

A-16

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MAGNOLIA, MICHELIE ET KADSURAE NAPAENSES\*

Next after (the stately *Rhodofoudrum arborewn*, the members of the family of *Jfag-noliacca* the most conspicuous rank in the v^sptable productions of Nipa!, who bcr w consider the ruajiiiiifecii'e and fragrance of their flowers, the beauty of their foliage, or the irrioral eli^anix- of their growth; They art without exception large deciduous forest trees, yielding excellent wood for lic purposes of carpentry nmt joinery, and not onlf admitting of ln'iii^ introduced iutn llr;:ril (three of the in i, growing with great luMiriiiiiri- in ilu> Ijonournkic ('unipniqV; Ijorimic ^iirrlan nt CulditiilaS lull huhlinjj Dili ;,): prospects of standing the "inter even of Europe. They blossom during the summer and ripen theiv fruits about the close (if tile rains; during winter, that is to say, fro4 tl" beginning of November to (be end of February, they shed ilifir leaves in common .v'lii the majority of the trees of tnd Europe-like country; and in March they are ngair\* full of buds, which soon arc MIK-C e-d< by those of the bios son is. Tbesf loul(>ure of a qalurt\* lvbicli i«, I believe, jift-nlinr to [bi> family, und unite, »\ once, (heir <<n proper f"'^-linii. ofTfrOtection 10 the tenlrr shoots, k> that, belonging more properly to the office of stipules. They connst ufum, at first lleiiby, ufierwards membranous scales, which we always mare or less downy, cohering in lltfi shape ufa cylindric luhe, Viliosfl I - - - i'-'itnrti i-ntinil l/w Drum:li unit obliquely :ilun^ ii j^i.mln-rnnet: mi the upper aide of lite pi'ti.il. wini-li taltpi scarcely extends to fmm rtrts snlri insertion HJLI U at first totally destitute of any leaf-like appearance. As soon u the bud has cutitf (bits full sic ii splits into tiro equal lobes, beginning from the base and ascending alongI bat side, which is opposite to its insertions on [he petiol mid soun drops off in th< form of two brge stipule!). -The Dower i>>ii- "•• '•'^^' - mtit&fy, , rect, of tin oval form, mostly i>liiii'l «Kli Muni unlijii. liVird IT|• mr ii short, uioitt, ('ciliinTinir')9eifm;li?; <>i in jV/Vktit always nxillaiy; thifv BN ciini'lupi'ii in two l'iiire, menbranouK, rounded (path);g, liit<sup>1</sup> outer. One much suuner fmducoun thun that within, irhici is contracted at (the h-e i'f" a .t'ylindr, closclj embracing the UJJJUT prnt of the pi:luncte. W Iten it ;, colaidern, thal tie>< nobleli\*\*' - are nativ i-sofi. . . . iuin, where the heal is never intense, an(i wtwrc they arc exposed, ihirinyr four uifmlis of (lit year, to a rather severe ninte", sometimes even to falls of snow; that thej ;yn- deciduous, ainl lastly, thiai they aci' ••tremely well furnished with protection for the Under leaves and t.ln^sonis; reasonable hopes may be entertitied of their standing the winter even of Engjutd, <?(jimHy ni'li wldr many oilier plants from those regions, ivhich I have already had lb? hupjii-ness br introducing, and uli.'h I believe, have answered everj eypedation.—To the ptadiqal hcSaniit such details as these nri- neither uninteresting nor miimportant. I .vml therefore: resume them in treating of cncli pariirular sjicciea.

Mj two Ma^olue ore entijoly neir, and they certainly yield to m-iu- <l .V<<nh Ameri- <a in splendour and magnificence; one of them furnlubes a very li-cfnl jr;:t <r IVOIKJ, called *Crimif*. u-liich it highly pn^ed for su rnitnre.--T\*o of the Micheliie bare been noticed by professori *Ta* Candolle, in liis i%«alttabJ« Syetema Naturalu; but his descriptions (•• rather shpri and deficient, offidglo ill i& baring been mwjt from dried speti.uens, ivlik'h wojjj collected idjove Wentj years ago, bj m] uiend mid pre-

\* The following account of these genera was given and it is with the consent of that highly u.u.nortali. but, that I \*D |<rWllri la l>u<lon li hra h iu •ri\*!>l torn, nilt >tn [t> idd).  
 The following alterations.

2/1/11

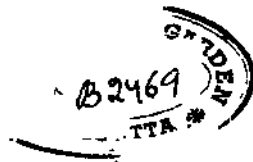
decessor Dr. Hamilton; and a superficial acquaintance with the plants of this tribe is sufficient to Nominee any one, how very dillicult it h> to fix on decisive and discriminating characters for (hem, even under every advantage of observing ihoim in their ivild and most luxuriant stale. 1 have little doubt, however, thai the descriptions were intended for the very species, with which I hale identified them. 1 uni further corroborated in this assertion by a consideration of the *Imlnfnt*, which the learned anllior, on the authority of the discoverer, has assigned to ilie trees in ipiesliou, namely at 2Wasyon 11 it t tee, where my two Magnolife do certainly not grow. Th«t bis *Mit India DoUnapa* cannot possibly be mj'*MugtmUa fxri'hn* is likewise obvious from the fuel, thai this tn-f n.limited to one single station in that part of Nipal, which Dr. Qai^Hton and m v self 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 Ruptiplus, because ticre cannot he any question of his *SampaCCas* being distinct from mine, and quoting them as doubt lid syiiou-vmes, would oulr he .adding to the existing difficulties of the ireuus. I may, bowcjfcr, observe,) " this plupil that *OMckelia parviflora* f)c Cimd, whicli has been described and figiirecl hi the line Icones St'lecm' of the Baron De Le.\*serl, the muuificent patron of Botany in Fiance, vol. 1. p. 22. (.)>, ns the Tern ate or small variety of Bonga Sjainpacca of Ilerbar. Amb, 2. p. 200, appears to me as not by any gJeans belonging to the genus.

TV genera *Kadtura* and *Sttryna* huve bilherto been involved in considerable doubt. The fir&l of these was discovered uhouta century ago in Japan by Engelberl Kfempfer, ami has h«n accurately described by him in Siss Amoenitacs exolicif. Thnnirtg af-UrWards ~~22/22~~ an account of die plant in his Flora japonica, with tbc addition of ade-Bcnpction of the (lower, omitted by his predecessor, under the Linnean natue of *Uear itr pipt/uica*, which was retained "by all succeeding writers, until Jit ssica sug-gCfm «t">Ulm)^|^Ag^,ii\_v[.i.,r j, .i., di^jji, et genus in the fas;l] of Ann'nitared (Anna), dumiist ; in d mistoire natu, . Hi. ].: :4o'. v, li].ii lintb Duiaal and De Caiidolle have «iibsiijuiciitU adopted. Roxburgh, who received il from Sjlhet, calls it *Vvaria kfr ten-, lita* in bis manuscript Flora indica. 'Hit- other gernu, *Maj/na*, was first doscribe.I Ly Fusee AuMet, who fouiul il ;ii CayajOfi, l'ui had no opportuuiiy of seeuigthe I female ilowers or the liuir. It is on (hi\* niitht)TTt.,-JBtui. aiuLai<sup>15A</sup> U v v n] v <finty> uiffleriais ituJfeil, that Jusnicn and Do Candolle have referred. 3/ai/aa to the fanilij o( *jlleTgnolwcctr*. 'flint these tvo illustrious botanists shoujd have ultimately failed in de-cidin;; on the proper station of the uliove-nentioned shrubs, in the natural system, is Dot surprising, when it is recollected, that their conclusions could onlj bo "founded oadata, whiob were not calculated to afford muob insiglit inin natural nllinilies: on the oonW-y, it mil be awn from the following descriptions, how closely their sagacity made them approach the mark mid how imposxibta it would have been to proceed a .single step farther, wiiliout beiaq aided Ijy a knowledge of the internal structure\_uf ibeseed, Ihcse (wogenera oughl, 1 thirit, to be united iulo one, which has a very strong aJJitily *Ui Hi Is laa il lira tit Mir!i.iu\* : so *ttrpag*, indeed, us tu render il extremely doubtful il *they* Plight to be scpaiuti'd from each other. In this case the last mentioned name would be fur |)tvfer;il)lc to the barbarous *fi'nihttrit* or *APti/tta*, and 1 shoultaccordiriglyluivi-adopted it. if il were imt derived from a clar.il-ler. Ivhieh is inapplicable l" the species with distinct slmviina. They all belouj; to lUe family of *Afrwjtjjwmr/p*, eonnectinj il with *agnoliacete* and *Annoname*, and perha)s constituting a new intermediate order, as already beeu dinted hj Profeswr De Cjuidolfl (Syst. Nut. I. p. 5-14).

Since this -was written, I have been put in possession, through the kindness if niy excel lent, friend Dr. Abel, of nil ilie splendid botanical works of Ifaron Bumoldt, ntcnigninatensik.Vlimit. •sjuinottiiJ. I p. 2iKr. r,n. (*Drfytnis*, no?. genT£ p: a strong generic resembUniето our plants. T1& curenntance leads>tc to " ^wivdicj' must bu referred, together with ihal genus,\*© Mr, Brown's new

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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*.

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 *Kadsurat* 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 Hindoosthan (*Mithelia 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; abastris laevibus; strobilo ovato dense imbricato, capsulis verticalibus tetraspermis.

Nomfn Newarrensē, *Seetp So ah*.

Crescit praecipue in colibus prope *Sankoo* convallis Napaliae; etiam observari ad caecum juvenem montis *Sheopore* adque latius «jus septentrionalis» *j<sup>h</sup>HitnAin<sup>h</sup>* usque ad decem mille pedum.—Floret Aprili, Majo; fructus maturescunt Octobre.

Arbor vasta, ramosa, truncō recto, saepe quatuor vel quinque pedes diametro emittente, comā dense frondosa expansa et umbrosa. *Rami* glabri, striati, cinerei, callosopunctati. *Ramuli* virides, glabrescentes, erassi, cylindrici. laeves, notati vestigiis annularibus, horizontalibus vel obliquis, a laxis stipulis manentibus, approximatis, villosis, demum glabris et distantioribus. *Folia* versus summitates valde approximata, patentia, undique sparsa, oblonga, in luxuriantibus ramis magis elongata et subcuneata, in vetustioribus ad formam ellipticam tendentia, acuminata, integerrima, deorsum parum angustiora, basi acuta, coriacea, finna, uncias sex ad decem Jonga, plana, laevissima, atroviridia, lucida, subtus glauca et opaca, pube adpressā laevi copiosā solubili etevanidd conspersa, costā gracili levetā, nervis copiosis parallelis numerosis approximatis tenuibus ad marginem anastomantibus, siccitate utrinque, imprimis subtus, eleganter reticulata (f. vel ilosa).—*Petiolus* gracilis, teres, sesqui-aut bipollicaris, glaber, basi subtus parum intumescens, supra notatus plagi elevatā planā lineari unguem longd extrorsum obtusd et rotundatā, primum villosulfi, olim stipulas vel gemmam adfigente. *Stipulae* (fig. 15, 16.) duse, oppositae, oblongae, acute vel acuminatae, plagse istae petiolaris et lineolae annularis rameae inserse, ramum ipsum omnino amplectentes, valde deciduae, initio connatae in gemmam oblongam, densissimē cineris-tomentosam intus laevem, juxta latum ramum spectans demum Assam citoque delabentem. — *Flores* (fig. 1.) speciosissimi, fragrantēs; ex albo rosei, campanulato-patentes, terminales, solitarii, erecti, tres quatuorve pollice longi, laeves, suffulti pedunculati laevi columnari crasso mediō cicatricem orbicularem gerente, sivepallido subalbicante. *Alabastra* erecta, ovato-oblonga, obtusa, basi rotundata, bipollicaria, involuta *spatha* (fig. 8.) lato-ovata subrotundata membratacei laevi, basi contracta in collum breve, cylindrici, dimidise superiori pedunculi partem aretē adpressam, medio ejus inserta, caducii.— *Calyx* petaloideus, triphyllus, erubescens, Jemum fuscescens: *sepala* oblonga, obtusa, deorsum parum angustata, reflexa

et directé de]pendentia, coriacea, parallel é 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 ve] oblonga, obtusa, vel acutiuscula, parallelé et graciliter vasculosa, seriebus tribus apici pedunculi, circum basin tori, alveolis majusculis inserta; interiora sensim breviora srepiusque angustiora, una cum sepalis staminibusque subito delabentia. *Cohimna fructificationis* ovato-conica, sesquiunciam longa, basi integrum fere pollicem crassa. *Torus* (fig. 2.) sub-lignosus, crassus, sanguinei coloris, columnaris, dhnidia inferiore parte punctis eleganter decussantibus a staminum insertione inscriptus; superne cum ipsis ovarioruin basibus conferruminatus.—*Stamina* (fig. 3, 4.) plurima imbricata, adpressa, lineas octo longa, interiora sensim elevatiora, apicibus obliqué truncatis rhomboid eis regulariter decussantia. \* *Filamenta* brevissima, crassiuscula, carnosae, rufa; *antherae* lineari-oblongae, apiculatae, utrinque loculiferae, loculis albicantibusintrorsum (fig. 4.) dehiscentibus, polline albo e particulis cylindricis conflato.—*Ovaria* (fig. 5, 6.) plurima, cunfiata, sub-quadrangularia, e viridi glaucescentia, minutim punctulata, glabra, areté imbricata, vertice truncata rhomboidea suico perpendicular! intermedio exsculpt&; inferiora magis latitudine verticali, superiora plus longitudine extiefisa^ fabrica fibroso-lignos^; 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, subu]atus, tres lineas longus, deciduus, dorso suico notatus, apice parum patulus. *Stigma* latus externum styli .occupans, scabriusculum, constans papillis numerosis minutis.—*Capsulce* valde nunierosse, dense imbricate, v&bticales, magnitudine et figur4 variantes, unguem digiti medii baud superantes, compressa3, laeves, purpureae^ dispositae in *strobilum* (fig. 9.) ovato-oblongum, quinque-pollicarem, obtusum, -erectum, suffu]tum pedunculo lignoso columnari bipollicari nudo, vestigiis insertionis spathse partiumque floris inscripto; vertice rhomboidea verticaliter juxta sulcum perpendiculariaein dehiscentes in valvulas (fig. 10.) duas plano-conjnpavas ligneas. intus tegumento chartaceu laevissiuu nitente iiiuiiic^ . -«P«W^#»« (fig. 11^ tria vel quatuor, ovata, dorso convexa, hinc angulafa, s]bi invicem adpressa, magnitudinis pisi majoris, edecinea, laevia^ angulo loculi interiori\*» bases valvularum connectenti, adfixa ope funiculorum brevium sericeorum niveorum, horumque elongatioue fere semi-pollicari demum extra cavitatem dependentia. Ovula aliquot minuta, sterilia's. abortiva, emarcida observanda sunt-ad basin sen angulmn interioreni-totmK,i » w funiculos. *Arillus* (fig. 12) carnosus, lineam dimidiam fere crassus, ruberrimus, odore et sapore parum aromatico, ad basin seminis, axi strobili obversam, insculptus fovea umbilicali parvd. *Integumentum* exterius durum^ fere osseum, leviter scrobiculatum, atrum, nitidum, compressum, lenticulare, crassiusculum, extremitate superiore perforatum umilico inter no, illo exteriori diametricè opposite. *Integumentum interim* constans pellicuU tenuissima *perispermum* involvente carnosum acqueo-pallidum, cavitatem exacté replens. *Embryo* (fig. 13.) minutus, in parte supreme perispermi prope umbilicum internum pendulus, rectus, niveus; *cotyledones* ovatae, obtusae; *radicula* subtirbinata, obtusa, *supera* !

## 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; faiey are very large, of a white or yellowish-white colour, tipped with pink, while the reflected calyx or rather calycine petals are of a b>,wnish red tint, elegantly reticulated- with greenish nerves and,veins; their smell is agreeable, somewhat resembling that of *Magnolia glauca*, and though not very strong, yetthe accumulated fragrance of the innumerable blossoms, with which this tree is co>ef'd 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 round 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 to 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 Rhododendrons, 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.

*Vapsuta?* ovata (SB) lateribus gibboso-convexis, obliqué acutis, punctis parvis collosis asperae, raagnitudinis baccae Grossulariae minoris, cinerascentes, sessiles, patentes, decem vel plures, binae paucis abortivis parvulis intermixtae, dispositae in spicam oblongam hinc inde curvam, tripollicarem, fructum *Michelice* plané referentem, pedunculatam. *Valvula* divaricate, plano-concavae, intus rugosae, nitidae. *Semen* unicuni, coccineum, omtum, parum obliquum, loculo exacté correspondens, basi umbilicatum, mox post dehiscenciam extra suam cavitatem funiculo sericeo laxo dependens.—Nucula, embrjocae inversus exacté ut in *Magnolia insigni*.

It is not a little surprizing that, according to the accurate Gaertner, the embryo of *M. grandiflora*. Linn, is erect, Carpol. 1. p. 343. t. 70; whereas it is unquestionably *inverse* 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, acumipatis, subtus valé glaucis; alabastris gem mis-

que ferrugineo-barbatis; floribus solitariis, axillaribus; petalis duodecim, calycinis nullis; capsulis globosis, remotis, spicatis, pionspermis\*

Nomen Parbutteanum *Champa* s. *Chaump*.

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

Arbor 50-ad 80-pedalis, admodum ramosa, trunco valde crasso, cortice varîe fîsso et rimoso. *Ramuli* crassi, teretes, fuscescentes, juniores grysei, punctis callosis iziajusculis conspersi, vëstigiis stipularum delapsarum annularibus, horizontalibus vel obliquis, notati.—*Folia* sparsa, patentia approximata, pollicem et dimidium circiter distantia, coriacea et firma, oblongo-elliptica, in acumen lineare acutissimum semiunciale abeuntia, integerrima, margine subinaequalia obsoleté que repanda, basi acuta, spi<sup>\*</sup>thamae ad dod ran tafia, supra laevia, lucida, saturatè viridia, leviter plicata; subtus valde glauca, fere pruinosa conspersaque pilis brevibus ferrugineis adpressis, aetate glabra, costis prominula gracili, nervis alternantibus ad marginem anastomosantibus, more generis, praepriaîs dum sieca, pulchrè reticulato venosa. *Petioli* pollicaris et parum ultra, teres, gracilis, leviter sulcatus, basi parum intumescens, supra vestigio liricaa piano elongato notatus.—*Stipulae* duse oppositae, membracées, oblongae, acuminatae, «esqui- ad bipollicares, tomento densissimo sericeo cinnamomeo vestitae, intus laevés, more generis supra descripta, initio in gemmam sub-cylindricam dense barbata connatae, mox soltne citoque caducae, vestigiis istis annularibus ram or um linearibusque petiolorum manentibus.—*Flores* axillares, solitarii, magni, erecti, albi, fragrantés, canJpanulato-patentes, pedunculo elevafi valde crasso brevi columnari, vix dimidium pollicem emptiente, cinnamomeo-tomentoso, ad medium notato vestigiis duobus annularibus paullo distantibus. *Alabastra* oblonga, acuta, cinnamomeo-tomentosa, mollissima, bipollicaria, *spathis* involuta monophyllis: exteriore fugacissim&?, interiore toment<sup>\*</sup>tos<sup>^</sup>, intus laevi argentea diutius manente. *Petala* (fig. 1.) 12 vel 13 coriacea, crassa, gla<sup>\*</sup>berrima, oblongo-ovata, obtusa, deorsum aîgustiora, fere bipollicaria, interiora s<sup>^</sup>ensim angustiora et breviora, baai debilissime viridescencia, coeterum alba, triplici disposita serie quadripetala, intîmS, riunc quinquepetala.—*Columna genitdlum* (fig. 1,3.) sesquipollicaris, erecta, basi crassior. *Stamina* (fig. 2.) plurima, iax6 imbricata, inaequalia, tertiam petalorum partem longitudine a<sup>^</sup>quantia; *Jilamenta* brevissima, carnosa, crassi<sup>\*</sup>uscula; *antherCB* adnats, marginales, paullo introrsum dehiscentes.—*Ovaria* (fig. 4.) parva, fusco-puberula, tetraspora; *ovula* angulo interior loculi ope funiculorum brevissimorum decurrentium adfixa. *Stylus* ovario longior, subulatus, recurvus, supra papilloso-asperulus. *Bacca* (fig. 5,6.; paruse, globosae, calloso-verrucosae, glabriusculae, cinerascens, magnitudine nucis avellanae, basiJata sessiles, pluribirs effoetis intersperse, in spicam quadripollicarem curvam digestae, hiatu semicirculari supra dehiscentes in valvas duas divaricatas concavas. *Serfcen* (fig. 7.) unicum, grandiusculum, ovatum, subreniforme, coccineum, baccatum, plend maturitate extra loculum suum dependens, ventre exsculptum umbilico minutissimo,—*Arillus* carnosus, mollis, ruber. Integumentini exterius atrum, crustaceum; *interius* tenuissimum. *Perisprtrum* caraosum, hyalinum. *Embryo* ut in priore specie.

#### OBSERVATION.

. This is at all times a very beautiful, large tree, especially when in blossotn. I have only met with it on mount Sheopore, where it is confined to onè single spot: a &mita on which is not of very rare occurrence among the plants of Nipal; thus *Orchis* (*Hubena<sup>\*</sup>ria*) *gigcmtea* Exot. Bot. is solely to be met with in a particular place of Nig-Ar-joon, *LyelUa crispa*, Brown and *Daphne Gardneri*, Wall, are confined to one particular place on Sheopore. The wood is greatly prized by the inhabitants of Nipal as also at Patna, where it is employed/or variqus 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. 475; 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, longè petiolatis; axillaribus gemmisque ferrugineo-tomentosis; petalis quindecim, interioribus angustissimis.

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

Incolit varias sylvas Napaliae, 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, densè vestiti villositate sericeâ fuscâ; setate proveciores glabri, cinerei, calloso punctati.—*Folia* magis forsàn quam in reliquis remota, patentissima, integerrima, ad marginem leviter undulata, ovata, in acumen gracile, longum attenuata, basi acuta, nunc rotundato-acuta, palmaria ad 10-pollicaria, coriacea, supra laevissima, lucida; subtus parum glaucescentia puberula, siccitate utrinque venuloso-reticulata.—*Petiolus* valde gracilis, pollicaris et sesquipollicaris, teres, ferrugineo-villosus, ultra medium notatus vestigio *insertionis* stipularum gracili elongato.—*Stipule* aureo-v. fusco-villosae, connate in gemmam cylindricam acuminatam elongatam. *Flos* (fig. 1.) axillaris, solitarius, illo *Champacae* vulgaris fere dimidio major, petiolo parum longior, flavua, valde fragrans. *Alabastrum* cylindrico-oblongum, densè vestitum tomento fusco velutino, bipollicare, spathula (fig. 2.; duplici caducissima, indutum. *Jei]tincuh4s* brevis, velutinus, cicatricibus duabus annularibus notatus.—*Petala* quindecim valde palula, ternario ordine disposita, quinque scilicet in singulo ordine, oblongo-spathulata, acuta, ad basin angustatam munita pube furfuraceâ punctis minutissimis impressis intersperse; coeterum glabra; interiora valde angusta, fere linearia. *Antherae* subsessiles dorso latiore in apiculam subcarnosam desinente; loculamenta lateraliter dehiscentia. *Torus* ovariorum velutinorum cylindricus supra 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, brevè petiolatis; alabastris gemmisque cinereo-vilioculis; petalis duodecim, oblongis, sub&qualibus.*

*Michelia Kisopa, De Cand. syst. nat. 1. p. 448.*

Reperi in pluribus syivis 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, approximata, patentia, valde coriacea, rigida, oblonga vel lanceolato-oblonga, acuminata, basi nunc rotundata, nunc acuta, supra valde lucida atroviridia, subtus pallida atque opaca, pube parca adpressa aetate cyanid& conspersa, utrinque dum sicca eleganter reticulato-venosa; 5-7 pollicaria.—*Petiohts* gracilis,# teres, pollicaris, e basi ultra medium supra notatus plag& elevatd planâ lineari elongate. *Gemma stipulacea* oblonga, acuta, petiolum juniorem fere sequans, argenteo-vel cinereo-villosa.—*Alabastrum* axillare, solitarium, erectum, ovatum, brevè pedunculatum, semipollicare, cinereo-villosum; *spathce* (fig. 4.) cito deciduae, ovato-subrotundae, obtusissimaB. *Flos* (fig. 1.) parvus, dilutè flavus, odore valde debili, pedunculo suffultus eras so, annulato, villosulo.—*Petala* duodecim acuta, lineari-cuneata, pollicaria. *Antherce* fere sessiles, numerosae, laxè imbricatae, lineares, apicul& nud& cuspidatae; locula marginalia, introrsum parum dehiscentia.—*Ovaria* (fig. 3.) ovata, sericeo-viUosa, coacervata in columnam cylindricam, supra torum (fig. 2.) antherarum pedicello angulato semiunguiculari elevatam. *Styll* recurvati, pubescentes, papilloso. *Capsules* (fig. 5, 6.) subglobosse, basi nunc lat& subadnat® nunc subcuneatâ quasi pedicellataB, cinerae, punctatae, majores quam in antecedente specie, dispositae in spicam tortam quadripollicarem, pluribus abortivis intermixtis, *Semina* tria vel quatuor, ovata, coccinea.

OBSERTATION.

This species comes very near to *M. Champaca*, 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 ramis gemmis alabastrisque cinereo-lanuginosis.*

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

Arbor magna et procera, ramosissima. *Hamnli* obtejeti cortice cinereo calloso-puncto; juniores uti foliorum pagina inferior, petiolus, alabastra, gemmaeque vestiti lanugine deusâ decumbente mollissimS, cano-argente&. # *Folia* valde approximata, alterna, subbifaria, patentissima, oblonga, acuta, basi parum rotundata, apioe ouspidata, 5 ad 10



pollicaria, valde coriacea, supra lucida, nunc parum glaucescentia, subtus densissimé tomentosa, vix setate glabriora, nervis parallelis, numerosis, ad marginem integerrimum arcuatim anastomosantibus, venis reticulatis tomento reconditis. *Petiulus* pollicaris, setate parum glabrior, supra notatus vestigio stipularum elongato. *Stipulce* valde deciduee, oblongae, densissimé tomentosae, gemmas formantes oblongas, petiolum subaequant. *Ala\** *bastra* axillaria, solitaria, oblonga, sesquipollicaria, lanuginoso-barbata. *Spathw* (fig. 2,3.) dufle, oblongse, cito evanidse, *Flos* (fig-1) pallidé flavens, odoratissimus, brevissime pedunculatus; *petala* numero variantia, decem ad quatuordecim, cuneata, acutiuscula, disco parum saturatius colorata, interiora parum angustiora. *Pedwnculus* vix duas lineas longus, lanuginosus, crassus. *Columna genitalium* (fig. 4.) oblonga, petalis plus dimidio brevior. *Antherce* (fig. 5, 6.) valde caducae, introrsum dehiscentes; *filamentum* brevissima, purpurascens. *Ovaria* (fig. 7, 8, 9.) ovata, villosa. *Styli* erecti, columnse subadpressi. *Ravcce* (fig. 10,11.) magna, cerasos mediocres aquantes, obovate, deorsum paullo angustiores et fere pedicellate, *pedicello* admodum lato; cinerae, callosopunctatae, coeterum glabrae, maturitate fusciscentes, tri-quadrispermae, aggregate in spicam brevem, ovatam, longius pedunculatam. *Semina* (fig. 12.) magna, coccinea, arillo 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 5T. De Cand. syst. nat. 1. p. 465.

*Jllayna*, Aubl.? *Schisandra*, Michaux. *Uvarite*, spec. Thunb. et Linn.

*Flares* unisexuales, pentandri-polyandri, polygyni, apetalii. Sepala novem, nunc duodecim, ternatiin triseriata, alternantia. *Stamina* completa, *Jilamentis* carnosis; vel incompleta, *antheris* sessilibus, receptaculi foveolis adnatis. *Ovaria* conferta super receptaculum cariosum, dispora. *Styli* nulli. *Stigmata* solitaria, carnosae, emarcescentia, oblongo-clavata, medio adfixa, Htrinque libera. *Baccce* distinctae, reniformi-ovatae, mono-vel<sup>o</sup> dispermse, capitatae, aut spicatae. *Perispermum* homogeneous, carnosum. \**JEmbryp* dicotyledoneus. *Kadi ula* infera; vel centrifuga?

• Classis Linneana: *Monoecia* vel *Dioecia*, *pentandria* velp<sup>o</sup> *lyandria*.

Ordo. naturalis: *Menispermece*. *Wfhterete*, Brown?

*Habitus*. Frutices volubiles, glabrae. *Folia* alterna, subcarnosa, denticulata, exsti\* puiata. *Flores* axillares, subaolitarii, fragrantae. *Baccce* carnosae, rubrae, edules.

## OBSERVATION.

I have already hinted (p. 2.) at the supposed identity of *Mayna* with this genus. As far as can be gathered from the 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. grandiflora*, 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

Biorca, polyandra; *Jloribw* nutantibus, solitariis; *pedunculis* petiolo duplō longioribus, mediō ebraeteatis; *staminibus completis*, *Jilamentis* subulatis; *baccis* dispermis, *spicatis*, *rachi* crassā, clavatā

Observavi frequenter in monte Sheopore Napaliae, nee alibi; florentem Aprili, Majo>-fructigeram Octobre.

Frutextatē volubilis et scandens, omnibus partibus glaberrima. *JRami* numerosi, elongati, graciles, vix pennā anserinā crassiores, fuscī, calloso-punctati, epidermide-cetate demum solutā; *tenelli* glaiicescentes, rubicundi. *Gemmce* parvae, axillares, subejdindriese, acutae, *squamis* oblongis, ciliatis, bifariē imbricantibus, quibusdā persistentibus, basescūe ramulorum juniorum laxē ambientibus. *Folia* valde copiosa, appropxiiftata, patentia, alterna, lanceolato-oblonga, 4-6-pollicaria, subcarnosa, ad lucem visa minutim pellucideque punctulata, acuminata, basi cuneata et per petiolum leviter decurrentia, remotē denticulate, dentibus subulatis, incrassato-subglandulosis, laetē viridia, suprà Iticida, novella rufescentia, aetate opaciora, subtus pallida, penninervia, cost4 gracili, nervis obliquis, alternis, venis reticulatis. *Petiolus* teres, gracilis, suprà sulcatus, pollicaris, basi inarticulatā, simplici. *Stipulce* nullae, nee ullum earum vestigium. *Mores* magni, admodum fr^grantes, nutantes, axillares, solitarii, vel sparsi circum basin ramorum novorum, globoso-campanulati, pollicem transversum emetientes, ex albo flavicantes, extus versus basin saepe purpurascens. *Sepala* rtovem, ternario ordine disposita, ovato-rotundata, obtusa, crassa et subcarnosa, iitegerrima, interiora sensim minorā. *Aestivatio* laxē itabricata, *glohosa*. *Pedunculus* teres, taxus, gracilis, bipollicaris, sequalis, basi saepius squamuU gemmaceS, nnd aherave munitus. *Masculatorum* (fig. 6, 7.) *stamina* (fig. 8.) circiter-quadrāginta, calyce parum breviora, clavata, aggregata in acervum ovattitn scper receptaculum carnosum, leviter elevatum (filamentorum basfes connatae?). *Tilamenta* brevīa, erecta, subulata, alba, carnosā. *Anthers* ovatae, compressiusculae, obtusse, disco carnosae, ulrinque dehiscentes loculo angusto, longitudinal], extrorsum verso; pollen albidum. Nulluni pistillorum rudimentum. *Foeminei* (fig. 1,2,3.) masculis parum majores, sepalaque exteriora saturatius colorata. • *Ovafia* (fig. 4,5.) admodum minute, numerosa, lenticularia, extrorsum obliquē acuta, subtus gibboso-convexa, suv&ffm notata **ma**, **inulā** rectilinea, sessilia, spiraliter et densissimē aggregata super receptaculum carnosum, oblonguin, sepala majorā subaequans. *Ovula* duo minutissīna, lateri loculi marginulse istae obverso adfixa, obliquē pendula. *Stylus* nullis. *Stigma* sessile, carnosum, fryalinum, scabriustfolium, perpendiculare, utrinque liberum, apice obtusum leviterque recurvurti, basi ovario adpressum, medio apiculse liujusdInsertum. *Baccae* (fig. 9, 10.) ovato-subreniformes, sessiles, coccineae, laeves, nitida?, inagnitudine Ribesise majoris, valde numerosae, supernē apiculā lineolaque brevi, fuscā, decurrente notatae, biloculares, dispermse, dispositae in *spicam* laxē pendulam, digidum crassam, clavatam, sex ad novem pollicss longam, insidentem pedunculo gracili, apice leviter incrassato, coeterum vero immuttito. *Rax* *his* carnosā fit crtssa, punctulata, flavicans. *Cart*> pallid^ rubra, mollis, lineam crassa. *Semina* (fig. 11, 12, 13, 14.) dua, fusca, horizontaliter unum super alterum posita, *seplb* pulposo separata?, reniformia, leviter complanata, lateribus convexis, obtusa, hilo sarsum, i. e. versus apieiriam verticis baccae spectante. *Integumentum* exterius crustaceum, laeve, sub lente'ininutimpunctulatum; *interiustenxn^umxm*, perispermum\* arete involvens. *Perispemmm* album, carnosum, teres, in figuram semilunarem curvatum, extremitatibus obtusis approximatis, dorso convexo notatum fascia vascu\*

lorum tenui fuscâ; alterd. extremitate exsculptum cavitate minute, embryoniferS, superficiei apicis proximo. Embryo minutissimus, subglobosus, albus. *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 PROPINQUA, Wall TAB. 15.

Dioica, polyandra; *Jloribus* subfasciculatis, erectiusculis; *pedunculis* petiolum vix aequantibus, medi6 bracteatis; *antheris* sessilibus, immersis; *baccis* dispermis, spigatis; *rachi* tuberculosaL

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

*Frutex* ramosissima, valubilis, glaberrima, ramis, gemmisque ut in priore specie. *Folia* 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 acutiusculd., carnosa, firm a et fragilia, 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.—*Petiolutus* crassiusculus, brevis, semipollicaris, coeterum ut in antecedente. *Stipulae* nullse.—*Flores* axillares, solitarii vel geminati, illis dimidió minores, fere inodori, leviter nutantes, patentissimi, initio pallidé flavi, dein aurantiaci, dioici, sestivatione in globulum pisi magiitudinis irnbricati. *Pedunculus* teres, petiolum subsequans, nunc tertid parte brevior, basi squamuli» duabus lanceolatis, emarcidis, deciduis, versusque medium instructus *bracteola* carnosA, semiamplectente, ovat&, obtusâ patulA, dorso convex^, persistente. *Masculorum* (fig. 1,2.) *sepala* novem, ternario oitfine alternatim disposita, patentia; *exteriora tria* valde parva, ovata, insequalia; reliqua subrotunda, crassa et coriacea, membranaceo-marginulata, sub lente punctulata, prioris speciei dimidio minora.—*Antherce* (fig. 3, 4, 5.) parvse, lanceolate sessiles, duodecim ad quindecim^ tessellatim immersae receptaculo carnososo, subgloboso, demum valvularum trian^gularium adinstar hiantes leviterque reflexae\* biloculares, dorso carnosae, apice libers, loculis, parallelis, distinctis lateraliter dehiscentibus.—*Foeminei* (fig. 6,7.) quoad sepala masculis simillima.—*Ovaria* (fig. 8.) minima, valde numerosa, oarnosa, ovata, supra et intus marginulâ parum elevate notata, imbricata in acervulum subglobosum. *Stylus* nullus. *Stigma* prioris.—*Bacca* (fig. 9, 10.) globosae, carnosae, numerosae, laeves, coccineae, parum mino^es quam in antecedente, fabricâ vero internâ omnino similes, dispositas in spicam brev6 pedunculatam, sexpollicarem, cylindricam, rachi parum incrassatd, valde asper& propter tubercula numerosa baccas adfigentibus.

## OBSERVATION.

This is altogether a smaller species than *K- grandibra*; particularly the flowers. It approaches to *Schisandra coccinea*, Mich. Flor. boreal, amer. 2. p. 211). t 47. and Curt, bot. mag. 34. n. 1413. The flowers are at fir/st 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 apices 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, *Dunal*

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

*Kudsura*, Jussieu, in *Annal du Mus.* 16. p. 340.

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

*Ueariajaponica*, Linn. *spec. plant.* 756.—Thunb. *jap.* 237.

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

*Drymis*, F. Hamilton, *Icon. pict. in hort. bot. Calcuttas asservata.*

*Futó Kádsnra*, sive *Sáne Kádsura*, aliis *Orenj Kádsura*; *Kenkoo*; Kaempf. *amoen.* p. 47G et 785. tab. 477.

Crescit in moijtosis prope Sylhet, ubi detexit beatus M. R. Smith—Specimina tam viuentia quam sicca njsit collector horti hujus F. De Silva.—Floret sub initio pluviarum; fructus maturos profert Octobre, Novembre.—In horto botanico Calcutta floruit prim& vice Junio, 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 *Ks 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* cyinancus, iauce aequali, 5-dentatâ; fructifer clausus. *Corolla* bilabiata; labiom supenus fornicatum, bidentatum; inferius trilobum, lobis lateralibus fauci ampliatæ utrinque insertis, intermedio minore, integro. *Stamina* adscendentia; *antherarum lobi* divaricati, nudi. *Stigma* bilobum, lobd superiore breviorè. *Ovufa* solitaria, pendaia! Achenia maxima, alata. *Perispermum* copiosum. *Embryo* erectus.

*Habitus.* Frutex latè volubilis, supernè tomento stellato, ferrugineo: ramijuniores alternatim compressi, subarticulati. *Folia* ovalia, serrata, scabriuscula, odore debili aromatico. *Flores* pulchri, coccinei, fasciculati, axiilares, subverticillati, mine subracemosi.

*Syst.* Linn. *Didynamia Gtfnnospermia.*

*Ordo.* natural. *Labiatae.*

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.

Lcgi in variis montibus Napalae : Chesapanee, Chandaghiry, Sheopore; etiam in Bylvis minus\* elevatis Suembonath, Gokurna, &c. Floret sub fine pluiarum et tempore frigoris, ab Octobre usque ad Februarium. Fructus maturescunt Martio:

Nomèn Parbutteum *Aesinallae*; Newarrensè *Goontomah*.

*Frutex* ampla super alias frutices arboresque minores volubilis. *Rami* longissimi, orgyales, obsoletè tetragoni, pennam cygneam ad digitum crassi, a punctis minutis, copiosis scabriusculi, tomento parco hinc inde cons per si, dilutè ferruginei; *juniores* gracillimi, obsoletè 4-angulares, sulcis\*duobus oppositis notati, ad insertionem foliorum, alternatim dilatato-complanati lineâque elevatâ annulari subarticulati, tomento vestiti denso, ferrugineo, lepidoso, stellato, ciliato, friabili. *Folia* opposita, ovata, acuminata, 3-5\* pollicaria, vetusta duplo major a, patentia, obtusè crenulata, basi acuta integriora, utrinque a tomento parco asperula, supra atro-viridia, rugosa, opaca, subtus pallida, costâ nervisque suboppositis, arcuatis, prominentibus, tomentosus, venis transversim reticulatis; novella densissimè tomeitosa, incana. *Petioles* unguiculares, semiteretes, tomentosi, suprâ plani\* *Flares* (fig. J.) magni, inodori, fasciculati, plerumque ternati, axillares, subverticillati; verticilli nunc brevissimè pæaunculati, saepius fere sessiles, in ramulis junioribus approximati, subracemosi. *Pedunculi* teretes, patentes, petiolo triplo breviores, tomentosi, basi, nunc quoque medio, *bracleolis* duabus oppositis, linearibus, pè^sistentibus muniti. *Calyx* (fig. 2.) basi subcylindricus, sursum ampliatus et subcam panulatus, membranaceus, scariosus, persistens, semuncialis, tomentosus, intus laevis, vitidus, obsolete 5-nervius, reticulatus, leviter incurvus, dorso parum convexior, limbo 5-dentato, patentiuscuto; dentibus triangulari-ovatis, acutis, uni-nerviis, post florescentiam clausis et subvalvatis. *Corolla* (fig. 4.) coccinea, calyce duplo longior, villis canis, mollibus, brevibus, hyalinis, articulatis extus obsita; tubus brevis, cylindricus, inclusus, mox ampliatus in faucem ventricosam, lateribus leviter compressam,\*subtus foveolatam, perviam, nudam. *JLimbus* bilabiatus; *labium superius* adscendens, ovatum, fornicatum, apice bidentatum, dentibus lanceolatis, obtusiusculis, basi dorsi leviter contracta; inferius majus, patens, tripartitum, lobis integerrimis obtusis, lateralibus obliquè 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, haud plane ab illa recondita, sinibus (more familise, ut dudum monuit eel. R. Brown in Prodr. Fl. Nov. Holl. 1. p<sub>H</sub> 500.) interlabialibus, primariisque labii inferioris, intra faucem inserta. *Tilamenta* crassiuscula, linearia, villosa, colorata/apice parum dilatata et incurva; superiora duo breviora. *Antherae* parvae, oblongae, nutantes, purpurascens: lobi divaricati (sursum et deorsum), nudi, obtusi, rina continue longitudinali et quasi conunum dehiscentibus, *polline* flavo majusculo. *Ovaria* quatuor% oblonga, planiuscula, apice parum obliqua et crenulata, imposita *disco hypogynv* annulari, angusto, obsoletè quadri-loba, flavicantif tentro. parum elevatiore subconico; unilocularia, monospora: *ovulum* teres/ ex apice placentulae erectae, fungosae pendulum! *Stylus* filiformis, laevis, purpurascens, longitudine staminum, unacumillis adscendens. *Stigmahilohum*, lobissubulatis acuti^, patulis, superiore dimidio brevior. *Aclfinta* (fig. 7.) quatuor' (rarius unum duove cassa), grandia, calyce (fig. 6.) persistente, baud aucto, dentibus conniventibus subvalvatis clauso parum breviora, iejus fundo, supra discum bypogynum fere immuta-

turn inserta, erecta, glabra, exsucca, basi obalia, conniventia, convexiuscula, intus obtusè carinata subtrigona, apice terminata alâ membranaced, partim recurv&; oblong&, extremitate subtruncatâ hinc Convex^, inde acutâ, levissimè crenulatâ, margine altero rectilineo, subsulcato, crassiore, altero (exteriore) convexo scindente; epidermide obducta tenuissima, fuscescente'; 1-locularia 1-sperua, indehiscentia. .*Semen* (fig. 8, 9.) obovatum, compressiusculum, obtusum, basi acutiusculum, album, laeve, infra apicem *suspension funiculo* longiusculo, descendente, supra basin placentae 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. *Plwnula* inconspicua. *Radicula* conica, acuta, brevis, iufera.

## OBSERTATIO.

Genus pulcherrimum, *Leucadi*, Burm. (R. Brown 1. cit. 504.) et *Dracocephato* quodammodo affine, ab utroque et a tota fere familia diversum fructus magnitudine et forma, positione ovuli penduli seminisque suspensi, et perispermo copioso. Odor foliorum partiumque novellarum citrinus, debilis. *Wall. loo. cit.*

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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 suiniit 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 Kumaon and Sirinagur. This shrub is exactly like the preceding in height and statijfe. 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. 'J his plant may be ealUd *Colquhounia vestita*.

**BEAUMONTIA, Wall.*****Echitidis* species, Roxb.**

*Calyx*- quinquephyllus, foliaceus, coloratus. *Corolla* campanulata, tubo brevifauce- que esquamatis, laciniis subsequilateris. *Stamina* filiformia laxa, *antheris* subexsertis, sagittatis, medió stigmati adhaerentibus, locis posticis polline vacils. *Ovarium* biloculare, suffultum *annulo hypogyno*, quinquelobo. *Stigma* oblongum, apicula b^fida. *Fbllicnli* duo maximi, cohaerentls. *Semina* ad iimbilicum sericeo-comosa.

Classis Linneana : *Pentandria monogynia*.

Ordo naturalis, *Apocynae vertB*.

*Habitus*. *Trutex* maximus, volubilis, lactó copioso farctus. *Folia* opposita, perennantia, magna, oblongo-obovata, juniora, uti rami novellii, ferruginei, ciliis««Killaribus et interpetio. Laribus subulatis, sphacelatis. *Cymte* terminales, bracteaifce, pedunculisbreribus ardculatis pa rum ramosis, dichotomis. *Fbres* maximi, istos *Portlandiae* æmuli, nivei speciosi, fragra«ites. *Sepala* magna, bracteiformia, rubicunda, vasculosa. *Fructus* eviin? dricus, pendulus, cucumerinus, gigauteus; demum in duos secedens folliculos. *Coma* umpla, sericea.

Genus hinc *Parsomiw* illinc *Lyon&ias* affine, ab ill} diversum figurâ oorollice, abbacc'.

cofolliS. fructuque. Nominavi in honorem Dominae Dianae Beaumont, scientise botanicæ et horticulture in Anglia devotissimæ earundumque faultrici munificæ, cujus benignitati hortus Calcuttensis plurimas debet plantas exoticas præcipue Europæas.

BEAUMONTIA GRANDIFLORA, Wall. TAB. I.

*Echites grandiflora*\* Roxb. hort. beng. p. 20.

Incolit sylvas depressas montanasque Bengalæ orientalis, Chittagong, Sylhet, coet. Etiam habui e Noakote, Napalæ. *Floret* a mense Februario usque, ad finem Aprilis. *Fructus* maturescunt post integram annum.

T Nomen bengalense: *Dliootura Lula*, propter forraam florum, istos *Datura* quodammodo referendum; nomen quod etiam convenit *Biittneria* asperse, Colebr. (vid. Roxb. flor.ind, 2. p. 38ff.)

*Frutex* ramosissimus, prævalte super arbores volubilis, nunc juxta terrain longè latè que extends, valde frondosus, trunco crasso, cortice cinerascete, spongioso. *Itami* longissimi, nutantes, robusti, valde lactescentes, cylindrici, cinerascetes, dum juniores toruento ferrugineo, copioso, brevi, mollissimo obteeti, supernè obsoletè quadrangulares. *Folia* opposita, intersti<sup>l</sup>ngiora, patentia, snbdependentia, oblongo-obovata, apice rotundata cum acumine<sup>i</sup>, angusto; basi parum an<sup>ustata</sup> et acutiuscula; undulata, integerrima, supra lucida, atro-viridia, laevia, subtus pallidiora, opaca, costà crass<sup>a</sup>, nervisque elevatis, suboppositis, obliquis, ad luargines anastomosantibus, albicaatibus, puberulis, coeterum glabra, venis magnis, inter nervos transversalibus, parallelis, approximatis; chartacea, sex- ad octopolliearia, quin, in luxuriantibus nempe ramis, pedalia; *juniora* subtus, juxta vassorum tractus ferruginea. *Petioles* teretes, crassi, semipollioares ad pollicares, supra leviter sulcati, aequales, pubescentes, nunc ferruginei. *Stipulæ* nisi corpuscula quaedam glandulosa, subulata, spliacelata, in omnibus axillis recondita, quandoque serie simplici trans ramum migrantia. *Cyma* inagna terminalis, ovata, octo ad duodecimflora, rarius subaxillaris foliorum paris supremi, ad basin saepe aucta foliolis aliquot parvis floralibus lanceolatis, fere sessilibus. *Pedunculi* breves, crassi, articulati, bis terve dichotomi; *pedicelli* pollicares, subcomplanati, bi- triflori. *Bracteæ* magnæ, membranaceæ, sparsæ; plerumque solitariae ad divisuras, subimbricatae, villosæ, deciduæ, ovatae, acutæ, undulatæ, semipollicares, e viridi ruiescentes, venis reticulatis, ferrugineis. *Illores* plerumque terni, nivei, initio parum viridescetes, deuium flavicantes, admodum fragrantæ, quinquepolliares. *Calyx* (fig. 1.) magnus, quinquephyllus. *Sepala* ovato-lanceolata, cuspidato-acuta, undulata, villosa, pallidè viridia vel albicantia, ferrugineo-reticulata, erectiuscula, subimbricantia, bracteis figura et colore similia. *Glandulae* subulatae, ininputae intra singulum sepalum serie regulari ordinatæ, basi corollæ adpresse. *Corolla* coriacea, crassa, campanulata, extus pubescens, intus laevis, nitida, longitudinaliterque nervoso-sulcata, quatuor pollices longu, limbo patente, quinquefido, tres polliares emetente, fauce amplâ, nudâ, pervid; deorsum sensim attenuatâ contracta in *tubum* viridescentem, semipollicarem, intus a filamentorum basibus decurrentibus costâ tantum, calyce parum breviorum. *Lacinie* ovatae, acutæ, planæ, patentæ, lateribus subaequalibus, basi parum contractæ, aestivatione imbricatæ in conum ventricosum. *Stamina* (fig. 2.) parva, extra faucem parum prominula, flaccida. *Filamenta* filiformia, carnosa, laevia, alba, leviter compressa, basi tubo intus adnata, stylo parumper breviora, ideoque parum curva, apice leviter incrassata. *antheræ* ovato-sagittatæ, acuminatæ, dorsogibbosae etcarnosae, stigma occultantes, huicque medio adnatæ, corpus formæ antea ovatum, leviter pentagonum, acutum; utrinque longitudinaliter loculo angusto dehiscentes; lobis positico longis, subulatis, conniventi-ihcurvatis, liberis, polline vacuis. *Pollen* pallidè flavescens. *Ovarium* parvum, ovatum, pilosulum, biloculare, polysporum, *ovulis* numerosis, insertis placenta icteriori, carnosæ, jsepto adnatæ; inmersuui et fere occultum *annulo*

*Jtypogyno* carnosus, convexo, subquinelobo, flavescens. *Stylus* (fig. 3.) filiformis, laxis, apice clavatus dilatatusque in *stigma* oblongum carnosum, glutinosum, medio antheras adfigens, apiculâ bilob& tenninalum. *Folliculus* (fig. 4.) maximus, oblongus, subcylindricus, obtusus, viridis, demum lutescens, glaber, nunc parum tuberculatus, basi re-tusus, pedunculo lignoso crasso brevi insidens, pendulus, pedalis, diametro tripollicari, lignoso-coriaceus, plen& maturitate longitudinaliter debiseens in duos lobos (fig. 5.) re-uales, extus convexos, intus planos et parallelôs, parum distantes. *Ca^o* valde eras-sus, coriaceo-spongiosus, longitudinal iter lignoso-fibrosus, initio rufescens, demuin fus-cus. *Dissepimentum* nil nisi latera interiora utriusque lobi incurva, plana, parallela, eras-sa, coriacea, e basi usque ad apicem rim& longitudinali intus placentifer& fissa. *Lo-culamentum* in singulo lobo unicum, oblongum, turned valde nitida, laevi, albâ vesti-tur. *Receptaculum* (fig. 5., tenue, membranaceum, sublineare, fora mi nib us pluribus ky ^ giusculis pert us urn, retiionne, apieibus adfixuin *placentce* gracili, longse, dehiscemur demum liber urn.—*Semina* (fig. 7, 8.) valde numerosa, densé imbricata, pendula, cunei-formia, pollicaria, angulata, papilloso-rugosa, fusra, *raphi* longitudinali ventrem, percur-rente utnbilico parum contracto#et excavato, coinoso. *Membrana* exterior fusca; sub-spongiosa; *interior* tenuissima, albumini arete' apphcata. *Coma* dei sa, longa, sericeo~splendens, setulâ minutâ, ex umbilico ortâ, quasi stipitata, semine ipso duplo longior.—*Albumen* conforme, carnosum, lacteum. *Embryo* (fig- 9, 10.) niveus, carnosus, lactes-cens. *Cotyledones* inaximae, crassae, oblong, obtusue, doHiaconvexiusculo venulosee. *Hadicula* supra, cjilindrica, brevis.

## OBSERTATIONt

This ttuly 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 extreme-ly ornamental; chiefly, however, when covered to excess by its ample bunches of superb, snow-white, most delightfully fragrant blossoms, when it is also clothed Vith a profuse-ness of dark green, shining, large leaver The fruit is probably the largest of the whole tribe, being twelve inches long, sometimes even longer, and proportionally thick, han<#< iu# down perpendicularly, not unlike like a large green cucumber. It is produced in great plenty; its internal structure is extremely etegant, 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 lasers ; in short, I know of no vegetable production, ni9re noble, more desirable, more ornamental in all its stag-es 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.

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

*Calyx* 5-partitus. *Corolla* infundibuliformis: limbo patente ð-fido subaequali. *Sta-mina* 4, aequali, antheris nudis, liberis. *Stigma* simplex, acutum. *Bacta* j;lobosa, exsucca, incompleté 2-locularis, polysperma, *dissepimento* placentifero sursum fi&so.

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

*Ord.* Natural. *S.rophularinae*, Brown.

*Halitus.* Herba gracilis, repens piiosula. *Folia* dupjicis indolis; CUulliu el rainca orVictdato-ienifonnia, opposita, subsessilia, dentata; alia acerosa, graciljima, cqjnferta



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

### HEMIPH1IAGMA HETEROPHYLLUM, *Wall. he. tit. 612.—TAB. 8.*

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

*Caudis* gracillimus, pedalis bipedalisque, prostratus, per distantiam pollicum trium vel quatuor radicans, radiculis simplicibus, pallidis, fibrillosis; obsolete quadrangularis, epidermide fuscescente, secedente. *Rami* pauci versus extremitatem caulis, tenerrimi, Breves, indivisi, oppositi, acutanguli, asperuli a pilis brevibus, articulatis, patentibus, hyalinis. *Folia* biformia. *Caulina* ovato-cordata, subreniformia, plana, patentia, membranacea, citius emareescentia, oppositaet fere amplexicaulia, brevissime petiolata, unguicularia ad pollicariai remota, interdum pollices plures distantia, obtusa, acutiusculè et lato-dentata, lobis baseos integris, rotundatis; utrinque pilosula, subtus trinervia leviterque reticulato-venosa, siccitate ferruginea; superiora et ramea ovata, vel suborbiculata, pauca, bracteiformia, illis ter quaterve minora: *Folia alia* subulato-acerosa, bi- vel trilineararia, semiteretia, supra sulcata, pilosula, acuta, laetè viridia, nitida, sessilia, undique patentia, 20-30-circiter conferta in *fasciculis* (fig. 1.) ovatos, unguiculares, brevè petiolatos, patentes, axillares et oppositos foliorum caulinarum, vel terminales. *Petioles* foliorum majorum vix bi-lineares, supra sulcati, pilosuli, lineolâ elevata tenerrimâ caulem, vel ramum ambientes. *Stipulae* nullae. *Flores* (fig. 2, 3.) parvi, solitarii, axillares foliorum, vel terminates fasciculorum, *pedicello* insidentes brevissimo, villosi, ebracteati. *Calyx* (fig. 4.) subovatus, persistens, densè villosus, profundè quique-partitus, *laciniis* patentiusculis, linearibus, purpureo-acutis. *Corolla* (fig. 5.) rosea, calyce duplo major, infundibuliformis, glabra; *tubus* obsolete tetragonus, medio ventricosus, flavescens; *limbus* patens, quinque-raro sexfidus, admodum obscure bilabiatus, aestivatione imbricatus, *laciniis* ovalibus, obtusis, nunc subretusis, duabus superioribus parum latioribus *faux* pervia, nuda. *Stamina* quatuor, aequalia, parum supra faucem elevata, medio tubi inserta; *antheris* ovatis, erectis, parum conniventibus, utrinque longitudinaliter dehiscentibus, nudis. *Pistillum* staminibus parum brevius; *ovarium* (fig. 6, 7.) subrotundum, laevè, *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 patentia simo, haud tucto, 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 hiatus inverse triangulari, aetate ultra medium baccae deorsum extenso. *Placentae* duae, semilunato-bicornes, spongiosae, convexae, hiatus 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, semini conforme. *Embryo* dicotyledonous. *Radicula* centripeta.

#### OBSERVATIO.

Plantula elegantissima *Scrophularinis* potius quam *Gentianeis* Juss. adsclanda, ab his discrepans coloribus staminibusque, ab illis quadammodo abluens structurâ fructus.

An *Solanearum* civis? Nomen imposui a septo incomplete, quasi dimidiato.—Watt\*  
I cit>

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. jfor. ind. 2.p. 18&. TAB. 9.

Foliis lanceolatis, acuminatis; racemis axillaribus, solitariis; ovario triloculari; drupk ovatâ, mono-spenua.

Nomen Parbutteanum: *HaloomapJie*.

Crescit in sylvis minus elevatis Napalire, a Bechiaco, usque ad con vail em magnain, ubi satis frequens. Etiam incolit loca magis elevata, septentrionalia. Floret sub plu-  
\iis; fructus maturescunt Decenibre-Martio.

Arbuscula, *trunco* irregulari, diametrmn pollicum tres vel quatuor emelicnte, *cortice* crasso, spongioso, molli, rugoso, ex albido flavescente; *ligno* levi, cinereo. *Rami* teretes, albicantes, leviter flexuosi, uti reliquæ partes glabdrrimi; *gemmae* copiosae, parvse, squamis constantes numerosis. *Folia* sparsa, approximata, interstitiis pluries long]-ora, bi-tripollicaria, integerrima, lanceolata, acuminata, basi^cuta, lateribus parum inaequalia, subcarnosa, fragilia, avenia, suprâ atro-viridia, lucida, subtus palJida, nenis aliquot obsoletis, obliquis, capillaribus, ad marginem reticulatis; 'setate flavicantia. *Petioli* trilineares, teretes, suprâ sulcati, basi articulati, siccitate mox decidni\* *Stipules* mil lee. *Flores* (fig. 1,2.) flavi, fragrantissimi, dispositi in *racemos* simplices, axillares, sessiles, tenuos, folio dimidio breviores. *Pedunculus*, uti *rachis*, gracilis, teres, nudus, basi fircumdatus squamulis gemmaceis, mine parum ultra adscendentibus, bracteolas mentientibus crassas, ovatas, subpedicellatas, gibbosas. *Pedicelli* sex vel septem, filiformes, sibclavati, unguiculares. *Calyx* (fig. 3.) parvus, duplex (jndicio authorum) Uterque monophyllus: alius inferior (*hractea calyciformis*, mihi) pedicelli apici insertus ovariumque suffultiens, divisus in lobos duos tresve ovatos, acutos, insequales, membranaceo-marginulatos, intermedio majori nunc bi- \el tridentato; alter (*calyx verusj* superior, obsoletus, margine angustissimo, integerrimo ovarium coronans. *Corolla* (fig. 4.) subcarnosa, infuhdibuliformis; *tubus* cylindricus, unguicularis, basi obscure pentagonus, apice leviter ampliatus in *limlum* qiiinquetidum, laciniis lanceolatis, acutis, aestivatione talvatis, vix inaequalibus; *faux* pervia, aS basin singulae lacini^ munita fasciculo pilorum succulentorum minnto, erecto, filamentum becultante. *Filamenta* brevissima, erecta, snbulata, laciniarum basi, infra acervulos istos pilorum inserta, iisdemque opposita, inde per tubum lineis capillaceis decurrentia. *Anthera* ad faucem corollae erectae, biloculares. *Ovarium* (fig. 5, 6.) carnosum, oblongum, calycibus mnltto longius, lineas tres emetiens, vertice gerens di^cum carnosum, latum, conicum, obtusum, intra corollse tubum prominulum; triloculare, trisporum. *Ovula* cylindrica, loculis breviora, ex xipice axis pelidula. *Stylus* filiformis/tubi longitudine. *Stigma* clavatum, carnosum, parvum, trilobum/ *Drupa* (fig. 7, 8.) baccata, oblonga, obtusa, laevis, ex albo flavescens, magnitudine fete fructus Oleae sativee, calyce sic dicto inferiore, persistente suffulta, vertice"inscripta vestigtfs insertionis corolla: et calycis superioris fere oblitteratis. *Caro* mollis, lincam crassus. *Putamen* (fig. 9.) lenue, chartaceum, oblongum, album, lineis numerosis, parallelis, longitudinalibus, ele\atis, anastomosantibus notatum, uniloculare, monospermum, vertice uaibilicatâ carni arctius adhaerens. *Perispermum* (fig. 10.) amjgdalinuin, album, putamini conforme, parum rugosum. *Integumentum* simplex, tenuous, ferrugineum, spongiosnm, ad verticem seminis notatum vestigiis linearibus ovariorum duorum abortivorum et axis ovarii. *Embryo* (fig. 11, 12.) minutus, lacteus, cylindricus, rectusj ad verticem perispermi locatus, invereu^ *Cotyledons* parallels, ovatae,

obtusae, dorso convexae, dimidium ipsius embryonic emetientes. *Radiada* supera, sub\*  
 turbinata, lineam demidiam e superficie perispermi remota. *Plumula* inconspicua.

## OBSERVATION.

Mons. de Jussieu has justly observed in an excellent memoir<sup>e</sup> chiefly on the families  
 of *Caprifoliacea* and *Ijoranthece*, inserted in *Annal. du muséum d'histoire nature* lie, 12.  
 p. 300, that this genus is the connecting link between those families, belonging, however,  
 more properly to *Ltoranthea*\*. I would add that it is nearly allied to *Santalacea*? 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 abortives remaining attached to the upper end of the cavity of the pu-  
 tamen, as does also the axis of the ovarium, in the shape of withered, flattened threads.  
 —*Hacnkea*, 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\*  
*Notelaea*, Vent, according to Mr. Brown, (*prodr. nov. holl.* l» p. 523).—The perfume of  
 the flowers is of a most delightful kind, and may be perceived on steeping them in warm  
 water even long after they have been dried.—*Wall. loc. cit.*

SPHAEROCARYA, Wall, in *Roxb. Jlor. ind.* 2. 371-

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

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

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

## SPHAEROCARYA EDULIS, Wall TAB. 10.

Naud rara in sylvis vallis Napalise montiumque vicinis. *Floret* Aprili, Majo. *Fruct.*  
 Octobre.

Nomen Newarrene *Lushpoo*; etiam *Eal-Mitrisee*.

Nomen Parbutteuni *Bun-Amb*.

Arbor frondosa et umbrosa, cortice cinereo. *Ramidi* teretes; juntores, foliaque tenella  
 oblecta villis longis, sericeis, nitidis, copiosis. *Gemmy* (fig. 12.) majusculae, ovate,  
 sericeo-piloseae, squamis imbricatis rotundatis. *Folia* alterna, patentia, ovato-oblonga,  
 acuminata, integerrima, basi acuta, marginibus subrecurvatis, supra laevia, lucida, juxta  
 nervos sulcata, subtus pallidiora, costis nervisque paucis alternis, obliqui<sup>e</sup>, villosis, ele-  
 vatis, venis reticulatis; <sup>4</sup> Sarcinos<sup>a</sup>, tri- ad sexpollicaria, in luxuriantibus ramis usque ad  
 novem-pollicaria, decidua, tempore florentiae genninantia. *Petiolus* vix semi-  
 imguicularis, convexus, supra sulcatus. *Stipufa* nullae. *Ilacemi* solitarii, subsessiles,  
 termi<sup>a</sup>les vix axillares foliorum <sup>u</sup>premorum? dense villosi, bi- tripollicares. *Flores*

(fig. 1,2.) pauci, alterni virides, inodori, parvi et inconspicui, *pedicellis* insidentes brevibus, clavatis carnosus, nudis. *Calyx* superus, quinquepartitus, una cum corolla, emarcescens, persistens; *hinc* (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. *Antherae* erectae, biloculares, albas. *Squamulae* quinque minutissimae, pilis fasciculatis succulentis barbatae, inter filamenta et lacinias insertae. *Ovarium* (fig. 5, 6.) inferum, clavatum, majusculum, nitidum, pubescens, vertice, intra florem, concaviusculum, uniloculare, monosporum. *Ovulum* succulentum, oblongum, erectum, elevatum chorda spirali, carnosum, subdiaphragmate fundo ovarii insertum, perque canalium proprium angustum in cellulam oblongam, propriam ovuli conductam. *Stylus* brevis, cylindricus. *Stigma* convexum, obsolete bilobum. *Drupa* (fig. 7, 8, 9.) pyriformis, pollicis duas et dimidium longa, sesquipollicem crassa, epidermide obducta luteo-viridi, tenaci; extremitate superiore rotundata et excavata foveola centrali profunda lacinias calycinas incrassatas, petala filamenta stylumque emarcescens occultante ante; basin versus attenuata, cuneiformis; unilocularis. *Caro* pallide fuscum mollis, subglutinosus, tertiam pollicis partem crassus, fibroso-vascularis. *Nux* (fig. 10, 11.) solitaria, magna, globosa, glabra, sine ulla sutura, cavitatem omnino replens eaque firmiter adherens, hinc inde notata foveolis parvis carni arctius adherentibus, vertice obsolete apiculata, basi parum scabra perforata foraminulo exiguo. *Putamen* circumferens, vix lineam crassum, uniloculare, monospermum. *Perispermum* amygdalinum, album, nuci conforme, usque ad medium perforatum canaliculum obsolete e fundo seminis, prope foraminulum istud putaminis surgente, sursum obliterate, vestigium chordae ovuli includente. *Integumentum* simplex, ferrugineum, tenue. *Embryo* albus, oblongus, brevissimus, intra verticem perispermi oblique locatus. *Cotyledones* oblongae parallelae, *Stipulae* supra, conicae.

## OBSERVATION.

The inhabitants of Kipal 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 NAPALENSIS, *Wall.* TAB. 11.

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

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

Frutex tenuis, ramosa, glaberrima, scandens et volubilis. *Caulis* gracillimus, cortice tectus gryseo. *Rami* longi, gracillimi, vix filo emporetico crassiores, pallidi, glauci; tenelli pubescentes. *Folia* petiolata, alternantia, interstitiis paulo longiora, ovata, cordata, cuspidulato-acuta, integerrima, nunc obsolete crenulata, sinu basos parvo, lobisque rotundatis, nunc (basi folii rotundata) fere obsolete, bi-tripollicaria, membranacea, laevissima, valde glauca et opaca; pagina superiore interdum variegata maculis amplis, albifloribus, inferiore tri-vel quinque-nerviata, nervis gracilibus, in junioribus foliis puberulis, exterioribus brevissimis, parum reticulata, ad basin costae, utrinque glandula orbiculata, sessili, plano-convexa, viridi, lucida, nunc geminata, quandoque pluribus

inter nervos vagis. *Petiohis* teres, gracilis, filiformis, supra sulcatus medioque, vel paulo infra, glandulidubus, parvis, cylindricis, brevibus, alternantibus, approximatis. *Stipula*\* ntiliae, nisi ciliee axil lares, subulatae, minutae, carnosae, fasciculate, emarcescentes. *Cirrho* axillares, solitarii, filiformes, spiraliter torti, indivisi, laeves, nudi, folio sesqui vel duplo longiores. *PedtmcuK* 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 iridescentes, inodori. *Perianthium* decempartitum, patentius recurvum, fundo convexo, parum prominulo; *lacinae* oblongo-lineares, obtusae, membranaceo-marginatae; alternre angustiores, petaloidese. *Corona* triplex, concolor: *exterior* setaceo-multiradiata, patentissima, perianthii foliolis plus dimidio brevior; *media* huic proxima, baud vero contigua, plicato-multifida, inflexa, basi urceolata, lobis (fig. 3.) lineari-lanceolatis, versus columnam conniventibus, acutis, propter margines sursum revolutos supra canaliculatis; *intima* constans anulo obsoleto, angusto, integerrimo/puberulo, basin pedicelli ovarii purpurascens cingente. *Columna* perianthio brevior. *Filamenta* subulata, recurvato-patentia. *Antherae* ovatae, leviter deflexae. *Ovarium* ovato-subglobosum. *Styli* devaricati, filamenti breviores. *Stigmata* clavata. *Sacca* (fig. 4.) sphaerica, nuda, laevis, flava, diametri linearum trium.

## OBSERTATION.

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 Pluiner and the other by Pison. 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* be 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 Nipal.

## LILTUJI GIGANTEUM, Wall. TAB. 12. 13.

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

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

*Liliwn candidum* Thunb. jap. p. 133?

, Crescit in monte Sh'epore, versus medium ejus, ad loca humida, umbrosa.

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

*JBulbi* ovato-globosi, aggregati, magnitudinis pomi mediocris, vetustati maximi, constantes squamis pluribus crassis, oarosis, ovatis, truncatis, planiusculis, glabris, subpatulis. *Caulis* striatus, cylindricus, uti tota planta glaberrimus, cylindricus, sulco laterali alternatim interrupto seepius notatus, e basi, diametriim pollicarem ad bipollicarem emetiente, sequaliter 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, mom\*

bracteata, patula, petiolata, quaedam remotiora, alia approximiora, saepe interstitiis plus duplo longiora, lato-ovata, cordata, attenuato-acuminata, sinu profundo subdecurrente, lobis latis, rotundatis, distantibus, leviter repanda et undulata, membranaceo-marginulata, nitida, supra saturate viridia, subtus pallidiora, costa ampla, crassa, albicante, nervis obliquis, distantibus, venis capillaceis, feticulatis; venula insuper indivisa, submarginali; inferiora maxima, ovipollicaria ad pedalia, longius petiolata, superiora sensim minora, minus profunde cordata, summa tripollicariti, brevissime petiolata, gracilius et longius acuminata basi subprofundata, subintegra. *Petioles* crassi, sulco lato canaliculati, marginibus scindentibus, basi latissimi et tertiam caulis partem amplectente, infini folia sequentes vel superantes, superiores iisdem his *teve* breviores, summi brevissimi, latissimi, pollicares vel infra, marginati. *Flores* maxime, infundibuliformi-campanulatis, oblique nutantes, octo ad decem dispositi in racemum amplissimum, terminalem, nudum, pedalem vel squipedalem; albi, extus deorsum viridescentes, intus rufescentes, fragrantibus; *tubus* viridescens, digitum medium fere crasso, tricostatus, obtuse triangularis, basi retusa inaequaliter subtrilobus, sensim dilatatus in limbo aequaliter patulum, subrevolutum, quadri- ad quinquepollirarem. *Pedunculi* teretes, crassi, breves, semipollicares, recurvato-nutantes. *Flores* ante anthesin virides, deflexi, bracteis obtecti magnis, foliaceis, ovatis, albicantibus, caducissimis, insertionis vestigium infra singulum pedunculum linquentibus angustum, semilunare, utraque extremitate ascendens; praeterea *bracteola* interna, alba, linearifiliformis, ascendens, pollicem longa, supra basin singuli pedunculi inserta.—*Petala* (fig. 3.) oblongo-spathulata, inferiore dimidia parte valde crassa, vix lineas quatuor latam, exteriore dilatata in laminam lanceolatam, acutiusculam, minutim striatam, intus ad margines apunctis minutis densissimis rufescentem; basi subtus gibboso-comata, supraque foveolata, mellifera leviter excavata, pagina superiore sulco exarata longitudinali, extorsum oblitterato; marginibus nunc parum inaequalibus; *tria exteriora* parum latiora, dorso convexo costato; *interiora* thallosa costata, elevata, utrinque sulco exsculpto profundo triangulari petalorum exteriorum recipientem *Stamina* parallela, recta, conniventia, supra faucem floris vix exserta, limbo parum breviora, longitudine parum inaequalia. *Filamentum* alba, carnosa, perianthii basi inserta, sulcibus interiorum incumbentia, cumque illis canaliculam formantia nectariferam, apice teretia. *Anthera* oblonga, obtusae, pallide flavae, rectae, leviter versatiles. *Ovarium* (fig. 4.) oblongum, obtuse triangulare, lineis sex notatum, nitidum, sesquipollicare, triloculare, ovulis orbiculato-planis, fere absque numero placentalibus, in singulo loculo bijugae, duplici serie parallela insertis. *Stigma* crassum, rectum, filamentorum longitudine, infra stigma leviter incrassatum. *Stigma* prismatico-trilobum, obtusum, vertice triangulari, scabro, mucoso. *Capsula* (fig. 5.) ovato-prismatica, angulis obtusis, retusa eum cuspidata, lateribus concaviusculis, basi clavata, pollicem duos et dimidium longa, duos lata, fusca, glabra, coriacea; *valvula*, margine introrsum pectinatee serie simplici ciliarum longissimarum, angustissimarum. *Semina* (fig. 6.) innuniera, 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. t. 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 superb 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, Wall

*Plores* monoici. *Perianthium* hexaphyllum; *foliolis* duplici serie, ordine ternario, alternatim dispositis. *Masculi*: *Stamina* sex parallela, distincta; *antheris* adnatis extrorsis. *Glandulae* 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, nana, completa, pistillorum bases ambientia. *Baccae* saepius tribus pauciores, divaricatae, oblongae, carnosae, sessilis, corticatae, folliculares, intus longitudinaliter dehiscentes, uniloculares, polyspermae. *Semina* nidulantia, oblongo-ovata v. reniformia; *perispermo* copioso; *embryone* minuto, radiculâ inflexâ vel centrifugâ.

Classis Linneana: *Monoecia hexandria*.

Ordo naturalis: *Menispermea mnp*; ab hisce tamē nihil abluens directione horizontali, infera 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, pulpa polysperma. A *Stauntonia*\* De Candolle, differt staminibus baud coalite nee aristatis; a *Bursaia* du Petit Thouars absentia èuro 1 lea (perianthii nempe foliola in nostris plantis unifloria, petaloidea vel sepaloidea) filamentorum basibus distinctis, et fructus fabrica baud drupacea nee monosperma. Abludit praeterea floribus mono-icis, qui in illis dioici vel polygami. *Habitus generalis Jardizabala? biternatae* (in Itinere Perousii, tab. 6, 7, et 8 optimè delineate) magis adhuc, quoad folia, *Stauntonice* accedens.

*Habitus*: *Frutices* magnae, extensè volubiles, gemmiferac, glaberrimae. *Folia* alterna, peltatim digitata, foliolis integerrimis, coriaceis, trinerviis, petiolis omnibus utraque extremitate intumescens et articulatis. *Racemi* fasciculati, subcorymbosi, nudi, laxi, axillares vel ad basin ramulorum, pauciflori. *Flores* albi, extus parum purpurescentes, fragrantēs. *Baccae* magnae, tumidae, purpureae, abortivae saepius tribus pauciores, esculenta?. Genus consecratum amico et praeceptoris carissimo, Frederico Ludovico Holboel, Horti Botanici Regii Hafniensis hortulano dexterrimo, botanico peritissimo, operi Hornemanni *Flora Danica Oeconomica* nuncupato aliisque contributoribus, quique hortum Calcutta ditavit thesauris seminum frequentibus, amplissimis, omniumque fertilissimis

## HOLBOELLIA LATIFOLIA, Wall. TAB, 16.

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

Parbutt. *Gooplea*; *Baegul*.

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

*Frutex* ampla, ramosa, valde volubilis, omnibus partibus glaberrima, surgens e radice lignos<sup>a</sup>, ramosissim<sup>a</sup>. Caulis cylindricus, valde tortuosus, frequenter diametrum pollicum trium ad quinque metiens<sup>or</sup>/fcY0 crasso, suberoso, molli, cinereo, vel flavicante, ligno cinerascens, radiato, paroso<sup>9</sup>, levi. *Rami* lorTgissimi, teretes, cinerei; jnniores flagelliformes, glauci, subcirrhati. *Gemma* magn<sup>re</sup>, ovatae, *squamis* obtectae coriaceis, lato-ovatis, cuspidato-acutis, diutius persistentibus et ramorum novellorum basin ambientibus. *Folia* patentia, petiolata, remotiuscula, peltatim digitata, ternata vel quinata, palmaria. *Petioli* graciles, teretes, supra<sup>á</sup> plani, basi apiceque articulati et oblongo-intumescens, tri-quadruplicares; *partiales* illis simillimi, sed graeviores et breviores, pollicares ad bipollicares, intermedio longiore, dunique tribus plures laterales Ipngitudine decrescentes, utrinque articulato-incrassati, verticillatim patentissimi. *Foliola* tria vel quinque, ovalia, acuta, rarius acuminata, nunc rotundato-acutiuscula, basi rotundata; integerrima\* leviter complicata, apicem versus parumper recurvata, firma et coriacea, laevissima, siccitate flavicantia, tri- ad quinquepollicaria, quin majora, supra<sup>á</sup> atro-viridia, lucida, ad vasorum tractus leviter sulcata, basi, ad utrumque latus insertionis petioluli, notati tuberculo minuto, oblongo, glanduliformi; subtus opaca, pallida, subglabrescentia, trinervia, costá gracili ele<sup>\*vata</sup>, nervis lateralibus in arcus anastomosantes, submarginales delitescens; praeterea nervi e costa lateraliter progrediuntur subtransversales, breves, remotiusculi, alternantes; venae reticulatae capillares. *Stipulce* nullae. *Flores* subcarapanulati, nutantes, albi, semipollicem longi, valde fragrantis, dispositi in racemos simplices, fasciculatos, subcorymbosos, laxos, axillares vel circa basin novellorum ramorum subsparso, petiolis breviores. *Aestivatio* valvata.—*Pedunculati* graciles, subcomplanati; *communis* pollicaris, bipollicarisve, basi saepius squamis gemmaceis aliquot circumdatus; *partiales* filiformes, subclavati, pollicares, basi articulate suffulti bracteolá linea<sup>ri</sup>, membranace<sup>i</sup>, patulá, mox decidua. *Masculi* (fig. J,2.) in distinctis racemis. *Foliolaperianthii* parum carnosa, oblonga, exteriora obtusiuscula, interiora paullo angustiora, introrsum laruso-acuta, *Stamina* (fig. 4,5.) distincta, parallela, recta, contigua, aequalia, perianthio parum breviora, subclavata *filamenta* subulata, carnosa, apice ab antherá denudata, basi extus glandulá carnos<sup>a</sup> sessili, pi aná, ovata, adnata; *anthera* lineares, alba<sup>a</sup>, loculis angustis, remotis, filamenti dimidia superiori parti longitudin<sup>aliter</sup> adnatis, extrorsum delitescens. *Rudimenta* (fig. 3.) pistillorimtria, subulata, carnosa, intra stamina, hisce dimidio breviora. *Floresfbeminei* (fig. 6,7.) masculis parum breviores, foliolis paullo latioribus. *Pistilla* (fig. 8, 9, JO.) tria in centrofloris, parallela, apicem versus leviter divergenti-recurvata. *Ovaria* oblongo-cylindrica, attenuata, foliolis perianthii interioribus opposita; intus obsolete sulcata facileque juxta longitudinem in duas valvulas divisibilis, unilocularia, polyspora: ovulis parietibus undique, salvo sulculo isto, adnatis. *Styl* *It* nulli, nisi apices ovariorum. *Stigmata* simplicia, parva, obliqua, obtusa, sulcata, evfinida. *Stamina* (fig. 11.) sex sterilia, clavata, pistillorum bases circumposita, hisce multo breviora, erecta, filamentis crassis, brevissimis; antheris grandiusculis, polline vacuis. *Bacca* (fig<sup>a</sup>-12,13.) saepissime duae, nunc tres, divaricatae, raro solitariae, apici dilatatae pedunculi lignosi, parum elongati, pseudulinsertae, ovato-oblongae, utrinque <sup>á</sup>btusee atque rotundatae, pollices tres longae, sesquipollicem crassae, atropurpureae, nitidissae, turnidse et torosae, superficie nempeinaequali et undulata, nunc panini senulosae, latere interno inscripta suturalongitudinali, undulata, crassiuscula, juxtaque earn plena maturitate, a basi usque ad apicem dehiscentes in valvas duas aequales, folliculares, crassas; uniloculares, pol<sup>a</sup>spermae. *Cortex* carnosus, tres lineas crassus, intus obtec-



tus *Corticis* tenui, e granis crustaceis vel subosseis conflatis, a carne facile separabili. *Caro* alba, mollissima, spongioso-reticulata, ab axi cylindrica, solidis, carnosis, 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 inscripta *rima 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 aere applicata. *Albumen* amygdalino-carnosum, album, semini conforme, extremitate umbilicali, distantibus minutis ab ipsa peripheria, exsculptum cavitate exigua, mucilaginoso, embryoniferis. *Embryo* brevissimus, vix lineam longus trochleari-oblongus, niveus. *Cotyledones* duae, ovatae, obtusae, contiguae. *Radicula*, cylindrica, dimidiam embryonis longitudinem efficiens, *infera*.

### HOLBOELLIA ANGUSTIFOLIA, Wall. TAB. 17.

*Totolissimis* 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. *Stem* perquam longi, viminei, valde tortuosi et volubiles, aunc radicanes. *Folia* longius petiolata quam in illa specie; *petioli communes* foliolis saepe sesqui ad duplo longiores, superioribus sulcati; novella rubicunda. *Foliola* septem ad novem, in formam ovato-orbiculatam, peltatam, 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 sexpollicaria; intermedium longius, petiolo partiali gracili, pollicari suffultum; lateralia utrinque decrescentia, breviusque petiolata; duo basales reliquis duplo breviora, petiolo brevissimo insidentia; circumscriptio generalis folii hinc subovalis evadit; superficies inferior glauca, reticulata, ad basin obsolete tripervia, 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 bracteolae lineari, patulis, suffulti. *Baccae* (fig. 7.) saepessimè duae, oblongo-cylindricae, pollicem crassae, tres longè undulatae, nitidae, purpureae, latere interiore dehiscentes. *Semina* (fig. 8, 9.) ovato-reniformia, minora quam in priori specie; *embryo* (fig. 10.) in altera perispermi 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 petiole; 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 *JRaianice*, *quinata* and *hexaphylla* (Flor. japon. p. 148 et 149) possibly belong to this genus?

### ARUM NEPENTHOIDES, Wall TAB. IS.

Caulescens, erectum, laeve, dioicum, vaginis petiolisque variegatis; foliis binis, peltatim quinatis, foliolis lanceolatis, acuminatis; spathâ terminali, pedunculatâ, limbo trilobo: lobis lateralibus reniformibus, horizontalibus, intermedio acuto, fornicato; datâ spadice obtusissimâ, nudâ, vix exsertâ, basi truncato-retusâ; staminibus putillisque sterilibus nullis.

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

*Tuber* depresso-orbiculatura, carnosum, fuscum, undulatum, laeve, intus rufescens, vertice comosum radiculis longis, crassis, teretibus, pallidè rubris parum fibrillosis. *Caudis* erectus, Carnosus, teres, bi- usque ad quadri-pedalis, laevis, nitidus, basi pollicem ad duos crassus, vaginis aliquot indutus remotis, alternantibus, oblongis, aretè adpressis, obtusissimis, hinc fissis, infimis brevissimis; medio diphyllus, supernè gracilior, hucus, florifer, pennâ 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. *Foliolae* lanceolata, in acumen gracile attenuata, sessilia, deorsum angustata, basi subacuta, dorso ad drantalia ad spithamæa, inferiora duo hinc gibbosiora; membranacea, laevissima, supra atroviridia, nitida, subtus glauca, costâ elevatâ, nervisque gracilibus, remotis, alternantibus. *Petiolus* teres, laevis, attenuatus, foliolis duplo longior, striis violaceis medio confluentibus annulatus, basi sua, pennam cygneam crassâ, infra apicem vaginae (fig. 2.) in ligulara, brevissimam, obtusissimam productæ insertæ. *Spatha* (fig. 1.) solitaria, terminalis, apice caulis spithamææ & pedunculi in modum elevate laevis, erecta, sepe ad octo pollices longa, extus ex albo viridiuscula, pulcherrimè picta; intus emaculata, fuscescens; subnervia et subavenia; dimidia inferior pars convoluta in cylindrum pollicem crassum, ornatum striis brevibus, violaceis, nimirum prosisainiis, geminatis, longitudinaliter seriatis; *limbus* patens trilobus: lobi laterales orbiculato-reniformes, horizontaliter patentissimi, obtusissimi, sesquipollicares, supra convexi, fusciscentes, radiatim punctati, subtus concavi, albicantes, parallelè venulosi; *intermedium* triplo major, rectè ascendens, ovatus, fornicatus, apice leviter decurvus, subacuminatus, marginibus vix repandis, baseos parum contractæ lateribus recurvatis, sensimque in lobos istos laterales auriculæ formes abeuntibus, dorso convexo, inscriptus lineis quinque albicantibus, latiusculis, parallelis, minimè elevatis. *Spadix* erecta, laevis, tubo spathæ parum longior, apiceque leviter supra faucem elevata, dioica; mascula foemineâ parum gracilior, et una cum spatha brevior; pars dimidia inferior teres, e basi ultra medium densè 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* viride nurnerosa, distincta, brevissima, subconica, seriebus quinque vel sex spiraliter ordinata, apice gerentia *antheras* tres vel quatuor verticillatas, nudas, globosas, uniloculares, vertice dehiscentes rimâ brevi transversâ; illæ staminuui superforamsunt majores, violaceæ, subreniformes: inferiorura vero minores, citius emarcescentes, flavicantes, globosæ: omnes tamen polliniferæ. *Ovaria* fig. 3, 4, 5, 6.) in distinctâ spadice, ovato-subrotunda, numerosissima, seriebus circiter duodecim densè imbricata, unilocularia, vertice purpurascencia, continentia *ovula*

qu&dam erecta. *Stylus* brevissimus, columnaris, purpureus. *Stigma* orbiculato-re-niforme, subpeltatum, cinerascens, pubescens. *Baccw* (fig. 7, 8, 9, 10, et Tab. 20. fig. 6.) obovatse, laeves, carnosae, crctcinese, nitidae, vertice leviter retusa notatse ru-dimento subulato, minuto, sphacelato styli, deorsum a pressura mutua parum a&ngulares, uniloculares, di- ad tetraspermae, epidermide tenuissim& obtectae, lineas octo longse, super axin spongiosam, foveolatam, crassam, dens& irabricatse in strobilum cylindri-co-oblongurn, obtusum, quinque ad sex pollices longum, duos fere crassum. *Caro* mollis, tenuis, pallida, excavata loculo ampio; laevi, eequalL *Semina* (fig. 11.) subglobosa, mac&nitudine grani piperis nigri, a&ngulo uno alterove notata, dorso con-convexiora et subgibbosa, vertice mucrone exigu& ab angulis confluentibus, basique hilo crassiusculo munita, erecta, laevia, nitida, cinerea, *suffultoa*, *funiculis* brevibus, carnosis, e fundo loculi ortis, uno altero deminn parietalibus. *Integumentum* coria-ceum\* crassiusculum, intus auctum membran& purpurascente, mucoso-carnosa, te-;buissini&, versus hilum parum incrassata. *Perispermum* (fig. 12. et Tab- 20. fig. 7, 8.) crassum, sub-carneum, album, figurd seminis; pars peripherica, semilineaiu crassa, fabric^ molliori, et colore e v&ridi cyaneo distincta; basi leviter retusum, vertice *poro* minuto, convexiusculo perforatum.\* *Embryo* cylindricus, rectus, vel leviter a&rcua-tus, lacteus, totam axin perispermi, salyd infim& ejus parte, occup&ns; extremitas su-perior (radicalis?) paullo crassior, rotundata, porum istum perispermi omnino occupans, ita ut, a substantia ejus denudata, immediat& tegatur seminis integumento proprio (*epispermio*); extremitas inferior, (*cotyUdonea*?) hilo opposita, ab hocce parum re-jnota, obtusiuscula. Interstitium inter duas extremitates parum contractum, supra me-dietatem lateraliterfissum rim& (Tab. 20. fig. 10.) brevi, longitudinali, introrsum et sur-sum in *cavitatem gemmiferam* embryonis parvulam, centralem, pervifi. *Gemmula* (Tab. 20. fig. 11.) admodum miriuta, conica, cavitate proprift sua inclusa, pendula, basi nempe lata substantial ipsae cotyledoneae sursum accreta, apice libera, directione obli\* qai versus rimam externam descendente, centrifuge.

## OBSERTATION.

This species of *Arum* is very remafkable on account of the singular form of the inflo-rescence, 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 pi ant 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 Rafflesiatia* of my late, most deeply la-mented 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 plahts, and the ab-sence 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 .he 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 pollinifer-ous/and appear to be equally perfect. The singular structure of the embryo, discovered by Mr. Brown in the family of *Aroidew*^ and by the late Mr. Richard in the whole class of *Endorrhizte* (*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 Llodley, Esquire, from whom I received it, together with a copy of his valuable mobo^raphy ou *Rotes*, while I was in Nipal, and to whom I Uke this oppoi(unity of presenting my warmest thanki.

¶ 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 *Antm speciosum*, Tab. 20. fig. 6, 7, 8, 9, JO, and II instead of Tab. Id; a circumstance, which the reader is requested to bear in mind.

ARUM COSTATUM, Wall TAB. 19.

**Acule**, laeve, dioicuta; *folio* solitario, ternato, *foliolis* semicordato-ovatis, valde acuminatis, undulatis, sessilibus, subtus nervis numerosis, parallelis, elevatis, approximatis, anastomosantibus; *scapo* petioli dimidium vix aequante; *spatha* cylindraco-convoluta, striata, intus carinata, fauce appendiculata, lobis integris, ovato, fornicato, acumine tereti, brevi, filiformi; *clava* spadicis basi subtruncata, apice longissima, flagelliformi, descendente, *spatha* fere triplo longiori.

Habitat et floret cum priore.

*Tuber* magnum, orbiculatum, parum depressum, carnosum, fuscescens, comosum, thris copiosis, teretibus, crassis, dilute rufescentibus, subnudis. *Folium unicum* radicale, erectum, ternatum, am plum, uti omnes plantae partes laeve, circumscriptione trilobo-cordatum, diametrum sesquipedalem emetiens, sinu baseos profundo, lobisque fere contiguis. *Petiolus* crassus, carnosus, pallide virens, striatum lineis plurimis, parallelis, roseis, pallidis, bipedalis, basi unicum scapo, quern sulco satis profundo, subligulato amplectit, sesquipedalem crassus, vaginatus, supernus nudus, hinc exsculptus sulco levi, marginibus obtusis, sursum attenuatus. *Vagina* duae vel tres, membranaceae, striatae, ex albo rufescentes, alternae; infima brevis, adpressa, acutiuscula; reliquae laxae amplexantes, lanceolatae, attenuatae-acuminatae, erectae, sursum liberae 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, nervifera innumeris, perquam approximatis, parallelis, obliquis, elevatis, parum ramosis et anastomosantibus, versus marginem arcuatis, venulaeque gracili connexis; *intermedium* ovato-ellipticum, basi attenuatum, costae robustae quasi petiolatum; *lateralis* patentissima, illo parum angustiora, semi-cordata, latere interno baseos valde obliquo, subexciso, externo producto in lobum magnum, rotundatum, quadripollicarem, lobo folioli oppositi fere contiguum. *Stipula* petiolo dimidio brevior, basi sexpollicari ab hujus parte inferiore amplexus, erectus vel obliquus, nunc subrecurvus, teres, digitum minimum crassus, apicem incrassatum versus purpurascens. *Inflorescentia* terminalis, erecta, inodora, dioica, speciosa; mascula (fig. 1.) minor, gracilior. *Spatha* atropurpurea, extus ornata striis albis, parallelis, latis, versus apicem lobi anastomosi duplici, ab invicem parum distanti, connexis, intus costata carinis totidem angustis, attenuatis; *tubus* cylindraco-convolutus, tripollicaris; *faux* ampla, parum obliqua, nuda, margine leviter revoluta; *limbus* integer, ovatus, ascendens, fornicatus, apice nutans, acuta, ternata processu, vel acumine filiformi, tereti, descendente, pollicari, concolore; in mascula limbus, una cum processu isto oblique ascendit. *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 intricata, mox vero abiens in flagellum gracillimum, longissimum undulatum, exsertum, oblique descendens, concolor, processu in *spathae*

longe excedens, pedale et ultra J in spadice *masculâ* (fig. 2.) basi vix incrassata, flagello quadripollicari. *Mascula*: *Jllamenta* sparsa, dislantia, teretia, brevia, carnosâ, terminata verlicillo *antherdrum* quinque vel sex reniformium, lulearum.—*Foeminea* (fig. 4): *ovaria* (fig. 5, 6, 7.) densissimè inbricata, laevia, ovata, oligospora; *stigmata* subsessilia, sub\* truncata\*

### ARUM SPECIOSUM, Wall. TAB. 20.

Acatile, laeve, dioicum; *radice* repente; folio Solitario, *tern<d|o|foliolis* ovalo-cordatis, irepandis, acuminatis, pctiolalis, dislanter nervosis, *petiolo* variegato; *scapo* brevissimo; *spatha* striata, ecostata, basi cylindræo-convoluta, fauce nuda, *limbo* lato-ovato, integro, fornicato, in acumen lineare, longum attenuato; *clavâ* cuneata, apice filiformi, spalhâ dimidiâ longiore\*

Habitat in monte Sheopore. Florens sub pluviis.

*Radix* crassa, carnosâ, repens, quatuor ad sex pollices longa, diametro bipollicari, squamis multis lanceolatis, membranaceis, aridis, ferrugineis obtecla, e laterc inferiore demittens^firas longas, teretes, albicantes, ramulosas. *Folium* unicum, rtfdicale, erectum, uti omnej partes laeve, circumscriptione trilobo-cordatum, lobis distantibus, pedale. *Petiolus* crassus, teres, carnosus, bipedalis, zonis plurimis, parallelis, radiatis, purpureis annulatus, basi tubulos^ scapum fere totum involvente, ostio obliquo, nudo. *Vagin&* duae, unilaterales, dimidiatae, membranaceae, fuscæ, striatulae, lanceolatae: inferior brevis, superior aUetiato-acuminata, petioli dorso adpressa, scapum longitudineparumexcedens. —*Foliola* ovato-cordata, decem-pollicaria, ad pedalia, acuminata, purpureo-raarginata, repanda, vix undulata» coriacea, petiolis partialibus suffulta pollicaribus, crassis, sulcatis, submarginatis; paging superiore lucida, inferiore pallid^, costi mediocri, nervis remotis, gracilibus, parallels, versus marginem arcuatim anastomosantibus; tenuissimè et reticulalim venosa; lateralia vix minora, sçraicordata, lobis rotimdatis. *Scapus* teres, erectus, albus, pctiolo quater brevior, ejusque basi vaginatns; apice tripollicari exsertus, purpurascens, supernè vix dilatatus. *Inflorescentia* leviter nutans, dioica, inodora, speciocissimâ, purpurca, basi intus albicans, absque coslis vel carinis, striis ornata usque ad apicem fere parallel^ decurrentibus; *mascula* vix minor. *Tufius spatkiB con|o||itus*, cylindriciis, quatuor pollices longus, diametro sesquipollicari, intus albicans, extus striis rufescentibus notatus *vfaux* pervia, nuda; *limbus* maximum, integer, adscendens, ovatus, subfornicatus, pedalis, pal mam latus, basi intus pallidus, supcrn6 striatus, venulosus, apice nutantè attenuatus in acumen gracillimum, linearc, tripollicare, vçrsus tubum incurvum, atropurpureum. Tota *spadicis* (fig. i.) basis obtecla grganis fructificationis, absque appendicibus; *clava* digitum fere crassa, cuncata, seini-inclusa, flava, aitenuala in flagellum descendens, teres, gracile, decempollicare, purpureum, undulatun^ limbo spathae dimidiâ circiler longius. *Mascula*. *Jllamenta* longiuscula, teretia, spar^a, approximula; anthene proecedentw specièi —*Foemhiea* (fig. 1, 2, 3, 4.) prioris.

## OBSERVATION.

A very superb plant, belonging to the less frequent productions of Nipal. Like bolli the preceding species it inhabits dark and shady parts of the high mountain of Shcopore, 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 CRATISSIMA, Wall. TAB. 21.

*Folii* • ovato-oblongis, acuminatis, subtus ad nervos villosis; *paniculâ* terminali, multiflorâ; *calyce* villosa, *laciniis* longis, linearibus, deciduis; *corollâ* glabrâ, tubo longiusculo, cylindraco, *lobis* subrotundis, concavis. Wall, in Roxb. flor. ind. 2. p. 154.

Crescit copiosè in rupibus subnudis Nag-Urjoon, aliisque montibus minoribus Napa-liae; etiam ad Bechiako el Koolakan, florens' tolo fere anno. Etiam habui e montibus Pundooa, Sylhet vicinis, ubi floret Septembre.

Nomen Newarrensè et Parbulleum *Toongnusi*. Bengalme *Usoohooli*.

Arbuscula ramosa, Sedecimipedalis, *trunco* sequali, dkunctrum scxpollicarem attingēne, obteclo.corftVetenui, fusco, scabro. *Lignum* compactum, pallidum, albidum\* *Ramuli* oppositi, cinerei, calloso-punctati; juniores rufescēnes, puberuli. *Folia* opposita, patentia, approximate acuminata, ovato-oblonga, basi acuta, marginibus subundulata, ciliaia, coriacea, quadri-ad sexpollicaria, glaberrima, suprà lucida, subtus pallida etopaca, cost& elevatâ, nervisque villosis, obliquis, parallelis, approximatis, ad axillas acervulo pilor-tm munitis. *Pctioli* teretcs, pubescēnes, pollicares vel sesquipollicares, nunc rufescentes. *^/?/>>?//^ lanceolat&e*, canaliculato-acuminatse, lineas quinque longae, glabrae, valde deciduae. *Panicula* ierminalis^ sessilis, ovato-rotunda, folia superiora longitudine subaequans; *rami* decussati, incano et densè villosi. . *Bractect* infra divisuras adque basin pedicellorum opposite, liheares, longse, caduica?. *Floras* (fig. 1, 2.) magni, speciosi, rosei, -ternati, fragrantcs. *Calyx* villosus, *pedicello* brevi, subcarnoso insidens, divisus in *lacinas* (fig. 3.) quinque lineares, erectas, aculas, subinaequales, nunc inoequilateras, cctloratas, basi leviter angustatas et subarliculatas, caducas, villosas, intus ^labras, sex-ad duodecim lineas longas. *Corolla* (fig. 4.) glabra, calyce duplo longior, subcarnosa; *tubus* cylindricus, gracilis, sursum parum ampliatus *faux* pcrvia, nuda; *limbus* patens, tubo dimidió brevior, *laciniis* subrotundis, concavis, obtusis, crenulatis, basi subcordato-retusK *Filamenta* brevissima, infra fauccm; *anthera* lanceolatae, vix\* exsertlae. *Ovaritim* (fig. 5, 6.) oblongo-cuneatum, carnosum, villosum, biloculare; *ovnla* super *placentam* septalem, carnosam densè imbricata; *stylus* filiformis; *stigma* clavatum, carnosum, divisum in lobos duos, lanceolatos, margino revolutos. *Capsula* (fig. 7, 8.) oblonge-clavata, parum villosa, fusca, lineas octo longa, leviter compressa, apice truncatè notata vestigio inscrtionis calycis, bilocularis, inscripta sulcis oppositis duobus, juxtaque hos usque ad basin aculam dchiscens in locula duo; *membrana exterior* carnosâ, demum coriacea; *interior* char^a- <ea- *Dissepimentum* parallelum, plafium, conslans membranæ intern^ utriusque loculorum inflexa, maturitate ab apice usque ad basin.in diijas paries divisum, apice ostioro-tundato excisum. *Placenta* lineari-oblonga, /ovcolala, demum libera; *locula* (fig.\*9, 10) fissura interna ab ostio disscpimenti ad basin usque longitudinaliter dehiscentia, idcoquē quasi bivalvia. *Semina*{hg. 11,-12.) copiosa, minuta, cuneata, adscendentia, densè imbricata, ferruginea, rugosaet scabra, apicem obtusamverus membranula venosa, anguslâ, crenulata, inaequali cincta.

## OBSERTATION.

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

bcori told thai it grows-sometimes to a much greater size than that,-mentioned above, nchic 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 lurn further inwards, penetrating almost through the fleshly placenta lo the opposite or exlcernal side of tke cell-, which latter, in consequence, appears lo be subdivided into two compartments, — Wall, *loc.cit.*

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

*Calyx* adnatus, quinquecylindricus. *Corolla* infundibuliformis, limbo quinquefido. *Filament a* brevissima, glabra, infra faucem adfixa ; *antherae* exsertae, limbo breviores. *Capsula* nuda, bilocularis, bivalvis, dissepimento verticali contrario, demum bipartite. *Semina* plana, cincta membrana reticulata (unde nomen), imbricata super placentam, septi commissura adnatam, demum liberam.

*Classis* linearia : *Pentandria monogynia*, scilicet floribus monopetalis superis, capsulaque biloculari, bivalvi.

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

*Habitus* Arbores excelsae, umbrose, ramulis compressis, foliis oppositis, coriaceis, stipulis glanduloso-ciliatis. *Flores* inconspicuae, pubescentes, virides densae, fasciculatae, in paniculam digesti terminalem, vel in racemos cylindricos, pedunculatos, axillares terminalesve, simplices vel parce ramosos. Pedunculus communis apice gerens bracteam aridam venosam lanceolam, longe pedunculatam convexam. Affinitas praecipua *Jatropha*, *Mussaenda*, *Cinchona?* atque *Exostemmati*. Differt a primo horum generum staminibus glabris seminibusque alatis ; a secundo fructus structura et consistentia ; utroque vero approximalur folio bracteaveilla singulari florali, in eo tamen abluente, quod ex apice pedunculi communis, nee ut in illis e basi ipsius calycis, prodeat. A posterioribus duobus generibus distinguitur capsula nuda haud bipartibili, dissepimento contrario, juxta axin in duas partes aequales dirumpente, valvulis adnatas. Semina insuper majora et eorum ala basi bifida ; figura tandem corollae magis *Cinchona*, an the j is exsertis *Exostemmati* cognatum. Wall, *l.cit.*

HYMENODICTYON FLACCIDUM, Wall *I dtp.* 152. TAB. 22.

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

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

Arbor mediocris, umbrosa, cortice cinereo, glabriusculo. *Limbi* patuli ; superiores bi- vel trichoion), glabri ; limbi leviter compressi, basi circumdati squamulis aliquot gemmaceis, ovatis, concavis, brunneis. *Folia* valde copiosa, versus apices ramorum approximate, 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 faveolatis puberulisque ; reticulato-venulosa. *Petiolus* teros, crassus, glaber vel puberulus, pollicaris, apice una cum basi cosue rufescente. *Stipulae?* oblongae, spathulatae, obtusae, glabrae, membranaceae, subpetiolares, unguiculares ad pollicares, emarcescentes, deciduae, basi parum contractae, capillaeo-venulose, denticulis siliacclatis ciliatae, intra basin et in axillis petiolorum

glandulis subulatis, minulis, alris, serie simplici disposilis. *Racemi* flaccidi, penduli, axillares, solilafii, foliorum circiter longitudine, graciles, cylindrici, dense obsili *floribus* (fig. 1.) approximatis, fascicalatis, ternatis vel quinatis, viridibus, pubescentibus, inodoris. *Pedunctus tomunis* pubescens, bipollicaris, apice instructus *bractea* vel *foliolo florali* patentissimo, lanceolato-oblongo, membranaceo, acuto, integerrimo, pallide viridi vel subalbicaute, pubescenti, rugosulo, nervoso-venoso et reticulato, tripollicari, *snprk* convexo, subtus concavo, *petiolo* glabro, tertia parte brevior. *Pedicelli* brevissimi; singuli *bracteola* minutissima, lineari. *Calycis lacinae* (fig. 2.) brevissimae, lineares. *Corolla tubus* (fig. 3.) calycis laciniis duplo longior, gracilis, villosa; *linibus* subplicatus, campanulatus: *laciniis* lanceolatis, acutis, basi membranulosa tenuissima unitis. *Stamina* infra faucem inserta, glabra: *filamenta* ad modum brevia; *antherae* lineares, erectae, exsertae, limbo paulo breviores. *Ovarium* (fig. 4, 5.) ovalum, pubescens, biloculare; *ovula* numerosissima, lanceolata plana, marginata, super placentam carnosam, septalem dense imbricata; *stylus* capillaceus, glaber\* corollae bis longior: *stigma* clavatum, obtusum, glabrum. *Capsula* (fig. 6, 7.) oblongo-ovata, fuscescens, decem lineas longa, glabra, callosopunctata, bilocularis, bivalvis, juxta ventrem valvarum septifera; *semina* haud 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, *l.cit.*

## SARCOPYRAMIS, Wall

*Calyx* inverse poramidalis, ore truncato, quadridentato, dentibus compressis, ciliatis, persistentibus, interstitiis nudis. *Corolla* tetrapatala. *Stamina* octo; *antherae* simplices, rectae, nude. *Ovarium* semiadnatum, vertice infundibuliformi-quadrilobum. *Capsula* quadrata, calyce basi cincta, apice quadrialata; quadrilocularis, quadrivalvis, polysperma; valvulae foliaceo-dilatatae.

Classis Linneana: *Octandria monogynia*.

Ordo naturalis: *Melastomaceae*, R. Brown; generibus *Rhexis* 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* terminales, umbellati, majusculi, rosei.—Nomen sumpsi e consistentia et figura ovarii.

## SARCOPYRAMIS NAPALENSIS, Wall. TAB. 23.

Legi in monibus vallis Napaliae majoris Sheopore, Chandaghiri, aliisque ad loca umbrosa, humida, saxosa. Floret Julio—Septembre. Fructus maturescunt Octobris & Novembre.

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



nulli. *Folia* opposita, subdecussantia, petiolata, interslitiis duplo longiora, bi- ad quadripollinaria, suprema mine valde approximata; magnitudine inaequalia, altero nempe cetero pars tertia vel dimidia brevior; fere membranacea, ovata, acuminata, basi inaequali acuta, extrorsura crenato-serrulata, serraturis acutis, fere terminus, supra atroviridia, lucida, selis hyalinis, brevibus; rectis conspersa, trisulcata; subtus pallidiora, saepeque purpurascens, quinquenervia, nervis extimis gracillimis, submarginatis; transversim venulosa, juxta tractus vasorum pilosula. *Petioles* carnosissimi, graciles, sulco angusto exarati, apud axillam, folio dimidio vel triplo breviores, laeves. *Stipulae* nulla, nisi series transversalis ciliarum subulatarum, succulentarum, caulem inter petalorum insertiones ambientium. *Flores* (fig. 2, 3. idem dissectus fig. 4.) tres ad quinque, terminales, umbellati, ratione magnitudinis plantae sat magni, rosei, inodori, glabri, suffulti pari uno vel duobus foliolorum floralium lanceolatorum, subsessilem, semipollinarium. *Prajloratio* (fig. 1.) conica, imbricata. *Peduncululi* carnosissimi, 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 dentes totidem desinentibus porrectos, compressos, verticales, palentes, apice oblique truncatos, ciliatis setis simplicibus, hyalinis, utrinque patentissimis, duplici serie dispositis, juxta angulos ipsius calycis quandoque decurrentibus. *Pelala* (fig. 4.) quatuor, ovata, carnosa, cuspidato-acuta, integerrima, patentissima, rosea, laevis, nitida, lineas quatuor emittentia, calyce duplo longiora, basilatiusculam infra ostium calycis inserta, dentibus alternantia. *Stamina* (fig. 5, 6.) octo, petalis parum breviora, erecta, parallela, sequalia, serie simplici annulari equidistanter calyci inserta, dentibus calycis petalisque alternantibus opposita. *Filamenta* alba, filiformia, carnosa. *Antherae* conformes, simplices, erectae, flavae, oblongo-cuneatae, nitidae et absque ullis appendicibus, basi acutiuscule, apice leviter dilatati, subbilobata poris duobus, oblique hiantibus dehiscentes, aestivatione una cum apicibus filamentorum rectè deflexe. *Ovarium* (fig. 4, 5.) ovatum, carnosum, dimidia inferiore parte fundo calycis arcuè accretum, superiore ietragono-pyramidatum, lateribus convexum, liberum, juxta margines ope membranulae angustissime, brevissime, demum evanidae, angulis internis summi calycis adhaerens, unde cellulae parietales quatuor formantur, antheras, clauso adhuc flore deflexas, per pares recipientes; apice contractum, trunatum, quadrilobum lobis carnosissimis, brevissimis, latiusculis, obtusissimis, ciliatis minutimque crenatis, in hiatum infundibuliformem, quadrangulare per conniventibus, post fecundationem ampliatis: quadriloculare; *locula* rotunda, angulis exterioribus opposita, *ovulis* repleta sub-cylindricis, placentae axili, convexae, sessili, carnosa; adfixis. *Stylus* brevis, rectus, cylindricus, laevis, deciduus, vertice quadrilobum ovarii basi inclusus, perque axin inde decurrens. *Stigma* parvum, convexum, puberulum. *Capsula* magnitudinis pisi communis, laevis, quadrata, excepta ipsa basilatè libera, inferiore dimidia parte oblecta calyce paullo ampliata, desiccato, membranaceo, angulis quatuor sursum valde prominentibus et porrectis notato, vertice coronata alis quatuor terminalibus, rotundato-ovatis, obtusis, levissime crenulatis, venulosis erectis, margine contiguis; quadrilocularis, vertice quadrivalvis: valvae triangulares, dissepimentis oppositae, alis istis seorsim terminatae. *Dissepimenta* angusta, tenuissima, *Semina* crebra, parva, fusca, cuneato-triangularia, basi acuta glabra, verticem obtusam versus punctis minutis, elevatis papillosa, Veceptaculis 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 *Exacum*; 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, inverted 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, Wallin *B.oxb.flor. ind.2.p.294.* TAB. 21.

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

IVonien Parbutteum et Newarrensè : *Bilsee* et *Bereseè*; etiam *Kalikath*.

Cominimis in omnibus fere quas visitavi Japalæ sylvis, usque ad apices montium Chandaghiry et Sheopore, florens et fructifera tempore frigido, a Decembre ad Martium. Etiam habui e Kumaon et Sirinam.

*Arbor* ramosa, triginta ad quadraginta pedes alta, truncò diametrum semipedale attingentem, vestito cortice glabro, pallido. *Burni* cinerei, terestres, callosò-punctatam ramuli laeves, angulosi. *Gemma* terniinales, graciles, conicæ, punctis copiosis, resinosis, rufescentibus conspersæ; *squamæ* lanceolatae. *Folia* sparsa, approximate patentia, lanceolata, mine lineari-lanceolata, acuminata, utrinque attenuata, coriacea, firma triad quinquepollicaria, extrorsum, raro e basi usque ad apicem, nunc uno modo latere cus-

pidato-serrulata; in luxuriantibus ramis quandoque rufescentia, integerrima; lacvia, lueida, conspersa punctis copiosis, resinosis, pellucidis, rufis, juxta marginem leviter revolutum lineolam hxxtc approximatum dispositis; costa sublus parum elevata, nervis capillaceis, obliquis, intra marginem arcualem et reticulalem anastomosantibus. *Petiolus* brevis, vix ultra duas lineas emulsiens, punctatus, supra planusculus. *Stipulce* nultee. *Flores* (fig. 5.) parvi, inodori, tetrandri vel pentandri, omnes hermaphroditi vel masculis interspersi, sex ad duodecim conferti in fasciculos axillares, numerosos, rotundatos, basi amplexos *bracteo*\* *Us* ovatis, decem, fuscis. *Pedunculi* semipollicares, graciles, filiformes, obsolete angulati, subclavati, centrales fasciculorum interdum abortivi vel nulli. *Calyx* persistens, punctis nolatus copiosis, elevatis, resinosis; *denies* quinque, lanceolati, acuti, patentes, ciliales. *Corolla* (fig. 7.) rotata, erubescens, punctata, calyce duplo longior; *laciniis* lanceolatis, recurve, dentibus calycinis alternantes *i tubas* brevissimus. *Filamenta* brevissima, laciniis opposita, earumque basi inserta; *antherae* magnae, ovales, erectae, aurantiacae, utrinque longitudinaliter dehiscentes. *Pistillum* (fig. 6, 8.) punctatum, stamina parum longitudine excedens. *Ovarium* (fig. 9, 10.) ovata, uniloculare, tri- tetrasporum; *ovula* placentae erectae, carnosae, globosae lineam circulari semi-circulares; *stylus* brevis, columnaris; *stigma* carnosum, subfundibuliforme, limbo amplo, unilateraliter, trilobum, laciniato-fimbriato. *Flores masculi* (fig. 1, 2, 3, 4.) minores quam hermaphroditi, antheris violaceis, cum rudimento centrali pistilli. *Drupa* globularis, leviter depressa, apiculata, ramosa, rubra, magnitudinis pisi minoris, calyce immixto suffulta, laevis, nitida. *Carotio* viscosa, pulposa. *Semen* ovatum globosum. *Putamen* crustaceum, glabrum. *Integumentum* membranaceum. *Perispermum* cartilagineum, semini conforme, albicans, foveolatum et superficialiter verrucosum. *Embryo* longus, cylindricus, horizontalis, leviter curvus, diametrum perispermii aequans, totumque fere excurrentem, *Cotyledones* pomelindrici, obtusi, diffusus 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. he. cit*>

MYRSINE CAPITELLATA, *Wall I cit. 295. TAB. 28*

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

^Nomen Parvultum; *Syade*.

Newarrenae; *Shoe Bilho*\*

Valde communis in Napaliae sylvis/florens et fructifera hyeme.

Arbor priori habitum et magnitudine similis. *Ramuli* crassi, angulati. *Folia* approximata, sparsa, palmata, coriacea, firma, oblongo-lanceolata vel, subovata, integerrima acuminata, basi acuta, quinque- ad septem-pollicaria, juxta marginem copiose punctulata, superne lucida, inferne pallida parumque glaucescentia, costa elevata, nervis obsolete 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, subsussilia vel suffulta *pedicello* communi subligoso, brevissimo, columnari, e *bracteis* minutis, ovatis, concavis, persistentibus scabriusculo. *Jestivatio* flavata. *Calyx* (fig. 4) urceolatus, dentibus quinque ovatis, aculis. *Corolla* (fig. 5.) calyce bis longior; *tubo* brevi; *laciniis* recurvatis, lanceolatis. *Filamenta* brevissima, subulata;

*ant herce* oblongas, erectae. *Ovarium* (fig. 6, 7.) globulare. *Stylus* carnosus, crassus, *coroUk* bis longior, medio mtiimescens, apicem versus parum curvus, basi vertici ovarii depressae parum immersa; *stigma* obtusum, obscuré, bilobum. *Flares 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. lac. cit.*

## CRYPTOCHILUS, Wall

*Flares* resupinati. *Perianthii* foliola exteriora connata in tubum, fundo peruliferum apice libera, dentiformia. *Labellum* oblongum, nudum, ecalcaratum, inclusum, subsessile, basi *gynostemii* apteri elongatae adnatum. *Antlerd* terminalis, decidua, bilocularis. *Massae* pollicariis octo, cereae, per pares filo communi, clasico coherentes\*

Classis Linneana: *Gynandria Monandria*.

Ordo naturalis: *Grchidearum* sectio quinta Browniana.

*Habitus*. Planta parasitica, rupicola; bulbis bifoliis, uniscapibus, tubulosis, tridentatis, spicati, secundi; ante anthesin dislichi.

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

## CRYPTOCHILUS SANGUINEA, Wall TAB. 26,

Legi in Napalia, ad cacumen Chandaghiry, saxicolam, florentem Junio. E montibus Cachar, Sylhet confinibus, misit. M. R. Smith, anno 1815.

*Herba* parasitica, repens, laevis, *radiculis* fuscis, filiformibus, ramuosis, glabris. *Bulbi* ovati, vel oblongi, pollicariis carnosi, oblusi, diphylli, nitidi, aetate nudi, vel vestigio uno alterove vaginarum marcidarum basi circumscissis; dum juniores graciles, subcaulescentes, vaginis que induti quatuor vel quinque lanccolatis, acuminatis, complicatis, bifariis, basi imbricantibus, pallidis, lineatis, margine dilute purpureis, bi- tripollicaribus, 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 per anam cum sulco medio; coriacea, Jaevia, supra atroviridia, lucida, sublus glauca, opaca, septem-lineata, costis carinalis, marginibus purpurascens\* *Petioles* crassi, canaliculati, basi parum dilatati: exterior paullo major, margines interioris amplectens. *Scapus* ex apice bulbi, erectus, leres, carnosus, crassus, nudus, atro-purpureus, basi viridescens, longitudine foliorum, apicem versus leviter complanatus. *Racemus* terminalis, erectus, solitarius, quadripollicaris, ante Sorum expansionem complanatus anceps, digilum latus; postea oblongus, secundus. *Radicis* purpurea, carnosa, planiuscula, flexuosa, demum recta. *Flores* sanguinei, inodori, carnosi, pollicares, cylindrici, approximati, alterni, initio distichi et patentes, post anthesin secundi et ascendentes; extus pilis caninis, hirtilibus, adpressis, geniculatis conspersi; pedicellis suffulsi brevissimis, terilibus, pilosulis, lineam longis. *Bractea* infra singulum florem solitaria, linearis, acuminata, canaliculata, unguicularis, laevis, purpurea, carnosa, parum incurva, directione floribus opposita secunda, persistent Perianthii foliola exteriora connata in tubum (fig. 1, 2.)

oblongum, tridentatum, emarcescentem, medio levissimè ventricosum, lateribus basi  
 os gynostemii adnatum, basi antrorsum productum in perulara brevissimam, conicam,  
 obtusam, apice parum contractual; dentes faucis lanceolati, subulato-acuminati, subpatuli,  
 inferior (torsione ovarii summus) lateralibus parum major, bilinearis. *Foliola interiora*  
 duo (fig. 3.) distincta, tubo exteriorum tertio breviora, erecta, linearia, flava, iaevia,  
 obtusa, deorsum parum angustata, basi gynostemii lateraliter utrinque inserta. *Label-*  
*km* (fig. 4.) anticum, inclusum, flavum, oblongura; foliis interioribus perianthii  
 parum longis, marginibus versus basin incisurâ parvi utrinque interruptis; subungui-  
 culatum, ungue brevissimè, concaviusculum, subtus convexâ, processui gynostemii absque  
 articulatione insertâ, cumque ilia perulam floris occupante. *Lamina* nuda, ovata, ca-  
 naliculata, subcomplicata, leviter recurva, parum incrassata, obtusa et fere retusa.  
*Ovarium* clavato oblongum, villis brevibus, canis obsitum, pedicello duplo longius, sex-  
 striatum. *Gynostemium* (fig. 5.) brevissimum, erectum, nudum et inappendiculatum,  
 carnosum, clavatum, labello duplo brevius, leviter adscendens, bine plaiusculum, basi  
 ulterius productum. *Gynims* anticus, semiorbiculatus, cavus, mucosus. *Clinan-*  
*drium* terminale, quadridentatum: dentibus minutis, subcrenulatis, duobus posticis  
 fissis profundiore separatim *Anthem* (fig. 6.) terminalis, mobilis, decidua, conica,  
 bilocularis, obtusa, basi truncata. *Masse pollinis* (fig. 7.) octo, subulate, cereacee,  
 minute, viridiusculæ, per pares, ope fili communis granulosi, elastici, antherae parieti  
 antico adherentes. *Capsula* clavata, tubo floris emarcido, recto, fusco coronata,  
 carnosâ, pubescens; maturam 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 Orchideæ 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 Chandaghiry.



CHRYSOBAPHUS, Wall.

*Anacardium. Anthem. A*

*Perianthium* subringens, secundum. *Labelli basis* horizontalis, tubulosa, gynostemium liberum hinc amplectens, inde in calcar breve producta; *lamina* adscendens, biloba, unguiculata. *Massæ pollinice* duse, clavatae, bisectiles, e granis subulatis conflatae; *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; superne bracteatus. *Folia* pauca versus basin plantæ, subcordata, holosericea vasculis ornata anastomosantibus, aureo-fulgentibus (unde nomen.) *Flores* racemosi, parvi, albidii, laminâ magnâ, adscendente, volucriforimi, biloba.



CHRYSOBAPHUS ROXBURGHII, Wall. TAB. 27.

*Folium petoktum, Rumph. Amb. 6. p. 93. t. 41. f. 3.* (<M& 4'' \*jr\* - ~ uJ% 46\* A\* JU

Provenit in pluribus locis Indise orientalis continentis. et insularum, montosis, sylvanis. Amboina, Everardus Rumphius. Montes, Cachar dietæ, Sylhet confines, M. R. Smith, qui plantas vivas pluries misit Ceylona, Thomas Hardwick. Ipse legens in sylvis umbrosis templorum Sumbhunath et Pusputnath convallis Napali, florentem

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

*Caulis* teres, simplex, carnosus, basi pennam scriptoriam crassus, subrepens, vestigiis annulatus foliorum delapsorum, fibras paucas radicates exserentibus simplices, villosas, ad axillas saepe proliferas; inde erectus, sex- ad octopollicaris, attenuates, fuscens, 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 minutim papillosa, subtus dilutè purpurascens, nitidissimè picta nenis octo decemve parallels, vix elevatis venisque plurimis transversim reticulatis, ad paginam superiorem colore aureo fulgentibus, aetate coccineis; ad inferiorem vero laetè viridibus. *Petioles* breves, vix unguiculares, canaliculati, desinentes invaginulas 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, glabrae, basi in vaginulam brevissimam desinentes, sursum patulæ, cito emarcescentes. *Flares* (fig. 1.) mediocres, albi, odorati, patientes, alterni, distantes, racemum terminal em, 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 introrsumvel posticum; subtus ventricosum, suprâ ringens. *Foliola* distincta; *exteriora* tria magnitudine subsequalia, in galeam conniventia ovata, ventricoso-gibbosam; quorum *anticum* ovatum, concavum, tres lineas longum, apice acutâ paullo recurvum, basin floris suffultiens; *postica* oblongo-lanceolata, inaequilatera, margines anticis obtegentia, acuta, basi angustata et obliquâ in lobulum desinentia labelli basi parallelum. *Interiora* duo minora, albida, marginibus rufescentibus, laevia, falcata, obliquè acuminata, exterioribus occultata, basi contractâ gynostemii basi lateraliter inserta. *Xanthophylla* (fig. 4.5.6.) album, laeve, perianthio triplo majus; basis horizontalis, carnosa, oblonga, cucullato-tubulosa, dorso convexa, subtus perforata liatu obliquo, in lobulos duplè desinente, circum basin gynostemii inserto; posticè subcalcarata, bidentata; callos duos parietales, convergentes sub-bilocularis. *Lamina* e dorso basis labelli ascendens, unguiculata, ovatum longitudine sequans, sursum leviter reclinata, biloba, lobis oblongis, obtusis, integerrimis, fere unguicularibus, patulis, verticalibus (superficiebus nempe internis oppositis) basis semilunariter excisæ 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, cuspidulæ recurvatè terminatum, postice carinatum et rimâ longitudinali sulcatum. *Anthera* (fig. 8.) magna, ovata, acuminata, verticalis, mobilis, persistens, bilocularis, basi rotundatâ ope pedicelli brevissimi adfixa. *Clinandrium* magnum, planiusculum, fere totam gynostemii partem anticam occupans. *Massa pottinica* (fig. 8. 9.) duse, clavatae, sectiles, medio umbilicatæ, pendulae, e corpusculis conflatae numerosissimis, subulatis, faciliè solubilibus, in caudiculas abeuntes parallelas et contiguas, extra apicem antherae porrectas, vaginatas squarulae proprii tenuissimæ, pendulae, liberæ cumque ea retinaculo communi, globoso, minuto apicis gynostemii adfixas. *Gynostemium* anticum, super clinandrium positum, basi utrinque glandule convexæ, sessili, viscosæ munitis, medio sulcatus, apice porrectâ squamulas istas vaginales, caudiculas, necnon retinaculum adfigens. *Ovarium* sessile, parum villosum, cylindricum, tricostatum; albidum, parum incurvum, longitudine bracteje lanceolatae suppositæ, mox spiraleritortum.

## 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,

Handwritten notes in the left margin, including the name "CHRYSOBAPHUS" and other illegible scribbles.

Handwritten notes at the bottom left, including the name "CHRYSOBAPHUS" and other illegible scribbles.

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 *Goodygra*, 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 proliferous 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 velvet, 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 ascendente, liber&.

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

*Bulbi* plurimi/aggregati, in seriem elongatam approximate alternantes, carnosi, uti tota planta laeves, ovato-oblongi, leviter complanati, sesqui- ad bipollicares, monophylli, squamis interspersi et involuti aridis, magnis, ipsos quandoque superantibus, reticulatis, aetate retiformibus; radiculos \* & basi emittentes Ion gas, 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, costis elevatis carinatis; *petiolo* suffultum bipollicari, rigido, canaliculate, basi subarticulato parum dilatato, quandoque squama bulbi involute. *Flares* (fig. L) magni, inodori, globoso-campanulati, basi lat& hinc productiore, calcar breve, obtusissimum aemulante, nutantes, pedunculati, tres quatuorve fasciculati e basi vel latere bulbi, nunc duplo numerosiores

in fasciculos duos dispositi. *Pedunculi* carnosi, teretes; clavati, purpureo-punctuteii, puberuli, ad basin circumdati *bracteis* latè ovatis, acutis, tres vel quatuor lineas longis, laxè imbricantibus, pallidis, punctulatis. *Perianthium* (fig. 2.) ex fusco flavescens, punctis crebris purpureis utrinque guttatum, crassiusculum, intus lucidum; *foliolis* ovatis, acutis, regulari ordine dispositis, conniventibus; *exterioribus* fere pollicarifyus, concaviusculis: *lateralibus* obliquè ovatis, basis latse medio processuicolumnae insertis; *antico* paruni angustiore, torsione ovarii postico et superiore. *Foliola* interiora >llis duplo minora, erecta, basi columnse 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 laxè adfixum extremitati adscendenti, liberse baseos columnie; ceterum mobile, sessile, apice vix extra foliola perianthii lateralia protrudens. *Gynostemium* (fig. 2.) inclusum, erasum, sub truncatione, posticè planum et submarginatum, foliolis interioribus brevius, basi productum in processum triplo longiorem, planum, suprâ purpureo punctatum, horizontalem, extremitate liberâ adscendente incurvâ, cum basis labelli centro articulationem. *Gynizus* (fig. 4.) posticus (torsione ovarii anticus) subquadratus, mucosus, latere utroque glandule carnosius, flavâ, convexus. *Clinandrium* terminate, planiusculum, utrinque unidentatum, anticè adfigens *antheram* (fig. 5.) opercularem, mobilem, conicam, acutam, basi truncatam, bilocularem: loculis fundo septiferis. *Massce pollicice* (fig. 5.) quatuor, cereaceae, 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 companulatâ nudâ, limbo patenti.

Incolit sylvas densas Sheopore montis, florens Augusto.

*Bulbus* (fig. 3.) ovatus, solitarius, bi-tripollicaris, constans squamis carnosius, erasius, subgibbosis, albis, acutis, aretè imbricantibus, e basi emittens fibras longas, copiosas, ramulosas, teretes, subinde paruni 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, supernè dense foliosus; hasis ejus repens pennam cygneam usque ad digitum minimum crassa, fibrosa et obtecta squamis fuscis, parvis, lanceolatis, more filiris, caules plures propellens, ssepe omni bulbi vestigio orbata. *Folia* valde copiosa et approximata, media vix pollicem distantia, erecto-patentia, linearia, attenuato-acuminata, basi angustatâ adnata, quinque ad sex pollicaria, pallida, suprâ nitida, leviter complicata, ad lucem visa lineata, subtus glaucescentia, subquinquenervia, carinata; inferiora sensim breviora et remotiora; summa tria quatuorve infra flores subverticillata. *Flores* duo tresve. terminates, 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



refuso, extrorsum sensim ampliato in limum amplum, patenti-recurvum, tubidimidium subsequantem, sexlobum, lobis lato-lanceolatis, exterioribus tribus paulò angustioribus; fauce campanulata, magna, nuda. *Pedunculi* crassi, teretes, bipollicares, ad medium ssepius monophylli. *Sepala* (fig. 1.) ovato-lanceolata, obsolete repanda, acuminata, deorsum attenuata in unguem linearem, fere prismaticum; exteriorum laminae interioribus parum angustiores; earum ungues dorso convexi, marginibusque intra costam mediam, depressam, utrinque sulco profundo exarata, interiorum receptis. *Stamina* (fig. 1.) parallela, recta, conniventia; *Jilamenta* plana, alba, unguum basi inserta; tria interiorum sulcibus incumbentia canaliculosque formantia. *Antherte* exsertae, pollicares, lineares, rectae, 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 visse.

## 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, argute serrulatis; pedunculis gracibus, complanatis, folia subaequantibus, tri- ad sexfloris; capsulis globosis, pendulis, obsolete quadrangularibus, calyce tumido, recurvo suffultis, seminibus subgeminatis, dependentibus.

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

Sylve convallis Nepalise. Floret mensibus Aprili, Maio; fructus maturescunt Septembre.

*Arbuscula* mmosa, duodecim circiter pedes alta. *Rami* graciles, teretes, grysei, uti omnes partes laeves; *ramuli* oppositi, subcomplanati, obsolete quadrangulares, sulcis duobus oppositis, gracillimis notati. *Folia* opposita, coriacea, oblonga vel ovata, obtusa, nunc apice rotundata, acute serrulata, basi integre auctiuscula, tri-quadrilobaria, utriusque laevia, superius lucida, subtus pallida, nervis suboppositis, capillaribus, venisque reticulatis. *Petioles* brevissimi, sulcati. *Pedunculi* axillares, oppositi, gracillimi, filiformes, complanati, folia subaequantibus, tri- sexfloris; *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 obsolete, erectis, obtusis, ciliatis; post expansionem sensim recurvus, intumescens, carnosus, superius nitidus, atro-viridis, subtus concavus. *Petala* (fig. 3.) quatuor, magna, patentia, alba, plana, orbiculata, margine crispatis. *Stamina* (fig. 3.) brevia, distantia, erecta, demum recurva; *Jilamenta* subulata, persistentia, disco convexo, carnosio calycis basi iramersa; *antherte* ovatae, erectae, didymae.

*Ovarium* ovato-pyramidatum, semiimmersum, nitidum, quadriloculare, polysporum: *ovula* e placenta axili pendula; *stylus* brevis, persistens; *stigma* obtusum. *Capsula* (fig-<sup>4</sup>) globosa, obsolete quadrangularis, magnitudine cerasi, suffultacalyce persistente, grandefacto, truncato, convexo, subtus concavo; quadrilocularis, quadrialvis. *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 onustavaldè elegans. Wall, loco citato:



PRIMULA PETIOLARIS, Wall. TAB. 31.

Cespitosa, kevis, foliis ovalibus, utrinque rotundatis, repando-dentatis, crispis; petiolis gracilibus, nudis, elongatis; pedunculis radicalibus pluribus, unifloris, petiolis brevioribus; limbo corollae 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, Sbe&pore aliorumque montium. Ad ortum Bagmattee fluminis, Fr. Hamilton. R. Blink worth misit specimina in Kamaon lecta. Floret a Februario ad-Aprilem.

Planta cespitosa, laevis, radice crassâ, carnosâ, subtruncatâ ut in *Primula acauli* cui planta nostra accedit, rufescente, odore anisato; *radiculis* copiosis, densis, fibrillosis. *Folia* valde numerosa, terre prostrata, tripollicaria, ovalia, utrinque obtusa, nunc apice basive acutiuscula, rugosula et venulosa, marginibus inaequaliter sinuato-dentatis, crispis, dentibus acutis, subulatis, praeicipuè in junioribus plantis; utrinque glabra, subtus pallida, fer<sup>^</sup> albicantia, nervis parallelis, suboppositis, transversalibus. *Petioli* graciles, teretes, supra exarati sulco profundo, acuto, tri- ad sexpollicares. *Pedunculi* plures, radicales, erecti, uniflori, petiolis parum breviores, teretes, vix puberuli, ad basin bractea ovata, membranacea, acuminata instructi; raro duo tresve basi uniti pedunculoque communi brevissimo suffulti. *Flos* magnus, pallidè cceruteus, inodorus; rarissimè dilute roseus. *Calyx* (fig. 1.) subinfundibuliformis, quinquangularis; *dentibus* lanceolatis, acuminatis, leviter glanduloso-ciliatis. *Corolla* (fig. 2.) tubus cylindricus, calycem bis superans; *limbus* initie parum infundibuliformis, demum planus, divisus in *lacinias* quinque patentissimas, obovatas, apice bi-tridentatas, vel crenulatas, tubum longitudine sequantes; faux luteola, per>ia. *Antherte* versus medium tubi sessiles. *Stigma* oblongum. Wallich loco citato.

DISERTATION.

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 Linnæan Society, I am informed that my most worthy friend Dr. Hamilton sent specimens of the plant home, 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. sinistraj)

Foliis rotundato-cordatis, grosse dentatis, subtus umbræque luteo-farinosis; petiolis gracilibus, longissimis; involucri setaceo, pedunculis dimidio brevioribus; tubo corollae longo, laciniis ovatis crenulatis, att& pavid, leviter marginal,

*Primula rotundifolia*, Wall. I. cit, 18.

Incolit rupes elevatos versus Gossain Than Himaleyse ; floret Julio.

Species pulcherrima, radice divisâ in fibras graciles, rubicundas. Folia numerosa, patentia, rotundato-cordata, obtusa, dentibus notata triangularibus<sup>^</sup> acutis, subinsequalibus, sinu baseos integro, lobis rotundatis, bipollicaria; supra<sup>^</sup> glabra, par um reticulata; subtus dens& obsita<sup>^</sup> farina luteo-albâ. Petioli graciles, canaliculati, quater ad series foliis longiores, dum juniores farinosi, aetati glabri, ad basin membranacei et dilatati, ibique<sup>^</sup> interspersi squamis radicalibus ovatis, acutis ut in *P.denticulata*. Scopus 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. Involucri bracteolae lanceolatae, pedunculis breviores, persistentes. Calyx (fig. 1.) quinquefidus, basi gibbosus; laciniis lanceolatis, acutis, utrinque farinosae. Corolla (fig. 2.) tubus cylindricus, calyce quadruplo longior, supernè sensim dilatatus; faux ampla, pervia, annulo membranaceo, flavicante marginata; limbus planus, patens, tubi dimidium aequans, IQM obovati, subretusi, leviter crenulati. Filamenta medio tubi inserta; antiterce oblongae. Ovarium cylindricum, laeve; stylus filiformis; stigma subcapitatum, infra fauce. Capsula (fig. 3.) fusca, laevis, oblonga, calyce duplo longior, dentibus dehiscens quinque ad octo, inaequalibus, demum in totidem valvulas recurvas separatis. Placenta globosa, pedicellata.

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

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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; ioribus pedunculatis, valdè copiosis, dispositis in verticillis pluribus; involucris magnis, foliaceis, lanceolatis; calyce ovato corollaeque pubescentibus.

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

Radix. sublignosa, cylindrica, attenuata, longius descendens, fibras emittens aliquot ramulosas. Folia densè conferta, super terram 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, costâ nervisque alternis, obliquis, elevatis; vix reticulata, subcarnosa, basin versus attenuata, petiolo suffulta canaliculate, marginato, bi-tripollicari. Scapi sex ad octo, graciles, debiles, nunc, dum, fructigeri, terrae incumbentes, foliis dimidio vel duplo longiores, villosuli, teretes, carnosuli, dimidiis inferioribus nudi, superiore gerentes verticillos tres ad quinque, raro pauciores, convexas, parum distantes. Flores flavi, odorati, villosuli, pedunculati, numerosi, patentis. 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; faux nuda, pervia. Stamina in medio tubi. Pistillum glabrum; ovarium globosum; stylus filiformis;

*stigma* subcapitatum in fauce. *Capsula* (fig\* 3. 4. 5.) ovata, l&vis, straminea, inttis 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 yelk w, 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 Forskæel, 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 corol 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 deliquious 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 tbf 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, pacalleis, approximatis; per petiolum decurrentibus, subtis umbell&que multiflora, farinosis; scapo foliis longiore; calyce ligulato, tubum sequante; fauce nud&, infundibuliformi; laciniis obovatis, retusis, integerrimis vel denticulatis.

*Primula Stuartii*, VJALL. apud Roxb. Flor. Ind. ii. page 20.

Habitat in Himaleya,\* versus Gossain Than. Floret et fructus profert tempore pluvioso. Etiam habui e montibus Kamaon, ubi legit R. Blinkworth.

Nomen Parbutteum {generate hujus generis et Aadrosacearum) *Nitaha*.

Planta pedalis et ultra, radice carnosâ, constante fibris rubicundis, longis, crassio, teretibus. *Folia* numerosa, erectiuscula, cum petiolis pollices octo ad decem emittentia, oblonga, vel laneolato-oblonga, acuta, deorsum attenuate at s&pius per petiolum decurrentia, ad margines dum juniora re volute, nuncintegerrima(fig.B.); ssepius verd pectinate dentibus creberrimis, parallelis, teretibus, bfevibus; plana, subcarnosa, supr& pallida, subglaucescentia, subtus pedunculis, calycibusque utrinque, dense pulverulentis faring flavicante, subsulphured.; tenuiter reticulate, costA prominente.' *Petioli* folia longitudine squantes, 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* lanceolate, acuta, uninervia, basi subconnata, tres lineas longa. *Floret*

magni, odorati, flavi, vel atropurpurei. *Pedunculi* leviter angulosi, inaequales, fructigeri (fig. 3.) elongati, quandoque tripollicares. *Calyx* (fig. 3.) quinquecarinatus, infundibuliformis, utrinque pulverulentus; *laciniae* 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. *Antherae* ad medium tubi. *Stigma* in fauce, leviter retusum. *Capsula* (fig. 5. 6. 7.) oblonga, calyce persistente parum brevior, fusca, lasevis, 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 involucrum, peduncles, and calyces are covered with much yellow mealiness, as are also all the tender parts.



## WULFENIA OBLIQUA, Wall. TAB, 35.

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

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

*Herba* carnosa, pullida, pubes hyalina, brevissimè conspersa, pedalis, sesquipedalis, erecta, subdichotomè ramosa, vel ferè simplex. *Radix* fibrosa. *Caulis* teres, lineatus, subdiaphanus, basi pennam cygneam crassus, super insertionem foliorum parum intus escens, sursum attenuatus et emittens ramos paucos, graciles, alternos, plerumque simplices. *Folia* alterna, remota, patentia, membranacea et tenuia, brevè petiolata, tri- ad quinquepollicaria, obliquè ovata, acuminata, integerrima, obscure repandula, basi valdè inaequalia: latere altero rotundato, nunc subcordato; altero duplo angustiore, plus minusve abbreviato, attenuato, obtuso; utrinque ad vasa puberula, supra atroveridia, lucida, subtus opaca et pallida, nervis valdè copiosis, approximatis, parallelis, obliquè arcuatis, ad marginem usque excurrentibus, venulosa; siccitate coerulescentia, disco interdum rufidulo. *Petiolae* teretes, puberuli, supra piano-sulcati. *Racemi* caulis et ramorum terminales, paniculati, oblongi, attenuati, recti, secundi, densiflori, digitum longi. *Flores* (fig. 1. 2.) parvi, ascendentes, secundi, alterni, cylindrici, dilute coerulei, approximati, unguem longi. *Pedunculi* bilineares, basi bracteolâ 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, bilobato, fauce nudè, personate, palato convexo. *Labiis* superius brevissimum, vix lineam emetiens, recurvum, obtusè bidentatum; inferius elongatum, angustum, subtus concavum, superiore triplo longius, tridentatum, acutum, dentibus lateralibus minutis, revolutis. *Filamenta* quatuor infra labium superius tubi medio inserta, capillacea, glabra, didynama; *intermedia* duo sterilia, brevissima; *antherae* (fig. 5.) peltatae, subreniformes,

glabrre, vix faucem attingentes, labii superioris basi obtectae, conniventes et contiguae, baud verd connexae. *Pistillum* (fig. 3.) longitudine staminum duorum fertilium. *Ova-Hum* parvum, ovatum, leviter complanatum, glabrum, bisulcatum, basi hinc munitum *annuh* membranaceo, incomplete, angustissimo, adpresso, persistente; uniloculare, *ovulis* copiosis, iusertis super placentis duabus latis, oppositis, parietalibus. *Capsula* (fig. 8.) glabra, ovata, compressa, fusca, calyce persistente obtecta (fig. 7.) eodemque paulò brevior, lineas duas emetiens, basi suffulta nectario isto incomplete, immutato, unilocularis, *infrk* medium bivalvis : valvulae (fig. 10.) planae, bidentata?, dentibus triangularibus, acutis. *Placenta* (fig. 9. 10.) duae, opposite, planae, ovatae, subcarnosae, valvarum axi longitudinaliter insertae, superficie planae, seminiferae, contiguae, 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 *Scrophularintae*, 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 Proff. De Candolle, the curiously interrupted, lateral, annular nectary of the ovarium 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 Nilghirry, which I have great satisfaction in calling *Wulfenia Notoniana*, and which may be distinguished by the following specific character: *Caule* carnoso, tunc lined, 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 corollae indiviso, maximo, obovato. The flowers are much larger in this species, than in *W. obliqua*.



## ADAMIA, Wall

*Calyx* ovario adnatus, limbo quinque-dentatus. *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 Linnaeana *Decandria pentagynia*.

Ordo naturalis: *Araliaceae*?

Genus consecratum memoriae amici et fautoris carissimi, sempiternae colendae; beati John Adam, armigeri, in consiliis supremis Calcuttensibus quondam praesidis, botanices, horticulture et rerum agrestium in Indiis orientalibus strenui et indefessi promotoris.

*Habitus*. Frutex elegans, ramosa. Folia opposita, serrata, exstipulata. Floras paniculati, cyanei. Fructus valdè numerosi, ccerulei, baccati.



## ADAMIA CYANEA, Wall. TAB. 36.

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

Nomen Parbutteum *Bansook*.

Frutex ramosissima, paniculata, tri-quadripedalis. *Caulis* pollicem ad sesquipollicem crassus, cortice spongioso, albicante, glabro, ligno pallido. *JRami* 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; suprà opaca, rugosula, glabra, subtus pallida, juxta costam nervosque elevatos, parallelos, approximatos, obliquos pubescentia, transversimque reticulato-venosa. *JPetioli* pollicares, teretes, suprà plani, propter basin folii acutam, integerrimam, decurrentem parum marginati. *Stipule* nullae, nisi lineola elevata, nunc puberula, bases petiolorum connectens. *Panicula* magna, terminalis, lato-ovata, nuda, vel foliolis floralibus lanceolatis, integerrimis, paucis basi munita, foliorum supremorum pari brevior, densiflora; ramis oppositis, villosis, apice subtrichotomis. *JSracte* nullae. *Flores* (fig. 1. 2. 3.) valdè copiosi, dilute poerulei, nunc rosei, extus albicantes, inodori, plures fasciculati vel subumbellati, pedunculis brevibus, villatis, subcoloratis. *Calyx* superus, i. e. ovario coherens, limbo parvo, libero quinque-dentatus, dentibus minutis, patulis, ovatis, acutis, distantibus, puberulis. *Corolla* carnosa, glabra, quinquepetala, aestivatione valvata et ovato-obtusa. *Petala* lanceolata, acuta, trilineariter, patentissima, demum recurva, basi latè calyci, intra limbum inserta dentibusque ejus alternantia. *Stamina* decem patentia, petalis paulò breviora, hisque alternatim opposita, subsequalia; *Jilamenta* subulata, coerulescentia, carnosa, glabra; *antherae* 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, carnosissimis adfixa. *Styli* quinque, erectiusculi, carnosi, apice dilatati in stigma clavatum, compressum, margine intumescens et subbilobum (fig. 5.). *Baccae* (fig. 8. 9. 10.) admodum copiosae, paniculate, globosae, glabrae, cyanae, magnitudine fructus ribesiae, carne crassa, pallida, spongiosa, subquinquelocularis, polysperma, infra verticem convexam, centro retusam et stylis persistentibus terminatam, coronata calycis dentibus persistentibus, marginulè, angustissimè unitis. *Semina* (fig. 11. 12. 13.) numerosissima, minuta, pyriformia, striatula, placentis quinque parietalibus carnosissimis, demum evanidis inserta, sessilia, totam cavitatem fructus replentia. *Integumentum* simplex, fuscum, membranaceum. *Perispermum* carnosum, semini conforrae. *Embryo* cylindricus, axin fere totam perispermii occupans. *Cotyledones* ovatae, obtusae, dorso convexae, breves. *Radicula* obtusa, hilum respiciens.

## OBSERVATION.

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 greater affinity than to any other, on account of its inferior, single germen, polypetalous corolla, 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 *Rubiaceae*; but the polypetalous corolla, numerous stamens, and absence of stipules, distinguish it. It has a slight connexion with the polypetalous *Caprifolia*, and with Jussieu's ambiguous section of *Ericaceae* with an inferior fruit. Under all these circumstances, I suggest the family of *Araliaceae* for its temporary station. It is a branched 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, Watt. TAB. 37.

Scandens, foliis oblongo-ovatis, cordatis, subhastatis, sinuato-dentatis, acuminatis; racemis longissimis ramisque pendulis; corollae fauce compressa, limbo reflexo.

Habitat in sylvis densis Napaliae, super arbores altos scandens; praecipue inter Hetounra et Chesapanny, juxta flumen Rapy tortuosum; florens tempore pluvioso et frigido; fructus maturescunt praeterlapsis mensibus tribus. E montibus Pundua, Sylhet confinibus, specimina sicca florentia et fructigera olim misit M. R. Smith, et Yperius F. De Silva lecta ad finem pluviarum. In horto botanico Calcuttensi floret initio anni, capsulaeque maturescunt Martio.

*Frutex* ramosissimus, alte super arbores scandens, caule nodoso, valde torto, digitum medium crasso, cortice gryseo, glabro oblecto, ligno minutim et radiatim poroso. Rami longissimi, graciles, flaccidi, penduli, compressoquadrangulares, 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 lobulisque obtusis, nunc hastalobis divaricatis, plus minusve elongatis; pilis raris, adpressis, jutrinqe asperula, opaca, supra atroviridia, subtus pallida, quinquenervia, nervis carinatis, reticulato-venosa, quinquipollicaria ad palmaria; superiora oblongo-cordata, fere integerrima, brevè petiolata vel sessilia. Petioli graciles, teretes, supra plano-sulcati, niarginibus praminiibus, acutis, basi apiceque incrassati, saepius curvi vel torti, pollicares ad tripollicares, summorum foliorum unguiculares vel infra. Stipulae nullae. Racemi terminales ramorum, flaccidi, penduli, multiflori, valde elongati, pedales, bipedales, quin tripedales, oblongi, foliaceo-bracteati. Pedunculus communis tenerimus, filiformis, vix puberulus, teres, ad insertionem fasciculorum oppositorum dilatato-incrassatus et tuberculatus. Bracteae foliaceae, lanceolatae, sessiles, valde acuminatae, integerrimae, triaervis, pedunculis dimidio longiores, oppositae infra singulos fasciculos, pubescentes, novellae purpurascens; inferiores sensim 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. Pedunculi adscendentes, clavati, puberuli, fere pollicares. Calyx (fig. 2.) membranaceus, sphaeraceus, compressus, oblongus, apice bidentatus, hinc fissus, demumque per totum dorsum divisus in sepala duo lanceolata, acuta, ciliata, purpurascens, trinervia, nervis viridibus gracilibus. Corolla (fig. 2.) tubus compressus, sepalis parum longior, fere pollicaris laevis, flavescens, deorsum angustatus, basi dilatatus circumdatus annulo carnosissimo, inaequaliter crenulato, albrido, persistente, calyce multoties brevior. Iambrus reflexus, quinquelobus, tubo parum brevior: lobi obovato-rotundati, retusi, supernè levissimè crenulati, laeves, plani, supra coccinei, subtus flavicantes, fere unguiculares, laterales tubo adpressi, inferior parum descendens; intermedii reliqui minores. Faux oblonga, compressa, nuda. Filamenta quatuor fertilia, didynama, carnosissima, sevia, complanata, flavicantia, basi parum dilatata supra basin tubi inserta. Antherae erectae, oblongae, compressae, cuspidatae; locula basi pilosula, bicalcarata, calcaribus subulatis, hyalinis, divergentibus, inaequalibus. Filamentum quintum sterile, inter bases filamentorum superiorum, subulatum incurvum, trilineare. Ovarium ovatum, laeve, nitidum, disco hypogyno tumido, carnosissimo, flavo, semiimmersum. Stylus laevis, filiformis. Stigma clavatum, compressum, bilobum, obtusum, nutans, antheras parum excedens eumque iis faucem corollae occupans: lobus inferior plicatus, superiorem paulò inaequalem amplectens. Capsula (fig. 3.) nutans, fusca, glabra, fere sesquipollicaris, basi globoso-ventricosa cerasum parvum equante, suffulta nectariis istis, duobus hypogynis, persistentibus, planis, coriaceis, pedunculum terminantibus; supernè abien in rostrum solidum, rigidum, acutum, compressum, marginibus rotundatum; ab apice elasticè desiliens in valvas (fig. 4.) duas, recurvas; bilocularis, tetrasperma, seminibus duobus sessilibus abortivis. Dissepimentum con-



trarium, demum bipartitum, utrinque *adfigens placentam* carnosam, convexam, seminis cavitate replentem, maturitate evanidaiu. *Semina* (fig. 5. 6.) grandia, fusca, placenteformia, inaequaliter tri- vel tetragona, scrobiculato-rugosula, scabra, dorso convexa, marginibus subtruncatis, planiusculis, yentre concaviusculo, ad centrum umbilico parvulo notato. *Integumentum* simplex, membranaceum, arete 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, laevis, glauca, foliis ovato-cordatis, obtusiusculis, subsessilibus, aniplexicaulibus, coriaceis, integerrimis; floribus axillaribus oppositis; tubo elongato, limbo patentissimo, seminibus seniglobosis, sessilibus.

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.

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 GYMNEMA NAPALENSE, Watt. 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, glaberrinii, subnodosi; juniores puberuli, fusciscentes. Folia opposita, patentia, membranacea, glabra, oblonga, velovato-oblonga, acuminata, basi cordata, lobis rotundatis, nunc

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

ovatabasiretusa; quatuor- ad sexpollicaria, interstitiis plerumque longiora; suprâ atrovi-  
ridia, nitida, subtus glauca, minutim reticulata, cost& nervisque intra marginem arcua-  
tim anastomosantibus, puberulis; novella pilosula. *Petioles* unguiculares vel semipol-  
licares, teretes, supr& sulcati, basi intra axillam, apiceque in centro sinus muniti acer-  
vulo ciliarum subulatarum. *Cymce* extra-axillares, foliis plus minusve breviores, pedun-  
culate, densiflorae. *Pedunculi* teretes, pilosuli, bi- tripollicares; *partiales* inaequales;  
*bracteae* minutae, subulatae ad divisuras. *Flores* (fig. 1. 2.) brevè pedicellati, umbellati,  
flavi, inodori, glabri, *testivatione* valvati. *Calycis lacinae* (fig. 3.) ovatae, obtusae,  
adpresso, ciliatae, corollâ quadruplo breviores. *Corolla* (fig. 4.) urceolata, glabra;  
*lacinae* ovatae, acutae, patulae, ad lentem ciliatae; *faux* nuda, edentula, pervia. *Tubus*  
*stamineus* (fig. 5. id. transv. sect. fig. 6.) cylindricus, longiusculus, attenuatus, inclusus,  
nudus, quinquesulcatus, sulcis lineolâ elevatis, carinatis, deorsum ulterius productus in  
lobulos quinque minutos, cum filamentorum basi continuos. *Antherae* ovatae, obtusae,  
membranulâ albâ marginatae, supra stigma conniventes totumque fere obtegentes.  
*Massis pollinis* cereaceae, lineari-cuneatae, erectae, per paria *corpusculis* oblongis, sul-  
catis, ope pedicelli brevissimi basi insertae. *Ovaria* oblonga, lasevia; *stylus* brevissimus;  
*stigma* (fig. 8. 9.) quinquangulare, quinquelobum: lobis compressis, subdivaricatis.  
*Folliculi* (fig. 10.) duo, laetes, fuscis, subulati, acuminati, bipollicares, valdè divaricati.  
*Semina* (fig. 11.) plana, ferruginea, marginulata, comâ, sericeâ coronata.

## OBSERTATION.

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 specific character of that and some other Indian species of *M&mnema*.

*Gymnema hirsutum*, Wall. Volubile, hirsutum; foliis ovatis, acuminatis, basi rotundatis; corymbis folio brevioribus, flexuosis; floribus racemosis, longè pedunculatis, bracteis rainutis, copiosis, squarrosis; corollâ fauce nudâ.

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

*Gymnema sagittatum*, Wall. Volubile; laseve; foliis oblongo-ovatis, acuminatis, basi obtusis; corymbis folia subaequantibus, trifidis, puberulis; corollis s u beam pan u-  
latis, fauce edentulis; antheris subsagittatis.

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

*Gymnema attenuatum*, Wall. Volubile, laseve, foliis lanceolatis, valdè attenuatis; corymbis gracilibus, flexuosis, folio sublongioribus; corollis subrotatis, fauce edentulis; nâssis 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 villosis; foliis ovatis, glabris/utrinque acutis, umbellis petiolo vix longioribus; corollis rotatis, fauce coronata 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, densè tomentosum; foliis ovatis, acuminatis, suprâ glabris; umbellis axillaribus, subgeminatis, petiolos sequantibus; corollis rotatis, fauce subulato-dentatis.

*Asclepias acuminata*, Roxh. Cat. Hort. JBeng. p. 21.

Habitat in Chittagong.

## DACTYLICAPNOS, Wall.

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

Herba glabra, glaupa, caule ramisque filiformibus, tortilibus, ope petiolorum cirrhorum scandentibus. *Folia* hi- aut triternata. *Racemi* axillares vel oppositifolii, longè pedunculati. *Fructus* carnosus, ind<sup>h</sup>iscens.

Classis Linneana : Diadelphia.

Ordo naturalis : *Fumariaceae*.



## DACTYLICAPNOS THALICTRIFOLIA, Wall. TAB. 39.

Legi in monte Sheopore floribus fructibusque maturis Augusto. £ Noakote etiam habui, Maio florentem.

Radicis 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, dichotomy ramosum, bi-pollicarem; *partiales* longiores, quandoque insequales, alteruternunc cirrhosus. *Foliola* ovata, acutiff, integerrima, basi cuneato-acuta, vel obtusa, membranacea, pollicaria aut infrà, Suprè nitidula, subtus valdè glauca, ad basin quinquenervia, extrorsum multinervia, propter nervos bifurcatos, capillaceos, parallelos, ad apicem usque excurrentes; petiolulo unguiculari, nunc subtus cirrhoso insidentia. *Racemi* pedunculati, axillares vel oppositifolii, interdum terminates rarnortlm caulisve, solitarii, nudi, folia longitudini subsequantes vel iisdem parum longiores, y? orifeti (fig. 1.) circiter quinque, magnis, oblongis, compressiusculis, nutantibus, luteis, ore rufescentibus, pollicaribus, fragrantibus, basi dilatata bicornutis, pedunculatis, subfasciculatis. *Pedunculi* filiformes; *pedicelli* unguiculari, basi suffulti *bracteolae* Hneari, acutd.; fructigeri pollicares, subclavati. *Calyx* diphyllus: *sepala* (fig. 2.) miniata, 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 aequantia, iisdem verò multo augustiora, unguiculata; *lamina* ovata, sagittata, dorso convexo carinata, apice productione obtusè opposita accreta, deinuin 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. *Ovarium* (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.) carnosa,\* mollis, dilute violacea, intus aqueo-pallicfa, oblonga, cylindrica, attenuata, acuta, stylo coronata, ferè pollicaris, basi nuda leviter retusa, unilocularis. <sup>H</sup> *Semina* (fig. 11.) valde numerosa, atra, subreniformia, complanata, piinctulis notata minutissimis, seriatis, ad hilum instructa carunculo brevi, carnoso, aril li for mi, 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 *Fmnariacece* 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, *DeCaniL* TAB. 40.

Erecta, glauca, radice fibrosa, caule anguloso, foliis tripinnatifidis, foliolis incisobatis; floribus densè racemosis; bracteolis ovatis, Thimis serrulatis et pedicellum ferè sequantibus; siliquis clavatis, pedicello longioribus.

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

Legi in montis Sheopore sylvis florentern Junio, fructigeram Julio.

*Herba* erecta, gracilis, subcarnosa, pallida, glaucescens, laevis, bipedalis et ultrà. *Radix* longa, attenuata, majuscula, 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* remota, alterna, triangulari-ovata, radicalia longè petiolata, caulina brevè petiolata vel sessilia, tripinnatifida, palmaria vel infrà; *pinnæ* oppositæ, quadri- vel quinquejugæ, oblongæ, inferiores petiolatæ, exteriores sessiles et marginulS. angustà, attenuatè decurrèntes; *pinnulæ* bipollicares, adnatæ; *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 *pinnulæ* exteriores confluentes in acumen attenuatum, pinnatifido-lobatum. *Racemi* terminatæ, subpedunculati, graciles, teretes, valdè attenuati, densiflori, tripollicares. *Flores* (fig. 1. 2.) numerosi et approximati, pallidè lutei, inodori, unguem circiter longi. *Pedicelli* capillares, trilineares, *bracteolis* ovatis duplo longiores, infimas vero remotiusculas, utrinque serrulatas subrequantes. *Calyx* (fig. 3.) minutus, sepalis subreniformibus, dentatis. *Corollæ calcar* descendens, attenuatum, limbum sequans. *Filamenta* (fig. 3.) basi dilatata, apice triantherifera. *Stigma* planum, tridentatum. *Siliqua* (fig. 4. 5.) clavata, turgida, nutans, he vis, Unguicularis, deorsum attenuata in pedicellum quadruplo breviorè, vertice dilatatS. acutiusculS, 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 bractes, 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 longè, subfusiformi; foliis supradecompositis, segmentis capillaceis; floribus terminalibus, laxè racemosis, longè pedunculatis; bracteis decompositis, setaceis; siliquâ pedunculo pluries breviorè.

Crescit in alpibus Gossain Than, floret Augusto.

*Herba* pedalis, Isevis, carrosa, erecta. *Radix* valdè crassa et longa, subfusiformis, saepius divisa in ramos plures, collo pollicera et ultra diametro emetiente. *Caules*

plures, cespitosi, striati, erecti, teretes, basi simplices nudique, petiolis interspersi emarcidis foliorum radicalium; supernè divisi in ramulos plures, simplices, approximatos, paniculatos. *Folia* alterna, circumscriptione oblonga, supradecomposita, glaberrima; *pinnae* alternantes, inferiores remotiusculee; *segmenta* ultima capillaceousetacea, teretia, trilinearia ad unguicularia. *Radicalia* plura palmaria\*; petiolos sulcatos, basi dilatatos sequantia; *caulina* brevius petiolata; summa subsessilia. *Racemi* terminates, breves, laxiusculi, ovati, obtusi, sessiles, bipollicares, basifoliosi, supernè *bracteis* instructi (fig. 2.) foliaceis, setaceo-decompositis. *Flares* (fig. 1. 3.) magni, flavi, longè pedunculati, nutantes; inferiores ex axillis foliorum supremorum, pedunculis instructi bipollicaribus; superiores pedunculis pollicaribus suffulti. *Sepala* reniformia, laciniato denticulata. *Limbus* clausus, purpureus; *galea* carinè dorsali latè, per dimidium calcaris conici, obtusi decurrente; *petala* *lateralia* carinè dorsali angustiore. *Filamenta* basi dilatata, apice subulata, bi- vel triantherifera. *Stigma quadratum*, subsagittatum, margine 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 *Corydalis 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, fig. sinistra.

Radice ramosa; 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?

*Corydalis 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, diffuse ramosus, basi procumbens, inde erectus, pedalis, nunc elongatus bipedalis, uti tota planta glaucescens, pallidus, lèvis. *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 floracionem parum elongati. *Flares* (fig. 1.2.) secundi, flavi, pedicellis *bracteis* lanceolatas, inferiores subinpias excedentibus. *Sepala* reniformia, ciliato-fimbriata. *Siliqua* (fig. 3.) lineari-cuneatae, compressae, stylo brevi terminatae, nutantes, unguiculares, pedicellos sequantes, nunc distinctius cuneatae 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*, (Gnielin. 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 Kamaon, and which were gathered by Mr. Robert Blinkworth, 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, Jig. 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 baud observare licuit. *Caulis* (scapus?) simplicissimus, erectus, teres, striatus, basi pennam anserinam vix crassus, sursum attenuatus, pedalis, bi-usque ad tripedalis, inanis, uti coeterae partes levis. *Folia* (an bracteae censenda? radicalia nulla observavi;) remotissima, saepius 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-patentia. *Racemus* terminalis, erectus, cylindricus, attenuatus, multiflorus, spithamaeus vel dodrantalis, *floribus* (fig. 1. 2.) flavis, fauce purpureis, nutantibus, undique sparsis, superioribus approximatis, inferioribus sensim remotioribus. *JPedunculi* unguiculares, *bracteis* lineari-lanceolatis tertio longiores, fructiferi f-pollicares. *Calcar* cylindricum, obtusum. *Siliqua* (fig. 8.) 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 aequantibus.

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,<sup>9</sup> an inch in length, but afterwards gradually increasing to twice or thrice that dimension, supported by the slender continuation of the stem. *Bractes* 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* trans versal, 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 Goveniana*, Wall. Radice . . . Foliis omnibus petiolatis, oblongis, bipinnatis; pinnis cuneatis, profundè pinnatifidis, lineari-oblongis, obtusis cum cuspidula, integris vel bilobis; racemis laxis, secundis; bracteis cuneiformibus, inciso-lobatis, pedunculis superantibus, supremis lanceolatis, integris.

A specimen of this beautiful plant was communicated to me in 1819, by Dr. Govan, who had found it on the mountains of Gurwal. It seems to be intermediate between *Corydalis nobilis* and *bract eat a*. The *radical leaf* measures about a span in length, including its petiol, and is of an oblong contour, with about five pairs of opposite *pinnce*, 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, *yeMowJlowers* entirely resembling those of *C. nobilis*. *AH the bractes*, except the uppermost, are foliaceous, subimbricate, *ctffteate* at the base, divided at the end into three to five linear, acuminate lobes ; they 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.

*Fumdria parvijlora*, 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, *fj^shy peduncle*, which is longer than the bracte. Among the late Dr. Heyne's collection, there are some specimens labelled " *Fumaria officinalis*, 28fA November 1816/' which, as far as regards the leaflets, certainly resemble that species more than *parvijUvra*; 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.\* Whitejaw 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 *Pitpapa* in Hindustane\$, *Shoutra* in Persian and Dukhane\$, and *Bucklutulmelic* in Arabic.

PODOCARPUS MACROPHYLLA, *Wall.* TAB. 48.

Foliis undique sparsis, lineari-sublanceolatis, acutis; amens masculis elongatis, cylindricis; fructu globoso, suffulto receptaculo magno, supernè trilobo, basi bibracteato.

*Lignum JEmanum*, Rum ph. Amb. iii. p. 47. t. 26.

*Sin.*, vulgo *Máki*, seu *Fan Máki*, i. e. *Máki legitima* (*Ksa'Máki*) Kaempf. Amcen. cxot. 780 (fide Thunberg.)

*Taanssmacrophylla*, Thunb. Japon. 276. Banks Icon. Kaempf. p. 2. t. 24.

In Amboina primum detexit Everardus Rumphius; in Japonia Engelbertus Kaempfer; China, Gail. Kerr (teste Hort. Kewensi.) Ipse reperi in convalle Napaliae 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 Newarrene *Goonsee*.

Arbor magna, sempervirens, pedes quadraginta ad quinquaginta alta, trunco recto, glabro, pedem, ad pedem et dimidiam crasso\* *Kami* patentes, subverticillati, uti omnes partes laeves, fuscescentes; juniores laetè virides, parum angulosi, e lapsu foliorum tuberculato-cicatratis. *Folia* valdè approximata, undique sparsa, vix subbifariè patentia, linearia, vel angustissimè lanceolata, attenuato-acuta, lineas quatuor ad quinque lata, basi acuta, plana, coriacea, supr<sup>t</sup> atro-viridia, nitidula, plicatula, juxt& longitudinem leviter convexa, costis gracili, elevatis, marginibus parallelis, convexusculis, integerrimis; subtus pallida et opaca, glaucescentia, avenia, enervia, costis latiusculis, subsulcata; interdum subverticalia, rarè parum falcata; tenella laetissimè virentia, parum flavicantia, nunc undulata. *PJB* brevissimi, vix ultra lineas duas emittentes, supri convexi, a basi folii subdecurrente obsolete marginulati, nunc parum torti. *Fhres* dioici. *Amenta, mascula* (fig. 1.) cylindricè-oblonga, pennam cygneam crassa, pollicem ad duos longa, obtusa, recta, pallidè lutea, sessilia, basi suffulta *squamis gemmaceis* pluribus, persistentibus, patentibus, imbricantibus, ovatis, acutis, concavusculis, dorso subearinatis, nervo elevato, interdum infra apicem, nunc obtusam, in cuspidulam excurrente, bilinearibus. *Antherce* (fig. 2. 3.) numerosissimae, approximatae, patentiusculae, parvae, nudaе, receptaculo cylindricè gracili insertae, sessiles, obovatae, cuspidulè terminate, biloculares, loculis versus parietem inferiorem longitudinaliter dehiscentibus. *Flores fwminei* (fig. 4.) solitarii, axillares, brevè pedicel<sup>o</sup> lati, nudi. *Ovum* ovato-rotundum, laeve, magnitudine seminis sinapeos, insidens *receptaculo proprio*, pedicelli floris continuo, eoque triplo ferè longiore et crassiore, viridi, cylindraceo, apice obliquè retuso, et inaequaliter trilobato, basi bibracteato: *bracteolis* oppositis, linearibus, acutis, patentibus, receptaculo dimidio brevioribus. *Stylus* nullus. *Stigma* obovatum, obliquum. *Pericarpium* (fig. 5. 8. 9. 10.) nux<sup>o</sup> obovato-globosum, magnitudine grassulariae, laeve, viride, glaucum vertice obliquè apiculatum, basi acutiuscula foveae terminali receptaculi lateralis insertum, uniloculare, monospermum, evalve et indehiscens. *Receptaculum* (fig. 6. 7. 9.) carnosum, molle, leve, atropurpureum, pruinatum, oblongo-cylindricum, semipollicare, a lobis apicis subdecurrentibus leviter sulcatum, nuce duplo ferè longius, basi retusè suffultum bracteis istis duabus, apice concavè divisum in lobos tres in quales, crassos, brevissimos, nunc acutiusculos. *Integumentum exterius* crassum, coriaceum, versus superficiem interiorem subcarnosum parumque porosum; *interim* tenuissimum, membranaceum, perispermio arctè adhaerens. *Perispermum* totam pericarpium cavitatem replens, carnosum, album. *Embryo* (fig. 11.) cylindricus, albus, obliquè ascendens in cavitate propria, dimidiam inferiorem partem axis perispermii occupante. *Cotyledones* duae ovatae, obtusae, dorso convexae, intus planae; *plumula* minuta, obtusa, eotyledonum basi oblecta; *radicula* infera, acutiuscula, parvè basi perispermii distantè remota.



totam pericarpium cavitatem replens, carnosum, album. Embryo (fig. 11.) cylindricus, albus, obliquè ascendens, cavitatè propter, dimidiam inferiorem partem axis perispermi occupante receptus. Cotyledones duse, ovatae, obtusae, convexae, intus planae; plumula minuta, obtusa, cotyledonum basibus obiecta; 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 between them and those of Sylhet, Nepal, and Singapore. The species may 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 inverted embryo to *Podocarpus aspknifolia* of Labillardiere, in an interesting memoir connected with the subject of the structure of seeds, inserted in the 16th vol. of Annales du museum d'histoire naturelle, (p. 456. t. 6.) The same acute observer represents the embryo inverse in *Taocus baccata* (loc. cit. tab. 4;) while Gaertner describes it as being erect (Carp. 2. p. 66,) which it undoubtedly also is in *Taocus* (my *Podocarpus*) *macrophylla*. The general habit, male inflorescence and leaves of Kaempfer's *Nagi*, Amoen. 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 and juicy 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 aspknifolia* has much larger leaves,

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*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 Cyclopaedia, that Kaempfer's description (*Ken sin, item Sen bakv, virgo Inu mdki, i. e. Maki spuria*, amoen. exot. 780,) points at its close resemblance to *T. macrophylla* and *spimulosa*; 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, JK m# / TAB. 44.

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

Fi, Vulgo *Kaja*, *Taxus nucifera*, K&mpf. amoen. exot. p. 814. t. 815 ?

*Tarns nucifera*, Linn. spec. plant. 2, p. 1472? Gartn. carp. 2. p. 66. t. 91 ?

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

Nomen Newar. *Loosoah*.

Arbor magna, pyramidalis, cortice fusco, laevi, ramis patentibus, gracilibus, laxiusculis, fuscis, tuberculatis, subdistichè ramulosis. *Folia* approximata, patentia, falcata, Verticalia, bifaria, alterna, linearia, uninervia, cuspidatnacuta, pollicaria, suprâ atroviridia, lucida, subtus glauca. *Petoli* planiusculi, vix sesquilineam longi, basi utrinque lineol&'per ramum decurrentes. *Amenta mascula* (fig. 1. 2.) copiosissima, axillaria, solitaria, foliis quadruplò breviora, ovata, brevissimè pedicellata, subsecunda, faciè ramuli inferiorem spectantia, basi circumdata *bracteolis* pluribus, imbricantibus, Taldè insBqualibus, obtusissimis, lsevibus, interioribus obovatis, subrotundisque, patentiusculis, calyculum majusculumformantibus, exterioribus sensim minoribus, perpedicellum brevissimum sparsis. *Columna* (fig. §.) *filament or um* brevis, teres, flava, carnosâ, bractearum calyculo" vix longior, apice leviter incrassatd, divisa in filamentula brevissima, capillacea, distincta. *Antherae* (fig. 4.) pallidissimè flavicantes, peltatae, quadri- vel quinquelobse, lobis patentibus, obtusis, subtus dehiscentes, approximate in capitulum supra calyculum parumper elevatum. *Flores fceminei* haud visi. *Nux immature\** (fig. 5.) in distincta arbore, axillaris, solitaria, subrotunda, apiculata, hevis, nitida, magnitudine seminis coriandri, fere occulta *calyculo*, (fig. 6.) multibracteato, pedicellate.

## OBSERVATION.

This tree seems to be much like Ksempfer's figure and description, quoted above; yet I am not certain that they belong to one and the same species. The leaves are represented as being more distant, and\*somewhat broader than those of our tree; but this may be an accidental circumstance. I have not seen the ripe fruit; but its unripe state clearly points at a nut, supported by a subtruncate calycle of numerous bractes. The wood is light, compact, of a brownish color.

Both Capt. W. S. Webb and Dr. Govan, have kindly supplied me with specimens, which are undoubtedly *Taxus baccata*, without fructification, which had been gathered on the Himaleya. I possess, besides the above, other specimens, presented to me by those gentlemen, as species of *Yew*; but not having seen their inflorescence, I am unable to afford any useful information respecting them. My first mentioned friend sent me branches of a *Yew*, which he gathered on the Confines of Tartary: he observes, that it is berry-bearing, and that the natives call it *Toonèr*. It is certainly a new species.

CARPOLOGY of *Thunbergia coccinea*, (continued from p. 49.)

Having succeeded in causing several seeds to germinate, which ripened this season, for the first time, in the garden, I am able to add some account of their internal structure. I must, however, candidly confess, that I have not quite overcome the difficulty of determining the precise nature of the radícula, and the figure and relative position of the cotyledons. The latter appear to mfe to vary considerably in those respects, as well as in their size; the ventral one is, however, always the largest. Before germination, they are scarcely to be distinguished from each other by a faint and interrupted line, observable in a section of the seed; and it is only during its progress, that their margins become somewhat separable by the aid of a knife, especially towards their base, where they send off the small, flattened, longish petiols, by which they are attached to the infant plant. In every other respect, they continue firmly attached to each other, forming a seemingly uniform substance, which never rises above the ground. The seeds of *Thunb. grandiflora*, Ro\*b. appear to have precisely the same structure. Those of *Thunb. Hawtayneana*. WaW. have the back of the ventral, at least four times larger, cotyledon marked by a flat, obicular cavity, in which the dorsal cotyledon is placed. This latter is almost circular, very slightly convex on the outside; its margins truncate, and concealed within those of the cavity, in which it is received.

*Th. coctiinea*: *Cotyledones* duae, carnosae, albse, dispares, plano-convexse, incumbentes, paginis iuternis aretè confcrruniatre, ita ut limites, nisi inceptfi germinatione,

vix ac ne vix discriminari queant, hypogaeae; *ventralis* majorem seminis partem efficiens, 'figuramque ejus determinans; *dorsalis* quadruplo minor, mediam inferioremque partem superficiei dorsalis alterius occupans, eaeque subimmersa, irregulariter orbicularis, margine obtuso, nunc pro parte replicato. *Embryo* parvus, planus, 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; femineis gracilibus; putamine puberulo, demum glabro.

*Jbobai*, vulgò *Jamma Momu*, Kaempf. amoen. exot. p. 798. Ejusd. icon, a Bank\* sio 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 eras so, cortice obteeto 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, rarissimè notata denticulo uno alterove remoto, quadri- ad sexpollicaria, chartacea, supra lucida, laevia, vasculis nunc puberulis; subtus pallida, tamen nitidula, sub lente punctis minutis, resinosis conspersa, c. s. & gracili, elevatè nervisque capillaceis, reticulato-ramosis, versus marginem arcuatim anastomosantibus, puberulis; primordialis subtus magis pubescentia, grossè et inaequaliter serrata, serraturis latis, cuspidatis. *Petioli* brevissimi, teretes, villosuli, tres lineas longi. *Stipules* nulls. *Amenta* axillaria, vel lateralia (e vestigiis foliorum delapsorum) solitaria, erecto-patentia. *Mascula* (fig. 10 in distincta arbore, composita, cylindræa, gracilia, obtusa, seinipollicaria, usque ferè pollicaria, lineas duas crassa, racemosa, alterna, remota, sessilia. *Pedunculus communis* *f. Wfovmis*, rectus, gracilis, nudus, villosus, foliis dimidiò brevior, nunc eadem subsequans. *Partialis* (*rachis*) tenerrimus, glaber, subflexuosus. *Squamæ* (fig. 2. 3.) valde approximate, cuneato-obovatae, concavae, obtusae, ciliatæ, minutæ. *Stamina* (fig. 4.) quinque, longitudine squamæ. *Filamenta* levia; *antheræ* subrotundæ, erectæ, biloculares, utrinque longitudinaliter dehiscentes, valvulis demum divaricato-reflexis; polline majusculo, aureo, globuloso. *Amenta feminea* (fig. 14.) simplicia, sessilia, foliis dimidiò vel tertiò 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 duplè longiores, supra bracteas inserti. *Stigmata* acuta. *Drupoe* (fig. 9-10.) magnitudine cerasi minoris, subrotundæ, sessiles, nudaæ, laeves, superficie minutè granuloso-lobulatae, colore e rubro purpurascente, carne molli, parè, dilute fubellæ. *Putamen* valde durum et crassum, ovatum, levissimè compressum, rugosum et faveolatum, pube sericeæ, 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 G lad win'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 K&mpfer'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 *plantw obscure*, 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.

" *Branchlets* 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. *Stipules* none. *Female Aments* 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. *Peri sperm* none. *Embryo* inverse. *Cotyledons* 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 size 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; amentis 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. (*Kaephul*)?" I found the tree in the forest 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-

**germinis** vel acutè serrulatis, lsevibus, deorsum acuminatis, basi subobtusis; amentis distinctis, axillaribus, solitariis; masculis densè racemoso-subpaniculatis, sessilibus; foemineis elongatis, erectis.

Arbor 12 pedalis, ramosissima. *Kami* rugosi, grysei; *ranwtli* 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 vel obtusa, nunc retusa, margine leviter recurvo integerrima vel remotissimè et acutè serrulata, tri- usque ad sex-pollicaria, utrinque laevia, suprà lucida, subtus (ut in *M. sapida*) nervoso-venulosa, minutim resinoso-punctulata. *Petioles* brevissimi, pubescentes. *Amenta* axillaria, solitaria, distincta. *Mascula* brevissima, approximata, disposita in racemis axillaribus, admodum copiosis, basi subcompositis, sessilibus, foliis dimidiò brevioribus. *Pedunculus cwmunis* pubescens. *Squamce* et *stamina* ut in illa specie. *Amenta foeminea* (ex icone a beato Gulielmo Jack communicata) gracilia, teretia, erecta, foliis tertiò breviora vel eadem subsequantia.

I believe this tree will be found entirely different from *M. sapida*. I saw only a few female aments, 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 congeners. 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-seeded, attachment of the ovulum superior; styles 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 Gsertner's genus. I would suggest the generic name *Putranjiva*, derived from a legitimate Sanscrit origin, for the tree in question, calling it *Putranjiva Roxburghii* after its first describer. Forskael's *Buxus dioica*, which is Vahl's *Myrica monttona*, Symb. bot. 2. p. 99. has, according to this author and Sir J. E. 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*, unless the original name *Buxus* was meant to indicate the peculiar *Ruscus*-like structure of the leaves of Kaempfer's tree, in which case it ought probably to be placed with the latter.

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### TRICYRTIS, Wall.

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

Classis Linneana. *Hexandria monogynia*.

Ordo naturalis. *Lilia*, Juss.

Habitus: Planta gracilis, erecta, caule subsimplici, foliis cordatis, sessilibus, amplexicaulibus. *Flores* terminales, pauci, pulchri, basi gibberibus tribus, prominentibus nota (unde nomen.)

## TRICYRTIS PILOSA, Wall. TAB. 46.

*Uvularia 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. *Radix* brevis, emittens fibras plures filiformes, teretes, paludas. *Chulis*, nunc duo tresve, teretes, crassitie culmi avenacei, graciles, attenuati, nunc apice ramulos emittentes paucos, simplices, brevissimos, leviter inter folia flexuosi, pilosi<sup>^</sup> basi purpurescentes, omnino evaginati. *Folia* alterna, sessilia, erecto-patentia, membranacea, ovato-cordata, stmplexicaulia, attenuata in acumen longum, subtrinervium, leviter undulato-repanda, integerrima, plana, quadri- ad sexpollicaria, sinu baseos profundo, saepius angusto, lobis ovatis, obtusissimis, fer& semipollicaribus, utrinque mollissima propter pilos sparsos, sericeos, patentem; suprâ pallidè viridia, juxta nervos sulcata, subtus albescens, novem-nervia, costâ gracili, nervos alternos, tenuissimos, admodum obliquos emittente; media caulis majora; caulium novellorum ovato-lanceolata, basi simplici, angustata adnata; *floralia* lanceolato-cordata, pan a. *Paniculate* terminalis, pauciflora, palmam longa, subdfchotomè ramulosa, foliolosa, pilosa. *Pedunculi* teretes, graciles, sesquipollicares, inferiores foliolo florali, superiores brae teâ lanceolate, 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 revoluto, fere pollicari. *Foliola* (fig. 1. 2.) lanceolata, attenuato-acuminata, pollicaria, duplici ordine alternatim disposita: *exteriora* parum latiora et longiora, extus puberula, basi exsculpta fovea mellifera, extus in tuberculum calcariforme protrudente, sesquilineam longum, truncatum, rectè divergens; sestivatione valvata; *interiora* basi simplicitate, absque fovea vel gibbere, marginibus sestivatione parallelis, baud verò contiguus. *Stamina* (fig. 1.) perianthium longitudine sequantia; *filamenta* teretia, carnosa, purpureo-guttata, apice recurvatS, nutantia, foliolis perianthii opposita, eorumque basi adfixa. *Antherte* majusculae, ovatae, planse, biloculares, utrinque longitudinaliter dehiscentes, dorso adfixae, extrorsum nutantes, anticse. *Pistillum* (fig. 1.) longitudine staminum, erectum; *ovarium* (fig. 3.) oblongo-prismaticum, pallidè viride, laeve, angulis prominentibus, lateribus sulco notatis, triloculare, potysporum: *ovula* plurima, simplici serie axi adfixa. *Stylus* obscur& triangularis, divisus in lobos tres, ipso longitres, trilineares, divaricato-patentissimos, asperulos, divisos in *stigmata* sex, capitellato-glandulosa, carnosa, recurvato-hamulosa, acuta. *Capsula* (fig. 4. 5.6) triquetropismatica, laevis, pallid<sup>^</sup> fuscescens, lateribus canaliculatis, sesquipollicaris, trilocularis, apice trivalvis, *valvis* brevibus, plicatis, angustatis. *Dissepimenta* ex inversis valvularum marginibus constructa. *Semina* (fig. 7. 8.) parva, densissim<sup>^</sup> imbricata, plana, atra, o>ata, umbilico parvo, planiusculo notata, simplici serie axi inserta. *Integumentum* simplex, rugis densis, transversis, venulisque loogitudinalibus paucis ornatum, laxius adhaerens. *Perispermum* copiosum, carnosum. *Embryo* (fig. 9.) minutus, subulatus, in cavitate mucosa, ad extremitatem perispermi 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 *Umilaria hirta* may perhaps be this plant, and I have accordingly quoted it as a doubtful synonymon.



### CRAWFURDU, Wall.

*Calyx* tubulosus, quinque-dentatus. *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, *vahis* prope margines seminiferis. *Semina* verticalia, imbricata, membranaceo-marginata, hinc biloba.

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

Ordo naturalis: *Gentianaceae*, Juss.

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

Dixi in honorem amici dilectissimi, *Jbannis Cratpfurd*, arinigeri, insulae Singapore gubernatoris, propter opus suum de archipelago Malayano \* ben& meriti; historise naturalis totius, pneprimis vero botanices fautoris strenui, ejusque studio addictissimi.



### CRAWFURDIA FASCICULATA, Wall. TAB. 47.

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

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

*Radix* fibrosa. *Caulis* teres, scandens, gracilis, uti tota planta laevis, emittens ramos plurimos, longos, tenerrimos, teretes, super frutipes lat& volubiles, tortiles, filo emporitico vix crassiores. *Folia* opposita, remotiuscula, mine interstitia subaequantia, tri- ad quinquepollicaria, patentissima, lanceolata, e basi rotundato-acutiuscula attenuata in acumen longum; integerrima, margine membranaceo minutim crispatula, trinervia, nervis gracillimis, subtus elevatis, ad apicem usque excurrentibus, utrinque glaberrima, glaucescentia, minutim reticulata. *Petioles* semi-pollicares ad pollicares, sulcati, basi dilatata, concaviuscul& ramum marginulo elevato amplectentes, praeter quem nullum stipularum vestigium. *Flares* (fig. 1,2.) magni, pollicares, ad sesquipollicares, dilute coerulei, tres quatuorve fasciculati, axillares, tubulosi, inodori, brevissime pedicellati, petiolo dimidio vel duplo longiores, patentes. *Pedunculus* teres, crassiusculus, lineas duas vel tres longus, supra basin *bracteoli*\* duabus tribusve lanceolatis, acutis, viridibus, ipsum longitudine aequantibus.\* *Calyx* (fig. 3.) cylindrico-oblongus, quinquecarinatus, fer^ unguicularis, fauce subtruncata coronata dentibus quinque longis, compressis, erectis, distantibus, calycem ipsum longitudines aequantibus. *Corolla* (fig. 4.) unicum calyce marcescens, laevis, sub lente punctulata; *tubus* ferè pollicaris, leviter plicatus, sursum vix ampliatus; *limbus* patens, plicatus, tubo triplo brevior, quinquefidus, aestivatione imbricatus: *lacinae* ovatae, acutae; *lobuli accessori* totidem interjecti, brevissimi, obtusi; *faux* nuda, pervia. *Stamina* (fig. 4.) quinque corolla par um breviora, erecta, inclusa, parum in&qua\ VL; *filamenta* complanata, supra basin corollae inserta, basi medioque dilatata, duo paullo reviora; *antherae* erectae, parallelae, liberae, ohjong«. *Ovarium* (&g.5.) brevè pedicellatum; pedicelli basis circumdata disco brevissimo, profund& et obtus^ quinque-

\* History of the Indian Archipelago, in three volumes, 8vo. 1820.

lobo, carnosio, flavicante; lineare, laseve, uniloculare, pluriovulatum: *ovula* planiuscula, margine extrorsum bilobo, parietibus oppositis duplici serie adfixa. *Stylus* teres, erectus, longitudine ferè ovarii. *Stigmata* duo teretia, papillosa, obtusa, recurvata. *Capsula* (fig. 6. 7.) flori. tegumentis oblecta, lasevis, oblonga, com pi an at a, coronata stylo persistente, demum bipartibili, £-pollicaris, longè pedicellata, unilocularis, ad basin usque bivalvis. *Valvulce* planiusculae, intus nitidae, trinervise, nervis marginalibus incrassatis. *Receptacula* foveolata, minuta, intra margines valvularum rect& lined, disposila. *Semina* (fig. 9.10.11.12) plana, leviter convexuscula, orbiculata, serie simplici imbricatim coordinata, superficiebus latera capsula; respicientibus, lasevia, fusca, aid circumdata lat&, tenuissimâ, membranace&, integerrimS,, ad niarginem superiorem crassiorem seminis bilobâ, lobis parallelis, parum distantibus, cultriformi-convexusculis, 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-album. *Embryo* (fig. 13.) minimus, in cavitate propria perispermi, umbilico proxima locatus, respectu capsulae horizontalis. *Cotyledones* ovatae, breves. *Radicula* infera, centrifuga.



CRAWFURDIA SPECTOSA, Wall TAB. 48.

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

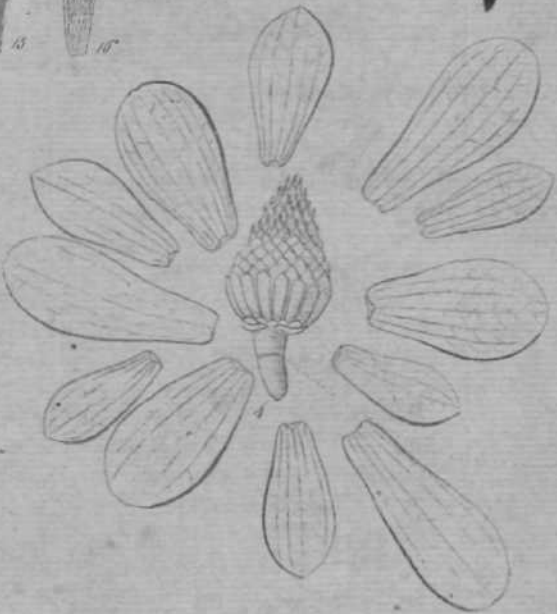
Habitat in Sheopore; tempus florendi idem ac prioris. Capsulae maturescunt Novembre.

Statura major quam praececedentis speciei. Tota laevis, glaucescens. *Rami* longissimi, valdè tortiles volubilesque. *Folia* remotiuscula, ovata, e medio in acumen gracillimum attenuate 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, ferè bipollicares, amoenè cerulei, 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 plicatoquinquedentatus, basin corollae angustatam sequans; *dentes* lanceolati, acuti, marginulâ membranaceâ, angustissima, pallidè connexi. *Corolla* (fig. 2.) campanulata, tubo amplo, ovato, convexo, basi angustato, subgracili; *limbus* patens, plicatus, tubo dimidiò brevior, quinquelobus; *lobi* latè ovati, acuti, absque interjectis lobulis accessoriis. *Faux* am pi a, pervia, nuda. *Stamina* quinque, parallela, septialia. *Filamenta* membranaceo-dilatata, plana, fundo tubi contracto supernè inserta, inde decurrentia, apice acuta. *Antherte* in fauce corollae erectae, subexsertae, basi subsagittatae. *Stylus* (fig. 3.) brevissimus, divisus in *stigmata* duo revoluto-potentia, papillulosa, teretia, obtusa. *Capsula* (fig. 4. 5.) calyce corollaque emarcidis salvd apice oblecta, oblonga, valdè compressa, pallidè flava, stylo coronata, ferè pollicaris, pedunculo suffulta cylindricè aequante; unilocularis, bivalvis; *valvulae* naviculares, subcoriaces, intus nitidae, marginibus incrassatis. *Semina* (fig. 6. 7. 8.) tenuissima, parvulâ, oblonga, copiosa, fusca, lateribus valvularum densè inserta, imbricata, circumdata alâ latâ, tenuissima, orbiculari, umbilicum versus parum latiore et subretusa latereque externo appendiculatâ lobulo minuto, rotundato.

OBSERVATION.

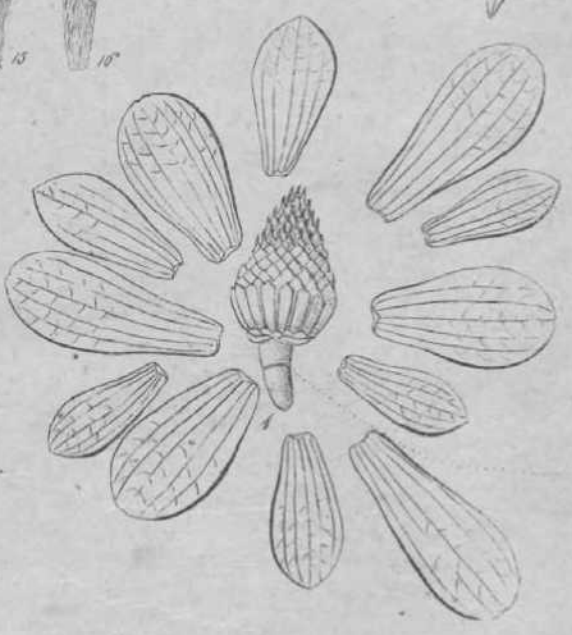
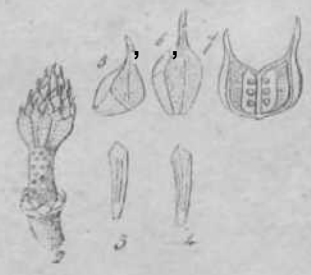
These two beautiful and interesting plants, are so different in their climbing habit from all the other members of the order of *Gentianeae*, that I cannot hesitate detaching them into a separate genus. The winged seeds and nectary, at the





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W. & A. G. S. P. 1842

*MACVILINA eschola*, Wall.  
Schubert

W. & A. G. S. P. 1842



*M. VOLLA* *exclusa* Wall.

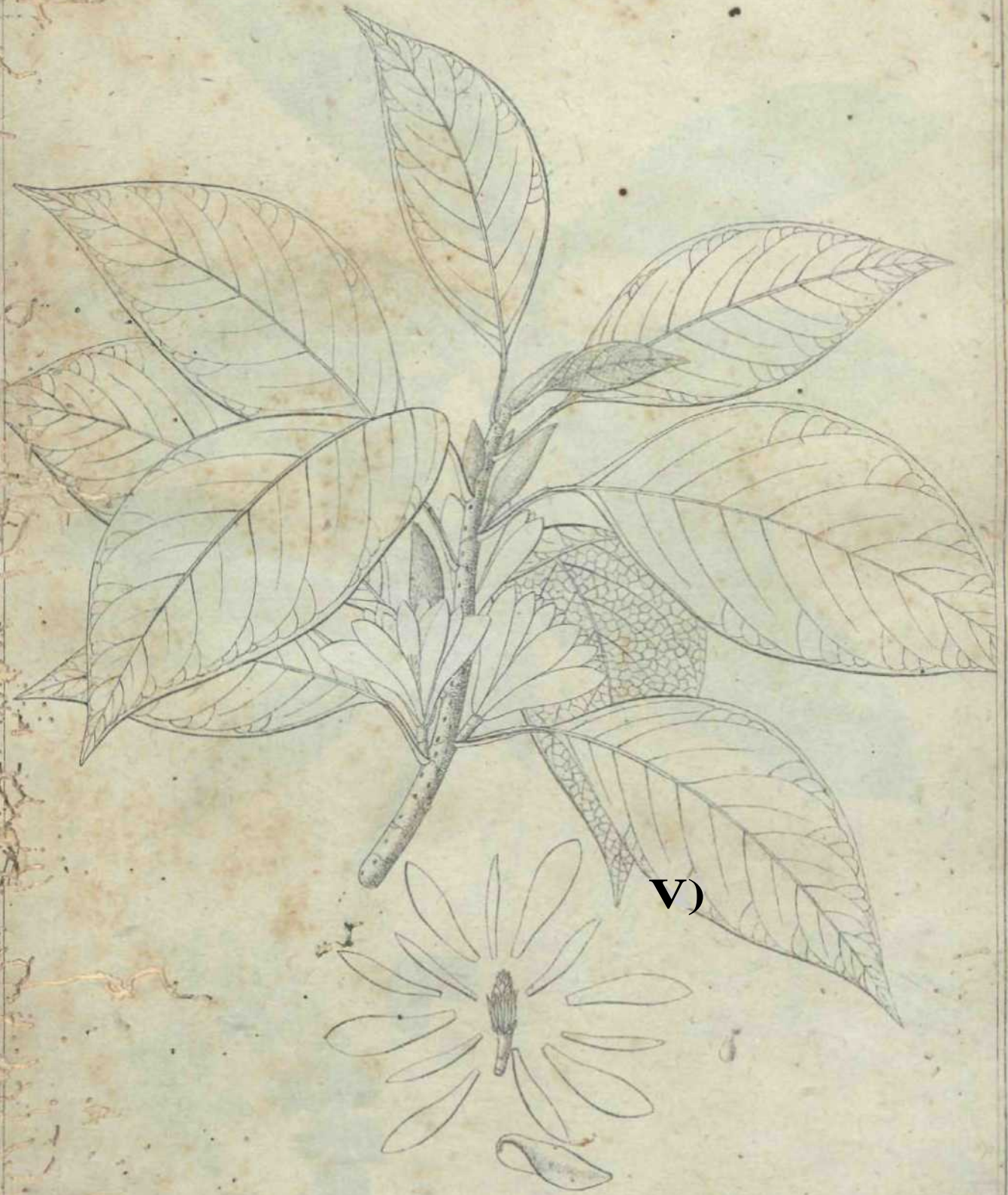
*Waller del.*



*Michelia dollopsii* Cavendish

MICHELEA *Dollopsii*, D<sup>c</sup> Cand

1822



v)

*MICHELIA Dollopsii, D' Cand.*



*MICHELIA Kempfer, DeCand.*

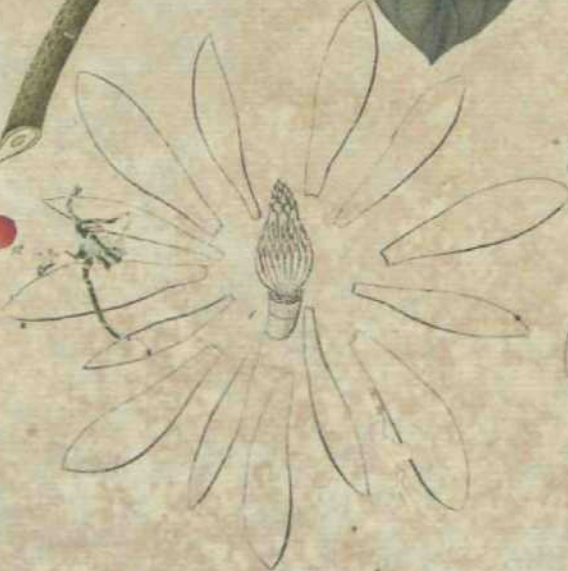
amnicand del.



MIR w./i. i K»P.< n Cond

ambund 187





*Handwritten text, possibly a name or reference.*

\* , *Vif tiffu* '!', *germa*. // *if*:

*Handwritten text, possibly a name or reference.*



Michella lanuginosa, Wall.

MICHELLA lanuginosa, Wall.

Tab. 6. v. 1. 1. 1.



Col. Quidi A. 177 re, cinca. Wall.

Col. Quidi A. 177 re, cinca. Wall.

Handwritten text at the bottom right corner.



*COLQHOUNIA coccinea* Walt.

Walters del.



Walter & Co. del. & sculp.

BEAUMONTIA grandiflora Wall.

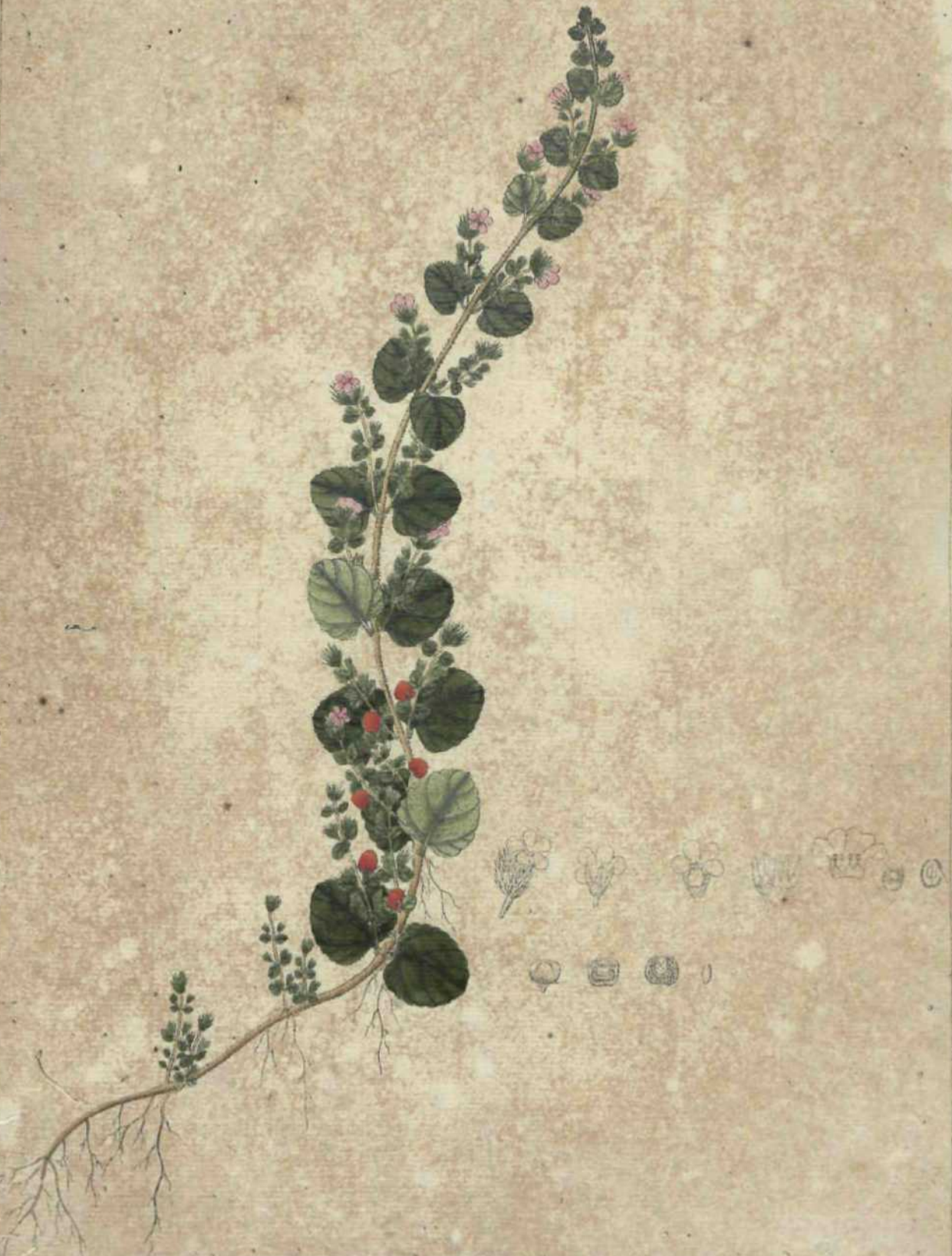
Walter & Co. del.



W. & A. G. S. Calcutta

BEAUMONTIA grandiflora Wall

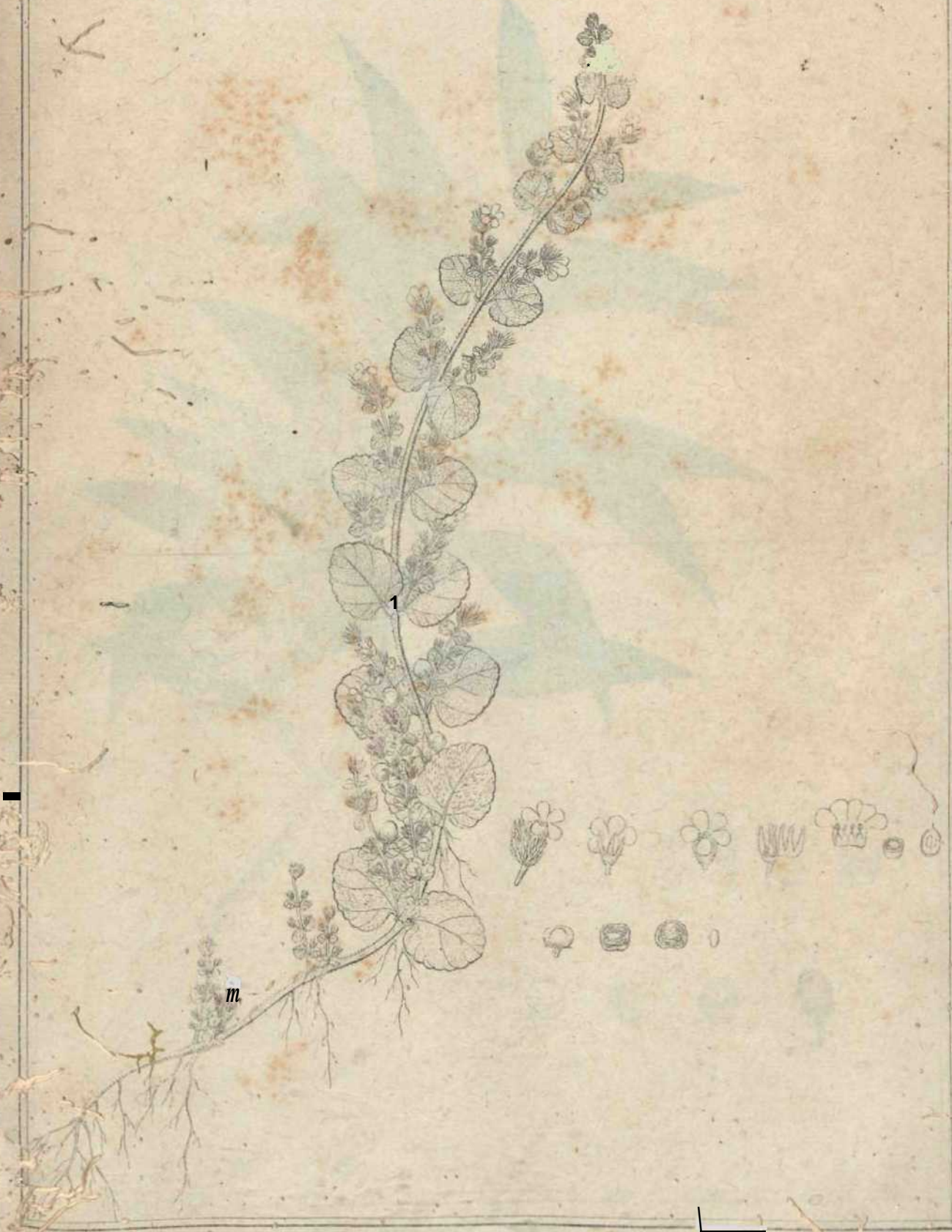
G. S. G. del



THEMPHIRACMEA heterophyllum, Wall.

Handing del.

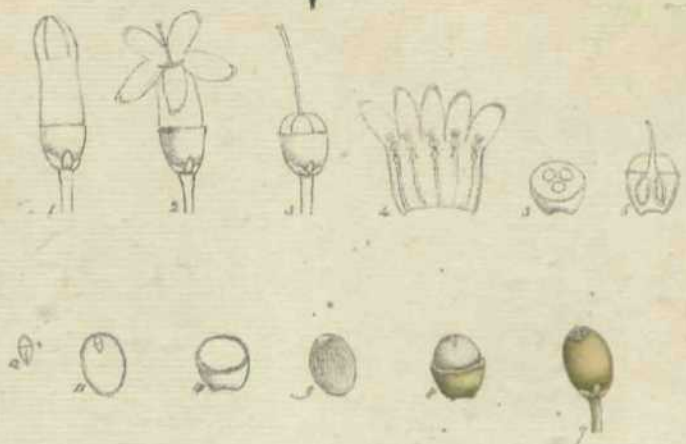
K



*HEMIPHRASAC M. heterophyllum Wall*

London 1811







Vt

SCHOEFFELIA fragrans Wall

Fernand, del. 4.2.



*Sphaerocarya edulis*, Walt.



*SPILARGIS edulis, Wall*

Samuelson del.



ex Lithog. Press. Göttingae

*PASSIFLORA napatergia* Hall

W. Kraussmann del.



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1773. Pin. (1773) f

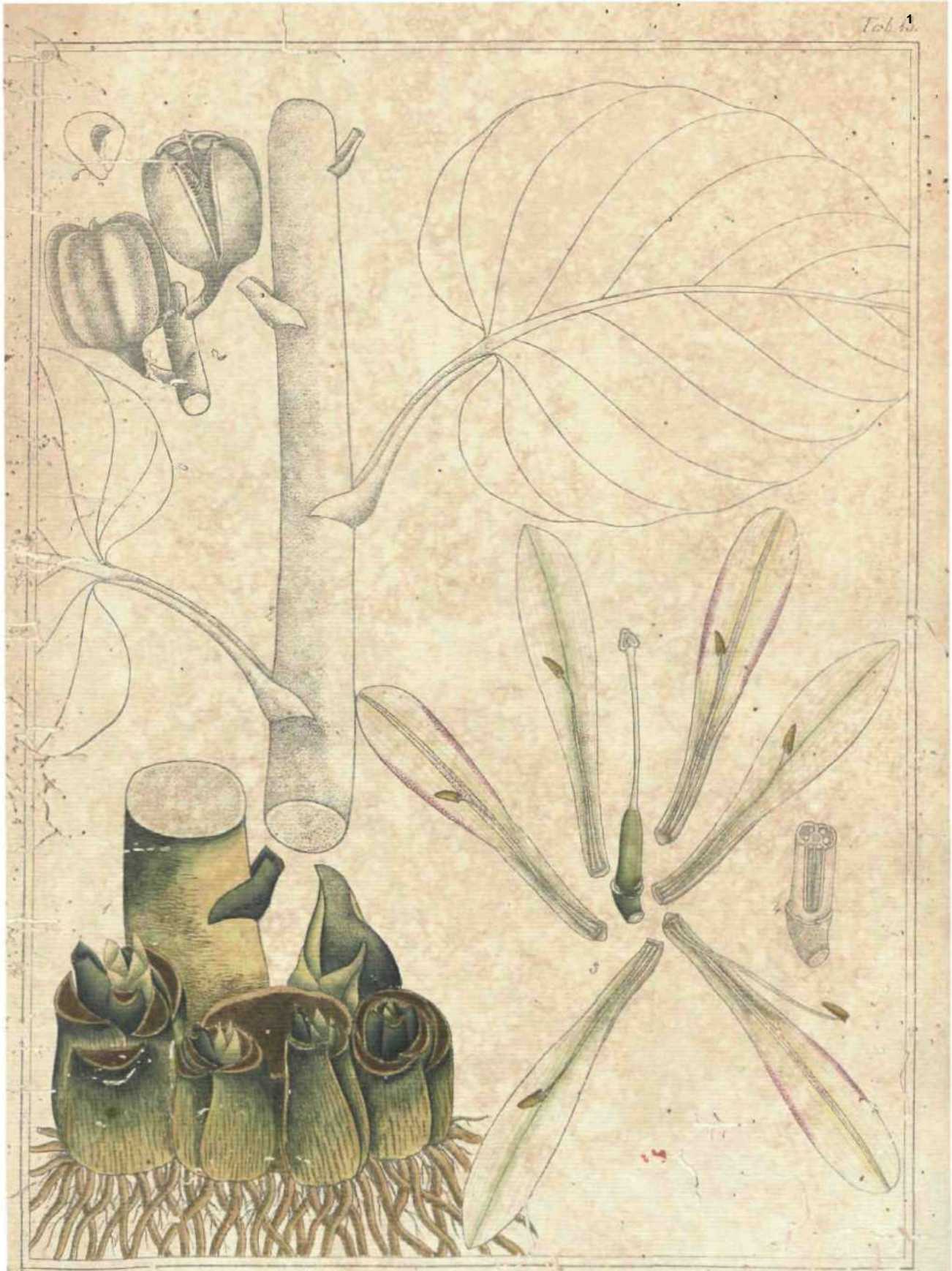
PASSIFLORA napalensis Hall

Whimperood del.





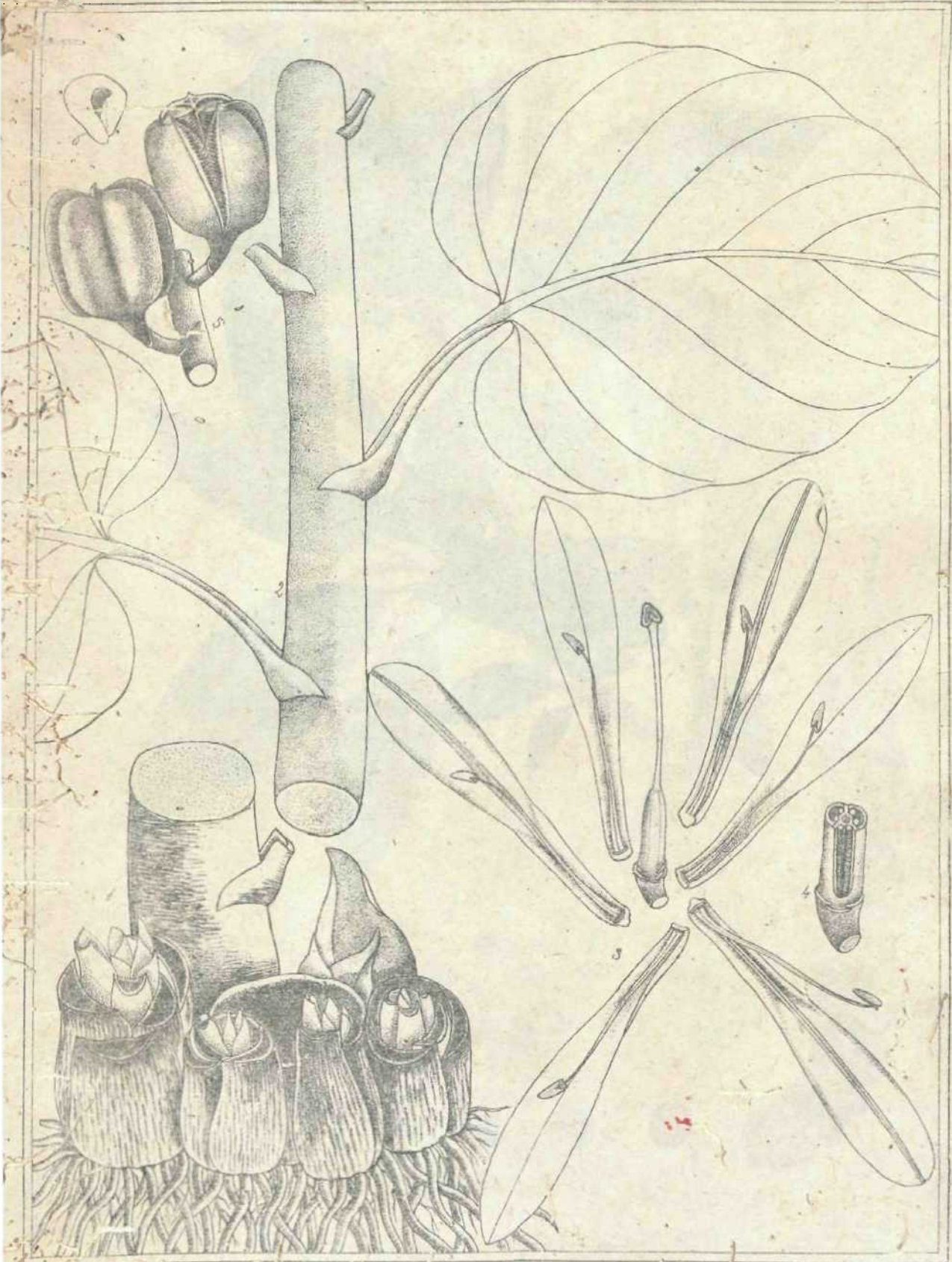




Des. Lithographia Bonn

*Lillium reginae* Wall.

Delin. J. G. Schlegel



Hand Lithography 2000

I. j&fVM

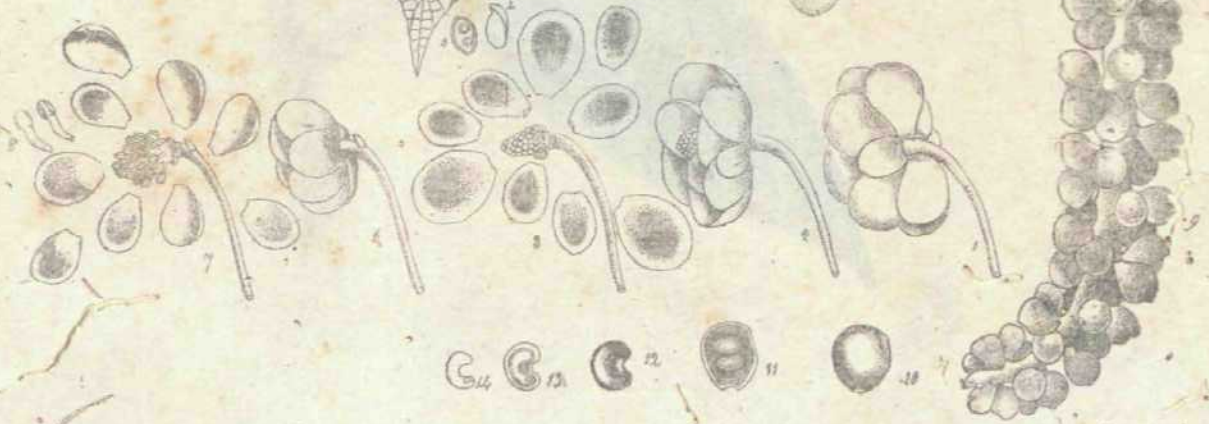
Walt

HAHOJ, oaf <,'



*KADSWIA grandiflora* Wall

\*



KALXJUUA jrvnjfam, IV' £

Carl Linnaeus, Pomo. Suecica

Georg. E. Walp.



KADSIKA *Kadsura coccinea* Walp.

*Handb. bot. Gart. Berlin*

*Seidelmann del.*

12512



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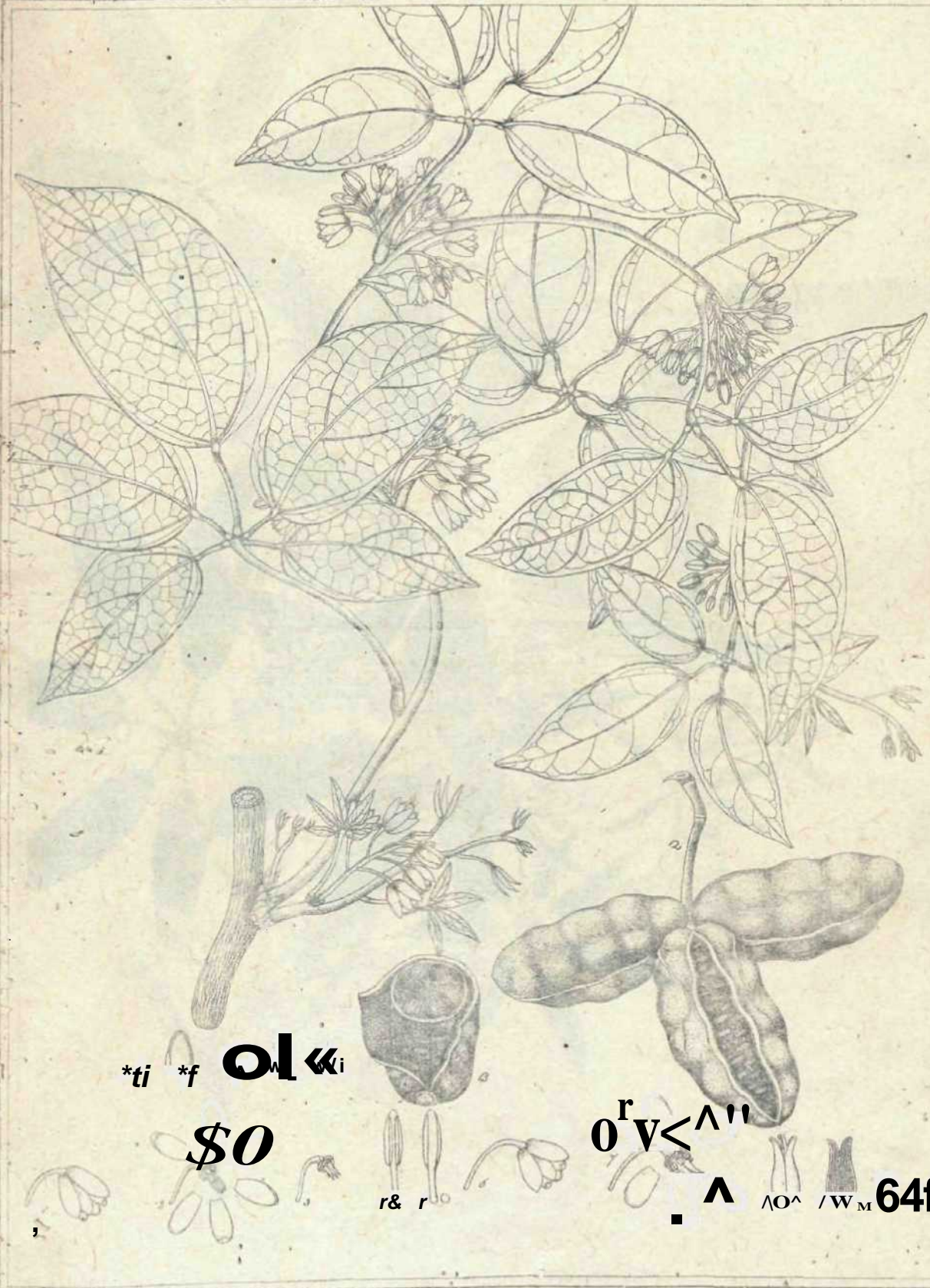
••

117

*KADSURA* *perlongua* Wall.

Handwritten text, possibly a signature or date.





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Λ ΛO^ /W\_M

64f I





*HOLBOELLIA angustifolia*, Wall.

Carandini del.



*HOLBOELLIA angustifolia*, Full.

>>.ta-1\*Fv« ""v/ .



*ARISEMA vanderhoedii*, Willd.

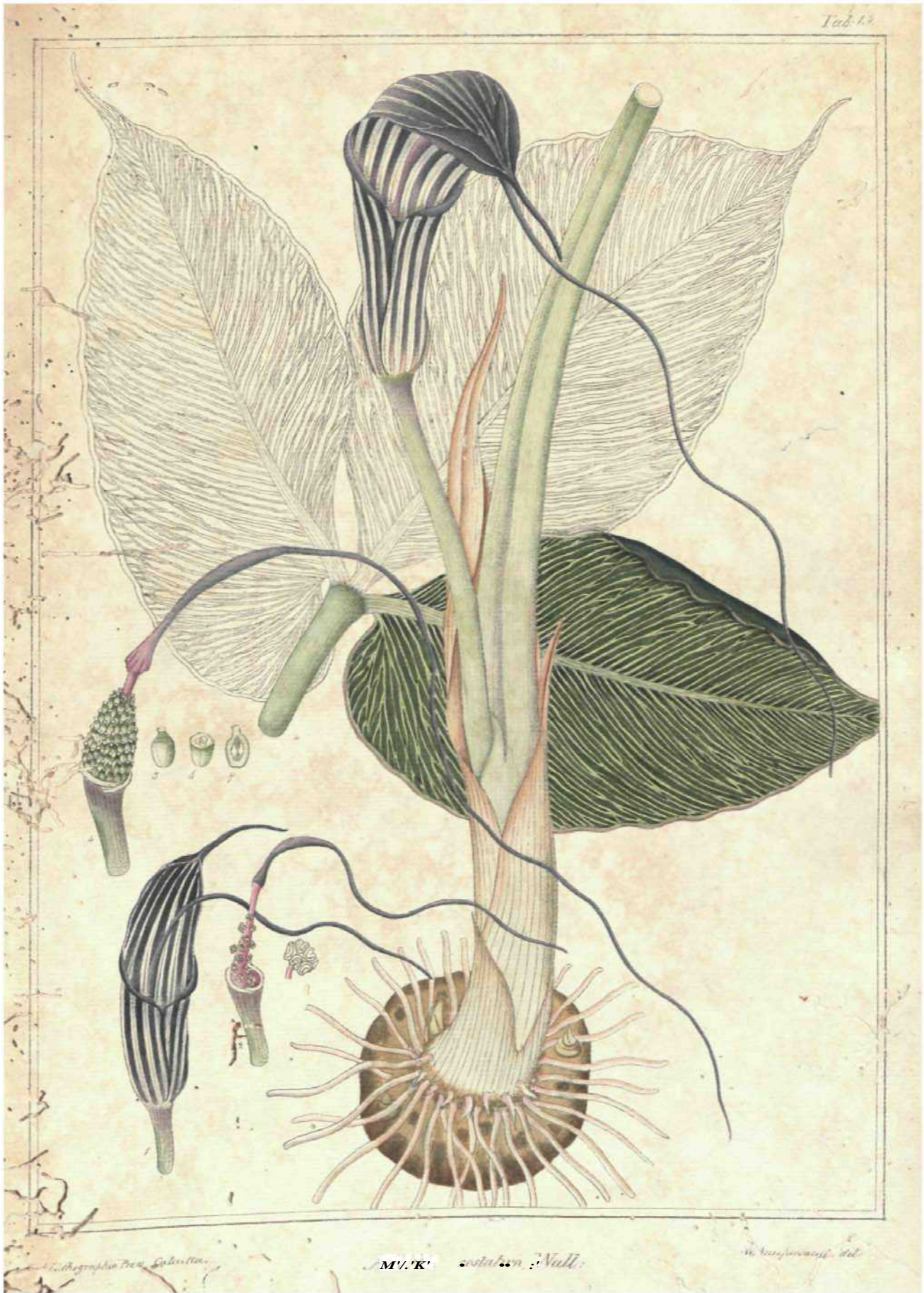
G. Engelb. del.



ARUM *spatuloides*, Willd.

G. v. S. del.

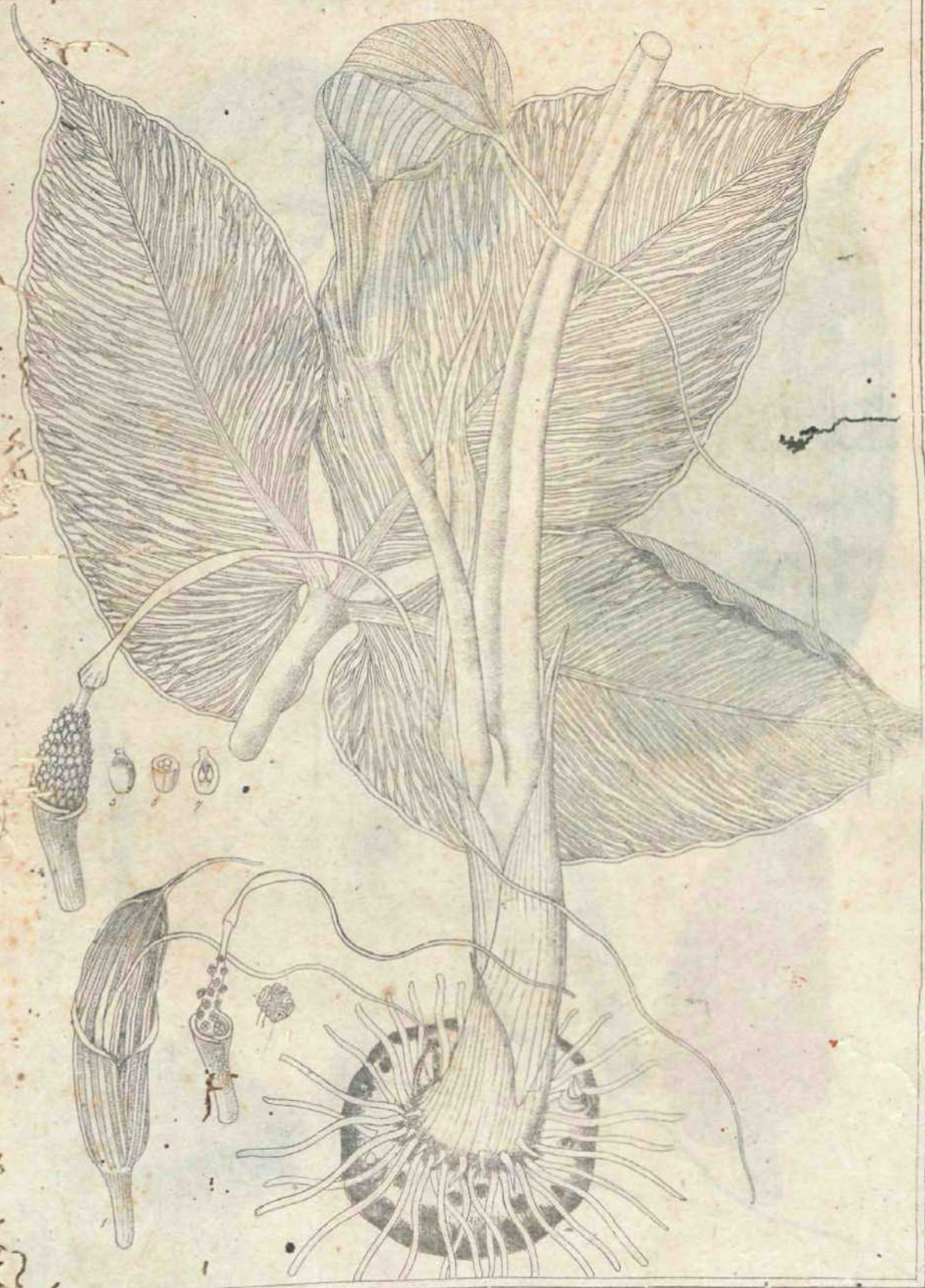
Lithograph. v. G. v. S.



Lithographia Ben. Goussier.

M.V.K. constans. Null.

In Imperatoris del.



*Arisaema* *acuminatum* *Willd.*

*J. Nees* *sculp.*



"H\*0

ARUM speciosum, Wall.

«\* \*w'



*ARUM speciosum* Wall.

H. K. Schumacher del.

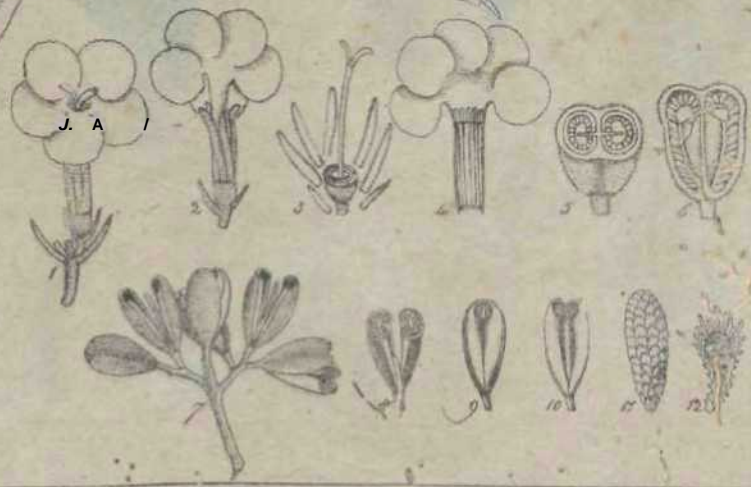




Genl. Magnifici D. C. C. C. C. C.

CINCHONA ;raftMU,ur.. Wo 21.

Vichoupenusa del

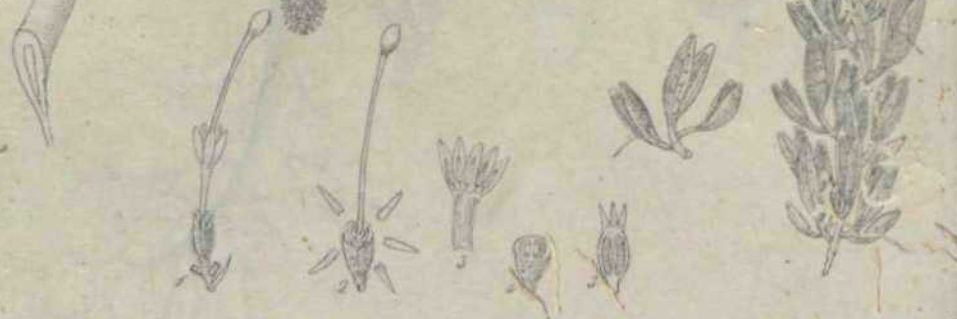


CINCHONA molle Willd.

In the original Press, each of the

Microscopical drawings





Georg. L. Schimper del. J. B. Sowerby sculp.

*HYMENOCLADON flaccidum* Hook.

*Vitis rotundifolia* Mill.

C-2?



*SARCOPYRAMIS napratenis, Wall.*

Fischer, *Atlas bot.*



Georg. Engelmann del. et sculp.

*SARCOPYRAMIS napalensis*, Wall.

Edinburgh 1844



Geographia Pro. Calcutta

MYRSINE semiserrata, Wall.

W. & A. G. S. & Co.



Myrsine semiserrata, Wall.

MYRSINE semiserrata, Wall.

Myrsine semiserrata, Wall.





MYRSINE capitata, Willd.

Linnaeus, Bot. 100

fid4-

m



Botanischer Garten, Berlin

MYRSIN <sup>M</sup> <sub>Λ</sub> stellata, Nash

Kunze'sche Verlagsbuchhandlung



*Cryptochilus sanguinea* Wall.  
Amaro Lüthig & Frey

Garachand del.



Gorschard del.

*Chrysobaphus Roxburghii*, Wall

Vishnuvaranasi

Anatic Lithog. Press.



*Dendrobium leopardinum* Walt. Vichnermann del.

Arnoldi Lithogr. Press



Vichner sculp. del.

*Lilium longiflorum*, Wall.

Scultet. lithog. Pross



Corrachand del

*Euonymus grandiflora*, Wall.

Asiatic Botany, Page

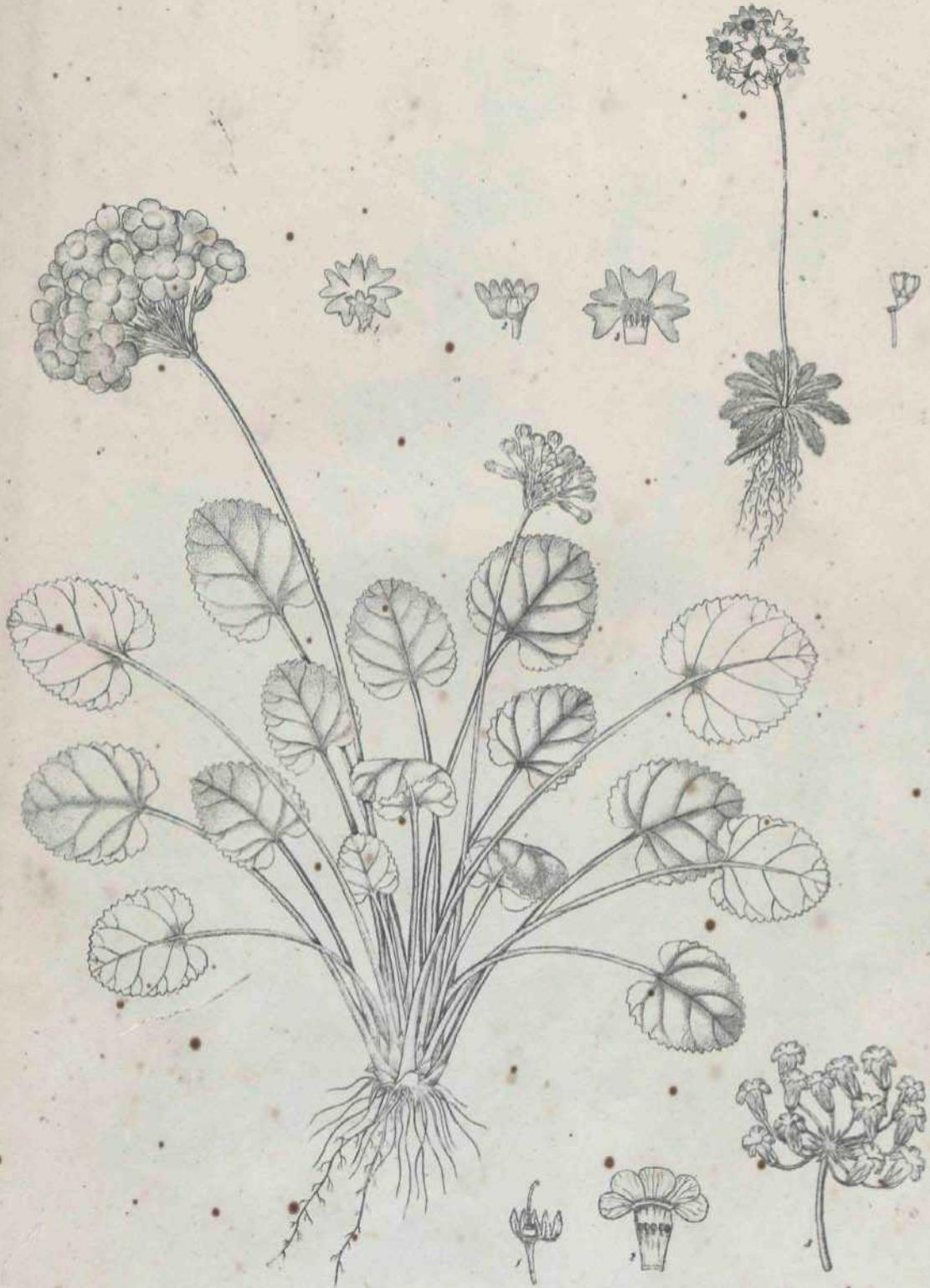


*Primula petiolaris*

Anat. L. Schlegel, Prag.

Goussier, del.





LJ<sup>^</sup> • *Ranunculus rotundifolius* Wall.

• S<sup>^</sup> / W *Ranunculus pusillus* Wall.



*Primula floribunda, Willd.*

Vikner sculpsit del

Anst. Lischke & Pösch



*Primula Stuarti, Wall.*

*Baroness Stuart de St. David*

*Anst. Lohmeyer's Press*



*Mufenia obliqua* Wall.

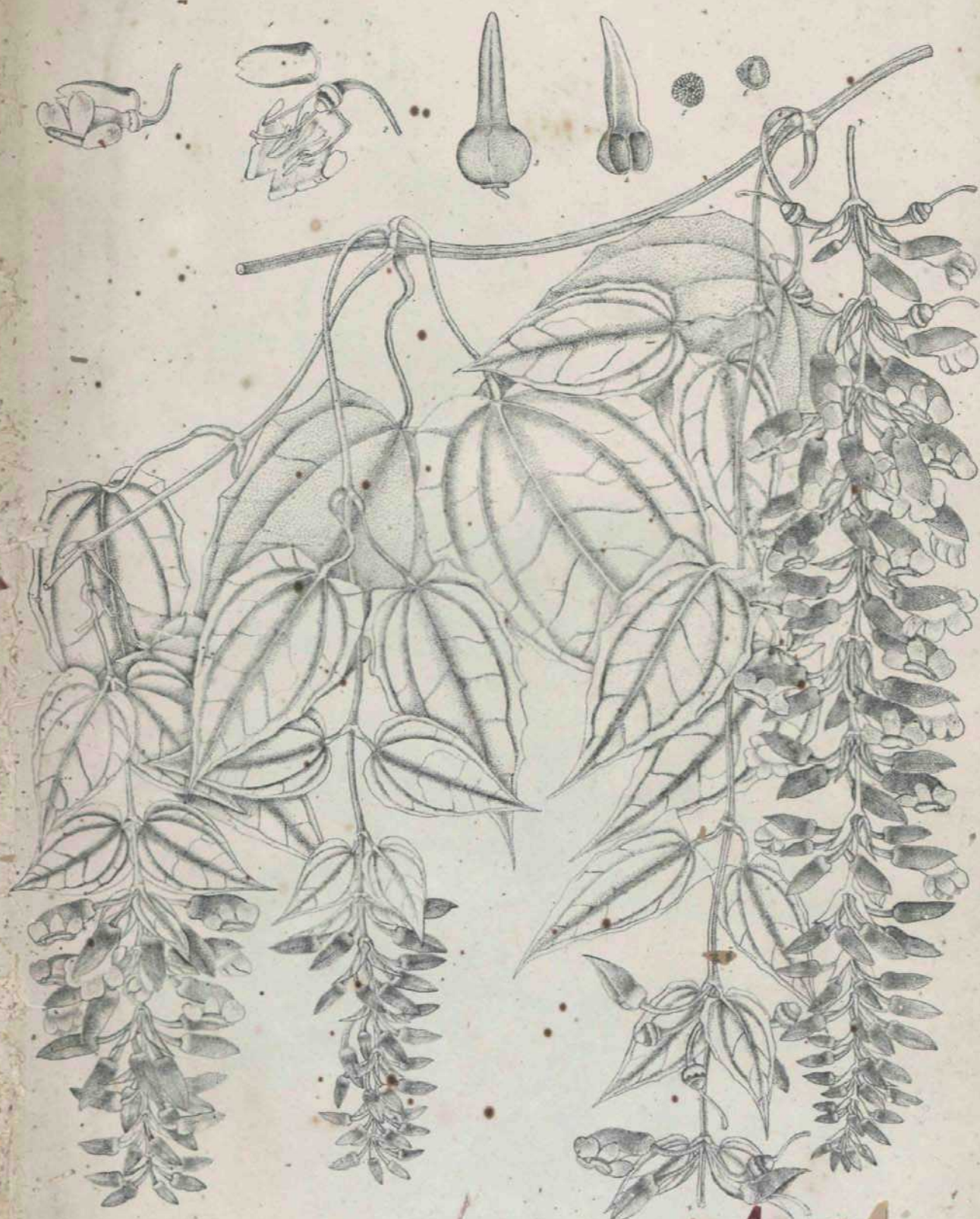
Anato. L'Herb. P'ysé

Coraschant. del.



*Adiantum cyanum*, Walt.  
Anst. Lithog. Prus.

Gonshand. del.



*Thunbergia coccinea* Walt.

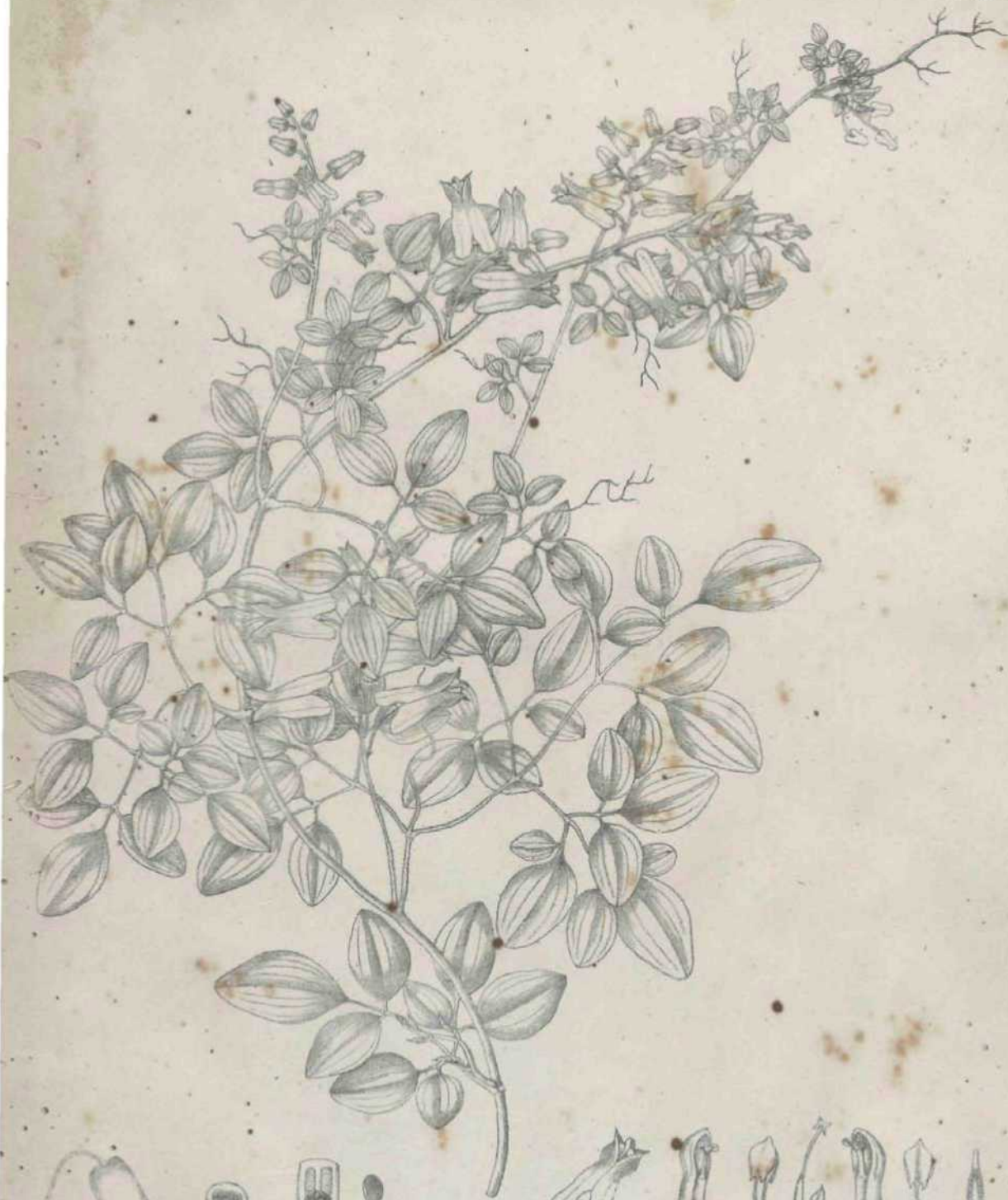
Auxil. Schleg & Press.

Goussier del.



Gerckhand, del.

*Gymnema napulense* Wall.



*Dactylicapnos thalictrifolia, Mill*

Anst. Lithog. & Pfg.

Gmelin del.





*Corydalis chaeophylla*, DeCand.

Gertruchan del

Amstelredam. Press



*Corydalis macifolia* Wall.

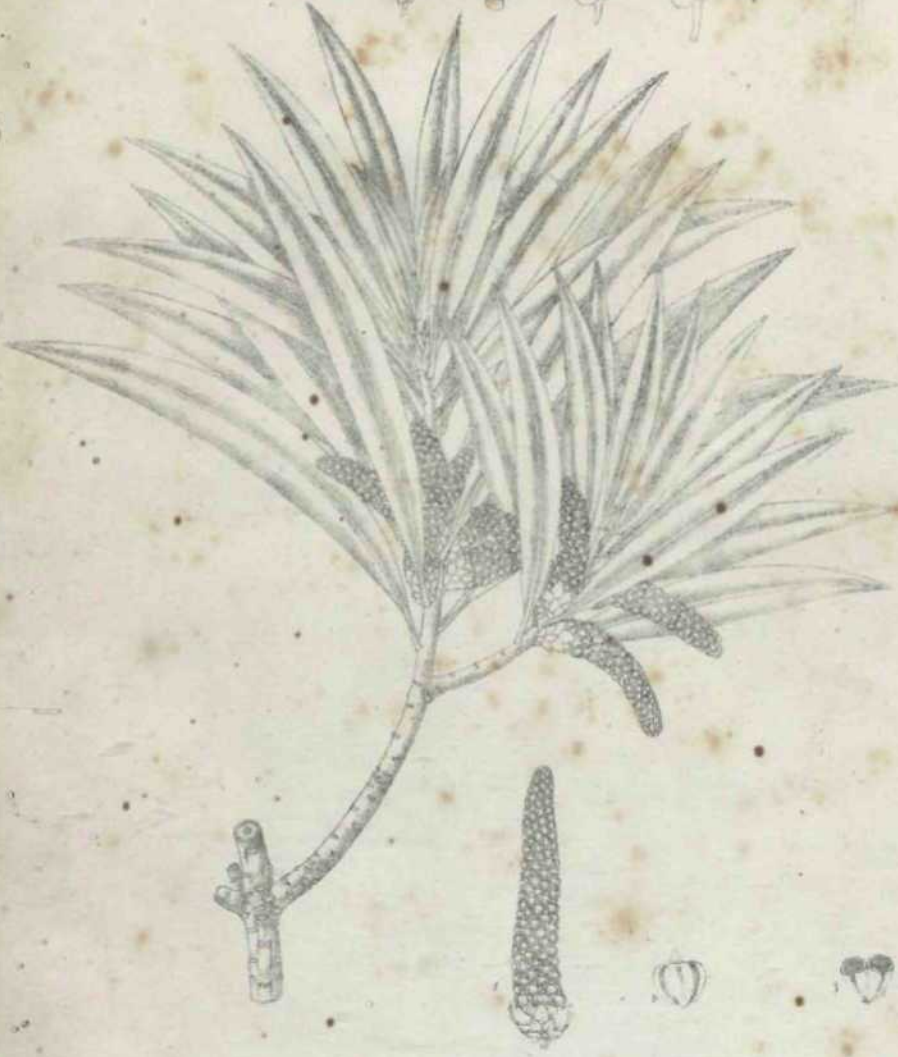
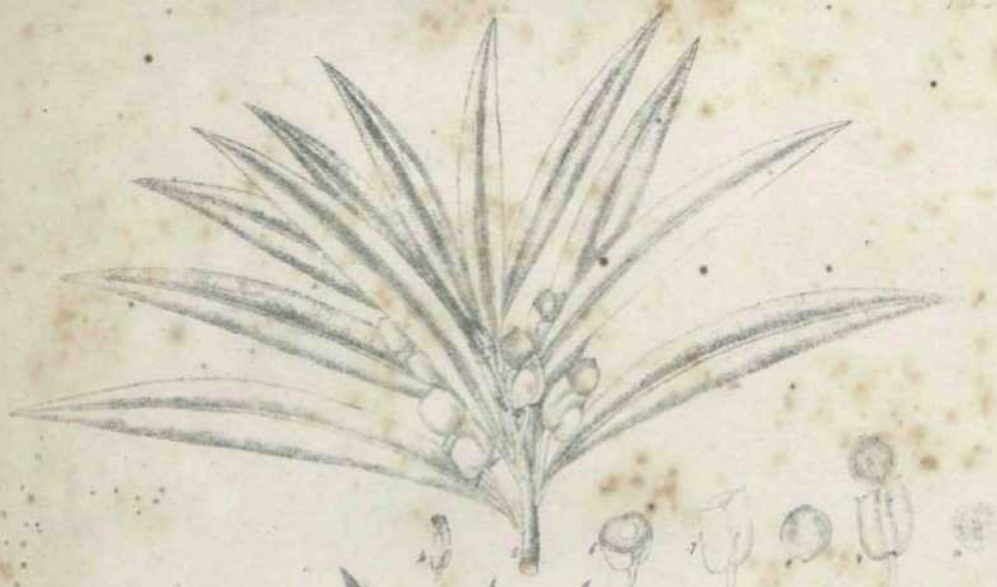
Gorachand del.

Andric. Erlang. 1850.



*Corydalis juncea* Wall. - *Corydalis longipes* DeSard.

*Vönnuparazid del*



Corchano

*Podocarpus Macrophylla* Wall.

André-Léon Ponce



*Taxus nucifera*, *Raomph*  
*W. H. Schimper del.*  
*Anatol. Libani B. 1822*



*Myrica sapia* Willd.  
Anat. Litt. -fir.-

Conchard del.



*Tricyrtis degans*, Walp.  
Vishnupersaud del.

Asiatic Lithog. Press.



Nicholson del.

*Craufurdia fasciculata*, Wall.

Asiatic Lithog. Prisi.



r.

Taiji



PishJU/eHrMmd 1&6

*Craufurdia speciosa* Walt.

Anatic Liboz? Prag



*Hydrangea vestita*, Wall.

*Barbanchand. del.*

*Anatol. lithog. & Profr.*

F



*Hydrangea altissima* Wall.

Frühmann del.

Anatol. Lithog. Prag.