, parum distantibus, cultriformi-convexiusculis, sinu inferiorem partem seminis proximi recipiente (fig. 8.) subequitante, ad extremitatem externam punctulo minuto umbilicato. *Integumentum* simplex, tenue, in alam istam, supernè duplicem, ultra ambitum seminis extensum. *Perispermum* carnosum, aqueo-albuii. *Embryo* (fig. 13.) minimus, in cavitate propria perispermii, umbilico proxima locatus, respectu capsulae horizontalis. *Cotyledones* ovatae, breves. *Radicula* infera, centrifuga.



CRAWFURDIA SPECIOSA, Wall TAB. 48.

Foliis ovatis; floribus longè pedunculatis, solitariis; dentibus calycinis brevibus; corollis campanulatis, limbo quinquelobo, sinibus nudis.

Habitat in Sheopore; tempus florendi idem ac prioris. Capsulae maturescunt # Novembre.

Statura major quam praececedentis speciei. Tota lsevis, glaucescens, *Rami* longissimi, valdè tortiles volubilesque. *Folia* remotiuscula, ovata, e medio in acumen gracillimum attenuata, plana, tri- ad sexpollicaria, marginibus crispatis, nunc obsolete repandis, basi rotundata, interdum subretusa, opaca, subtus prominenter trinervia, rarius quinquenervia, venis reticulatis, inconspicuis. *Petioli* unguiculares, sulcati, submarginati, ramum line old elevata ambientes. *Flores* magni, speciosi, axillares, solitarii, longè pedunculati, fer& bipollicares, amoenè coerulei, extus fuscescentes. *Pedunculi* teretes, graciles, hinc inde curvi, petiolo ter quaterve longiores, sesquipollicares ad bipollicares, saepius ad medium vel infra apicem *bracteolis* duabus, oppositis, lineari-lanceolatis, viridibus, trilinearibus. *Calyx* (fig. 1.) cylindrico-oblongus, vix unguicularis, ore parum plicato quinquedentatus, basin corollae angustatam sequans; *dentes* lanceolati acuti, marginula membra nacea, angustissima, pal lid a connexi. *Corolla* (fig. 2.) campanulata, tubo amplo, ovato, convexo, basi angustato, subgracili; *limbus* Datens, Dlicatus, tubo dimidiò brevior, quinquelobus; *lobi* latè ovati, acuti. absone int^r- Jectis lobulis accessoriis. *Faux* ampla, pervia, nuda. *Stamina* quinque, parallela, sequalia. *Filamenta* membranaceo-dilatata, plana, fundo tubi contracto supernè inserta, inde decurrentia, apice acuta. *Antherae* in fauce corollae erectae, subexsertae, basi subsagittatae. *Stylus* (fig. 3.) brevissimus, divisus in *stigmata* duo revoluta-potentia, papillulosa, teretia, obtusa. *Capsula* (fig. 4. 5.) calyce corollae emarcidis salvè apice obtecta, oblonga, valdè compressa, pallidè flava, stylo coronata, fere pollicaris, pedunculo suffulta cylindrico, sequante; unilocularis, bivalvis; *valva?* naviculares, subcoriaceae, intus nitidae, marginibus incrassatis. *Semina* (fig. 6. 7. 8.) tenuissima, parvula, oblonga, copiosa, fusca, lateribus valvularum densè inserta, imbricata, circumdata al& lat&, tenuissima, orbiculari, umbilicum versus parum latiore et subretusa latereque externo appendiculat& lobulo minuto, rotundato.

OBSERVATION.

These two beautiful and interesting plants, are so different in their climbing habit from all the other members of the order of *Gentianeae*, that I cannot hesitate detaching them into a separate genus. The winged seeds and nectary, at the



1890



BRICKELLIA, var. P. & C.



WICKSTEDT, Botanic Garden

15



Illustration of a plant, likely a species of *Albizia*, showing leaves, a flower, and fruit clusters.



SPERMATOPHYTES *Pinus* *resinosa* *Ait.*

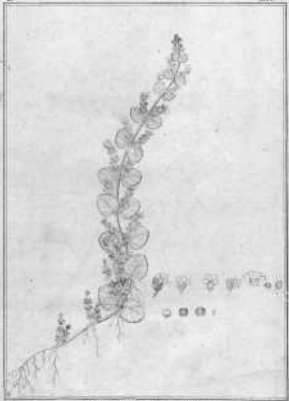
Botanical Magazine



1861
1862



ACETABULARIA - *acutifolia* (L.) Lamour.



DRACOPIS *Dracopis* 217



STYLISSA *argentea* Nutt.

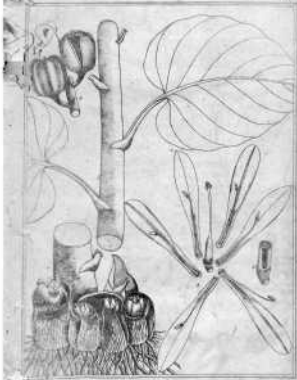


BRACHYDIAE var. *IND.*



PANDORA *spicata* Nutt.





EUPHORBIA *spicata* Mill.



Castanea vesicaria (Roxb.)

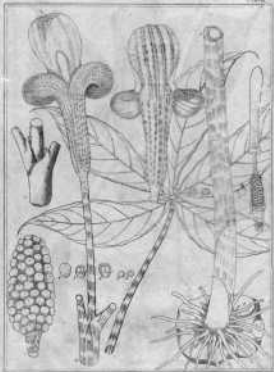


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COFFEE PLANT



MIMOSA *pudica* Willd.



Vanilla planifolia



Begonia *sp.*



REV. 1887



CANTONI *gambusia* H. & A.



GENERICUS, *Species*

1851



Illustration of a plant with detailed views of its flowers and fruit.



SOYBEAN *Glycine max* (L.) Mill.

100000



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i

17

m  km





Hedyotis corymbosa

W. & A. G. B. S.



L. C. Smith





%:

Handwritten botanical label, possibly "Kandia" or similar.



Scutellaria leucantha

Walters



Handwritten text, possibly a name or number.

Handwritten text, possibly a name or number.

Handwritten text, possibly a name or number.



Asplenium platyneuron

Asplenium platyneuron



Passiflora polyphylla

Swartz



5 y y



Asplenium platyneuron

2010





Handwritten text, likely a label or description, partially obscured by a large black redaction mark.

a

K





Alfalfa sp.

•/



Passiflora

1850



Asplenium Platyneuron

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