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V
IGI
AN
V;
A

	PAGE.
Aster bellidioides	1
I Sonerila angustifolia et S. squarrosa	1
Aristolochia saccata	2
Acer laevigatum	3
Acer sterculiaceum	3
Carpinus viminea	4
Castanea martabanica	5
Eugenia formosa	6
Betula acuminata	7
Uraria crinita, var. macrostachya	8
Leucomeris spectabilis	8
Justicia curviflora	9
Justicia calcarata	9
Arum tortuosum	10
Arum guttatum	10
Salvia lanata	11
Rosa macrophylla	19
Lysionotus ternifolia	20
Turraea pinnata	21
Leicesteria formosa	21
Uyaria grandiflora	21
Tartaria macrophylla	22
Adodendrum arboreum album	23
Ingiumbrosa	23
Orn^asia glauca	23
Paris ₁₀ ly _p hylla	24
Stercul _a comosa	25
Delphip _m altissimum	25
Thalictii _m cysticarpum	26
Acacia nodesta	27
Alnus na^ensis	27
Acercaud^m	28
Zanonia sa^ophylla	28
Viburnum «ubescens	29
Arum erubeug	30
Arum echina _{lm}	30
Panax pseudo _{nseng}	30
Saussurea gos _{lan ar}	32
Ceropegia lucia	33
Didymocarpus « _{q D g a}	34
Didymocarpus a% _{atica}	34
Dischidia Raffles! _{ja}	35
Cerasus Puddum >	37 f
Smilacina purpntca	38
Crinum Herberti _W	38
Wrightia mollissi _l	39
Michelia auratiad	39
SaArauja faaciculat _l	40
Quercus lamellosa h	41
Quercus velutina	41
Platystemma violoiat	42

	PAGE.
Lobelia rosea	42
Linaria ramosissfma	43
Pedicularis carnosa	44
Convolvulus bdlbatus	45
Pothos glaucus	45
Desmodiyja sequax	46
Phaius Wallichii	46
Eria convallarioides	47
Eria excavata	47
Eugenia bifaria	47
Finlaysonia obovata	48
Rhaphistemma pulchellum	50
Thunbergia Hawtayneana	52
Psederia lanuginosa	52
Calanchoe teretifolia	53
Calanchoe varians	53
Niota lucida	54
Viburnum stellulatum	54
IJncaria pilosa	55
Convolvulus Wightii	55
Acanthus volubilis	56
Pyrus indica	56
Quercus semecarpifolia	56
Ardisia hymenandra	57
Tetradenia lanuginosa	57
Acacia mollis	76
Saurauja napalensis	77
Blackwellia napalensis	77
Mussaenda macrophylla	77
Cerasus acuminata	78
Magnolia insignis	78
Bignonia amoena	78
Polygala persicariaefolia	79
Polygala crotalarioides	79
Argostemma verticillatum	80
Staurogyne argentea	80
Ceropegia pubescens	81
Hymenodictyon flaccidum	81
Pyrus foliolosa	81
Hedera polyacantha	82
Deutzia staminea	82
Pothos decursivus	83
Impatiens puberula	83
Impatiens insignis	83
Dendrobium moschatum, varietas	83
Dendrobium heterocarpum	84
Eria alba	84
Phaius albus	85
Engelhardtia Roxburghiana	85
Ulmus lanceaefolia	86

T A B L E

OF THE

PLATES OF THE SECOND VOLUME

IN ALPHABETICAL ORDER.

	PAGE.	PLATE.
Acacia modesta	27	130
Acacia mollis	76	177
Acanthus volubilis	56	172
Acer caudatum	28	132
Acer laevigatum	3	104
Acer sterculiaceum	3	105
Alnus napalensis	27	131
Ardisia hymenandra	57	175
Argostemma verticillatum	80	185
Aristolochia saccata	2	103
Arum echinatum	30	136
Arum erubescens	30	135
Arum guttatum	10	115
Arum tortuosum	10	114
Aster bellidioides	1	101
Betula acuminata	7	109
Bignonia amoena	78	183
Blackwellia napalensis	77	179
Calanchoe teretifolia	53	166
Calanchoe varians	53	167
Carpinus viminea	4	106
Castanea martabanica	5	107
Cerasus acuminata	78	181
Cerasus Puddum	37	143
Ceropegia lucida	33	139
Ceropegia pubescens	81	187
Convolvulus barbatus	45	155
Convolvulus Wightii	55	171
Crinum Herbertianum	38	145
Delphinium altissimum	25	128
Dendrobium heterocarpum	84	196
Dendrobium moschatum, varietas	83	195
Desmodium sequax	46	157
Deutzia staminea	82	191
Didymocarpus aromatica	34	141
Didymocarpus oblonga	34	140
Dischidia Rafflesiana	35	142
Engelhardtia Roxburghiana	85	199
Eria alba	84	197
Eria convallarioides	47	159
Eria excavata	47	160
Eugenia bifaria	47	161
Eugenia formosa	6	108
Finlaysonia obovata	48	162
Hedera polyacantha	82	190
Hymenodictyon flaccidum	81	188
Impatiens insignis	83	194
Impatiens puberula	83	193
Inga umbrosa	23	124*
Justicia calcarata	9	113
Justicia curviflora	9	112
Leicesteria formosa	em	
Leucomeris spectabilis		
Linaria ramosissima	i	
Lobelia rosea		
Lysionotus ternifolia	20	
Magnolia insignis	73	
Michelia aurantiaca	39	
Mussaenda macrophylla	77	
Niota lucida	53	
Ormosia glauca	23	
Paederia lanuginosa	52	
Panax pseudoginseng	30	
Paris polyphylla	24	
Pedicularis carnosa	44	
Phaius albus	85	
Phaius Wallichii	46	
Platystemma violioides	42	
Polygala crotarioides	79	
Polygala persicariaefolia	79	
Pothos decursivus	83	
Pothos glaucus	45	
Pyrus foliolosa	ft	
Pyrus indica	5W	
Quercus lamellosa	4 ^	
Quercus semecarpifolia	56	
Quercus velutina	41	
Rhaphistemma pulchellum	50	
Rhododendrum arboreum album	23	
Rosa macrophylla	19	
Salvia lanata	11	
Saurauja fasciculata	40	
Saurauja napaleusis	77	
Saussurea gossypina	32	
Smilacina purpurea	38	
Sonerila angustifolia et S&quarrosa	1	
Staurogyne argentea	80	
Sterculia comosa	25	
Tetradenia lanuginosa	57	
Thalictrum cysticarpif*	26	
Thunbergia Hawtaylorana	52	
Turraea pinnata	21	
Ulmus lanceaefolia	86	
Uncaria pilosa	55	
Uraria crinita, var. jacrostachya	8	
Uvaria grandiflora	21	
Uvaria macrophylla	22	
Viburnum eruWceis	29	
Viburnum stelbiatTm	54	
Wrightia molli/sii/a	39	
Zanonia sircophya	28	

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ASTER BELLIDIOIDES. Tab. 101.

•s; cautiōs adscendentibus ramisque alternis, simplicibus gracillimis; foliis radicalibus serratis, deorsum attenuatis, integerrimis, caulinis linearibus, sessilibus, subintegerrimis; riis, subpedunculatis; foliolis involucri linearibus, pubescentibus, acutis; disco luteo, radii Wibus, creberrimis, pallidè violaceis vel albis.

. in Don. Prodr. Nepal. 177.

Napalioe superiores, florens mensibus Januarii—Martii. Semina matura Aprili.

pedalis vel bipedalis, pube brevi conspersa. RADIX constans fibris pluribus, ramulosis. CAULES aliquot is, levitèr sulcati, purpurascens, supernè ramos emittentes alternos, tenerrimos, simplices, teretes. FOLIA o-patula, cuneata, acuta, extrorsum grossiusculè serrata, deorsum integerrima et attenuata, subpetiolata, pubescentia, ciliata, obsoletè 3-nervia, subtus reticulata; ramea sparsa, sessilia, linearia vel lineari-lanceo-: serrulata, summa brevissima, remota. FLORES terminales, solitarii, apicibus caulis ramorumque gra-liametrum parum ultra pollicarem emetientes. INVOLUCRUM plano-hemisphericum, squarrosum; foliola PTACULUM planum, nudum. Discus luteus, convexiusculus, mult^orus. COROLLULE hermaphroditae, ;ulo, acutè 5-fido. OVARIA subcylindrica, angulosa, pubescentia, coronata pappo capillaceo, sessili, copioso, ollâ parum brevior. STIGMA bifidum, supra tubum exsertum, subsessilem antherarum levitèr elevatum. ^orollulis foemineis creberrimis, dilutè violaceis, rarè albicantibus, ligulatis, angustissimè linearibus, disco et obtusè 3-denticulatis, basi puberulis pappoque parciore et brevior circumdatis; stylo gracili, stigmatè angulata, pilosula, fusca.

lant is one of the commonest as well as most ornamental productions on open exposed •which surround the valley of Nipal. It blossoms during the cold part of the year, from March. The flowers are of a pale lilac colour, with a yellow disc; the radius changing

he radius. 2. 3. Corolla of the disc. 4. 5. Ovary and corolla of the latter.

ERILA ANGUSTIFOLIA. Tab. 102. (figura sinistra.)

minatis, subaequalibus, ciliatis, basi acutis, utrinque ramisque simplicibus pilosulis; race-ue, paucifloris.

». Flor. Ind. 1. p. 182.

.se orientalis, florens tempore anni pluvioso.

\$ vel pedalis, pilis brevibus, subulatis, copiosis patentibus, hyalinis conspersa. CAULIS cylindricus, pennam , simplex, vel ramulos aliquot axillares, oppositos, breves, simplices emittens. FOLIA opposita, subdecus-è longiora, ovata, parum oblongata, attenuato-acuminata, vix crenulata, setis brevibus, frequentibus —5-pollicaria, utrinque pilosa, supra saturatè viridia, subtus purpurea, costâ nervisque alternis promi-IOLUS pollicaris vel infra, levitèr sulcatus. PEDUNCULUS terminalis caulis ramulorumque, nunc laterals

is basin caulis, 2-pollicaris, teres* pilosulus, nudus, apice gerens flores aliquot rubros, subracemost ultos bracteolis parvis, lanceolatis^ foliaceis. CALYX 3-dentatus; dentes parvi, acuti, triangulares. Iguicularia, acuta^ basi parum contracta^ vertici ovarii inter dentes calycinis inserta. FILAMENTA 3, subul jblongo-prismaticum, 3-costatum.

Plate CII. (the figure on the left.) Fig. 1. Flower. 2. The same opened.

SONERILA SQXJARROSA. Tab. 102. (figura dexti

SUFFRUTICOSA, erecta, glabra; caule subsimplici, aculeolis subulatis, mollibus, stipulace: fertis, cuneato-lanceolatis, cuspidato-serratis, laevibus, in petiolum brevissimum attenuatis. *Sonerila squarrosa*, Wall, in Roxb. Flor. Ind. 1. p. 182.

Crescit et floret cum priore specie.

I believe I shall not be considered as deviating materially from the original plan of this a plate of a plant which, although published before, has not hitherto been figured. The elegant plants are instances of this description, which will not often occur. I possess curious *Melastomaceous* genus, of which I am happy to announce that Mr. Brown has synopsis, in a work shortly to be presented by him to the world.

I have nothing to add to the description of *Sonerila squarrosa* which I published in *Indica*.

Plate CII. (the figure on the right.) Fig. 1. Part of the stem, with a leaf attached, enlarged. 2. F opened. 4. Calyx.

ARISTOLOCHIA SACCATA. Tab. 103.

VOLUBILIS; foliis oblongis, vel ovato-oblongis, acuminatis, integris, subtus ramisque racemosis, perianthio villosis, inflexo, medio ventricoso, limbo orbiculato, angustissimo, sul maximâ.

Crescit in montibus altioribus Napaliae, florens fructificansque mensibus Januarii—Ap orientalis, *M. R. Smith*. In Kamaon, *R. Blinkworth*.

Nomen Bengalense, *Mattea Chita* (*Plumbago terrestris*).

FRUTEX magnus, laeve volubilis, caule digitum et vltvk crasso, ligno levissimo, radiatim celluloso, corti loso. RAMI longi, graciles, laxi, parim angulati, tomento molli, ferrugineo, recurvato obsiti, vetustiorc* recentibus, aliquand5 tota planta densissimfe tomentosa. FOLIA alterna, erecto-patentia, subdistantia, oblo acuminata, integerrima, sinu basis latiusculo, profundo^ lobis rotundatis, supr^ glabriuscula, nitidula, s nervis venisque prominentibus, pliis minisve villosa, membranacea, 5—10-pollicaria. FLORES atrop venosij reticulati, intus flavin pauci dispositi in racemos breves, subfasciculatos, axillares foliorum delap? tiorum ipsiusque caulis, nunc *ferb* solitarily penduli, mediâ parte rect^ adscendentes, 3-pollicares. P flexuosus, adscendens, ferrugineo-villosus; *partiales* alterni, medi5 geniculati, *bracteoldque* muniti ove subcarnosi, valde villosi, dimidia inferior pars descendens, cylindrical deorsum saccato-ampliata et v parallel^ adscendens, senslin ampliata in *faucem* magnam, patentissimam, pollicarem, intils flavam, angusto, sinuato, obsoletissimfe 3-loba, patenti, piano vel levit^r recurvato. OVARIUM oblongo-cylindr obsoleto 6-sulcatum, dense villosum. STYLUS crassus, brevis, triquetrus. STIGMATA 3, carnosa, semiluu 2—4 in singulo latere superioris styli partis aggregatae. CAPSULA ovata, pollicaris vel 2-pollicaris, < nentibus, subcarinatis, glabriuscula, insidens pedunculo gracili, clavato, ipsam aequanti.

The accompanying plate represents the plant which was introduced in 1815 into the That which grows in Nipal differs in some respect, having the leaves broader, of an ovate more villous. But as the flowers are exactly alike, and as the other Indian species varj it best not to add to the difficulties of the genus by separating the two shrubs. The f

in clusters along the woody and naked parts of the stem and branches; sometimes quite low down towards the ground, whence is derived the otherwise very inappropriate name of *Ground-Plumbago* > which the plant bears in Silet. They are of a curious form, and not void of elegance, although their smell is extremely offensive.

Besides this plant I am acquainted with the following East Indian specks of *Aristolochia*.

A. indica, Linn.

A native of the plains of Hindustan. I have also found it in Pegu about Rangoon. It blossoms and produces fruit during the rainy season.

A. acuminata, Lam.

This very variable plant grows wild in many places of Bengal, such as Silet, Chittagong, &c. I have found it likewise in the island of Penang, on mountains; on the banks of the Irawaddi, and of the rivers in Martaban: also at the foot of the mountain called Taong Dong near Ava. It blossoms and ripens its fruit throughout the year.

A. bracteata, Retz.

A native of Coromandel. The late Dr. Hamilton gathered it on the banks of the Jumna, in Upper Hindustan.

Plate CHL. Fig. 1. Lower part of a branch with clusters of flowers. 2. A separate flower. 3. Ovary and column of fructification,

ACER LJEVIGATUM. Tab. 104.

FOLIIS oblongis, acuminatis, serrulatis, nitidis, laevibus; corymbis terminalibus, subpedunculatis; petalis cuneatis; fructibus alis divergentibus, cultriformibus.

Crescit in sylvis montium altiorum Nepaliae; etiam in albis Sirmorensibus, *Karnrup*. Floret Aprili, fructus maturescunt versus finem pluviarum.

Nomen Newarrense, *Suslendi*; Parbutteum, *Cherauni*.

ARBOR magna et procer. TRUNCUS 30—40 pedes altus, diametro 3—4-pedali, indutus cortice crassissimo, sequali, glabro, ex cinereo fuscescente. RAMULI teretes, graciles, viminei, nutantes, uti folia laeves, nitidique. FOLIA opposita, oblonga, aliquando subovato-oblonga, attenuato-acuminata, serrulata, dimidia inferiore parte nunc integerrima, basi acuta, coriacea, 5-pollicaria, utrinque lucida et reticulato-venulosa, axillis nervorum infra acervulo albo villorum brevium munitis; juniora acutissime et grossiuscule serrata, novella cum ramulis rubra. PETIOLI graciles, 4-pollicares, sulcati, nervique foliorum rufescentes. CORYMBUS terminalis, ovatus, ramosus, elongatione rami parum pedunculatus, 4-pollicaris, pedunculis subcompressis, alternantibus, rufescentibus. FLORES laeves, racemulosi, sepiissime hermaphroditici insidentes pedicello clavato, brevi. CALYX coloratus 5-partitus, laciniis lanceolatis, acutis. PETALA 5, laciniis calycinis alternantia, iisdem vix longiora cuneata, obtusa obsolete crenulata, venulosa, alba. STAMINA 10, erecta, intra discum annularem, carnosum, undulatum, lutescentem, convexum inserta; filamenta brevissima, subulata; antherae erectae, oblongae. OVARIUM ovatum, compressum, villosum, 2-loculare, 4-spermum, ovulis axi adfixis, transversalibus. STYLUS carnosus, cylindricus, glaber, purpurascens, super stamina elevatus. STIGMATA 2, acuta, parallela, demum subrevoluta. SAMARA levis, pollicares, leviter divergentes, locum basis ovato, reticulatum rugoso, aede cultriformi, obtuse antice parum repandente, basi angustata, dorso recto.

/ This noble forest tree grows to a gigantic size. Its timber is used by the inhabitants of Nipal for rafters, beams, and similar building purposes. It is of comparatively slow growth, the trees in the Botanic Garden at Calcutta, reared from seeds sent down from Nipal by Dr. Hamilton in 1802, being scarcely larger than those of *Acer oblongum*, which were introduced many years afterwards. This last species differs in having perfectly entire, glaucous, and opaque leaves, and by its less gigantic size.

Plate CIV. Fig. 1. Flower. 2. The same dissected. 3. 4. Ovary opened. 5. Cluster of fruit.

ACER STERCULIACEUM. Tab. 105.

FOLIIS cordatis, subtus puberulis, 5-lobis, lobis ovatis, acuminatis, serratis, extimis brevissimis, integerrimis; racemis lateralibus; petalis laevibus, samaris

Crescit in monte Sheopore Nepalise versus apicem; floret Aprili.

ARBOR magna, umbrosa, trunco diametrum 3-pedalem emittente, cortice sordide griseo. RAMI alternatim compressi, cinerascens, callosopunctati, pilis paucis, longis, deciduis muniti; juniores cum petiolis rufescentes. FLORES patentia, subrotundo-cordata, palmata

5-loba, lobis ovatis, acuminatis, grossiusculè serratis, extimis parvis, integerrimis; palmaria ad 10-pollicaria, sinûs basis levis lateribus obtusis, integerrimis; membranacea, nitida, subtus 5-nervia, venosa, axillis nervorum villosis; juniora secus vasa villosula, adulta glabra. PETIOLI graciles, teretes, glabri, purpurascens, limbi diametrum ferè sequentes. FLORES *masculi* albi, villosuli, pedicellati, pauci dispositi in racemulos laterales, raros, laxos, nutantes, 2-pollicares, simplices. PEDUNCULUS basi circumdatus *squamis* aliquot gemmaceis, villosis; *pedicelli* suffulti bracteola lineari, minuta. CALYCIS *laciniae* lanceolatae, obtusae, cum *petalis* subsequantibus alternantes. STAMINA 5, 6, vel plura, glabra, inserta disco 5-loba, glabra. PISTILLI rudimentum nullum. FLORES *foeminei* vel *hermaphroditi* haud visi.

Besides the two species just described, I am acquainted with the following four additional East Indian *Acera*.

A. oblongum, Wall, apud DeCand. in Prodr. Syst. Veg. 1. p. 593.

This Maple grows in the middle range of the mountains which confine the whole extent of Hindustan to the northward. It is common in Nipal; and I have likewise found it on the hills about Deyra Dhoon. In Kamaon, R. Blinkworth. In Sinnore, Kamrup.

A. caudalum, foliis cordatis, 5-lobis, subtus pubescentibus, ad axillas nervorum venarumque villosis, setate glabris, lobis ovatis, caudato-acuminatissimis, duplicato-serratis, serraturis cuspidatis; racemis glabris; fructus alis divergentibus.

A. caudatum et pectination, Wall, in Herbario Coetus Amplissimi Mercatorum Anglicorum Indiae Orientalis, 1824.

A native of the highest regions of Nipal towards Gossain Than. It has also been found in Sinnore by Dr. Govan: and at Kamaon and Srinaghur by R. Blinkworth. It ripens its fruit and begins to blossom in November. The specimens from Kamaon differ somewhat from the others in having less compound serratures, and in the fruit being larger; and this led me, at first, to consider them as two distinct species.

A. cultratum, foliis cordatis, 7-lobis, subtus ad axillas nervorum villosis, ceterum glabris, lobis caudato-acuminatis, integerrimis; corymbis pedunculatis, glabris; floribus subumbellatis, petalis cuneatis, fructus alis divaricatissimis, semi-lunari-cultriformibus.—*A. cultratum*, Wall, in Herb, citato 1824.

A native of the regions towards the Himalaya, in Kamaon and Srinaghur, Kamrup and Blinkworth. It is a large tree, and appears to be allied to Thunberg's *A. pictum*.

A. villosum, foliis cordatis, 5-lobis, subtus petiolisque villosis, lobis ovatis, acutis, remotè serratis, lateralibus integerrimis; racemis lateralibus, gemmis foliisque novellis sericeo-villosissimis; petalis apice barbatis, samaris villosulis, alis rectiusculis, cultriformibus, hinc crenulatis.—*A. villosum*, Wall, in Herb, citato 1824.

A native of high Alps, approaching towards those of perpetual snow in Sirmore and Kamaon; Kamrup and Blinkworth. Mr. Royle found the tree on the Choor mountain.

According to Blinkworth's account the tree is very large, and its fruit ripens in November, at which period the very fragrant flowers also begin to appear. *A. sterculiaceum*, described above, approaches very nearly to this species, but differs in being much smoother, which may perhaps be owing to its being found in a much less elevated situation.

Plate CV. Fig. 1. 2. Flower. 3. The same dissected.

CARPINUS VIMINEA. Tab. 106.

FOLIIS ovato-lanceolatis, longè acuminatis, duplicato-serratis, petiolis ramulisque glabris; bracteis fructiferis ovato-oblongis, basi incisus, apice subintegris, obtusiusculis.—Lindl. MSS.

Nomen Newarrensè, *Chukissi*; Parbutteum, *Konikath*.

Crescit in montibus Napaliae. In Sirmore legit Dom. Webb; in Kamaon, Rob. Blinkworth. Floret fructusque profert Januario—Aprili.

ARBOR magna, elegans. RAMULI longi, gracillimi et viminei, laxè nutantes, fuscii, glabri, calloso-punctulati, a morsa insecti cujusdam saepè verrucosi tuberculis magnis, planis, resinoso-fuscis; *tenelli* villosi. GEMMÆ oblongo-cylindricæ, imbricatæ, *squamis* oblongis, obtusis, striatis, sericeo-pilosis, ciliatis, unguicularibus. FOLIA bifariè alterna, patentia, approximata, 3—4-pollicaria, lanceolata, duplicato[^]dentata, dentibus latis, cuspidato-acutis, desinentia in acumen longissimum, lineare, serratum, basi obtusa leviterque inaequalia, nunc subretusa, suprâ glabra, rugosula, juxta nervos lineata, subtus costâ gracili nervisque oppositis, obliquis, parallelis, ad axillas villosis, sericeo et adpressè pilosa, aetate ferè glabra; *recentia* suprâ pilosa, subtus villis densis, longis, sericeo-fulgentibus, adpressis vestita. PETIOLUS gracilis, semiunguicularis. STIPULÆ nulæ nisi squamæ gemmaceæ duæ, oppositæ, mox deciduæ, ad axillas petiolorum. AMENTA *mascula* axillaria foliorum præteriti anni delapsorum, soUtaria, subsessilia, cylindracea, sesquipollicaria, laxa, nutantia, sericeo-pilosula. SQUAMA numerosæ, undique patentæ, lanceolatae, acuminatæ, concavæ, aridas, membranaceæ, flavicantes, striatæ, dorso marginibusque villosæ lineas 4 longæ; aliquot ad basin amenti subconfertæ, obtusæ, vacuæ. RACHIS filiformis, flexuosa, pilosa. CALYX CoROLLAque nulli. FILAMENTA capillaria, 12—16-fasciculata, glabra, bracteis multò breviora. ANTHER* magnæ, ovate, obtusæ, lateribus superne apice ne villis longis, canis barbatae, biloculares; *locula* distincta, parallela. AMENTA *masculina* solitaria, terminalia, masculis breviora et graciliora.

siibpedunculata, sericeo-villosa. SQUAMAE subpatentes, lanceolatae, valde acuminatae, singulae foventes pistilla duo. OVARIUM minutum, villosum, ovatum, insidens et quasi adnatum squamulae lanceolatae, longè barbatæ, obsolete glanduloso-dentatae, eaque multo brevius. STYLI 2, capillares, puberuli, subparalleli, squamis exterioribus parum breviores. STIGMATA minuta, acuta, exserta. AMENTUM fructuum laxum, 3-pollicare, nutans, suffultum pedunculo gracili, subclavato una cum rachi pilosula. SQUAMA patentiusculæ, foliaceæ, pallidè virides, nervoso-venosæ, glabriusculæ, lanceolatae, acutæ, concavæ, hinc subrectilineæ basi quæ 1-dentatæ, inde inaequalitè denticulatæ, ferè pollicares, geminatae et subsessiles in pedicello communi erecto, piloso. Nux solitaria ad basin concavam squamæ, ovata, convexa, costata, fusca, punctis elevatis, subresinosis supernè notata, coronata dentibus calycinis seopissimèque stylis diutius persistentibus, 1-locularis, 2-sperma.

This fine tree is very like the common Alder. Its wood is considered durable, and is used for ordinary building purposes by the natives of Nipal. The slender pendulous branches are frequently attacked by a sort of Coccus, which produce numerous elevated tubercles or warts. The structure of the nut resembles that of *Carpinus Betulus*, as described and figured by the incomparable Gaertner, except in the following respect. The cavity is filled with what appears to me an entire and homogeneous, fleshy, almost colourless substance, exceedingly like a perisperm; in which are suspended, towards the apex of the seed, two minute embryones. It is possible that, notwithstanding the most careful and repeated examination, I may have mistaken the cotyledons of the ripe seed for a perisperm; but I have invariably seen two minute embryones lodged within the upper end of the fleshy substance which fills the nut.

I am indebted to Professor Lindley for the specific character given above, and also for that of the following species, which was sent to me from Gurwal by Kamrup:

Carpinus faginea, foliis ovato-oblongis, acutis, argute serratis, glabris, petiolis ramulisque pubescentibus; bracteis fructiferis subrhombicis, grosse dentatis, acutis, reticulatis. *C. orientali* accedit; differt foliorum formâ et margine, nee non bracteis diversissimis.—Lindl. MSS.

Plate CVI. Fig. 1. 2. 3. Scales with fruit. 4. Detached nut. 5. The same divided horizontally. 6. The same divided longitudinally.

CASTANEA MARTABANICA. Tab. 107.

FOLIIS lanceolato-oblongis, acuminatis, integerrimis, laevissimis, breviusculè petiolatis, basi acutis, subtus argenteis; amentis pubescentibus, densissimè armatis spinis palmato-ramosis, divaricatis.

Crescit ad Amherst in provincia Martabaniæ* Fructus maturi Februario.

ARBOR procera, cortice nigricante, rimoso. RAMI cylindrici, callosopunctulati; ramuli teretes, graciles, fusci, nitidi, uti folia glaberrimi. FOLIA approximata, alterna, patentia, oblongo-lanceolata, acuminata, integerrima, basi acuta, coriacea, 4—5-pollicaria, supra saturate viridia, lucida, subtus subargenteo-pallida, siccitate dilute ferruginea, costis, gracilibus, prominente, nervisque obliquis, numerosis. PETIOLI graciles, pollicares, supra sulcati. STIPULAE axillares, oppositæ, lineares, acutæ, erectæ et parallele, caducissimæ. INFLORESCENTIA haud visa. FRUCTUS globosi, spinosissimi, magnitudine *Castaneæ vesce*, aliquot parvis, abortivis plerumque intermixti, sessiles dense congesti in spicam cylindrical simplicem, terminalem ramulorum nudorum, digitum circiter longam. RACHIS cylindrica, demum cicatricibus crebris, elevatis notata. INVOLUCRUM clausum, fuscum, coriaceum, extis cano-pubescentibus, armatum spinis numerosissimis, magnis, palmato-ramosis, divaricatis, rigidissimis, pubescentibus, subulatis, mucrone fusco acutissimis, intus sericeo-villosum. SEMEN seopissimè unicum, irregularitè globosum, mucronatum, coloris fusci, pilis fulgentibus, sericeis, adpressis.

I have only observed this fine large species of Chestnut in the immediate neighbourhood of Amherst. It was covered with a profusion of fruit in the month of February. The seeds have an astringent taste.

Professor Lindley thinks that there is no difference between *C. argentea* of Dr. Blume's superb *Flora Javae* and my tree, except that the former is depicted with weak spines, a circumstance no doubt due to the fruit, which was described as having been unripe. I venture to differ in this respect from my highly respected friend. Dr. Blume's tree appears to me to differ in the following points. Its leaves are more acuminate at the apex, and sharper at the base, and their petioles longer; the fruit is smaller, and its spines much shorter and less compound. Besides, the locality seems to indicate a diversity: the Java tree grows on mountains; whereas mine occupies low ground, on the sea-shore of Martaban.

I subjoin a synoptical view of the *Indian Castanet*, by Professor Lindley:—

C. indica, foliis oblongis, acutis, simpliciter serratis, subtus tomentosis, reticulatis; spinis fructus subulatis, fasciculatis, intertextis. *C. indica*, Roxb. MSS. Ejusd. Hort. Beng. p. (ifi.—Lindl. MSS.

Montes Napalise, 1821. Montes Sillet, *F. De Siha*; Chittagong, *H. Bruce*.

C. sphaerocarpa, foliis ovato-lanceolatis, acuminatis, integerrimis, glabris, spicis masculis brevioribus; spinis fructus

brevibus, distantibus, palmato-partitis. *Quercus armata*, Rottb. MSS. et Ic. pict. Valdè similis *Q. fenestrata* Roxb., quae tamen legitima *Querci* species.—Lindl. MSS.

Montes Sillet propinqui, Roxb.

C. Roxburghii, foliis ovalibus, utrinque acutis, integerrimis, glabris; fructus sphaerici spinis subulatis, fasciculatis intertextis. *Quercus castanicaarpa*, Roxb. MSS. et Ic. pict. Ejusd. Hort. Beng. 68. Spreng. Syst. Veg. 3. p. 856. Folia teste Roxburgbio saepius pedalia, pollices 4 vel 5 fote.—Lindl. MSS.

Chittagong, Rod.

C. Tribuloides, foliis ovato-lanceolatis, lanceolatisve, acuminatis, integerrimis, glabris; fructus ovati spinis multifidis, subulatis, distantibus. *Quercus Tribuloides*, Smith in Cyclop. Reesiana, in loco. *Q. ferox*, Roxb. MSS. et Ic. pict. Ejusd. Hort. Beng. p. 68. Valdè affinis *C. sphaerocarpa*; differens fructibus minoribus, magis ovatis, spinisque longioribus, plus quam in illa intertextis.—Lindl. MSS.

Montes Napalise, 1821; Sillet, *F. Be Sika*.

C. martdamica, supra descripta.

C. Tangurut, foliis ovato-oblongis, subtus, petiolis ramulisque pubescentibus; fructus sphaerici spinis è basi lata subulatis, simplicibus, brevibus, rigidissimis. *C. Tungurut*, Blume Bydr. et Fl. Javan.—Lindl. MSS.

Montes Penang, 1822.

C. javanica, Blume in locis citat.

Montes Javae, ex Blumio.

C. kermis, foliis oblongo-lanceolatis, undulatis, acutis, integerrimis, glabris; fructibus subdidymis, inermibus, fasciatim interruptè tuberculatis—Lindl. MSS.

Habitatio valdè dubia. Singapore 1822?

Plate CVII. Fig. 1. Fruit divided transversely. 2. The same divided longitudinally. 3. A detached spine of the fruit. 4. Nut. 5. The same, with the outer skin partly detached. 6. Umbilical chord, with a suspended abortive ovulum.

EUGENIA FORMOSA. Tab. 108.

FOLIIS elliptico-oblongis, subacuminatis, sessilibus, cordatis, amplexantibus; racemis axillaribus (foliorum delapsorum) sessilibus, brevibus; pedicellis clavatis, elongatis; floribus laevibus, staminibus longissimis; baccis globosis, pendulis.

Crescit ad Moalmyne, et ad bases rupium ripae Attran in Martabania, flores fructusque proferens mense Martii.

ARBOR valdè procera, latè ramosa. RAMI cortice molli, cinereo induti, à lapsu foliorum cicatricibus magnis notati; ramuli alternating compressiusculi, nunc triangulares, uti folia floresque glaberrimi. FOLIA opposita, patentissima, ad apicem ramulorum valdè approximata, aliquandò ternata, sessilia, elliptico-oblonga, nunc elongato-oblonga, subacuminata, integerrima, deorsum interdum parùm contracta, basi plus minusve obliquè cordatà amplexantia, lobis rotundatis, brevibus; palmaria ad pedalia, quin sesquipedalia, valdè coriacea, supra lucida, subtus opaca et pallida, nervis frequentibus, parallelis, prominentibus, vena intramarginali, anastomosante magna, costa ad basin valdè crassi, vix in petiolum perquam brevem producti. FLORES magni, dum inaperti purpurei, postea rubicundi, inodori, pauci dispositi in racemos breves, simplices, sessiles, nudos, solitarios, infra folia sublaterales. PEDUNCULI carnosi, laseves: communis brevissimus; partiales clavati, pollicares, medio articulati, bracteolisque 2 minutis, lanceolatis, oppositis instructi. CALYCIS lobi patentissimi, orbiculati, subtretusi. PETALA 4, orbiculata, unguicularia, lobis calycinis duplè majora. STAMINA perquam numerosa, undique patentia, longissima; filamenta filiformia, pollicaria, alba; anthera luteolae, parvae. OVARIUM turbinatum; stylus brevis, attenuatus; stigma acutum. BACCA magnitudine juglandis, pendula, globosa, lasevis, nitida, calycis lobis, soepeque stylo persistente coronata, alba, 2-ocularis; caro omnino insipida. SEMINA grandia, rugosa, viridiuscula.

This is by far the largest species of *Eugenia* which I have met with in the Burmese territories. It is a lofty tree, with ample shining coriaceous leaves, and numerous large pink flowers, disposed in lateral, short, and sessile racemes! which are produced from the vestiges of the fallen leaves; The fruit is perfectly insipid.

Plate CVIII. Fig. 1. Ripe berry. 2. The same divided horizontally. 3. A seed.

7

BETULA ACUMINATA. Tab. 109.

FOLIS ovato-lanceolatis, subsimpliciter cuspidato-serratis, acuminatis, glabris, subtus punctatis, petiolis ramulis que glaberrimis; amentis fructiferis pendulis, longissimis, cylindraceis, aggregatis, rachi bracteisque basi auriculatis pubescentibus.—Lindl. MSS.

Nomen Newarrensse, *Ootees*.

Crescit in montibus pluribus Nepalise, et in ipsa convalli magna, secus fluminum ripas. Flores fructusque profert mensibus Decembris—Aprilis. E montibus Sillet confinibus, *H. Bruce*.

ARBOR procera, pulcherrima, valde umbrosa et frondosa, e basi usque ramosa. RAMI cylindrici, fusi, callosopunctati, heves; juniores pubescentes. FOLIA alterna, patentia, ovata, oblongo-ovata, vel lanceolata, inaequaliter et grossiuscule serrata, serraturis latis, incurvis cuspidatis; attenuato-acuminata, basi subintegerrima nunc inaequali rotundata vel acutiuscula, 3—7-pollicaria, supra lucida, laevia, laete viridia, subtus nervoso-venosa, reticulata, asperula propter puncta copiosa, minuta, elevata, resinosa, vix pubescentia; jun' ma mfescentia, utrinque juxta costam nervosque cano-villosa, subtus valde resinosa, dentibus longe et subglanduloso-cuspidatis; vetusta fere omnino glabra, subcoriacea. PETIOLI pollicares, leviter sulcati, glanduloso-punctati, minutim paleacei, juniores villosi. STIPULIS gemmaceae oppositae, erectae, lanceolatae, acuminatae, unguiculares, deciduae, dorso concaviusculae et pubescentes, marginibus ciliatae intus laeves AMKNTA gracilia, cylindrica, pendula, rachibus filiformibus, villosis; mascula ad apicem ramulorum novellorum fasciculata, sessilia 5—6-pollicaria, squamis ciliatis, antheris magnis, laevibus foeminea masculis breviora gracilioraque, pedunculata, 3—4-subracemosa albicantia, villosula. SQUAMIS parvae, crassiusculae, triflorae, pubescentes, ciliatae, patentes, hastato-trilobae; hbus intermedius lanceolatus, acutus, laterales breves, ovati, obtusi. OVARIUM lentiforme, pubescens, cinctum membrana reniformi, retusa, crenata, ciliata. S m i duo, villosuli, divergentes. FRUCTUS laevis, cinctus aia reniformi, retusa.

This fine tree grows in many places of Nipal, both in the great valley and on the surrounding mountains. It attains from fifty to sixty feet in height, and is of an oval shape, being branchy from the very base. The wood is greatly esteemed by the inhabitants, and is employed for all sorts of purposes where strength and durability are required. Prof. Lindley is of opinion that the specimens from the mountains bordering on Sillet differ in no respect from the others, except in the leaves being somewhat tougher or harder, and he thinks that *B. alnoides*, (Don Prodr. Nepal, p. 58,) refers to this variety. I am indebted to that esteemed friend for the essential characters of the three following species *oiBetuk*.

B. cylindrostachya, foliis oblongis, acuminatis, cordatis, argute duplicato-serratis, ramulis petiolis venisque subtus tomentosis; amentis fructiferis pendulis, longissimis, cylindraceis; fructibus alte bilobis; bracteis lineari-lanceolatis obtusis, membranaceis, basi bidentatis, ciliatis majoribus. *B. cylindrostachya*, Wall, in Herb. Coet. Ampl. Merc. And' Ind. Or. 1824. *B. acuminata* Wall, affinis sed distinctissima.—Lindl. MSS.

Kamaon, *B. Colquhoun*, Baronetus; *R. Blink worth*.

B. nitida, foliis oblongis, acuminatis, argute duplicato-serratis, ramulis petiolisque pilosis; amentis fructiferis pendulis, cylindraceis, aggregatis, bracteis trilobis, pilosis: lobo medio producto, fructibus longiore. *B. nitida*, Don Prodr. Nepal. 58. *B. cylindrostachya*, Wall, in Herb. cit. Omnino inter *B. acuminatam* et *B. cylindrostachyam* media, huic foliis, illi fructu accedens, ab utraque characteribus datis distinguenda.—Lindl. MSS.

Kamaon, *Blinkworth*.

B. Bhojpattra, foliis oblongis, acutis, subsimpliciter serratis, basi subcordatis, petiolis ramulis venisque subtus uosis; amentis fructiferis erectis, cylindraceis, oblongis; bracteis glabris, lignosis, bipartitis, obtusis, fructibus anguste alatis multo longioribus. *B. Bhojpattra*, Wall, in Herb. cit. *B. utilis*, Don. loc. cit. Folia nunc simpliciter nunc duplicato serrata in eodem ramo; amenta fructifera aliquando parum elongata.—Lindl. MSS.

Alpes Gurwal et Kamaon, *Dominus Webb*, *Kamrup* et *Blinkworth*.

The epidermis of this species of Birch is used by the mountaineers instead of paper for writing upon. It is of a very delicate texture, and peels off in large masses, of which great quantities are brought down into the plains of Hindustan, where it is employed for covering the inside of the long flexible tubes of the apparatus used for smoking tobacco, commonly called Hooka. The Sanscrita name of the substance is *Bhoorja*; in the Bengali language *Bhoorjapattra*; and in the Hindustani, *Bhojpattra*. My worthy friend Mr. Graves Haughton, Oriental Examiner to the Honourable East India Company, to whom I am indebted for the above synonyms, is of opinion that the word *Bhoorja* is the etymon of Birch, and that it is one of the many proofs of the descent of the Saxon part of the English language from the Sanscrita.

URARIA CRINITA, var. MACROSTACHYA. Tab. 110.

RACEMIS maximis, folio duplò longioribus ; pinnis 3—4-jugis, concoloribus.

Habitat in China, *Dom. Reeves* ; prope Sillet in Bengalia, *F. De Siha*. Ipse observavi ad Amherst in Martabania. Ad Tavoy, *Gomes*. In Horto Botanico Calcutta? floret et fructus profert mensibus Octobris et Novembris.

FRUTEX 2-pedalis, parce ramosus; spicifer 4-pedalis. RAMI crassi, cylindrici, fere simplices, subflexuosi, petiolique obsiti pube molli, canescente, patente, hamulosá. FOLIA patentia, alterna, pedalia vel longiora, pinnata, 3—4-juga. PINNS; exacts opposite, oblongae, acutae basi hinc rotundiore obtusae, subsessiles, 5-pollicares, coriaceae, suprâ uniformitèr saturate virides, secils vasorum tractus levitèr puberulae, cjetertum glabrse, nitidse, subtùs copiosè pubescentes, incanse, costâ nervisque obliquis gracillimis, venis transversè reticulatis, prominentibus; exteriores parùm minores, terminalis proximis major. PETIOLUS communis 4—6-pollicaris, cylindricus, suprâ planiusculus, basi intumescens, desinens in rachin rectam, pubescentem, noduloso-articulatam; partiales brevissimi, cylindrici, crassiusculi. STIPULJE magnae, ferè pollicares, triangulari-lanceolatae, erectse, aridae, striato-nervosse, pilosse et ciliatae, deciduae, e basi lata et obliqua attenuatas in acumen longissimum, setaceum; stipellce majuscule, lineari-lanceolatae, persistentes, acuminatae. RACEMUS maximus, terminalis, sessilis, cylindraco-subclavatus, obtusus, densiflorus, pedalis, 2-pedalis, quin longior, pollicem et dimidium ad duos crassus; fructifer gracilior; pilis longis, mollissimis abundè barbatus, solitarius, vel uno duobusve brevioribus lateralitèr stipatus; ante florum expansionem densissimè et adpresse bracteatus, strobiliformis. FLORES magni, purpurei, densissimi, geminati, patentés. BRACTEAE magnse, lanceolatae, membranaceae, caudato-acuminatae, pilis longis ciliatae, dilutè roseae, caducae; ad apicem racemi serids deciduae, saepè floribus vacua?. RACHIS cylindrica, subcarnosa. PEDICELLI filiformes, barbati, patentissimi, apice articulata incurvi. CALYX urceolatus, bilabiatus, profunde divisus in lacinas 5, setaceo-acuminatissimas, barbata. COROLLX vexillum recte adscendens, ovatum, acutum, planum, atropurpureum, basi notatum maculis binis, oblongis, parallelis, e viridi flavis; carina alceqne pallidae, obtusae, longitudine subseuales. STAMINA 10, diadelphba; apices filamentorum alternatim paulb crassiores et breviores. LEGUMEN spiralitèr contortum, atrum, calyce pariim longius, pedicello valdè incurvo suffultum; articuli lenticulares, 5 vel 6, puberuli.

When I first received this stately plant from China, whence it was introduced into the Botanic Garden at Calcutta by Mr. John Reeves, I thought it was specifically distinct from *Uraria crinita* of Desvau. On comparing it, however, with the plants brought from other parts of India, I have come to the conclusion that it is only a variety of that species. In general stature it is a shorter plant; but the leaves are much larger, and the spike far longer and thicker. The leaflets are generally clouded in the centre in *U. crinita*, in our plant they are uniformly green. The variety grows also at Sillet, and I have found it at Amherst in Martaban. W. Gomez brought me specimens from Tavoy.

It is requested that the name on the plate may be altered to *U. crinita*, var. *macrostachya*.

Plate CX. Fig. 1 & 2. Flower. 3. The same dissected. 4. Part of a fruit-bearing raceme. 5. A ripe pod.

LEUCOMERIS SPECTABILIS. Tab. m.

Leucomeris spectabilis, Don. Prodr. Nepal, p. 169.

Eupatorkm candicans, Wall, in Herb. Coet. Ampl. Merc. Angl. Ind. Or. 1824.

Nomen Newarrensse, *Bhoea*; Parbutteum, *Phusrae*.

Crescit in monte Sheopore Napalia?. Ad Srinaghur legit *Kamrup*. Floret mense Aprilis.

ARBOR 12—20-pedalis, erecta, ramosa, cortice griseo, glabro. RAMULI crassi, obtuse angulati, sulcati, superè, uti oinnes partes recentes, tomento niveo, molli densissimè vestiti. FOLIA approximata, sparsa, patentia, brevè petiolata, elliptica, utrinque acuta, deorsum attenuata, integerrima, coriacea, palmaria, pedalia usque ad 15-pollicaria, suprâ saturatè viridia, rugosula, nitida, subtùs niveo-candicantia costa nervisque altemantibus elevatis. PETIOLI crassi, semicylindrici, pollicares, tomentosi, estate nudi, basi intumescentes et subarticulati. STIPULE nullae. CORYMBUS terminalis, magnus, ovatus, subfastigiatus, ramosissimus, niveo-tomentosus, foralibus linlaV lanceolatis, parvis, frequentibus munitus. PEDUNCULI communes elongati, inferiores axillares foliorum supremorum • partiales ramisi squamis parvis, vagis, subalternantibus, lanceolatis. FLORES albi, admodum odorati, cylindrici, copiosissimi, fasciculati breve pedicellati pollicares. INVOLUCRUM cylindrico-oblongum, constans foliolis lanceolatis, imbricantibus, acutis, pallide viridibus vix ciliatis, infei ioribus senslm minoribus, in squamulas pedicelli vagas demum conversis. RECEPTACULUM parvum, nudum. COROLLUL^ ssepifis ft, tubulosae, alba» glabrse, involucre duplb longiores, subfastigiatae; tubus gracilis; lacinia lineares, tubum fere æquantes, revoluta-. FILAMENTA capiUaria? anther* lineares, albae, basi in aristas duas capillares, parallels, puberulos desinentes, connatte in tubum rectum, exsertum, liubnm subæquantem. OVARIUM oblongum, sericeo-villosum, coronatum; ap/OCOPioso, pallidissime ferrugineo, simplici, scabriusculo, corolla partn, breviorè. STYLUS filiformis, glaber. STIGMA bilobum, lobis obtusis, parallelis, vix exsertis.

This beautiful tree grows to my knowledge only on one spot near Thoka, on Mount Slieopore in Nipal, where I saw it in great perfection and in full flower in April 1821. I have also received it from Srinaghur in Gurwal, where it was found by Kamrup.

Plate CXI. Fig. 1. Flower. 2. Receptacle. 3. Floret. 4. The s,ine opened. ... Tube of anthers opened.

JUSTICIA CURVIFLORA. Tab. 112.

FRUTICOSA, erecta, ramosa; foliis magnis, ellipticis, utrinque attenuatis, petiolatis, glabris; racemo terminali, oblongo, attenuato, foliis brevioribus, pilis hyalinis, articulatis dense villosis; fasciculis oppositis, pedunculatis, 3-floris; bracteis lobisque calycis longiusculis, linearibus; tubo corollae clavato-cylindrico, longissimo, limbo brevi, bilabiato, 5-fido, lobis lanceolatis; antheris oblongis, exsertis, demum leviter divergentibus, loculis aequalibus, parallelis; capsula sessili, clavato-tetragona, glabra, oligosperma.

Nomen Bengalense, *Bhagbut*.

Crescit in montosis Sillet propinquis, indeque a De Silva in Hortum Calcuttensem missa. Floret fructificatque versus finem anni*

FRUTEX erectus, ramosus, 4—6-pedalis. RAMI superiores obsolete 4-angulares, ferè cylindrici, supra insertionem foliorum ventricosum intumescens; juniores fusciscentes, villosuli. FOLIA ampla, opposita, approximata, ferè decussatim patentia, petiolata, elliptica, acuminata, integerrima, vel obsolete crenulata, glabra, basi attenuato-acuminata, 6—10-pollicaria, quin pedalia, firma et subcoriacea, supra nitida, saturate viridia, costâ nervisque subtilis prominentibus, vix pubescentibus; *floralia* plura, per totam ferè racemi longitudinem sparsa, subsessilia, angusto-lanceolata, acuta, sesquipollicaria, floribus brevioribus utrinque pubescentia. PETIOLUS bipollicaris, cylindricus, supra vix planiusculus. RACEMUS speciosus, terminalis, sessilis, erectus, oblongus, attenuatus, 6—10-pollicaris, densè obsitus pilis pallidè ferrugineis, subhyalinis, mollibus, articulatis, patentibus, brevibus. FLORES ex flavo rubicundi, ternato-fasciculati, pedunculati, oppositi, bipollicares, tubulosi, patentes. PEDUNCULUS *communis* rectus, leviter tetragonus, villosus; *partiales pedicellulae* teretes, unguiculares; *bracteae* oppositae, lineares, acuminatae, villosae. CALYX ovatus, villosus; *lacinae* 5, sequales, lineares, acuminatae, erectiusculae. COROLLA *tubus* bipollicaris, cylindrico-clavatus, parum compressus, leviter curvus, extus dense villosus, intus pubescens; *limbus* tubo ferè quinquies brevior, bilabiatus: *labium superius* ascendens, lobis lanceolatis, obtusis; *inferius* patens, 3-lobum, lobis lanceolatis. FILAMENTA filiformia, glabra, longa, tubo supra basin inserta, parallela. ANTHERS oblongae, subcarnosae, exsertae, glabrae, demum parum divergentes, loculis parallelis, sequalibus. OVARIUM glabrum; *stylus* filiformis, pilosus, staminibus parum brevior; *stigma* simplex. CAPSULA clavata, quadrangularis, sessilis, acuta, ultra pollicem longa, glabra, suffulta calycis laciniis elongatis, patulis, ferè unguicularibus, angustissimè linearibus.

This very beautiful species approaches nearest to *Justicia thyrsoiflora* Roxb. It is a large shrub, with ample dark green leaves, and long, curved, tubular flowers, of a bright orange-red colour, disposed in a large terminal raceme.

Plate CXII. Fig. 1. Flower. 2. Calyx. 3. Corolla. 4. Anthers.

JUSTICIA CALCARATA. Tab. 113.

FRUTICOSA, erecta, glabra; foliis elliptico-ovatis, acuminatis, deorsum valde attenuatis; panicula terminali, corymbosa, pubescente; labio corollae superiore integro, rostrato-acuminato, recurvo, inferiore trifido, lobis ovatis, obtusis; antheris exsertis, divaricatis, loculis inaequalibus, parallelis.

Crescit in montibus Sillet confinibus, ubi detexit F. De Silva. Floret mense Martii.

FRUTEX 5-pedalis, erectus, ramosus, glaber. RAMI cylindrici, tumido-articulati, pallidè virides, glaberrimi. FOLIA patentia, subapproximata, petiolata, elliptico-ovata, acuminata, integerrima, deorsum valde attenuata et acuta, palmata, glabra, membranacea, subtilis valde pallida, nervis frequentibus, obliquis, parallelis, gracilibus, costaque elevatis. PETIOLUS gracilis, unguicularis, pollicaris. PANICULA terminalis, ovata, 6-pollicaris, ramosa. PEDUNCULI *primarii* oppositi, elongati, teretes; *secundarii* breves, corymbosi. FLORES magni, albi, fasciculati, pubescentes, insidentes *pedicellis* brevissimis, villosulis, suffultis *bracteis* parvis, lanceolatis. CALYX 5-fidus; *lacinae* erectae, breves, lanceolatae. COROLLA: *extus* pubescentis *tubus* cylindricus, ferè 1 pollicaris; *limbus* tubo dimidiè brevior, bilabiatus: *labium superius* integrum, lineare, semipollicare, desinens in acumen gracile, subfiliforme, ascendenti-recurvum; *inferius* patens, 3-fidum, laciniis ovatis, obtusis; *faux* pervia, tuberculis duobus, longitudinalibus inter stamina. FILAMENTA brevissima, tubo infra faucem inserta, ferè inclusa. ANTHERS complanatae, exsertae, demum lateraliter deflexae; *bacula* compressa, ovata, parallela, inaequaliter inserta, unum nempe super alterum elevatum. OVARIUM glabrum. STYLUS capillaris.

Closely allied to *Justicia nasuta* Linn., but differing in the greater size of all its parts, and in the leaves being elliptic-ovate, and not lanceolate as in that species.

Plate CXIII. Fig. 1. Calyx. 2. Corolla. 3. Anthers.

ARUM TORTUOSUM. Tab. 114.

CAULESCENT erectum, lseve, monoicum; foliis binis, petiolatis, pedato-digitatis, 9—19-phyllis, foliolis oblongo-lanceolatis, acuminatis, intermediis subpetiolatis; spathae limbo ovato, cucullato, decurvo; spadicis monoic* clavâ longissimâ, gibboso-decurvâ, apice flagelliformi, adscendente, exserto; staminibus distantibus, sterilibus nullis.

Crescit ad loca humida, irrigata montium Napaliae, florens Aprili et Majo-

PLANTA 3—4-pedalis, lsevis, carnosâ. TUBER magnum, depresso-orbiculatum, placentaeforme, fuscum, carnosum, 6-pollicare, crassitie 2-pollicari, vertice ad ambitum caulis emittens *radiculas* plures crassas, cylindricas, nudas, pallidas. CAULIS erectus, pallidus viridis, emaculatus, cylindraceo-attenuatus, erectus, basi crassissimus & indutus *vaginis* aliquot magnis, integris, obtusis, striatis, laxiusculis erectis, exterioribus brevibus, ovatis, semiamplexantibus, intimâ ferè pedali, semivaginante, supernè liberis; mediis distantibus & diphyllis; supernè digitum medium vix crassus, nudus; apice florifer. FOLIA duo ampla, distantia, pedalia ad 2-pedalia, patentia, circumscriptione orbiculato-cordata, pedato-digitata. PETIOLUS semipedalis, cylindricus, surgens e vagina adpressa, hinc fissa, ore obliquo, marginato, caule partim ampliore; apice profundissimè canaliculato-marginatus, brevis & bifidus. FOLIOLA 9 ad 19, lanceolato-oblonga, acumine brevi terminata, parim repando-undulata, margine angustissimè membranaceo, crispulato, purpurascens, basi attenuata, subcarnosa, supra atro-viridia, subtilis pallida, nervosa, costâ magnâ et crassi, venis duabus intramarginalibus, distantibus parallelis; *intermedium* e bifurcatione petioli reliquis parim majus, proximaque 6-pollicaria interdiis desinentia in petiolum brevissimum, marginatum, sulco profundo exaratum, nunc auriculatum; *exterior a* sensim breviora, sessilia, basi plus minusve semidecurrenti-coadunata. SPATHA tenninalis, solitaria, viridis, glaucescens, dimidiis, inferiore parte cylindraceo-convoluta in *tubum* 5-pollicarem, rectum, intis pallidè purpurascens; superiore parte explanata in *limbum* integrum, ovatum, acutum, apice fornicato-gibbosum, undulatum, costato-striatum, descendens, 6-pollicarem. SPADIX carnosus, attenuatus, spatham longè superans; pars inferior recta, crassa, monoica, rarissimè dioica, infernè pistillifera, supernè staminifera, tubo spathae omninè inclusa; superior pars sive *clava* extra tubum elevata, pedalis, flagelliformis, nuda, in formam literæ S torta, basi nempè adscendens, violacea, medib infralimum spadicis cucullatum descendens, sensim viridescens et abiens in apicem gracillimum, teretem, retrorsim adscendentem, supra spatham longè exsertum, nunc tractu serpentino curvatum. OVARIA densissimè congesta, numerosa, inferiorem dimidiam basis spadicis partem occupantia, ovata, subattenuata, 4-sporea; *stylus* vix ullus; *stigma* capitatum, subunilaterale. STAMINA superiorem ejusdem partem occupantia, pistillis multo pauciora, gracilia, distantia, patentissima vel subdecurvata; *filamenta* Tineas 3 longa, subulato-teretia, terminata *antheris* 3, 4 vel 6, stellatim patentibus; *sterilia* nulla.

This curious species of *Arum* varies considerably in stature, and in the number of leaflets. In general it attains a height of four feet, and each leaf consists of nineteen leaflets. The structure of the spadix is very singular, the middle being bent like a Roman S, ending in a long, ascending, and somewhat recurved apex. No part of the plant possesses any disagreeable smell; and I believe the root is considered innocent, and even esculent, by the mountaineers of Nipal.

Plate CXIV. Fig. 1. Spatha. 2. Spadix. 3. Stamen. 4. Ovary. 5. 6. The same, opened.

ARUM GUTTATUM. Tab. 115.

SUBACAULE, laeve, monoicum; folio pedato-palmato, multilobo, lobis oblongis, acuminatis; spathâ oblongâ, acuminatâ, attenuato-acuminatâ, reclinatâ, basi vix tubulosâ; spadicis monoicoe clavâ elongatâ, exsertâ, erectâ, obtusâ; staminibus pistillisque seorsum dense confertis, filamentis sterilibus intermediis, clavatis vel subulatis.

Crescit in sylvis montium Napalire, florens ad finem mensis Aprilis.

TUBER maximum, pugnorum duorum usque ad capitis dimensionem uttingeus, carnosum, globosum, e vertice lateribusque germinans, transversim et parallelè rugosum, circum ambitum scapi emittens *Jibras radicales* plures, breves, nudas, pallidas. FOLIUM peractè florentiâ tempore pluvioso proveniens, radicale, pedato-palmatum, circumscriptione rotundato-cordatum, laeve, pedale ad sesquipedale, suffultum *petiolo* cylindrico, basi ei-assissimo, squamis aliquot emarcidis vestito, sursum attenuato, pedali; *lobi* oblongo-lanceolati, valdè acuminati, intermedii 6-pollicares, exteriores breviores, basi contractè profundè separati, extimi lanceolati, 2-pollicares; membranacei, atrovirides, subtilis costato-nervosi. INFLORESCENTIA radicalis, maxima, solitaria, *raxb* duse, suffulta *scapo* crasso, coiumnari, vix 2-pollicari, pallidè viridi, purpureo-lineato. SQUAMAE aliquot magnæ, scapum longitudine excedentes (salvè exteriori ovata, brevissimâ) lanceolatae, attenuato-acutæ, albicantes, membranaceæ, citè emarcescentes. SPATHA magna, crassa et carnosa, lsevis, sestivatione convoluta in cylindrum purpureo-lividum, basi tumidum, *indh* rectè adscendentem, attenuatum in acumen gracile, curvum; *basis* tubulosa, pollices 2 ad 4 longa, integra, parim tumida, supernè hinc fissa; *limbus* maximus, pedalis—2-pedalis, oblongo-lanceolatus, planus et expansus, basis concavusculæ margine irregulariter sinuato-repando, medib integerrimus, recurvatus, descendens sensimque attenuatus in acumen convolutum, terreque prostratum; *suprè* lævè viridis, maculis frequentissimis, angulatis, atro-purpureis, majusculis guttatus, subtilis purpurascens. SPADIX monoicus, gracilis, spatha tertio brevior; *inferior pars* 3—4-pollicaris, cylindrica, digitum minimum crassa, basi pistillifera, pollicaris, apice paulè constricto staminifera, semipollicaris, medib per distantiam 3-pollicarem purpurascens, parth

staminibus sterilibus obsita; *superior pars* sive *clava* erecta, exserta, ferè pedalis, cylindrica, obtusa, pallidè fusca, nuda. OVARIA admodùm numerosa, arctissimè conferta, parva, oblongo-cuneata, tetragona vel pentagona, vertice plana, 2-ovulata; *stigmata* adnata, plano-convexa. STAMINA copiosa et densa, parva, clavata, patentia; *filamenta* brevissima; *antherae* carnosae, loculis supernè oblique dehiscentibus; *abortiva* seriebus duabus tribusve ad inferiorem inter pistilla staminae fertilia interstitii partem occupantia, magna, clavata, obtusa, adscendentia, carnosae, lutea; praeterea alia rudimenta minuta, subulata, cuspidulata, per reliquum spatium sparsa.

This is a very stately *Arum*, with the inflorescence almost sessile on the tuber; and although it has a disagreeable smell, it is far less offensive than many of the other species. The spathe is very large and leathery, sometimes two feet long, hanging down from below the middle, and more or less trailing along the ground; the outer surface is of a livid purple colour, the inner is bright green, covered with innumerable dark purple, angular spots. Before expansion the heat at the bottom of the spathe is very considerable. The root is said to be a strong poison.

Plate CXV. Fig. 1. Inflorescence before expansion. 2. Spadix. 3. Stamen. 4. Ovary. 5. The same, opened.

SALVIA LANATA. Tab. 116.

Salvia lanata, Benth. Synops. Labiat. suprâ, Vol. 1. p. 67.

Habitat in alpebus summis Kamounensibus, Sirmorensibus et Gurwalensibus; primùm detexit Dom. Hardwicke, deindè miserunt Domini Govan, Webb et Gerard. Ipse legi in montibus prope vallem Deyra dictam. Floret fructificatque Martio et Aprili.

PLANTA erecta, palmaris, pedalis bipedalisque, villis longis, canis, mollissimis densè obsita, attritu vix aromatica. RADIX lignosa, longiuscula, subfidsiformis, fusca, interdùm multiceps, *radiculas* emittens longas, filiformes, ramulosas. CAULES saepe plures, basi lignosi subadscendentesque, longitudinis varise, usque ad pennam cygneam crassi, uti foliorum pagina aversa et tota planta recens vestiti lanugine densissimâ, longâ, canâ; supernè attenuati ramique obsolete 4-angulares et 4-sulcati, glanduloso-villosi, subviscosi. FOLIA approximata, interstitiis pluriès longiora, erecte-patentia, acuta vel obtusiuscula, crenulato-denticulata, tenella integerrima, 4—6-pollicaria, deorsùm valdè attenuata, sessilia, subamplexicaulia, vel in *petiolum* brevem, marginatam decurrentia, subcarnosa, suprâ rugosa, arachnoideo-sublanosa, subtùs densè lanuginosa, costâ, latâ et prominente, nervis alternis, obliquis; *superiora* breviora, distantiora, omninò sessilia, basi minùs attenuata. RACEMUS terminalis caulis ramorumque, oblongus, palmaris vel parùm ultrâ, constans verticillastris remotiusculis, 6-floris, suffultis *foliis jkralibus* bracteiformibus, deciduis, lato-ovatis, concavis, acuminatis, multinerviis, ciliatis, glanduloso-villosis, suprâ glabriusculis, patentibus, semipollicaribus, albicantibus, nervis acumineque pallidè viridibus. FLORES magni, purpurei, insidentes *pedicellis* 3-linearibus, suffultis *bracteoid* lineari, brevi. CALYX subcampanulatus, prominentèr multinerviis, subquinquangularis, transversè venulosus, villosulus, bilabiatus; labium superius ovatum, lato-tricuspidatum, inferius angustius, bidentatum, dentibus lanceolatis, acutis. COROLLA ferè pollicaris; *tubus* pallidus, calyce brevior, supernè levitèr ampliatus; *Embus* bilabiatus: *labium superius* adscendens, compressiusculum, oblongum, arcuatum, subretusè obtusum; *inferius* isto parùm brevius, patens, lateribus deflexum, 3-lobum; lobis lateralibus abbreviate, lanceolatis, margine subrevolutis, intermedio lato, rotundato, obcordato, lateribus sinùs imbricantibus. STAMINA hevia, labio. superiore occulta; *JUamenta* brevia, subulata; *antherae* loculum oblongum, sustentum *cotnectivo* arcuato, longissimo, filiformi, extremitate inferiore dilatato-clavato, compresso, nudo. STIGMA bilobum, subulatum, acutum. ACHENIA majuscula, ovata, obtusa, laevia, fusca.

I have received this beautiful plant from the Sirmore and Gurwal alps, collected by Captain Webb, Dr. Govan, and Lieutenant Gerard. I found it myself on far less elevated mountains, near the valley of Deyra, in fruit, in April 1825. In the Botanic Garden at Calcutta, where it was introduced by Lieutenant Gerard, it flowers in March. I believe with Mr. Bentham that it does not differ from Roxburgh's plant, discovered many years ago by my highly esteemed friend Major-General Hardwicke towards Srinaghur, and called by him in the Asiatic Researches, Vol. 6. p. 349. *S. integrifolia* (a name preoccupied by a Peruvian species). The name of *S. cana*, under which I transmitted specimens to the museum at the India House, and which I subsequently inserted in the Catalogue of Indian Plants (No. 2145.), as also that of the accompanying plate, must therefore be altered accordingly.

Plate CXVI. Fig. 1. Calyx, opened. 2. Corolla. 3. The same, opened. 4. A detached stamen.

SYNOPSIS

Of the Genera and Species of Indian Labiate enumerated in the Catalogue of the Collections in Dr. Ifallictis charge.

By GEORGE BENTHAM, Esq. (Concluded from Vol. I. page 68.)

Tribus 5. PRASIEIE, *Benth. in Bot. Reg. vol. 15. ad calc. n. 1289.*
XXXVI. GOMPHOSTEMMA, *Wall. Cat. Herb. Ind.—Benth. loc. cit.*

Calyx ovato-campanulatus vel tubulosus, subaequalis, 5-dentatus, intus fauce nudâ. Corolla tubo recto, saepiùs exserto, supra medium inflata, bilabiata, labiis subaequalibus, superiore erecto, integro, fornicato, inferiore patento trifido. Stamina 4, sub labio superiore adscendentia, inferioribus longioribus. Antherae per paria approximatae, biloculares, loculis parallelis, transversalibus. Stylus apice subaequalit&r bifidus, lobis subulatis. Stigmata minuta. Achenia carnosa.—Herbse perennes, caulibus saepiùs erectis, simplicibus vel basi procumbentibus, radicanibus.

1. *G. sfrobilinum* (Wall. Cat. Herb. Ind. n. 2151); caule erecto, subsimplici, tomentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, rugosis, suprk hispidis, subtus tomentosis; verticillastris in spicam terminalem congestis, vel infimis remotis, axillaribus; foliis floralibus bracteiformibus, sessilibus, lato-ovatis, irregularit&r dentatis, subtus tomentosis, suprit glabratiss, calyces superantibus; calycibus campanulatis, mollitèr tomentosis, dentibus ovato-lanceolatis; corollis calyce subtriplo longioribus.

3. *elafius*.

Caulis crassus, obtusè tetragonus, sulcatus, 1—2-pedalis; in var. j3. 3-pedalis et ultrâ. Folia caulina [(extra petiolum) 6—10 pollices longa, 3—6 pollices lata; floralia pollicaria, suprà fusciscentia, glabra vel apicem versus pubescentia, subtus rugosa, tomentosa. Verticillastri nunc omnes spicati, spicâ 4—6-pollicari (in var. (3. ferè pedali), crassâ, densâ; nunc inferiores remoti, axillares, pauciflori, vel nonnulli in spiculis breves, axillares approximâtè Corolla flava, extus pubescens, tubo calyce superante, vix incurvo, fauce valdè inflatâ. Achenia siccitate rugosissima, glabra, uno alterove fertili, coeteris ssepiùs abortivis.

Hab. in Ava, ad Meong, Prome, et in monte Taong Dong.

2. *G. viride* (Wall. l. c. n. 2153); caule erecto, simplici, toraentoso-pubescente; foliis breviter petiolatis, elliptico-ovatis, basi attenuatis, flaccidis, suprà hispidulis, subtus pilis stellatis pubescentibus; verticillastris paucifloris, in spicam brevem, terminalem. congestis; foliis oraiibus bracteiformibus, sessilibus, lato-ovatis, subdentatis, suprà jglabrusculis, subtus villosis, calyces superantibus; calycibus campanulatis, mollitèr villosis, dentibus lanceolatis; corollis calyce duplo longioribus.

G. strobilino valdè affine sed staturâ humilior. Folia lsetè viridia, flaccida, baud rugosa, subtus vix tomentosa. Spica brevis, pauciflora. Calyx amplus. Corollae tubus brevior quàm in *G. strobilino*.

Hab. in Tavoy.

3. *Q. Heyneanum* (Wall. l. c. n. 2152); caule erecto, subsimplici, floccoso-tojmentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, rugosis, suprà mollitèr, subtus densè floccoso-tomentosis; verticillastris in spicam terminalem congestis, vel infimis subremotis, axillaribus; foliis floralibus bracteiformibus, sessilibus, lato-ovatis, crenatis, rugosis, utrinque toraentosis, calyces superantibus; calycibus campanulatis, mollitèr tomentosis, dentibus ovato-lanceolatis, corolla vix brevioribus.—*Stachys tomentosa*, Heyne MSS.

Habitus et statura *G. strobilini*; differt tomento floccoso, foliis floralibus suprà rugosis, tomentosis, nee glabratiss, corollis minoribus, tubo incluso, labiis vix calycem superantibus.

Hab. in montibus prope Courtallum.

4. *G. oblongum* (Wall. l. c. n. 2154); caule erecto, simplici, tomentoso; foliis petiolatis, oblongo-ellipticis, basi attenuatis, rugosis, suprk hispidulis, subtus densè tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, paucifloris; calycibus campanulatis, tomentosis, dentibus lanceolato-linearibus, elongatis, acutis; corollis calyce triplo longioribus.

Caulis 1—2-pedalis. Folia, ferè *G. strobilini* sed minora, angus-

tiora. Verticillastri 2—4, axillares, 6—10-flori. Corolla extus pubescens, ultrâ 1^po)licaris; tubo gracili, apice valdè inflata. Bractee parvae, lineares, lanceolatae vel ovatae.

Hab. in Tavoy.

5. *G. lucidum* (Wall. l. c. n. 2156); caule erecto, subsimplici, densè rufo-tomentoso; foliis breviter petiolatis, elliptico-ovatis, utrinque attenuatis, suprà lucidis, piloso-hispidis, subtus nervosis, densè rufo-tomentosis, floralibus conformibus; verticillastris axillaribus, remotis calycibus tubuloso-campanulatis, tomentosis, dentibus lanceolatis, brevitiatis; corollis calyce triplo longioribus.

Habitus praecedentis, sed robustior. Caulis 2—3-pedalis. Verticillastri 10—30-flori. Corolla flava, extus densè tomentosa. Dentes calycini vix lineam longi.

Hab. Chappedong orae Tenasserim et in Pundua.

6. *G. parviflorum* (Wall. l. c. n. 2158); caule erecto, subsimplici, tomentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, rugosis, suprà pubescentibus, subtus tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, laxè multifloris; bracteis oblongo-linearibus, calyces superantibus; calycibus campanulatis, dentibus lanceolato-linearibus; corollis gracilibus, calyce duplo longioribus.

Habitu praecedentibus affine, sed flores in axillis numerosissirai, laxè fasciculati. Corolla flava, extus pubescens, 9—10-lineas longa, tubo gracillimo, fauce minùs inflatâ, limbo parvo.

Hab. in Napalia, Silet, Penang.

7. *G. crinitum* (Wall. l. c. n. 2159); caule erecto, subsimplici, tomentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, vix rugosis, suprk pubescentibus, subtus tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, laxè multifloris; bracteis lineari-setaceis, calycem subaequantibus; calycibus tubuloso-campanulatis, fructiferis inflatis, basi glaberrimis, dentibus elongatis, setaceis, hispidis; corollis gracilibus, calyce duplo longioribus.

Habitus inflorescentia et corolla *G. pawi/lori*; bnictis et calyce distinctissimum; folia ampliora, minùs r?nw

Hab. in Tavoy.

8. *G. eriocarpon*; caule adscendente, subsimplici, tomentoso; foliis breviter petiolatis, elliptico-oblongis, utrinque attenuatis, grossè dentatis, suprà hispidulis, subtus tomentosis, floralibus conformibus; verticillastris remotis, paucifloris; bracteis ovatis, denticulatis; calycibus campanulatis, demùm inflatis, tomentosis, dentibus lineari-setaceis; corollis villosis, calyce duplo longioribus; acheniis tomentosis.

Caulis elongatus, tenuior quàm in speciebus praecedentibus. Folia 3—4 pollices longa, sesquipollicem lata, acutè dentata. Verticillastri pauci, sub-10-flori.

Hab. ad Courtallum.

9. *G. ovatum* (Wall. l. c. n. 2155); caule basi radicanu, ^ ^ . i . -culo, subsimplici, tomentoso; foliis ongh petiolatis, lato-ovatis, basi rotundatis vel vix attenuatis, suprà lucidis, hispidulis, subtus mollitèr tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, multifloris; bracteis lato-ovatis, exterioribus calycem subaequantibus; calycibus campanulatis, villosito-tomentosis, dentibus lanceolato-linearibus; corollis calyce triplo longioribus.

Folia minora et latiora qirim in praecedentibus. Corolla flava, pubescens, ferè sesquipollicaris, tubo calyce duplo longiore, fauce amplissima.

Hab. in Napalia. ^ ^ K

10. *G. melissifolium* (Wall. l. c. n. 2157); caule basi repente, radicante, ramis adscendentibus, subsimplicibus, tomentosis; foliis petiolatis, ovatis, utrinque attenuatis vel basi rotundatis, glabrusculis, vel supri hispidulis, subtus parçè tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, laxi paucifloris; bracteis ovatis, exterioribus calycem wquantibus; calycibus hispidis, dentibus* t...

ceolato-linearibus; corollis calyce subtriplo longioribus.—*Prasium melissifolium*, Roxb. Hort. Beng. 45.

Præcedenti valdè affine; differt caule basi repente, foliis subtus vix tomentosis, floribusque minoribus. Corolla 13—14 lineas longa, tubo gracili, apice parùm dilatato.

Hab. in Sillet.

11. *G. velutinum*; caule basi repente, radicante, ramis adscendentibus, subsimplicibus, tomentosis; foliis petiolatis, ovatis, crenatis, basi rotundatis, crassis, utrinque dense velutino-pubescentibus, floralibus conformibus; verticillastris axillaribus, remotis, 2—6-floris; bracteis oblongis, calycem æquantibus; calycibus tomentosis, dentibus ovato-lanceolatis; corollis calyce duplo longioribus.

Species distinctissima, affinis *G. melissifolio*. Folia 12—18 lineas longa, 8—15 lata. Corollae flavae, 11—12 lineas longae, tubo gracili, apice valdè dilatato.

Hab. in Sillet.

Tribus 6. OCYMOIDE¹, *Benth. in Bot. Reg. vol. 15. ad calc. n. 1300.*

XXXVII. MOSCHOSMA, *Reichenb. Consp. p. 171. in nota.*

Calyx ovatus, 5-dentatus, dente superiore majore, marginibus non decurrentibus, post anthesin declinatus. Corolla tubo calyce brevior, bilabiata, labio superiore breviter quadrifido, inferiore integerrimo, subplano. Stamina 4, declinata. Filamenta libera, edentula. Antherae ovato-reniformes, loculis confluentibus. Stylus clavato-capitatus, brevissimè bifidus, stigmatibus in emarginatura minutis.—Herbæ annuae, paniculato-ramosae. Flores minuti. Verticillastris pauciflori, nutantes, secundi, [^] in racemos elongates, graciles, axillares dispositi. Folia floralia et bracteae minutissima vel omninè abortiva.

1. *M. polystachya*; caule acutè tetragono, angulis laevibus vel vix asperis; verticillastris 6—10-floris, laxis, approximatis.—*Ocymum polystachyon*, Linn. Mant. p. 567. *Lumnitzera polystachya*, Jacq.

Caulis 1—2-pedalis, ramosus, gracilis, glaber, vel pilis brevibus raris hispidulus. Folia longè petiolata, ovata, acuminata, crenata, basi rotundata vel cuneata, glabra vel suprâ tenuissimè pubescentia, subtus pallidiora. Racemi numerosi, graciles, 2—4-pollicares. Verticillastris saepiùs 6-flori, rariùs 8—10-flori. Calyces hispiduli, vix bilabiati, dente supremo ovato, obtusiusculo, lateralibus acuminatis, infimis setaceis.

Hab. in Tavoy; ad Rangoon, Prome; in Travancore, Arcot.

2. *M. ocymoides*; caule tetragono, angulis asperis; verticillastris 2-floris, laxis.—*Lumnitzera ocymoides*, Jacq.

Habitus præcedentis, sed folia acutè serrata, suprâ hispidula, subtus canescentia. Calyces paullò majores, glabriusculi, fructiferi ovato-patentes, distinctè bilabiati, dentibus 3 ovatis, brevissimè acuminatis in labium superius, 2 lanceolatis, acutis in inferius approximatis.

Hab. in Sillet.

XXXVIII. OCYMUM, *Linn. Gen. 732.*

Calyx ovatus vel campanulatus, 5-dentatus, dentis superioribus ovato-membranacei marginibus decurrentibus alatus, post anthesin deflexus. Corolla tubo calyce subbreviore, bilabiata, labio superiore 4-fido, inferiore integerrimo, subplano. Stamina 4, declinata. Filamenta libera, inferiora basi saepiùs dente vel pilorum fasciculo appendiculata. Antherae ovato-reniformes, loculis confluentibus. Stylus apice subulato-bifidus, stigmatibus minutis.—Herbæ vel suffrutices. Verticillastris 6-flori, interruptè spicati vel racemosi, spicis subsimplicibus, vel rariùs dense thyrsideo-paniculatis.

§ 1. *Caule herbaceo, sapiùs annuo.*

1. *O. Basilicum* (Linn. Sp. 833); caule herbaceo, erecto vel adscendente; foliis petiolatis, ovatis vel oblongis, basi attenuatis, subdentatis, glabris, petiolis ciliatis; racemis simplicibus; calycibus pedicello longioribus, fructiferis reflexis, inflato-campanulatis, ciliatis, basi suprâ gibbosis, labio superiore orbiculato, concavo, brevissimè acuminata, alis basin calycis non attingentibus, lobis lateralibus ovatis, acutis, infimis setaceo-acuminatis; filamentis inferioribus appendiculatis.

This species, cultivated for so many ages in a great variety of VOL. II.

climates, has necessarily become exceedingly changeable in its forms. Those which have come under my own observation appear to be reducible to the following races.

a. pilosum; caule ramosissimo, erecto vel adscendente; verticillastris remotis, spicatis, pilosissimis.—*O. Basilicum*, Linn. Sp. 833. *O. hispid urn*, Lam. Diet. 1. p. 384. *O. pilosum*, Willd. Enum. p. 629. Roxb. Hort. Beng. p. 45. *O. ciliatum*, Herb. Vahl., et Hortul. Plur. |3. *majus*.—*O. majus*, Hortul.

y. glabratum; petiolis calycibusque minùs ciliatis; foliis vix dentatis.—*O. integerrimum*, Willd. Sp. 3. p. 162. *O. caryophyllatum*, Roxb. Hort. Beng. p. 45. *O. Barrelieri*, Roth. Nov. Pl. Sp. p. 278?

l. album; foliis majoribus, latoribus, crassiusculis; verticillastris approximatis, spicis vix ciliatis, canescentibus; corollis majoribus.—*O. album*, Linn. Mant. p. 85. *O. laxum*, Herb. Vahl.

g. difforme; foliis bullatis vel laciniato-dentatis.—*O. bullatum*, Lam. Diet. 1. p. 384. *O. urticifolium*, Hortul.

£. purpurascens.—*O. nigrum*, Thouin.

Caulis erectus, ramosissimus, in var. *u.* sæpè adscendens, laxè ramosus, pedalis vel ultrâ, basi saepiùs glaber vel pilis brevibus, reflexis pubescens. Folia ovata, obtusiuscula vel frequentibus acuminata, subtus punctata, saepiùs irregularitèr dentata, rarè integerrima. Racemi sæpè 8—10-pollicares vel ultrâ; verticillastris inferiores pollicem circitèr distantes, supremi approximati. Folia floralia parva, petiolata, ovata, acuminata, ciliata, calyces paullò superantia, sæpè colorata. Corolla calyce subduplo longior, tubo incluso, fauce subinflata; labium superius lætè 4-fidum, lobis sæpè crenatis, undulato-crispis, vel (in varietatibus cultis) fimbriatis. Filamenta staminum inferiorum breviter appendiculata. Achenia 1 as via. Stylus basi incrassatus.

Hab. a. Sillet, Kantanagur, Oude, Madras, y. Nathpur, Patna, Penang. |3. *£.* et *s.* in hortis ortae. *£.* in hortis occurrit, an ex India Orientali àllata?

Occurrit etiam spontè in India occidentali, sed non indigenum.

2. *O. canum* (Bot. Mag. 51. t. 2452.); caule herbaceo, erecto, pubescente; foliis petiolatis, ovatis, utrinque attenuatis, subintegerrimis, subtus canescentibus; petiolis ciliatis; racemis simplicibus; calycibus pedicello longioribus, fructiferis reflexis, cauli adpressis, basi suprâ gibbosis, vix ciliatis, labio superiore orbiculato, concavo, brevissimè acuminata, alis basin calycis non attingentibus, lobis lateralibus ovatis, acutis, infimis setaceis; filamentis inferioribus appendiculatis.—*O. album*, Herb. Roxb. et aliorum, non Linn.

Species *O. Basilico* valdè affinis, at distincta vifletur. Caulis pedalis vel ultrâ, erectus, ramosus, pilis brevibus, reflexis, saepiùs fasciculatis cano-pubescentis, ad axillas pilis nonnullis longis, albis ciliatus. [^]Folia ovata vel ovato-oblonga, 1—2 pollices longaj integerrima vel suddentata, margine petiolisque pilis raris, longis, [^]bis saepiùs ciliata, supra ad nervos tenuissimè pubescentia, subtus glabra, punctata. Racemi numerosi, stricti, 6-pollicares vel ultrâ; verticillastris fructiferi semipollicem distantes. Folia floralia oblonga, petiolata, calyces vix superantia, ciliata. Calyces orbiculato-depressi, sesquilineam lati, parè ciliati. Flores *O. Basilici*, sed minores.

Hab. Sillet; Paghamew, Taong Dong; etiam prope Madras.

3. *O. thyrsiflorum* (Linn. Mant. p. 84); caule herbaceo, erecto, glabriusculo; foliis petiolatis, ovatis, utrinque attenuatis, integerrimis dentatisve, glabris; petiolis nudis; racemis pubescentibus, ramosis, thyrsideo-paniculatis; verticillastris laxis, approximatis; calycibus pedicello longioribus, fructiferis reflexis, dilatato-campanulatis, labio superiore orbiculato, alis basin calycis non attingentibus; filamentis inferioribus appendiculatis.

Hab. . . . (in hortis cultum.)

This plant is frequently cultivated in European as well as Indian gardens, and scarcely differs from the *O. Basilicum*, except in the inflorescence. I have never met with wild specimens in any of the herbariums I have examined, and am therefore inclined to think it may be a mere variety of *O. Basilicum*, raised by cultivation. This opinion is in some measure confirmed by those intermediate states which Miller considered as a distinct species, under the name of *O. medium*.

The *O. minimum*[^] Linn., which belongs also to this section, is a

Chilian, and notun East Indian plant. The *O. micranthum*, Willd. (*O. montanum*, Hook. Bot. Mag. v. 57. t. 2996.; *O. campechianum*, Mill. Diet; *O. peltatum*, IlovtxU *O. frutescens*, Sieb. PLExs. et Auct. plur., an Linn. ?) is a native of Brasil, Cayenne, and some of the West Indian Islands. I have also several new herbaceous *Ocymums* from South America.

§. 2. *Caule suffruticoso vel fruticoso.*

4. *O. weto7w* (Linn. Mant. p. 85); caule suffruticoso, ramis adscendentibus, pilosis; foliis petiolatis, oblongo-ovatis, obtusis, dentatis, pubescentibus, nervis petiolisque pilosis; racemis gracilibus, simplicibus vel basi subramosis; foliis floralibus sessilibus, ovatis, pedicello brevioribus; calycibus pedicello brevioribus, nutantibus, glabriusculis, intus fauce nudâ, labio superiore lato, obovato, breviter decurrente, concavo; corollis calycem vix superantibus; filamentis inferioribus basi pilorum fasciculo appendiculatis.—*O. monachorum*, Willd. Sp. 3. p. 159. et Auct. alior., verisimiliter etiam Linn. *O. tomentosum*, Lam. Diet. 1. p. 387. *O. villosum*, Roxb. Hort. Beng. p. 44? *Plectranthus monachorum*, Spr. Syst. 2. p. 690.

Tota planta saepius purpurascit, in hortis Europaeis herbacea, annua, in loco natali suffruticosa. Folia parva, longè petiolata. Racemi laxi, 3—5-pollicares. Calyces parvi. Corolla vix calyce longior, pallid* purpurascens.—Stirps dudum in India culta, villositate staturâque valdè variabilis.

Hab. Monghir; Prome.

5. *O. hirsutum*; caule suffruticoso, diffuso, pubescenti-villoso; foliis petiolatis, oblongis, obtusis, subdentatis, basi attenuatis, villosis; racemis gracilibus; foliis floralibus minutis; calycibus fructiferis deflexis, intus fauce nudâ, labio superiore orbiculato, obtuso, decurrente, alis medium calycis attingentibus; corollis calyce subbrevioribus; filamentis inferioribus basi appendiculatis.

Suffrutex parvulus. Folia vix ilia *O. minimi* superantia, *O. sancto* conformia. Racemus tenuis, 2—3-pollicaris. Calyx ferè *O. sancti* Corolla minutissima.

Hab. Courtallum, Palamcottah.

6. *O. ? diffusum*; caule suffruticoso, diffuso, tomentoso-villoso; foliis petiolatis, oblongo-ovatis, obtusis, crenatis, tomentoso-villosis, rugosis; racemis simplicibus, abbreviatis, paucifloris; foliis floralibus minutis; calycibus fructiferis oblongis, nutantibus, striatis, glabriusculis, intus fauce villosâ, labio superiore ovato, breviter decurrente, inferioris dentibus elongatis, setaceis; filamentis inferioribus basi appendiculatis (?)

Habitus *O. hirsuti*, sed calyce oblongo, intus villosa distinctum. Corolla minuta, vix calycem excedens. Stamina et stylus imperfect* a me examinata, locus iAeb incertus.—An *Orthosiphm*? cui calycis formâ accedit.

Hab. . . . Herb. Wight.

7. *O. 1 adscendens* (Wi\d.Sf>.3. p.166.); caule suffruticoso(?), prostrato, ramis pubescentibus; foliis petiolatis, oblongis, obtusis, subdentatis, basi attenuatis, pubescentibus; racemis simplicibus; foliis floralibus acuminatis, calyces aequantibus, deciduis; calycibus fructiferis nutantibus, intus fauce nudâ, tubo striato, labio superiore ovato, acuto, alis medium calycis attingentibus, inferiore margine membranaceo, dilatato, ciliato-dentato; corollis calyce duplb longioribus; staminibus long* exsertis, filamentis inferioribus basi dentatis.—*O. indicum*, Roth. Nov. Pl. Sp. p. 273. *Plectranthus indicii*, Spr. Syst. 2. p. 691. *O. cristatum*, Roxb. Hort. Beng. p. 45.

Suffrutex (?) humilis, praecedentibus affinis glabrior, canescens, ramis elongatis. Folia vix majores quam in *O. minimo*, formâ ferè *O. sancti*. Calyx fructifer *O. gratissimi*.

Hab. . . . Herb. Madr. et Hamilt.

8. *O. gratissimum* (Linn. Sp. 832); caule fruticoso, ramoso, glabro vel supern* villosa; foliis petiolatis, ovatis, acutis, crenatis vel grosse dentatis, basi attenuatis, glabris vel ad costam pubescentibus; racemis simplicibus vel basi subramosis, pubescentibus; foliis floralibus bracteiformibus, lanceolatis, acuminatis, basi hastatis; calycibus pedicellatis, fructiferis nutantibus, labio superiore ovato-oblongo, breviter decurrente, inferioris dentibus brevissimis; corollis calycem vix superantibus; staminibus exsertis, filamentis inferioribus basi appendi-

culatis.—*O. petiolare*, Lam. Diet. 1. p. 385. *O. frutescens*, Mill. Diet.

Hab. Monghir, Nathpur; Penang.

The *O. gratissimum*, Lam. Diet. 1. p. 386. and of several continental gardens, or *O. villosum*, Weimm. in Syllog. Plant. Soc. Ratisb. 1. p. 121., is the *O. suave* of Willd. Enum. p. 629., a Madagascar plant. The *O. viride* Willd., to which should be referred *O. febrifugum*, Lindl. Bot. Reg. v. 9. t. 753. and *O. heptodon*, Beauv. Fl. Ow. et Ben. 2. p. 59. t. 94., is a Senegal species, scarcely differing from *O. gratissimum*.

XXXIX. ORTHOSIPHON, Benth. in Bot. Reg. vol. 15. ad calc. n. 1300.

Calyx ovatus vel tubulosus, 5-dentatus, dentis superioris ovato-membranacei marginibus decurrentibus alatus, post anthesin reflexus. Corolla tubo exserto, recto vel incurvo, nee gibboso, nee refracto, fauce aequali vel rarius inflatâ, bilabiata, labio superiore 3—4-fido, inferiore integerrimo, concavo. Stamina 4, declinata. Filamenta libera, edentula. Antherae ovato-reniformes, loculis confluentibus. Stylus clavato-capitatus, subinteger vel breviter emarginatus, stigmatibus in emarginatura minutis.—Herbae perennes suffruticesve. Verticillastri 6-flori, interruptè racemosi, racemis elongatis, simplicibus.

1. *O. rubicundus*; caulibus caespitosis, basi foliosis, ramosis; foliis oblongo-ovatis, grossè dentatis, basi attenuatis, infimis petiolatis, superioribus sessilibus; corollas tubo recto, fauce subaequali, calyce duplo longiore.—*Plectranthes rubicunda*, Don Prod. Fl. Nep. p. 116. *Lumnitzera rubicunda*, Spr. Syst. Cur. Post. p. 223.

a. *mollissimus*; foliis utrinque mollissim& villosis.—*Plectranthus mollissimus*, Wall. MSS. *Ocymum triste*, Roth. Nov. Pl. Sp. p. 270?

(3. *canescens*; foliis breviter tomentoso-pubescentibus.

y. *rigidus*; foliis glabriusculis vel brevissim& tomentosis.—*O. rigidum* et *O. Bantulasia*, Herb. Hamilt.

Radix crassus, fibris lateralibus saepè tuberosis. Caules (cum racemo) pedales vel ultra. Folia minutissim& glanduloso-punctata. Calycis labium superius coloratum. Corolla alba, vel dilutè purpurascens, lineas 6, in speciminibus Napalensibus ferè 8 longa.

Hab. a, Napalia et Kamoun. j3, Segain. y, Nathpur et Monghir.

2. *O. virgatus*; caulibus basi caespitosis, ramis erectis, strictis; foliis oblongo-lanceolatis, subdentatis, basi attenuatis, sessilibus vel infimis breviter petiolatis; corollis calyce duplb longioribus, tubo rectiusculo, fauce subaequali.—*Plectranthes virgata*, Don Prod. Fl. Nep. p. 116.—*Lumnitzera virgata*, Spr. Syst. Cur. Post. p. 223.

Ab *O. rubicundo* differt caulibus elatioribus, foliis angustioribus, racemo brevioris, paucifloro, verticillastris remotioribus, corollis minoribus, tubo vix recto. Calyces colorati.

Hab. Gorakpur; montes Morung.

3. *O. viscosus*; caule basi fruticoso, erecto, ramoso; foliis petiolatis, ovatis, crenatis, basi rotundatis vel cordatis, viscoso-pubescentibus, glanduloso-punctatis, petiolis axillisque pilosis; corollae tubo recto, calyce duplb longiore, fauce subaequali.—*Ocymum viscosum*, Wight Herb. vix Roth. Nov. Pl. Sp. p. 274.

Inflorescentia *O. rubicundi*, sed habitu et foliorum formâ diversus. Rami petioli et nervi foliorum pilis longis, albidis, viscosis saepiùs hispidi.

Hab. Dindygul.

4. *O. tomentosus*; caule basi suffruticoso, ramis adscendentibus, tomentoso-pubescentibus; foliis petiolatis, ovatis, crenatis, basi cuneatis vel rotundatis, utrinque tomentosis, glanduloso-punctatis; racemis gracilibus, paucifloris; corollis calyce vix duplo longioribus, tubo recto, fauce subaequali; staminibus corolla brevioribus—*Ocymum viscosum*, Roth. Nov. Pl. Sp. p. 274.?

Suffrutex humilis, ramosissimus, habitu *Ocymi diffusi* et *hirsuti*. Folia vix 8—10 lineas longa, G—8 lineas lata. Corolla *Orthosiphoni amceni*.

Hab. . . . Herb. Wight, (specimina cum *Ocymo hirsuto* mixta.)

5. *O. glabratum*; caulibus adscendentibus, ramosis, glabriusculis; foliis long* petiolatis, ovatis, acutis, dentatis, basi rotundatis vel subcor-

dati, glabriusculis; racemis gracilibus; corollis subincurvis, tubo calyce duplò longiore, fauce subaequali; staminibus corollâ brevioribus.—*Ocymum thymiflorum*, Roth. Nov. PL Sp. p. 269? at folia minora.

Affinis praecedenti, sed major, glabratus. Calyces parvi, fructiferi ovati.

Hab. Courtallum.

6. *O. incurvus*; caule basi procumbente, adscendente; foliis petiolatis, oblongis, crenatis, utrinque attenuatis, tenuissimè pubescentibus; verticillastris subsecundis; corollis villosis, incurvis, calyce triplò longioribus, fauce subaequali; staminibus corollam aequantibus.

Calyces fructiferi elongati. Corollae valdè incurvae, 9 lineas longae. Hab. Sillet.

7. *O. scapiger*; caulibus e basi crassa, repente, radicante erectis, simplicibus, scapiformibus; foliis ad basin caulis approximatis, petiolatis, ovato-oblongis, grossè dentatis, basi attenuatis, glabriusculis; racemis elongatis; corollis calyce subtriplò longioribus, tubo recto, fauce amplissimâ; staminibus vix corollâ longioribus.

Folia ferè omnia radicalia, limbo 3—5 pollices longo, 1—2 pollices lato. Corolla cœrulea, 7—8 lineas longa, fauce valdè inflatâ, campanulatâ. Labium superius brevissimum, 4-dentatum, inferius elongatum, concavum. Genitalia breviter exsertu*

Hab. Napalia.

8. *O. stamineus*; caule herbaceo, erecto, subramoso; foliis petiolatis, ovatis, acuminatis, grossè dentatis, basi cuneatis, rotundatis vel supremis subcordatis; racemis laxis; corollis calyce triplò longioribus, tubo subrecto, labio superiore dilatato, genitalibus longissimè exsertis.—*Ocymum grandiflorum*, Blume Bydr. p. 835. non L'Hér.

Herba 2—3-pedalis, glabriuscula vel tenuissimè tomentoso-pubescentis. Inflorescentia et calyx omninè generis. Flores candidi, pulcherrimi, ferè *Clerodendri*. Corolla 8—9-linearis, tubo gracili; labium superius dilatatum, quadridentatum, inferius lineare, canaliculatum. Genitalia capillacea, corollâ duplò vel ferè triplò longiora.

Hab. Taong Dong Avae; Martabaniam.

XL. COLEUS, Lour. FL Cochîn.

Calyx ovato-campanulatus, fructifer erectus vel reflexus, 5-dentatus, dente superiore ovato-membranaceo, marginibus rariùs decurrentibus. Corolla tubo exserto, refracto vel gibbo, fauce sequali vel inflatâ, balabiata, labio superiore 3—4-fido, inferiore integro, elongate, concavo, genitalia involvente. Stamina 4, declinata. Filamenta edentula, basi tubo stylum vaginante connexa. Antherae ovato-reniformes, loculis confluentibus. Stylus apice subulatus, aequaliter biidus. Herbae vel suffrutices. Verticillastri saepius multiflori, nunc densè vel interruptè spicati vel racemosi, nunc laxi, cymiformes, paniculati.

§ 1. *Calceolus*. Verticillastri 6—10-flori, spicati vel racemosi. Calyces fructiferi deflexi, fauce intus villosa?

1. *C. barbatus*; caule basi fruticoso, adscendente, ramoso, tomentoso-hispido; foliis petiolatis, ovatis, crenatis, basi attenuatis, molitèr tomentosus, junioribus strigoso-hispidis; racemis simplicibus; verticillastris 6—10-floris, distinctis, remotis; foliis floralibus membranaceis, lato-ovatis, acuminatis, in apice racemorum comosis, per anthesin deciduis; calycibus fructiferis deflexis, hispidis, fauce intus villosâ; labio superiore ovato, acuto, membranaceo, subdecurrente, inferioris dentibus lanceolatis acutis, subaequalibus; corollae tubo suprè gibboso, refracto, vix calycem excedente, labio inferiore stipitato maximè concavo, cucullato; acheniis laevissimis.—*Plectranthus Forskii*, Willd. Sp. 3. p. 169. Bot. Mag. v. 16. t. 2036. an Vahl.? *P. crassifolius*, Willd. 1. c. an Vahl.? *Ocymum hadiense* et *O. zatarhendi*, Forsk.? *Plectranthus barbatus*, Andr. Bot. Rep. t. 594. *P. comosus*, Bot. Mag. v. 49. t. 2318.

The floral leaves frequently fall off so early that several authors have distinguished two species, one with them, another without.

Hab. Napalia, Kamaon.

2. *C. spicatus*; caule herbaceo, basi procumbente, ramis adscendentibus, patentim pilosis; foliis petiolatis, obovatis, subintegerrimis,

basi attenuatis, carnosis, tenuissimè pubescentibus; verticillastri 6—10-floris, in spicas elongatas, terminales approximatis; foliis floralibus membranaceis, lato-ovatis, concavis, acutis, ad apicem spicarum comosis, demùm deciduis; calycibus fructiferis deflexis, hispidis, fauce intus villosissimâ; labio superiore lato-rotundato, membranaceo, subdecurrente, inferioris dentibus lato-lanceolatis, acutis; corollae tubo suprè gibboso, refracto; acheniis villosissimis.—*Plectranthus spicatus*, Herb. Wight. *P. caninus*, Roth. Nov. PL Spec. p. 279? *P. monadelphus*, Roxb. Hort. Beng. p. 45. Roth Nov. PL Sp. p. 267.

Racemus semipedalis peji^Wve, densiflorus. Bractese multo breviores quàm in *C. barbato*, klissimae, concavae, margine ciliatae. Corolla *C. barbati*, at minor.

Hab. Mysore.

§ 2. *Aromaria*.—Verticillastri globosi, multiflori, simpliciter racemosi; calyces fructiferi subrecti, fauce intus subnuda.

3. *C. aromaticus*; caule basi fruticoso, ramoso, tomentoso-hispido; foliis petiolatis, lato-ovatis, crenatis, basi rotundatis, crassis, utrinque villosis; racemis simplicibus; verticillastris multifloris, globosis, distinctis, subremotis; foliis floralibus ovatis, acuminatis, calycem vix sequantibus; calycibus fructiferis subrectis, tomentoso-candidis, labio superiore elongate, ovato, membranaceo, acuto, inferioris dentibus brevioribus, setaceis, fauce intus subnuda; corollae tubo basi infrà gibbo, refracto, fauce inflatâ, labio superiore brevissimo, inferiore elongate, concavo.—*Plectranthus aromaticus*, Roxb. Hort. Beng. p. 4§.

Calyces parvi, 30 vel ultrà in quoque verticillastro.

Hab. Patna.

4. *C. crassifolius*; caule erecto, ramoso, tomentoso; foliis petiolatis, lato-ovatis, grossè dentatis, basi rotundatis, crassis, utrinque piloso-hispidis; racemis simplicibus; verticillastris multifloris, globosis, distinctis, infimis remotis, supremis subspicatis; foliis floralibus ovatis, mucronatis, calyces superantibus, per anthesin deciduis; calycibus fructiferis subrectis, rufo-hispidis, intus fauce nudâ, labio superiore elongate, oblongo, obtuso, concavo, membranaceo; inferioris dentibus brevioribus, setaceis; corollae tubo basi infra subgibbo, refracto, fauce vix inflatâ, labio superiore inferiore dimidio brevior.—*Plectranthus crassifolius*, Herb. Wight, non Willd.

C. aromatico affinis. Statura elatior. Folia majora, mintis hirsuta. Corollae minores, fauce minùs inflatâ, labio superiori productiore.

Hab. . . . Herb. Wight.

§ 3. *Solenostemon* (Herb. Vahl).—Verticillastri laxè multiflori, saepius cymosi, racemosi vel paniculati, calyces fructiferi declinati, fauce intus nudâ.

5. *C. rugosus*; caule erecto, subramoso, carnosus, subglabro; foliis longè petiolatis, ovatis, obtusè crenatis, basi cuneatis, integerrimis, in petiolum decurrentibus, crassis, carnosis, rugosis, nervosis, glabris, floralibus bracteiformibus, acuminatis, calyces vix superantibus; verticillastris laxiusculis, multifloris, spicatis, infimis distinctis; calycibus hispidulis, declinatis, intus fauce nudâ, lobo superiore oblongo, acuto, vix decurrente, inferioribus minutis, lateralibus latis obtusis, infimis setaceis.—*Dracocephalum rugosum*, Herb. Madr.

Spica bipollicaris. Verticillastri 10—15-flori. Corollas vix examinare potui, sed ob affinitatem cum *C. africano* hanc speciem ad *Coleum* retuli. Stylus videtur apice complanato-bifidus.

Hab. . . . Herb. Madr.

6. *C. scutellarioides*; caule basi fruticoso, erecto, ramoso, glabro vel tenuissimè tomentoso; foliis petiolatis, ovatis, acuminatis, dentatis, basi rotundatis, glabris vel vix tomentosis; racemis gracilibus, elongatis, simplicibus vel basi subramosis; foliis floralibus ovatis, acuminatis, membranaceis, deciduis, verticillastro brevioribus; verticillastris laxè multifloris, pedunculo communi subnullo, pedicellis rainos breves subaequantibus; calycibus fructiferis declinatis, membranaceis, glabriusculis, fauce intus nudâ, dente superiore ovato, acutiusculo, non decurrente, lateralibus brevioribus, ovatis, obtusissimis, infimis longioribus, lanceolatis, acutis, ferè ad apicem connatis; corollae tubo basi infrà gibbo, erecto, medio refracto, fauce vix inflata, labio inferiore elongate, porrecto.—*Ocymum scutellarioides*, Linn. Sp. 834.

Pkctranthus scutellarioides, Br. Prod. p. 506. vix Blume Bydr. cui verticillastri secundi.

Hab.

7. *C. atropurpureus*; caule basi fruticoso (?), erecto, ramoso, tenuissimè pubescente; foliis petiolatis, lato-ovatis, crenatis, basi rotundatis, tenuissimè pubescentibus; racemis simplicibus; verticillastris laxis, pedunculo communi subnullo, ramis elongatis, multifloris, pedicellis brevissimis; foliis floralibus ovatis, minutis, deciduis; calycibus fructiferis declinatis, membranaceis, pubescentibus, dente superiore ovato, acutiusculo, laterales ovatos, obtusissimos aequante, infimis duplò longioribus, acutis, uljjiaj medium connatis; corollæ tube basi infrà gibbo, medio refracto, fauce subdilatata, labio inferiore elongate, porrecto.—*Pkctranthus atropurpureus*, Wall. MSS. *P. ingratus*, Blume Byd. p. 837? cui verò folia basi cuneata nec rotundata.

Folia utrinq̄ue purpurascencia.—Affinis *C. scutellarioidi* sed inflorescentiâ distinctissimus.

§ 3. *ramosus*; racemis subpaniculatis, foliis minùs purpurascensibus, pedicellis longioribus;—an species propria?

Hab. Singapore. [3. Penang. .

8. *C. paniculatus*; caule basi procumbente, ramoso, glabriusculo; foliis petiolatis, lato-ovatis, inciso-dentatis, basi rotundatis, integerimis, crassis, carnis, hispidulis; racemo terminali, paniculiformi; verticillastris cymiformibus, laxissimis, pedunculo communi, ramis pedicellisque elongatis; foliis floralibus ovatis, membranaceis, acuminatis, ad apicem racemi comosis, per anthesin deciduis; calycibus fructiferis membranaceis, declinatis, dente superiore ovato, vix decurrente, lateralibus infimis lanceolatis subaequalibus; corollæ tubo basi subgibbo, medio refracto, fauce dilatata, labio inferiore elongate, concavo.

Folia *C. canini* vel *crassifolii* Corolla ierh *C. Malabarici*. Inflorescentiâ ab omnibus distincta.

Hab. . . . Herb. Wight.

9. *C. malabaricus*; caule erecto (?), ramoso, tenuit&r pubescente; foliis petiolatis, amplis, lato-ovatis, crenatis, basi rotundatis, suprâ glabriusculis, subtùs glanduloso-punctatis; racemis laxè paniculato-ramosis; verticillastris sub-10-floris, laxiusculis, pedunculo communi subnullo, ramis abbreviatis; foliis floralibus ovatis, minutis, deciduis; calycibus fructiferis glabris, membranaceis, nutantibus, intùs fauce nuda, dente supremo ovato, acutiusculo, marginibus revolutis, 4 inferioribus lanceolatis, acutis, 2 lateralibus supremum aequantibus, 2 infimis longioribus, ad basin cum lateralibus, ultra medium invicem connatis; corollæ tubo basi infrâ gibbo, supra medium refracto, fauce dilatata, labio inferiore elongate, foliate.—*Pkctranthus malabaricus*, Herb. Madr.

Hab. Travancore.

To this section should be referred *C. africanus* from Senegal, which is inscribed *Ocymum scutellarioides* in Vahl's herbarium, and also, in another hand-writing, *Soknostemon scutellarioides*. I have seen the same species from that country in other herbaria, and believe it to be the same as *Ocymum monostachyum* of Palisot de Beauvois, as well as can be made out from his figures, Blume's *Pkctranthi*, as also several new species I possess from Ceylon and from the Indian Archipelago, belong to this same section of *Cokus*.

XLI. PLECTRANTHUS. *LHir. Stirp.*

Calyx per anthesin campanulatus, 5-dentatus, dentibus aequalibus vel superiore saepius majore, post anthesin declinatus, incurvus, basi gibbus vel inflatus, ore saepius bilabiatus; vel rarius erectus, tubulosus, aequalis. Corolla tubo exserto, basi gibbo vel calcarato, refracto vel rarius subrecto, fauce aequali vel rarius inflata, bilabiata, labio superiore 3—6-fido, inferiore longiore, concavo. Stamina 4, declinata. Filamenta libera, edentula. Anthers ovato-reniformes, loculis confluentibus, vel rarius subbiloculares, loculis divaricatis. Stylus apice subulatus, aequalit&r bifidus, stigmatibus minutis.—Herbae, suffrutices, frutesve. Verticillastri laxi, saepius cymosi, multiflori, Tacemoso-paniculati.

§ 1. *Cokoides*.—Calyx fructifer declinatus, dente superiore ovato, subdecurrente, 4 inferioribus acutis, saepius plus minusve inter se connatis. Corolla ealcarata.

1. *P. cordifolius* (Don Prod. Fl. Nep. p. 116.); caule herbaceo, erecto, ramoso, basi tumido, carnoso; foliis petiolatis, lato-ovatis, crenatis, basi cordatis, subglabris, floralibus bracteiformibus, ovato-cuneatis, pedicello brevioribus; racemis laxis, paniculatis; verticillastris laxis, secundis, paucifloris; calycibus fructiferis declinatis, ovatis, dente superiore ovato, acuminate, non decurrente, inferioribus longioribus, lanceolatis, acutis, infimis basi cum lateralibus, ultra medium invicem connatis; corollâ calyce triplò longiore, basi infrâ subgibbosâ, tubo refracto, fauce inflata, staminibus exsertis.—*Ocymum maypurensis*, Roth. Nov. Pl. Sp. p. 271. *Pkctranthus maypurensis*, Spr. Syst. 2. p. 691. *P. secundus*, Roxb. Hort. Beng. p. 45?

Radix tuberosa. Caulis basi crassus, carnosus, hinc indè tumidus, tenuitè pubescens. Folia 2—3-pollicaria, cano-pubescentia, subcarnosa, eglandulosa. Racemi 4—6-pollicares, basi ramosi, ad apicem caulis laxè paniculati. Verticillastri laxiflori, pedunculo communi utrinq̄ue subnullo, ramis abbreviatis, pedicellis 4—8-linearibus. Calycis per anthesin minuti, fructiferi 4 lineas longi, vel ultrâ, membranacei. Corollæ labium superius brevissimè 4-dentatum, inferius longius, latum, concavum.

Hab. Napalia, Mysore.

2. *P. subincisus*; caule herbaceo, erecto, ramoso, vix carnoso; foliis petiolatis, lato-ovatis, inciso-dentatis, basi cordatis, glabriusculis; floralibus bracteiformibus, ovatis, pedicello brevioribus; verticillastris laxis, secundis, paucifloris; calycibus fructiferis declinatis, ovatis, dente superiore ovato, subdecurrente, inferioribus longioribus, lanceolatis, acutis, infimis basi cum lateralibus, ultra medium inter se connatis; corollâ calyce quadruplò longiore, tubo tenui, basi infrâ subgibbosâ, medio refracto, fauce subinflata; staminibus corollâ brevioribus.

A *P. cordifolio* differt staturâ minore, caule minùs carnoso, foliis profundè crenatis, subincisis, corollis longioribus, angustioribus, calycis dente superiore latiore, obtuso, subdecurrente.

Hab. Courtallum.

To this section belong the whole of the New Holland, African and Madagascar *Pkctranthi*, with the exception of the *P. fruticosus*, and perhaps one or two from Madagascar, which constitute the section *Germanea*.

§ 2. *Eupkctranthus*. Calyx fructifer declinatus, aequalitèr 5-dentatus, vel saepius bilabiatus, labio superiore e dentibus tribus, inferiore e duobus, constante.

3. *P. scrophularioides* (Wall. MSS.); caule herbaceo, erecto, ramoso, subglabro; foliis longè petiolatis, lato-ovatis, crenatis, basi rotundatis, inaequalitèr cordatis vel subattenuatis, floralibus minutis, deciduis; paniculis laxis, bracteis lanceolatis, minutis; calycibus fructiferis declinatis, profundè bilabiatis, inflatis, labio superiore adscendente, tridentato, inferiore concavo, porrecto, breviter bidentato, dentibus omnibus obtusis; corollis inflatis, suprâ gibbosis, calyce subtriplò longioribus; staminibus exsertis.

Caulis 3—4-pedalis, ramosissimus, subcarnosus, angulis pubescentibus. Folia palmaria, subcarnosa, basi saepius inaequalitèr cordata, nunc rotundata vel attenuata, suprâ hispidula, subtùs glabra, glandulosa, nervis elevatis, carnis, pubescentibus; petioli inferiorum semipedales vel ultrâ, superiorum breviores, nunc brevissimi. Cymis laxi, pedunculo communi semipollicari, ramis 1—2-pollicaribus, pedicellis 4—5-linearibus, racemos paniculiformes, basi ramosos formantes. Calyx tenuissimè pubescens, submembranaceus, nervosus, ferè *Scrophularia*. Corolla, teste Wallichio, ex albo rosea, uti tota planta inodora. Labium superius adscendens, quadrifidum, lobis ereculatis, inferiore angustiore, longiore, integro. Filamenta basi villosa.

Hab. Napalia, Kamaon.

4. *P. oblongifolius* (Wall. MSS.); caule herbaceo, adscendente, ramoso, glabro; foliis petiolatis, oblongis, dentatis, utrinq̄ue attenuatis, suprâ hispidulis, subtùs glabris; paniculis laxis, ramosis, multifloris; foliis floralibus bracteisque minutissimis subnullis; calycibus declinatis, vix bilabiatis, obtuse 5-dentatis, per anthesin ovatis, striatis, fructiferis lagenseformibus, basi inflatis, ore contracto; corollis vix gibbosis, declinatis, calyce triplò longioribus; staminibus 1 corollâ brevioribus.

Oaulis 3—4-pedalis, non carnosus, ferè omninò glaber. Folia extra petiolum pollices 4—6 longa, 2 pollices lata, valdè acuminata et basi longe attenuata, subtùs glandulosa. Racemi paniculiformes, secundi, paniculato-ramosi. Cymi laxi, pedunculo communi semipollicari, ramis gracilibus, utrinque 3—4-floris. Calyx glaber, striatus, glandulis rubris obtectus, per anthesin minutus, fructifer basi valdè inflatus, submembranaceus, nervosus, lineas 3 longus. Corolla 3-linearis, tubo subinflato.

Hab. Napalia.

5. *P. striatus*; caule herbaceo, erecto, ramoso, subglabro; foliis sessilibus, ovatis, acuminatis, crenatis, basi cuneatis, rigidis, supra hispidis, subtùs glabris, densè glandulosi; paniculis laxis, ramosissimis, multifloris; foliis floralibus ovatis, pedunculo multo brevioribus, supremis bracteisque minutis; calycibus declinatis, oblongis, subbilabiatis, dentibus obtusis, vix inaequalibus, fructiferis incurvis, striatis, glabris, glandulosi; corollis basi supra subgibbis, declinatis, calyce quadruplò longioribus; staminibus breviter exsertis.

Caulis 2—3-pedalis, glaber vel tenuissime cano-pubescentis. Folia pollices 2 longa, sesquipollicem lata, superiora minora, suprema minuta. Racemi paniculiformes, vix secundi, paniculato-ramosissimi. Cymi laxi, pedunculo communi saepe pollicari vel ultra, ramis gracilibus elongatis. Calyx fructifer non inflatus sed valdè incurvus, basi declinatus, ore adscendente, profunde striatus. Corolla lineas 3 longa, tubus elongatus tenuis, labium superius brevè adscendens, extùs glandulosum, inferius ovatum, concavum. Stamina breviter, stylus longè exserta. Achenia rugoso-punctata.

Hab. Sillet.

6. *P. hispidus*; caule herbaceo, erecto, ramoso, pubescente; foliis sessilibus, ovatis, acuminatis, dentatis, basi cuneatis, rigidis, supra hispidis, subtùs pubescentibus, densè glandulosi; paniculis laxis, ramosissimis, multifloris; foliis floralibus ovatis, pedunculo multo brevioribus, supremis bracteisque minutis; calycibus declinatis, oblongis, obtusè 5-dentatis, fructiferis bilabiatis, vix incurvis, hispidissimis; corollis basi supra subgibbis, calyce quadruplo longioribus; staminibus corollà vix longioribus.

3. *glabrior*.

Statura et habitus *P. striati*, a quo differt pubescentia, et praesertim calycibus basi subinflatis, minus incurvis, bilabiatis, pilis articulatis densissime obtectis.

Hab. Sillet. 3. Napalia.

7. *P. Gerardianus*; caule herbaceo, erecto, subramoso, subglabro; foliis ovatis, acuminatis, crenatis, supra hispidulis, subtus glabris, parè glandulosi, inferioribus petiolatis, basi attenuatis, superioribus sessilibus, basi cordatis, floralibus pedunculo brevioribus, supremis bracteisque minutis; racemis paniculiformibus, vix ramosis; cymis laxis, gracilibus, multifloris; calycibus declinatis, oblongis, bilabiatis, dentibus obtusis, fructiferis incurvis, striatis, glabris, vix glandulosi; corollis basi supra subgibbis, calyce quadruplò longioribus.—*Hyssopus lophanthoides*, Don. Prod. Nep. p. 110.

Affinis *P. striato*. Differt statura minore, foliis membranaceis, majoribus, racemo subsimplici, rachi pubescente. An mera varietas?

Hab. Kamaon.

8. *P. Coetsa* (Don. Prod. Nep. p. 117.); caule herbaceo, erecto, ramoso cano-pubescente; foliis petiolatis, ovatis, utrinque attenuatis, medio crenatis, supra hispidulis, subtus pubescentibus, tenuissime glandulosi, floralibus inferioribus conformibus, supremis minutis; bracteis minutissimis, setaceis; paniculis ramosissimis, multifloris; calycibus declinatis, oblongis, bilabiatis, dentibus ovatis, acutiusculis, subaequalibus, fructiferis incurvis, striatis, cano-pubescentibus, vix glandulosi; corollis basi supra gibbis, tubo refracto, calyce subtriplo longioribus.—*Ocymum Coetsa*, Spr. Syst. Cur. Post. p. 223.

Caulis 2—3-pedalis. Folia saepius bipollicaria, longe acuminata, rugosula, supra viridia, subtus saepe canescentia. Panicula ampla, multiflora, canescens. Racemi paniculiferae, secundi, ramosissimi. Cymi graciles, laxi, multiflori, pedunculo communi 3—4-linearis ramisque filiformibus. Corolla cerulea, labiis profundis, patentibus,

superiore quadridentato, inferiore integro, concavo, porrecto. Stamina corollà breviora. Stylus exsertus. Filamenta omnia libera, nee basi connata ut vult Don. 1. c.

Hab. Napalia, Kamaon, Taong Dong mons Avae.

9. *P. menthoides*; caule herbaceo, erecto, ramoso, cano-pubescente; foliis petiolatis, ovatis, utrinque attenuatis, grossè dentatis, pubescentibus, floralibus conformibus, minoribus, supremis bracteisque minutis; racemis paucifloris, laxiusculis, subpaniculatis, calycibus fructiferis declinatis, oblongis, incurvis (?), cano-pubescentibus, dentibus acutiusculis, supremo latiore; corollis basi supra subgibbis, tubo vix refracto, fauce inflatà; staminibus corollà brevioribus, antheris subbilocularibus.

Habitu *P. Coetsa* affinis, sed racemis parvis, paucifloris, corollis vix refractis, antlierisque subbilocularibus distinctus. Specimina in herbario vix fructifera.

Hab. . . . Herb. Wight.

10. *P. rugosus* (Wall. MSS.); caule fruticoso, erecto, ramis pubescentibus; foliis petiolatis, ovatis, obtusis, crenulatis, basi rotundatis, supra pubescentibus rugosis, subtùs cano-tomentosis, reticulato-nervosis, floralibus conformibus, supremis pedunculo brevioribus; cymis laxis, secundis, racemosi; bracteis minutis; calycibus declinatis, oblongis, vix bilabiatis, dentibus lanceolatis, acutis, subaequalibus, fructiferis subincurvis, striatis, pubescentibus; corollis calyce duplò longioribus, tubo supra gibbo, refracto, staminibus corollà brevioribus.—*Ocymum densiflorum*. Roth. Nov. PL Sp. p. 275?

3. *tomentosus*; foliis acutioribus cauleque densè rufo-tomentosis. An species distincta?

Frutex ramosissimus, cortice laxo, griseo, ramis tetragonis, densè pubescentibus. Folia vix uncialia, saepius semiuncialia, exactis ovata, more *Salvice officinalis* rugosula, subtùs in speciminibus cultis pallida, in spontaneis candidissima. Cymi utrinque sub-5-flori, inferiores folio breviores, pedunculo communi 3—4-linearis, ramis brevibus, pedicellis 3—4-linearibus. Flores ferè *P. Coetsa*, at corolla minor, alba vel pallidissime coerulescens: calyx fructifer paulò major.

Hab. Choir. 3. . . . Herb. Wight.

11. *P. repens* (Wall. MSS.); caule basi repente, radicante, adscendente, subsimplici, hirsute; foliis petiolatis, ovato-rotundatis, obtusis, grossè crenatis, basi rotundatis vel cordatis, utrinque hirsutis, subtùs glandulosi, floralibus inferioribus ovatis, sessilibus, supremis bracteisque minutis; racemo laxo, subsimplici, cymis pedunculatis; calycibus fructiferis, declinatis, oblongis, subincurvis, striatis, glabris, dentibus vix inaequalibus, lanceolatis, acutis; corollis calyce subtriplo longioribus, basi supra gibbis; staminibus corollà brevioribus.

Planta humilis, semipedalis pedalisve, ex omni parte pilis longis articulatis vestita. Folia ad basin caulis approximata, infima longè petiolata, suprema sessilia. Racemus subnudus, simplex, vel basi ramosus. Cymi inferiores distantes, pedunculo communi semipollicari, racemis pedicellisque gracilibus, elongatis, glabris, superiores approximati, breviores, densiores, subsecundi. Flores magnitudine *P. striati*, sed corolla supra magis gibba.

Hab. Napalia.

12. *P. ? montanus*; caule herbaceo, erecto, supra ramoso, tomentosovilloso; foliis breviter petiolatis, ovatis, obtusis, crassis, rugosis, densè tomentosis; verticillastris subdistinctis, densis, multifloris; calycibus fructiferis declinatis, incurvis, tomentosis, subaequaliter obtusè 5-dentatis. . . .—*Ocymum montanum*, Herb. Wight.

Herba videtur pedalis. Caulis basi glaber, crassus. Folia inferiora in speciminibus desunt, superiora opposita, parva, densè rufo-tomentosa. Panicula ferè *P. temifolii* sed minor. Calyx declinatus, incurvus nee teres, erectus. Corollam non vidi.

• Hab. . . . Herb. Wight.

§. 3. *Pyramidium*.—Calyx fructifer erectus, cylindricus, aequaliter 5-dentatus.

13. *P. temifolius* (Don. Prod. Nep. p. 117); caule herbaceo (?), erecto, subramoso, tomentoso-villoso; foliis ternatim verticillatis, sessilibus, lanceolato-oblongis, acuminatis, serratis, basi crenatis, rugosis, villosis; paniculis ramosis, densè pyramidatis, multifloris, tomentoso-lanatis; calycibus fructiferis cylindricis, erectis, striatis,

aequaliter 5-dentatis; corollis supri gibbis, refractis, calyce subtriplo longioribus; staminibus corollam aequantibus.—*Ocimum ternifolium*, Spr. Syst. Cur. Post. p. 224.; non *P. ternatus*, Sims Bot. Mag. v. 51. t. 2460.

Caulis stricti, 2—3-pedales, sexangulares, undique dense rufo-vellosi vel tomentosi. Folia pollices 3—5 longa, pollicem lata, supra elevato-rugosa, villosula, subtus venosa, pilis stellatis, rufo-vel cano-tomentosa; floralia conformia, minora, suprema minuta. Racemi raro subsolitarii, saepius numerosi, stricti, paniculam densam, elongato-pyramidatam formantes. Verticillastri densi, secundi, multiflori, cymis ternatim verticillatis, vel saepius uno abortiente oppositis, pedunculo communi lineas 2, ramis lineas 4—5 longis, pedicellis brevissimis. Bractese lineares, minutae. Calyces per anthesin campanulati, fructiferi elongati, tubulosi, stricti, densissimi & villosi, dentibus ovatis, obtusis. Corolla extus villosissima, labio superiore patente, 4-dentata, inferiore ovato, concavo. Filamenta libera nee basi concinata ut apud Don. 1. c.

Hab. Napalia, Kamaon, et Taong Dong Avae.

XLII. GENIOSPORUM, Wall. MSS.—*Benth. in BoL Reg. ad calc. n. 1300.*

Calyx ovato-tubulosus, marginem membranaceus, irregulariter 5-dentatus, fructifer suberectus, rarius declinatus, dentibus patulis vel inferioribus inflexis, basi saepissime transverse rugosus. Corolla tubo calycem vix aequante, bilabiata, labio superiore quadrifido, inferiore integerrimo, subplano. Stamina 4, declinata. Filamenta libera, edentula. Antherae ovato-reniformes, loculis confluentibus. Stylus apice bifidus, lobis saepius dilatato-complanatis, stigmatibus submarginalibus.—Herbae perennes vel annuae. Verticillastri multiflori, laxe spicati, spicis subsimplicibus. Folia floralia basi saepius cartilaginea, alba vel flavescentia.—Genus quoad corollae formam *Ocimum* vel *Moschomna* affine, sed calyce, stylo et habitu diversum.

1. *G. strobiliferum* (Wall. MSS.); caule erecto, ramoso; foliis subsessilibus, oblongis, utrinque attenuatis, dentatis, supra hispidulis, subtus glabriusculis; verticillastri multifloris, ad apicem ramorum spicatis, infimis subremotis; foliis floralibus ovatis, acuminatis, flores superantibus; calycibus fructiferis erectis, strictis, tubulosis, basi transverse rugosis, ore membranaceo, erecto-patente, irregulariter 5-dentato.—*Plectranthes colorata*, Don. Prod. Nep. p. 116.

Caulis basi fruticosus, ramis elongatis, erectis. Folia caulina 2—3-pollicaria, basi in petiolum brevissimum attenuata, superiora et floralia minora, basi saepius alba. Racemi spiciformes, 3—4-pollicares. Calyx saepius subbilabiatus, fructifer lineas 3 longus, labii superioris dente medio ovato, obtuso, lateralibus minutis, labio inferiore brevior, bidentato. Corolla vix calyce longior; labium superius late 4-fidum; inferius sub-brevius, angustè lanceolatum. Stamina corollae subbreviora.

Hab. Napalia, Sillet.

2. *G. parviflorum*; caule erecto, ramoso; foliis oblongo-lanceolatis, acutis, utrinque attenuatis, serratis, strigoso-hispidulis; verticillastri multifloris, & racemosis; calycibus pedicellatis, fructiferis declinatis, basi transverse rugosis, ore bilabiato, labio superiore tridentato, dente medio majore, inferiore integerrimo, inflexo, calycem claudente.

Caulis herbaceus, pedalis sesquipedalisve, inferè glaber, superne pilis raris, adpressis hispidulus, ad axillas foliorum fasciculo pilorum munitus. Folia in petiolum brevem attenuata, acuminata, irregulariter et acutè dentata, basi cuneatè integerrima, supra et ad nervos strigoso-hispidula; floralia acuminata, floribus subbreviora, supra glaberrima, alba, subtus hispidula. Racemi 3—6-pollicares. Verticillastri laxi, subremoti, 15—20-flori. Pedicelli calyce longiores, erecti, graciles, glabri. Calyces fructiferi vix 2 lineas longi, basi hispiduli, labii membranaceis, glabris. Corolla parva. Stamina exserta.

Hab. Sillet.

3. *G. prostratum*; caule basi prostrato, ramisque adscendentibus hispidis; foliis petiolatis, oblongo-lanceolatis, inferioribus subovatis, supremis lanceolato-linearibus, serratis, basi attenuatis; verticillastri multifloris, spicatis, inferioribus subremotis; calycibus pedicellatis,

fructiferis declinatis, basi striatis, transversè subrugosis, ore membranaceo, irregulariter bilabiato, labio superiore tridentato, dente medio majore, inferiore erecto, bidentato.—*Ocimum prostratum*. Linn. Mant. p. 566. *O. menthoides*, Willd. Sp. 3. p. 116., an Linn. Mant. p. 84? *Lumnitzera prostrata*, Spr. Syst. 2. p. 687.

Caulis prostratus, ramosissimus, hispidus, angulis subcallosis, glaberrimis. Folia parva, semipollicem ad pollicem longa, 3—4 lineas lata, acutè et remote serrata. Racemi pollices 2—4 longi, spiciformes. Verticillastri 10—20-flori, inferiores remotiusculi, supremi approximati. Folia floralia minuta, ovata, acuta, sessilia, basi albida, submembranacea. Pedicelli calyce longiores, graciles, erecti vel subincurvi. Calyces parvi, fructiferi vix sesquilineam longi, basi striati, hispiduli, superne contracti, ore dilatato, membranaceo. Corolla minuta, calyce vix duplo longior, tubo brevissimo, incluso. Stamina breviter exserta.

Hab. Madras.

4. *G. axillare*; caule ramoso, glabro; foliis breviter petiolatis, ovatis, obtusis, crenatis, basi cuneatis, glabris, floralibus conformibus; verticillastri remotis, 6—10-floris, calycibus breviter pedicellatis, elongatis, tubulosis, basi angulatis, hispidis, superne contractis, ore membranaceo, dilatato, labio superiore 3-dentato, inferiore 2-dentato.

Caulis videtur erectus vel adscendens. Folia pollicem vel sesquipollicem longa, lineas 6—8 lata, nervosa. Pedicelli calyce subbreviores. Calyx fructifer lineas 3—3½ longus. Corolla calycem vix excedens.—Specimina in herbario imperfecta.

Hab. Napalia.

XLIII. ACROCEPHALUS, Boill. I. C.

Calyx ovatus, bilabiatus, labio superiore integro, inferiore integro vel 4-dentato, fructifer tubulosus, basi gibbus. Corolla calycem subaequans, bilabiata, labio superiore quadrifido, inferiore integro, subplano. Stamina 4, declinata. Filamenta libera, edentula. Antherae ovato-reniformes, loculis confluentibus. Stylus apice breviter bifidus, lobo inferiore subdilatato, complanato, stigmatibus marginalibus.—Herbae annuae, floribus dense globoso-capitatis.

1. *A. capitatus* (Benth. 1. c.); caule basi procumbente, ramosissimo, ramis adscendentibus, glabris, vel utrinque lineam pilosam notatis; foliis oblongis, ovatis, remote serratis, basi integerrimis, glabris; capitulis ovato-globosis; foliis floralibus duobus sub capitulo ovatis, subsessilibus isto longioribus, caeteris in capitulo minutissimis; calycis labio inferiore quadridentato.—*Ocimum capitatum*, Roth. Nov. Pl. Sp. p. 276. *O. capitulum*, Linn. Mant. 276? *Lumnitzera capitata*, Spr. Syst. 2. p. 687.

Hab. Napalia; Monghir, Gualpara; Travancore, Courtallum; Taong Dong.

XLIV. ANISOCHILUS, Wall. MSS. *Benth. I. c.*

Calyx ovatus, obliquus vel bilabiatus, labio superiore subintegro, post anthesin deflexo, calycem claudente, inferiore integro, truncato vel brevissimè 4-dentato. Corolla tubo exserto, refracto, fauce subinflata, bilabiata, labio superiore 3—4-fido, inferiore integro, concavo. Stamina 4, declinata. Filamenta libera, edentula. Antherae ovato-reniformes, loculis confluentibus. Stylus apice subulatus, aequalitè bifidus, stigmatibus minutis.—Herbae, floribus dense imbricato-spicatis, foliis floralibus bracteiformibus.

1. *A. carnosum* (Wall. MSS.); caule erecto, ramoso; foliis petiolatis, ovato-rotundatis, obtusis, crenatis, basi cordatis, crassis, carnosis, utrinque tomentoso-villosis; spicis longè pedunculatis; foliis floralibus ovatis, obtusis; calycis labio superiore ovato, acuto, membranaceo, margine ciliato, super labium inferius truncatum deflexo.—*Lavandula carnosus*, Linn. *Plectranthus dubius*, Spr. Syst. 2. p. 691. *P. strobiliferus*, Roxb. Hort. Beng. p. 45.

Caulis bipedalis, tetragonus, villosus, superne subnudus. Spicae longè pedunculatae, vix paniculatae, fructiferae 1—2 pollices longè semipollicem crassae, regularitè cylindrical Calyx fructifer basi subinflatus, ad os contractus, tenuitè rufo-tomentosus. Corolla calycem duplo longior, labio inferiore elongate, concavo, stamina excedente.

0. *purpurascens*; spicis glabriusculis, purpurascensibus.

Hab. a. in montibus Circarensibus. (3. Taong Dong.)

2. *A. pallidum* (W. MSS.); caule erecto, ramoso; foliis petio-

latis, oblongo-ellipticis, crenatis, utrinque attenuatis, membranaceis, vel vix carnosis, glabriusculis; spicis paniculatis; foliis floralibus lanceolato-acuminatis; calycis labio inferiore obliquè truncato, brevissimè 4-dentato, superiore lanceolate, acuto, post anthesin deflexo.

Statura *A. carnosus*. Folia pollices 3—6 longa, 1—3 lata, acuminata, grossè crenata, suprâ vix hispida, subtùs ferè glabra. Spicae pedunculatae, laxè paniculate, tenuiores quàm in *A. carnosus*. Calyces fructiferi ferrugineo-tomentosi, basi subinflati, supernè incurvi, ore obliquè, labio superiore parvo, acuto. Corolla ferè *A. carnosus* sed tenuior.

Hab. Taong Dong,

3. *A. polystachyum*; caute erecto, ramoso; foliis subsessilibus, ovato-oblongis, acuminatis, serratis, basi cuneatis, tenuissimè pubescentibus, subtùs raris, spicis paniculatis, calycibus supernè incurvis, ore obliquè, 5-dentato, dente supremo vix longiore.

Habitus *A. pallidi*. Caulis obtusè tetragonus, brevissimè tomentosus. Folia 2—4-pollicaria, suprâ tenuissimè pubescentia, subtùs nervosa, minutè glandulosa, rufescentia, rigidiuscula. Spicas 2—3-pollicares, semipollicem crassae. Calyx rufo-tomentosus, basi inflatus, supernè contractus, elongatus, incurvus, ore obliquè fesso, dentibus 5, brevibus, acutis, supremis incumbentibus. Corollam non vidi, sed ob habitum et calycis formam plantam hùe retuli,

Hab. Napalia.

4. *A. dysophylloides*; caule sericeo, villosa, basi procumbente, ramis adscendentibus; foliis subsessilibus, oblongo-lanceolatis, obtusis, integerrimis, basi attenuatis, spicis axillaribus terminalibusque, subpedunculatis; foliis floralibus ovatis, acutis; calycis labio inferiore minuto, truncato, superiore acuto, deflexo.

Habitus ferè *Dysophylli nigosi*. Ex omni parte pilis mollibus, rufescentibus, sericeis densè vestitum. Folia pollicem vel sesquipollicem longa, lineas 4—6 lata. Spicae floriferae regularity cylindricae, fructiferae irregularity tumidae, pollices 1—2 longae, crassitie calami scriptorii. Calyces fructiferi basi inflato-tumidi, supernè incurvi, ore contracto, labio superiore brevi, acuto, concavo, incumbente. Corolla brevior quàm in *A. carnosus* et *pallido*, lobis latioribus. Stamina exserta.

Hab. Herb. Wight.

XLV. CH[^]TOSTACHYS, *Benth. MSS.*

Calyx ovato-tubulosus, erectus, subincurvus, 15-nervius, subsequè 5-dentatus, intùs fauce nudâ. Corolla tubo exserto, bilabiata, labiis brevissimis, superiore emarginato, inferiore trifido. Stamina 4, declinata, tubo inclusa. Filamenta libera, edentula. Antherae ovato-reniformes, loculis confluentibus. Stylus apice subinfundibuliformi-bifidus, lobis brevibus, complanatis, concavis, stigmatibus marginalibus. Achenia compressa, margine callosa.

1. *C. multijida*.—*Bysteropogon bipinnatus*. *Roth. Noy. PL Sp. p. 255.* *Mentha pinnatifida*, Heyne MSS. *Lavandula multijida*, Burm. Fl. Ind. p. 126? non ejusd. ic. t. 38. f. 1. nee Linn.

Caulis herbaceus (?), erectus, tetragonus, ad nodos contractus, tenuitèr tomentosus-pubescentis. Folia sessilia, bipinnatifida, laciniis elongato-linearibus, obtusis, integerrimis, margine revolutis, subtùs

tomentoso-pubescentibus. Flores in spicam terminalem, ramosam dispositi, solitarii ex axillis bractearum alternarum!, membrana* cearam, basi dilatatarum, longissimè setaceo-acuminatarum. Calyx sessilis, 15-striatus, canescens, dentibus acutis, fructifer turgidus. Corolla tenuis, calycem excedens. Limbus videtur subaequalitèr 5-fidus, sed in speciminibus vix rite examinare potui. Stamina *Lavandulae*. Ovarium basi infrâ utin plerisque *Ocymoides* glanduliferum. Achenia aquâ immersa extùs, ut in *Hyptidibus* plurimis, gelatinosa.

This plant, so remarkable by the alternate inflorescence, is closely allied to the *Lavandula*? of the section of *Pterostachys* of de Gingins. This character however, together with the 15-nerved calyx, the nearly regular corolla, and the form of the fruit, are differences which appear to me to be sufficient to warrant its separation as a distinct genus.

ADDENDA ET CORRIGENDA.

Teucrius addatur:

T. Wallichianum; caulibus e basi radicante subsimplicibus, adscendentibus, rufo-tomentosis; foliis ovatis, acutis, serratis, in petiolum longè attenuatis, utrinque hispidulis; verticillastris multifloris, in spicam terminalem approximatis; calycibus hispidis, ore subdilatato, dentibus ovatis, acutis, subaequalibus.

Affine *T. Arduini*, sed characteribus datis distinctissimum.

Hab. Sillet.

Perilla data, Don. Prod. Nep. p. 115, is my *Aphanochilus blandus*. *JPerilla poli/stitchi/a*, Don. 1. c. which I had (*stprd*, Vol. 1. p. 39.) referred with doubt to *Aphanochilus blandus*, appears from Dr. Hamilton's specimens to be my *Pogostemon glabrum*, unless there be some error in the labels.

Perilla leptostachya, Don. 1. c. is my *Aphanochilus fattens*.

Mentha quadrifolia, Don. 1. c. p. 113. (non Roxb.) is my *Dysophylla cruciata*.

Thymus ?iepetoides, Don. 1. c. is the *Nepeta ruderalis* Hamilt.

Thymus piperitus, Don. 1. c. p. 112, as well as his *T. oranifolius* belong to my *Clinopodium longicaule*.

Scutellaria repens, Don. 1. c. p. 110. is my var. j3. of the *Sc. cana** Wall.

My *Scutellaria angulosa* (*suprà*) Vol. 1. p. 67.) must be referred to the *Sc. scandens*, Don. 1. c. p. 110

The other synonyms of Don's Prodrum which are given with doubt in the course of the preceding Synopsis are all correctly quoted.

The *Teucrium laxum* Don. 1. c. p. 108. is a distinct species not contained in Dr. Wallich's collections.

The *Salvia ocymoides* Roxb. (*suprà*, Vol. 1. p. 68. must be referred to *Salvia acaulis* Rottl. (Vahl. Enum. 1. p. 257.).

* *Lavandula* should, on account of its declinate stamina, be referred to *Ocymoides*, not to *Nepetece*, where I had placed it. My character (*Bot. Beg. I. c.*) requires also some further modification.

END OF Mr. Bentham's SYNOPSIS OF INDIAN Labiateae.

ROSA MACROPHYLLA. Tab. 117.

ACULEIS sparsis, compressis; foliis longissimis, petiolis parè glandulosis foliolisque lanceolatis subtus lanatis • sepalis angustissimis, petalis apiculatis longioribus.—*Lindl Rosar. Monogr. p. 35. t. 6.* (character ab auctore emendat.)

Rosa macrophylla, Lindl. loc. cit.

p. minor Mlouis parvis, oblongis, utrinque acutis (nunc apice obtusis) basi integris, floribus solitariis.—*Lindl in Herb. Coet. Amp I. Mercat. Angl. bid. Orient. 690.*

y. arguta, foliolis oblongis, acuminatis, cuspidato-serratis; petiolo glanduloso et aculeato; floribus corymbosis.

Lindl. loc. cit.

Habitat in Himalaya Nepalensi, Kamaonensi et Gurwalica. j8 in Sirmore Dom. W. S. Webb. y. ad Gossain Than. Floret mensibus Julii et Augusti.

FRUTEX magnus, ramosus. CAULIS erectus, cylindricus, pollicem ad duos crassus, ramiq̄ue subscandentes coloris castanei, nitidi, armati aculeis sparsis, compressis, acutissimis, vix curvis; ramuli glaucescentes, subinermes. FOLIA subdistantia, erecto-patentia, oblonga, 6—10-pollicaria, 3—11-juga; pinnae lanceolatae, acuminatae, argutē serratae, basi acutae, planae, supra nitidae, glabrae, atrovirides, nunc purpureo-nebulatae, subtus praecipue ad costam cano-villosae, sublanuginosae, ferē sessiles, inferiores pollicares ad 1^o-pollicares, exteriores multo majores: terminalis 3-pollicaris, longiusculē petiolata. PETIOLUS communis pollicaris vel bipollicaris, tener; rachis gracilis, glanduloso-villosa, cana, setate glabrior, rarē aculeolata. STIPULE magnae, membranaceo-foliaceae, pollicares, lanceolatae, tenuissimē acuminatae, longē adnatae, concaviusculae, patentes, integerrimae, rufescentes, densē glanduloso-ciliatae, setate nuda. FLORES aliquot terminatae, magni, rubri, inodori, nunc unus alterve solitarius in axillis supremis, pedunculis insidentes teretibus, villosulis, parē glanduloso-setosis, bipollicaribus. BRACTEJE magnae, stipulis simillimae, ad basin pedunculi saepius geminatae et suboppositae, rufescentes, glanduloso-ciliatae, glabriusculae. CALYCIS tubus oblongus, levitē ventricosus, parē setosus, vel omninō glaber; lacinae perquam longae, divaricato-patentissimae, persistentes, lanuginosae, e basi lato-lanceolata rostrato-attenuatae, apice foliaceo, lineari-lanceolato, serrato vel integro, nunc minuto. PETALA subrotundato-obovata, retusa cum cuspidula, pollicaria, patentissima, laciniis calycinis breviora. STAMINA inserta disco carnoso, flavescenti, convexo. STYLI numerosi, barbati. BACCA ovalis, pollicaris, ruberrima, setosa, coronata staminibus limboque calycis persistentibus, intus densē hispida; semina magna, ossea, apice barbata.

The preceding description is almost entirely taken from Professor Lindley's admirable Monograph on Roses. The shrub is very large, and would be a great acquisition in this country, where it would beyond a doubt thrive well. Mr. Lindley informs me that his variety *y. arguta* is possibly a distinct species, and the most European form among the Roses of India, approaching to some varieties of *Rosa mottis*.

Plate CXVII. Fig. 1. Ripe fruit. 2. A piece of the stem.

LYSIONOTUS TERNIFOLIA. Tab. 118.

Lysionotus serrata, Don. Prodr. Nepal. 124.

Chirita ternifolia, Hamilt. apud Don. loc. cit.

Habitat super truncis arborum saxisque in montibus Nepalise, florens et fructifera mensibus Augusti—Decembris. In Kamaon, *R. Blinkworth*.

PLANTA carnosa, erecta, pallidē viridis, pedalis, bipedalis, glabra. RADIX subrepens, valdē crassa et carnosa, albicans, levis, nitida, fibrillosa, superne partim divisa. CAULES aliquot erecti, simplices, cylindrici, purpureo-punctulati, pennam anserinam crassi. FOLIA verticillato-ternata, rarē opposita, subapproximata, patentia, lanceolato-oblonga, attenuato-acuminata, sernita, basi acuta, brevē petiolata, 5—7-pollicaria, carnosa, utrinque glabra, supra nitida, subtilis nervosa, nervis obliquis, gracilibus. PETIOLI unguiculares, supra sulcati. CORYMBI longē pedunculati, axillares, alternantes, oppositi vel verticillati, foliorum longitudine, glabri, bis terve trichotomi vel dichotomi. FLORES magni, pedicellati, ternati vel geminati, dilute coerulei. PEDUNCULUS communis gracillimus, nudus, 3—4-pollicaris; partiales pollicares, suffulti bracteis oppositis, lanceolatis, semiunguicularibus; pedicellae unguiculares. CALYX 5-partitus, persistens; lacinae oblongo-lanceolatae, acutae. COROLLA infundibuliformis, li-pollicaris, calycem ter superans, venosa, pubescens; tubus superne amplius; limbus patens, bilabiatus; labium superius 2-lobum, inferius 3-lobum, majus: lobi subaequales, ovati, obtusi; faux ampla, pervia, inferne lineis duabus, elevatis, flavis. STAMINA 4; inferiorum fertiliū filamenta carnosa, complanata, subclavata, parallela, infra apicem subcornutum, obtusum, glanduloso-papillosum antherifera; antherae in fauce, biloculares, transversae ovatae, levitē coherentes. STAMINA sterilia 2, superiora, subulata, brevia, nuda. OVARIUM cylindricum, laeve, unguiculare, basi attenuata et subpedicellata circumdatum disco annulari, brevissimo, flavido. STYLUS columnaris, brevis. STIGMA orbiculatum, subtruncatum, vix retusum. CAPSULA lineari-tetragona, digitum ad spithamam longa, levis, pallidē ferruginea; structure et dehiscencia omninō *Mschynanthi ramosissimae* (Vol. 1. p. 55.). SEMINA copiosissima, minuta, subulata, laevia, fusca, utrinque acuta et terminata pilo longo, simplicissimo, hyalino.

I sent specimens of this beautiful plant to the Museum at the India House in 1824, under the name of *Caiosacme polycarpa*. I have now referred the plant to the genus *Lysionotus*, and in justice to Dr. Hamilton I have adopted his specific name, quoted but rejected by the author of the *Prodromus Flora Nepalensis*.

Plate CXVIII. Fig. 1. Calyx opened. 2. Corolla opened. 3. Fertile stamens. 4. Capsule. 5. The same, divided in the middle. 6. A valve detached. 7. Seed.

TURBJEA PINNATA. Tab. 119.

FOLIIS pinnatis; tubo staminum 10-dentato, dentibus bifidis.

Habitat in montibus Sillet confinibus. In Horto Calcuttensi floret mensibus Februarii et Julii.

FRUTEX (arbor?). RAMI cylindrici, cortice glabro, pallide fuscescente. FOLIA petiolata, valde approximata, sparsa, undique patentia, impari-pinnata, 2—3-juga; *foliola* opposita, patentia, brevissime petiolata, lanceolata, attenuato-acuta, integerrima, elegantiter undulata, basi parvis cordata et inaequalia, lobis rotundatis, altero brevior, rigida, subcarnosa, haud punctata, utrinque secus tractus vasorum pilosula, supra atroviridia, lucida, subtis costâ nervisque alternis elevatis, leviter venulosa; inferiora pollicaria, exteriora sensim majora, impariter 3-pollicare. PETIOLUS communis teres, pilosulus, basi parvis dilatatus, supra sulcatus, sesquipollicaris, desinens in rachin rectam, teretem, sulcatam; *partiales* brevissimi, teretes, pilosuli. STIPULE nullae. PEDUNCULI solitarii, axillares, teretes, pilosi, pollicares, post expansionem florum decurvi, apice gerentes *flares* aliquot fasciculatos, pedicellatos, pallide roseos, inodoros, suffultos *pedicellis* brevibus, clavatis, sulcatis. BRACTEOLAE paucae, sparsae, lanceolatae, acutae. CALYX profundè 5-partitus, pilosus; *lacinae* foliaceae, ligulatae, inaequales, basi conniventes, apice acutiusculae patulae. COROLLA tubulosa, sesquipollicaris, limbo patente, PETALA 5, plana, lanceolata, subinaequalia, obtusiuscula, patentia, subtis subsericea, basi angustata desinentia in *ungues* longos, connatos in *tubum* cylindricum, gracilem, sulcatum, limbum aequantem, calyce duplo longiorem, basi intus auctum *tubulo* carnosio, brevissimo, truncato, ovarium et basin styli ambiente. FILAMENTA 10, glabra, unita in *tubum* carnosum, cylindricum, unguibus corollae adnatum, superne liberum, erectum, limbo brevior, fauce parvis dilatatum, 10-dentatum, dentibus brevibus, subulatis, versus apicem seorsim dorso appendiculatis *denticub* subulato, brevi, patente. ANTHERS 10, inter dentes stamineos sessiles, hisce breviores, erectae, oblongae, 2-loculares, pilosulae. OVARIUM parvum, ovatum, tubulo appendiculari corollae inclusum, 5-loculare? 5-spermum? ovulis erectis? STYLUS filiformis, longitudine filamentorum. STIGMA capitatum, camosum, intra antheras latens. FRUCTUS haud visus.

My acquaintance with this shrub is limited to some living individuals in the Honourable Company's Botanic Garden at Calcutta, which were sent from the mountains near Sillet by Francis De Silva in 1825, and which blossomed soon afterwards in February and July. I have never received any dried specimens of the plant, nor have I seen the fruit; I am unable therefore to determine the genus with certainty. It seems to be nearly allied to *Trichilia*. The leaves are neither dotted nor have they any aromatic smell; the pinnae have sometimes a small additional leaflet or appendix attached to or between their bases.

Plate CXIX. Fig. 1.2. Flower. 3. Calyx and pistil. 4. Corolla opened. 5. Tube of the stamens. 6. The same, opened.

LEYCESTERIA FORMOSA. Tab. 120.

Leycesteria formosa, Wall, in Roxb. Flora Indica, 2. p. 181. Decand. Prodr. Syst. Nat. 4. p. 338.

Having given a full description of this plant in the second volume of Roxburgh's *Flora Indica*, I deem it unnecessary to swell this work by copying it here. It is an exceedingly elegant shrub, growing wild on the highest mountains of Nial both near the great valley, and in a more northerly direction; also on those of Kamoon and Sirmore. It blossoms during the rainy season, from April to October, and the fruit ripens in October and November.

Plate CXX. Fig. 1.2. Flower. 3. Ovary and calyx. 4. Corolla opened. 5. Stamens. 6. Berry. 7. 8. The same, opened. 9. Seed.

UVARIA GRANDIFLORA. Tab. 121.

UVARIA ^{CANDIDA} NS; foliis elliptico-oblongis, acuminatis, deorsum contractis, basi retusis, subsessilibus, subtis tomentosis; pedunculis oppositifoliis et supra-axillaribus, unifloris, medio instructis bractea magna, ovata, ventricosa; petalis villosis subsequialibus, lato-ovatis; baccis pluribus, cylindricis, longè pedicellatis, villosis, oblique acutis.

Uwria grandiflora, Roxb. Hort. Beng. p. 43.—*Unona grandiflora*, Decand. Prodr. Syst. Nat. 1. p. 91.

Habitat in Sumatra. In Horto Calcuttensi floret per totum ferè annum. Baccæ maturescunt mense Aprilis.

F ^{TEX} magnus, ramosus. RAMI valde longi, subscandentes, teretes, cortice induti fusco, calloso-punctato; *juniores* cum foliis novellis densiter inæto-tomentosi. FOLIA alterna, subapproximata, bifarie patentia, demum subdeflexa, brevissime petiolata, elliptico-oblonga, breve acuminata, deorsum angustata, basi contracta retusa, 5—10-pollicaria, plana, supra lœvia, nitida, inter nervos rugosula, subtis copiosis, stellatis, pallide ferrugineis tomentosa, costâ nervisque suboppositis, parallelis, obliquis, prominentibus, venosa. PETIOLI

crassi, cylindrici, semipollicares, tomentosi. FLORES magni et speciosi, pedunculati, atropurpurei, ferè inodori, solitarii, oppositifolii vel supra-axillares, patentissimi, subnutantes. PEDUNCULUS cylindricus, crassiusculus, tomentosus, petiolo triple longior, basi articulatus, medio instructus *bracted* magna, foliaceâ, pallidè viridi, semipollicari, obovata, obtusâ, ventricosâ, laxiusculâ, caducâ, aliâque versus basin pedunculi minore, oblongâ. CALYX patenti-subrecurvus, tomentosus, 3-partitus; *lacinae* lato-ovatae, acutiusculæ, concavae. COROLLA plano-patentissima, demfan subreflexa, diametrum plhs quàm bipollicarem emetiens, calyce tripto major; *petala* 6, serie duplici, alternante disposita, obovata, rotundato-obtusa, basi parim contracta, pollicaria, interiora tria paullo minora, coriacea, crassa, atropurpurea, suprè nervis parallelis, gracilibus, interque hos guttis transversis, ferè atris subtessellatim ornata, subtus saturates colorata, utrinque pube brevi, mollissima, can& obsita. STAMINA et PISTILLA densissimè aggregata in glomerulum centralem, imbricatum, hemisphaericum, compactum, medio glutinosum, dehiscentiâ antherarum demhm muricatum. ANTHERS oblongoe, subsessiles, dorso caroso?, utrinque longitudinaliter dehiscentes, apice terminate ligul& ovata, obtusiusculâ; *pollen* pallidè flavum. OVARIA centrum glomeruli occupantia, numerosa, gracilia, ferè filiformia, villosa, unilocularia, polyspora. STIGMATA mollia et carnea, mucosa, subarticulatim apici ovarii imposita, conduplicata, obtusa. BACCAS numerosse, longè stipitatae, quarum major pars ssepùs abortiva et cit5 dilabescens, oblongo-cylindricæ, digitum minimum ferè crassae, longitudine inaequales, poUicem 1. usque ad 4 longse, leviter torulosae, obliquè acutiusculae, carnosae, flavae, tomentosae, dorso costis duabus, prominentibus, distantibus, parallelis notatae, transversè multiloculares, ope pedicelli gracilis, carnosus, subangulosus, sesquipoUicaris insertae apici pedunculi communis, elongati et tumefacti convexo, lieinisphaerico, lignoso, foveolato. SEMINA plurima, unico lateri adfixa, ovalia, compressa, fusca, laevia, nitida, *dissepiment* baccae separata tenuibus, carnosis. INTEGUMENTUM chartaceum. PERISPERMUM valdè rimosum.

This shrub when in flower is one of the greatest ornaments which the Calcutta Garden possesses; the flowers being very large, of a dark purple colour, tessellated with black square spots, and opening in succession nearly all the year round. It approaches closely to *Uvaria purpurea* of Dr. Blume, figured and described in the *Flora Javce* of that most eminent botanist; a work which for splendour of execution and for scrupulous accuracy of detail is second to none that has ever appeared on botanical subjects.

Plate CXXI. Fig. 1. Flower dissected. 2. Stamens and pistils. 3. A bunch of fruit. 1. A detached bunch of fruit, mu lengthwise.

U V A R I A MACROPHYLLA. Tab. 122.

FRUTEX altissime scandens; foliis oblongo-ellipticis, acuminatis, brevè petiolatis, basi cordatis, subtus ferragineò tomentosis; floribus fasciculatis, axillaribus, pedunculatis; petalis ovatis, acutis, subsequialibus; baccis pluribus ovali-oblongis, brevè pedicellatis, obtusis, laevibus*

Uvaria macrophylla, Roxb. Hort. Beng. p. 91.

Unona macrophylla, Roxb. MSS.

Habitat in Sillet et Chittagong Bengalæ. In Horto Calcuttensi floret tempore anni bumido; fructus maturescunt mense Decembri.

FRUTEX magnus, altissime super arbores scandens. RAMI longissimi, scandentes vel laxè penduli, cylindrici, glabri, cortice fusco induti; juniores flexuosi, tomentosi. FOLIA bifariè patentia, alterna, brevè petiolata, oblonga vel oblongo-elliptica, brevè acuminata, basi subcordato-revusa, coriacea, 6-pollicaria ad pedalia, quàm ultra, supra transversim mgosa, nitiaa, glabruscula, subtus tomento brevi, stellato, ferrugineo oblecta, costâ validè, nervis numerosis, parallelis, elevatis, apice arcuato-anastomosantibus, alternis brevissimis; junlora utrinque ferrugineo-tomentosa. PETIOLI crassi, semicylindrici, tomentosi, semipollicares. FLORES pedunculati, axillares, fasciculati, patentissimi, subnutantes, ex fusco latenti, modon. PEDUNCULUS communis pollicaris, crassus, ferrugineo tomentosus a v>gigis bracted communi demhm annulatus; *partiales* 3—5, subobovati, valdè approximati, bifari, nunc subumbellati, 1-pollicares, n> articulatim et bracteati, 1-flori, rarè 2-flori. BRACTED sparse, lato-ovatae, concavae, acute, coriaceae, caducæ. CALYX patentissimus ferrugineus, persistens, suffultus bractea latS.; *lacinae* triangulari-acutae, supri concaviusculae. COROLLA plano-patentissima, diametro sesquipollicaris, calyce plus duplo major; *petala* 6, ovalia, acuta, basi parim angustata, utrinque densè villosa, subtus ferruginea, *interna* vix miora. STAMINA et PISTILLA uti tu picucuciwj specie, sea minoru. UACCE diunmae, ovato-oblonga* «i i - flavae, digitum medium crasse, pollicem vel duos longre, utrinque obtusae, baud torulosse, pedicello br> pedunculi communis capitato-dilatato, foveolato. SEMINA plura, semiovata, compressa, fusca, nitida, margine extenore convexo, interiore angusto, *dissepimentis* separata dimidiatis, tenuibus. ALBUMEN minute ruminatum. EMBRYO valdè parvus.

This is a very large, extensively rambling or climbing shrub. When growing near a tree it ascends by means of stout horizontal branchlets, which extend parallel and close to each other, alternately embracing the trunk twice, and thus aiding to lift up the larger branches. The flowers are very elegant, but much smaller than of the preceding species. The leaves are large and handsome; when rubbed they emit a not unpleasant aromatic smell, which is generally present also in the other members of the tribe to which this shrub belongs. The pulp of the berry is more aromatic than that of the fruit of *Uvaria grandiflora*.

Plate CXXII. Fig. 1. Fascicle of flower seen from behind. 2. Flower dissected, 3. Part of the Stamens and pistils. 4. Pistil. 5. Contour of a large leaf.

RHODODENDRUM ARBOREUM ALBUM. Tab. 123.

VARIETAS, foliis subtis ferrugineo-tomentosis; floribus albis.

Crescit in monte Sheopore Napaliae, ad summum ejus cacumen, florens mense Aprilis.

The stately *Rhododendrum arboreum* of the mountains of India has been fully described and beautifully figured by the late Sir J. E. Smith. I shall therefore on this occasion advert only to two varieties of it with which I am acquainted; namely, the *White-flowered*, which is figured in the accompanying plate, and the *Rose-flowered*, which was published in the Botanical Register, vol. 15. p. 1240. Both are confined to the single mountain Sheopore, among those which I had an opportunity of visiting during my sojourn in Nipal, occupying the very summit of it, at an elevation of not less than 10,000 feet above the sea. I observed a considerable number of individuals, but it appeared to me that those with rose-coloured flowers were by far the most common. They attain the size of very large forest-trees, and are noble objects at all times. They blossom simultaneously in April, in which state the beauty of them surpasses all description, the ample crown of the trees being entirely covered with bunches of large and elegant blossoms. The common red-flowered or parent species is likewise found on the above-mentioned mountain, but it is less frequent there than in lower situations, where it blossoms a month earlier, that is in March.

There cannot be the slightest doubt that the above-mentioned trees are mere varieties of the common *Rhododendrum arboreum*; and if it were necessary to adduce proofs of this, in addition to the fact that in every essential character they perfectly agree, I should mention that I have actually seen the white- and rose-coloured sorts gradually change into each other, as well as into the colour of the parent tree. The only marks of distinction from the latter, consist in the more or less brown colour of the lower surface of the leaves, which both varieties have in common, and the colour of the flowers, which in our variety is pure white, with a very slight tinge of pale pink on the base of two or three of the lobes of the corolla. I am convinced, moreover, that from the great elevation at which the varieties are found, they will prove hardy trees in this country; and that even the common Nipal *Rhododendrum*, provided the individuals are derived from mountains not lower than that at which its varieties grow, will also stand the climate of England.

Plate CXXIII. Fig. 1. 2. Flower. 3. The same, opened.

INGA UMBROSA. Tab. 124.

SPINIS stipularibus, rectis; foliis conjugato-pinnatis, pinnis 3-foliolatis; foliolis oblongis, obtusis, basi obliqua acutis, impari parvo; petiolis anopteris, apice glandulâ planâ, parvâ; capitulis pedunculatis, axillaribus, solitariis, glabris.

Incolit montes Sillet confines, florens Octobri. In Horto Botanico Calcutta* floruit primâ vice sub pluviis 1827.

ARBOR vasta, ramosa, comâ patente. RAMULI cinerei, teretes, *aculeis* axillaribus, oppositis vel alternis, brevibus, rectis, subulatis, fusciscentibus, tuberculo insidentibus, estate oblitteratis; uti omnes reliquæ partes glaberrimi. FOLIA approximata, pollices 10 circiter longa, conjugato-pinnata, semi-bijuga, i. e. 3-foliolata. FOLIOLA oblonga vel elliptico-oblongâ, obtusa, basi valdè obliquâ, subdimidiatâ acuta, ferè sessilia, coriacea, laevia, suprâ lucida, subtus nervosa, venosa reticulataque; *par terminate* 6—8-pollicare ad pedale; *foliolum impar s. tertium* extrorsum versus basin rachis vel petioli partialis situm, reliquis ter minus. PETIOLI nudi, suprâ plano-sulcati; *communis* 2—4-pollicaris; *partiales* subdivaricati, illo sæpius paullo breviores, cuspidè brevissima terminati. GLANDULA parva, plana ad apices petiolorum communis et partialium. CAPITULA axillaria, solitaria, *peduncul* tereti, gracili, sesquipollicari insidentia, cum staminibus diametrum biunciale emetientia. FLORES circiter 20, albi, odorati, subsessiles, leves. CALYX brevissimus, membranaceus, 5-denticulatus. COROLLA tubulosa, limbo 4-fido, patulo, laciniis ovatis, acutis. STAMINA plurima, longissima, monadelpha. ANTHERS: parvæ. OVARIUM ovatum, breve stipitatum. STYLUS staminibus dimidifè brevior. LEGUMEN haud visum.

Plate CXXIV. Fig. 1. 2. Flower. 3. Calyx, opened. 4. Corolla, opened. 5. Stamens and pistil.

ORMOSIA GLAUCA. Tab. 125.

FOLIOLIS lanceolatis, utrinque acutis, laevibus, glaucis; racemis axillaribus, solitariis, erectis; calycibus ferrugineo-villosis.

Crescit in convalle Napalise magna, passim; florens Majo.

ARBOR mediocris. RAMI cylindrici, glabri; *juniores* conspersi pube ferruginea, separabili pilisque aliquot atris, brevibus. FOLIA ad apices ramorum approximata, sparsa, patentia, pinnata cum impari, 4-juga, semipedalia. PINNAE lanceolatae, utrinque acutae, integerrimae, exacte oppositae, breviter petiolatae, coriaceae, 2—3-pollicares, superius nitidae, subtus pallidae et glaucescentes, interiores sensim breviores, reticulato-venulosae, costa vix puberula. PETIOLUS *communis* pollicaris vel bipollicaris, teres, basi leviter incrassatus et articulatus; *partiales* cylindrici, 3 lineas longi, basi articulati; *rachis* gracilis, teres, recta. STIPULAE, si ullae, minutae et caducae. FLORES mediocris magnitudinis, albi, dispositi in racemos oblongos, erectiusculos, axillares, solitarios, pedunculatos, folio pariter breviores. PEDUNCULUS *communis* 2—3-pollicaris rachisque leviter compressi, pubescentes. CALYX ovatus, basi ventricosus-amplius, obsolete 5-angularis, subbilabiatus, 5-fidus, *pedicellusque* villositate ferruginea densè vestiti; labium superius 2-fidum, inferius 3-fidum; *laciniis* patulae, ovatae, acutae, subaequales. COROLLA calyce duplè major, glabra; *petala* breve-unguiculata; *vexillum* superius, subrotundum, retusum, ascendens, unguiculare, planum, mediè pariter sulcatum, disco pallide viridescens; *aloe* oblongae, obtusae, basi retusae, vexillo parumper breviores; *carina* 2-phylla; *foliola* omninè distincta, alis similia. STAMINA 10, distincta, parallela, glabra, longitudine inaequalia, filamenta filiformia, basi subincrassatae distantia (prosecutè supremum seu decimum), alterna graciliora; inferiora carina pariter longiora, exserta, superiora breviora; *antherae* ovatae, erectae, exsertae. PISTILLUM stamina longiora vix sequans; *ovarium* sessile, oblongum, complanatum, adpressè villosum, canum, 4-sporum; *stylus* teres, subascendens; *stigma* parvum, bilobum, lobis obtusis.

Plate CXXV. Fig. 1. Flower. 2. The same, opened. 3. Stamens. 4. Pistil. 5. The same, opened.

PARIS POLYPHYLLA. Tab. 126.

Paris polyphyta, Smith in Cyclopaedia Reesiana, in loco.

Habitat in sylvis densis Nepaliae, Kamaon et Sirmore, florens a mense Aprilis usque ad finem Junii, fructifera versus finem pluviarum, mense Septembris.

Nomen Newar, *Beema*.

HERBA erecta, omnibus partibus laevis, bipedalis usque ad quadripedalem, *Iseth* viridis, attritu odorem spargens narcoticum. RADIX perennis, tuberosa, carnosa, cylindrica, horizontalis, leviter annulata, fusca, poUicem ad sesquipoUicem crassa, digitum circiter longa, *fibras* deorsum emittens longas, cylindricas, numerosas, ramulosas. CAULIS solitarius, strictus, teres, 2—4-pedalis, exsulcus, pallidus, e basi squamata, pennam cygneam crassa sensim attenuatus, superius gracilis. SQUAMA paucae, breves, vaginantes, alternae, membranaceae, oblongae, acutae, citè emarcescentes. FOLIA 7 ad 10, infra apicem caulis 3—6-pollicarem disposita in verticillum valde regularem, patentissimum, diametrum usque pedalem emittentem, oblonga, vel cuneato-oblonga, integerrima, gracillimè acuminata, basi acuta leviterque attenuata, 4—6-uncialia; membranacea et tenuia, superius nitidula, subtus pallida, 5-nervia, nervis exterioribus tenerrimis, interioribus 3 basi contiguis: omnibus venarum transversarum ope remotiusculè anastomosantibus. PETIOLI pollicares vel infra, cylindrici, pariter sulcati, purpurascens, basi paulè dilatati caulem amplectentes. FLOS terminalis, solitarius, maximus, patentissimus, diametrum 8-pollicarem saepe attingens, apice caulis nudo, gracili, pollices 3—6 super verticillum foliorum productus pedunculatus, inodorus, viridis, involucreatus. INVOLUCRUM perianthium proximo suffultum, foliaceum, 5—7-phyllum, aliquando 4-phyllum, rarissime 3-phyllum, patentissimum; *foliola* figura et structura folia ipsa plantae omninè referentia, iisdem autem duplè triploque minora, deorsum angustata, basi latè sessilia, admodum pallidè viridia. PERIANTHIUM petaloideum, 5—7-phyllum, nunc numero involucri correspondens cumque foliolis ejusdem alternans, nunc numero ab eodem differens et insertionem relativè mirum in modum varians; *foliola* angustissime linearia, planiuscula, vix lineam dimidiam lata, basi vix dilatata circum ovarium inserta, inde ascendente, majore parte exteriorè laxè nutantia, acuta, e lutescenti viridia, 3—4-pollicaria, involucri breviora. STAMINA 5—14, erecta, breviter, ad ambitum basis ovarii inserta, foliolis perianthii aut duplè numerosiora, aut numero plura variantia irregulariterque inserta; *filamenta* subulata, pariter complanata, unguicularia; *antherae* lineares, biloculares, utrinque longitudinaliter dehiscentes, filamentis pariter longiores, *connectivo* lineari, apice breviter producto, nudo; *pollen* majusculum, globosum, flavum. PISTILLUM staminibus pariter h ^{revis} _{gon} *varium* magnum, globoso-ovatum, obsolete et inaequaliter 5-sulcatum et 5-angulare, vertice plagula parva, submarrinatè notatum, 1-loculare, polyspermum; *ovula* seriebus saepitè 5, sulcis ovarii exterioribus correspondentibus, pariter sub ^{aroso} _{gon} *inserta*; *stylus* brevissimus, crassus, saepe per axin ovarii deorsum continuatus; *stigmata* 4 vel 5 carnosa, subulata, subrecurvata obtusa superius papilloso-scabrida, subtus sulcata. BACCA exsucca, coriacea, globosa, obsolete 5-carinata, pallide ferruginea vel flavescens, magnitudine cerasi, suffulta et coronata partibus floris emarcescentibus, 1-locularis, polysperma, plenè maturitate in valvas 3, 4 vel 5 valde irregulariter disrupta. PLACENTA 4 vel 5 parietales, membranaceae, denticulatae, adfidentes semina valde copiosa, parva, ovalia, varie angulata, basi acutiuscula, subfasciculata, coccinea, cavitatem fructus prorsus replentia. INTEGUMENTUM coriaceum, crassiusculum, *albumini* carnoso aqueo-pallido arte adhaerens. EMBRYO exiguus, globularis, fuscus, ad basin seminis extra perispermium situs.

This very remarkable plant has been described by the late Sir James Edward Smith in Rees's Cyclopaedia, under the article "*Paris*," from specimens received from the late Dr. Hamilton, which he gathered in Nipal in the year 1806 where it grows very commonly, delighting, like its Northern relative, in shady and moist woods. Several years before I visited that country, my people, who were stationed there under the direction of my zealous friend the Honourable Edward Gardner, supplied me with specimens in all stages, of which I forwarded a vast number to the late Sir Joseph Banks and Sir J. E. Smith, to Mr. Lambert, and many other botanists. A short account of the structure of the seed-vessel was transmitted by me from Nipal to Dr. Hamilton, who inserted it in the Edinburgh Philosophical

phical Journal, vol. 1. p. 379. The natives of the country consider the whole plant as poisonous, especially the seeds and root. All the green parts possess a disagreeable narcotic smell, which is perceptible on their being rubbed, and is very like that of a *Datura*. The number and relative position of the leaves and the parts of the flower vary in an extraordinary manner, of which I know of no parallel instance. Mr. Royle has communicated to me a scale of these variations, founded on his own observations, which I subjoin. He adds, that the fleshy root has a faint nauseous smell and taste; the stem and berries, when bruised, a narcotic one; and that they probably possess the medicinal properties ascribed to *Paris quadrifolia* in a still greater degree. My excellent friend found the plant on the mountain called Mussuree, at an elevation of about 6000 feet, and in a mean temperature of 59° Fahrenheit, flowering in April. *Paris incompleta* of Marschal a Bieberstein is probably quite a distinct species.

Variation in the number of parts observed in different individuals by Mr. Royle:—

Leaves.	Involucres.	Perianths.	Stamens.	Stigmas.
9	4	4	8	4
9	5	4	12	5
9	7	7	14	7
9	6	6	12	6
8	4	4	9	4
8	3	3	8	3
7	4	4	8	4
7	4	4	7	4

Plate CXXVI. Fig. 1. Flower, the involucre being removed. 2. Pistil. 3. The same, divided horizontally. 4. The same, divided vertically. 5. Fruit, having the withered parts of the flower attached. 6. The same, burst open. 7. 8. The same, divided horizontally and vertically. 9. A fascicle of seeds attached to part of the placenta. 10. A separate seed. 11. The same, opened, showing the situation of the embryo.

STERCULIA COMOSA. Tab. 127.

FOLIIS maximis, ovato-cordatis, longè petiolatis, acuminatis, extrorsum leviter trilobis, 9-nerviis, subtis glaucis, pubescentibus; cymis nutantibus, axillaribus, paniculatis; perianthii campanulati lobis oblongis, liberis.

Crescit in sylvis Amboynae. In Hortum Calcuttensem a Dom. Mackenzie introducta, ubi floret mense Martii.

ARBOR procera, valde ramosa et comosa. TRUNCUS robustus. RAMUM crassi, cylindrici foliaque glaberrima, epidermide cinerea. FOLIA amplissima, ad apicem ramulorum approximata, patentissima, ovato-cordata, acuminata, extrorsum leviter triloba, lobis obtusis vel acutis, parum sinuata, sinu basis acuto et satis profundo, coriacea, supra nitida, subtus glaucescentia, puberula, 7—9-nervia, nervis crassis, ramosis, transversè et parallelè venosa, palmaria, pedalia, quin sesquipedalia. PETIOLUS cylindricus, glaber, basi parum intumescens, apice ad divisuram in nervos plano-dilatatus, 5—12-pollicaris. PANICULA terminalis, maxima, foliosa, constans cymis axillaribus, nutantibus, laxis, oblongis, ramosis, foliis parum brevioribus. PEDUNCULI teretes, carnosì, stellato-pubescentes. FLORES parvi, purpurascens, pedicellati, odorati. PERIANTHIUM campanulatum, 5-fidum, intiis villosulum; hU oblongi, patuli, acutiusculi, liberi. STAMINA 10, brevissima, basin ovarii ambientia. OVARIUM globosum, glabrum, vertice obsolete 5-sulcatum, pedicellatum. STYLUS brevis, carnosus, incurvus. STIGMATA 5, teretia.

This is a truly noble and stately tree, abounding with very large and dense foliage, and producing in the beginning of the hot weather enormously large drooping panicles of small, purple, sweetly-scented flowers.

Plate CXXVII. Fig. 1. Flower. 2. 3. The same, opened. 4. Stamens and pistil.

DELPHINIUM ALTISSIMUM. Tab. 128.

RADICE subtuberosâ, perenni; caule elongato, gracili, supernè subramoso; foliis longè petiolatis, palmatim 5-lobis, subtis argenteis, pilosulis, lobis apice inciso-trifidis, grossè dentatis, caulinis remotissimis, subsessilibus, lineari-3-partitis; petalis calyce dimidiò brevioribus, pilosis, inferioribus bilobis; calcare recto, adscendente, pedicellum æquante, interiore 2-phylo; capsulis 3, cylindræis, pilosulis.

Crescit in sylvis montanis Napaliæ, florens fructiferumque sub pluviis.

RADIX perennis, crassa, subtuberosa, fibras frequentes exserens. CAULIS erectus, gracilis, 3—5-pedalis, teres, pube adpressâ conspersus, g-laberrimus, basi simplicissimus, pennam cygneam crassus, supernè attenuates, nunc ramos paucos, remotos, breves emittens. FOLIA pauca et remota; *radicalia* et inferiora caulis longè petiolata, orbiculato-cordata, palmatim quinqueloba palmaria vel infr&, supr& flaberrima nitida, juxta vasorum tractus sulcata, subtilis argenteo-pallida, 5-nervia, grosse reticulato-venosa, nervis venisque pilis brevibus munitis; *hbi* basi cuneati, integerrimi, extrorsim inaequaliter subtrifidi, inciso-dentati, dentes magni, ovati, cuspidati; *caudina* pauca, valde distantia, brevissimè petiolata, tripartito-digitata, 2—3-pollicaria, lobis linearibus, elongatis, acutis, pubescentibus, ciliatis. PETIOLI foliorum inferiorum graciles, pedales sesquipedalesve, erecti, puberuli, suprè plano-sulcati, basi dilatata amplexantes, caulesque saepe purpurascens. RACEMUS terminalis, caulis ramorumque erectus, cylindricus, simplex, rarè divisus, digitum ad spithamam longus, nudus. FLORES magni, remotiusculi, ext& densè pubescentes suffulti *pedicellis* pollicaribus basi 1-bracteatis, mediis suboppositè 2-bracteatis, bracteis linearibus, pedunculoque communi cano-pubescentibus. SEPALA coerulea, ovata, acutiuscula, apice concaviuscula, interiora paullo latiora, unguicularia, superius desinens in *calcar* rectum, purpurascens, ascendens, cylindraco-attenuatum, obscure quadrangulare, pubescens, pedicellum longitudine subaequans. PETALA distincta, purpurea, sepalis dimidib breviora; *inferiora* oblonga, profundè biloba, fornicata, levitèr deflexa, cano-pilosula, unguiculata; *superiora* oblique oblonga, subtruncata, postice bifida, deorsim producta in *ungues* graciles, virides, *calcar* interius formantes, exteriore occultos. STAMINA plura, glabra, decurva, deficiente antherarum demum erecta. CAPSULE 3, pilosulae, venosae, cylindracoae, intus carinatae, oblique acuminatae, divergentes.

Plate CXXVIII. Fig. 1 and 2. Flower dissected.

THALICTRUM CYSTICARPUM. Tab. 129.

FLORIBUS hermaphroditis, racemoso-paniculatis, filamentis capillaceis; carpellis longè stipitatis, vesicularibus, compresso-obovatis, retusis, cuspidatis, reticulatis; foliis laevibus, exstipellatis, ter trichotomis, foliolis ovato-subcordatis, acutis, serratis.

Crescit in montibus Napaliae altioribus, versusque Emodum ad Gossain Than. Floret fructificatque tempore anni pluvioso.

RADIX constans fibris plurimis, ramosig. CAULIS erectus, cylindricus, fistulosus, uti tota planta laevis et glaucescens, nunc asper propter aculeolos minutos, subulatos, 3—5-pedalis, inferatè pennam cygneam ad digitum minimum ferè crassus, supernè valde attenuatus, divisus in *ramos* patentes, gracillimos, obsolete flexuosos. FOLIA magna, remota, patentia, trichotoma, decomposita, inferiora longè, superiora floraliaque brevè petiolata. FOLIOLA ternata, ovata, subcordata, acuta, pollicaria ad 1^a-pollicaria, inaequalitèr grosse et acutè serrata, intermedium majus, obsolete trilobum; membranacea et tenuia, suprè pallidè viridia, opaca, subtèr valde glauca, 5-nervia, reticulato-venosa, sinu basis pilis min&ve manifesto, nunc nullo. PETIOLI graciles, leviter sulcati, t^r trichotomi, siccitate ad divisuras articulati; *universalis* semipedalis pedalisve, basi valde dilatè, membranaceo-marginatè *gemmulas* ssepissimè fovente plurimas, subulatas, in acervulum axillarem, dense confertas; *partiales* graciles, nudè; *ultimi* tenerrimi, folioli intermedii pollicaris vel sesquipollicaris. FLORES hermaphroditic albi, odorati, dispositi in *racemos* graciles, oblongos, axillares, pedunculatos, foliis breviores vel superiores iisdem longiores, *paniculam* efformantes magnam, terminalem, foliosam, pyramidato-patentissimam. PEDUNCULI graciles, teretes, subflexuosi; *pedicelli* capillares, pollicares, subfasciculati, *bracted* lineari, longiusculè suffulti. SEPALUM 4, petaloidea, obovato-subrotunda, concaviuscula, lsevè, ferè unguicularia. STAMINA plura, gracilia, sepalis tertib breviora; *filamenta* capillacea; *antherae* angustissimè, cuspidulatae. OVARIA numerosa, compressa, oblique acuta, pedicellata. STYLI uncinato-recurvati, scabri, ovarii ferè longitudine. CARPELLA umbellatè, longè capillaceo-stipitata, vesicularia, unguicularia, obovata, compressa, subretusa, stylo emarcido oblique cuspidata, lsevia, ferruginea, reticulato-venulosa; plura saepè abortiva. SEMEN cylindraco-subulatum, cavitate carpelli plurifem minus, e fornice ejus dependens.

Besides this handsome and large-flowered species of *Thalictrum*, I am acquainted with five others, also natives of Hindustan.

T. cultratum, floribus unisexualibus? axillaribus, longè pedunculatis; carpellis vesicularibus, cultriformibus, deorsum valde attenuatis, subsessilibus, stylo longissimo, uncinato terminatis, reticulato-rugosis; foliis triternatis, exstipellatis, foliolis cuneato-ovatis, inciso-3-dentatis, lsevibus.

A native of Gossain Than and Kamaon.

T. reniforme, floribus hermaphroditis, subpaniculatis, filamentis antherisque filiformibus; carpellis . . . ; foliis triternatis, exstipellatis, foliolis reniformi-cordatis, obtusissimè inciso-dentatis, utrinque caule ramisque pube canè, mollissimè obsitis.

A native of Gossain Than. It belongs probably to the same section with the preceding two species, namely, *Physocarpum* of DeCandolle.

T. foliolosum, DeCand. Syst. Nat. 1. p. 175.

A native of all the forests of Nipal and Kamaon.

T. punduanum, floribus hermaphroditis, paniculatis; carpellis sessilibus, subulatis, sulcatis, scabris; foliis ^{ter-} uatis, exstipellatis, petiolo basi utrinque in ligulam oblongam dilatato, foliolis subrotundo-cordatis, basi obliquè, nunc caneatè, subtrilobis, dentatis, subtilis nervoso-venosis, reticulatis.

A native of the mountains called Pundua, in the neighbourhood of Sillet. Like all the other species it blossoms and produces fruit during the advanced part of the rainy season.

T. rotundifolium, DeCand. loc. cit. p. 185.

Plate CXXIX. Fig. 1. A branch of the panicle. 2. 3. Flowers. 4. The same, dissected. 5. Pistil. 6. A raceme of young fruit. 7- Carpellum. 8. 9. The same, opened. 10. Seed.

ACACIA MODESTA. Tab. 130.

ARBOREA ; ramis ilexuosis, spinis axillaribus subulatis; foliis bipinnatis, 2—3-jugis, pinnulis oblongis, obtusis, glabris, glaucis, subcinerascentibus; petiolo pilosulo, medio uniglanduloso; spicis axillaribus terminalibusque, subso-litariis, cylindricis, nutantibus, brevè pedunculatis; floribus hermaphroditis, filamentis corollâ duplò longioribus, distinctis j legumine stipitato, lineari-oblongo, piano, glabro, submembranaceo, 6-spermo, utrinque acuto.

Habitat in Hindustania. Florentem observavi ad Saharunpur Aprili 1825. In Horto Calcuttensi floret mensibus Maii et Junii; legumina maturescunt Novembre.

ARBUSCULA 8—12-pedalis, ramosissima. RAMI divaricato-patentes, aculeati; ramuli graciles, flexuosi, teretes, pallidi, calloso-punctulati, glaberrimi; tenelli uti petioli pedunculique pilis conspersi raris, patulis, brevibus. ACULEI geminati, stipulares, et ad divisuras ramorum, breves, recti, subulati, fuscii, nitidi. FOLIA approximata, patentia, nunc subfasciculata, bipinnata, 2—3-juga, brevè petiolata, 3-pollicaria, lasevia. PINNJS exactè oppositae, oblongae, subsessiles, 2—3-jugae, 2-pollicares. PINNULE: oblongae, obtusae vel subretusae, fere sessiles, basi rotundatae, vix inaequales, oppositae, subdistantes, unguiculares, obsolete venulosae, utrinque valdè pallidae et glaucae, exteriores parùm majores, subobovatae. PETIOLI graciles, fere filiformes, glauci, supra sulcati; communis medid inter basin et primum pinnarum par munitus glandulâ parvulâ, concava, depressa. STIPULE capillaceae, breves, valdè caducae. SPIC* axillares terminalesque, solitarise vel geminatse, laxè nutantes, oblongo-cylindricae, obtusae, 3-pollicares, digitum minimum vix crassae, initio albae, deinde flavicantes, suffultse peduncuh tereti, gracili, pollicari vel sesquipollicari. FLORES parvi, glabri, fragrantés, sessiles, undique circum rachin lineatam, filiformem sparsi, approximati, patentissimi, hermaphroditi. CALYX ovatus, obtuse 5-dentatus, basi subgibbosus. COROLLA calyce duplè major, infundibuliformis, 5-fida; lacinuis erectae, ovatae, acutae. STAMINA valde numerosa, corollâ duplè longiora, divergenti-patentia; >OTC>te omninò distincta, capillacea, alba; anthem minutae, didymae, subglobosae. QVARICM lineare, laeve, substipitatum; stylus filiformis, longitudine staminum, glaber; stigma minutum, simplex. LBGUMEN lineari-oblongum, compressum, submembranaceum, utrinque acutum, glabrum, margine utroque recto vel levitè repando, parùm incrassato, 6-spernum, stipite suffultum tereti, semiunciali. SBMINA orbicularia, plana, ope funiculi longiusculi, serpentina inserta, laavia, fusca, ocellata.

This is an elegant shrub or small tree, remarkable on account of the pallid, cinereous colour of its foliage, and its drooping spikes of fragrant flowers. It is very ornamental while in blossom.

Plate CXXX. Fig. 1. Flower. 2. Calyx and corolla. 3. The same, opened. 4. Calyx and pistil.

ALNUS NAPALENSIS. Tab. 131.

Alms nepaknsis, Don Prodr. Florae Nepal, p. 58.

Crescit in montibus vallem Napaliae magnam ambientibus; florens et fructifera fine et initio anni.

ARBOR 30—40-pedalis. RAMI fuscii, calloso-punctulati; juniores pube pallidè ferruginea conspersi. FOLIA alterna, patentia, ovalia, c levitè acuminata, integerrima vel mimitlm crenulata, 4—7-pollicaria, coriacea, supra laevia, lucida, subtùs glaucescentia, acuta, nunc unctis min f resmòsis, impressis notata, multinervosa, nervis suboppositis, approximatis, parallelis, obliquis, ad axillas villosulis, usque ad flindituin excurtitudinib > yli A cus, supra sulcatus, ^-pollicaris—pollicaris, glaber. STIPULE lanceolate, acutae, caducae. AMENTA mascula terminalia, pani- ° 1 ^ longissima, cylindrica, gracillima, fere filiformia, 6^8-pollicaria, flaccida, suffulta pedunculis brevibus, puberulis, simpliciter cu ssa, squamas app, roximat83. ANTERS magna. AMENTA faminea in eadem arbore infra mascula, terminalia ramulorum, sub- seas E racemosa, oblongo-cylindrica, obtusa, glabra, fere uncialia; squamas obcordatse, cuspidulatae. SEMINA pallide fusca, sursum membranaceo-marginulata.

Plate CXXXI. Fig. 1- Pa^{rt of a male amentum}. 2, 3# Scales> with stamens. 4. Female amentum. 5. 6. Scales.

ACER CAUDATUM. Tab. 132.

Acer caudatum, supra, p. 4.

ARBOR vasta. RAMULI teretes, laeves, ferruginei. FOLIA patentia, orbiculato- vel ovato-cordata, palmaria, 5—7-loba, lobis ovatis, exterioribus brevioribus, gracillime acuminatis, duplicato-serratis, serraturis longe cuspidatis; supra glabra, nitentia, subtente 5—7-nervia, reticulato-venosa, secus vasa ferrugineo-pilosa, aetate salvis axillis nervorum glabra. PETIOLI graciles, teretes, rubicundi, longitudine foliorum. FLORES masculi e gemmis maximis, ovatis, villosis, versus apices ramulorum corymbosi, glabri, pedunculis filiformibus, longiusculis, glabris, laxis suffulti. CALYX 5-partitus, venosus, albidus; Hernias ovatae, obtusae. PETALA 5, cuneata, unguiculata. STAMINA 8, erecta intra discum magnum, carnosum, cum rudimento centrali pistilli. SAMARA longiusculis pedunculatae, leves, sesquipollicares, nibicundae, demum ferrugineae, loculo rugoso, alis leviter divergentibus, cultriformibus, obtusis, dorso rectilineis, introrsum crenulatis; dispositae in racemum ramulorum terminalem, erectum.

I have already remarked (in page 4 of this Volume) that this noble tree varies somewhat in its foliage and fruit, according to the locality of its growth, I am sure, however, that these differences do not amount to any specific distinctions. The figure which is here given represents a branch of the Gossain Than tree, with young fruit.

ZANONIA SARCOPHYLLA. Tab. 133.

FOLIIS 3-foliolatis, foliolis crassis, carnosis, ovatis, obtusis, integerrimis.

Habitat ad loca sterilia et in rupibus calcareis ad Prome, Paghameu, Yenangheun, Segain, alibique secus ripam fluminis Irawaddi, florens mense Septembris, fructifera Novembri.

FRUTEX ramosissimus, laxè super arbusculas rupesque scandens, omnino laevis. RAMI longissimi, flaccidi, graciles, teretes, subsulcati, pallidi. FOLIA subdistantia, patentia, brevè petiolata, 3-foliolata, suprema aliquandi* simplicia; foliola subrotundo-ovalia, mine ovata, obtusa, nunc levissime retusa, cuspidulâ brevi terminata, basi acuta, brevè petiolulata, integerrima, succulenta et carnosâ, fragilia, lineam crassa, plana, mediè longitudinalitèr sulcata, 3—4-pollicaria, glauca et valde pallida, subtis obscurè venulosa, obsolete 3-nervia, costâ levitèr elevatâ, lateralia parim minora, basi vix obliqua. PETIOLI cariosi, crassi, supra sulcati, aequales, vix semiunciales. CIRRI simplices, extra-axillares, 2—6-pollicares, filiformes, attenuati. FLORES masculi parvi, inodori, ex albo viridescens, pedicellatè patentissimi, aestivatione pyramidato-conici et imbricantes, solitarii vel subfasciculati, dispositi in racemos paniculatos, valde ramosos, pyramidatos, laxos, axillares terminalesque, palmares ad pedales, foliis duplè triplè longiores. PEDUNCULI graciles, filiformes, carnosî, puberulè sulcati, nitidi; pedicelli capillacei, semiunguiculares suffulti bracteolè lineari, carnosâ. CALYX usque ad basin divisus in lacinas 5, lineari-lanceolatas, acuminatas, planas, patentissimas, disco carnosas, marginibus membranaceas, basi subfifis gibbosulas, vix 2 lineas longas. PETALA 5, rarè 4, omninè distincta, patentissima, ovata, cuspidato-acuta, fere membranacea, laciniis calycinis parim longiora, cumque hisce alternantia, obsolete ciliata. STAMINA 5, e centra floris erecta, parallela, glabra, petalis breviora; filamenta subulata; antherae nutantes, dorso carnosae, hinc 2-loculares. FLORES fceminei in distincta planta, in racemos paniculatos, oblongos omninè uti flores masculi digesti, sed longius pedicellati. CALYX et COROLLA ut in masculo. OVARIUM inferum, clavato-cylindricum, laeve, viridescens, unguiculare, 1-loculare, polyspermum; ovula distantia, pendula, utrinque alternatim inserta placentis 3, rarè 4, parietalibus, carnosis. STYLI 3 vel 4, breves, conici, carnosî, intiis planiusculi. STIGMATA carnosâ, papilloso-scabrida, semilunaria, nutantia. FRUCTUS clavatus, obtusè triangularis, pendulus, sesquipollicaris, fauce subtruncatè, 3-angulari. SEMINA haud visa.

This curious plant delights in arid and sterile exposed situations along the banks of the river Irawaddi. It is very branchy, and spreads in all directions, over shrubs and rocks, climbing by means of its simple and slender tendrils. The branches are long and pendulous; the leaves very fleshy and juicy, and of a pale glaucous colour. The flowers are small, but very numerous, forming ample greenish, nodding panicles; the different sexes are produced in distinct plants.

I am acquainted with the following other species of *Zanonia*:—

Z. clemigera, laevis; foliis trifoliolatis, foliolis oblongis, acuminatis, integerrimis; fructu maximo clavato.

A native of Silet, where it is called in the Bengali language *Kishnobera*. The fruit is three inches long, and as thick as a thumb; the seeds flat, oblong, terminated at both ends with an obtuse spongy wing, two inches long. The mode of fructification in this as well as in *Z. cissoides* and *laoca* is like that of *Z. sarcophytta*.

Z. angulata, laevis; caule anguloso; foliis simplicibus, subhastato-lanceolatis, basi cordatis; fructu maximo, clavato.

This is also a native of Silet. I have only seen a single mutilated specimen. The fruit is as long as a finger, and very thick.

Z. cissoides, caule filiformi, angulato; foliis pedatis, 5- vel 7-foliolatis, foliolis lanceolatis, utrinque acuminatis, grosse cuspidato-serratis; petiolis pedunculisque pilosulis.

I found this in Nipal, in flower during the rainy season, in 1821. I have not seen the fruit.

Z. laxa, caule filiformi, ramosissimo, bifarie pilosulo; foliis 3-foliolatis, foliolis acuminatis, serratis, intermedio lanceolato, lateralibus subsemicordatis, petiolis pedunculisque pilosulis.

A native of Sillet, where it blossoms in the rainy season. I have not seen the fruit.

Z. heterosperma, glabra; caule filiformi, tenuissimo; foliis pedato-5-foliolatis, foliolis lanceolatis, acuminatis, serratis; capsulâ clavato-angulatâ, suffultâ pedunculo capillaceo, longissimo; seminibus squamoso-scabris, fasciâ angustissimâ cinctis.

I found this on the mountain called Taong Dong, near Ava, in fruit in November 1826.

Capsula chartacea, 3-gona, lineas 8 longa, ostio 3-dentato; semina pauca, vix ultra 3, parva, ovata, plana, utrinque squamulis minutis, eleganter imbricantibus rugosa, fasciâ laevi, angusta marginata, caeterum aptera; albumen nullum; embryo erectus, cotyledonibus latis.

Plate CXXXIII. Fig. 1. 2. Male flower. 3. The same, dissected. 4. A detached stamen. 5. A panicle of female flowers. 6. 7. Female flowers, detached;—these and the following much enlarged. 8. Ovary and styles. 10—13. Ovary, dissected.

VIBURNUM ERUBESCENS. Tab. 134.

Viburnum erubescens, DeCand. Prodr. Syst. Nat. 4. p. 329.

Crescit in sylvis montanis Napaliae superioris et Kamaon, florens fructusque proferens mensibus Aprilis—Junii.

FRUTEX, vel arbuscula, 12-pedalis vel infra, erectus, ramosus. RAMI cylindrici, pallidi, fere albicantes, glabri, ramuli breves, oppositi, patentissimi; tenelli pubescentes. FOLIA opposita, patentia, lanceolata, nunc elliptica, acuminata, acutè serrata, basi acuta integerima, supra lucida, obliquè sulcata, subtus nervis obliquis, parallelis, costâque prominentibus, in novellis marginibusque pubescentibus; aetate glaberrima, 2—3-pollicaria. PETIOLI breves, rubicundi, carnosii, supra sulcati. CORYMBI terminales, solitarii, pedunculati, erecti, ovati, obtusi, 2-pollicares, foliis parum breviores. PEDUNCULI rubicundi, carnosii, teretes; pedicellu oppositi, divaricati, suffulti bractearum pari lineari, pubescenti. FLORES terni vel oppositi, tubulosi, glabri, ex albo erubescentes, odore mellito gratissimi, brevissimè pedicellati. CALYX valde parvus, 5-fidus; lacinise ovafee, obtusulee. COROLLIS tubus cylindrico-subclavatus, unguicularis; limbus patens, tubo dimidius brevior, divisus in lacinas 5, ovato-subrotundas; faux nuda, peryia. STAMINA 5, semiexserta; Jumenta perquam brevia, fauci intus, infra fissuras limbi inserta; antherae longiusculae, lineares, subversatiles, biloculares. OVARJUM inferum, laeve, cylindricum, basi angustata instructum bracteolis 2, subulatis, brevissimis; 1-loculare: ovulum solitarium, suspensum fornicis loculi angustissimi, elongati. STYLUS columnaris, vix tertiam tubi corollae partem oequans. STIGMA infundibuliforme, carnosum. BACCA oblongo-cylindrica, semipollicaris, stylo persistente coronata, rubra, carnosia, glabra, 1-sperma. SEMEN oblongum, compressum, hinc sulco latiusculo, marginato concavum, inde parum convexum.

This elegant shrub is rather common on the mountains of Nipal. The flowers are sweet-scented like honey; the leaves when rubbed emit a very peculiar, almost sulphureous smell.

Since the time when I communicated specimens of the family of *Caprifoliaceae* to my illustrious friend Professor DeCandolle, who has done me the honour to undertake the description of the species in the collections under my charge, I have become acquainted with another species of *Viburnum*, in the very rich herbarium of Dr. Wight, to whom I have now the pleasure of inscribing it. It is nearly allied to the species described above, and like that it belongs to M. DeCandolle's section called *Soknotims*. Most probably it is a native of some of the mountains of the Peninsula of India. It may be characterized in the following manner:—

V. Wightianum, foliis lanceolato-ovatis, extrorsum acute serratis, basi integerrimis, subtus petiolisque stellato-puberulis, axillis nervorum lanuginosis; corymbo terminali, breve pedunculato, bracteis linearibus, elongatis, pedicellos subtquantibus, corollis infundibuliformibus.

Plate CXXXIV. Fig. 1-2. Flower. 3. Calyx and pistil. 4. Corolla, opened. 5. Ovary, opened. 6. A cluster of berries. 7. Berry, divided horizontally. 8. Seed. 9. The same, divided transversely.

ARUM ERUBESCENS. Tab. 135.

FOLIO peltato, multifoliolato, foliis oblongo-linearibus, acuminatis, undulatis, sessilibus; petiolo, scapo vaginisque purpureo-lineatis; spathae rubro-striatae, cylindricae limbo ovato, fornicato, in acumen filiforme, aequans desinente; spadice cylindrico, obtuso, laevi.

Habitat in montibus altissimis Napaliae, florens sub pluviis.

PLANTA laevis, erecta, surgens e radice tuberosa, bipollicari, fibras multas, cylindricas exserente. FOLIUM radicale, unicum, erectum, limbo piano, patentissimo, orbiculato-peltato, ferè pedali, 10—12-foliolato. PETIOLUS crassiusculus, cylindricus, 1½-pedalis, vaginatus, flavidus, lineis longitudinalibus, majusculis, transverse seriatis, purpureis annulatis pictus. FOLIOLA oblongo-linearia, valde acuminata, undulata, deorsum attenuata, basi angustâ sessilia, 6-pollicaria, atroviridia, subtus glaucescentia. VAGINA 2 vel 3, cylindrical attenuato-acutae, ore obliquae et laxiusculae, una cum scapo purpureo-lineatae; interior 8-pollicaris. SCAPUS solitarius, cylindricus, petiolo brevior, cum illo basi vaginis communibus involutus. SPATHA pallida, striis albis et roseis utrinque ornata; basis 3-pollicaris, cylindraceo-convoluta; limbus paulo brevior, ovatus, fornicatus, apice descendente, attenuatâ in acumen teres, porrectum, pollicare. SPADIX dioicus. MASCULUS haud visus. FOESMINEUS erectus, tubum spathae aequans; inferior pars vix pollicaris, dense oblecta ovarii obovatis, 4-ovulatis, stylo conico, brevissimo terminatis; clava ferè 2-pollicaris, cylindrica, obtusa, basi parùm dilatata, laevis.

Plate CXXXV. Fig. 1. Spathe, opened. 2. Female spadix. 3. Detached ovary. 4. 5. The same, opened.

ARUM ECHINATUM. Tab. 136.

FOLIO peltato, 8-foliolato, foliis oblongo-lanceolatis, acuminatis, deorsum attenuatis, sessilibus; vaginis purpureo-lineatis; scapo brevi; spathae albo-striatae, cylindricae, convolutae, limbo ovato, fornicato, intus purpureo, desinente in acumen filiforme, praelongum; spadice clavâ cylindricâ, apice obtusissimo echinato-pilosâ.

Crescit ad apicem Sheopore montis, florens Junio.

TUBER subglobosum, glabrum, 2-pollicare. RADICUM longae, filiformes, pallidae, carnosae. FOLIUM unicum, radicale, basi vaginatum, longè petiolatum, peltatum 7- vel 8-foliolatum, uti tota planta laevis. PETIOLUS cylindricus, pallide viridis, glaucescens, pennam cygneam crassus, superne attenuatus, 1½—2-pedalis. FOLIOLA stellatim patentissima, oblongo-lanceolata, attenuato-acuminata, basi attenuata et subacuta, nunc crispatula, sessilia, plana, vix undulata, supra atroviridi subtus glauca, nervis gracilibus, transversalibus, intra marginem anastomosantibus, ad lucem lineolis minutis, diaphanis notata, 4—5-pollicaria. VAGINAE 2 vel 3, membranaceae, laxiusculae, obtusae, ore obliquae; exterior brevissima, intima 6-pollicaris, basi petioli ultraque dimidium scapi involvens. SCAPUS solitarius, gracilis, apice sub-clavatus, petiolo tertio brevior. SPATHA basis oblonga, convoluta, 4-pollicaris, glaucescens, lineis albis striata, intus purpureo-guttulata; limbus ovatus, fornicatus, 4-pollicaris, basi albo- et viridi-striatus, superne intus purpureus, marginibus subrecurvatis, apice acutâ desinens in filum gracillimum, teres, obliquè descendens, limbum ipsum longitudine sequans. SPADIX dioicus, erectus, 2-pollicaris. MASCULI inferior dimidia pars cylindrico-attenuatâ obsita brevibus, sparsis, distantibus, subulatis, terminatis antheris quaternis vel quinis, violaceis; exterior dimidia pars, sive clava, crassa, cylindrica, alba, punctis minutis, seriatis, violaceis, parallelè multilinea, apice obtusissimo, vix ultra faucem spathae exserto obsita pilis densis, brevibus, patentibus, hyalinis. FOESMINEI inferior pars dense oblecta ovarii ovatis, angulatis, 2-sporis, stylo brevi terminatis; clava exactè ut in masculo.

Plate CXXXVI. Fig. 1. Spathe, opened. 2. Female spadix. 3. Ovary, detached. 4. 5. The same, opened. 6. Male spadix. 7. 8. Stamens.

PANAX PSEUDOGINSENG. Tab. 137.

TUBERIBUS fasciculatis; foliis quaternis, nunc ternis, foliis peltatim quinatis vel ternatis, lanceolatis, caudato-acuminatis, petiolatis, utrinque valde attenuatis, duplicato- et cuspidato-, nunc subinciso-serratis, secus nervos costaque supra cano-setosis; pedunculo terminali, saepissime trifido, petiolos subaequante; flajibus hermaphroditis; baccis 2—3-spermis.

Panax pseudo-ginseng, Wall, in Act. Soc. Med. et Phys. Calcutt. 4. p. 117.

Incolit cacumen montis Sheopore Napaliae, florens mense Junii, fructifer Augusto.

RADIX brevis, obliqua, pennam cygneam crassa, vestigiis caulium annotinis notata, subcylindrica, quandoque in tuber deorsum intumescens. TUBERA 3—5, approximata, sæpe deficiente radice connectente arête fasciculata, digitum crassa, pollices 2—3 longa, glabra, transverse et parallelè levitè rugosula, in filum crassum, radiculosum attenuata, pallidè grisea, intus luleola, succosa, odore nullo, sapore (si quis) debilissimo, mucilaginoso, vix aromatico. CAULIS erectus, simplex, gracilis, e basi calami scriptorium usque ad digitum minimum crassa attenuatus, cylindricus, pedalis—2-pedalis, apice subpilosus, pallidus, altero latere sæpius purpurascens; raro uno plures ex eadem radice. FOLIA ex apice caulis quaterna vel terna, verticillatim patentia, digitata. PETIOLI aequales, teretes, supra profunde sulcati, 2—6-pollicares, pilis raris conspersi, basi intumescentes et subant duat, ibique alternantes cum foliis imperfectis (*stipulis* ?), raris, linearibus, sessilibus, vix semiungicularibus, interdum numero reductis, vel nullis. FOLIOLA quina, lanceolata, in acumen gracile, nunc longissimum attenuata, basi attenuato-acuta, marginibus totis profundè et acutè duplicato-serratis, quandoque subincisis et crispatis, serraturis longiusculè cuspidatis; peltatim patentia, membranacea, saturate viridia, supra, secus costam, nervos, venasque obsita setis subulatis, erectis, cano-hyalinis; rugosula, subttis costa nervisque obliquis, prominentibus, parum venoso-reticulata, vix pilosula; magnitudine inaequalia: *intermedium* 4—5-pollicare, *lateralia* sensim minora, *extima* dimidiam vel tertiam modo partem reliquorum sequantia. PETIOLI *partiales* vix unguiculares, teretes, pilosuli, sulcati, basi articulati. PEDUNCULUS terminalis (caulis nempe apex continuatus) mediè vel versus basin trifidus, gracilis, teres, pilosulus, petiolis dimidio brevior, fructifer eos aequans, rarissime integer. UMBELLA terminalis, globosa, fores continens 20—30, parvos, hermaphroditos. INVOLUCRUM constans setis aliquot vagis, viridibus, basibus radorum filiformium, semiinicialium interspersis. CALYX adnatus, 5-dentatus; *dentes* 5, parvuli, erecti, distantes, lanceolati, persistentes. PETALA 5, dentibus calycinis alternantia, patula, caduca, lanceolata, acuta, bilinearia, intus mediè linea longitudinali subcarinata. STAMINA 5, petalis alterna, iisdem pauld breviora, erectiuscula, cito decidua. OVARIUM turbinatum, læve, obsolete compressum vel triangulare, 2—3-loculare; *ovula* solitaria, pendula. STYLI 2—3, persistentes, subulati, paulo divergentes, intus sulcati. STIGMATA obtusa, scabrida. BACCA globosa, obsolete triloba, nunc subrenifonni-biloba, diametro cerasi parvuli, lsevis, stylis et calycis dentibus emarcidis coronata, nitida, coccinea, 2—3-ocularis, carne molli, pallida, albicante. SEMEN solitarium in singulo loculo, ovatum, compressum, dorso gibbosum, margine interiore subrecto ad angulum superiorem, i. e. apicem seminis, pro ingressu funiculi umbilicalis perforato. TESTA Crustacea et fragilis, pallidè grisea, scabriuscula. MEMBRANA propria tenuissima. PERISPERMUM carnosum, semen figurà exactè referens. EMBRYO minutissimus, in summa parte perispermia haerens, inversus. RADICULA supera.

While I was in Nipal in 1820 and 1821, I found on the top of Sheopore, one of the highest mountains which surround the great valley, near the remains of an old fortification, at an elevation of between 9,000 and 10,000 feet above the plains of Bengal, a plant which I had no difficulty in recognizing as a species of *Panax* nearly allied to the *Ginseng*; if not identical with it. There was a good number of individuals growing under the thick shade of Oaks and Rhododendrons, within an area of forty or fifty feet square; but the most diligent and frequently repeated search by myself and my assistants convinced me that the plant was fixed, as it were, to one circumscribed spot; nor were our subsequent endeavours to find it anywhere else in Nipal attended with success. The natives of the country to whom I showed it were totally unacquainted with it, and ignorant of its virtues, real or imaginary; they had not even a name for it to give me, although in ordinary cases they are so fertile and inventive, and so utterly to be mistrusted in matters connected with the nomenclature of the productions of their country. The Resident at the Court of Katmandoo, my worthy friend the Honourable E. Gardner, at my suggestion intimated to that Durbar, or Government that the country possessed a plant which was held in the highest estimation among their Chinese neighbours, and which might perhaps prove the most acceptable gift that could be sent to the Emperor with the triennial embassy from the Rajah of Nipal. But the matter was not considered in the light of one deserving of any further inquiry; the Government being either unwilling to contribute so grand a panacea to a Court which they look upon with feelings both of awe and envy; or disinclined to ascribe to that Court so great a degree of folly as to pay the weight in gold for an insignificant root, possessing no earthly sensible qualities, and of which not even the name is known in its native country. A very advantageous consequence has resulted from this proud feeling; it is this,—that our little innocent *Panax* continues up to this day in the undisputed and undisturbed possession of its secluded and small territory, on the top of the above-mentioned mountain.

It belongs to the class of plants called *rhkocarpic*. The root is lasting, shooting forth annually, at the commencement of the rainy season, one or two stems, which produce blossoms in June, and ripe berries in August, after which they die down to the ground. It is exceedingly like *Panax quinquefolius* of Linneus, and may perhaps ultimately be received as a variety only of that famous plant; I have however thought it best to consider it as a distinct species, of which I have given above the character and description. It seems to differ from the genuine *Ginseng* of Chinese Tartary and North America in the following respects: its tubers are more numerous and fascicled; the plant is much taller; its leaves, except the leaves which are sometimes very sparingly hairy. The leaflets are not ovate or other is peculiar but lanceolate, ending in a very long acumen, their base acute, not rounded, and the obovate, as with sharp and cuspidate double serratures. The inflorescence, too, differs; in our plant margins are frequently of three long-peduncled umbels, the peduncles of which are either distinct or united below it consists mostly all hermaphrodite; in the Linnean species the umbel is single, and the flowers into one, which are mostly three-seeded, in the other they are always two-seeded, polygamous, that root possesses as little claim to a place in our Materia Medica as the real *Ginseng*. It is highly p

I have in vain endeavoured to preserve the young plants reared in the Honourable Company's Botanic Garden from roots and seeds sent down from Nipal. Like all other alpine productions, especially those which have a confined extent of growth, our plant is very impatient of controul, and soon perishes if removed into a climate not exactly resembling its own: it is therefore not likely that it will ever be induced to grow in Bengal.

The above description and observations have, with some slight modifications, been copied from an account of the plant presented by me to the Medical and Physical Society of Calcutta, and inserted in the fourth volume of the Transactions of that highly meritorious Body, which was printed after I left Bengal. * Having since had the advantage of consulting North American specimens of *Panax quinquefolius*, Linn., in the Banksian Herbarium, gathered by Kalm and Bertram, and also those collected by my valued friend Dr. Boott, I am now convinced that the Nipal plant is another species, which may be distinguished by the marks indicated in the specific character, and further detailed in the observations I have given in the preceding pages. The question as to the identity of the plant yielding the *Ginseng-root* of China and the American *Panao quinquefolius*, appears still to be involved in much obscurity, notwithstanding all that has been written on the subject. My inestimable friend Mr. Brown has justly pointed out to me that the discovery of a species so nearly allied to that of North America as my Nipal plant unquestionably is, in a country the Flora of which greatly resembles that of the northern parts of China, adds at least to the probability of a similar plant being found there also. But without further entering into this subject, I may refer the reader to an interesting and condensed account of the *Ginseng* contained in the North American Botany, and to the articles *Ginseng*, *Ninsi*, and *Sium Sis arum*, in Rees's Cyclopaedia.

Plate CXXXVII. represents two individuals, one in flower, and the other in fruit, exhibiting some of the modifications both in the leaves and inflorescence. By an omission the leaves have not been shown conspicuously hairy on the upper surface, as they generally are. Fig. 1. 2. Flowers. 3. The same, dissected. 4. 5. Ovary, opened. 6. 7. Berry. 8. A berry, divided horizontally. 9. 10. Seed. 11. 12. The same, opened. 13. A detached root of the ordinary shape, with one of the tubers cut across in the middle to show the internal colour and structure.

SAUSSUREA GOSSYPINA. Tab. 138.

SIMPLEX, clavaeformis, densissimè gossypina; foliis linearibus, dentatis, sessilibus, basi imbricantibus; floribus intra apicem plantulae nidulantibus, sessilibus, aggregatis, involucreatis.

Incolit alpes summas Himalayas versus nivem perennem ad Gossain Than et Bhuddrinath, florens mense Augusti. Nomen monticularum, *Phaen-Comul*.

PLANTULA annua, erecta, simplex, 6—10-pollicaris, e basi pollicem duosve crassa sensim ampliata in formam clavatam, pugillum usque ad duos emetientem, apice obtusissimam et rotundatam, omninò vestita et quasi composita e lanugine alba, gossypina, longa, mollissima et densissima, persistente, aetate laxiuscula demum hinc inde in moles parvas secedente; *novella* glabrior. RADIX longiuscula, perpendicularis, subfusiformis, simplex vel bifida, e basi pollicari deorsum attenuata, glabra, fusca, intis alba et spongioso-carnosa; *Jibre* aliquot cylindraceae, attenuatae, carnosae. CAULIS indivisus, cylindricus, carnosus, striato-sulcatus, pollicem ad duos crassus, inanis, omninò foliis lanugineque occultus, fitis repletus telis subtili, arachnoideis, candidis. FOLIA valde approximata et numerosa, undique sparsa, erecta, 4—6-pollicaria, linearia, acuminata, acutè repando-dentata, deorsum valde attenuata, subpetiolata, basi latè, membranaceà subimbricantia, subcarnosa, utrinque densissime lanuginosa, subhis costis prominulà; *inferiora* breviora, citius emarcescentia; *summa* floribus proxima, cumque illis intra apicem plantulae recondita, involucreformia, linearia, attenuato-acuminatissima, integerrima, 2-pollicaria, marginibus subtiisque longissime plumoso-lanuginosa; *juniora* magis patula, sinuato-dentata, laetè viridia, subhis tomento brevi obsita. FLORES plurimi, subcapitati, ad apicem caulis dilatatum, convexusculum, foveolatum, 2-pollicarem dense conferti, sessiles, subfastigiati, pallidè violacei, inodori, oblongi, unguiculares, *senk* cum foliis involucreformibus intra summitatem plantulae prorsus reconditi; exteriores suffulti *bracted* lineari-lanceolatè, acuminatae, paulo longiore. INVOLUCRUM cylindricum, constans *squam* pluribus, erectis, planis, imbricantibus, linearibus, acutis, serrulatis, argenteo-pallidis, aridis, nitentibus, apicem viridescentem versus parè barbatis, ceterè glabris, exterioribus brevioribus. FLOSCULI circiter 12, tubulosi, hermaphroditi, centrales vix elevatiores, involucre longiores, inserti *receptaculo* piano, villososcrobulato, foveolis circumdati denticulis albis, subulatis, erectis, inaequalibus. COROLLA *tub* filiformis; *limbus* brevis, patens, divisus in *laciniis* 5, acutiusculas, lineares. FILAMENTA capillacea; *antherae* lineares, acutè basè in aristas 2, longas abientes, violaceae, connexae in tubum cylindricum, 5-dentatum, limbo paulò longiore. OVARIUM teres, glabrum, *pappo* polyphyllo, tubiim corollae sequante, longissime plumoso, fusciscente, extis decrescente; *stylus* filiformis, laevis, *foveolatus* exsertum, 2-lobuin; *lobi* oblongo-subclavati, obtusi, pariim divergentes, basi hinc puberuli. SEMEN cuneiforme, leve, nitidum, *foveolatus*.

So far back as in 1818 I received, through the kindness of the Honourable E. Gardner, specimens of this curious little plant from Gossain Than, to which I alluded in a letter to Dr. Hamilton printed in the Edinburgh Philosophical Journal, vol. 1. p. 377. While in Nipal in 1820 and 1821, my people brought me specimens in a

DIDYMOCARPUS OBLONGA. Tab. 140.

HABITAT super rupibus Sheopore Nepalise, florens fructiferaque sub pluviis, Junio—Septembre.

RADIX fibroso-ramosissima. CAULIS erectus, cylindricus, subcarnosus, pubescens, rubicundus, 3—6-pollicaris, solitarius, nunc 2 vel 3 ex eadem radice. FOLIA ad apicem caulis paribus 2 rari 3 approximativis, decussantibus, patentissimis congesta, subverticillata, oblonga, subfalcata, attenuato-acuta, inaequaliter duplicato-serrata, basi subobtusata, magnitudine inaequalia, 3—5-pollicaria; summum par, dum tria adsunt, multo minus; subsessilia, utrinque ferrugineo-pubescentia, reticulato-nervosa; *juniora* valde rugosa, subvillosa; *radicalia* nulla. PETIOLUS 1-pollicaris, nunc modico lineam vel 2 longus, planiusculus. PEDUNCULI terminales, graciles, filiformes, teretes, rubicundi, saepissime tamen quae folia, iisdem breviores, puberuli, bis dichotomi; *universalis* 2-pollicaris, *partiales* breviores. BRACTEJE oppositae, nunc ternae, infra divisuras pedunculorum, lato-ovatae, subcordatae, pariter dentatae, obtusae, amplexantes, patentes, concaviusculae, membranaceae, erubescens, glabrae. FLORES paniculati, breviter pedicellati, ternati solitarii ex dichotomiis, atropurpurei. PEDICELLI carnosii, cylindrici, suffulti bractearum parvis majusculo. CALYX campanulatus, obtuse 5-dentatus. COROLLA caeteraque ut in sequente specie.

Plate CXL. Fig. 1. Detached flower. 2. Calyx, opened. 3. Corolla, opened. 4. Ovary, divided transversely.

DIDYMOCARPUS AROMATICA. Tab. 141.

Didymocarpus aromatica, Wall, in Edinburgh Philosophical Journal, vol. 1. p. 378.

Nomen Parbutteum, *Kumkuma*.

Habitat super rupibus arborumque truncis vetustis sylvarum Nepalicae et Kamaon; florens fructiferaque Junio—Septembre.

PLANTA erecta, subcaespitosa, 6—10-pollicaris. RADIX valde ramosa, fibrosa. CAULIS solitarius, aliquando 2 vel 3 ex eadem radice, carnosus, cylindricus, vel leviter compressus, indivisus, cano-pubescent, minutim punctulatus. FOLIA *radicalia* pauca, prostrata, semi-recondita, carnosa, pollicaria ad 1-pollicaria, ovato-cordata, obtusa, crenulata, breviter petiolata, utrinque densissime vestita pilis brevibus, adpressis, argenteis, punctis resinosis, nervis interspersis, supra convexa, admodum rugosa, subth concava, nervoso-venosa, cito emarcescentia; interdum 2 *dum folia radicalia* longiora, permanentia, erecto-patentia, lato-ovata, cordata, acutiuscula, grosse et acutim dentata, utrinque pubescentia et punctata, subth nervoso-venosa, magnitudine inaequalia, 5-pollicaria ad palmaria, suffulta *petiolo* sulcato, carnosus, 3—5-pollicari. FOLIA *caulina* ad apicem caulis paribus 2 approximativis, decussantibus disposita, breviter petiolata, patentissima, ovata, vel ovato-lanceolata, acuta, inaequaliter dentata, basi inaequalia, nunc subretusa, 2—3-pollicaria, utrinque adpressim cano-villosa, rugosa, nervosa, reticulata, *petiolo* insidentia tereti, supra leviter sulcato, 1-unciali. PEDUNCULI terminales, 2 vel 3, rari solitarii, erecti, carnosii, puberuli, rubri, bis terve dichotomi vel trichotomi; *universalis* 2—3-pollicaris; *partiales* pollicares. BRACTEJE infra divisuras oppositae, majusculae, fere unguiculares, patentim subdecurvae, semiamplexantes, rotundato-ovatae, concavae, rufescentes, extis puberulae, integerrimae, nunc denticulo uno alterove notatae, membranaceae, deciduae. FLORES terni vel quaterni, solitarii ex divisuris exterioribus pedunculorum, atropurpurei, inodori, breviter pedunculati, subnutantes, bractearum pari parvo suffulti, paniculam terminalem latam, elevatam, multifloram formantes. CALYX carnosus, campanulato-ovatus, coloratus, laevis, persistens, ore 5-fidus; *laciniis* ovatae, obtusae, inferior paulo minor. COROLLA *tubus* cylindricus, unguicularis, calyce triplo longior, basi leviter contractus, superne amplius in *Umbum* patentem, fere dimidiam brevior, bilabiatum: *labium superius* breve, bilobum; lobi rotundati, obtusi; *inferius* porrectum, 3-lobum; lobi ovati, obtusi, intermedius duplo major, subcordatus. FAUX pervia, anticif callis duobus, lutescentibus, ad basin labii inferioris evanidis. STAMINA 5, inclusa; 2 *fertilia*, inferiorum, *Jilamenta* teretia, albida, parallela; *antherae* ovatae, 2-loculares, nutantes, contiguae et conglutinatae, loculis divaricatis; *sterilia* clavata, brevia, nuda. OVARIUM oblongum, pariter compressum, longitudine calycis, laeve, basi pariter contracta cinctum annulo cylindraceo, carnosus, brevi, ore repando, pseudo-quadriloculare, polyspermum; *stylus* brevis, cylindricus; *stigma* intra faucem corollae, carnosum, infundibuliforme, minutim ciliatum. CAPSULA plana, linearis, siliquaeformis, laevis, fosca, stylo pennante, subulato cuspidata, basi acuta, subpedicellata, pollicaris, in duas partes planas, parallelas longitudinaliter partibilis, seorsim 2-loculares, juxta margines utrinque valvis 2 dehiscentes; *dissepimentum* angustissimum, contrarium; *valvulae* parallelae, *interior* angustior, margine involuto adfigens *semina* innumera minuta, subulata, nuda, ferruginea.

Thirteen years ago I forwarded a short account of this plant and of the genus to which it belongs to Dr. Hamilton, who inserted it in the first volume of the Edinburgh Philosophical Journal, published in 1819. It produces an aromatic drug, which is in high repute among the Hindus, especially their ladies, who use it as a perfume. It is called *Kumkuma*, also *Rani-Gomndhi*, and consists of the dried primordial radical leaves, which are wrinkled, small, ovate, covered with dense, silvery, soft, adpressed hairs, intermixed with numerous minute, brown, resinous dots. While fresh they are almost an inch long, and very fleshy; when rubbed between the fingers they assume a reddish tinge. Their fragrance is of a very delightful kind, and continues long after they have been dried. Indeed all the species of this genus possess in a greater or less degree a peculiar fragrance, which is elicited by rubbing the green parts, but which is entirely lost in the dried state, except in the species just described.

With regard to this genus and the tribe of *Cyrtandraceae* to which it belongs, I shall here only notice that

former was first described by me in the paper referred to above, and afterwards by my departed friend Mr. Jack in the Malayan Miscellanies, vol. I. published in 1820. Mr. Don afterwards gave an account of two genera belonging to the family to the Wernerian Society, before which it was read in January 1822; it was printed in the Edinburgh Journal of Sciences, vol. 7. (for 1822.) Mr. Jack sent an account of the family to Mr. Lambert, which was presented to the Linnean Society in May 1822, and inserted in the 14th volume of their Transactions, published in 1823.

Plate CXLI. Fig. 1. Corolla, opened. 2. Calyx, opened. 3. Pistil. 4. A withered stem, with ripe capsules, and some recent primordial radical leaves. 5. Capsule. 6. The same, divided horizontally. 7. Section of one of the two parts of the capsule.

DISCHIDIA RAFFLESIANA. Tab. 142.

FOLIIS subrotundo-ovatis; ascidiis confertis, pendulis, petiolatis, oblongo-ovatis, angulatis, obtusis; corona? staminea; lobis oblongis, obtusis, incurvis; folliculis laeyibus.

Crescit in Singapur, super arboribus radicans, florens fructiferaque mense Novembris. Ad Malaccam et Sal-longohr alibique, Gerardus Kdnig in Herbario Banksiano.

FRUTEX carnosus, lactescens, pallide viridis, glaucescens, ramosissimus, alte lateque super arborum truncis mdicans et serpens, superne laxè dependens. RAMI longissimi et gracillimi, teretes, nodoso-articulati; inferiores pennam anserinam crassi, appendiculati, valde radicanes; superiores foliiferi, nutantes, subfiliformes. RADICUL* praedpue juxta ramos inferiores provenientes, fasciculate, ramosissimae, capillaceo-fibrillosoe, long*: FOLIA exacte opposita, remota, bifarie patentissima, suborbiculata, obtusa, basi subretusa, nunc rotundato-ovata, unguicularia, pollicaria vel sesquipollicaria, utrinque acutiuscula, insidentia petiob crasso, cylindrico, transversè rugosulo, vix 2-lineari; admodum crassa et carnosà, glauca, supra planè-convexa, ad insertionem petioli munita ciliis pauds, carnosis, subulatis, dt6 evanidis, subtus concaviuscula, avenia et enervia, marginibus recurvatis, sddentibus. ASCIDIA sive appendices ad ramos inferiores conferta, approximate opposita, altero saepe defidente, brevè petiolata, pendula, foliis paudssimis interspersa, carnosà, pallidè viridia, glaucescentia, demum Eavicantia et emarcescentia, 2-4-pollicaria, oblonga vel ovato-oblonga, levitèr curva, complanata, obtusa; nunc minima, ovata • ad latera obtusissimè et parè costato-angulata subfoveolataque, basi parum contract^ gibboso-rotundata, inversa, ita ut formatur *tubus'amplua*, sed vix unguem longus, utrinque pervius, hinc, ad latus nempe petiolo oppositum integer, illhic fissus, ostio exteriore rugose, tumido, fere drculari, interfere, cavitatem asddii respiciente, libero, obliquo, margine recurvato; *cavitas* angusta, plùs mintusve repleta radiculis densis, capillaceis, e rami proxima parte, imo ex ipso petiolo, vel ab utroque loco oriundis, trunco uno duobusve per introitum istum liberè decurrentibus; parietes atropurpurei, laeves, nitidi; *petiolus* brevissimus, istos foliorum exactè referens, apice extus serie ciliarum subulatarum, carnosarum, citò emarcescentium, cicatrices linquentium. FLORES pallidè flavi, lineas 3 longi, dispositi in *umbellam* parvam, rotundatam, solitariam, extra^xillarem petiolorum tarn foliorum quam ascidiorum, istis dimidi6, hisce multotiès breviorè, pedunculatam, peracta florazione parum elongatam et subracemiformem. PEDUNCULUS cylindricus, carnosus, semiundalis, apice capitato-incrassatus et foveolatus pro insertione florum. PEDICELLI teretes, vix ungmculares, minutim puberuli, basi suffulti *dentibus* duobus foveolae apids pedunculi bracteseformibus. CALYX patentissimus, profunde divisus in *lacinias* 5, lanceolatas, acutas, membranaceo-inatas ciliatas. COROLLA carnosà, ovata, obsolete 5-sulcata; *hmbus* contractus, subcylindricus, divisus in *lacinias* 5, lineari-lanceo-^{maigIII}btusiusculas, minutim puberulas, conniventi-parallelas, versus apicem convexo-gibbosulas, aestivatione valvatas. COLUMNA FRUC-^{lataf o} >NIS corolla dimidi6 brevior, ovata, apice conica, obtusula. CORONA STAMINEA columnam dimidiam vix longitudine superans, ^{TEPICATI}foliola antheris opposita, levitèr recurva, profunde biloba, basi oblonga, latiuscuia distant; *lobi* oblongo-lineares, parum ^{BOQVUA}diveLnies incurvi, apiceque obtuso introrsum nutantes. ANTHER* sagittate, obtusae, apice membranaceo stigma obtegentes, *lobi* basis longè prodJcti, ligulati, verticals. MASS* tenuissim*, cereace*, plan*, lineares, pallide flavae, basi recept* glanduia cornea, clavata, Idscendente e viridi fuscéscente, ad apicem concaviuscula, paullo supra basin *corpusculi* oblongi, sulcati, fusc, lateralitèr inserts OVAR, A 2, micvlindrica. STYLI brevissimi. STIGMATA acutiuscula, occulta. FOLLICULUS sohtarius, subulatus, extrorsum attenuato-cylindricus, obtu-^{se}mus basi vix angustatus, laevis, ferrugineus, 2-pollicaris. SEMINA valde parva, plana, oblongo-ovata, margine submembranaceo, ^{gissi}crraulato, superne versus umbilicum evanido. COMA sericea, copiosa, semine multo longior. PERISPERMUM tenue. COTYLEDONES parvi, ovl^obtusì. RADICuLALongà,cylindrica.

B nksian Herbarium there are specimens of this remarkable plant, which were found by Kdnig, and inscribed In the ^{ner}an * ^y tna't accurate and indefatigable botanist: " Genus novum contortarum? Fulcra^ extra in the to ^{TMug}Cor ^oh jnonopetala, inflata, margine 5-dentato; reliquae ut in Asclepiadibus. Habitat in sylvis copiose nectanum T. ^{can}o-ohr; alibi rarior. Nummularia lactea minor, Rumph. Amb. torn. 5. p. 471. tab. 175. f. 2. prope ^{iviam}cam et ^{Stipula}vesiculae, dcatricibus verrucosa, sunt neglect* in figura." One of the specimens was et t AI September 1772, and sent from Madras by Mr. Robertson. Mt is a very extensive, branchy, smooth shrub, gathered in i ^ ^ ^ ^ branches of trees by means of numerous branchy and fibrous radicles, which are climbing over the abundance along the larger branches. All the upper parts are fleshy and smooth, of a pallid produced in g ^{rent} without being in the east mealy> bounding in a thick and viscid white milk. The youiur

this plant without fructification on the banks of the Attran, in the beginning of April. It is strikingly like Rumphius's plant, except in respect to the leaves, which in ours are very small and quite orbicular; and not lanceolate, as represented in the figure, which has been pronounced bad by Dr. Blume, and which in fact does not agree with the author's text. Vahl's *Sperlingia* Qoc. cit. p. 112.) corresponds with *Hoya*, Br.

Plate CXLII. Fig. 1. Flower. 2. The same, opened. 3. A pair of pollen masses, attached to their glands and corpusculum. 4. Follicle. 5. Seed. 6. 7. Reservoir opened, to show the internal structure.

CERASUS PUDDUM. Tab. 143.

Cerasus Puddum, DeCand. Prodr. vol. 2. p. 537.

Prunus Puddum, Roxb. MSS.

Prunus sybatica, Roxb. ^{no.} *Uon* 2 \ It' 70 \ 6. p. 362.

P. m. Hurdwicke in Act.

Found in montibus Hindustani meridionalis, Napalae, Kamaon, Deyra, Sirmore, alibique, florens Octobre et Novembre, fructifera Aprili et Majo.

OH magna trunco diametrum pedalem usque ad 2-pedalem emetente. RAMI cylindrici, epidermide laevi, nitida, cinerea vel brunnea. ARBOR adproximata oblongo-lanceolata, attenuato-acuminata, subaequaliter argute et cuspidato-serrulata, basi obtusiuscula, 3-pollifolia spatiosa, parva, glaberrima, petiolus cylindricus, fere pollicaris, supra anguste canaliculatus, apice pari uno duobusve glandularum rosis, ad axillas conpositis, stipule nullae nisi squame gemmarum lanceolatae, caducissimae. FLORES pulcherrimi, rosei, odorati, planarum, sessilibus, ovatis, bracteatis, pedunculatis, ante evolutionem foliorum densissime ad ramorum nudorum apices conglaberratis, dispositis in corymbis, rubicundi; commutis vix pollicaris, basi apiceque squamis gemmarum diutius persistentibus, fertis. PEDUNCULI nati oblongis, acutis, extrorsum glanduloso-dentatis, nunc subincisis, subunguicularibus, villis longis, canis magnis, unguicularibus. CALYX cylindrico-clavatus, laseis, coloratus, unguem longus, 5-fidus; ladanice ovatae, acutae, ciliatis; partiales subrotundo-ovatae, patentissima, venosa, unguicularia, apice 2-denticulata. FILAMENTA numerosa, patentia, demum subovato-rotundata, laevis, pendula, hinc flava, inde rubra, putamine ovato, cuspidulato, rugoso, stellatim 3-dentatum. 1* > UPA patv, parietibus crassissimis.

The beautiful tree was discovered on the mountains between Hurdwar and Srinaghar by my highly esteemed friend Major General Hardwicke who published the following short account of it in the Asiatic Researches, vol. 6. p. 363. Major General Hardwicke, common size, found in several places between the mountains. Leaves irregularly serrated, smooth, shining, with two globular glands at the base. The fruit in clusters, about alternate, petioles short, roundish oval shape, acid and adstringent in a ripe state, and of the size of the Diameter of a cherry, thick. The wood is much esteemed among the travelling Fakeers for dull red colour. known in common by the name of *Puddum*.

bludgeons and about the same time by Francis Pierard, Esq. formerly in the civil service of the Honourable Company, and now residing in Calcutta, in the cause of botany the Garden of Calcutta is indebted for several very valuable specimens of this interesting *Dendrobium Pierardi*, and *Pierardia sapida*. Both these are found in fruit in April. In Nipal it is very common, and when in flower in the months of November the valley is a charming object, being entirely covered with its innumerable rounded clusters of rose-coloured blossoms, which cover the branches. At all other seasons it forms a large, rounded, shady tree, coloured blossoms, very pleasant and refreshing, although never quite sweet. In the less elevated regions of Deyra only ripening, and both I and the party who did me the honour to accompany me on my excursion in the Himalayas, enjoyed it almost as much as we should have done had we been encamped under a grove of cherry wood from me, which the Honourable Court of Directors of the Company have placed at the disposal of the Society for the Encouragement of Arts, are now in a course of examination, and will be fully reported upon by my referers for an account of the woods of most of the trees described in this work.

Plate CXLIII. Fig. 1. A flower opened. 2. The stone of the fruit.

SMILACINA PURPUREA. Tab, 144.

RADICE moniliformi-articulata; caule adscendente, subflexuoso, supernè pedunculisque villosis; foliis alternis, secundis, sessilibus, amplexicaulibus, ovatis, acuminatis, plicatis, ciliatis; racemo terminali, subramuloso-

Habitat in montibus summis Napaliae et versus Gossain Than, florens sub pluviis j *varietas* racemo simplici, floribus albis, foliisque magnis crescit in Kamaon, ubi detexit R. Blinkworth.

RA I carnosus, repens, subramosa, catenulato-articulata, radicem *Convattarioe oppositifolae* ex asse referens; articuli depresso-globosi, f. usci, g a I bri *fibras* numerosas, crassas, cylindricas emittentes, vertice exsculpti foveâ magnâ, insertionis caulis prseteriti anni superstate. CAULIS unicus, rar& duo tresve, erectus, carnosus, cylindricus, pedalis 2-pedalisve, basi levitfer adscendente, pennam cygneam ad digitum minimum urn crass& pallida, parcf et brevifcr vaginatus; surshm attenuates, fuscenscens, lineolis purpureis, parallelis guttulus, ad insertionem foliorum subarticulatus obsoleteque flexuosus, supernfc levitfer pubesfcens. VAGINJE 3, membranaceae, 1—2-pollicares, cylindrical, basin caulis arcfc amplectentes, oris obliqui apice acuto, patulo; exterior brevissima. FOLIA alterna, subsecunda, interstitiis dupfo longiora, inferiora paullfc remotiora, ovata, brevfc acuminata, basi rotundatâ amplicaulia, sessilia, infimum subvaginans, levitfer plicata, margine pariim undulato pilis copiosis, brevissimis ciliata, suprk lucida, subcarinath 9-nervia, 2—4-pollicaria. FLORES parvi, odorati, nutantes, sparei, dense approximate subsecundi, atropurpurei, nunc albi, dispositi in *racemum* terminalem, rectum, cylindrico-attenuatum, 3—4-pollicarem, simplicem, vel basi ramulis paucis, brevibus munitum, supra folium terminale pariim elevatum, suffultum *peduncub* brevi, cum pedicellis rachique carnosus, teretibus, cano-villosis. PEDICELLI unguiculares, suffulti bracteoâ lineari, acutâ, emarcescente, unk altera,ve per pedunculum ssepiis vag^ . PERIANTHIUM subcampanulatum, carnosum, profund^ 6-partitum; lobi oblongi, obtusi, 1-costati, intiis apice viridi-maculati, membranaceo-marginulati, serie duplici, alternante dispositi, lineas 3 longi, exteriores parhm angustiores. STAMINA 6, erecta, perianthio dimidib breviora, basi ejus inserta, lobis opposita, laevia; filamenta subulata; anthera ovatae, parvse, erectse, biloculares, viridescens. OVARIUM ovatum, lseve, subtriangulare et 3-sulcatum, 3-loculare; ovulum 1 vel 2 in singulo loculo, axi adfixum; stylus brevissimus, 3-angularis; stigma carnosum, triquetram, scabriusculum.

I have remarked above that a variety of this plant with large leaves, simple racemes, and with white, somewhat larger flowers, grows in Kamaon, whence it was sent to me by Robert Blinkworth. This may perhaps prove a separate species, but I am as yet unable to distinguish the plants specifically.

Plate CXLIV. Fig. 1. 2. Flower. 3. The same, opened. 4. Ovarium, opened.

CRINUM HERBERTIANUM. Tab. 445.

FOLIIS undique sparsis, recurvato-nutantibus, valdè undulatis, membranaceo-marginulatis, subtus scapoque erecto, compresso subfurfuraceis; floribus dense umbellatis, subsessilibus, deflexo-cernuis; limbi sequalis laciniis revolutis, filamentis declinatis, stylo discoloro.

Crescit in Pegu prope Rangoon, in fossis. Floret tempore pluvioso-

BULBUS magnus, globosus, vix in collum supernfc contractus, diametro 5—7-pollicari. FOLIA undique sparsa, numerosa, laxfc patentia, recurvato-nutantia, 1—2-pedalia, basi vix contractis laxfc imbricantia caulemque semipedalem siruulantia, medi6 digitos 4 lata, indh attenuato-acuminata, valdfe undulata, membranaceo-marginulata minutlmque crenulata; suprk lato-caniculata saturate viridia, subtus vald^ glauca, convexa, multilineata. SCAPUS solitarius, nunc 2 ex lateribus bulbi oppositis simul provenientes, erectus, pollices 20 longus, digitum medium crassus, complanatus, furfuraceus, maxima ex parte purpureus, hinc viridescens. UMBELLA densa, magna, depresso-rotundata, diametram usque ad pedalem emetiens. SPATHA magna, coriacea, 2-valvis; lobi oblongi, obtusi, e viridi purpurascens. FLORES valdfe speciosi, magni, fragrantissimi, 12 ad 16 in umbella collecti, subsessiles, curvatura magna deflexo-cernui, campanulato-infundibuliformes, erubescens, limbo fauceque extis lafc purpureo-fasciatis; aestivatione oblongo-cylindrici, erecti, cuspidibus 5 elongatis, divergentibus cornuti. SQUAMA lineares, canaliculatae, erectse, albse, floribus intermixtae, eorumque tubos subsequantes. CONOLLIB tubus ferfc 4-pollicaris, basi viridis, cylindraceus, obsolete 3^ngularis, indfe curvatus senslmque ampliatus, subcampanulatum purpureo-fasciatus; limbus sequalitk patens, laxiusculfc nutans, tubo tertia parte brevior; lacinice oblongo-lanceolatae, acutiusculae, recurvatse, apice revolutae. STAMINA declinata, vix limbi dimidium superantia. Filamenta alba, filiformia, compressiuscula I anther* lineares, longae, arcuatse, coloris aurei. OVARIUM compressum, pedunculo admodiim brevi, lato suffultum; stylus purpureus, longitudine staminni! cumque iis declinatus, apice adscendens; stigma obtusiusculum.

My most esteemed friend the Rev. Dr. Carey of Serampur suspects with me that this beautiful species is distinct from *trmm xeyUmcwn*, which I found growing together with it about Rangoon. It closely resembles the fioure of 4 M J A *zeylamca* in the Botanical Magazine, vol. 30. „, i m . , but the colour of its Bowers is by no means „, dark urn that plant. I have had the true *C. zeylamcum* and our plant in flower at the same time at the Calcutta Garden, but I regret that I have not been able to fix on any very satisfactory character by which to distinguish them. I h-,"

highly prized. T m * to * 9 H o n and " W Herbert of S p o « 0 » > < > e indrfat, able, « al , . . 1 . labours in the ardaous ^ o f " * " are so * * • « . . ! > »

WRIGHTIA MOLLISSIMA. Tab. 146.

FOLIIS ovatis, acuminatis, subtus ramulisque cano-villosis; corymbis erectis; tubo corollae calyce duplo longiore, pubescente; *folliculis* parallelis, callosomultipunctatis, in fructum clayato-cylindricum cohaerentibus.

Crescit in montibus valli magnae Napalae proximis, florens et fructifera mense Junii; etiam in Kamaon. In sylvis regni Oude fructibus maturis lecta Februario et Martio. In Horto Calcuttensi floret Aprili, Majo, fructusque profert Junio.

ARBOR habitu et statura *Frighice tine torice*. RAMI subdichotomi, teretes, fusciscentes, punctis crebris, callosis conspersi; *juniores glaucescentes, cano-villosi*, uti omnes partes superiores lacte copioso scatentes. FOLIA brevè petiolata, patentia, opposita, interstitiis *longiora, ovata, nunc oblongato-ovata, acumine gracili, lineari terminata, integerrima, basi rotundato-acutiuscula, 5-pollicaria, supra basi* cœnilia subtus villositate cana, densa, brevi, mollissima obsita, nervis numerosis, parallelis, obliquis, costâque prominentibus, venis pubescentibus. PETIOLUS semiungularis, villosus, supra plano-sulcatus, basi subarticulatus. CORYMBUS terminalis et e bifurcations transversis sessilis, lato-rotundatus, erectus, multiflorus, bis terve trichotomus, foliorum par supremum vix superans, catione superioribus cylindricis obscure complanatis, carnosissimis; *communis pollicaris vel infra; partiales eadem circiter longitudine, ad cœnium villosius instructi parvis, linearibus, acutis, villosis, oppositis; inferioribus majusculis, foliaceis, unguicularibus.* FLORES pollicares, dimensuras racematis in nodis, extus pubescentes, *pedicello* unguiculari suffulti. CALYX ovatus, persistens et sub fructu parum carnosus, *extus dilatate, basi extus subglobosus, intus squamis hypogynis geminatis, carnosissimis, ovatis, planis, majusculis, tubulatus;* *corollae basi* pappi *longiores, obtusae, parum falcatae et inaequilaterales.* CORONA 5-phylla, fauci intus adfixa, brevis; *terecta carnosa, aurantiaca, ovata, truncata, limbi laciniis opposita, 2- vel 3-fida, nunc ferè ad basin partita, ita ut corona 10- vel 15-phylla videatur.* ANTHERS subsessiles, sagittatae, carnosae, dorso puberulae, conniventes in conum erectum, exsertum, coroni paullo longiorem, *ovata, glaberrima, stigma oblongo, glutinoso adhaerentes, deorsum acutè bilobae, utrinque per longitudinem totam polliniferæ.* OVARIUM ovatum, *copiosis, callosissimis, notatis, paralleli, primum cohaerentes, fructum oblongo-cylindricum, subclavatum, basi subangustatum, utrinque subcaum, complanata semipollicaria, ferruginea, glabra, ad extremitatem umbilico obversa, id est superiorem respectu SEMINA numerosa, ovata, sericea, ipso semine duplo longiore.* EMBRYO siccitate vel aqua mollitus roseus (ut in *Illustrationibus generis codicibus*).

This tree unquestionably comes very near to *Wrightia tomentosa*, Roth., which I have found wild on the Irawaddi, among hills at Sagan, a city of Ava, and along the banks of the rivers in Martaban, and which also grows at Layoy. It appears to differ from the latter in having longer tube of the corolla, and club-shaped follicles; these are much longer and broader and more ovate leaves, slenderer, and nearly cylindrical in Roth's specimens.

Plate CXLVI. Fig. 1. Calyx, opened. 2. Corolla, opened. 3. Throat of the corolla, showing the corona staminea. 4. Follicles.

MICHELIA AURANTIACA. Tab. 147-

FOLIIS subovato-oblongis, attenuato-acuminatis, basi acutis, longiusculè petiolatis, subtus puberulis; gemmis, alabastris, ramisque tenellis tubo calyce exterioribus lato-lanceolatis, subunguiculatis, intima linearia duplo longioribus.

Habitat in regione Pegu, ad Rangoon, florens Septembri.

ARBOR procerâ, compressa, desiccatione flavicantes. FOLIA approximata, sparsa, undique patentissima, strisque villositate fulva, splendentibus, basi dilatata; nunc ovato-oblonga; 6-pollicaria ad spithamea, imò longiora, oblonga, in acumen terminata, nervosque puberula, setate omnino glabra, siccitate venoso-reticulata; juniora utrinque coriacea, supra fœvia, lucida, subgracilis, sesquipollicaris, pubescens, basi intumescens, supra usque ad medium vestigio insericea et adpressè pubescentia. STIPULAE longae, lineares, acuminatae, fulvo-villosae, in gemmam cylindricam conditionis stipulas piano, lineari notatas, nigrescentes, solitariae, saturatè aurantiaci; eorum *alabastra* oblonga, fulvo-villosa, *spathulifera*, citissimè caducas. FLORES majusculae, parvae velutinae, basi et medio cicatrice annulari notatas. PETALA circiter 20, duplici, caducissimè involuta, 2-pollicaria, acuta, basi parum angustata, quasi unguiculata; *media series* hisce breviora, dimidiatè angustiora; *intima* in conum brevem elevatus. OVARIA ovata, puberula. STYLUS obtusus, recurvatus, ovariorum sericeus, supra antherarum superne papillosus.

This tree is different from any of those described and figured in Dr. Blume's superb work. It is certainly not from *M. Champaca* of Hindustan and from the species found in Nipal. Its flowers are larger than those of any of the other species with which I am acquainted, of a deep orange colour, and exquisitely fragrant. I have found a new species in the Burma country, on the banks of the Irawaddi, at Prome and Ava, also in Pegu and Martaban; it has been sent to me from Tavoy. It resembles my *M. aurantiaca* in every respect except in the colour and size of the flower, which are like those of the common *M. Champaca*; perhaps it is only a variety of our tree.

Plate CXLVII. Fig. 1. Spathe, detached. 2. Flower, dissected. 3. Peduncle, with the torus and ovaries. 4. Stamens, detached. 5. Pistil, detached.

SAURAUJA FASCICULATA. Tab. 148.

FOLIIS oblongis, attenuato-acuminatis, argute serrulatis, basi rotundatis, supra glabris, subtus transversè multicostatis, ramulis petiolisque furfuraceo-tomentosis et squamulosis, ferrugineis; pedunculis lateralibus, fasciculatis, filiformibus, Wibus, subtrifidis, trifloris.

Crescit in convalli Napaliae parva, Noakote dicta, florens mense Junii.

ARBOR mediocris 20-pedalis. RAMI cylindrici, fusci, glabri, albo-punctati; juniores uti petioli obsiti tomento furfuraceo, copiosissimo, ferrugineo, squamulis intermixto patulis, subtridentato-truncatis, evanidis, in novellis imbricantibus. FOLIA ad extremitates ramorum approximata, spatiosa, patentia, oblonga, attenuato-acuminata, serrulata, serraturis subincrassato-cuspidatis, basi rotundatis, integerrima, 6—12-pollicaria, coriacea, plana, supra læve viridia, transverse lineato-sulcata, glaberrima; subtus tomento minutissimo, furfuraceo, pallidè ferrugineo, parçe squamuloso omnino obtecta, costâ rãdk devatâ, nervis suboppositis, parallelis, approximatis, filiformibus, conspicuis, ad marginem usque excurrentibus ibique reticulatim confluentibus, venulis capillaceis inter nervos parallelè transversis. PETIOLUS crassus, supra sulcatus, pollicaris 2-pollicarisve. PEDUNCULI infra apices ramorum foliosos laterales, ex vestigiis foliorum delapsorum provenientes, valde copiosi, sæpe spatium rami 1—2-pedale, quin pluripedale occupantes, erecto-patentes, 3—4-fasciculati, graciles, teretes, læves, rubicundi, caraosi, 3-pollicares, integri vel bifidi, mediis et infra divisuras instructi bracteolis subulatis, acutis, patulis. FLORES ex albo dilutissime rosei, parim odorati, terni, nunc subracemosi, longiusculè pedicellati, glabri. CALYX ovato-globosus, profundissime 5-partitus, nudus; lacinm ovatae, obtusae, concavse, membranaceo-marginulatae, pariun insequales, imbricato-conniventes. COROLLA calyce dupli) major, subcampanulata, profundè 5-partita; lacinm subrotundse, minutim crenulatse, patentis. STAMINA numerosa, basi corollae brevissime tubulosae, extis gibbosse serie subduplici inserta, erecta, corollæ breviora, villis aliquot sericeis intermixta; Mamta linearia, alba, apice subclavata; anthera pallidè lutescentes, erectse, cuneatae, apice subtruncato poris 2 magnis dehiscentes. OVARIUM ovatum, carnosum, læve, 5-loculare, pluriovulatum; ovula inserta placentis 5 axilibus. STYLUS crassus, carnosus, fere ad basin 5-lobus; hbi subdivergentes, teretes, staminibus paullo breviores. STIGMATA simplicia, obtusa.

This tree closely resembles my *Saurauja Punduana*, but is specifically distinct from it. When in flower it is extremely handsome, which is the case also with the following species:—

x *S. Punduana*, foliis elliptico-oblongis, acuminatis, serratis, basi attenuatis, acutis, supra lævibus, subtus transverse multicostatis, ramulis petiolisque furfuraceo-tomentosis et squamulosis, ferrugineis; pedunculis lateralibus, fasciculatis, filiformibus, trifloris, lepidosis.

A native of the Pundua mountains bordering on the district of Sillet, whence specimens were sent to me by De Silva. It is very nearly allied to *S. fasciculata*.

S. Rowburghii, foliis oblongis, attenuato-acuminatis, serrulatis, glabris, deorsum paullo angustatis, basi acutè subtus oblique nervosis; costâ leviter lepidosa, petiolis longiusculis, ramisque novellis parçe tomentosis diffusè; pedunculis lateralibus, fasciculatis, trifidim trifloris, tomentosis.—*Ternstroemia serrata* Roxb. H. b. 5. Ejusd. Mss. et Icon picta.

A native of Sillet, whence I received specimens from Francis De Silva. In Dr. Hamilton's collection are specimens which were gathered at Siupur on the Morung hills, and at Biriura. It is very nearly allied to *Ternstroemia serrata* Roxb. and *Ternstroemia ripens* Roxb. Wording to Roxburgh ripens its berries in July and August.

S. trktyla, DeCand.—*Ternstroemia trilocularis*, Roxb. loc. cit.

Specimens were gathered on the island of Penang by Mr. Porter.

S. napalensis, DeCand.—*T. Gogana*, Hamilt.

I found this fine tree in very many parts of lower and upper Nipal, where it is common during the rainy season, and ripens its fruit in November. The natives eat the berries. The specimens from Siupur only. Hamilton's collection contains

Plate CXLVIII. Fig. 1. Flower, detached. 2. 3. The same, dissected. 4. Stamens. 5. 6. Ovarium dissected.

QUERCUS LAMELLOSA. Tab. 149.

FOLIIS ellipticis ovatisve, serratis, planis, glabris, acutis, longe petiolatis, basi obtusis, subtus glaucis, venis ad serraturas productis, venulisque elevatis; cupulis solitariis, sessilibus, depressis, tomentosis, squamis in lamellas continnas, circumductas, laxè imbricatas, undulatas confluentibus; glande tomentosâ, umbonatâ, depressâ, cupulâ breviorè.—*Lindl. MSS.*

Quercis lamellosa, Hamilt. apud Smith in Cyclopaedia Reesiana, in loco.

Nomen Newarrense, *Shukhee*: Parbutteum *Pliarat-Singhall*

Incolit montes Napaliae, fructifera fine anni.

This noble oak has been so well described by Sir J. E. Smith in Rees's Cyclopaedia, that I have very little to add in this place. The young branches are thick, cylindric, and glaucous. Buds terminal, fascicled, or axillary and solitary, ovate, obtuse, with many rounded, villous and silky scales. Leaves very handsome, of a firm and leathery texture, sometimes a foot long, and as much as five inches broad, smooth and glossy above, more or less mealy, sometimes nearly white underneath. The fruit is remarkably large, as much as two inches in diameter.

The drawings from whence the engravings of this and the following species have been taken, were made by Mons. M. Gauci, whose extremely courteous and able services connected with the graphic part of this work I acknowledge with very great pleasure.

Plate CXLIX. Fig. 1. Cup of the acorn, divided vertically. 2. Acorn.

QUERCUS VELUTINA. Tab. 150.

FOLIIS ovato-lanceolatis, serratis, glabris, nitidis, utrinque concoloribus, basi cuneatâ integerrimis, petiolatis, venis intra marginem subevanescentibus, venulis inconspicuis; cupulis solitariis, brevè pedunculatis, depresso-turbinatis, velutinis, squamis in lamellas continuas, circumductas, aretè imbricatas confluentibus; glande velutinâ, hexastyla, depressâ, umbonatâ, cupulâ paullo longiore; ramis pustulatis.—*Lindl. MSS.*

Crescit in Tavoy orae Tenasserim, fructifera Octobre;—Gulielmus Gomez, plantarum collector.

RAMI graciles, cylindrici, punctis innumeris callosis dense notati, fusi, nitidi, glabri. GEMMÆ parvulae, subglobulares, parum villosae. FOLIA versus apicem ramulorum approximata, undique patentia, lanceolata, acuminata, serrata, serraturis subobtusis, gibbosis, remotiusculis, dimidiis, vel tertiis, inferiore parte integerrima, basi attenuato-acuta, 4-pollicaria, chartacea, laevia, lucida, plana, costis, subtiis elevata, gracili, nervis obliquis, suboppositis, parallelis filiformibus. PETIOLUS semipollicaris, superius sulcatus, basi leviter intumescens. INFLORESCENTIA haud visa. FRUCTUS axillaris solitarius ferè sessilis. CUPULA depresso-hemisphaerica, diametrum 8-linearem emetiens, pallidè ferruginea mollissimè tomentosa et velutina annulis constans 4 vel 5 concentricis, minutim crenulatis, convexiusculis; ad faucem contracta, incurva et parum tumida. GLANS orbiculato-depressa, basi lata inserta, densè villosa, subvelutina coronata umbilico crasso, subconico, parum extra ostium prominente, rudimentis stylium 6 terminato.

Plate CL. Fig. 1. Cup of the acorn. 2. Acorn.

PLATYSTEMMA.

CALYX ovatus, 5-fidus, sequalis. Corolla rotata, planissima, tubo nullo, limbo bilabiato, 5-lobo: labio inferiore inajore, 3-lobo, basi contracto. Stamina 4, brevissima, aequalia; antherae magnae, reniformes, 1-loculares. Stylus longissimus, crassus. Stigma capitatum, integrum. Fructus . . .

Classis Linneana: *Didynamia Angiospermia*.

Ordo naturalis: *Scrophularinea*, R. Brown.

Herba pusilla, rupestris, erecta, pilosula, monophylla, vel diphylla, floribus paucis, magnis, azureis, terminalibus, longè pedunculatis, ^eminatis vel subumbellatis, corollâ planissimâ (unde nomen), labio inferiore magno.

PLATYSTEMMA VIOLOIDES. Tab. 151.

CRESCIT inter muscos super rupibus montium Nepaliae superioris, florens mense Augusti.

PLANTULA elegans, annua, pollices 2 ad 6 alta, carnosa, pilis obsita patentibus, mollissimis, longiusculis, fulgentibus, hyalinis, pulcherrime moniliformibus, articulis decrescentibus, extimo subulate RADIX constans fibrillis dense fasciculatis, capillaceis. CAULIS tencrimus, ferè filiformis, 1j—3-pollicaris, teres, pilosus, erectus vel oblique adscendens, apice 1- vel 2-phyllus, caeterum nudus. FOLIUM ad apicem caulis sessile, patens, planum, orbiculato-cordatum, obtusum, 2-pollicare, aliquando ovato- vel obovato-cordatum, extrorsim sinuato-dentatum, ciliatum, basis integerrime sinu brevi, angusto, lobis rotundatis, conniventi-amplexicaulibus; supra atroviride, opacum, pilis copiosis, erectis conspersum, subhis argenteo-pallidum, obscurè venulosum, 7—9-nerviis, nervis gracilibus, prominentibus, pilosulis, versus marginem reticulato-ramosis; praeterea uno alterove e nervo medio vel costa oblique proveniente; nunc 2 adsunt folia approximativissima, opposita, quorum alterum multo minus. PEDUNCULUS terminalis, e gremio folii quasi ortus, (caulis continuatus) solitarius vel geminatus, gracillimus, filiformis, nudus, erectus, pilosulus, 1- 2- vel 3-florus. FLOS ratione plantae sat magnus, cernuus, inodorus, laevis, amenissimè azureus, centro minutim viridi-radiatus, subtus albicans, pedicello longo, capillaceo, suffultus. BRACTEOLAE 2 infra pedicellos subulatae, acutae, patulae. CALYX ovatus, 5-dentatus, carnosus, vix ultra lineam longus; dentes lanceolati, acuti, patuli. COROLLA planissima, rotata, absque ullo tubo, pollicaris, bilabiata, circumscriptione ovata; labium superius subquadratum, 2-lobum, lobis ovatis, obtusis, leviter divergentibus; inferius obovatum, altero duplè majus, 3-lobum, lobis ovatis, obtusis, parum divergentibus, intermedio vix minore, basi cuneato-angustatum; faux staminifera, supernè inscripta lineolis 7 viridibus, radiatim per basin labii superioris divergentibus. STAMINA 5, brevissima, glabra, ostio corollae vix tubuloso intus adfixa; filamenta aequalia, crassiuscula, subulata, parallela, per paria conniventia, basi parum torta; antherae magnae, reniformes, conniventes, supernè rimis, transversè dehiscentes, 1-loculares; stamen quintum vel sterile, subulatum, castratum, infra sinum labii superioris, inter filamenta superiora insertum, hisce parum brevius, apice acutiusculo leviter recurvatum. OVARIUM rotundato-ovatum, laeve, 2-loculare, polysporum; ovula placentae axili, jugiformi densè inserta. STYLUS valde longus, labium inferius aequans, supra hoc descendens, carnosus, teres, apice parum incrassatus. STIGMA parvum, capitatum, minutim papillosum, indivisum. FRUCTUS baud visus.

This elegant little plant forms unquestionably a new genus, very unlike any of the others belonging to the family of *Scrophularinete*. The flowers are remarkably large for the size of the plant, and of a dark sky-blue colour; the corolla is perfectly flat. I have a second species from Kamaon, which was sent to me by Robert Blinkworth, and which may be called *P. majus*. It differs in having a longer stem, an ovate-cordate, acute, sharply sinuato-dentate leaf, and the common peduncles umbellato-bifid, each division bearing two long-pedicelled flowers, besides one or two pedicels from the bifurcation. This may perhaps be only a large variety of the Nipal plant; but as my specimens are not very good I am unable to determine this point.

Plate CLI. Fig. 1. Corolla enlarged, viewed from below. 2. The same opened, viewed from above. 3. Calyx, opened. 5. 6. Stamens. 7. Ovarium, opened.

LOBELIA ROSEA. Tab. 152.

(*lobelia rosea*, Wall, in Roxb. Flor. Ind. 2. p. 115.

Lobelia Dudia, Herb, et MSS. Hamilt.

Habitat in convalli parva Noakote dicta Nepalise, florens Martio. "In Mithilae et Nepaliae inferioris ripis torrentium umbrosis, ubi vocatur *Dudhiya* (lac prsebens)"; Hamilt. Mss. Montes prope Sillet, Francis De Silva.

Having given an account of this very elegant plant in the Flora Indica, I shall confine myself here to the following short view of the other Indian species of *Lobelia* with which I am acquainted:—

2. *L. pyramidalis*, Wall, in Act. Soc. AMt. 13. p. 376.

Incolit plurima Nepalise loca, florens fructiferaque per totum ferè annum.

3. *L. excelsa*, Lesch. ex Wall, in Roxb. Flor. Ind. 2. p. 114. Erecta, cano-villosa, mollissima; foliis oblongo-lanceolatis, utrinque attenuato-acutis, minutissime denticulatis, brevè petiolatis; racemo terminali maximo e fl. h. bracteisque foliaceis, densissimis composite, villosa, laciniis calycinis elongatis, tabum corollae superantibus.

In montibus Nilghiry dictis detexit b. Leschenault de la Tour.

Since the publication of my account of this truly splendid plant I have been favoured with a very fine specimen in full flower, which was gathered in the Nilghiry by Mr. Noton, and which has enabled me to give a somewhat improved specific character.

4. // *nicotianifolia*, Heyn. ex Roth, et Roxb.

Habitat prope Bangalore, Heyne, teste Roxburghio. Montes Courtallum, Wight; Heyne in Herb M. 5. *L. colorata*, erecta, glabra, subramosa, caule tereti, purpurascens; foliis linearibus . . . TK . . . utnucuiatis;

floribus racemosis, terminalibus, calycibus pubescentibus, angulatis, laciniis lanceolatis, tubum vix aequantibus, apice hispidulis, bracteisque glanduloso-dentatis.—*L. purpurascem*, Wall. Catal. Herb. Num. 1307; haud Brown.

Habitat in montibus Sillet confinibus, florens Augusto—Octobre; F. De Silva et Henricus Bruce.

6. *L. begonifolia*, Wall, in Act. Soc. Asiat. 13. p. 377.

Crescit ad loca humida; umbrosa Napaliae; florens et fructifera toto ferè anno.

7. *L. radicans*, Thunb. ?

Indigena in China, fide Roxburghio.

8. *L. zeylanica*. Linn. *L. Goalparce*, Hamilt. MSS. et Herb.

Habitat in Sillet, florens sub pluviis; in Goalpara, Hamilt.

The account of this species, as well as the four that follow it, in Roxburgh's Flora Indica, was furnished by me. Linneus's description agrees well with the plant.

9. *L. stipularis*, Roth. *L. decurrens*, Ejusd. *L. trigona*, Roxb. *L. Heyneana*, Spreng.

Habitat ad loca humida Zeylonae, Malabarise, et Coromandeliae, Herb. Madr. Heynean. et Wightian.; in Bengala, Herb; Roxb.; Nathpur, Herb. Hamilt.; Kamaon, R. Blinkworth; in montibus Napaliae legi 1821, ad Prome, et Taong Dong prope Avam, 1826.

I believe it will be found that the synonyms I have quoted above belong to one and the same species, for which I have retained the name first given to it together with a description by the veteran and excellent botanist Mr. Roth, notwithstanding that it appears founded on a misconception (consult Roxburgh's Flora Indica, vol. 2. p. 111.). The specimens received from Kamaon, those I gathered on Taong Dong, and some of those which I found in Nipal, belong to a marked variety, perhaps a distinct species.

Plate CLII. Fig. 1. Flower. 2. 3. The same, opened.

LINARIA RAMOSISSIMA. Tab. 153.

HERBACEA, prostrata, ramosissima; foliis inferioribus ovato-cordatis, lobatis, subhastatis, superioribus lineari-sagittatis; pedunculis axillaribus, solitariis, folio brevioribus, corollae puberulae calcare recto, brevi; laciniis calycinis angustissimis, capsulaeque brevioris pilosulis.

Antirrhinum diffusum, Herb. Heyn. *A. Cymbalaria*, Herb. Hamilt.

Habitat in ruderalis et petrosis Hindustanis et Burmae, florens sub pluviis; prope Mirzapur ad ripam Gangis, 1820; ad Paghamew, Yenangheun et Avam ripae Irawaddi, 1826; in Coromandelia ? Herb. Heyn.; ad Patnam, Herb. Hamilt.

PLANTA annua, lae prostrata, ramosissima. RADIX fibrosa, sublignosa. CAULES plures, undique extensi, graciles, basi pennam columbinam crassi, saepius multo graciliores, pedales, 2—3-pedalesve, glabri, nunc pilis paucis, patentibus conspersi. RAMI alterni, simplices. FOLIA alterna, patentia, subapproximata, inferius ovato- vel hastato-cordata, inaequaliter, plus minus profunde 5-loba, acuta, ||—2-pollinaria; superiora 1 ^-pollicaria, lineari-sagittata, fere integerrima, lobis basis parila contractae angustis, subdivergentibus, acutis; superiora valde parva, linearia, nunc basi integra; omnia glabra, 5-nerwa. PETIOLI graciles; varie curvii. glabri vel parvissime pubescentes; inferiores folia longitudine sequantes; superiores fere capillacei, iisdem, breviores. FLORES ex omnibus fere axillis solitarii, parvi, glabri, flavi, nutantes, suffulti pedunculis subcapillaceis, glaberrimis, foliis paulo breviores, supremi iisdem longiores. CALYCIS lacinae lineares, pilis capitellatis conspersae, corollae dimidio breviores. COROLLA oblonga, parum pubescens, calcare brevi, attenuato-conico, recto; laciniis obtusis; palato pallido, bigibboso. CAPSULA globosa, calyce parum minor, vertice stylo coronata, pubescens.

My friend Mr. Bentham, who has undertaken the elaboration of the family to which this plant belongs, informs me that it approaches very nearly to *Linaria curhasa*, Willd., which I have verified by consulting the specimens in his herbarium. It appears to me, however, that ours is a much larger plant, with the lower leaves much broader and hastate; its calyx and capsule are beset with upright, gland-capitate hairs.

I subjoin descriptions of two other plants, belonging to this and to a nearly allied genus.

2. *Linaria incana*, dense cano-villosa, caulibus prostratis, basi sublignosis; foliis ovato-lanceolatis, acutiusculis, basi subretusis, utrinque villosis, petiolatis; pedunculis axillaribus, foliis longioribus, corollae extus pilosulae.

Habitat in campis ruderalisque convallis Napaliae, florens fructiferaque mensibus Martii et Aprilis.

SUFFRUTICOSA, prostrate, omnibus partibus dense obsita pilis canis, brevibus, mollissimis. RADIX lignosa, runnel. CAULIS pius. graciles, teretes, subfiliformes, prostrati, cano-villosi, pedales, simplici ramosi. FOLIA alterna, bifarie patentia, ovato-lanceolata, acutiuscula, integerrima, basi rotundata vel leviter retusa, semipollinaria, vel pollicaria, petiolis duplo longiora, cumque iis utrinque dense cano-villosa, ciliata. FLORES valde parvi, lutei, axillares, solitarii. PEDUNCULI fere capillacei, folio saepe longiores, fructiferi glabri. CALYCIS lacina lanceolatae, membranaceo-marginatae, ciliatae. COROLLA extus pubescens, intus purpureo-punctata, calyce duplo major, calcare

curvato subulato, tubo corollae brevior, obtuso; *labium superius* ascendens, bilobum, obtusum, pallidius fuscum; *inferius* h 3 lobum palato purpureo-guttato, cruciatim sulcato tuberculisque 4 notato. FILAMENTA basi pilosula, fere aequalia. ANTHERS majus, obtusum. STAMEN sterile capillaceum. OVARIUM ovatum, puberulum, obscure papillosum. STYLUS pubescens, teres. STIGMA convexum. CAPSULA ovata, stylo coronata, calycem persistentem subaequans, scabra, a vertice ad medium valvis 2 oblongis, oppositis dehiscens.

Antirrhinum gibbosum, caule erecto, paniculate, capitellato-piloso; foliis linearibus, carnosis, subsessilibus, inferioribus oppositis; floribus axillaribus, racemosis, villosis, calyce corollae brevissime calcarata brevior,

Legi prope Assufghur in provincia Rohilkund, florens et fructiferum mense Aprilis 1825. In Bangalore, Herb. Madraspatan. nomine A. Orontil

PLANTA crecta, paniculata, pedalis vel 2-pedalis, basi sublignosa, pilis frequentibus, capitellatis obsita, praesertim superne et dum junior; adulta glabra. RADIX ramosa. CAULIS obsolete tetragonus, calamus scriptorium fere crassus. RAMI integri, subdecussantes, inferiores oppositi, superiores alterni. FOLIA angusto-linearum, carnosum, utrinque acuta, interstitiis partim longiora, 1—1¹/₂-pollicaria, ciliata, ceterum glabra, petiolo villosulo, brevi suffulta; inferiora opposita; superiora sivejlorum dimidiis breviora, alterna, subsessilia, partim recurva. FLORES parvi, lutei, axillares, solitarii foliorum superiorum, iisdemque breviores, racemum terminalem ramorum 3-pollicarem formantes, fructiferum dupli longiorem. PBDUNCULI breves, capitellato-pilosi. CALYX corollae longior; laciniae lineares, pilosae, subinaequales. COROLLAE calcar brevissimum, obtusum, compressiusculum, inter lobos calycis posticos, breviores porrectum; tubus purpureo-punctatus; *labium superius* reflexum, trifidum, postice concavum et villosum, lobis rhomboideis, 2-dentatis; *inferius* subaequans, bifidum, lobis rotundatis, obtusis, conniventibus, sinu angustissimo; palatum prominenter 2-gibbosum. STAMINA salva basi filamentorum laevia. OVARIUM et STYLUS hirsuta. CAPSULA fere unguem emetina, oblongo-ovata, glanduloso-pilosa, basi valde obliqua deorsumque gibbosa, fauce contracta, partim incurva, antice poris tribus, obtusis 3-angularibus dehiscens.

Plate CLIII. Fig. 1. Flower, enlarged. 2. Calyx. 3. Corolla. 4. Corolla, opened. 5. Stamen, detached.

PEDICULARIS CARNOSA. Tab. 154.

CAULE erecto, ramoso, villosus; foliis oblongis, multilobatis, inferioribus oppositis, lobis obtuse crenatis; floribus racemosis; calyce compresso, subcristato; corollae labio superiore piloso, gibboso, rostrato-acuminato, inferiore subrotundo.

Crescit in monte Sheopur Nepalicae, florens Augusto.

RADIX constans fibris ramosis, longiusculis, teretibus, carnosis, ad extremitates subtuberoso-dilatatis. CAULIS ascendens, carnosus, cylindricus, basi pennam columbinam crassus, palmaris, pedalis, 2-pedalisque, villis canis, brevibus obsitus. RAMI pauci, alterni, graciles, nunc basi nudi. FOLIA patenti-erecta, approximata, carnosum, oblonga, obtusa, paralleliter multilobata, lobis rotundato-ovatis, sequalibus, obtuse crenato-dentatis, ciliatis, subdecurvatis; basi acuta, utrinque pilis hyalinis conspersa, supra atroviridia, convexiuscula, subtis costis nervisque grosse reticulatis prominentibus; inferiora subopposita, 2-pollicaria; superiora alternantia, sensim minorum; floralia subsessilia. PETIOLI carnosum, villosi, plano-sulcati, pollicares. FLORES majusculi, rosei, foliorum floralium axillares, eorumque longitudo inaequales, solitarii, breviter pedunculati, dispositi in racemum terminalem ramorum caulisque, oblongum, 3—6-pollicarem. CALYX subcarnosus, oblongus, compressus, villosulus, partim nervosus, fauce obliqua, cristatim, subtis fissis 5-lobus; lobi brevissimi crenulati. COROLLAE tubus albus, compressus, utrinque sulcatus, glaber, calycem sequans; *labium superius* saturates tinctum, villosum, compressum, desinens in rostrum recte descendens, attenuato-acuminatum, labio inferiore vix brevius; *labium inferius* patens, subrotundum, 3-lobum, lobis rotundatis, supra partim convexum et versus faucem notatum tuberculis 2 parallelis, albis. STYLUS clavatus, sursum incurvus, rubicundus, apice exsertus. STIGMA minutum, globosum.

I have found this handsome species only on Mount Sheopur in Nipal, towards its summit, where it blossoms in the rainy season about August. The flowers are extremely elegant, of a bright rose-colour, with a white centre; the point of the upper lip crimson, almost purple. The leaves are lobed in a very remarkable manner along the margins, each lobe is rounded and obtusely crenate. I am acquainted with thirteen other species of *Pedicularis* of India, the publication of which has been confided to the able hands of M. Duvau of Paris.

Plate CLIV. Fig. 1. Flower. 2, 3. Calyx and corolla, opened.

CONVOLVULUS BARBATUS. Tab! 155.

FRUTICOSUS, volubilis, piloso-barbatus; foliis ovato-oblongis, acutis, integerrimis, basi rotundatis, suKiiis sericeo et adpressè lanuginosis, brevè petiolatis; floribus axillaribus, involucre bracteis longissimis, linearibus, canaliculatis, sub singulo calyce ternato-secundis; corollae campanulatae limbo brevi, levitè 5-loba.

Inveni ad Rangoon in Pegu; ad Donabew, alibique secus ripam Irawaddi, florens Septembre.

FRUTEX magnus, volubilis, omnibus partibus obsitus pilis longis, mollibus, patentibus, pallidè ferrugineis, subsericeis. RAMI longi, graciles, cylindrici, valdè pilosi. FOLIA alterna, patentia, interstitiis ssepè longiora, ovato-oblonga, attenuato-acuta, integerrima, basi rotundata, nunc subretusa, 5—6-pollicaria; inferiora distantia, spithamsea, nunc pedalia; membranacea, suprâ atroviridia, levitè plicata, obliquè lineato-sulcata, pili longissimis, decumbentibus remote dispersa et propter eorum bases subvesiculosas asperula, subths elevato-nervoso-venosa, tomento adpresso, sericeo, densissimo vestita; *novella* cum ramulis densissimè lanuginosa; *adultâ* glabriora. PETIOLUS pilosus, canaliculatus, curvus, pollicaris. STIPULE nullae. FLORES magni, sesquipollicares, dilute flavi, axillares, 7—9-fasciculati, folio triplic breviores, involucre magno, polyphyllo suffulti, centrales sessiles. PEDUNCULI breves, carnosii, pilosi; *communis* crassus, semi-unguicularis. INVOLUCRUM constans *foliolis* carnosis, setaceo-linearibus, patentibus incurvis, apice levitè convergentibus, suprâ sulcatis, glabris, subths convexis margineque pilis longissimis, patentibus barbatis, 1—1 pollicaribus, corollâ vix brevioribus; 3, nunc modè 2 vel 1, infra basin singuli calycis vel ejusdem pedicelli unilateraliter insertis. CALYX parvus, glaberrimus, ovato-oblongus, brevissimè pedicellatus vel sessilis; *lobi* oblongi, membranaceo-marginati, imbricantes. COROLLA campanulata, *lasevis* *tuhus* 1—1 pollicaris, basi brevissimè et contractè calyce obtectus, intis erubescens, transverse rugosus; *limbus* patens, *tifoo* triplic brevior, obscurè 5-lobus, *hbis* retusis. STAMINA inclusa, requalia; filamenta basi parè pilosula; *antherae* lineares. OVARIUM *lasevis*, *disco* flavicante, subquinguelobo cinctum; *stylus* filiformis; *stigma* bilobum, lobis globosis, papillois.

This is a very large and distinct species. All the green parts are bearded with remarkably long and dense hairs; the underside of the leaves is very hoary, silvery, and soft. The flowers are large, and of a pale yellow colour, with a tinge of pink within; they are collected in short, peduncled, axillary, solitary fascicles, surrounded by a number of narrow, very long, curved, fleshy, green bracts, which are thickly beset on the outside and margins with very long-spreading hairs; two or three of these bracts issue sideways below each calyx or pedicel, forming collectively a large and wide involucre, the points of which converge slightly over the flowers.

Plate CLV. 1. Fascicle of flowers, surrounded by its involucre of bracts. 2. A detached flower, with its three bracts. 3. Bracts, separated. 4. One of the bracts cut off, to show its channelled structure. 5. Calyx, opened. 6. Corolla, opened. 7. Stamens.

POTHOS GLAUCUS. Tab. 156.

SCANDENS, valde glaucus folijs ovato-cordatis, petiolos nudos aequantibus, profundè pinnatis, pinnis oblongis, falcatis, caudato-acuminatis; *stamibus* sex, ovario hexagono adpressis.

Radicat supra arboribus in Napalia, tam inferiore quam superiore, florens versus finem piuviarum, mense Octobris.

FRUTEX magnus, ramosus, *shgk* latè super truncos arborum saxaque firmiter radicans, *lasevis*, glaucus, CAUDEX digitum ad 2 crassus, cylindricus, e latere interiore exserens *ray* *radicates* teretes, carnosas, villosulas. RAMI graciles, elongati, nutantes. FOLIA approximata, patentia, alterna, pedalia, ovato-cordata, acuta, profundè pinnatifida, coriacea, suprâ atroviridia, nitida, subths valdè glauca, costis crassa et elevate; *lobi* utrinque 2—6, oblongi, apice falcato hinc acuminati et subcaudati, indè gibbosi, 3—6-pollicares, uncias 1—3 lati, marginibus rectilineis paralleli sinibusque angustis distincti; multinervi, nervis gracilibus, mediis crassioribus, venis aliquot transversè reticulatis, capillaceis; infimi inaequilaterales, deorsim valdè obliqui, exteriores plus minusve confluentes. PETIOLUS cylindricus, rectus, limbum folii longitudine sequans, suprâ sulcatus, basi dilatati caudicem ramumve semiamplectens, apice pollicari cylindraco-intumescens. INFLORESCENTIA axillaris, solitaria, folio brevior, suffulta *peduncuh* crasso, cylindrico, glauco, petiolum subaequante, apice incrassato incurvo, ad medium arcuè involuto *bracted* membranaceo, *lasevis*, fusca; decidua. SPATHA ovata, cucullato-oncava, acuta, coriacea et crassa, flava, valdè glauca, 5-pollicaris, spadice tertia parte longior, demum ferè plano-expansa, decidua. SPADIX cylindricus, obtusus, rectus, digitum minimum crassus, pollices 2—3 longus, omnimò obtectus partibus fructificationis arcuè imbricatis, spiritalitè tessellatis. OVARIA cuneata, hexagona, truncata, vertice notata *stigmatè* brevi, mucoso, fusco, sessili, lineari, transverso, 1-ocularia; *ovula* aliquot ad fundum loculi inserta. STAMINA plerumque 6, lateribus ovarii adpressè parallelè, iisdem demum parè longiora; *Jilamenta* clavata, plana, fusca; *antherae* apicem subtruncatum filamenti terminantes, bilobae.

This is a large rooting climber, which covers the trunks of trees and rocks to a considerable extent. It is closely allied to Roxburgh's *Pothos decursivus*, but may be readily distinguished by its glaucous appearance.

Plate CLVI. Fig. J. Part of the spadix. 2. 3. Pistil detached, with 6 stamens belonging thereto. 4. Detached stamen. 5. 6. Ovarium, opened.

ERIA CONVALLARIOIDES. Tab. 159.

Eria cormallarioides: foliis oblongo-lanceolatis, distichis, plicatis; caulibus compressis, teretibus, striatis, sepalis petalisque ovatis, inaequalibus, extis villosis, labello unguiculato, ovato, apice tridentato; spicis axillaribus, oblongis, densissimis, pedunculatis, folio multo brevioribus, bracteis subulatis.—*Lindl. Orchid*, p. 70.

Crescit in montibus Napaliae, super truncis arborum, florens mensibus Julii—Septembris.

RADICUI^AE numerosae, longae, teretes, villosulae, fibrillosae. PSEUDOBULBI pauci, aggregati, carnosii, compressi, oblongi, 5—6-pollicares, unciam lati, erecti, glabri, dum recentes obtecti *squamis* bifarice imbricantibus, adpressis, plicatis, leviter ventricosi, ovatis, membranaceis, superioribus acutis, apice liberis, usque ad pollices 2 longis, supremo nunc in folium desinente, inferioribus obtusis, sensim brevioribus. FLORES ex apice pseudobulbi 3 vel 4, erecto-patentia, oblongo-lanceolata, acuta, 6—8-pollicaria, coriacea, plicata, atroviridia, lucida, subtus nervis pluribus gracillimis, subcarinatis notata, deorsum attenuata in *petiolum* 2-pollicarem, canaliculatum. SCAPULAE aliquot e sinibus foliorum orti, cylindrici, carnosii, pube hyalina, conspersi, 2—3-pollicares, basi foveolati, bulbi immersi, squamulae involuti brevissimi, ovatae; ceterum nudi, apice gerentes *racemum* oblongo-cylindricum, erectum, densiflorum, compactum, 3-pollicarem, obtusum, vix ultra basin limbi folii elevatum. FLORES parvi, albi, inodori, perquam dense approximate patentissimi, ex ovario sessilibus, cylindricis, pubescente nutantes; *bracteola* lanceolata, concava, ovarium subsequans, demum reflexa. PERIANTHIUM campanulato-globosum, subbilabiatum, patens; *foliorum exteriorum anticum* lanceolatum; *lateralia* oblique ovata, obtusa, duplo isto latiora, basi dilatata, puberula infra columnam coilinata in sacculum brevem, parim compressum; *interiora* lanceolata, antico subsimilia cumque illo labium inferius perianthii efformantia. LABELLUM semper posticum, i. e. sursum versum, unguiculatum, foliis exterioribus paulo brevius, leve, nudum; *unguis* brevis, canaliculatus, basis columnae continuus, arcuato-ascendens; *lamina* parva, crassiuscula, ovata, concava, leviter plicata, 3-loba, lobis parvulis, obtusis, intermedio majore, apice flavicante recurvato. COLUMNA brevis, crassiuscula, columnaris, basi producta, apice foveolata; stigma parvum, anticum. ANTHERA terminalis, purpurascens, ovata, obtusa, 2-locularis, persistens. MASSAE 8, clavatae, albae, ope glandulae communis cucullo antice insertae. CAPSULA unguicularis, ovata, obtuse 3-angularis, levis, basi columnae superstate coronata.

Plate CLIX. Fig. 1. 2. Flower. 3. The same, dissected.

ERIA EXCAVATA. Tab. 160.

Eria excavata: foliis lanceolatis, binis, plicatis; caulibus oblongis, obtusis, sulcatis; sepalis basi pilosis petalisque oblongis, obtusis; labelli trilobi, tricarinati lobo medio emarginato; racemis lateralibus, erectis, folio brevioribus, bracteis obovatis, recurvis, ovario multo brevioribus.—*Lindl. he. cit.* p. 67.

Crescit rarissime in montibus altissimis Napalense, supra arborum truncis. Floret mense Martii.

RADIX constans fibris teretibus, ramulosis, levis. PSEUDOBULBI plures, arcte fasciculati, seriatim, lignosi, cylindrico-clavati, digitum crassi, a pollice usque ad pollices 6 longi, erecti, parim complanati, glaberrimi, parallelis sulcati, a vestigiis foliorum remote annulati, hinc inde foveolati excavati magna, valde profunda, ovali, unguem ferre emetente, a pedunculi delapsi insertionem manente; basi laxè involuti *bracteis* membranaceis, alternis, ovatis, acutis, hinc natis, superne nudi, apice 2-phylli. FOLIA lanceolata, erecto-patentia, brevè petiolata, utrinque attenuata et acuta, coriacea, laevia, lucida, parum canaliculata, 5-polljcaria. PETIOLI breves, profundè canaliculati, basi dilatati. RACEMI infra apicem pseudobulbi laterales, pauci, solitarii, alterni, foliis breviores, brevè pedunculati, erecti, bracteati. PEDUNCULUS pollicaris, *rachisque* carnosii, cylindrici, canè densèque villosi; *fructiferi* elongati, glabriusculi. BRACTEAE ovato-oblongae, acutae, membranaceae, unguiculares, recurvato-patentes, series dilabescentes, extis villosulae; aliquot per pedunculum sparsae, reliquae minores infra singulum florem solitariae. FLORES mediocris magnitudinis, pedicellati, flavicantes, subsecundi, inodori. PERIANTHIUM secundum; *foliola* lanceolata, acuta; *exteriorum lateralium* basi partim dilatata, patentiuscula, subhis villosula, *posticum* glabrum; *interiora* parum angustiora, intra posticum exteriorum subconniventia et leviter cum illo fornicata. LABELLUM ascendens, laeve, cum columna producta articulatum, basi angustatum, marginatum, intus carinis tribus notatum; *limbus* 3-lobus, *lobi laterales* dentiformes, *intermedius* reniformis, nudus, patens, flavus. COLUMNA deorsum producta; pars libera brevis, conica, intra basin labelli occulta. ANTHERA ovata, parvula. OVARIUM longiusculum, villosum, cum pedicello pollicem emetens.

Plate CLX. Fig. 1. 2. Flowers, enlarged.

EUGENIA BIFARIA. Tab. 161.

ABBOREA, laevissima; foliis oblongis, acuminatis, approximatis, brevè petiolatis, bifariè patentibus, lucidis, supra bullatis, subtus transversè nervosis, anastomosi vasorum duplici, valde conspicua, a margine reniiformi; corymbis axilla-

ibus solitariis, ramosis; ovario clavato, gracili-pedicellato, petalis orbiculatis, unguiculatis; hęcâ ovali, lobis calycis persistentibus, incurvis styloque coronatâ.

Incolit montes Sillet confines, undè specimma sicca misit Francis De Silva.

RAMULI cylindrici, cinerei, ad insertionem foliorum subcomplanato-dilatati, uti omnes partes glaberrimi; *recentes* alternatim obsoletè tetràgoni. FOLIA approximate opposita, subbiforte patentia, oblonga, acuminata, integerrima, basi obtusa vel acutiuscula, inermia, peripheriam huicque parallel arcuatis et confluentibus, costaque elevatis, venis numerosis, magnis, reticulatis, inter nervos et anastomosin istam nervorum in seriem utroque parallelam dispositis. PETIOLI teretes, seroipollicares, suprk sulcati, basi articulatè. COBYMBI axillares, solitarii, oppositi, laxiusculi, foliis dimidiè triplicè breviores, brevè pedunculati, pliiis minusvc divisi. PBDUNCULI oppositi, subbrachiati, complanato-tetràgoni, suffulti pari *bractęolarum* parvulo, opposito, lanceolato. FLOBES magni, albi, lævisimi, ternati, pedicello gracili, nunc longo suffulti. CALYCS *tubus* (i. e. *ovarium*) oblongo-clavatus; *faux* cyathiformis, divisa in lobos 4 subrotundos. PETALA orbiculata, lobis calycinis duplo-majora, minutim crenulata, *ungue* brevi, lineari suffulta. STAMINA valde longa et numerosa, patentissima; *jilamnta* fere capillacea, alba; *anthera* parvę, pallidę, versatiles. STYLUS rectus, gracilis, persistens, staminibus paulis brevior. BACCA pendula, ovalis, obtusa, flava, l^a-pollicaris, glabra, vertice fovea exsculpta magnę, obtusę et incuiTatb 4-lobę, styliferi.

My acquaintance with this species is derived from dried specimens, and from a beautiful drawing in the possession of my most esteemed patron and friend H. T. Colebrooke, Esq., to whom I am indebted for the accompanying engraving. It must be a very handsome tree at all times, on account of the elegant shining foliage with which it is most abundantly furnished; the flowers are large and ornamental, collected in opposite axillary bunches.

Plate CLXI. Fig. 1. Flower, opened. 2. 3. Ovarium; cut vertically and horizontally. 4. Fruit. 5. 6. The same, dissected. 7. Seed. 8. A leaf of the largest size, showing the double row of veins running parallel to the margins.

FINLAYSONIA.

COROLLA rotata. Stamina distincta, processibus faucis 5, capillaceis, erectis, apice uncinatis, alternantia, antheris bilocularibus. Pollinis massę 20, granulosę, globosę, demum apici plano-dilatato retinaculi exsulci, gracillimi, basi glandulosę inserti adhaerentes. Stigma magnum, ovatum, basi 5-gonum. Folliculi 2, divaricati, ovati, rostrato-uncinati. Semina obovatâ, plana, comâ parcissimâ, brevi, reflexâ, marginibus adpressâ.

Classis Linneana: *Pentandria digynia*.

Ordo naturalis: *Asclepiadearum* cohors *Periploceę* Brown, familiam cum *Apocynęis* conjungens.

Frutex volubilis, carnosus, lactescens, glaber. Corymbi florum parvorum ex axillis alternis. Nominavi in memoriam amici carissimi, beati Georgii Finlaysonii, juvenis literis elegantibus et scientiis, prsecipue chirurgicâ et botanica, morumque suavitate ornatissimi, qui ex itinere Siamensi et Cochinchinensi in patriam redux p̄gematuro succubuit fato.

FINLAYSONIA OBOVATA. Tab. 162.

Gurua obovata, Herb. Hamilt.

Crescit ad litora aestuariomm Gangis, Irawaddi et fluminum Martabanisę, florens Augusto__Octobre, fructifera Novembre.

FRUTEX magnus, volubilis, ramosus, omnibus partibus lęyis lactęque copioso scatens. CAULIS digitum minimum crassus, cylindricus, basi fibris radicalibus longis repens, *ramiqę in/eriores* tecti epidermide fusca, nitida, punctis crebris, elevatis aspera. RXMI teretes, parim flexuosi, adque foliorum insertionem subarticulatè dilatati, sępius subalternantes vel subdichotomi; *nvelU* rufescentes, glauci obsiti *squamh* oppositis, oblongo-lanceolatis, acutis, unguicularibus, erectis, laxiusculę et remotę imbricantibus, mox dilabescitibus. POLIA opposita, petiolatâ, patentiusculâ, s^{pe} ascendentię et secundâ, obovatâ, obtusissima, nunc leviter retusa, terminata cuspiduia latiusculâ, acuta, integerrima, deorsum attenuato-acuta, 3-6-uncialia, inferiora ramorum approximate interstitiis triplb longiora superiora. eadem vix asquantia, remota; coriacea, plana, supra e flavescenti lsetę viridia, lucida, basi absque ullis ciliis; subtus glaucescentia, costę albida, convexa et elevata, nervis tenuissimis, vix conspicuis, pai-alleUs, transversis, niarginem subrecurvatum vęi-sus arcuato-confluentibus, venis minime elevatis, numerosissimis, pulcherrimę et minutim reticulatis. PETIOLUS crassiusculus, pollicaris plano-sulcatus, s^{pe} curvus, ad axillam serie ciliarum subulatarum, carnosarum, ramum ambientium, dtb evanidarum, lineam tmnsversam linquentium. CORVMBOS axdlans te extra-axaUaris terminalisve (ex axilla alternę paris foliorum summi), pedunculatus, lato-rotundatus, mult-noru foUo brevior, prunum tchotomus, deinceps dichotomus; fructiferus valde elongatu, PEDUNCUU erasę cylindrici carnosę, punctulan, s^{pe} erubescentes; *inunrs* petiolo paullo longior; *partales* breves, puberuli, inferiores oppositi, eV,erio^s

divaricato-dichotomi, articulati. BRACTEAE minutae, carnosae; infra divisuras oppositae, iisdem adpressae, lanceolatae, ciliatae, carinatae, persistentes. FLORES parvi, e luteo fusciscentes, foetorem *StapeUce* spargentes, fasciculati, gemini temive, suffulti *pedicello* carnoso, brevi, subclavato, basi parâ *bracteolarum* emarcescentium, vel duabus decussantibus munito; aestivatione ovati, obtusi, marginalitèr imbricati. CALYX minimus, 5-partitus, plano-patens, fusciscentis; *laciniis* ovatae, carnosae, acutae, pilis albis, brevibus ciliatis, basi imbricantes, intus ad fundum sinuum *granulis* minutis, succulentis, solitariis, cum laciniis alternantibus. COROLLA t plana, rotata, 5-partita: *laciniis* ovatae, obtusae, levitèr obliquae, subfuis glabræ, supra hinc (ad latus nempe interius dimidium) nudae, inde purpurascens pilisque longis, rectis, mollissimis, candidis barbatae; *faux* notata tuberculis 5 parvulis, laciniis alternantibus, singulis gerentibus *Jilum* erectum, stamini oppositum, eoque duplo longius, apice retrorsum curvatum, hamosum. STAMINA 5 erecta, distincta, glabra; *Jilamenta* perquam brevia, planiuscula, fauci corollae intra tubercula inserta; *antheris* magnae, ovatae, carnosae, parum distantes, apiculâ terminatae brevi, latiusculâ, lanceolata, angulo recto super verticem stigmatis inflexâ, intus medio stigmatis basi adglutinatae, margine utroque longitudinalitèr dehiscentes; *heula* parum introrsum versa, membrane alba, crenulata; marginata, medio subcontracta. MASSAE POLLINIS 20, minutissimae, sphaericae, albae, granulosae, quarum 2 vel 3 demum apici retinaculi singuli adglutinatae, reliquae angulo superiore vel inferiore loculi saepius retentae. OVARIA 2, arctissime invicem cohaerentia, oblongo-ovata, laevia, utrinque lineal inscripta verticali, 1-locularia; *ovula* plurima, placentas centrali adfixa. STYLUS filiformis, longiusculus. STIGMA magnum, camosum, ovatum, basi truncatâ 5-angulare, lateribus convexis, apice acuto indiviso. RBTINACULA 5, angulis stigmatis parallela, capillacea, fusca, exsulca, basi glandulâ a M, minutâ, capitatâ angulis stigmatis basis adfixa, apice plano-dilatata, ovata, obtusa. FOLLICULI 2, carnosissimi, laeves, 3-pollicares, divaricato-patentissimi, ovati, apice rostrato-acuti et uncinati, subfuis ventricosos-gibbosi, subcostati, supra notati areâ plano-convexâ, margine crasso, incurvo circumdata, medio rima longitudinali dehiscentes. RECBPTACULUM magnum, fungosum, suturae adfixum, obliquè ovatum, subcultriforme, demum liberum. SKMINA plura, inversa, retrorsum imbricata, plana, bracteiformia, obovata, fusca, ferè pollicaria, obtusa, deorsum attenuata, margine tenuissimo, subscindente, basi acutâ munita comâ grossiusculâ, parçâ, sericeâ, ab umbilico retrorsum flexâ, marginibusque laxè adhaerente, vix ultra medium seminis ad oppositam ejus extremitatem excurrente. STRUCITRA *interior* omninò nt in caeteris *Asclejriadeis*.

The flowers of this curious plant are so small that I have found it exceedingly difficult to trace the structure of their very minute organs of fructification. The column is almost globular, and is surrounded with five extremely delicate, white, erect, very slightly converging threads, which are twice its length, and bent back at the apex so as to form a small hook. Stamens perfectly distinct and somewhat remote from each other; filaments very short; anthers large, adhering with their centre to the middle of the stigma, and bursting inwardly along each margin; their apices broadish and bent down upon the stigma, which they almost conceal; the cells are narrow, membrane-margined, slightly contracted in the middle, each containing four most minute, globular, white, granular pollen-masses. Ovarium single; style slender, longish; stigma large and fleshy, ovate, with convex sides and five-cornered truncate base; its apex acute and undivided. Retinacles five, longish, flattened, linear, almost capillary, of a shining brown colour; they are attached with their base to the corners of the base of the stigma by means of a white, soft, arid spherical gland; they rest loosely on the obtuse angles of the stigma, extending as far as their middle, and are visible between the anthers; their apex is flattened, of an obovate, obtuse shape. As soon as the cells of the anthers burst, one of the two pollen-masses contained in each escapes and adheres to the upper or broad part of the retinacle, while the other is sometimes*found remaining in the cell towards its upper end. The follicles are divaricate, of a ventricose ovate form, perfectly smooth. They burst along the upper or less convex side, where they are surrounded by an elevated incurved ridge or margin. The seeds are large, flat, obovate, elegantly imbricate; they appear to be naked, but on being detached from their fleshy placenta, a few silky whitish fibres are seen proceeding backwards from their acute umbilicus, parallel to the margins and closely adhering to these, some of the fibres reaching almost as far as the opposite or obtuse end of the seed.

Our plant agrees in several respects with *Cryptostegia*, Brown in Botan. Register, vol. 5. n. 435. (*Nerium grandiflorum*, Roxb.), and together with that genus connects the *Asclepiadece* with the *Apocynacs*. Both are furnished with five appendages, rising from the throat of the corolla, opposite the stamens, alternating with the lacinae, and with bilocular stamens adhering to the sides of the stigma. The retinacles exist in both, and resemble each other in general figure and position; but instead of being free, as in our shrub, the upper broad end adhères in *Cryptostegia* to the margins of the anthers; and the glandular knob by which they are attached to the stigma in our plant, is in that supplied by a linear process which is elongated vertically at both ends. But the great difference consists in the nature of the pollen, which in *Cryptostegia* continues always a homogeneous substance, whereas in our plant it is condensed into twenty globular masses. To this curious structure of the flower of *Nerium grandiflorum* I adverted in a paper, presented to the Asiatic Society of Calcutta in 1815 and printed in 1816, (see Asiatic Researches, vol. 12. p. 568, note at the bottom); so that I may, in this single instance, boast of having preceded the most eminent of all botanists in the announcement of a novel structure in the *Asclepiadece*. Indeed, we have both been preceded by Dr. Roxburgh, who distinctly alludes to these retinacles in his manuscript Flora Indica quoted in the Botanical Register. It is remarkable that these retinacles appear at a much later period than in any other member of the family, either observed by Mr. Brown or myself; even shortly before the expansion of the corolla they are only indicated by a small linear milk-white body between the swelled margins of the anthers.

I have dedicated this new and remarkable genus to the memory of my very dear friend George Finlayson, Esq.
VOL. II.

f Thurso in Scotland, Assistant Surgeon in His Majesty's 8th Regiment of Light Dragoons, and attached to the Mission sent by the Bengal Government to Siam and CochinChina, in 1821. I had the happiness to become acquainted with that gentleman at Singapur, towards the close of 1822, and we returned together to Calcutta by the same ship. Unfortunately a deep-rooted consumption, caused by the enthusiastic zeal with which my amiable friend performed his duties, both as surgeon and naturalist to the expedition, made such frightful progress during the latter part of the voyage, that scarcely any prospect remained of his ultimate recovery. Still his return to Europe held out a feeble hope of his valuable life being prolonged; but that hope was soon frustrated; he died on his passage to England. Of the excellence of my friend's character, and the large share of knowledge which he possessed, it would be presumption in me to attempt offering any further proofs than what are contained in his Journal of the Mission, which was published, together with a short account of his life, by the late Sir Stamford Raffles, who highly appreciated his worth. He had made the most extensive and valuable collections in all branches of natural history; but owing to his painful and distressing illness, they were much injured and reduced before they reached their final destination at the Honourable East India Company's Museum.

I should have adopted the generic name *Gurua* given to our plant by Dr. Hamilton, although founded on a wrong native name supplied to him, if I had not printed the accompanying plate before I became aware of their identity, and if I had not been quite sure that that worthy botanist had he lived would readily have consented to the change.

Plate CLXII. Fig. 1.2. Flower, enlarged. 3. Stamen, detached. 4. Retinacle, viewed from both sides, two pollen-masses adhering to the inner. 5. Pistil. 6. A pair of follicles. 7- One of these, detached and opened. 8. Seed. 9. A young shoot.

RHAPHISTEMMA.

COROLLA campanulata, tubo amplo, cylindrico, arquali, limbo 5-partito, patente. Corona staminea simplex, 5-phylla, foliolis carnosis, erectis, subulatis, medio ventricosis, filamentis oppositis, apice subexsertis. *Lantheræ* membranaceae, semiorbiculares, 2-loculares. Pollinis massae cereaceae, ovatae, ventricosae, basi adfixae, pendulae. Stigma pentagonum, muticum. Folliculus solitarius, oblongus, subventricosus, laevis. Semina comosa.

Classis Linneana: *Pe?itandria digynia*.

Ordo naturalis: *Asclepiadece*, Brown.

Habitus: Frutex volubilis, lappis, lactescens, foliis magnis, cordatis, floribus speciosis, albis, racemoso-corymbosis. Proximè accedit *Kanahice*, Br. quae verò differt habitu erecto, columnâ semiinclusâ, coronâ stamineâ apici tubi filamentorum insertâ demumque folliculis gracilibus.

RHAPHISTEMMA PULCHELLUM. Tab. 163.

Pergularia ? campanulata, Herb. Hamilt.

Aschpias pulchella, Roxb. Hort. Beng. p. 21.

Nomen Bengalense, *KulmL*

Habitat in Sillet Bengalae, imdè in Hortum Calcuttae Botanicum introduxit M. R. Smith; in Gualpara, F. Hamilton, M.D.; in Tavoy, Gulielm. Gomez; in Pegu prope Rangoon, 1826. Floret sub pluviis; fructificat Decembfe.

FRUTEX magnus, laevis super alios frutices arborumque trancos volubilis, ramosissimus, lactescens, omnibus partibus glaberrimus. RAMI cylindracei, exteriores longi et graciles. FOLIA magna, opposita, distantia, patentia, petiolata, ovato-cordata, acuminata, integerrima, margine obsolete repandula et subundulata, caeter&m plana, sinu basis amplo, lato, medid suprâ acervulo corpusculorum subulaturum, carnosorum, lobis rotundatis, distantibus; membranacea, 3—5-pollicaria usque ad palmaria, quin majora, laevia, laevè viridia, subfitts exstantfer 7-nervia, tenuit&r venosa, dum juniora glaucescentia. PETIOLI teretes, foliis dimidific breviores, supr& leviffcr sulcati, basi parium incrassati inque axilla (more familise) fasciculo ciliarum brevium, ramum serie transversa ambientium. FLORES magni, pollicares, candidi, demhm lutescentes, inodori, glaberrimi, longfc pedunculati, fasciculati, dispositi in *racemum* simplicem, lato-ovatum, pauciflorum, extra-axillarem, solitarium, folio parium breviorum, erectiusculum; vel rariis in *umbellam* bifidam, longfc pedunculatam. PEDUNCULUS *communis* teres, petiolo parium longior, abiens in *rachin* levissimfc intumescens, irregularity flexuosam; nunc apice bifidus; *partiales* geminati vel ternati, vel subumbellati, 2—3-pollicares, graciles, teretes, patentissimi, suffulti *bracteoid* lanceolata, acuta, brevissima. CALYX ovatus, vix lineas 3 longus, albescens, profundè 5-fidus; *laciniæ* subinaequales, ovatae, acutae, membranaceo-marginulatae, parium ciliatae, fundo corollae adpressae, basi subangustatae, ibique remotiusculae, sinibus munitis ciliis aliquot subulatis, carnosis. COROLLA campanulata, aestivatione oblongo-clavata; *tubus* cylindricus, capax, semipollicaris, calyce multò longior, extus dilutè viridescens, apice vix dilatatus; *limbus* patentissimus, tubum longitudine subaequans, divisus in *laciniæ* 5 ovato-oblongas, obtusas, levissimè inaequilateras, apicem versus recurvas vel revolutas, aestivatione imbricatas; *faux* ampla, pema; nuda. COLUMNA FRUCTIFICATIONIS magna; alba

columnaris, salvis apicibus coronae inclusa. CORONA SI-AMINEA simplex, crecta, 5-phyllu, staminibih upposita; foliola libera, distincta, subulata (undè nomen generis derivatum), teretia, basi parim contracta supra basin dorsi filamenti inserta, staminibus duplo longiora, indè levitèr ventricosa, apice teretia, vix conniventia, faucem corollae paullo superantia. FILAMENTA 5, fundo corollae inserta, distincta, magna, prismatica, basi utrinque dente brevi, 3-angulari, acuto notata, subsagittata, dorso sulcata, marginibus convexiusculis invicem contigua, intus ad latera concava, mellifera, medio carina elevata, crassiuscula, longitudinali, convexa pistillis laxè applicata. ANTHERAS 5, parvas, carnosae, membranaceo-marginatae, lateribus stigmatibus applicatae, semiorbiculatae, intus, a carina ista filamenti coritinauta in 2 divisae locula concaviuscula. POLLINIS MASSAE 10, magnae, pendulae, e viridi flavescens, ccreae, laeves, ovoideae, 6-busae, ihargine respectu partis exterioris convexae, interioris subrectae, lateribus convexis, plano-ventricosis, basi intus subarticulatis adfixae cruribus brevibus, divaricatis, clavatis *retinaculorum* 5 oblongorum, nitidorum, dorso sulco profundo exsculptorum, angulis stigmatibus sulcatis incumbentium, inter antheras conspicuorum. OVARIA cylindraceo-oblonga, laevia, latere interiore planiusculo parallela, attenuata in *stylum* brevem, teretem. STIGMA magnum, carnosum, depresso-pentagonum, vertice convexum et nudum. FOLICULUS magnus, solitarius, oblongus, coriaceus, laevis, dependens, dorso convexus, ventre planiusculus, apicem obtusam versus parum attenuatus, 6-pollis. SBMINA valde numerosa, plana, ferruginea, ovata, laevia, membranaceo-marginulata, vix semiunguicularia, umbilico acufusculo coronata comdensa, praelonga, sericea.

This fine shrub is the largest-flowered *Asclepiadea* with which I am acquainted, and I have found it peculiarly adapted to afford a clear and complete insight into the organization and economy of that difficult family, so beautifully developed by Mr. Brown. If the analysis instituted by that illustrious botanist be repeated in a flower of our plant, even long before the corolla has become visible beyond the calyx, the pollen-masses will be found quite consolidated into a distinct form within the respective cells of their anthers. Soon afterwards the processes of the retinacles extend to the masses through the upper part of the anthers, which has now burst open. The stamens are epipetalous, and quite distinct and free; their inner concave side is divided into two lateral cells containing a sweet mucous fluid, by means of a vertical broadish ridge, which rests on the pistils. In *Sarcolobus* the stamens are strictly gynandrous, the anthers being sessile and attached to the base of the stigma; and this structure exists probably also in some other genera.

I cannot reconcile this shrub with the characters of any of the genera belonging to the family, although it seems to come very near to *Kanahia*, Br., as I have already pointed out. Dr. Roxburgh, in his manuscript account of our plant, which he calls *Asclepias pulchella*, observes that Rheede's figure of *Adakodien* would be a tolerably correct representation of it if the fascicles of flowers were long-peduncled. That plant, however, has long ago been formed by Mr. Brown into a most remarkable genus, very different from ours, and called by him *Holostemma*. The individuals of *Riaphistemma pulchellum* which I found in Pegu, and which were collected in Tavoy by W. Gomez, differ in no respect from the Hindustan plant, except in having a pale purple broadish stripe running down the middle of each division of the corolla, and sometimes extending in small specks down the tube and even over the calyx.

I am acquainted with two species of *Holostemma*, namely:

1. *H Rhcedii* Spreng., foliis lato-ovatis, cordatis.—*Cynanchum cordifolium* vel *grandiflorum*? Herb. Russel. *Cynanchum annulare*, et *Asclepias convolvacea*, Herb. Hep. *A. annularis* Heyn. Herb. Wight. *Gomphocarpus f volubilis*, Herb. Hamilt. *Asclepias annularia*, Roxb. Hort. Beng. p. 20.

Habitat in Malabar, Rheede; peninsula India?, Russell, Heyne, et Wight; Coromandel, Roxburgh; Gualpara, Hamilton.

In Dr. Hamilton's valuable manuscript *Catalogue of a collection of dried specimens presented to the Honourable East India Company's Museum*, Rheede's and Roxburgh's plant is quoted with a doubt. He says that the Hindus call the shrub *Bara Dudhiya*.

2. *H. fragrans*, foliis oblongo-cordatis, summis oblongo-lanceolatis, basi cordato-subagittatis, lobis subimbricantibus.

Crescit in montosis ripae Irawaddi ad Scendya et Prome, etiam in monte Taong Dong haud procul ab oppido Avae; florens Septembri—Novembri.

This plant differs from the first species in having much narrower and proportionally longer leaves: in other respects they are much alike. It abounds in milk. The flowers are large and beautiful, delightfully fragrant, and of a thick, fleshy structure: four or five are produced from a short peduncle, inserted on one side of the axil, and supported on longish, white, dotted pedicels. Calyx very small, under the broad retuse base of the corolla, divided into five ovate, obtuse, ciliate lobes. Corolla cup-shaped, white, with purple minute spots; lobes deeply separated from each, other, ovate-oblong, obtuse, convex, and almost gibbous above, wrinkled and concave underneath. Column of fructification white, sharply five-keeled, naked, except at the very base, which is surrounded by a thick, fleshy, annular ring, which is slightly marked with five lobes, alternating with the corners of the column. Anthers ovate, obtuse, membranous, covering the five-cornered stigma. Pollen-masses very long, flat, cuneate, hanging down perpendicularly from the black, capillary, appendices of the retinacles, which are attached to the stigma in a very oblique, almost horizontal position.

Plate CLXIII. Fig. 1. Flower, two of the calycine lobes removed. 2. Column of fructification. 3. The same enlarged, all the divisions of the corona but one removed. 4. A detached stamen, with its division of the corona. 5. Pollen masses and retinacle. 6. Follicle. 7. Seed.

THUNBERGIA HAWTAYNEANA. Tab. 164.

SCANDENS, brevis, glauca; foliis ovato-cordatis, obtusiusculis, subsessilibus, amplexicaulibus, coriaceis, integerrimis • floribus axillaribus, oppositis, tubo elongato, limbo patentissimo; seminibus semiglobosis. Wall. Tentam. Napal. vol. 1. p. 49. et 58.

Thunbergia erecta et cordifolia, Herb. Madraspatanum, et *T. ccsrulea*, Herb. Wightianum in Museo Amplissimae Procurationis Britannicae Indise Orientalis asservata.

Habitat in jugo Nilgbiry dicto. In Horto Calcuttensi floret tempore frigido.

FRUTEX ramosa, volabilis. RAMI graciles, tetragoni, parum pubescentes, glauci, dichotomi, dilatato-subai-ticulati, ad divisuras et axillas folioru^ pilosuli. FOLIA opposita, brevissime petiolata, patentia, subapproximata, ovata, leviter cordata, amplexicaulia, plana, acuta, integerrima, coriacea et firma, 2—3-pollicaria, utrinque opaca et admodum glauca, praecipue subtus, ubi 5-nervia, nervis gracilibus, extimis obsolete, minutim reticulata. PETIOLI perquam breves, canaliculati; superiorum foliorum omnino desunt. FLORES axillares solitarii, oppositi, pedunculati, magni, atropurpurei, valde speciosi, inodori, foliis longiores. PEDUNCULUS gracilis, villosulus, seraipollicaris vel pollicaris. CALYX membranaceus, glaber, glaucus, reticulatus, spathaceus, compressus, subsecundus, pollicaris, e basi latiuscula attenuatus, obtusiusculus, apice bilobus, demum divisus in *sepala* 2 lanceolata, plana, pollicaria. COROLLA infundibuliformis; *tubus* leviter curvus, pallidus, extus pubescens, intus flavus, calyce tertio longior, sensim ampliatus; *limbus* patentissimus, fere aequalis, tubo plus dimidibus brevior, laciniis suborbiculatis, retusis; *faux* magna et pervia, nuda, circularis. STAMINA didynama, inclusa, glabra; *antherarum lobi* divergentes, acuti. OVARIUM parvum, ovatum, disco carnosum, viridescens insidens; *stylus* filiformis; *stigma* divaricato-bilobum, lobis latiusculis. CAPSULA pollicaris, rigida, basi subglobosa, inde attenuata in rostrum latum, acutum, utrinque sulco exaratum. SEMINA 2, hemisphaerica, glabra, fusca, hinc plana, angusta et profunda cavitate exsculpta, magnitudinis seminis pisi majoris. COTYLEDONES hypogaeae, valde inaequales; *dorsalis* nempe orbiculata, fere plana, dorso excavato *ventralis*, quadruplo majoris recepta. Caetera ut in fructu *Thunbergia*; *coccineae*, Wall. loc. citato.

This beautiful species is so widely different from all the other *Thunbergias*, as to be easily discriminated. The leaves are of a rigid and leathery texture, of an ovate-cordate form, perfectly entire, nearly sessile, stem-clasping, and very glaucous. The flowers are very large, and of the most beautiful deep purple colour. In short, the shrub is one of the most desirable and ornamental plants imaginable.

PlatpCLXIV. Fig. 1. Calyx. 2. Corolla.

PIEDERIA LANUGINOSA. Tab. 165.

VOLUBILIS, densissime cano-villosa; foliis lato-ovatis, cordatis, acutis, subtus niveo-tomentosis; paniculis nudis, sessilibus, axillaribus, terminalibusque, floribus extus albo-tomentosis.

Crescit in sylvis Pegu prope Rangoon; juxta ripam Irawaddi ad Prome, Yenangheun, alibique. Floret Augusto et Septembre.

FRUTEX magnus et extensus, late super alios trutices volubilis. RAMI oppositi, cylindrici, uti folia subtus, dense vestiti tomento copioso, mollissimo, cano. FOLIA opposita, subapproximata, patentia, ovato-cordata, integerrima, acuta, plana, 5-pollicaria, palmaria usque ad pedalia, sinu basis lato, lobis rotundis, supra cano-villosa, subtus densissime tomentosa, dum juniora Candida, nevis subalternis costaque elevatis crassisque, venis reticulatis. PETIOLUS camosus, teres, villosus, folio dimidibus vel triplo brevior, supra sulcatus. STIPULAE oppositae, triangulari-lanceolatae, acuminatae, adpressae, membranaceae, pubescentes, emarcescentes. CORYMBI axillares terminalesque, sessiles, inaequales, foliorum circiter longitudine, cano-villosi, multiaori; paniculam ad apicem ramorum formantes magnam, oblongam, laxam. PEDUNCULI cylindrici, carnosi; *parfiales* breves. FLORES magni, tubulosi, ternato-fasciculati, brevissime pedicellati, fetidissimi, viridi-purpurascens, tubo albo. BRACTEAE ad basin pedunculorum pedicellorumque parvae, lanceolatae, carnosae, mox emarcescentes. CALYX ovatus, carnosus; *lacini* ovatae, obtusae, ciliatae. COROLLA *tubus* cylindricus, latus, calyce quadruplo longior, extus albo-villosus, intus >id?que ampla, pervia atropurpurei, dense lanuginosi; *Umbus* patentissimus, tubo tertio brevior, plicato-5-lobus, supra laevis viridis, aestivatione et paullo postea purpureus; *lobi* 3-dentati, subtus medio albo-tomentosi; dentes obtusi, laterales in plicaturis abbreviati. STAMINA inclusa; *filamenta* brevissima; *anthers* lineares, erectae, longae, inaequales. OVARIUM subrotundum, glabrum. STYLUS brevis, filiformis, undulatus. STIGMATA 2 stylo staminibusque longiora, undulata, filiformia, divergentia, acuta.

This fine species is very different from all the others in its superior size, the dense white hoariness with which it is covered, and its showy panicles of large green and purple flowers. These latter, however, are very fetid <4/ v> is also the case with all the green parts when bruised.

Plate CLXV. Fig. 1. 2. Flower, enlarged. 3. Corolla, opened. 4. Calyx and pistil.

CALANCHOE TERETIFOLIA. Tab. wti.

FOLIIS triangularibus, decompositis, pedato-tripinnatisectis, petiolis dilatato-subamplectentibus; floribus paniculato-corymbosis, numerosissimis.—*Haworth MSS.*

Crescit in monte Taong Dong dicta, haud ita procul ab oppido Avæ sita, florens Novembre. An etiam in Pegu prope Rangoon? In Horto Calcuttensi floret fine anni.

HERBA, potifcs *suffrutex*, orgyalis, succulenta, stricta, laevis, *radice* fibris constante paucis, partim ramosis, succulentis. CAULIS valde foliosus, sub florescentia prima simplex, deinceps infernè parium ramosus, ut in omnibus speciebus hujus generis teres, basi satis crassus, purpurascens, et foliorum emortuorum cicatricibus annulatus. FOLIA decomposita, tripinnata, valde regularity decussata opposita, parum amplectentia, ssepius olivaceo-viridia, dodrantalia; *pinnae* utrinque tres, pinnate;; *lobi* lineares, subterefiusculi acutè suprà parum canaliculati; *pinna terminalis* longè producta, caudato-elongata, curvato-descendens, extrorsum integra, *folia superiora* con' formia sed sensim minora, desinentia in *bracteis*, inferiores tripartitas vel rectius semipinnatisectas, supremas indivisas. PETIOLUS crassus succulentus, convexus, suprà canaliculatus. PANICULA corymbosa, densa, ovata, basi longius ramosa; *bracteis extima* squamiformes' succulentae, *Crassurum* in modum flores suffultientes. FLORBS racemulosi, 8 circiter in singulo racemulo, secundi, pedicellati. SEPALA 4' lineari-lanceolata, acuta, lineas 5 longa, basi im* unita,* COROLLA hypocrateriformis, jasminea, flava; *tubus* deorsum valde dilatatus' limbi 4-fidi *lactinè* stellatim patentes, planae, lanceolate, tubo dimidi breviores. STAMINA 12, quorum 4 medio tubo inserta, brevissima 4 versus faucem majuscula, laciniis alternantia, parum exserta; 4 *sterilia*, castrata, filifonia, longiuscula, inclusa, ex imo tubo corolla' erecta, cum staminibus inferioribus sepalisque alternantia. OVARIA 4, oblonga, attenuata in *stylos* totidem breves; *stigmata* minuta' convexiuscula.—*Haworth MSS.*

I am indebted for the specific character and the description (partly derived from my own notes) of this and the next species to my worthy friend Mr. Haworth, whose indefatigable labours have thrown so much light upon the difficult and extensive family of plants to which the genus *Calanchoe* belongs. *

I found this ornamental shrub on the mountains of Taong Dong, twenty miles from Ava; but it may perhaps also be a native of Pegu, although this is doubtful. It attains almost a man's height, and is easily distinguished at first sight by its very straight and rigid habit, and by its very regularly decussate leaves, which are tripinnate, with nearly cylindric, deeply channelled segments; only in the infant plant they appear entire, flattened, and lanceolate; very soon afterwards they entirely change their form. The flowers are of a bright yellow colour, very numerous, collected into a large, terminal, rounded and dense panicle.

Plate CLXVI. Fig. 1: A detached raceme of flowers. 2. Calyx, opened. 3. Corolla, opened. 4. Stamen. .. One of the lower and largest leaves, natural size.

CALANCHOE VARIANS. Tab. 167.


Calanchoe varians, Haworth in Philos. Mag. & Ann. 1829. p. 302.

Habitat in Napalia. Etiam reperi ad ripam Irawaddi prope Yenangheun, in locis sterilibus petroleo scatentibus, florentem Septembre. Ab utraque regione in Hortum Calcutta? introducta floret Novembre—Februario.

SUFFRUTEX succulentus, valde robustus, glaucus, 3-4-pedalis. RADIX fibrosa. CAULIS cylindricus, basi digitum crassus hinc purpu-
T^mS «*TriZ* *U^mC* *r^m* *^* *T* *U^lU^m* *UnUm* *alterUm* *Ve* ****** ****** *emittens*, *FoUA* *OPP* *<* *** *to*, *patentissima*, *decussantia*, *valde* *crassa*
Z *^* *ZiX* *^* *utoTT* *g*— *T^mS* */T'* *iM/mV* *o* -- *P* *^* *o* *^* *^* *sisubretus* *^* *^* *-pollicana*; *reliqua* *3-foliolata*; *Mola* *lanceo-*
lata, attenuato^uto, 3--4. quim 6-pollicana, subsequalia, foliorum supremorum angusto-lanceolata, fere linearia, canaliculata, crenata. PETIOLUS *commm* crassus, sup.* canaliculatus, subt^s convexus, basi valde diktat* cum opposite caulem fere totum amplectens, pollicaris vel 2-pollicans; *partial**, breves. PANICULA subcorymbosa, *CrassuUe* cujusdam speciei poti&s quam *Cotyledonis* inflorescentiam aemulans, stricta, oblonga, mfernè ramis aliquot erectis, longiusculis instructa, superne fere thyrsioidea. BRACTE^ foliace*; inferiores 3-fidee, foliis supremis subsimiles; mediae subbifid*; sup<nffi simplices, lineares, acute; sub floribus minute, squam^formes. FLORES pedicellati, dispositi in verticillos densiusculos, inferiores remotos. SEPALA 4, in culta planta rarissime 5, linearia, acuta, apice leviter patula. COROLLA 4-fidee, in culta nunc 5-fidee, flavae *tubus* cylindricus, basi parcm dilatatus; *ladm** ovato-lanceolate, acutas, tubo plus dimidi breviores. STAMINA 8; summa series paull6 exsd\$a. *Stamina* 4 *sterilia* obsoleta (tarn in culta quam in spontanea). P,STILLA snbulata, usque ad inferiorem staminum seriem elevata. —*Haworth MSS.*

I have found this strong and robust species both in Nipal and in the Burmese territories, near the petroleum wells at Yenangheun, on the left bank of the Irawaddi. In the Calcutta Garden, where the plant has been introduced from both those countries, it thrives remarkably well. An account of it has been published already by Mr. Haworth, in the Philosophical Magazine and Annals, N. S. Vol. IX. from a plant brought home by myself, which blossomed in

UNCARIA PILOSA. Tab. 170.

Uncaria pilosa, Roxb. Flor. Ind. vol. 2. p. 130. 

Habitat in montibus Napaliae et Kamaon, florens mensi W Aprilis et Maii. In sylvis Chittagong, Roxb.

Having given an account of this large shrub in Roxburgh's work, I shall confine myself here to a few remarks on the structure of the fruit, which has been subsequently sent to me from Kamaon by Robert Blinkworth. *Capsules* very numerous, densely collected into a large globular head, which measures from 2 to 2½ inches in diameter; they are ovate-cfavate, *short-pedicelled, hairy and ribbed, about 5 lines long, and crowned with the narrow-linear, longish* lacinise of the calyx. *Seeds* very small, round-ovate, smooth, terminated at each end by long membranous, linear wings, the lower one of which is bifid.

Plate CLXX. Kg. 1. Peduncle and bracts, with a head of unexpanded flowers. 2. 3. Flower. 4. The same, opened.

CONVOLVULUS WIGHTII. Tab. 171.

FRUTEX volubilis, mollitè ferrugineo-pilosissimus; foliis rotundato-cordatis, acutis, trilobis, suprà sericeo-villosis, subtùs niveo-lanuginosis, nervis reticulatis, discoloribus; floribus subcapitatis, longè pedunculatis, axillaribus; foliolis calycinis bracteisque elongato-lanceolatis, pilosis.

Convolvulus hmginosus, Herb. Heynean. (baud Vahl.)

Incolit montes Nilghiry dictas, ubi detexerunt domini Wight et Noton.

FRUTEX satis magnus, volubilis, ramosus, dense obsitus pilis patentibus, ferrugineis, mollibus; omnes partes recentes ferrugineo-villosissimae. FOLIA altera, subdistantia, interstitiis saepius breviora, patentia, subrotundo-cordata, 3- vel obsolete 5-loba, summa nunc ferè integra, 3—6-pollicaria, suprà saturatè viridia, rugosula, pilis densis, sericeis, ferrugineis, decumbentibus obsita; subtùs niveo-lanuginosa, subarachnoidea, 7-nervia, reticulata, nervis nudiusculis, viridibus; *kbi* acuti, vix repando-crenulati, intermedius ovatus, maximus; *folia novella* densissime vestita, fere alba. PBTIQLUS cylindricus, longitudine circiter folii, valde pilosus. STIPULE nullae. PEDUNCULUS axillaris, solitarius, longitudine varius, petiolum saepius bis terve superans, apice gerens fasciculum subcapitatum, involucrato-bracteatum *florum* 3—7 magnorum, ex roseo purpurascens, breve pedicellatum. BBACTE longae, lineari-lanceolatae, acuminatae, pilosissimae; duse involucrifformes, patentes, pollicares infra capitulum, tresque infra singulum *calycem*, cujus *folblis* inaequalibus, villosissimis simillimae. COROLLA infiindibuliformis, sesquipollicaris, extus villosa; *Umbus* patens, ferè integerrimus, tubo longior. FILAMENTA huequalia, ciliata, basi dilatata; *anthera* lineares, albae. *Ovarium* circumdatum disco carnosum, undulatum; *stylus* filiformis; *stigma* constans lobis 2 globosis, papillois, rufescentibus. CAPSULA magnitudine pisi majoris, globosa, 2-locularis, 4-sperma. —MSS. *fTghtii*.

This elegant and curious shrub was introduced in 1826 into the Calcutta Garden, from the Nilghiry, by Dr. Wight, to whom I am indebted for the detailed description given above. The plant, both in its wild and cultivated state, is abundantly covered with soft and spreading long hairs: the leaves are large, very soft and villous, somewhat rugose above; underneath they are covered with a white and dense tomentum, except along the reticulated nerves, which are almost naked, and therefore retain their green colour; they resemble in some degree the leaves of several of the Indian *Ruk*. The flowers are large, of a purplish rose-colour, a few collected in long-peduncled, involucre, axillary heads.

Dr. Wight has lately come back to this country on a temporary visit of a few years, having brought with him an herbarium, collected by himself in various parts of the peninsula of India, amounting to between 3000 and 4000 species, and comprising nearly 100,000 beautifully preserved specimens. This stupendous herbarium he intends distributing among the principal public and private collections throughout Europe, confiding at the same time the publication of the several families to a number of distinguished botanists, in the manner adopted by the Honourable East India Company with respect to their collections. It would be altogether needless to offer the slightest comment on an act of such unparalleled generosity and disinterestedness on the part of a private individual; but I beg to be allowed to express the sincere gratification which I feel in simply announcing the intention of my highly esteemed friend and fellow-labourer, wishing him health and strength both to accomplish that object, and to publish his valuable botanical researches.

Plate CLXXI. Fig. I. Calyx. 2. The same, dissected. 3. Corolla.

ACANTHUS VOLUBILIS. Tab. 172.

FRUTICOSA, volubilis, laevis, inermis; foliis oblongo-obovatis, integerrimis.

Aquifolium indicum, fcemina, Rumph. Amb. vol. 6. p. 163. tab. 71. fig. 2. ?

Crescit in aestuariis Gangis et fluminum Martabaniae, ubi floret sub pluviis. Ad litora aestuariorum Javae et insularum Moluccarum, *Rumphius*.

FRUTEX 2-pedalis, brevis. RAMI subdichotomi, volubiles, cylindrici. FOLIA obovata, vel oblongo-obovata, obtusa, integerrima; basi attenuata, patentia, opposita, interstitiis longiora, inferiora subterna, 3—5-pollicaria, subcarnosa, supra convexa, lucida, subtus pallida, costa elevata, nervis remotis, oppositis, subtransversis, ad marginem arcuato-anastomosantibus, subavenia. PETIOLUS unguicularis, supra sulcatus. SPICA terminalis. FLORES magni, ex albo dilutissime lutescentes, numerosi, oppositi, approximate sessiles, *spicam* formantes terminalem vel axillarem oblongam, 6-pollicarem. PEDUNCULUS *communis* brevis, uti *rachis* cylindricus. CALYX 4-phyllus, inaequalis, suffultus *bracted* oblonga, ciliata, decidua; *foliola* lanceolata, acuta, concava. COROLLA pollicaris; *tubus* brevissimus, gibbosus; *laHum* magnum, recurvato-patentissimum, 3-lobum; *lobi* rotundati, parvi, intermedius lateralibus minor. STAMINA didynama; *antherce* magnae, outantes, oculis anticè cano-barbatis.

Plate CLXXII. Fig. 1. Flower. 2. Calyx, dissected. 3. Corolla.

PYRUS INDICA. Tab. 173.

UMBELLULIS sessilibus, paucifloris; foliis ovatis vel ovato-cordatis, (in juniore planta lobatis,) acutis, serrulatis, glabris; unguibus petalorum calyce brevioribus; stylis basi villosis.—*MSS. Colebr.*

Habitat in montosis Sillet Bengalee orientalis confinibus, florens Martio, fructifera sub pluviis.

ARBOR erecta, parva, cortice fusco. RAMI patentes. FOLIA sparsa, glabra, ovata, vel ovato-cordata, acuta, argute serrulata, 2—3-pollicaria, in plantis novellis lobata. PETIOLUS teres, villosus, semipollicaris. STIPULE filiformes, longitudine petiolorum. UMBELLAE axillares, simplices, sessiles, pauciflorae. PEDUNCULI villosi, petiolis longiores, *bracteis* suffulti stipulis simillimis. FLORES albi, 3 vel 4 in singula umbella. LACING perianthii 5-partiti ovatae, acuminatae, utrinque villosae. PETALA ovata, patentia, unguibus calyce brevioribus. STAMINA 30—50, corollae longitudine. OVARIUM ovatura, villosum. STYLI 5, basi villosi, caeterum glabri, clavati, omnibus distincti. POMUM rotundato-ovatum, basi leviter retusum, vertice vix depressum, glabrum, e viridi flavum, maculis aurantiacis conspersum, 2-pollicare.

For the above description, and for the drawing from which the engraving was made, I am indebted to Mr. Colebrooke, who observes, that the fruit has an austere taste, in a less degree however than the crab-apple of England, with some flavour of the quince.

Plate CLXXIII. Fig. 1. Ripe fruit. 2. 3. The same, opened. 4. Leaf of the young plant.

QUERCUS SEMICARPIFOLIA. Tab. 174.

FOLIIS obovato-oblongis, obtusis, indivisis, integerrimis, undulatis, basi retusis, subtus stellato-pubescentibus, nervis costaque valde exstantibus; frictibus axillaribus terminalibusque, solitariis vel geminatis, subsessilibus, glande ovata, umbonata, laevi, cupula imbricato-squamosa, villosa duplo longiore.

Quercus semkarpifolia, Smith in Cyclopaedia Reesiana, in loco.

Quercus Banja, Herb. Hamilt. e Napalia.

Nomina Napaliensia, *Ghisee* et *Cusroo*.

Crescit in montibus altissimis Napalise, florens mense Aprilis, fructifera Septembre. E Kamaon misit Robertus Colquhoun, Baronetus.

This noble tree has been well described by the late illustrious President of the Linnean Society from ~~sn~~ * collected by Dr. Hamilton 5 but as these had no fructification, I shall here add an account of it. The ¹ ^m TM ^S form slender, crowded, flaccid and pendulous tomentose aments, occupying the apex of the TM ^k ^{ma} ^l ^{Owers} branches, and

measuring three or four inches in length. The acorns are axillary and terminal, mostly solitary, though sometimes geminate, oval, shining, brown, smooth, about an inch long, terminated by a short columnar style, and supported by an hemispherical cup, about half its size, having a sharp and entire circular orifice, with the outer surface densely tomentose, and covered with numerous, small, lanceolate, acute, imbricate scales. All the young parts, as well as the male inflorescence, the under surface of the leaves, and the cup, are covered with a copious, stellate, loosely attached tomentum. The leaves in young trees are more or less spinous-dentate. The tree inhabits the summit of lofty mountains, constituting, together with the common Nipal *Rhododendrum*, the chief forests, and attaining a gigantic size. It measures frequently in height from eighty to a hundred feet, with a girth of the stem, at six feet above the ground, of fourteen to eighteen feet; I have met with individuals of far greater dimensions on the summit of Sheopur. The wood is much esteemed by the natives, who employ it for various purposes of building, and for making bedsteads.

Plate CLXXIV. Fig. 1. 2. Acorns. 3. Part of the underside of a leaf, showing the stellate tomentum.

ARDISIA HYMENANDRA. Tab. 175.

Ardisia hymenandra, Wall, in Roxb. Flor. Ind. vol. 2. p. 282.

Habitat in montosis Sillet contiguus, ubi detexit et in Hortum Calcuttensem introduxit De Silva. Floret Martio.

Having given a detailed account of this handsome shrub in Roxburgh's work, it is unnecessary to repeat it here. The young leaves are elegantly veined with white stripes, and they are at all periods marked with numerous minute dots, intermixed with a few large semitransparent spots.

Plate CLXXV. Fig. 1. Flower-bud. 2. 3. Flower. 4. Calyx. 5. Anthers.

TETRADENIA LANUGINOSA. Tab. 176.

FOLII oblongo-cuneatis, acuminatis, triplinerviis, subtus glaucis, floribusque lanuginosis. Nees ab Esenbeck, infra.

Habitat in sylvis vallis Napaliae, florens et fructifera Februario et Martio.

ARBOR admodum procera. RAMULI obiecti cortice cinerascete, scabro, apice ferrugineo-villosi. GEMULE elongatæ, cylindrical sericeo-villosæ/ fuscæ, *squamis* adpressis, ovatis, obtusis, ciliatis. FOLIA sparsa, nunc subverticillata, approximata, patentia, cuneato-oblonga, acuminata, integerrima, deorsum attenuata, basi acuta, submembranacea, 7—9-pollicaria, supra lucida, lasevia, subtus glauca, pilisque valde copiosis, mollissimis, ferrugineis vestita, triplinervia, nervis gracilibus elevatis, quibusdam ex intermedio alternis, obsoletè venulosa; *novella* densè lanuginosa, sericea. PETIOLI teretes, villosi, supra parùm sulcati, fere pollicares. UMBELL*: numerosse, laterales, globosse, *pedunculo* brevi, crasso suffultæ, compositæ ex *umbellulis* pluribus, 5-floris. BRACTEJE lanceolatae, concavæ, ferrugineo-villosæ, caducæ. FLORES dilutè flavicantes, odorati, villis longis obsiti. PERIANTHIUM 4-partitum; *lacnæ* lanceolatae, acutæ. FLORIS masculi stamina 5—8, perianthio longiora, inæqualia, erecta. ANTHERS carnosæ, ovatæ, quadriloculares; loculorum par superius introrsum, inferius lateraliter positum, ita ut anthea a dorso visse biloculares videantur; *valvula* lineari-lanceolatae. GLANDULE 2 capitatæ ad basin utrinque filamentorum duorum interiorum. PISTILLUM ut in femineo, sed ovarium absque ovuli rudimento. FLOS *famineus* masculo paullo minor. OVARIUM ovatum, villosum, 1-loculare, ovulo pendulo, cylindrico. STYLUS teres, lateraliter parùm deflexus; *stigma* magnum, peltatum, vertice planum. FILAMENTA nuda plura.

This is one of the finest trees in Nipal. Its leaves are large and of an elegant form, covered on the under surface with long extremely fine and soft ferruginous hairs. The wood is considered strong and durable by the inhabitants of Nipal, and as such employed for a variety of carpenters work.

It is with peculiar satisfaction that I feel myself enabled to enrich this work with the following most interesting and learned account of the family to which this tree belongs. It is from the pen of my highly esteemed friend Professor C. G. Nees von Esenbeck, of Breslau, President of the Imperial Academy Naturæ Curiosorum, to whom I take this opportunity of offering my warmest and best acknowledgments.

Plate CLXXVI. Fig. 1. 2. Male flowers. 3. The same, opened. 4. stamens, viewed from two sides. 5. Anthers, magnified. 6. A fascicle of female flowers. 7- 8. Female flower, detached. 9. The same, opened. 10. Ovary. 11. Ovary, opened.

LAURINIE INDLE ORIENTALIS.

Expomit C. G. NEES AB ESENBECK, Prof. Vratisl. Acad. Cæsar. Leopold. Carol. Nat. Cur. Pmses.

1. Ordines plantarum, certe qui non arte facti, sed a natura creati, ob summum partium concentum integri videantur et simplices necesse est, ut idem fere sit, genus esse statuas an ordinem.

2. Quæ quidem genera principalia, patribus nostris ab ipsa natura revelata, deinceps aucta formarum singularium et observationum multitudine, animo perfecte comprehendiuntur, eoque in omnes partes penetrante ut corpora viva animantur; quod ubi evenit *character* seu *nota* generis in *typum ordinis* evolvitur, scilicet summa partium, et quæ istis inhaereant propriae dispositiones ac formæ, quantum pateant, quibus limitibus sint comprehensæ, præfiniuntur.

3. Genus, ad gradum ordinis seu familiae promotum, jam intrinsecus pervestigandum, utrum formarum et partium concentus universalis in partes secedat suis quidem finibus circumscriptas, sed alioere quadam conspiratione junctas; an totus et integer omnium partium quieti nee usquam interruptus, evolutione existat.

4. Typi universalis *partes*, animo comprehensæ, *genera* sunt ordinis naturalis; neque ea vero etiam systematis artificialis genera necessario habenda esse, constat; his enim leges naturæ *instinctu*, non humani artificis *manu* scribuntur. "Generis, ad familiae gradum promoti, sectiones jam *genera* appellanda sunt."—DeCand. Théor. Elém. p. 220.

5. Ejusmodi genera "distributiones sunt familiarum sive ordinum methodical." DeCand. l. c. p. 217. Hæ autem non ad unam partem vel ad paucorum conjunctionem, sed ad universi corporis congruentiam sunt effingendæ. Omnis pars tamen, quæ congruentiam *significat*, tametsi concinnitas ipsa neque in ista sola parte, neque in ulla usquam per se spectata quaerenda sit, *characterem* vel sigillatim vel cum aliis conjuncta efficere, vel accedere characteri eumque firmare et illustrare potest. Qui partibus fructificantibus floribusque solis inhaerent characteres, cum generis non sint *fundamental* sed *signa* tantum, levioris sæpe momenti videri, necesse est.

6. Quodcunque autem genus naturale, cum intra familiae spatium et secundum ejus typum consideretur, vel absque flore et fructu, atque adeo equalibet discrepta parte, ab observatore gnaro dignoscitur.

7. Exemplo sunt: Proteaceae, Epacrideae, Goodenoviae, cetera *Browniana*; Coniferae *Richardianae*; Melastomaceae, Leguminosae *Candolleanae*; Umbelliferae *Kochiana*; Synanthereae pleraeque *Cassinianae*; Amarantaceae et Palmae *Martianct*; Gramineae *Linkiana*, alia ut taceara.

8. Quo angustiores autem formarum in familia aliqua complexarum finis et numeri, eo fallacior typi *universalis*, omne, ut ita dicam, partium studium supprimentis vel devorantis species, inattento vel inexercitato oculo apparens. Accuratius autem insipienti partium constituentium note inveniuntur, neque revera minus diversa esse genera talium ordinum, sed *videri* tantum minus diversa esse cognoscitur.

9. *Laurinarum* ordo e simplicissimis exstruitur formis, partiumque distributione simplicissima utitur. Turn ea vero, quæ propria sunt ordini, maximeque insignia, ut v. c. antherarum et staminodiorum conformatio, et intra ordinis fines parum diversa, et, ubi differunt, nee summi ponderis neque satis stabilia.

10. *Truncus* omnium, si *Cassytam* filiformem herbaceamque excipis, lignosus, e stratis concentricis. Tubus medullaris amplus vel mediocris, temporis progressu citius lentiusve exolescens. Fibrae lignæ rudes, tubis porosis amplis divisæ, pallescentes. Corticis strata vel insipida, vel adstringentia, vel odoris et saporis aromatici, Cinnamomi, Caryophyllorum, Piperis, Camphoræ, vario modo et gradu mixti vel puri, fortioris vel debilioris, dulcedine sæpe admixta et mucilagine. Sapor et odor feniculaceus *Sassafras* arbori proprius, lignum, nee corticem penetrat. Adulti corticis superficies rimis verticalibus transversalibusque dehiscit palletque; juvenilis punctis lenticularibus variis inspergitur, viret vel rufescit, glaber est vel pilis rigidulis strigulosis tomentulum construentibus vestitus. Cicatrices

foliorum delapsorum crassæ, reniformes, scutiformes, lunatae, diu persistunt, situmque foliorum produnt. Ramificatio fit circa apices et ex ipso apice, quam posteriorem innovationem appello. Basis innovationum gemmae naturam docet cicatricibus squamarum angustioribus, quæ modo confertissimæ quasi annulos efficiunt, modo in spiris regularibus disponuntur, modo paucissimæ adsunt et parum conspicuæ.

11. *Gemmatio*. Gemmae vel paucis teguntur squamis, vel pluribus. Illarum squamæ subcoriaceæ sunt et herbaceæ, quasi valvatis oppositæ, carinatae, apice magis minusve dehiscentes; quarum duæ vel quatuor plerumque majores extus solæ in conspectum veniunt, unâ alterâve minore ad basin gemmae a latere accedente. Pyramidales hæ gemmae sunt, angulatae, vel compressæ, neque terminales neque axillares magnitudine admodum præcellentes. Sub foliatis squamæ istæ nonnihil increscunt, subfoliaceæ structurae evidentis, et post paucas earum jam sequuntur perfectiora folia evidenti transitu. Ex altera parte gemma, quæ multis squamis tecta, perlata dicitur, his gaudet chartaceis vel coriaceis, pluribus spiris arete imbricatis, sub foliatione solutis niillaque præviâ evolutione cadentibus; terminales hujusce modi gemmae majores sunt, ovatae, oblongæ, lanceolatae, teretesque, nee angulatae.

Cassytæ generis gemmae continuâ fere evolutione dissolvuntur.

12. *Folia* omnium simplicia, integerrima et plurimorum etiam integra, petiolata, coriacea, chartacea, persistentia vel defluentia et mollia, glabra, vel subtus præcipue pubescentia, sericea, tomentosa, glandulis subcutaneis punctilata, in paucis majoribus aliquot glandulis poro pertusis in axillis ramorum retis principalium instructa, nitida vel opaca, subtus sæpe glauca, penninervia, vel palminervia, vel quæ utrisque intercedunt media, triplinervia, reticulo interjecto magis minusve distincto, venulis sæpe arcuatis subparallelis. Dispositio foliorum alterna, ad divergentiam, ut Alexandri Braunii verbis* utar, apud plerasque exstruitur, ita quidem, ut sextum quodque folium cum primo quoque, quod tibi elegeris, linea verticali jungatur. In multis autem singuli ramuli ejusdem evolutionis senis tantum gaudent foliis circa apices magis magisque confertioribus, quæ insequitur gemma apicem occupans. In aliis per paria propius sibi conjunguntur folia, vel etiam opposita aut verticillata proveniunt, ad verticillorum leges turn disposita.

Cassytæ folia abortiva, in squamulas exiguas abeunt.

13. *Infloréscentia* duplicis est generis: umbellulata, vel paniculata. *Umbellulata* e floribus oritur in communis pedunculi apice propriis pedicellis suis nascentibus; qui flores, cum non nisi exiguis pedicellis feruntur, velati in capitula congeruntur. Involucrum his datum est tetra- hexa- octophyllum, cujus foliola squamis gemmarum foliolarum perfectiorum sunt similia. Proveniunt istæ umbellulae e foliorum axillis, propriae gemmae basi, sæpe brevissimæ, impositæ quæ basi seu axis gemmae, cum altius ab origine assurgit, fasciculatæ vel racemosæ dicuntur umbellulae; paucis singulae sunt per axillas foliorum umbellulae, abortu reliquarum residuae. Ubi pedunculus umbellulæ contrahitur, glomerulus prodit umbellularum; squama jam immiscentur gemmae umbelluliferæ; turn denique, evanescente omni pedunculi communis vestigio, flores singulatim inter gemmæ axillaris squamas emergunt, et ipsa turn vero gemma umbellulee involucratæ sessilisque induit speciem, cui squama, steriles, modo plures modo pauciores, ad basin accedunt, seriores autem amplioresque, circa flores pro involucro mserviunt. Hæ igitur umbellulae longe differunt ab illis, quas supra descripsimus, neque squamæ bracteales plerosque xstarum flores deficient. Sunt enim iste quæ umbellulae demersis solæ; hæ autem quas supra memoravi, ramulis gemmae suffultæ

* Ueber die Stellung der Schuppen an den Tannenzapfen.—In Nov. Act. Acad. Cæs. Nat. Cur., Vol. XV. P. I. p. 249 sqq. et p. 266.

elatioresque fasciculi sunt habendi, ulterius non divisi ideoque ramulum seu pedunculum glomerulo umbellulari claudentes.

Inflorescentia *paniculata* axillaris nascitur vel e squamae gemmae axisque angulo, squamâque delapsâ, nudae ad innovationum basin turn consociantur paniculae, vel simul e foliorum superiorum persistentiumque axillis, vel solis ex istis prodit. Dividitur autem talis panicula in ramos, per paria approximatos oppositosve, qui singuli semel bisve furcatim finduntur, interjecto in singula divisione flore intermedio. Deficiente in plerisque flore primae aut secundae divisionis medio, ramuli ultimi paniculae 4 floribus gaudent, addito autem illo sex vel septem. Ubi rami paniculae magis evolvuntur, ad communis pedunculi typum ipsi accedentes parvae sunt paniculae. In debiliori inflorescentia triflori sunt ramuli, solo medio utriusque divisionis flore adhuc superstiti. Magisque autem in compendium redacta omnis inflorescentia ramulum ejusmodi exhibet apice cymuloso-bifidum, 14-12- 8- 7—3-florum. In *Cassyta* inflorescentiae axis integer, abjectis ramis, flores fert in spicas redactos.—Bracteolae parvae, squamiformes, ad basin ramificationum omnium existunt, sub explanatione inflorescentiae aufugientes.

14. *Pedicelli proprii* post anthesin magis minusve apicem versus increscunt, tument rigentque, perianthii cum tubo confluentes. Sunt, quorum pedicelli, cum fructus incremento quam maxime incrassati succulenti, colorati, recti vel incurvi, fructus specie aliena fallant. *Cassyta* flores sessiles sunt.

15. *Perianthium* e duplici verticillo sepalorum, basi majori minoreve spatio in tubum connatorum, constat; tubus perstat in omnibus, ubi vero brevissimus est, sub fructu fere evanescit; in aliis autem natura brevior, nec minimus, in discum orbicularem explanatur; in aliis cyathi indurati et incrassati forma cum pedicello incrassato confluit; in aliis, ubi longior, fructum omnino investit clauditque, et tunc quidem succulentus carnosusve sub maturitatis tempus inspissatur. Pars libera sepalorum, limbum efficiens, patens aut erecta saepe pubescens et intus praecipue sericea, ternis quinisque nervis divisa, glandulis subcutaneis pellucidis punctata, membranacea, chartacea, coriacea, in aliis persistit, non multum quoad consistentiam et magnitudinem immutata; in aliis basi, in aliis medio, vel prope a basi, in aliis infra apicem secundum suturam transversalem post peractam anthesin vel primum natam vel tunc demum apparentem, solvitur caditque: ubi pars aliqua limbi residua cum tubo remanet, haec mox rigescit et indurata in cupulam a tubo formatam abit, marginem ejus truncatum incisumque efficiens: nonnullis limbus integer durescensque cum tubo suo cupulam regularem lobatam conficit. Paucis limbus ab initio deest, staminibusque tot, quot laciniae deficiunt, vices earum suppletur. Verticilli sepalorum vel binis, vel ternis partibus constant, et divergentia vel £^* ita se excipiunt, ut secundus verticillus interstitiis primi respondeat. Ubi verticilli disepali se excipiunt, quadrifidum habes perianthium; ubi triseptali, sexfidum. Non desunt autem perianthia 8-fida et 9-fida, sed insolito haec incremento exoriuntur, neque persistunt.

16. *Stamina* e filamento glabro saepiusve hirsuto, apicem versus dilatato constant, antheram fabricae singularis valvis sursum ascendentibus dehiscentem, glanduloso-punctatam ferente, de cujus structura* conferas excursum nostrum 1, hisce adjectum. *Anthera* est *hilocellata* vel *quadriocellata*. Antherae ejusdem floris vel omnes introrsum, seu centrum versus, dehiscent, vel exteriores tantum, interioribus tribus turn extrorsum, penpheriam versus, spectantibus (quod primus observavit cl. R. Brownius).

Ordo staminum idem est, ac si verticilli binati vel ternati sepalorum verticillos eadem divergentiae lege excipiant. Respondet exterior staminum verticillus sepalis exterioribus, interior, exteriori interpositus, sepalorum interiorum opponitur verticillo. Stamina haec vel quatuor, vel sex, quae primi et secundi ordinis a me appellantur, primam staminum sectionem exhibent. Sequitur in plerisque altera sectio, simili modo disposita, sepalis staminibusque primae sectionis immotâ lege divergentiae congruens, sed cujus secundus verticillus vel e staminibus constat imperfectis (staminodiis) brevioribus, loco

antherae capitulo sol £^* sagittate, conico, cordatove rariusve clavato praeditis, vel ex toto aëest. Ubi deest, antherae primi verticilli hujus sectionis, qui *Urtius* omnium, *introrsum* spectant, ubi adest, *extrorsum* dehiscent.

Numerus igitur normalis staminum in flore tetrasepalo est 8, in hexasepalo 12; in exemplis tetrasepalis autem, quae cognita habemus, ordo staminum quartus, seu intimus, non evolvitur, quo fit, ut non nisi hexandras species tetrasepales invenias. In hexasepalis novem perfecta existunt inter duodecim stamina, stamina quarti ordinis imperfecta sunt staminodia. Deficiente omnino secundâ iliâ staminum sectione tetrandri flores et hexandri proveniunt. Deficiente exteriori sectione floris enneandri, triandrum vides florem.

Ubi loco limbi stamina nascuntur in flore hexasepalo enneandro, nuraerus staminum ad 15 augetur, et in his denique, staminodiis etiam quarti ordinis perfecte explicatis, 18, regulari progressu oriuntur stamina. Quae hunc numerum excedunt, evolutioni vagae tribuenda.

17. Adest in omni flore laurino apparatus quidam partium glandulis similium, quae in plerisque geminae staminibus tertii ordinis adjectae, capitulum parvum, compressum, vel angulosum, figurae variae, reniformis, cordato-orbiculae etc., lutei coloris, superficie glabra, exhibent, stipiteque vel magis minusve conspicuo gaudent, vel omni stipite carentes dicuntur. Quando stipite (qui semper brevis est) fulciuntur, singulo trium staminum tertii ordinis ab utroque latere proxime accedunt, tubi perianthii officio ordine suo impositae. Rarior autem haec occurrit glandularum (quas staminodia geminata appellare placuit) sedes; in plerisque par glandularum filamento staminis hujusce ordinis ad basin, vel supra basin, vel magis superiora versus ultra mediam usque eorum longitudinem inhaeret, stipite proprio turn saepe minimo vel nullo. Quas quidem glandulas cum attentius contempleris, non omnino ejusdem esse ordinis, ac dicta seriei tertiae stamina, invenies, sed aliquanto magis a centro remoti seu exterioris (quantumvis exiguo spatio) ordinis. Probantur haec eo, quod glandulae, etiamsi e latere egredi videantur filamentis, tamen tergo ejus, i. e. extrorsum, incumbant. Neque inter se quidem singuli paris glandulas ejusdem ordinis esse puto, sed diversi et alterni. Vidi etenim, ubi paullo majores sunt haec glandulae, unam totam fere a tergo incumbentem filamento, alteram magis a latere ejus positam, introrsum istud amplectentem.

Sex igitur adsunt in flore normalis glandulae geminatae, eaeque secundae staminum sectioni magis exteriora versus subalternoque situ tribuendae. In paucis accedunt nonnullae aliae glandulae secundi vel primi quoque ordinis staminibus, sed istae turn neque geminatae neque conjunctae, sed proprii sui ordinis, et intervallis illorum respondententes.

18. Nee stamina esse, neque nectaria haec corpuscula persuasum est, etsi staminodia improprie dixerim. Stamina non esse probat situs et status imperfectus, quem alium perfectiorem (i. e. stamina tertii ordinis) sequi non interrupto ordine, evolutionis legibus est contrarium. Nectaria non sunt, quoniam nectar non fundunt; turn locus etiam singularis est inter staminum series. Massa e meris cellulis textitur irregularibus, granulis refertis et membrana communi obtectis.

Quae mihi circa haec vero propius accedere videantur, exponam. Peracto duplici perianthii staminumque primae sectionis cyclo, quatuor (bis binis) verticillis complexo, nova quasi exoritur cyclorum series, a perianthio novo incipiens. Hujus autem verticilli, utpote communi ejusdem floris ambitu circumscripti et universali ejus evolutione quasi absorpti, perfici non possunt, nee nisi primis lineis adumbrati cernuntur. Quemadmodum autem in quibusdam, v. c. in *Tetranthera apetala* s. *Rovburghii*, limbi partes in stamina mutata videmus, sic istae novi limbi laciniae, staminibus diversarum sectionum interjectae, nee stamina fieri, neque sepala, sed in laminas imperfectas seu staminodia inferioris originis abire necesse est. Magis haec etiam arrident, si consideramus, novum inversumque in multis posthaec intrare staminum ordinem, cujus bini verticilli, ubi perficiuntur cum limbo illo incomplete alios quatuor verticillos quasi floris interioris exhibent, seu florem imperfecte hexandrum, vel, ubi interior ordo deest, triandrum, qualis solus ex omnibus in *Endiandra* genere Browniano relinquatur.

* Alex. Braun, I. c. p. . . .

19. Flos itaque Laurinarum e maxime regularibus est, eademque symmetrica lege constructis, disepali sint verticilli vel triseptali. Tertium* semper primo respondet verticillus, quartus autem secundo. Abortus peripheriam versus ingruit.

20. Vel *hermaphroditii* sunt flores laurini, vel *polygami*, vel *diclivii*, et istorum quidem alii feminei sexus rudimenta in masculo flore concessa sunt, aliis omnino adempta. Femineo flore staminum vestigia nunquam ex integro desunt, restant semper aliqua filamentorum indicia et staminodia geminata. Pistillum, quantum observando assequi potui, simplex, seu ex uno carpello constructum, in omnibus stylo distincto et stigmatate latusculo lobulato instructum. Regulare aequumque videtur carpellum, sed stylus in unum latus semper flexus et stigma obliquum et rhapshe interna defectum praefinitum alterius pluriumve ovariorum ejusdem verticilli produunt*. Unum in permultis, quae dissecui, inveni ovulum, nee plura; idque a vertice ovarii et parum ad latus conversum pendet, sed tropiospermio a basi adscendente alterique parieti pericarpium applicato in hunc locum attollitur, minimeque autem recta descendit caditve. Anatomicum est ovulum, at vero inaequali magis extensione partium, quam vera chala, lazaj ad alteram extremitatem migratione istorum evolutionem non nisi imitari censeo. De his conferas ex cur sum secundum.

21. *Fructus* Laurinarum monospermus est, vel Caryopsis, vel Bacca, vel Drupaf dicendus. Ubi siccoris est naturae, tubo perianthii includitur vel sicco vel carnosulo. Fructus baccatus aut tubo perianthii totove perianthio in cupulam mutato cingitur, aut eidem in discum, integrum laciniisve appendiculatum converso, insidet, aut perianthio patulo persistente, nee vero increcente, circa basin residuo fulcitur, aut denique nudo omnique fere perianthii vestigio exuto pedunculo, magis minusve incrassato inhaeret. Color carnis ruber, violaceus, niger, fuscus.

22. *Seminis* testa membranacea, chartacea, coriacea, cartilaginea, ossea, intus rhapshe ramosa notata, extus came fructus inducta; membrana interna tenuis est. Hilum transversale, marginatum, superum (quoad fructum) in parte angustiori seminis, cui exostomii vestigia, formae papillae, contigua. Perispermium nullum. Cotyledones vel formae seminis, semiovatae, vel bis reflexae, cavum seminis replentes, peltatae, i. e. collo embryonis non basi sua sed supra basin adnatae, parte petiolarum brevissima, lineam transversalem referente. Embryo basi cotyledonum obiectus; radícula supera, in plerisque plumulam bifidam, collo calloso ceu valle ab ipsa discretam, aequans, acuta; rarius plumula multo major et obtusa. Hypogaeas esse cotyledones et structura earum conjicio.

Corollaria.

23. Characterem maxime universalem LAURINARUM, omnibusque conformem et immotum exhibent: *Distributio verticillorum floris bis alternans, anthera valvata, glandule geminatae carpelli et seminis structura*. Haec sola spectanti unum declarandum est et individuum semper genus: LAURUS.

24. Florem si accuratius penetras, *anthera* in oculos cadunt aliis *innes introrsum dehiscentes*, aliis non ita, sed *tertii ordinis extrorsum*. Habes sane discrimen attentione dignum. Quod si primum eas Laurinas, quarum omnes antherae introrsum spectant, inter sese comparaveris, haec invenies: *Deesse his omnibus staminodia illa quarti ordinis, rariusve eorum loco vera stamina perfici; inflorescentiam esse vel umbellulam involucrem, vel gemmam squamam; sexum apud plerasque inter distinctas plantas vel flores distribui.*

Turn vero, ad alterum latus conversus, videbis ubicunque tertius staminum ordo retro spectat, *staminodia quarti ordinis vel distincta vel etiam stamina prima et secunda seriei una cum his deficientia, inflorescentiam paniculatam vel e dissoluta panicula cymulosam* (Spicatam in *Cassya*), nee involucrem, sed minutis caducisque bracteolis inspersam, floresque communiter hermaphroditos. Notantur igitur aut determinantur antherarum directione conformi vel opposita

* HBCC cum jam scripta essent, eel. Martius per litteras nunciavit, se in Laurinis Brasiliensis plura carpella observasse, saltem videri se talia vidisse.

t Excursus II.

simul inflorescentiarum diversae, sexus diversa distributio; quae si non spernenda videbuntur, cum floris (partium fructificationis) discrimini alterum vegetationis superioris (inflorescentiae) discrimen respondeat, cui omnium reliquarum partium concentus quidam facile discernendus adsociatur, duo jam, genera dicas an sectiones, commendabis: TETRANTHERAM et LAURUM (si velis servare nomen); illam ex antheris omnibus centro adversis, hanc ex antheris interioribus reversis dignoscendam.

25. Porro autem *antheras* invenies utriusque harum sectionum aliis esse *bilobatas*, aliis *quadrilobatas*. Et ea res quidem, cum pridem a peritis historiae plantarum viris sit ponderata, neque indigna visa, cujus causa genera distinguantur, non vili pendenda erit, sed examinanda, maximeque in animum revocandum, quanti sit antherarum hanc in familiam exstruendam vis et quam singulari via procreari ipsae inter Laurinas videantur. Quaeseras fortasse, numne majoris etiam aestimanda sit haec locellorum, quam illa, de qua sermo fuit, directionis dehiscentiae diversitas? Quod si ita esset, Laurinae omnes, quae antheris bilobatis gaudent, pluribus aliis partium tam vegetantium quam procreantium proprietatibus secum magis* quam cum reliquis, conjungi necesse esset. Verumtamen *Oassyta* illa, Cuscutam aliquam referens et *Cryptocarya*, cujus fructus tubo perianthii obtegitur, et *Laurus nobilis* Lin., flore quaternario gaudent pluribusque staminibus, et extra has aliae quoque diversissimae indolis omniumque inflorescentiae graduum species, gemmiflorae, umbelliflorae, spiciflorae, paniculatae cet., ejusdem generis forent habendae, quibus evidentissime sequitur, maximi inter characteres generum locellorum numerum non esse momenti sed inferioris. In utraque autem, quas jam statuimus, sectione primaria antheras invenimus esse aliis *bilobatas*, aliis *quadrilobatas*. Ex his quinque pridem jam exposita referuntur genera maxime naturalia, videlicet LAURUS R. Br., quae primae nostrae sectionis, et ENDTANDRA, GYROCARPUS, CASSYTA, CRYPTO-CARYA secundae. Quae quidem genera non modo ab aliis sui ordinis, sed etiam inter sese differunt maxime: tubi calycis post anthesin evolutione diversa, cui soli fructus quaedam ab universali characteris declinatio consociatur, turn vero laciniarum vel persistentium vel vario modo post anthesin discedentium indole, partium floris numero tam absoluto quam relativo, staminodiorum figura, *inflorescentia*, in *diversissimis quibusdam generibus diversissimam*, foliorum aut defectu, aut, ubi adsunt, nervatione et consistentia, gemmis denique aut valvatim aut imbricatim squamulatis.

Indicia itaque praebere antherarum locellos (binos quaternosve) generum naturae convenientium patet, sed ad alia simul esse advertendum quae si suffragentur, probanda fore genera, si contradicant, relinquenda.

26. His igitur regulis et veluti ducibus in LAURINARUM terra peregrina usus sum omnibusque sedulo ab omni parte iterumque investigatis, plantas hujus ordinis omnes, characterum, quos supra citavi, per gradus invalescentium aut declinantium diverso concentu discedere in plura genera persuasum est tam vegetatione quam fructificatione congrua et ex earundem partium, levi ea quidem primo adpectu, diversitate mox dignoscenda, tametsi habitus universalis afrpartium foliacearum per omnem ordinem simplicitatem et similitudinem minus atque in aliis plantarum familiis sub oculos cadat.

27. In hac autem sententia maxime confirmatus sum, cum viderem, *eisdem characteres, quos principali Mi, ex antherarum conversione hausto, accedentes, Laurinas omnes in duas partes apprime naturales dirimere supra demonstravimus*, in his etiam, quae utrisque subjecta sunt, *generibus* dijudicandis *primum locum tenere*, et inter suos quosque limites variatos praecipuam illis notam, tanquam sigillum imprimere, quo reliquae omnes notae, in unum collectae, continentur.

Qui characteres, suo ordine, a superioribus ad inferiora progrediendo, hi sunt:

1. Antherae bilobatae vel quadrilobatae.
2. Tubus perianthii fructum investiens aut revelans.
3. Tubi perianthii diversae peracta anthesi mutationes, et formae quibus sub fructu persistens observatur. Fructus maturi substantia ab hisce dependens.
4. Limbi, seu liberae partis sepalorum, aut integri aut certae ejusdem

partis, duratio vel ejusdem defluxus, structurâ, i. e. suturâ articulari, praefinitus.

5. Numerus quaternarius vel senarius partium floris.

6. Staminum primâ vel secundae divisionis abortus, aut completes, aut alterius tantum eorundem ordinis.

7. Staminodiorum, imprimis geminatorum, frequentia solito major et aliena eorum a typo distributio.

I. Inflorescentia, quantum intra limites sectionis cujusque superiorum variatur. Haec inter characteres, a vegetatione derivandos, primum tenet locum, et characteribus partium fructificantium 1 et 2 respondet.

II. Gemmatio, quam characteribus floralibus 3 et 4 sequalem duco.

III. Nervatio foliorum, et eorundem in ramis distributio, cum characteribus 5 et 6 partium floralium componendae.

IV. Folia persistentia vel annuis vicibus cadentia.

28. Quibus praemonitis, tentaminis loco hanc propono Laurinarum ordinis in sua genera distributionem.

* LAURINAE.

Genera Laurinarum in India orientali provenientium, additis sine numero generibus *exterarum* plagarum affinis.

I. Staminodia quarti ordinis formae diversae et cum staminibus tertiae seriei alternantia *nilla*. Antherae omnes[#] introrsum dehiscentes. Inflorescentia vel umbellata et subcapitata involucrata, vel primis temporibus gemmaceo-squamata, fasciculata aut racemosa, nusquam conspicue elongata.

A. Antherae bilocellatae. (Dioecae.)

1. *Polyadenia*: Perianthium sexpartitum, deciduum. Stamina 6—9, omnia basi biglandulosa; antherae ovatae, breves.

Laurus: Perianthium quadripartitum, deciduum. Stamina duodecim (exteriora 4 limbi laciniis alterna), omnia medio biglandulosa; antherae oblongae.

2. *Daphnidium*: Perianthium sexpartitum, basi persistens. Stamina novem, quorum tria interiora basi biglandulosa. Antherae oblongae. Bacca fundo floris irregulari explanato insidens.

3. *Benzoin*: Perianthium sexpartitum, persistens. Stamina novem, glandularum alternis ordinibus intercepta. Antherae ovatae. Bacca perianthio persistente non mutato insidens.—Arbores foliifluae.

B. Antherae quadrilocellatae; (omnes anticae.)

4. *Dodecadenia*: Hermaphrodita. Perianthium sex- vel novem-partitum. Stamina 12—19, quorum sex interiora basi biglandulosa. Bacca disco floris orbiculari explanato imposita.—Gemmae uniflorae.

5. *Iozoste*: Dioeca. Perianthium sexfidum, limbo deciduo. Staminodia floris femineae novem, sagittata.

6. *Tetradenia*: Dioeca. Perianthium quadripartitum, rarius 5—6-partitum. Stamina sex triplici serie, quorum duo vel quatuor utrinque glandula stipata. Bacca nuda, pedicello apice incrassato imposita.—Folia triplinervia.

7. *Tetranthera* Jacq.: Dioeca vel polygama. Perianthium sexfidum, rariusve limbo privatam. Stamina 9—15, quorum tria interiora utrinque glandula stipata. Bacca tubo floris explanato imposita.—Flores umbellulati vel capitati. Folia venosa.

8. *Cylicodaphne*: Dioeca. Perianthium sexfidum. Stamina duodecim, quorum sex interiora antheris subincompletis inversis basi utrinque glandula stipata. Bacca tubo floris cyathiformi integerrimo calyculata.—Inflorescentia praecedentis. Folia venosa.

9. *Actinodaphne*: Dioeca. Perianthium sexfidum. Stamina novem, quorum tria interiora basi biglandulosa. Bacca perianthii tubo cyathiformi innata, laciniarum persistentium residuis appendiculata.—Flores racemosi. Folia verticillata.

Sassafras: Dioecum. Perianthium sexpartitum. Stamina novem, quorum tribus interioribus utrinque glandula crassa, stipitata, libera adjuncta. Bacca pedicelli apici incrassato et perianthii basi residua marginato imposita.—Flores racemosi. Arbores*foliifluae.

* *Cylicodaphne* genere demto.

II. Stamina primi et secundi ordinis nulla omnino vel inglandulas mutata. Staminodia quarti ordinis *nulla*. Antherae inverse.—Inflorescentia paniculata, rariusve subracemosa. Flores hermaphroditii aut polygami.

10. *Endiandra* R. Br.: Stamina tria, libera. Antherae bilocellatae. Bacca perianthii tubo truncato immersa.

Misanteca Schlechtend. in litt: Stamina tria, monadelphia. Bacca perianthio persistente cincta.

III. Staminodia quarti ordinis tria distincta, formae a glandularum staminibus adjectarum figurâ diversae. Antherae tres interiores ubicunque adsunt, extrorsum, vel saltem (uno in genere) a latere, dehiscentes.—Inflorescentia paniculata vel cymosa, in uno genere spicata.

A. Antherae unilocellatae.

11. *Gyrocarpus* Jacq.: Polygamus. Perianthium 4-, 6-, 8-fidum. Stamina et Staminodia quatuor. Caryopsis perianthio apicè bialato inclusa.

12. *Cassyta* Linn.: Perianthium sexfidum, laciniis tribus exterioribus nanis. Nux tecta perianthii tubo incrassato caroso, laciniis persistentibus coronato.—Flores spicati. Herbae (vel, suffrutices) aphyllae, volubiles.

13. *Gryptocarya* R. Br.: Perianthium sexfidum aequale, tubo angusto, limbo deciduo. Caryopsis tubo drupaceo clauso perianthii obiecta.—Inflorescentia paniculata.

14. *Beilschmiedia*: Perianthium sexpartitum aequale, laciniis deciduis. Antherae tres interiores latere dehiscentes. Bacca suberosa perianthii basi orbiculari imposita.—Inflorescentia subracemosa.

B. Antherae quadrilocellatae.

15. *Cecidodaphne*: Perianthium subinfundibuliforme, sexfidum, limbo deciduo. Staminodia interiora capitulo subulate. (Fructus perianthii tubo inclusus?)—Inflorescentia e gemma gallaeformi thyrsoidea brevis.

16. *Machilus* Rumph.: Perianthium ad basin sexpartitum. Bacca perianthio immutato persistenti palenti vel reflexo insidens[#].—Folia penninervia, venosa.

17. *Ocotea* Aubl.: Perianthium sexfidum. Bacca perianthio persistente, cum limbo in cupulam indurate, calyculata.—Folia penninervia.

18. *Alseodaphne*: Perianthium sexfidum. Bacca tubo perianthii in disco orbicularem integrum mutato imposita.—Folia penninervia, costata.

19. *Camphora* Bauh.: Perianthium sexfidum. Bacca tubo perianthii cyathiformi, in cupulam truncatam integerrimam indurate, calyculata.—Folia triplinervia apice penninervia. Gemmae perulatae.

20. *Cimwmomum* Burm.: Perianthium sexfidum. Bacca tubo perianthii cum basi laciniarum persistente in cupulam cyathiformem truncatam sexfidam indurate calyculata.—Folia trinervia vel penninervia. Gemmae pauci squamatae, squamis foliaceis.

EXCURSUS I.

De Laurinarum antheris.

Anthera *quadrilocellata* revera e duabus constat antheris, seu e locellis quatuor, per paria conjunctivo communi connatis, quorum duo inferiores plerumque majores magisque in medio distantes a tergo paulo ultra locellos superiores ascendunt. Locelli superiores magisque antichi et contigui propria membrana gaudent, fineque clauso in locellos inferiores oblique descendunt. In plurimis sutura obliqua a tergo fines utriusque locelli indicat, ubi superior quisque inferiori ab antica parte incumbit duplicemque ibidem producit membranam; paulo magis apicem versus, desinente inferioris locelli laminâ, superioris sola et simplex membrana postica restat. Operculum, seu valvula quam dicunt, anterior locelli est paries, suturâ

* *Persea gratissima* fructus nullo perianthio insidet. Hic itaque sola (multis ea quidem aliis satis differens,) sui generis species, **cum nomen** servandum, et reliquis omnibus aliud inveniendum.

t *Ocotea* Gaertn. et Humb. et Kunth diversa genera, *Camphora* generi et *Cylicodaphni* propiora, in India orientali nullis vel paucissimis obscurioribusque pollent civibus.

circumscriptus, nec nisi ubi locelli inter se cohaerent insolubilis. Talis dehiscencia similis esse videtur valvulis siliquae, cujus duo carpella non amplius suturâ, sed in media costa solvuntur.

EXCUK- "

De ovulo et fructu Laurinarum.

Gerrnen parietibus gaudet crassis, carnosiss. Funiculus ad alterum latus ovarii ad apicem adscendens; ovulum pendulum, anatropicum, obovatum, membranâ primâ chartaceâ. Peristomium juxta hilum. Rhapshe in venas eleganter soluta, pallida, latere opposite descendit, chalazam constituens hilo non perfecte oppositam; endostomium superum.

Fructus *maturus*: *bacca!*—vel *nucula*, yel *caryopsis*, calycis eae tubo indutac. Hilum superum, margine tenui elevato cinctum, papillâ mediâ carnosâ coronatum, quam funiculus umbilicalis, a basi fructus adscendens*, depressus, latus, sulculo testae inhaerens, cruribus duobus angustis amplectitur. Exostomii papilliformis in semine perfecto nullum ostiolum. Testa chartacea, coriacea, quandoque membranacea et tenuis, pallida, extus opaca, intus nitens, in cujus pariete interiori, lateri, ubi funiculus foris adscendit, opposita, rhapshe in plures ramulos venosos soluta, lata, pallida, ad dimidium fere descendens in chalazam abt amplam circulaem, parum ultra extremitatem inferiorem latioremq; seminis excurrentem, obliquam igitur et lateralem, lutei coloris; reliquapars membranæ interioris pallet, loco endostomii, hilo subjecti, maculam magnam chalazoidem orbicularem firmans. Embryo cavi seminis figurae, cotyledonibus crassis intus planis supra basin conjunctus. Radicula et plumula plerisque aequales, conicae; haec bifida.

Partkularia quaedam.

1. In Sectione prima testa tenuior, chartacea, cum membrana interna seminis connata.

2. In ALSEODAPHNE testa est tenuior, membrana interna laete fusca, nitida.

3. In POLYADENTA rhapshe in venulas paucas soluta, chalazee vestigia obsoleta; sed umbilicus internus maculâ luteâ notatus.

4. In DODKCAJHOM*: dulo funiculus umbilicalis crassus, hilum latus, cui exostomium tumidulum proxime adjectum; rhapshe ad extremitatem oppositam (inversam) adscendens.

5. In *Tetranthera Roxburghii* funiculi umbilicalis adscendentis vestigia non observavi; ovulum et semen a vertice ipso recta pendere videbantur. Rhapshe nulla vestigia; macula chalaziformis umbilici interioris; e regione opposita papilla minuta. An ovulum hujus generis vere orthotropicum?

6. In *Tetranthera sericea* semen mucronatum. Caro baccae tenuis. Testa seminis crassa, coriacea, alba fibris transversalibus, latere pervia, qua caro nigrescens intrat et parietem internum strato tenui nigrescente (membranâ internâ) investit. Membrana interna sub apicem oblique appensa, venâ nigrâ testam permeante.

7. Anotropia ovuli LAURINARVM ejusdem naturae esse videtur ac anotropia AMENTACEARUM, quae secundum *Mirbelii* observations ex orthotropia primaria exoritur, cum vera basis interior ovuli, cui chalaza firmiter inhaeret, incremento provalente producta chalazam, ab hilo dimotam, in partes oppositas vel suboblique aversas abripit. Quae quidem similitudo, ab observatione § 5. suggesta, si forte examine, in recentiori statu instituendo, omnibus Laurinis communis esse exhibeatur, haud male conveniret Laurinarum naturae, in universum ad Amentaceas tendenti.

* Argamento hoc est gravissimo, *baccam*, nec drupam appellandum esse fructum Laurinarum, cumque differre tantum testae seu primi integumentii spissitudine vel tenuitate. Namque ubi spissior est testa, pericarpium nuculam esse arbitrati Bunt, et membranam internam pro testa venditavere; quae si haec haberent, semen adscendens vel erectum, neque pendulum, esset appellandum, embryo autem intra semen inversus. Contra ea vero ubicunque testa tenerior cum membrana interna magis cohaeret, *baccam* justo nomine fructum appellavere. Yaertnerus fil. in tertio immortalis operis paterni volumine de Persea, Borbonia cet. agens testam ubique loculamentum vel putamen, membranam internam autem seminis integumentum appellavit.

EXCURSUS III.

Affinitas.

Laurinae Berberideis proximae sunt: floris symmetriâ et numero ternario, antherarum dehiscencia, carpellorum abortu, relicto uno, plerumque baccante.

Differunt Berberideae a Laurinis: locello toto antherae a connectivo secedente, secundo staminum biseriatorum ordine deficiente, glandulis ubi adsunt, cum petalis connatis, seminibus pluribus adscendentibus, albuminosis, embryone; in modo denique toto crescendi, inflorescentiâ, acrimoniâ fructuum, cet.

De similitudine Amentacearum jam sermo fuit. Haec autem affinitas magis ad fructus et ovuli evolutionem respicit, quam ad universum partium floris concentum vel ad arborum utriusque familiae indolem generalem.

LAURINÆ INDLE ORIENTALIS.

(Adjectis affinis aliarum plagarum generibus, non numeratis).

I. POLYADENIA.

(*Tetrantherae* spp. Wall.)

Flores dioeci, involucri. Perianthium sexpartitum, laciniis aequalibus deciduis. Stamina fertilia 6—9, orania circa basin biglandulosa. Anthece breves, bilocellatae, introrsum dehiscentes valvulis totidem adscendentibus.—Flos femineus maris similis: staminibus 6—9 sterilibus, quorum 6 basi biglandulosa. Stigma peltatum parvum. Bacca perianthii basi disci foris mihi laeta suffulta.

Inflorescentia: Umbellulae pedunculatae, fasciculato-agglomeratae, vel solitariae. Involucria tetraphylla.—Folia alterna, reticulata, subtus subtomentosa. Gemmae foliiparae foliaceo-squamosae.

Differt a *Lauro* glandulis singulo stamini fertili basi additis, antheris brevibus. Habitus longe distat a *Lauri* naturali indole. A *Tetranthera* genere praecipue differt antheris bilocellatis—artificiali hoc loco fortasse notâ.

1. *Polyadenia reticulata*; foliis oblongo-cuneiformibus brevicipitatis subtus reticulatis ramulisque ferrugineo-subtomentosis, involucri agglomeratis.—*Tetranthera reticulata* Hamilt., Wall. Cat. n. 2551, A, B.

Crescit in Gualpara (Herb. Hamilt.); in Silhet (Franciscus De Silva). Floret Junio.—Arbor.

Adnot. *Laurus Nacusua* Don Fl. Nepal, p. G4. n. 1. nostrae plurimis convenire videtur, sed differt: 1°. involucri 8-phyllis, qua in nostra 4-, ad summura 5-phylla; 2°. floribus hermaphroditis, qui nostrae dioeci. An var.?

2. *Polyadenia grandis*; foliis obovatis obtusis subtus reticulatis ramulisque compressis ferrugineo-subtomentosis, involucri agglomeratis.—*Tetranthera grandis*, Wall. Cat. n. 2552.

Crescit in Penang. (Georgius Porter).—Arbor.

Adnot. Planta sane non ex omni parte rite observata, sed ea precedenti habitu naturali adeo cognata, ut de vera justaque conjunctione nullus dubitem. (Florem femineam non vidi.)

LAURUS.

Flores dioeci vel hermaphroditis, involucri. Perianthium quadripartitum, laciniis aequalibus deciduis. Stamina fertilia duodecim in phici sene, quarum exteriora laciniis perianthii alterna: omnia in medio vel supra medium biglandulosa. Anther* oblong* bilocellatae, omnes introrsum dehiscentes, valvulis duabus adscendentibus. Pistilli in masculis rudimentum nullum.—Femineus flos staminibus castratis duobus, basi dilatatis, germen cingentibus? Stigma capitatum. Bacca fundo calycis irregulari insidens.

Inflorescentia: Umbellulae axillares, pedunculatae, involucri. Folia alterna. Gemmae foliiparae valvulares, squamis herbaceis.

Exemplum unum hujus typi, *Laurus nobilis* Lib., filamentis in medio appendiculatis, appendiculis seu staminodiis reniformibus substipitatis, locellorum inferiorum molimina divulsa nexuque destituta exhibitibus, turn dispositione partium floris aliâ, tero ex elementi temis, distinguitur, turn etiam gemmis non perulatis.

II. DAPHNIDIUM.

Laurus *R.Br., Blume.* (Tetrantherae spp. *Wall. Cat*)

Flores dioeci, involucriati. Perianthiura sexpartitum, laciniis aequalibus deciduis. Stamina fertilia novem, triplici serie: tria interiora basi biglandulosa; antherae oblongae, bilocellate, omnes introrsum dehiscentes, valvulis duabus adscendentibus. Pistilli in masculis, staminum in femineis rudimenta. Bacca fundo calycis irregulariter persistenti insidens.—Inflorescentia: flores fasciculati, axillares, ante anthesin squamis gemmaceis tecti, vel umbellati involucriati. Folia alterna, neryosa vel penninervia. Squamae foliiparae perulatae.

Differt a LAURO staminodiis praeter ea, quae basi staminum trium interiorum insident, nullis, et partium floris non solum numero, sed etiam dispositione diversis.

| Foliis nervosis.

1. *Daphnidium melastomaceum*; gemmis florigeris subtrifloris bivalvibus glomeratis, foliis ovali-oblongis obtuse cuspidatis subtus glaucescentibus trinerviis, nervis supra basin confluentibus.—*Tetranthera melastomacea* *Wall. Cat. n. 2565.* *Laurus cuspidata* *Don Fl. Nep. p. 6^o.* ? *Tomex Bolo* *Hamilt. Ms.*
Crescit in montibus Silhet (Henricus Bruce).—Arbor. Planta ? non nota.

Adnot. Si praesumendum esset, cl. Blumium in *Lauro bibracteata* (Bydrag. p. 553.) verbo "[floribus] bibracteatis" gemmae, quas diximus *valvulas* subintellexisse, dubium non esset, quin nostra planta *Laurus bibracteata* hujus auctoris sit aestimanda. Sed quoniam has ipsas partes in conspectu generum *involucrum* appellavit, conjecturis uti nolebam, bracteaeque *illas* diversas ab involucro partes esse, pedicellis florum impositas, mihi persuadebam.

2. *Daphnidium caudatum*; gemmis florigeris (?) spiculiformibus, bracteis persistentibus, foliis lanceolatis acuminatissimis trinerviis subtus ramulisque novellis pubescenti-tomentosis canescentibus.—*Tetranthera caudata* *Wall. Cat. n. 2866.* "*T. melastomaceae* proxima."

In montibus Silhet inventa est (F. D.).—Frutex?

Adnot. Etiam si flores masculi non sint observati, vix tamen est dubium, quin hujus generis habenda sit arbor; adeo affinis *Daphnidio melastomaceo* ut, numne ejusdem alter sexus putandus sit, baud immerito quaeras.

3. *Daphnidium pulcherrimum*; gemmis florigeris in pedunculo brevi fasciculatis, foliis elliptico-oblongis exquisite cuspidato-caudatis subtus caesiis subquintuplinerviis.—*Tetranthera pulcherrima* *Wall. Cat. n. 2567, A.*

In Napalia legit Wallich, anno 1821.—Arbor.

Adnot. Plantae femineae ramuli magis sericeo canescunt, folia quoque ejusdem subtus frequentiori lanugine in aetatem usque vestiuntur.

tt Foliis venosis.

4. *Daphnidium bifarium*; gemmis florigeris multifloris geminis, foliis subinbellatis dense conglomeratis, foliis oblongo-lanceolatis utrinque acuminatis subtus ramulisque novellis pubescenti-canis.—*Tetranthera bifaria* *Wall. Cat. n. 2530.*

Crescit in Napalia (Wallich, 1821.) et in Kamaon (Robertas Blinkworth).—Arbor.

Adnot. *Tetranthera vestita* *Wall. in Catal. 1. c.*, notata, juveniles communis specun-ramulos exhibere videtur; nulla etenim nisi pubescentiae evidentiis nota differt.

5. *Daphnidium oxyphyllum*; umbellulis axillaribus fasciculatis fasciculis apice innovantibus, foliis oblongis acuminatis basi acutis glabris subtus pallidis.—*Tetranthera oxyphylla* *Wall. Cat. n. 2547*
Crescit in Penang (G. P.).—Arbor.

Adnot. DAPHNIDIIS adjudicando hanc speciem optimum elegisse reor in re sane non penitus ad lucem producta, cum dubitari adhuc possit, num antherae, cursu temporis perfectiores, quaternis denique locellis proditurae fuissent. Adsentiente autem modo evolutionis gemmarum florigerarum, donec rectiora doceamur, *Daphnidium* appellare, neque *Tetrantheram*, mecum statui.—Feminam non vidi.

? *Daphnidium elongatum*; umbellulis axillaribus solitariis, foliis lanceolatis subtus reticulatis ramulisque junioribus hirtis.—*T. elongata* *Wall. Cat. n. 2546.*

Crescit in Napalia. Lecta anno 1821.—Arbor. Fructus et flores cetero non noti.

III. BENZOIN.

(Lauri spp. *Lin.* Tetrantherae sp. *Wall.*)

Flores dioeci, involucriati. Flos <J: Perianthium sexpartitum, laciniis sequalibus persistentibus. Stamina fertilia novem, triplici serie; antherae ovatae, bilocellatae, valvulis totidem adscendentibus introrsum dehiscentes. Staminodia novem, triplici serie, capitulo reniformi emarginato compresso, seriei primis ac secundae staminibus alterna, tertiae staminibus adjecta obliqua.—Flores 9 masculino minor, filamentis sterilibus (12?), interjectis staminodiis spathulatis. Stigma bilobum. Pistillum parvum, gemmine stigmatum distinctis. Bacca calyci persistenti sexfido insidens.—Inflorescentia umbellata, umbellis pedunculatis. Involucrum tetraphyllum, flores primum includens, demum deciduum. Folia alterna, venosa (ad speciem saepe quintuplinervia), glabra.—Gemmae foliiparae axillares stipitatae, nudae.

1. *Benzoïn Neesianum* *WaW.*; foliis ovatis (cordatisve) longe acuminatis supra laete viridibus subtus glaucis.—*Tetranthera Neesiana* *Wall. Cat. n. 2558.*

Crescit in Napalia, inventa anno 1821 a Wallichio. Rarissima.

Arbor (fol. 5—7 poll, longis, 2—4 poll, latis). Bacca pipere majores, odore forti olei Cajuputi.

Ejusdem generis est *Laurus Benzoïn Lin. (Benzoïn odoriferum nob.)*, et probabiliter *X. diospyroides* *Michx.* et *L. cestivalis* *Lin.*, quae cunctae gemmatione, foliorum indole et autumnali defluxu maximeque inflorescentia conveniunt. Staminodia geminata in his ita sunt disposita, ut staminibus quidem tribus interioribus gemina adhaerent, alterum vero a tergo, alterum a latere magisque a fronte seu centrum versus filamentum incumbant.

IV. DODECADENIA.

(Tetrantherae sp. *Wall.*)

Flores hermaphroditae, e gemma squamata solitaria. Perianthium sex-novempartitum, laciniis subsequalibus deciduis. Stamina fertilia duodecim ad quindecim, quadruplici serie disposita, quorum sex vel novem exteriora staminodiis binis capitatis ad basin stipata. Antherae oblongae quadrilocellate, omnes introrsum versae valvulisque binis adscendentibus dehiscentes. Stigma infundibuliforme dentatum. Bacca disco floris orbiculari piano imposita.—Inflorescentia gemmiformis, squamis imbricata. Flores pro genere speciosi. Folia penninervia, venosa.

Differt a TETRANTHERA: involucris unifloris, staminum et staminodiorum (in flore metamorphosi non dissolute, sed inter omnes affines praesentissimo,) numero, stigmatumque. Antherarum locellorum par superius introrsum, inferius a latere dehiscent.

Dodecadenia grandiflora.—*Tetranthera grandiflora* *Wall. Cat. n. 2544.*

Habitat in Napalia (Wallich a. 1821.); in Kamaon R. B. Floret Aprili.—Arbor gemmis florigeris solitariis geminisve, foliis oblongis acuminatis glabris.

V. IOZOSTE*.

(Tetrantherae sp. *Wall.*)

Flores dioeci, squamis gemmae involucriati, sessiles. Perianthium sexfidum, laciniis aequalibus deciduis. Mas... Feminis staminodia novem, sagittata, triplici serie, quorum sex exteriora stipitata subdimidiata, tria interiora majora subsessilia. Stigma dilatatum, lobatum.—Inflorescentia axillaribus, sessilibus, gemmiformis, aggregata. Folia persistentia, penninervia.

Genus haud rite cognitum, sed staminum sterilius in flore femineo forma et structura satis evidens.

iozoste rotundifolia.—*Tetranthera rotundifolia* *Wall. Cat. n. 2591.*

Habitat in China. Vidi exemplum ex Horto Calcuttano.—Frutex foliis ovato-subrotundis subtus glaucis.

Adnot. 1. Species nulli cognitarum arctiori vinculo conjuncta.

Adnot. 2. *Litsaeam chinense* *Blume, Bydr. p. 565.* eandem puto plantam, foliis paulo longioribus (obovato-oblongis) ludentem.

* i. e. sagittis cincta, ab *lo*

VI. TETKADENIA.

(*Tetranthera* spp. Wall. Litsae® sp. Nees ab Esenb., Blum.)

Flores dioeci. Perianthium quadri-, quinque-, vel sexpartitum laciniis subaequalibus, totis deciduis. <?: Stamina sex, quorum quatuor vel duo interiora utrinque staminodio stipata. Antherae quadrilocellatae, valvulis totidem ascendentibus introrsum dehiscentes.—? : Filamenta sterilia quatuor vel sex, apice subincrassata, laciniis perianthii opposita. Staminodia quatuor glanduliformia, sessilia, submucronata, vel germen cingentia per paria approximata, vel, ubi sex filamenta sterilia adsunt, duobus interioribus associata. Stigma discoideum, laceram. Bacca nuda, pedicello apice incrassato imposita.—Inflorescentia axillaris, fasciculata; gemmae florales sessiles, geminae vel aggregatae, tectae squamis dense imbricatis deciduis, quarum summae involucales plerumque majores. Folia persistentia, nrvata, rariusve costata. Gemmae foliiparae multifariam perulatae.

1. *Tetradenia foliosa*; foliis elliptico oblongis, cuspidate productâ obtusâ, triplinerviis subtus glaucescentibus ramulisque glabris, gemmis florigeris solitariis geminisve.—*Tetranthera foliosa* Wall. Cat. n. 2563.

Crescit in Silhet. F. D.—Arbor, (similis *Tetradenia-umbrosa*).

Adnot. Memorabilis obviam est monstrositas, cujus flores, in gemmas mutati, thyrsum densum obovatum 2—3-pollicarem supradecompositum exhibent, ram is ramulisque gemmulis onustis exiguis, e squamarum patentium solito angustiorum axillis nascentibus. Sub squamulis gemmularum extremarum florum vestigia, licet fere inconspicua, observavi.

2. *Tetradenia umbrosa*; foliis ellipticis cuspidate productâ obtusâ rariusve acutâ triplinerviis subtus concoloribus pallidioribus, ramulis tomentosis.

«. foliis latioribus acumine magis obtuso.—*Tetranthera umbrosa* Wall. Cat. n. 2564. ? .

?3. foliis angustioribus, acumine longiori acutiori.—*Tetranthera pulcherrima* l. c. n. 2567. ex parte. ? . *Lauri* species Hb. Wight. ? .

Crescit var. a in montibus Silhet (F. D.); var. jScum exemplo *Tetradenia zeylanica* in eadem scheda Herbarii Wightiani reperi, in DindyggtValt. ped. 2000, lectam.—Arbor.

Adnot. Var. *f*, quae fortasse distinct© speciei, differt foliis angustioribus, 2|—4 pollices longis, |—1 | poll, latis apicem versus lentius acuminatis ipsoque apice acutis (sed etiam obtusis). Baccae immature pisi magnitudine, disco cupuliformi impositae, in gemmae basi subumbellatae, pedicellis crassis. Reliqua ut in var. a.

3. *Tetradenia furfuracea*; foliis ovato-ellipticis cuspidatis triplinerviis subtus caesio-pruinosis glabris, ramulis novellis subpubescentibus, gemmis florigeris aggregatis globosis.—*Tetranthera furfuracea* Wall. Cat. n. 2568, A, B.

Habitat in Singapur et Penang. Lecta anno 1822 a Wallichio.

Arbor p̄scedentium habitu, sed foliis inferne pruinâ detergibili caesiâ tectis gemmisque floralibus pluribus in singula axilla conglomeratis primo intuitu distinguenda. Quoad foliorum formam accedit *Tetradeniis umbrosa* et *foliosa*, sed differt ab his, jam ubi floribus caret, colore paginae istorum inferioris; a *Tetradeniis zeylanica* et *consimili* foliis latioribus diverso modo cuspidatis, gemmarumque florigerarum indole facili negotio distinguitur.—Planta feminea latet, nisi forte ea habenda sit, cujus exempla, in Penang lecta, adsunt, gemmis (an florigeris) parvis, distincte stipitatis, ad speciem solitariis basi que nudis, nec totis squamatis, praedita.

4. *Tetradenia zeylanica*; foliis oblongis utrinque attenuatis acumine obtuso, triplinerviis subtus glaucis, costis petiolis ramulisque novellis tenuissime flavescenti-sericeis, gemmis florigeris globosis basi contractis.—*Lisaca zeylanica* C. G. Nees ab E. et Fr. Nees ab E. Amcen. Bot. Bonn. Fasc. I. p. 58. tab. 5. Blume Bydr. p. 559. *Tetranthera pulcherrima*? *Lauri* spec. Hb. Wight. et Dindygul. Wall. Cat. n. 2567, C, ex parte, *Datvul Kurundu* Act. Acad. Nat. Cur. Vol. I. App. p. 4. tab. 2. fig. G. Am. Bot. Bonn. l. c. t. 6. f. 7.; et *Catte Coronde* l. c. f. 6. Marsh, in Ann. of Philos. 1817, Octobr. p. 243. tab. 71. f. 1. *Laurus zeylanica* flosculis verticillatis folio trinervio, Herm. Mus. Zrul p. 26.

Habitat in Zeylonia insula (Herm., Herb. Royen., Marshall). In Dindygul, altit. ped. 2000. (Hb. Wight)—(Planta feminea latet.)

Differt a *Tetradenia umbrosa* et *foliosa* foliis angustioribus, longioribus subtus laete glaucis; a *Tetr. furfuracea* et *consimili* ramulis sericantibus, ab hac praeterea gemmis florigeris basi abrupte-paucisquamatis, ab illa iisdem gemmis ad summum getainis, nec pluribus conglomeratis, majoribus, foliisque angustioribus.

5. *Tetradenia consimilis*; foliis oblongis acuminatis triplinerviis subtus caesio-albis glabris, petiolis ramulisque novellis scabrusculis, gemmis florigeris geminis ovatis subaequaliter imbricatis.—*Tetranthera pulcherrima*? Wall. Cat. n. 2567, B. *Laurus involucrata* Roxb. PL. Corom. II. p. 46. tab. 187?

Crescit in Kamaon. R. B.—In montium vertice (Roxb.)? Floret tempore frigido; maturat fructum Aprili (Roxb.)—Arbor habitus p̄cedd.—Femina latet.

Observ. *Tetranthera patens* Don. Fl. Nep. p. 66. n. 3. hujus speciei femina esse videtur.

Adnot. 1. Species haec ab affinis colore caesio paginae inferioris distinctu facilis. Propius accedit *Tetradenia furfuracea*; haec autem differt foliis brevioribus latioribusque, gemmisque florigeris pluribus aggregatis.

Adnot. 2. *Laurus involucrata* Roxb. l. c. vix dubium est, quin hujus sit loci. Deest inter exempla mihi tradita nomen hujus arboris, nescio quo casu. fteec praecipua fuit causa, ut dubitationis signum adderem. Florum gemmae solitariae et quinqueflorae dicuntur et pinguntur, quae geminatae et 8—10-florae in nostra; sed liceat suspicionem erroris vel negligentiae cujusdam nutrire, propterea quod ramus idem in icone ex altera parte masculinos flores, ex altera fructus immaturos exhibeat, naturâ et verbis auctoris contrarius. Vereor itaque, ne pictor flores masculinos femineo ramulo ex arbitrio suo adjecerit, in exemplo ramuli masculini Roxburghiano vel deficientes vel delapsos; iconem ideo Roxburghianam femineae plantae esse et eo usque fidam, masculinae suspectam, censeo, donec alia edocear. Camphoram olere totam plantam addit Roxburghius, imprimis radicem atque baccas, ad aspectu etiam *Lauro Camfora* Lin. similem esse, 24—30 pedum altitudinem attingere. Baccas maturas non vidit.

6. *Tetradenia lanuginosa*; foliis oblongo-cuneatis acuminatis triplinerviis subtus glaucis floribusque lanuginosis.—*Tetranthera lanuginosa* Wall. Cat. n. 2561.

Crescit in Napalia. (Wallich. a. 1821.)—Arbor (pulchra).

7? *Tetradenia obovata*; foliis oblongis apicem versus paulo latioribus ellipticis acutis crasse penninerviis subtus glaucis costis ramulisque pulverulento-tojmentosis, floribus pubescentibus.—*Tetranthera obovata* Hamilt. Wall. Cat. n. 2562, A, B. *Tetranthera Cuipala* Don Fl. Nep. p. 65.? *Laurus obovata*, Hb. Hamilt.

Habitat in Silhet. (F. D. et Hb. Hamilt.)—Arbor. Flos j latet.

Variat: 1, perianthiis sexfidis hexandris, et octofidis dodecandris staminodiis 8; 2, foliis latioribus magis ellipticis utrinque acutis, ramulis glabris.

VII. TETRANTHERA.

Flores dioeci, nonnullis hermaphroditi, involucriati. Perianthium sexpartitum, laciniis subaequalibus deciduis, vel nullis omnino vel 3 - 4 - 5 tantum iisque parvis petaloideis. Stamina fertilia in flore sexfido novem, triplici serie, rarissime sex, duplice serie, in flore petaloideo vel nudo 12-15, rarius (in femina) 21. Anther* ovaf* quadnlocellatae, omnium staminum introrsum valvulis totidem ascendentibus dehiscentes. Staminodia sex, per paria staminibus tribus interioribus adjuncta, sessilia vel stipitata, glandul&mia, Stigma petatum. Bacca tubo floris explanato, interdum laciniarum residuis p̄sedito, imposita.—Inflorescentia axillaris, aggregata, nuda, vel e squamis gemma progrediens. Involucri decidua. Folia varia glaucis subopposita vel verticillata, plerisque altera, aliis defluentia, foliis e Periventia PenninerVia, Gemmis folii parva anis paucis

Genus, metamorphosi perianthii, in stamina progredientis, memorabile, nec dividendum, ctm a a paleat, et speciem omnes,

quas plurimas contraet, optime conveniaut. Conferas, qua, circa hac sub generis sectione B (I.) animadversa sunt.

A Foliis suboppositis vel subverticillatis. Floribus herroaphroditis.

1 *Tetranthera landfolia* Roxb.; perianthiis sexBdis, umbellulis axillariibus fasciculato-conglomeratis brevissime pedunculatis, foliis suboppositis ellipticis cuspidatis subtus incanis, nemis ramulisque ferrugineo-tomentosis, filamentis ^{^^}.—*Tetranthera lanafolm* Roxb! Wall. Cat. n. 2532.

Crescit in Silet (F.D.).—Arbor.

Species inter *Tetrantheras* continent tern* «ta fohorm di t, n, tissima, inter *Javanicas Tetrantheras* (*Litsaea ferruginea* Bluing prox[^] tamen.esnostraquidem sententia, diverse.

Adno 1. Quoad folia et integumentum ramulorum imprimis convenit[^] m *Zcoriacea*, h*c vero, prater folia nunquam per panam[^] p l[^] a t a vel opposita, umbellulis quoque differt omnino sessibus[^] Tffloribus paulo majoribus extus totis sericeis subauratis, «oi» T. izifoliam tani strigoso-hirti, in ambitu limb, autem glabris reeruntur, turn maxime filamentis glabris.

IZ 2. *Tetranthera (ErUsaea) ferruginea* Blume, quam *Tetrantheram Blumii* appellamus ob priorem «ferruginea» nominis [^] wianam speciem, differt: foliis multo majoribus, 8-9 pollicibus longis 2ipoll. latis (itaque angustioribus), oblongis, acutis vel obtusis nec acuminatis, basi fere cuneiformibus, subtus densius pubescenti-tomentosis, umbellulis 5-floris. Hanc ita deseno :

Tetranthera Blumii; perianthiis sexfidis, umbellulis axillariibus fasciculato-conglomeratis brevissime pedunculatis, foliis suboppositis oblongis acutis basi acuminatis subtus pubescenti-tomentosis, canis, ne vtramulisque ferrugineo-tomentosis, filamentis ^{rJUU-J*} nervis ra[^] [^] *Cryptocarya ferruginea* Blume Hort. [^] *eruginea* Blume Bydr. p.

^ S n ^ n t a n i s Jav* v. c. in Salak m. Floret Novembri et Decent; maturat fructum Januario. *Hum Tankaiak* ncohs. Vidi ramum fructigerum. Bacc* agglomerate, magnitudine nucis moschate, globose cupul* late extus rugoso-exasperate lobato-crenatae insidentes.

2. *Tetranthera angustifolia*; perianthiis sexfidis, umbellulis in parte annotina ramuli fasciculatis nudis, foliis subverticillatis, oblongo-lanceolatis cuspidato-acuminatis subtus glaucis glabrescentibus, ramulis petiolisque fulvo-tomentosis.—Z^{^^} *angustifolia* Blume Bydr. p. 566. *Tetranthera caduca* Hb. Hamilt. Wall. Cat. n. 2559, A, C. S. *Laurus Gullavara* Hb. Hamilt. e Goaipara. Wall. Cat. n. 2559, B. ?

Crescit ad Goalpara (Hamilton); in Silet (H. B.); in sylvis Salak m., Jave insult (Blume). Floret Julio.—Arbor,

Adnot. 1. *Litsaea glomerata* Blum. Bydr. p. 566, cujus equidem femineum exemplum vidi, nostrae simillima, differt praesertim foliis amplioribus, 8—9 pollices longis, ultra medium 3 poll. latis, obovato-cuneiformibus, cuspidate multo breviori obtusaque instructis, subtus distincte albido-tomentosis, in costis autem ramulisque ferrugineo-tomentosis floribus magis albicanti-tomentosis. An varietas nostrae? Etiam *Litsaea macrophylla* Blumii fortasse cum hac nostra in unam speciem consociari potest; de planta autem, a me non visa, judicare nefas duco.

Adnot 2. Planta feminea, quam supra citavimus, differre videtur a mascula: ramis laxioribus magis tomentosis, foliisque tenuioribus magis lanuginosis, turn floribus minoribus.

B. Foliis alternis. Floribus dioecis. (*Genuine*.)

a. Foliis sempervirentibus.

(I) Flores apetalii vel subapetalii, scilicet limbo vel toto in stamina converso, vel, ubi lacinae evolvuntur, his angustis teneris basi angustioribus numero inconstante.—Inflorescentia: umbellulae vel solitariae vel subumbellatae.—SEBIFERA Lour. BEKHYA Klein.

Adnot. Ab omnibus hujus (*Tetranthera*;) generis sectionibus, quae cunctis Laurinis, differunt h[^] species limbi perianthii defectu, seu notius evidentissimo laciniarum ejus transitu in stamina, qu[^], ubi furcus petaloidea inveniuntur, ternario inconstante numero adsunt,

Vou II.

distantia, minora et tenuiora, basi angustiora, apice saepe denticulata*.)

a. Umbellulae solitariae.

3. *Tetranthera tomentosa* Roxb.; floribus apetalis, umbellulis axillariibus solitariis pedunculatis, foliis elliptico-oblongis utrinque acutiusculis subtus petiolis ramulisque cano-tomentosis.—*Tetranthera tomentosa* Roxb. Wall. Cat. n. 2550, A, B, C, D. *Litsaea tomentosa* Hb. Heyn. *Tjaponica* ? Hb. Wight.

Crescit in Sirmore (Kamrup).—Arbor.

Adnot. A *Tetranthera ligustrina* limbi perianthii defectu, foliisque acutis, diversa.

4. *Tetranthera ligustrina*; floribus subapetalis, umbellulis axillariibus solitariis pedunculatis, foliis lanceolatis obtusis venoso-reticulatis glabris lucidis.—*Tetranthera laurifolia* Wall. Cat. n. 2555, C et E. *Litsaea chinensis* Hb. Heyn. *Tomicis* sp. Hb. Wight.—*Tomex Sebifera* Willd. Sp. Pl. II. 2. p. 840, in descriptione, partim, praesertim quod ad folia oblongo-lanceolata obtusa cet. attinet.

Vidi exempla ex herbariis Heyneano et Wightiano, patria non indicata.—Arbor. Fructificatio feminea late.

Adnot. Species haec a confinibus foliorum forma[^] et umbellulis solitariis lateralibus facile distinguenda.

[3. Umbellulae subumbellatae.

5. *Tetranthera Roxburghii*; apetalae, staminibus quindecim antijrigeris, foliis ovato-oblongis basi acutis glabris, umbellulis subumbellatis.—*Litsaea sebifera* Pers. Syn. II. p. 4. n. 8. *Tomex Sebifera* Willd. Sp. Pl. II. 2. p. 840. n. 3. *Laurus involucrata* Retz. Obs. 6. p. 27. *Tetranthera apetalae* Gaertn. de Fruct. III. p. 225. t. 222. f. 2.

Variat.: a. foliis ovatis apice angustioribus, umbellulis longe pedunculatis.—*Tetranthera apetalae* Roxb. Pl. Coromand. II. p. 26. t. 147. *T. apetalae* Hb. Roxb. Wall. Cat. n. 2554, A (ex parte 2), C (ex parte <J), D, E, G (cJ). *Litsaea apetalae* Pers. Syn. II. p. 4. *T. citrifolia* Juss., Spreng. Syst. Veg. II. p. 266. n. 3. *T. Panshia* et *T. Daradmeda* Hb. Hamilt. Wall. 1. c.

[3. foliis oblongis obovato-oblongis basi cuneiformibus obtusis obtusissimisque, umbellulis longius pedunculatis.—*Tetranthera apetalae* Wall. Cat. n. 2554, A (ex parte <J), H (<J), I (<J) ex parte. *Tetranthera sebifera* Herb. Heyn. (ex parte).

y. umbellulis brevi-pedunculatis, in pedunculo communi subcapitatis, floribus minoribus, foliis obtusis acutis.—*Tetranthera apetalae* Wall. Cat. 1. c. B, C (ex parte 9), F (ex parte). *T. capitata* Hb. Roxb. Wall. Cat. C. *T. sebifera* Hb. Heyn. *T. Hirana* Hb. Hamilt. e Gongachara (quoad folium). *Laurus involucrata* Hb. Madr. Wall. 1. c. B.

Variat deinde ramulis junioribus petiolisque modo hirsutis (hujus loci *Tetranthera Panshia* Hb. Hamilt. 6), modo glabriusculis, pedunculis umbellularum masculinarum nunc pedunculo communi longioribus, nunc (rarius tamen in a et /3, semper in y) brevioribus.

o Arbor mediocris (polymorpha) in montibus provinciarum *Circars*

* Genus SEBIFERA, a Loureiro optime expositum est, dum supponas, involucrum ab eodem pro perianthio acceptum esse, quo sequitur, pedicellos 8—10* filamentis nudis nec perianthio vero cinctis coronatos, tot " filamentorum adelphicorum fasciculos" fuisse declarandos; florem (sic dictum) femineum autem, "decagynum", neglectis scilicet filamentis in ambitu pistilli sterilibus. Quod si genus hoc servandum esse censeas, his notis, repugnante tamen affinitate ac dispositione partium, circumscribi posset:

SEBIFERA Lour. BERRYIA Klein. Flores dioeci, involucratii. Perianthii limbus in stamina conversus, quorum tria exteriora quandoque stentia petaloidea. Mas: Stamina antherigera quindecim, quimplici sene, quorum tria interiora basi staminodiis binis capitatis stipata. Anthers ovatae, quadrilobae, vaivulis totidem sursum reflexis dehiscentes. Femina: Filamenta sterilia, apice lanceolata mucronata glandulosa, 15, quintuplie, vel rarius 21, septuplici serie, quorum tria exteriora petaliformia. Staminodia ut in mare. Stylus elongatus. Stigma oblique dilatatum, dentatum. Bacca monosperma, fundo calycis persistenti truncato integro demum disciformi insidens; nucleus chartaceus.—Inflorescentia: Umbellae involucratae, in pedunculo communi corymbosae, axillares. Folia alvina, persistentia, penninervia.

Notandum tamen, SEINER* genus Loureirii, seu TOMICEM Willdenowii, genuinum continere typum TETRANTHERA Jacquinii.

diclamm jW mrgli). Floret Juno. Vuli excmplum varietatis a in lib. Hoxb. (3); in lib. Wightiano; e Goalparà, et e montibus provinciae Mono-Mr in Herb. Hamilt. (3); e Chittagong a Hear. Bruce lecta (?): varietatis (3 in Hb. Roxb. (3); e Sillet 3 et 9 (F. D.); in Hb. Heyneano; varietatis y in Hb. Wightiano (9), ia Herb. Madrasp. (9), et e Gongachara.—Floret Junio.

Nomen in lingua Telingna, *Narra Alaghij*.

Adnot. 1. Varietates a et (3 nullis omnino finibus tenentur. In hac umbellulae (etiam masculinae) saepius a breviori pedunculo feruntur; in var. y umbellulae semper sunt brevi-pedunculatae, atque in femina stamina exteriora pleraque subul&ita absque laminae vestigio; occurrunt vero promiscua alia cum laminae rudimento, nee deSunt inter hsec, quae communi formae omnino respondeant. Folia acuta in solis varietatibus a et y observavi.

Adnot. 2. De synonyma *Schifera glutinosa* Lour, vix dubia remanent. Quomodo enim, si *Tetrantheram monopctalam* Roxb. ante oculos habuisset, perianthium non vidisset, involucrum tetraphyllum 8—10-florum disertis verbis indicavisset? Willdenowii descriptio, l. c. exhibit, omnem nodum solvit. Descriptio partium fructificationis, e Kleinii litteris excerpta, quam eodem loco legimus, plantae femineae est eique apprime accommodata.—*Tetrantheram glutinosam* Blumii hujus loci non esse ex oo conjicio, quod florum structuram alienam ne verbo quidem attigerit auctor, hac in re accuratissimus.

Adnot. 3. *Tetranthera Hlirana* Hb. Hamilt., e Nuni allata (Wall. Cat. n. 2554, F.) ex altera parte non est hujus loci. Adsunt sola folia, -7 pollices longa, 3 poll, lata, elliptica, utriusque obtusa, subtus* pubescenti-tomentosa, pallide ferruginea, quae *Tetranthera macrophylla* Hb. Hamilt., n. 2549, adscribenda sunt.

Adnot. 4. Glandulas 6—16 memorat. Roxburghius. Equidem in multis, quos dissecui, floribus non ultra 8, quaternis paribus, offendi. Lubenter autem crederem, ubi 2J stamina sunt, quinos ordines, his geminatis praeditos, 15 numero monstrare glandulas. In flore staminibus 15 instructo staminodia semper sen a., in flore 16 staminibus gaudente octona inveni.

6. *Tetranthera laurifolia* Jacq.; laciniis perianthii 3—6 parvis petaloideis, foliis oblongo-cuneiformibus obtusis glaucescentibus, umbellulis subumbellatis.—*Tetranthera laurifolia* Jacq. Hort. Schesnbr. L. p. 59. 1. 113. Spreng. Syst. Veg. II. p. 266. n. 1. (excl. synonym. *Schifera glutinosa* Lour.). Wall. Cat. n. 2555, A. *T. apetal* Wall Cat. n. 2554. 1. (ex parte). *T. sebifera* Hb. Heyn. (ex parte). *Tomex Tetranthera* Willd. Sp. Pl. II. 2. p. 839. n. 2. *Litsaea Tetranthera* Pers. Syn. II. p. 4. n. 2. *Litsaea obtusa* Blume Bydr. p. 564?

Habitat in China (Jacquin). Vidi exemplum ex Horto bot. Calcutt. et ex Hb. Heyn: Arbor specie praecedentis, praecipue varietatis |3, sed satis sibi constans. Florem femineum non vidi. Baccam magnitudine pisi majoris saturate rubram (fortasse immaturam?) exhibet Jacquinus 1. c.

Adnot. Icon Jacquini plantam juniorem pingit, foliis, ut in caldariis nostris fieri solet, paullo majoribus mollioribusque praeditam, sed revera exemplis horti Calcuttensis mirifice consentaneam.

(II.) Perianthium distincte sexfidum, laciniis (in flore masculo saltern) basi non angustioribus, firmioribusque.

a Umbellulae fasciculate, ob pedunculos nullos vel breves subglomeratae. (*Glomeratae*.)

7. *Tetranthera coriacea* Heyn. Hb.; perianthio sexfido/umbellulis axillaribus sessilibus conglomeratis, foliis alternis ellipticis brevU. cuspidatis subtus ramulisque subtilissime tomentosis incanis, filamentis glabris.—*Tetranthera coriacea* Herb. Heyn., Wall. Cat. n. 2556. *T. myristicifolia* Wall. Cat. n. 2548, ex parte? (e Penang, G. P.)

Crescit.... Vidi exempla arboris masculae, ea autem non bene servata, ex Herb. Heyneano.

Adnot. Species haec, ob defectum alterius sexus incertioris sedis, ad DODECADENIAM et CYLICODAPHNEN accedit, sed habitu et ii^ florescentia umbellulata (tametsi sessiles sint umbellulae) genuiis TETRANTHERIS ante omnes confinis esse videbatur.

8. *Tetranthera monopetala* Roxb.; perianthio sexfido, umbellulis axillaribus fasciculatis, foliis alternis ovato-ellipticis obtuse cuspidatis subtus ramulisque incano-tomentosis.—*Tetranthera monopetala*

Roxb. Pl. Corom. II. p. 26. 1. 148. Roxb. Herb. *T. macrophylla* Wall. Cat. n. 2549, A—G. *T. laurifolia* Wall. Cat. n. 2555, B. *T. reticulata fruticosa* Herb. Hamilt. *T. Hlirana* Hb. Hamilt. ex parte.

Variat.: a. Umbellulis ob pedunculos abbreviatis in gemmae basi snbaggeratis. Hujus loci exempla sunt *Catalogi Wallichiani* n. 2549, D, in regno Oude lecta.

(3. Umbellulis paucioribus in fasciculo, saepe etiam minoribus. Hujus loci exempla Herbarii Roxburghiani, et ea, quae in Herbario Hamiltoniano nomine *Tetranthera reticulata fruticosa* exstant, Wall. Cat. n. 2555, B, et 2549, G, § et ?, atque ea quae in Penang lecta sunt, Wall. Cat. 2549, F, 3, et quae in Napalia legit Wallichius, 1. c. E, 3.

y. Umbellulis pluribus in fasciculo majoribusque. Wall. Cat. n. 2549, C, e Chittagong 3. His maxime respondet figura Roxburghii, supra citata.

5. Gemmis quasi proliferis, hinc umbellulis in pedunculo communi pollicari altioris veluti paniculato-glomeratis, in pluribus fasciculis dispositis, aliis ad basin communis pedunculi glomerato-fasciculatis.

Arbor mediocris vallium concavitates amans, tempore calido florens (Roxb.). Vidi exemplum Herbarii Roxburghiani, Roxburghii propria manu inscriptum; turn alia multa, sub *T. macrophylla* nomine missa, e Sillet (F. D. et Hort. b. Calcutt), e Chittagong j(H. B.), ex Oude (Wallich 1825.), e Napalia (idem, 1821.), e Penang (idem, 1822.), e Habora et Budlegunj (Hamilt.), e Nuni (idem).—Floret Martio.

Cum *T. laurifolia* Jacq. nullo vinculo arctius connectitur; propius autem accedit ad *Tetrantheras japonicam* et *coriaceam*, quarum posterior umbellulis sessilibus differt, foliisque basi acutis subtusque minus tomentosis; prior autem involucellis maxime caducis, aliisque notis.

Adnot. 1. An vere distincta a *Tetranthera japonical*

Adnot. 2. An genus proprium, ob staminodia, ut in Polyadeniis, omnibus pluribusve saltern staminibus consociata?

9. *Tetranthera glauca* Wall.; perianthio sexfido liexandro, umbellulis axillaribus glomerato-fasciculatis, foliis elliptico-oblongis acumine obtusiusculo supra glabris nitidis subtus glaucis, petiolis ramulisque tenuissime tomentosis incanis, filamentis villosis.—*Tetranthera glauca* Wall. Cat. n. 2533.

Habitat in Sillet (F. D.)—Arbor.

Integumento ramorum cano, e strigulis minutissimis adpressis, foliorum quoque paginae inferiori inspersis, conflato, umbellulisque parvis circa foliorum axillas veluti glomeratis ad *Tetrantheras salicifoliam* et *attenuatam* accedit, sed satis diversa foliis majoribus subtus glaucis, quasi pruinosis et floribus minoribus hexandris.

10. *Tetranthera attenuata* Wall.; perianthio sexfido, umbellulis axillaribus fasciculatis confertis, foliis lanceolatis oblongisve acuminatis obtusiusculisve supra lucidis subtus ramulisque angulatis apice strigoso-subsericeis canescentibus, filamentis villosis.

2a. foliis lanceolatis.—*Tetranthera salicifolia* Hb. Roxb., Wall. Cat. n. 2536, a. (ex parte 5.)

3. foliis latioribus oblongis.—*Tetranthera attenuata* Wall. Cat. n. 2534: (ex parte). *Tetranthera laurifolia* Roxb. (nee Jacq.) ex Hb. Hamilt., Wall. Cat n. 2535.

Crescit in Sillet (F. D.) Vidi et exempla Herbariorum Roxburghiani et Hamiltoniani.

Adnot. *Tetranthera salicifolia* adeo est similis, ut, sitne varietas an species distincta, vix dijudices, praesertim cum forma varietatis 0 quae sane plurimum differre videatur a *T. salicifolia*, in eodem ramulo obviae, speciem ad amissim referant varietatis |3 *salicifolia*, eoque genuinae *Tetranthera salicifolia* jungantur.

11. *Tetranthera salicifolia* Roxb.; perianthio sexfido, umbellulis axillaribus fasciculatis confertis, foliis lanceolatis oblongisve, plerisque obtusis, opacis, subtus ramulisque angulatis strigoso-sericeis griseis, filamentis villosis.

a. foliis lanceolatis.—*Tetranthera salicifolia* Roxb. Herb. 3. Wall. Cat. n. 2536, A ex parte, B, C. Hamilt. Herb.

0. foliis oblongis.—*Tetranthera laurifolia* Herb. Hamilt. ? y *Diglotia* Herb. Hamilt. 3. *T. attenuata* Wall. Cat. n. 2543 ex pa t Vidi exempla varietatis « 3 in Herb. Roxburghiano; de fndlt n

He*. HamUtoman<>>Kieb<kgur lecta, 9. Vwjetati^ marem in NakiTari, femioamin Kaldutealegit Hamilton; inSillet F.D. u,vem. marem. Floret Januario—Aprili.—Arbor.

Annot. 1. Hffic quidem species satis insignis ramulis sulcatis gneseis et umbellis parvis in foliorum axillis quasj agglomerate Quoad *Tetranthera attenuate* affinitatem istum conferas titulum.

Annot. 2. In Herbario Roxburghii nomine *T. salicifoha* inscriptaj du* latent divers* species. Mas etenim hujus est, quam *sahcifoliam* diximus, femina vero ad *Tetrantheram laurifoliam* Roxburghii (non Jacq.) seu *T. attenuatam* Wallichii (i. e. spec. praecedentem) referenda.

(3) Umbellulaj subsolitariae, pedunculatae.

12. *Tetranthera saligna*; perianthio sexfido, umbellulis axillaribus subsolitariis, foliis lanceolatis utrinque acutis glabris supra lucid is, filamentis villosis. -ran^ m* *angustifolia* Wall. Cat. n. 2537.

Crescit in Sillet (F. D.).—Frutex? Femina non est note.

Annot. Species hac ex habitu saligno, foliis fere Sahcis alb*, umbellulisque parvis sparsis solitariis inter omnes facihis distinctu.

Umbellulae fasciculate, pedunculis propriis communi umbellularum pedunculo, e basi gemmae orto, multo longioribus. (*Polyanthce.*)

13. *Tetranthera polyantha* Wall.; perianthio sexfido, umbellulis axillaribus fasciculatis longe pedunculatis crebris, foliis oblongo-lanceolatis acuminatis glabris membranaceis supra lucidis, filamentis villosis.—*Tetranthera polyantha* Wall. Cat. n. 2538.

Crescit in Sillet (F. D.).—Fratex. Flos femineus latet. Species elegans, habitu saligno, florum ubertate, foliorum nitore, ramulorum gracilium comâ, odore, commendabilis.

14. *Tetranthera chartacea* Wall.; perianthio sexfido, umbellulis axillaribus longe pedunculatis fasciculatis, foliis elliptico-oblongis utrinque acutis glabris membranaceo-chartaceis, ramulis novellis strigoso-subtomentosis, filamentis (floris 5) strigulosis. -^r^ m *chartacea* Wall. Cat. n. 2531.

Crescit in Napalia.—Frutex (?). Mascula planta ignota.

Annot. 1. *Tetrantheris coriaceae* et *myristicifolia* affinis, notis tamen characteristics expositis facili negotio distinguenda.

Annot. 2. Flores, aqua calida emollii, cum ex ea trahantur charteseque emporeticse imponantur, citissime siccescentes rigescunt simulque pulvere albicante granuloso veluti pruina, praesertim in pedunculo, staminibus pistilloque, inducuntur.

15. *Tetranthera Iceta* Wall.; perianthio sexfido, umbellulis capituliformibus axillaribus fasciculatis longe pedunculatis crebris, foliis oblongis utrinque acutis glabris subtus csesio-albidis, filamentis villosis.—*Tetranthera Ma* Wall. Cat. n. 2541.

Crescit in Sillet (F. D.).—Arbor (pulchra). Femina ignota.

Annot. Similis *Tetranthera oblonga*, sed differt abunde: foliis subtus laete csesio-pallidis, florum copia, fasciculisque horum sessilibus neque pedunculo communi suffultis, pedunculis tenuioribus, umbellulis minoribus, floribus majoribus, staminibus longioribus.

&. Umbellulae corymbosae, pedunculis prbpriis communem umbellularum pedunculum subaequantibus, vel hoc saltern distincto, ultra gemmae basin producto.

16. *Tetranthera oblonga* Wall.; perianthio sexfido, umbellulis capituliformibus axillaribus subcorymbosis, foliis oblongo-lanceolatis utrinque acutis glabris subtus glaucescentibus, filamentis lanuginosis.—*Tetranthera oblonga* Wall. Cat. n. 2542. *Tetranthera Doshia* Don Fl. Nep. p. 65. *Tomex Doshia* Hamilt. Ms.

Habitat in Napalia, lecta a. 1821 a Wallichio. 3 ? Ad Narainhetty, Napalensium (Hamilt.). Floret Novembri (Don 1. c.).—Arbor.

Annot. Hermaphrodites, seu polygamos, flores existimares, ob pistillum in antherigeris solito magis evolutum. At femina, staminibus castratis ipstructa, sola fructum edere videtur.

17. *Tetranthera myristicifolia* W&L; perianthio sexfido, umbellulis axillaribus fasciculato-corymbulosi, foliis oblongis basi cuneiformibus glabris glaucis, filamentis glzbris.—*Tetranthera myristicifolia*, Wall. Cat. n. 2548 ex parte.

Crescit in Penang. Legit G. P.—Feminea planta latet. , Arbor, habitu quidem *Tetranthera oblonga* accedens, sed satis distincta: foliis basi, nee apice, attenuatis, rigidioribus glaucis subtus pallidioribus, et perianthio cum filamentis glabris, nee lanuginosis. A *T. coriacea*, cujus ramulus adjectus erat nostrae, non minus distare videtur ramulis glabris, foliis basi longe attenuatis subtus glaucis, petiolis profunde canaliculatis, umbellulis masculis (quas solas vidi) pedunculatis et in communi pedunculo subcorymbosis aut fasciculatis, perianthio denique, nee solis filamentis, glabris.

18. *Tetranthera nitida* Roxb.; perianthio sexfido, umbellulis axillaribus racemoso-corymbosis, foliis elliptico-oblongo-cuneiformibus obtusis glabris concoloribus, filamentis strigosis, ramulis acutangulis.—*Tetranthera nitida* Roxb. Wall. Cat. n. 2540, A et B. *Tetranthera Baula* Herb. Hamilt.

Habitat in Sillet (F. D.); in Gualpara (Hamilton).—Arbor. Flores femineos non vidi.

Annot. 1. Inter congeneres ramulis maxime arguteque ^ngulatis distinctissima. Quoad inflorescentiam *Tetranthera glabrata* conjunctioni quidem, sed totâ fere reliquâ diagnosi discedit.

Annot. 2. Inter species Javanicas huic comparandae sunt *Tetranthera (Litsaea) resinosa* Bl. et *angulata* Bl, quarumpw sane simillima, videtur tamen differre ramulis *obtusae* angulatis, et involucris fasciculatis 5—6-phyllis, nee racemosis tetraphyllis. *Litsaea angulata* Bl. ramulis quidem *argute angulatis* nostram refert, differt autem ab hac foliis acutis subtusque glaucis.

Annot. 3. Flos intermedius umbellulae, seu capituli 5-flori saepe quadrifidus est, staminibus octo totidemque staminodiis.

g. Umbellulae distincte racemosae.

19. *Tetranthera glabrata* Wall.; perianthio sexfido, umbellulis axillaribus racemosis, racemis paucifloris, foliis oblongo-lanceolatis utrinque acutis glabris supra glaucis, filamentis lanuginosis.—*Tetranthera glabrata* Wall. Cat. n. 2543. *T. salicifolia* Herb. Wight.

In montibus regionis Dindygul, elev. 3000 ped. legit Wightius.—Arbor(?).

Annot. Inter affines proxima sane videtur *Tetranthera myristicifolia*; sed facile dignoscitur *T. glabrata* ab ista foliorum formâ, umbellulis racemosis floribusque duplo majoribus dense sericeis, filamentis villosis, staminum sterilem quarti ordinis serie, aliisque notis.—? latet.

20. *Tetranthera Panamanja* Hamilt. Hb.; perianthio sexfido, umbellulis axillaribus lateralibusque racemosis, racemis multifloris petiolo longioribus, foliis oblongis utrinque acuminatis glabris, filamentis exterioribus strigosis.—*Tetranthera Panamanja* Hb. Hamilt. Wall. Cat. n. 2553, A, B.

Crescit in Gualpara (Hamilton). Floret Julio.—Arbor (speciosa).

Annot. Species haec a reliquis omnibus, praeter *T. glabrata*, dispositione umbellularum racemosâ, in pedunculis communibus quam pro genere longioribus, distincta, turn vero et staminodiis floris femineis filamentis 6 interioribus parallelis lateraliter in medio adfixis, nee stipitatis.

b. Foliis deciduis.

21.? *Tetranthera sericea* W&W.; floribus pracocibus, umbellulis infra ramulorum apices alternis approximatis, foliis annuis oblongis utrinque acuminatis venosis pedicellisque villosis.—*Tetranthera sericea* Wall. Cat. n. 2545, A, B.—A: femina, fructu foliisque ornata. B: 3 et 9 cum floribus absque foliis.

Habitat in Napaliae, monte Sheopur. Floret Aprili. Lecta a. 1821 a Wallichio.—Frutex.

Annot. Genus fortasse distinctum. Antherae emarginatae, stamina floris 2 sex laminigera, geihmatio, folia decidua, distinguunt.

VIII. CVLICODAPHNE.

(*Tetranthera* sp. Wall.—*Borbonia Plum.*, *Gcrtm.* ex parte (*J*"))

Flores dioeci, involucrati. Perianthium sexfidum (rar& octofidum) laciniis subaequalibus deciduis. 3 : Stamina antherigera duodecim

Nomen mutandum erat ob *Litsaeam angustifoliam* Blumii tempore priorem.

* *Borbonia Plum.*, et *Borbonia cupularis* Lam. Gaertn. de Fr. et Sem. III. p. 225. t. 222. f. 1. vel hujus loci habendae, vel ad *Campkorar* genus referendae.

(in flore octofido sedecim), quadruplici serie disposita, quorum sex exteriora perfecta, basi nuda, sex interiora breviora antheris imperfectioribus, basi staminodiis subgeminis capitatis compressis stipata. Antherae quadrilocellatae, staminum interiorum inversorum! abortu etiam bilocellatae, ovatae, mucronatae, valvulis tot quot locellis gaudent, sursum reflexis, dehiscentes. Pistilli vestigia in masculo flore nulla omnino. Bacca tubo perianthii cyathiformi truncato integro semiimmersa.—Inflorescentia umbellata, umbellulis involucri racemosis. Folia penninervia, crassa.

Adnot. Stamina 6 interiora exterioribus dimidio minora sunt. Horum tria exteriora utrinque, vel uno saltern latere, praedita sunt staminodio squamiformi brevissime stipitato laterali magisque a tergo posito, interdum etiam geminis. Intima tria filamento perbrevis instructa, antheris gaudent unilocellatis vel quadrilocellatis, locellis magis extrorsum versis. Staminodia gemina his opposita, cordato-orbiculata. Interdum loco parvis staminodiorum uno staminodio formae solitae adstat stamen veluti dimidiatum, anthera parva unilocellata, acceditque ejus filamentum ex eodem latere squamula formae staminodii.

A DODECADENIA differt praesertim fructu glandiformi et inflorescentia. A plerisque autem Laurinis tetrantheris deficiente vel levissimo femineae partis in masculo flore vestigio distinguitur.

Etymologia: *Kv&» calyx*, et *fc&tpw?*, *laurus*, ob formam cupulae calycinae fructus.

Cylicodaphne Wightiana.—*Tetranthera Wightiana* WaW. *Cv.A.* n. 2557, A, B.—Arbor foliis elliptico-oblongis obtusis costis subtus ramulisque angulatis ferrugineo-tomentosis; perianthio 6-fido, staminibus 12.

Variat et flore octofido staminibusque sedecim.

Habitat in sylvis Nilghiry (Deenhutty in schedis). (E. Noton.) Vidi etiam in Hb. Wight. 3 et ?.—Flore femineum non vidi.

IX. ACTINODAPHNE.

(Lauri sp. Wall.)

i*SSV

Flores dioeci, e gemma imbricata paniculati. Perianthium sexfidum, laciniis aequalibus lacero-persistentibus. Stamina antherigera novem perfecta, triplici serie disposita, quorum tria interiora staminodiis geminis sessilibus stipata. Anthera oblongae, quadrilocellatae, omnes introrsum dehiscentes valvulis sursum reflexis conformibus. Pistilli in masculo flore rudimenta. Bacca calycis tubo cyathiformi, laciniis residuis appendiculato, imposita.—Inflorescentia vel (C) panicula sessilis, apice racemosa, vel (?) simpliciter racemulosa, ante anthesin squamis gemmae axillaris involuta. Folia verticillata, penninervia. Gemmae foliiparae imbricatae, squamis pluribus chartaceis.

A *CrLicoDAPIiVE* differt involucri defectu et calycis fructus appendicibus turn florum quoque interna structura; a *CECIDODAPHNE* defectu staminodiorum quarti ordinis, aliisque; a *BEILSCHMIEDIA* antheris quadrilocellatis; a *SASSAFRAS*, cui sane proxima, perianthii tubo in fructus calyculum mutato, floribus rigidioribus, antherarum locellis superioribus non adeo contractis, foliis verticillatis.

Etymologia: *&»&*, *radius*, et *Up**, *laurus*, ob cupulam fructus limbi perianthii residuis radiaiam.

Actinodaphne pruinosa.—*Laurus pruinosa* WzW. *Cat.* n. 2584, A, B.—Arbor? foliis verticillatis subtus caesio-pruinosis, paniculis hirtis petiolo longioribus.

Crescit in Penang et Singapur; lecta a. 1822 a Wallichio.

SASSAFRAS.

(Laurus Ziwi., Borbonia Gaertn. ex parte[#].)

Flores dioeci, racemosi. Perianthium sexpartitum, membranaceum, laciniis aequalibus basi persistentibus. Stamina antherigera novem perfecta, triplici serie disposita, quorum tria interiora staminodiis geminis stipitatis liberis crassis stipata. Antherae lineares, quadrilocellatae, omnes introrsum dehiscentes, locellis inferioribus lateribus, superioribus a valvulis obtectis. Pistilli rudimentum nullum.

* *Borbonia globosa* Lam. Gaertn. deFr. et Seui. III. p. 224. t. 222. f. l. ad sinistram, quoad fructum hue spectat.

Flores femineus staminibus sterilibus tot, quot mari sunt, vel paucioribus; interioribus saepe cum staminodiis in unum corpus coalitis. Bacca pedicello apice incrassato margineque chartaceo lobato, e perianthio residuo, cincto imposita.—Inflorescentia racemosa, subcorymbosa, a basi innovations inter squamas deciduas progenita, pedunculata vel fasciculata. Flores flavi. Gemmae foliiparae perulatae. Folia alterna, decidua (an in omnibus?).

Quibus ab ACTINODAPHNE differat SASSAFRAS, supra expositum.

X. ENDIANDRA R. Br.

Flores hermaphroditi (polygami). Perianthium sexfidum, limbo deciduo. Stamina fertilia tria interiora, Antherae bilocellatae, posticae. Stamina exteriora in glandulas faucis mutata vel nulla. Stigma globosum. Bacca perianthii tubo truncato immersa (an in omnibus?).—Inflorescentia paniculata, axillaris, duabus in speciebus nutans. Gemmae foliiparae parvae, laxae, squamis foliaceis carinatis. Folia alterna, penninervia et reticulata.

Adnot. In hoc genere staminodia tria tertii ordinis perfici puto, abortientibus contra sex exterioribus, hisque vel in glandulas abeuntibus vel omnino latentibus. Memoratu digna est figura horum staminum, quae, filamentis brevissimis crassisque praedita, staminodiis tribus interioribus, in multis obviis, persimilia existunt, ut itaque in isto flore stamina quasi ad ultimam gradum evolutionis dejecta et ad angustissimum numerum redacta videantur. In nostra specie ejusmodi staminodia, seu glandulas, quales Swartzius in una specie observavit, non observavi, sed evident! circulo glanduloso, e granulis minutis conflato, stamina ad basin cincta.

1. *Endiandra firma*; foliis ellipticis venosis utrinque reticulatis concoloribus, floribus recurvatis, annulo glanduloso obsolete.—*Laurus firma* Wall. *Catal.* n. 2597.

Crescit in m, Pundua; legit F. D.—Arbor. (Folia cum petiolo 5-8 poll, longa, 1½-3 lata.)

XI. GYROCARPUS Jacq.

Jacq. *Pl. Am.* p. 282. t. 178. t. 80. Gaertn. de Fruct. et Sem. II. p. 92. t. 97. Brown Prodr. Fl. Nov. Holl. I. p. 404. ed. 2. p. 260. Spr. Gen. Pl. I. p. 112. R. et Sch. Syst. Veg. III. p. 16.

Flores polygami, in paniculam dichotomam dispositi: axillares hermaphroditi; reliqui masculi. Perianthium (4-) 6-8-fidum, laciniis aliquot in femina concretescentibus persistentibus; tubus germini adhaerens. Stamina quatuor, laciniis quatuor exterioribus opposita, et ubi extima duo desunt, ad speciem binis collateralibus earum interposita. Antherae bilocellatae, valvulis totidem sursum reflexis dehiscentes. Staminodia quatuor, stipitata, clavata, in serie duplici magis interiori staminibus alterna. Stylus brevis; stigmatibus capitato. Caryopsis baccans perianthio apice bialato inclusa. Semen inversum, testa durissima. Embryo inversus, cotyledonibus duplicato-reflexis radicularum circumvolutis.—Inflorescentia ad basin innovations terminalis, ante foliorum evolutionem in ramulo aphylo germinans, squamis caducis, herbaceis, coriaceis singulos pedunculos fulcentibus. Paniculae breves, dichotomae, floribus minutis, axillaribus praesertim inferioribus, hermaphroditis, reliquis masculis circa ramulos glomeratis, brevipedicellatis (cum filamentis et staminodiis hirsutis). Gemmae foliaceo-squamosae. Folia alterna, ad apicem ramorum conferta, decidua, longe petiolata, lata, nervosa.

Adnot. 1. De vera hujus generis inter LAURINAS sede vix dubium est, cum CRYPTOCARYA genus viam parit. Modus evolutionis et omnis dispositio partium floralium congruunt, neque seminis vera structura graviter repugnat.

Adnot. 2. Quoad habitum et inflorescentiam ad URTICEAS hoc genus tendit, LAURINASQUE huic familiae a latere confines esse demonstrat. *Dipterocarpus* quoque et *Shorea*, evolutionem calycis in fructum si spectes, accedunt.

1. *Gyrocarpus asiaticus* Willd.; foliis ovato-triangularibus subcordatis integris trilobisve glabris, ad nervos utrinque puberulis, petiolis pedunculo communi longioribus, alis fructus cuneiformi-lanceolatis angustis.—*Gyrocarpus asiaticus* Willd. *Sp. Pl.* [V. 2. p. 982. R. et Sch. Syst. Veg. III. p. 292. n. 2. Mant. p. 218. Brown.

Prodr. Fl. Nov. Holl. p. 404 (260). Wall. Cat. n. 968, A, B. *G. Jacquini* Roxb. Pl. Corom. I. p. 2. t. 1. Fl. Ind. ed. Car. et Wall. I. p. 465. Pers. Syn. I. p. 145 (excl. synonym. *G. americani* Jacq.). Spr. Syst. Veg. II. p. 489. *Afrag*, Le Brun Voyage en Perse, II. p. 257. c. Ic.

Crescit in regione montana orae asiaticae, folia demittens sub finem temporis pluvii. Floret tempore frigido, arbore foliis exuta, quae (nova) flores mox sequuntur.—Arbor. (Folia 5 poll, longa, 3J lata.) Nomen apud Telingas *Tanucoo* (Roxb.).

XII. CASSYTA Lin.

(*Volutella Forskål.* *Calodium Lour.*)

Flores spicati, basi tribracteati. Perianthium sexfidum, laciniis persistentibus, tribus exterioribus nanis; tubus liber, in fructu baccatus. Stamina fertilia novem triplici ordine laciniis perianthii opposita, quorum tria interiora ad basin biglandulosa. Antherae bilocellatae, valvulis totidem sursum reflexis dehiscentes: tres interiores extrorsum versae. Staminodia tria, quarti ordinis, stipitata. Stylus brevis. Stigma parvum, discoideum, umbilicatum. Caryopsis subcarnosa, tecta perianthii tubo carnoso pervio, laciniis persistentibus coronato.—Inflorescentia: Spica simplex aut composita, aut glomeriformis, basi bracteolis minutis membranaceis instructa. Flores omnino sessiles. Folia nulla. Herbae vel suffrutices volubiles contorti; parasitici, radiculis papilliformibus frutibus innascentes.

1. *Cassyta Jiliformis* Lin.; glabra spicis simplicibus pedunculatis, floribus distantibus, staminibus primi ordinis petaloideis.—*Cassyta Jiliformis* Lin. Sp. PL p. 530. Blume Bydr. p. 574. Osb. Iter. p. 243. Pers. Syn. I. p. 450. Burm. Ind. p. 92. Will. Cat. n. 2608, A, B. *Cassyta Jiliformis* Willd. Sp. PL II. p. 487. Spr. Syst. Veg. II. p. 271. ad partem. *Calodium cochinchinense* Lour. Fl. Cochinch. ed. Willd. I. p. 302? *Cuscuta indica floribus albis stellatis*, Burm. Mus. Zeyl. p. 67. Thes. Zeyl. p. 84. *Cuscuta-indica javanica*, *Kankong* incolis dicta, *Kteinhof wpxxA* Burm. *Cussuta*, *Rombut Putri*, Rumph. Herb. Amb. V. p. 491. 1. 184. f. 4. *Acatsia Valli* Rheede Hort. Mai. VII. p. 83. t. 44. Ray Suppl. p. 551.

Nomen Sanscr., *Medica Tali* (Rheed.). Malaice, *Dansidan* et *Rambut Putri* vel *Daun Tali Tali* (capillitium principissae). Arabice, *Cuschut* et *Cuschuta*, et exinde inter Malayos et Moluccenses *Cussu* [perplexum virgultum] (*Rumph.*). Javanice, *Daun Tali* (Blume).

? caule crassiori, spicis saepe in gyrum contortis.

Crescit in Malabarica (Rheed.); in Amboinae littore et circa ostia fluminum (Rumph.); in montibus provinciae Palaverara (Hb. Wight.); in fruticetis circa Bataviam (Blume). (Vidi exempla ex Herb. Madras.) Caules filiformes, glabri, valde contortuplicati.

Adnot. *Cassyta jiliformis* Jacq., a *Jacquino*, iterataque ab *Hookerio* in *Exotic Flora* nitide depicta, sic definienda: *Cassyta (americana)*, glabra, spicis simplicibus pedunculatis, floribus distantibus, staminibus primi ordinis dzvztis.—*Cassythafiliformis* Jacq. Pl. Amer. p. 15. t. 97. Hook. Exot. Fl. t. 167. *Cassyta Jiliformis* Willd. Spr. ad partem. *Cuscuta baccifera Barbadiensium a maritimis*, ftuk. Almag. p. 126. Phytogr. t. 172. f. 2.—Crescit in India occid. (Jacq.); insula St. Vincentii (Hooker).

XIII. CRYPTO-CARYA R.Br.

Flores hermaphroditii, paniculati. Perianthium subinfundibuliforme, ad tubum usque sexfidum, limbo ^ l i deciduo. - Stamina fertilia novem triplici serie, quorum tria interiora staminodio stipitato libero ad utrumque latus instructa. Antherae oblongae, bilocellate valvulis totidem sursum reflexis dehiscentes: sex exteriores introrsum, tres interiores extrorsum conversas. Staminodia tria substipitata capitulo angusto acuto, in serie magis interiori. Stigma capitatum. Germen tubo perianthii immersum. Caryopsis tubo nudo clauo drupaceo perianthii obtecta.—Inflorescentia paniculata axillaris, vel et in terminalem abiens. Gemmae foliipara squamiae paucis foliaceis carinatis. Folia penninervia.

Genus, tubo perianthii distincto; fructuque a calycis tubo, limbo orbato, penitus recondito, longe distinctissimum.

Adnot. Baccam dicit fructum clariss. Brownius; in nostris autem

VOL. II.

fructus, proprie sic appellandus, in siccam caryopsin evidenter abit. An itaque duo hic latent diversaque genera? Sed habitus omnium optime convenit. Clariss. Blume, "Pericarpium drupaceum tectum tubo calycis baccato" CRYPTO-CARYE tribuens, partem lignoso-crustaceam, a perianthio provectam, pro fructus strato externo posuisse, neque baccae aliquid simile nisi in tunicis exterioribus floralibusque invenisse videtur.

1. *Cryptocarya floribunda*; foliis ovali-oblongis brevi-cuspidatis subtus glaucis glabris, paniculis axillaribus dichotomis in terminalem nudam abeuntibus flavescenti-tomentosis.

β. foliis ellipticis obtusis, probabiliter morbosis.—*Laurus floribunda* Wall. Cat. n. 2593, A, B.

Crescit in Sillet (F. D.), unde in Hortum bot. Calcuttensem illata est.—Arbor amena. Folia 5—8 poll, longa (c. petiolo), if—3 lata.

Adnot. An vere diversa a *Cryptocarya glaucescens* Br. Prodr. Fl. Nov. Holl. I. p. 402. ed. 2. p. 258?

2. *Cryptocarya amygdalina*; foliis ellipticis brevi-cuspidatis utrinque reticulatis concoloribus glabris, paniculis axillaribus in terminales ramorum abeuntibus strictis dichotomis tomentosis, fructibus oblongis mucicis ecostatis.—*Laurus? amygdalina* Herb. Hamilt., Wall. Cat. n. 2385.

Habi in Patgong, lecta a cl. Hamilt. On d. 26 Martii a. 1809 cum floribus ^ f et fructu maturo.—Arbor precedentis habitu, sed notis propriis ex parte distincta. Folia 5-7 poll, longa, 2-1 2 i , cl. lata. Flores paulo majores ac in *Cryptocarya floribunda*.

XIV. BEILSCHMIEDIA.

(Lauri sp. Roxb. *Tetranthera** sp. Wall)

Flores dioeci vel hermaphroditii in ramulo articulate primario tute squamato racemosi. Perianthium sexpartitum, lacini ^ Z deceduxs, Stamina fertilia novem, triplici serie; antherae ^ S ^ bilocellate, valvulis totidem ascendentibus, interiores a latere 1 gisque extrorsum, dehiscentes. Staminodia tria ovata, substipitata in serie magis interiori cum staminibus terti* seriei alternantia tria capitulata, staminibus secundaB seriei singulatim approximata. Inter duo etiam tria seriei exteriori respondent Stigma pedesperm* subdividendum. Germen bilocellatum. Bacca cofacea monosperma cum rudimento dissepiment!, perianthii basi persistent! imposita — Inflorescentia axiUaris, pedunculo communi brevi articulate ante evolutionem squamis imbricatis deciduis uni- vel pauci-floris tecto quarum inferiores saepe steriles longius persistunt. Post lapsuni igitur squamarum racemosi evadunt flores. Folia venosa.

Differt a CRYPTO-CARTA forma perianthii, staminum dehiscentia, stammodiorum forma situque, fructu nudo, neque tubo perianthii incluso, et inflorescentia.

Beilschmiedius, pharmaceuta Olaviensis, Silesius, libri utilissimi de Plantarum distributione geographica et dissertationum complurium doctorum auctor, Florae patriae carus, qui primus inter Germanos Jungermanniam Blasiam perfecte fructificantem observavit.

1. *Beilschmiedia Roxburghiana*; racemulis basi nudis, perianthii laciniis ovalibus.—*Z. ^{titnw} bilocularis** Roxb. Hort. Calc. D 30 Wall. Cat. n. 2605.

Crescit in Tipperah, lecta a S. Harris a. 1797. Floret mense Februano, maturat fructum m. Junio. Vidi exemplum cultum ex Horto Calcuttensi.—Arbor speciosa. Folia cum petiolo unciali 6—6 8 poll, longa, 2—2J poll, lata, glabra, pennatim venosa reticulata, eoncoloria.

A *Beilschmiedia fagifolia* differt hocce • folia majoribus nitidis, floribus majoribus laciniis fioribus, racemulisque majoribus, axi florente non, ut in illa, e basi gemmaB immediate prodeunte, sed pedunculo communi aequali nudo, gemmae baseos vices gerente sublato.

2. *Beilschmiedia fagifolia*; racemulis basi squamatis, perianthii

* *Bilocularis* cogitominatio non proprio accipienda sensu, cum fructus BEIL-SCHMIEDIA in omni statu uniovulatus et monospermus existat. Differt autem hae species plica membranaB intera? inter cotyledones prominente, quae, etiamsi, in alio quoque observetur Laurinarum generibus, in isto tamen ante omnia in oculos cadit et dissepimenti falsi suspicionem movet

laciniis lanceolato-linearibus.—3f5rfnwrfA<ro.fag'folia Wall. Cat. n. 2539-

''' Crescit in montibus provincial Sillet (F. D.)—Arbor, foliis 3-3^ pollices longis.

XV. CKCIDODAPIHXK.

(Tetranthera* sp. Wall. Laurj sp. Hamilt.)

Flores hermaphroditii (?) e gemma galliformi terminali paniculati. Perianthium subinfundibuliforme, sexfidum, laciniis deciduis. Stamina fertilia novem, triplici serie disposita, quorum tria interiora staminodiis binis capitatis ad basin stipata. Antherae oyatae, quadrilocellatae, valvulis totidem adscendentibus dehiscentes; tres interiores retro spectantes. Staminodia, tria capitulo antheriformi subulato in serie magis interiori. Stigma disciforme. Fructus . . .

—Inflorescentia: Gemma, in ramo vel ramulo terminalis, crassa, dense squamosa, ramis e singula squama singulis, paniculatis multifloris brevibus paniculam densam thyrsoidem subglobosam constituentibus. Folia perennantia, venosa.

Habitu proxima CRYPTOARYJE, cui forsan et fructu calyce obiecto conjunctior olim invenietur; sed differt antheris quadrilocellatis et inflorescentia densa gallam ante anthesin referente. Ab ALSEODAPHNE, cui, sola characteris essentialis verba consideranti similis videri possit, omni habitu distat, et pistilli florumque jam inspectio sufficit, ut oculo, hac in familia modice exercitato diversissimam fore fructus perfectioris indolem eluceat.

Etymologia: *W\$ galla, et laipvi, laurus, ob inflorescentiam ante anthesin galliformem.

Cecidodaphne glaucescens.—*Tetranthera glaucescens* Wall. Cat. n. 2560, A, J\$. *Laurus glaucescens* Hb. Hamilt.

Crescit in Sillet (Ham. et F. D.) Floret a Februario in Aprilem usque.—Arbor (alta) paniculis albo-tomentosis. Folia cum petiolo 4—6 pollices longa, 1^—2 p. lata, acuminata, basi acuta, glabra, utrinque viridia, penninervia.

Adnot. Ob stamina solito breviora, valvulas antherarum, etiam in floribus defloratis saepe clausas et pistillum ratione staminum magis perfectum, dubius haereo, num feminei potius sexus sint flores, quos examini subjeci, latente igitur adhuc mascula plantâ.

XVI. MACHILUS Rumph.

(Persea Blume.)

Flores hermaphroditii, paniculati, nudi. Perianthium sexpartitum, chartaceum, limbo patente persistente tuboque baud mutatis. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis stipitatis liberis ad utrumque latus stipata. Antherae oblongae, quadrilocellatae, valvulis totidem adscendentibus dehiscentes, locellis sex exteriorum introrsum, trium interiorum extrorsum spectantibus, inferioribus duplo majoribus. Staminodia tria stipitata capitulo acuto antheriformi in serie interiori, dorso eglandulosa. Stigma discoideum. Bacca perianthio haud mutato patenti aut reflexo insidens.—Inflorescentia paniculata, paniculis ad basin innovationum terminalium alternatim aggregatis nudis (squamis defluentibus) corymbosis. Gemmae foliiparae perulate squamis imbricatis. Folia penninervia, venosa, venis subtilibus.

Adnot. 1. Cl. Wendland in opere praestantissimo *Botanische Beobachtungen*, Hanov. 1798, de *Lauro indica* agens, staminodia illa quarti ordinis, a se optime observata atque descripta, in arbore, solo naturali crescente, perfici atque in vera stamina abire adsumit. Contra haec experimento in quam plurimis ramis, in solo natali decerpitis, instituto, certior factus sum, naturam hac in re sibi quam maxime constare, nee unquam fere staminodia haec ejusdem speciei in stamina transformari; quod quidem cum intra fines specierum immota lege teneri videatur, in generum tribuumque ampliori campo secundum Wendlandii opinionem ita evenit, ut non solum staminodia, sed vel ipsae perianthii lacinae in stamina evolvantur.

Adnot. 2. *Pevsea* genus perianthio toto deciduo differt, alia ut taceam. Vide synopsis generum.

1. *Machilus odoratissimus*; foliis lanceolatis oblongove-lanceolatis utrinque acutis glabris, paniculis compositis.

u. paniculis floriWque pubescentibus, baccis globosis.—*Laurus*

odoratissima [Wall. Cat. n. 2607, A ex parte, C, D, E. *Laurus indica* Lour., Fl. Cochinch. ed. Willd. I. p. 311. n. 8. *Machilus quarta species minima* Rumph. Hb. Amb. III. p. 70. t. 42. *Laurus Maderens angustifolia pallida odoratissima* Pluk. Aim. I. c. tab. 199. fig. 2? *Laurus Champa* Hb. Hamilt. *Laurus bombycina* Hb. Hamilt.

(3. paniculis floribusque glabrisculis aut sparsim puberulis, baccis ovatis vel (immaturis) oblongis.—*Laurus odoratissima* Wall. Cat. I. c. A ex parte, B, F.

Crescit (« et /3) in Napalia (Wallich 1821). Var. a in Patgong et Gualpara (Hamilt.), in montibus Sillet (F. D.). Var. /3 in Singapur (Wallich 1822), in montibus prope Deyra-Dhoo (idem 1825). In Cochinchinae sylvis montanis (Lour.). In Amboina (Rumph.)?—Arbor magna.

Adnot. 1. Varietates citatae a tempore evolutionis pendere videntur multisque modis inter se confluent. Etiam formae, quas literis D, E, F signatas, ut dubias, exhibet Catalogus Wallichianus, ex harum sunt numero. Pedunculi et flores pro aetate exuunt pubem, et perianthia sterilia, auctâ magnitudine, nee vero reflexis laciniis, alieni quid exhibent. Haec autem perianthia genitalibus jam carent.

Adnot. 2. *Stigmatidium elegans* Fée haud raro in hujus arboris foliis obvium.

Adnot. 3. *Laurus indica* Lin., *pseudoindica* Link, Maderae insulae civis, differt: foliis majoribus latioribus, perianthii laciniis ovatis, exterioribus conspicue brevioribus, quae nostra in specie interioribus aequales sunt. OCOTEJE autem haec, nee PURSER est generis.

2. *Machilus macranthus*; foliis ellipticis acutis subtus glaucis glabris venoso-penninerviis, paniculae amplaB pubescentis ramulis divaricatis bifidis.—*Laurus macrantha* Wall. Cat. n. 2587.

Crescit in Nilghiry (Noton).—Arbor? Fructum maturum non vidi.

Species anomala, pedunculis paucifloris; pedicellis fructus in-crassatis carnis:

3? *Machilus peduncularis*; foliis ellipticis cuspidatis basi attenuatis, pedicellis fructus incrassatis. arctiatis pedunculo umbellulose longioribus.—*Laurus peduncularis* Wall. Cat. n. 2596. *Machilus species tertia media* Rumph. Hb. Amb. III. p. 70. tab. 4L?

Habitat in Penang (Wallich 1822).—Arbor.

AdnoU Icon Rumphii, I. c. exhibita, omnino in hanc speciem convenit; in descriptione autem folia inferiora 5—6 pollicum longitudinis esse, 5 p. latitudinis (quod certe errore calami dictum, cum in icone omnia ovalia exhibeantur folia), suprema 9—10 pollices longa, 4 lata; ad sequentem speciem haec aptius referri posse videntur, sed fructus in pedicellis recurvatis, nte erectis, pingitur. Dubius tamen haereo, numne rectius ad sequentem referatur synonymon Rumphianum.

4? *Machilus incrassatus*; foliis ellipticis utrinque acutis, pedicellis fructus incrassatis rectis pedunculo umbellulae subaequantibus.—*Laurus incrassata* Jack in Malayan Miscellanies II. n. vii. p. 33? Wall. Cat. n. 2589. In Singapur legit G. Prince.—Arbor.

Observ. Quoadmodum crescenti]>r&ceAenti(M.pedunculari)&imil-liraus, ut, congeneres esse, dubitari nequeat, tametsi flores desint.

Adnot. Quod ad synonymon *Machili* Rumphii jam supra declaratum est, hoc nisi forte tertiam diversamque ab hac et praeecedente speciem exhibeat, foliorum amplitudine (etiam pedicello, ratione ad pedunculum habitâ, breviora), cum *M. incrassato* propius convenire, quam cum *M. pedunculari*; sed situm et directionem ejus cet. magis ad hac accedere*.

XVII. OCOTEAAubL-

Flores hermaphroditii, paniculati, nudi. Perianthium sexfidum, subcoriaceum, limbo tuboque sub fructu persistentibus cupulam regularem sexlobam exhibentibus. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis stipitatis liberis ad

* Beatus Gulielmus Jack I. c. «*Machilum medium* Rumph. Amb. III. p. 70, tab. 42." sub *Lauro incrassata* sua citat.—W.

t *Ocotea* gemis in opere splendidissimo Humboldtiano sensu latiori sumt. diversas evolutionis formas complecti videtur.—*Ocotea guianensis* G^rt. Fr. et Sera. III. p. 227. t. 222.. f. 2 *Nectandne* generis est, ejusdemque bene distinct! bacâ cupulee ore contractae immersâ soloque a vertice con

utrumque latus stipata. Antherae oblongae, quadrilocellatae, valvulis totidem adscendentibus dehiscentes, locellis sex exteriorum introrsum, trium interiorum extrorsum spectantibus, inferioribus duplo majoribus. Stamina tria stipitata capitulo acuto antheriformi in serie interiori, dorso eglandulosa. Stigma discoideum. Bacca perianthio in cupulam regularem sexfidam conniventi induratoque basi immersa.—Inflorescentia paniculata vel subcorymbosa, axillaris. Gemmae foliiparvae parvae, squamis paucis carinatis foliaceis hiantibus. Folia penninervia.

Adnot. Perianthium *persistens* expressis verbis poscit Aubletius. Species ideo, quae limbo deciduo instructae sunt, ab OCOTEAE remotas, generi proprio, ALSEODAPHNAE, adscribimus.

1. *Ocotea sericea*; foliis oblongis acutis basi obtusiusculis subtus minute pubescentibus, novellis paniculisque decompositis toraentosis.—*Laurus sericea* Wall. Cat. n. 2606. *Cinnamomum tomentosum* Don Fl. Nep. p. 66.

Crescit in Napalia (Wallich a. 1821.); in valle Deyra (idem a/1825.) Ad Suembu Napalensium (Don fid. Hb. Hamilt.). Floret Aprili.—Arbor, *Machilo odoratissimo* consimilis.

Adnot. Fructum non vidi; ob summam autem specierum sequentium similitudinem hue referre arborem non dubitavi.

2. *Ocotea glaucescens*; foliis oblongo-lanceolatis utrinque acutis glaucis, paniculis thyrsoides in corymbum terminalem dispositis tomentosus.

a. paniculis longioribus, ferrugineis.—*Laurus glaucescens* Roxb. Hort. Calcutt. p. 30. Wall. Cat. n. 2592.

β. paniculis brevioribus, incanis.—*Laurus floribunda* Wall. Cat. n. 2593, A, (ex parte, casu certe immixtis exemplis).

Crescit in Sillet, lecta primum a M. R. Smith, et in Hortum Calcuttanum illata a. 1811 (Roxb.); ibidem legit F. D. Floret Febr.—Aprili; maturat fructum Maio et Junio mensibus.—Arbor grandis et speciosa. Fructus non observatus est.

Var. β non differt, nisi paniculis in corymbo paucioribus, ad summum 3-pollicaribus, strictioribus et rigidulis, tomento griseo nec rufo-ferrugineo vestitis, ramis plerisque bifidis, sexfloris, floribusque praesertim rariorem inferiorum distinctius pedicellatis, paulo brevioribus, neque minus latis, griseis, nec ferrugineis.

Adnot. Species, situ panicularum satis distincta, *Ocotea sericea* soli propinqua.

3. *Ocotea attenuata*; foliis oblongo-cuneiformibus acutis subtus reticulatis ramulisque ferrugineo-hirsutis, paniculis longe pedunculatis strictis dichotomis incanis, perianthii laciniis ellipticis.—*Laurus attenuata* Wall. Cat. n. 2600. *Persea macrophylla* var. *cuneata* Blume Bydr. p. 568.

Crescit in montibus provinciae Sillet (F. D.).—Arbor. Fructus non visus.

Adnot. Difficile dictu, num *Ocotea* generis sit an *Persea*, cum fructus desit. Ob gemmas itaque foliaceas *Ocoteis* adunximus, ad quas ea relegamus species, quae perianthio cum limbo superstite in cyathi formam durescente gaudent, cum idem in PERSEA non mutatum totumque ad basin fructus explanatum persistet. H^o autem species, quas perianthio in fructu expanso chartaceo gaudentes adhuc *ISSST* * ''^ 010 x p r s * 4 • • * << 3/4 - << - P-lafc imbricatisque.

4. *Ocotea paniculata*; foliis obovato-ellipticis utrinque acutis subtus reticulatis, costis ramulis paniculisque dichotomis laxis ferrugineo tomentosus, perianthii laciniis fructuque ovatis.—*Laurm. paniculata* Wall. Cat. n. 2598, A.

β. minor, foliis basi cuneiformibus longius acutatis, paniculis paucifloris laxius puberulis.—*Laurus paniculata*? Wall. Cat. n. 2598, B.

Habitat in Napalia, lecta anno 1821 a Wallichio. Var. β in Hb. Wight, vidi.—Arbor. Simillima *Ocotea attenuata*. Foliorum majora 7—8 pollices longa, 3—3½ poll. lata. Var. β differt: foliis minoribus, basi magis attenuatis, tenuioribus, paniculae ramis alternis pierisque trifloris, pube tenuiori inspersis. Sed haec a debilitate ramuli pendere, cum omnibus notis essentialibus conveniat, accuratam exempli Wightiani contemplatione constat.

Adnot. *Persea macrophylla* Blum. Bydr. p. 568. solo fructu oblongo, nec ovato, differre videtur. An vere distincta species?

5. *Ocotea pubescens*; foliis oblongis ellipticisve acuminatis basi cuneiformibus, subtus laxe reticulatis trabeculatis una cum ramulis paniculisque flaccidis dichotomis pubescentibus, perianthii laciniis interioribus ellipticis tomentosus.—*Laurus pubescens* Wall. Cat. n. 2595, (exemplum unum.)

Crescit in Napalia, ubi Wallich a. 1820 invenit.—Arbor.

Adnot. 1. Proxime accedit *Ocotea paniculate*, et, quod ad integumentum, maxime ejus varietati β, sed differt foliis longioribus tenuioribus, etc.—Ab *Ocotea lanceolata* differt paniculis pubescentibus, nec fere glabris, tenuioribus minusque corymboso-patentibus, turn laciniis interioribus tomentosus canescentibus; alia ut taceam.

Adnot. 2. Folia hujus arboris et ista sequentis saepe *Stigmatidio Phyllochari* et *elegante Meyer*, ornantur, quae unius speciei diversos

Adnot. 3. In collective Wallichiana *Lauri pubescentis* nomine et numero um diversarum specierum exempla inveni, scilicet: 1°. *Ocotea lanceolata*; 2°. *Ocotea*, quam pubescentem appellandam esse censebam; 3°. *Ocotea pallida*.

6. *Ocotea lanceolata*; foliis oblongo-lanceolatis lanceolatis, utrinque longe acuminatis subtus tenuissime pubescentibus, corymbis glabris patentibus, staminibus interioribus hirsutis.—*Laurus lanceolata* Wall. Cat. n. 2599, A—E. *Laurus lanceolaria* Roxb. Hort. Calcutt. p. 30? *Laurus pubescens* Wall. Cat. n. 2596 (ex parte.) β. foliis longius *Laurus salicifolia* Hb. Hamilt. ? *Laurus*

Crescit in Sillet (F. D.) et e Sillet in Hortum Calcuttanum illat, in Napalia (Wallich a. 1820 et 1821.). Var. ft in Na o Z R ma fi et SivapUr (Hamilt.). Floret 1 Februari ^ ^ ^ ma ura que fructus Junio et Julio. Lauri lanceolari, sin J t o ^ J nostra, hngu4 Bengalensi nomen *Smdkigool*.—Arbor.

Adnot. 1. Var. fi prseter indicatam nec ullam exhibit differentiam, exemplum quod Z n *Herbario Hamiltoniano* adest, nihil camphorati jam exhibebat.

Adnot. 2. In Horto Calcuttano culta arbor paulo brevioribus latioribusque foliis prodiit, caeterum spontanea simillima.

Adnot. 3. *Ocotea declinata* Blum. Bydr. p. 512, nostrae proxima, differt foliis brevioribus, supra lucidis, subtus glaucis et glabris, paniculisque (etiam in hac corymbosis) ratione foliorum majoribus.

7. *Ocotea pallida*; foliis lanceolatis cuspidatis subtus glaucescentibus, ramulis paniculisque contractis pubescentibus, perianthii laciniis ovatis subaequalibus.—*Laurus pubescens* Wall. Cat. n. 2595 (ex parte).

Habitat in Napalia. Lecta anno 1820 a Wallichio.

Adnot. 1. Species haec primo intuitu accedit: 1°. quoad inflorescentiam *Ocotea sericea*, quae differt, foliis aetate subtus subtiliter reticulatis nec glaucis, paniculis omnibus aphyllis, perianthii laciniis oblongis; 2°. quoad folia *Ocotea lanceolata*, hujus vero folia subtus non glaucescunt, rami adultiore albâ epidermide splendent, paniculae corymbosae sunt et subdivaricatae, floresque minores glabrescunt; 3°. *Ocotea pubescenti*, quae quidem longius distat foliis subtus magis venosis, nec glaucis, basi cuneatis, apice breviscuspidatis, paniculisque laxis patulisque majoribus, floribus autem minoribus.

Adnot. 2. Et *Ocotea pallida** folia *Stigmatidio eleganter* infestantur simulque ornantur.

8. *Ocotea ligustrina*; foliis lanceolatis utrinque acutis subtus tenuissime pubescentibus, paniculis staminibusque glabris.—*Laurus Mgustrina* Wall. Cat. n. 2588.

Lecta in Singapur a Wallichio anno 1822. (Fructum non vidi.) *Ocotea lanceolata* persimilis.

XVIII. ALSEODAPHNE.

(Lauri spp. Wall. Cat. Ocoteae H. et K., Blume.)

Flores hermaphroditi, paniculati nudi. Perianthium sexfidum, chartaceum, limbo deciduo. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis stipitatis compressis ad basin stipata; filamentis in pluribus dilatatis. Antherae oblongae, quadri-

locellate, valvulis totidem adscendentibus dehiscentes, locellis exteriorum omnibus anticis, trium interiorum posticis. Stammodia tria stipitata capitulo (introrsum) sagittate-lanceolata in sene magis interior!, dorso eglandulosa. Stigma discoideum. Bacca monosperma, perianthii basi integræ orbiculat* explanatae insidens. Inflorescentia: Panicul*, in riostris e squamarum gemmæ terminalis axillis subcorymbos* (ut in PERSE A), ramis in quibusdam subumbellifloris. Gemma foliiparæ compact®, squamis paucis hiantibus extrorsum tectæ. Folia penninervia, ramis (nervorum) venosis vel costaeformibus.

Accedit CAMPHORJE, a qua differt staminodiorum interiorum capitulo longiore, angustiore, non glanduloso, gemmis non perulatis, foliis penninerviis, nee nervosis. A CINNAMOMO differt calycis tubo sub fructu piano, nee cupulari, foliis non nervosis. Ab OCOTEA, cui floris structurâ proxima, perianthii limbo deciduo, discum planum integrum relinquentem, recedit. Inflorescentia quoque alio modo composita est.

Etimologia: aktog, tog, nemus; Sapw, laurus.

1. *Alseodaphne semecarpifolia*; foliis obovato-cuneiformibus subtus glaucis glabris «venoso-penninerviis, paniculis terminalibus ramis apice cymoso-umbellatis.—*Laurus semecarpifolia* Wall. Cat. n. 2586 A.

Habitat. . . Vidi exemplum Hb. Heyn.—Arbor.

Adnot. Laurus semecarpifolia? Wall. Cat. n. 2586 B, in Nilghiry, a Noton lecta, cujus exempla absque foliis addita sunt, ad MENISPERMACEAS pertinet, COCCULO proxima, sed fortasse distincti generis ob stamina (mascula est planta) petalis, seu sepalis tertiæ seriæ, obovato-cuneatis apicem versus denticulatis ita adnata, ut supra tantum laminae pars libera restet, cui primo sub adpectu anthera inniti ideoque filamento petaloideo instructa esse videtur. Sepala exteriora oblonga sunt, interiora ovato-orbiculata duplo longiora et latiora, haec omnia pulchre purpureo-reticulata. Pistilli nulla vidi vestigia.—Inflorescentia racemosa, ramis remotis apice cymosis subumbellatis, pedunculis bi- trifidis. Flores vix dimidiâ lined latiores.

2. *Alseodaphne grandis*; foliis cuneiformibus subtus glaucis glabris costato-penninerviis, costâ mediâ in facie superiori angustâ canaliculatâ, paniculis terminalibus ramis dichotomis.—*Laurus grandis* Wall. Cat. n. 2594, A.

Crescit in Penang (G. P.).—Arbor excelsa.

Adnot. 1. Ob summam, quæ inter hanc et *Alseodaphnen semecarpifoliam* existit affinitatem laciniarumque calycinarum a disco solubilitatem huic gGneri adscripsi, tametsi nee fructus nee flores perfecti adessent

Adnot. 2. Exemplum alterum, *Lauri grandis* nomine e Singapur a. 1822 advectum, primo quidem intuitu vix differre a nostra specie videtur, at tamen dubia movebat foliorum accuratius inspectorum diversitas, quæ quidem pede longiora, in petiolum vix pollicarem, supra planum, longe decurrunt, et costâ mediâ, supra latâ et planâ, subtus carinatâ, ramisque costalibus revera costiformibus planis bisulcis aberrant. Deficiente tamen flore certiora proferre not licet. Si hujus esset generis, his verbis describi posset:

(3.?) ?*Alseodaphne costalis*; foliis cuneiformibus subtus glaucis glabris costato-penninerviis, costâ supra ramisque costalibus subtus planis . . .—*Laurus grandis* Wall. Cat. n. 2594, B.

Crescit in Singapur; lecta a Wallichio a. 1822 absque fructu.

3 ? *Alseodaphne lucida*; foliis ovalibus coriaceis supra lucidis costato-penninerviis, costâ subtus, ramisque prominulis petiolisque furfureo-pubescentibus.—Zilanw ? *lucida* Wall. Cat. n. 2590.

Crescit in Singapur; lecta a Wallichio anno 1822.—Arbor. Flores non inventi.

Adnot. Arborem incertæ sedis, eamque fortassis a familia LAURINARUM prorsus alienam, ob antecedentium quandam, levioris scilicet momenti, similitudinem hic adjunximus.—Ad QUERCUS genus eam pertinere, vix dubium est.

XIX. CAMPHORA.

(Lauri sp. *Lin., Auctorr. et Wallich.* Perseae sp. *Spr.* Cinnamomi sp. *Jr. Nees ab Esenb.* Borboniae spp. *Plum., Gcrtin.*)

Flores hermaphroditî, paniculati, nudi. Perianthium sexfidum,

chartaceum, limbo deciduo. Stamina fertilia uovem triplici serie, quorum tria interiora staminodiis binis stipitatis compressis ad basin stipata. Antherae ovate, quadrilocellatae, valvulis totidem adscendentibus dehiscentes; locellis exteriorum anticis, trium interiorum posticis. Stammodia tria istis conformia in serie circa staminibus secundi ordinis subalternante; tria alia stipitata capitulo ovato glanduloso interdum distinctius antheriformi, in serie magis interiori. Stigma discoideum. Bacca monosperma, perianthii basi obconicae integræ (subinfundibuliformi) insidens.—Variat staminibus tertiæ seriæ sterilibus. Inflorescentia: Paniculae parvae, simplices, subtrichotomse, axillares, vel in continuatione terminali ramuli, foliis deficientibus caducisve ad speciem composita terminalis. Gemmae foliiparæ axillares et terminales perulatae, squamis multis imbricatis. Folia glabra triplinervia, axillis ramorum lateralium (nervorum) in plerisque glandulosis, glandulâ immersâ, subtus poro dehiscente.

Differt ab ALSEODAPHNE staminodiis pluribus, omnibus stipitatis complanatis, interioribus glandulosis; gemmis imbricatis; foliis nervosis. A CINNAMOMO, cui foliis nervosis magis propinqua, recedit calyce fructus non truncate dentate seu inciso, et staminodiorum naturâ, gemmisque. A reliquis *tetatheciis longis*, tum calyculifructus conditione, tum inflorescentiâ distinguitur.

Adnot. Cl. *Jacquin* in *Adnot. Bot.* IV. p. 221. t. 3. f. 2. *Lauri Camphora* filamerita tribuens capitata, capitulo intus foveis duabus excavate, antheramque didymam subrotundam luteam parvamque ex fundo cujuslibet foveolæ filamentî egredientem proprioque filamento capillari sustentatam, valvulas locellorum antherae, et dissepimentum illud obliquum, quo locellus superior ab inferiori separatur, filamentum proprium capillare censuit,—cujus rei luculentissimo argumento sunt figurae tabulae supra citatae.

1. *Camphora officinarum* Bauh.; foliis triplinerviis supra lucidis, axillis venarum glandulosis, paniculis axillaribus, terminalibusque corymbosis nudis, floribus extus glabris. — *Camphora officinarum* C. Bauh. Pin. p. 500: Blackw. t. 347. *Laurus Camphora* Lin. Mat. Med. p. 107. Mill. Diet. n. 9. Jacq. Coll. Bot. IV. p. 221. t. 3. f. 2. Willd. Sp. Pl. II. 1. p. 478. n. 3. Pers. Syn. I. p. 448. n. 4. Lour. Fl. Cochinch. I. p. 306. n. 2. Roxb. Hort. Calc. p. 89. Blume Bydr. p. 533. Wall. Cat. n. 2604: *Persea Camphora* Spr/Syst. Veg. II. p. 268. n. 5. *Cinnamomum Camphora* Fr. Nees ab Esenb. Handb. d. Med. Bot. II. p. 430. Herb. Pharm. 1.127. *Laurus Camphorifera* Kaempf. Am. Exot. p. 770. t. 771. *Arbor camphorifera japon.* Breyn. Prodr. II. p. 16. Ic. p. 16. t. 2. Comm. Hort. I. p. 185. t. 59.

Habitat in Japonia et China, Lùm nào hiàm, Lông nào incol. Vidi exempla culta ex Horto Calcuttano hortisque Europaeis compluribus. Floret Maio et Junio. Literatîs *Ssio*, vulgo *Kus no ki*, aliis *Nambók* dicta (Kaempfer).—Arbor.

2. *Camphora, glandulifera*; foliis subtrinerviis supra nitidis subtus caesio-glaucis, axillis venarum glandulosis subtus in junioribus lanuginosis, paniculis axillaribus, floribus extus pubescentibus.—*Laurus glandulifera* Wall, in Act. Soc. Med. et Phys. Calcutt. Vol. I. p. 45.* Catal. n.2601.

Habitat in montibus Napaliae, ubi Wallichius anno 1821 invenit. — Arbor procerâ.

Adnot. Differt a *Camphora officinarum* foliis majoribus, plerisque latioribus, nee splendidis, neque evidenter triplinerviis, subtus pruinoso-glaucis, poro glandularum villis obtecto minore demum fimbriato, florum paniculis majoribus, omnibus (quas vidi) axillaribus, perianthioque extus pubescenti-tomentosulo laciniis brevioribus latioribusque, odore camphorato denique multo debiliore.

3. *Camphora Parthenoxylon*; foliis subtriplinerviis opacis eglandulosis, corymbulis terminalibus sub anthesi foliolosis.—*Laurus Parthenoxylon* Jack in Mai Misc. Vol. I. n. 5, p. 28. Wall. Cat. n. 2602. *Laurus porrecta* Roxb. Hort. Calc. p. 30. *Laurus Pseudo-Sassafras* Blume Bydr. p. 573.

Crescit in Penang (Jack et Wallich); Sumatra a C. Campbell a. 1803 in Hortum Calcuttanum illata (Roxb.); in Java insula in sylvis provinciarum Buitenzorg et Tjanjor (Blume). In Horto Cal-

* "Description of the Tree which produces the Nipal Camphor Wood and Sassafras Bark. With a Plate."—W.

cuttano floruit mensibus temperatis, fructumque maturum praebuit m. Maio.—Arbor valida.

Adnot. Cum *Camphora officinarum* convenit multis, sed differt: foliis majoribus, tenuioribus, minime lucidis, plerisque basi magis attenuatis, sed cuspidate apicis breviori praeditis, non concinne triplinerviis, nonnullis ad speciem penninerviis, sed semper tamen ramis infimis acutiori angulo egressis apicem petentibus, tum gemmis obtusioribus, ramulis florentibus brevibus subcorymbosis foliis parvis instructis, corymbulisque florum minoribus magis confertis.—Odor florum tritorum valde camphoratus.

XX. CINNAMOMUM *Burm., Blum.*

(*Persea* spp. *Spreng.* Lauri spp. *Lin. et alior.*)

Flores hermaphroditae, seu potius polygamae, paniculatae vel fasciculatae, nudi. Perianthium sexfidum, coriaceum, limbi parte superiore, vel rarius toto limbo, in tubo cupuliformi decidua. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis sessilibus glanduliformibus ad basin stipata. Antherae ovatae, quadrilobatae, valvulis totidem ascendentibus dehiscentes, locellis inferioribus magis lateralibus; tres interiores extrorsum versae. Staminodia tria capitulo ovato in serie magis interiori. Stigma discoideum. Bacca monosperma, basi perianthii cupuliformi margine ob partem inferam laciniarum persistentem sexfidam suffulta.—Inflorescentia paniculata, trichotoma, rariusve, ob ramos abbreviatis, in fasciculum redacta, non involucreta, axillaris vel terminalis. Folia nervosa, in plerisque per paria approximata vel subopposita. (Gemmae foliiparae non *serotinae imbricatae.*)

Adnot. Ab omnibus Laurinis CINNAMOMI species distinguuntur laciniis perianthii in plerisque ad dimidium tantum deciduis, parte inferiori indurata restante, quo evenit, ut cupula truncata quidem, sed tamen sexfido margine in conspectum veniat. Summitas lacinae sutura arcuata discedit, sub anthesi non conspicua, mox autem, cum tubus cum laciniarum parte inferiore durescat, lineae paululum elevatae forma apparet, a qua superior pars lacinae introrsum flexa per aliquod tempus perstat, donec processu temporis a basi penitus separetur; in paucis tota quidem lacinia perstat, sed linea separationis non minus evidens, dubium non relinquit, quin possit saltern, casu, vel natura saltern viam monstrante, spontanea evenire solutio.

1. *Cinnamomum obtusifolium*; ramis obtuse tetragonis glabris, foliis elliptico-oblongis apice sphacelatis basi acutis triplinerviis arcuato-reticulatis, paniculis terminalibus corymbosis, laciniis calycis cum fructu persistentibus.—*Laurus obtusifolia* Roxb. Hort. Beng. p. 30. Wall. Cat. n. 2574 A et C. *Laurus Bejolgota* Hamilt. in Linn. Transact. xiii. 2. p. 559 (excl. synonym. *Lauri malabathrica* Hort. Beng.). Spr. Syst. Veg. ii. p. 265. n. 3.

(*Z.* ?, antheris nullis, paniculis thyrsoides.—*Laurus macrophylla*, an *Z. obtusifolia* Roxb.? Wall. Cat. n. 2575. *Katoukarua* Rheed. Hort. Mai. v. p. 105. t. 53?)

Habitat in sylvis Kamrupae (Rungpur) ad Tistam fluvium prope Patgong (Hamilt.); in Sillet, a D. S. lecta (Wallich).—(3. in Horto Calcuttae e Sillet illata. Floret Januario et Febuario; maturescunt fructus Julio et Augusto mensibus. Nomen Benghalensium *Bejoghota* (Hamilt), *Kmtun* (Roxb.).—Arbor maona.

Adnot. Minim. arborem "Katou Karu a" fecundum Rheedii adnotationes vulgarem et cuius cortex « odoris saporisque cinnamomi » haud infrequenti usu haberi videbatur, nunc penitus nos latere, neque inter tot, quot Wallichius alique strenuissimi observatores ex India orientali retulerunt, ullum adesse exemplum quod Katou Karu iconi atque descriptioni omni numero conveniat. *C. obtusifolii* cortex fuscus insipidus fere, odore, cum dissectur, Cinnamomi fugacissimo.

2. *Cinnamomum Bazania*; ramis acute angulatis glabris, foliis elliptico-oblongis apice sphacelatis basi acutis triplinerviis arcuato-reticulatis, paniculis axillaribus terminalibusque soli (ariis) angustis, laciniis calycis cum fructu persistentibus.—*Laurus Bazania* Hamilt. in Act. Soc. Lin. Lond. xiii. 2. p. 560. *Laurus obtusifolia* Wall. Cat. n. 2574 B.

Habitat in montibus Napalicae superioribus prope Cosam fluvium (Hamilt)* lectum Septembri 1810 cum floribus defloratis (Hb.

Hamilt)* Nomen apud indigenas: *Bazania*.—Arbor simillima praecedenti, ejusque fortasse varietas.

3. *Cinnamomum iners* Reinw.; ramis teretibus glabris, foliis elliptico-lanceolato-ovoblongis basi acutis apice subattenuatis obtusis triplinerviis subaveniis, paniculis compositis axillaribus terminalibusque pedunculatis, floribus sericeis, laciniis infra apicem deciduis.—*Cinnamomum iners* Reinw. Blume Bydr. p. 570. *Laurus iners* Reinw. in litt. *Laurus Malabathrum* Wall. Cat. n. 2583 A (ex parte). Variat perianthio novemfido dodecandro.

Crescit in Penang (Wallich); in fruticetis montanis Javae (Reinwardt, Blume).—Frutex?

4. *Cinnamomum dubium*; ramis teretibus glabris, foliis (superioribus) ovatis apice attenuatis basi obtusis triplinerviis subaveniis, paniculis axillaribus subterminalibusque pedunculatis subsimplicibus parvis, floribus sericeis, laciniis ovatis acutis.—*Laurus dubia* Wall. Cat. n. 2571. *Laurus Cassia* Hb. Wight

Habitat... Vidi exemplum Herbarii Wightiani, maxime incompletum, at nulli praecedentium apte conferendurn, nisi forte *Cinnamomi inertis* sit varietas. Cortex inodorus.

5. *Cinnamomum eucalyptoides*; ramis teretibus glabris, foliis inferioribus elliptico-oblongis, superioribus subovatis basi acutis apice subattenuatis obtusis trinerviis subaveniis, paniculis subterminalibus axillaribusque sessilibus, floribus argenteo-sericeis, laciniis obovato-cuneiformibus medio deciduis.—*Laurus malabathrica* Roxb. Hort. Calc. p. 30. Wall. Cat. n. 2583 B. *Laurus nitida* Hb. Hamilt Wall. Cat. n. 2582 C.

Variat perianthio quadrifido, staminibus quinque (scilicet 3 exterioribus et 2 interioribus, quorum alterum staminodio singulo alterum geminis ad basin instructum est), et staminodiis liberis interioribus duobus oppositis.

Vidi exempla culta ex Horto Calcutt.—Arbor. Sapor et odor foliorum fortis et acris caryophyllorum cum levi camphorae tinctura. Baccam non vidi. Media quasi species inter *Cinnamomum iners* et *nitidum*, ut aegre distinguas.

Adnot. 1. Flores hujus speciei anomali, quadrifidi pentandri ad dubiam illam Katou Karuam Rheedii alludere videntur, cujusmodi flores certo et in aliis Cinnamomorum speciebus inveniuntur.

Adnot. 2. Hujus quoque arboris folia (ut ista *Cinnamomi obtusifolii*, *C. Tamalez* aliorumque) inter "Folia Malabathri officinarum recensenda esse, neque immerito earn Malabathri nomine a Roxburghio proponi, experimento, in pharmacopolarum tabernis institute, edoctus sum.

6. *Cinnamomum nitidum*; ramis teretibus glabris, foliis ovato-ellipticis basi apiceque subattenuato-obtusis triplinerviis obsolete venulosis, superioribus majoribus, paniculis subterminalibus axillaribusque, inferioribus sessilibus elongatis, floribus argenteo-sericeis, laciniis ellipticis medio deciduis.—*Cinnamomum nitidum* Hook. Exot Fl. tab. 176. (excl. synonym. *Cinnamomi Cassia* Nees ab E. Disput?) *Laurus nitida* Roxb. Hort. Calc. p. 30. Wall. Cat. n. 2582 A.

Habitat in Sumatra (Roxb.); a Carolo Campbell a. 1802 in Hortum Calcuttanum illatum. Floret Januario et Febuario, maturat fructus Maio et Junio.—Arbor. Nomen Malaicum: *Coolit manes* (Roxb., Marsden). Corticis odor saporque cinnamomeus.

Adnot. 1. *Cinnamomi Zeylanici* varietati a adeo similis est haec arbor, ut nisi plurimam fidem tribuendam censeretur viris, qui utramque arborem in eodem horto sub dio crescentem per plures annos observavere, distinctamque esse speciem declaravere, ipso etiam Hookero in libro citato annuente, varietatis loco lubentius posuissem. Ex altera autem parte accedit, quoad inflorescentiam, *Cinnamomo eucalyptoidi*, differt autem odore et sapore corticis.

Adnot. 2. Icon cl. Hookeri paniculas sistit, ut decet plantam in caldario nutritam, minores, depauperatas, nee basi divisas, et staminodia geminata stipitata. Quae quidem, praesertim cum folia elliptico-lanceolata et ad apicem usque nervosa descripta (neque vero in icone depicta) memineris, niagis cum *C. eucalyptoides* nostro, quam cum *C. nitido* convenire videntur; obstat autem, quod *cinnamomi* ex hac arboreparati mentionem repetat, nullam adnotatione additam, tametsi foliorum tantum, neque corticis, odorem et saporem ex propria ob-

servatione, adeoque caryophyllaceum sane magis quam cinnamomeum pro nota adjiciat. Cum Lauri nitidae Herbarii Hamiltoniani in Horto Calcuttano decerptum exemplum omnino ejusdem arboris sit, cujus alterum ramulum, *Lauri Malabathrica* nomine inscriptum, Herbarium Wallichianum monstrat, dubia, ex his mota, non nisi triplici modo solvi possunt: primo, cum statuas, eandem arborem non solum foliis floribusque diversis, sed etiam corticis sapore, nunc caryophyllaceo nunc cinnamomeo esse pTactitam, quod sane legibus naturae non consentaneum; secundo cufft aliâ aetate caryophyllura, aliâ autem cinnamomum olere posse concedas; tertio denique, quod milii quidem ante omnia placet, quaerendo, numne arbores diversae, eodem nomine inscriptae, in amplissimo isto horto exstiterint, quarum surculi et ramuli vario tempore in Herbaria et Hortos delata, difficultates istas, non nisi in loco natali resolvendas, excitavere.

7. *Cinnamomum Zeylanicum*; ramis subtetragonis glabris, foliis ovatis ovato-oblongis in acumen "obtusum productis triplinerviis trinerviisve subtus reticulatis glabris, superioribus minoribus, paniculis terminalibus axillaribusque pedunculatis, floribus cano-sericeis, laciniis oblongis medio deciduis.

a. foliis subcordatis ovatis acuminatis obtuso.—*Cinnamomum Zeylanicum* var. /3 Blume Bydr. p. 569. *Laurus Cinnamomum* /3 Nees ab Esenb. Fratr. Digp. de Cinnam. p. 50. t. 2. f. B.

(3. foliis ovatis vel ovato-oblongis obtusis aut brevissime obtusissimeque cuspidatis; (1.) cortice odorato cinnamomeo.—*Cinnamomum Zeylanicum* Blume Bydr. p. 568. Fr. N. ab E. Handb. d. Med. Pharm. Bot. II. p. 420. *Laurus Cinnamomum* N. ab E. Frr. Disp. p. 48. t. 2. f. A aim omnibus synonymis. *Per sea Cinnamomum* Spr. Syst. Veg. p. 267. n. 1. Link Handb. I. p. 388. *Laurus Cinnamomum* Wall. Cat. n. 2573 B. ex parte. *Laurus nitida* Hb. Heyn. Wall. Cat. n. 2582 B. *Laurus Malabathrum* Wall. Cat. n. 2583 C. *Laurus Cutilaban* Hb. Hamilt.

(12.) cortice inodoro insipido vel vix aromatico.—*Laurus Cinnamomum* Hb. Madrasp. et Wight. Wall. Cat. n. 2573 C. D.

y. foliis oblongis aut ellipticis apice longius attenuatis, basi acutis.—*Laurus Cassia* Hamilton in Linn. Transact. XIII. 2. p. 555 et Linn. Mat. Med. p. 64. Sp. Pl. I. p. 369. Syst. Nat. ed. Hal. a. 1760. p. 1010. Sp. Pl. ed. Willd. II. 1. p. 477, cum Kama Rheed. Mai. I. p. 107. t. 57 et aliis omnibus synonym. sub *Lauro Cassia* a N. ab E. Frr. 1. c. p. 53 allatis, prater sequentia: *Laurum Cinnamomum* Lour, et Andr., *Laurum Cassiam* Ait. etc. et *Laurum Malabathrum* Reinw., quae cunctae ad aliam speciem, *Cinnamomum aromaticum* appellandam, spectant, addendo autem synonym.: *Cassia cinnamomea sylvestris pigrior* etc. Pluk. Aim. p. 88. Turn *Laurus Cinnamomum* /3 *angustifolium* Roxb. Hort. Calcutt. p. 30, *Laurus Cinnamomum* Wall. Cat. n. 2573 B, ex parte. *Laurus Malabathrum* Wall. Cat. n. 2583 A, ex parte. *Laurus rigida* Wall. Cat. n. 2570. *Cinnamomum perpetuo jortns* etc. Burm. Thes. Zeyl. p. 63. t. 28.

I. floribus octofidis, staminibus fertilibus 12, staminodiis geminatis 8, interioribus 4.

Crescit var. a culta in Java insula (Blume); (3) spontanea in Zeylona, culla in Horto Calcutt., in Java pluribusque idoneis terris utriusque orbis tropicis, frequens etiam in hortis nostris; y quasi spontanea "pro sylvestri tamen non habenda" (Rheed. H. Mai. v. p. 105.) in Indiae orientalis continente, probabiliter a Belgis, cum Zeylonam in ditone tenerent, ut levioris pretii species, exteris concessa. Vidi exempla in Penang a Wallichio anno 1822, et in montibus provinciae Sillet a F. D. lecta, et alia ex Horto Calcuttano allata. Var. S in vjtr. y observavi. Floret Januario et Febuario, fructum perfcit Junio et Julio mensibus.

Nomen apud Bengalenses *Bar cheeni* (Roxb.).—Arbor humilis vel frutex.

Adnot. 1. Var. (3) exempla inodora, cum ad normam convenient, separari non possunt, probabiliter aetate exhausta, cum ex antiquis herbariis proficiscantur. Mirum tamen, cam Royeniana ilia, quae in Disp. de Cinnamomo descripsimus, multo vetustiora, integrâ in hunc diem gaudent virtute aromatis. Folia illis inodora pleraque quinque-nervia, neque vero hoc magis, ac in reliquis multis, nullaque constanti regula.

Adnot. 2. Exempla var. y, sponte, vel quasi sponte, in Sillet et Penang nata, rigiditate foliorum et panicularum differunt, foliisque paullo longius acuminatis, ut fieri solet in plantis neglectis. Haec autem maxime ad *Karuam* Rheedii accedunt, sed, si quis distinguere caractere specifico tentabit, certò in ipso opere operati perditum iri sentiet.

Adnot. 3. In Herb. Wightiano *Lauri Cinnamomi* nomine ramus exstat singularis notae, sed flore fructuque expers... ad var. y *Cinnamomi Zeylanici* appropinquans; in montibus Dindygul lectus. Hujus loci ?*Laurus Cinnamomum* Hb. Wight. ? Wall. Cat. n. 2573 E.

Observ. Cum Disputationem de Cinnamomo conscriberemus, ante omnia id probare studebamus, Laurum, quam tune temporis in hortis plerisque Cinnamomi nomine venditabant, Laurum Cinnamomum Linnei non esse, sed illam potius quam Laurum Cassiam declaraverant in libro, qui *Botanical Magazine* inscribitur, veram esse *Laurum Cinnamomum* Linnei. Idque re verâ sic esse, ut diximus, nunc extra omne dubium positum est. Ab altera parte, cum ea, quam in hortis L. Cinnamomum appellare consueverant, praestantissimi odoris et saporis species, Lauro, "Kama" a Rheedio dictae, satis similis esse videretur, uobisque persuasum esset, hanc speciem hortensem ex India orientali ad nos pervenisse, collectis omnibus, quae veteres et recentiores, praesertim a Linnei temporibus de Cassia tradidere, hanc Linneam Laurum, Cassiam dictam, ob synonymon Rheedianum, eandem esse ac illam quam diximus, in hortis obviam, statuente, lapsi sumus. Patet enim ex iis, quae docte cl. Hamiltonius de ea re disseruit in Actis Linnaeanae Societatis, XIII. 2. p. 550 sqq., *Karuam* Rheedii, et *Laurum Cassiam* eorum qui hunc sequuntur, varietatem esse *Lauri Cinnamomi* Lin. seu *Cinnamomi Zeylanici* angustifolium, in plagis continentalibus Indiae orientalis non tam spontaneam, quam efferat et quasi sponte nascentem. Quae quidem multis exemplis, a Wallichio advectis, satis superque demonstrantur ipsisque verbis Rheedianis confirmantur. Neque ullum ejus speciei, quam "Laurum Cassiam Linnei" 1. c. appellavimus, exemplum inter plantas Wallichianas exstat; habemus autem sicca specimina, a cl. Blumio e Java allata, quibus patet, hanc speciem, e China in Javam delatam, veram esse Cinnamomi chinensis, ab Hamiltonio 1. c. laudati et perperam a Lauro Cubeba Lour, derivati matrem. Quae cum ita sint, veterum scriptorum ante Linneum de Cassia lignea sententiae pleraeque dubiae fiunt semperque manebunt, cum nemini constet, utrum de Cinnamomo e China inter merces allato, an potius de Cinnamomi Malabaricae indigenae specie sermo sit. Linnei autem *Laurus Cassia*, et omnium eorum, qui a Rheedio hausere, cum var. y *Cinnamomi* quod *Zeylanicum* dixi, merito conjungitur. Novum igitur nomen invenire necesse est praestanti illi Sinensium arbori cinnamomiferae, quam recentiores plurimis novisque dubiis vexaverunt. Nobis erit:

Cinnamomum aromaticum; ramulis angulatis petiolisque striguloso-tomentosis, foliis oblongis utrinque acutiusculis subtus arcuato-venulosis triplinerviis nervis ad apicem folii evanescentibus, paniculis angustis sericeis.—*Laurus Cassia* N. ab E. Frr. Disp. p. 53. t. 3. (excl. pll. synonym.) Ait. Hort. Kew. II. p. 427. Hornem. Hort. Havn. Suppl. p. 134. Dierb. Handb. d. Med. Pharm. Bot. p. 182. Virey Hist. Nat. des Medic, p. 163. *Per sea Cassia* Spr. Syst. Veg. II. p. 267. Link Handb. I. p. 388. *Cinnamomum Cassia* Blume Bydr. p. 570. Fr. N. ab E. Handb. d. Med. Pharm. Bot. I. p. 424. *Laurus Cinnamomum* Lour. Fl. Cochinch. ed. Willd. I. p. 305. Andr. Repos. t. 595. *Laurus Malabathrum* Reinw. in litt.

Habitat in China. Vidi exempla Javanica culta, et hortensia (Europa).

8. *Cinnamomum sulphuratum*; ramis tetragonis petiolisque ac paniculis sulphureo-sericeis, foliis ovatis ellipticisve apice brevi obtuso prominulo, triplinerviis subtus reticulatis, junioribus minutim pubescentibus, superioribus minoribus paniculis axillaribus pedunculatis, laciniis perianthii ovalibus.—*Laurus Cassia*? Hb. Heyn. *Laurus Malabathrum* Wall. Cat. n. 2583 D. *Cinnamomum javanicum* Blume Bydr. p. 570?

Vidi exemplum ex Herb. Heyneano.—Fructum non observavi. *Cinnamomo Zeylanico* \$ adeo congrua species, ut vix distinguas. Diversa tamen videtur.

9. *Cinnamomum Tamala* Fr. N. ab E.; ramis subteretibus, junioribus pubescenti-scabris, foliis oblongo-lanceolatis acuminatis basi acutis glabris triplinerviis, nervo medio infra apicem nervi, paniculis subterminalibus axillaribusque pedunculatis divaricatis, perianthii campanulati laciniis obovatis acutiusculis utrinque cano-sericeis infra medium deciduis.—*Cinnamomum Tamala* Fr. N. ab E. Handb. d. Med. Ph. Bot. II. p. 426. *Laurus Tamala* Hamilt. in Act. Soc. Linn. Lond. XIII. 2. p. 555. (excl. synonym. *Lauri Cassia* Hort. Beng., quae ad *Cinnamomum albiflorum* pertinet.) *Persea Tamala* Spr. Syst. Veg. II. p. 268. n. 4. *Laurus Cassia* Lin. Wall. Cat. n. 2580 B. *Laurus albiflora* Wall. Cat. n. 2569 C. *Cassia cinnamomea strictiore folio, ignobilior, cujus folium est Malabathrum sen Tamalabathrum angustifolium, in officinis frequens* Pluk. Aim. p. 89.

Clariss. Hamiltonius, teste Herbario, legit in Derwani et Gongachora, cultamque in hortis Camrupae (Rungpur); in Sillet F. D. invenit.—Floret Martio, fructuosus sub finem Aprilis et Maio mense perficit. Yidi exempla Hamiltoniana.

Nomen inter Bengalenses *Taj (Tadsch)*.—Arbor mediocris. Corticis odor et sapor cinnamomi; foliorum caryophyllini.

10. *Cinnamomum albiflorum*; ramulis tetragonis, junioribus scabrusculis, foliis oblongis ovato-oblongis acuminatis basi acutis glabris valide triplinerviis subtus glaucescentibus, nervo medio infra apicem nervuloso, paniculis terminalibus axillaribusque subfasciculatis ramis trifloris, perianthii patentis laciniis ovali-oblongis intus staminibusque candido-sericeis infra medium deciduis.—*Laurus albiflora* Wall. Cat. n. 2569 A. et E. *Laurus Soncaurium* Hamilt. in Act. Soc. Linn. Lond. XIII. 2. p. 557, et in ej. Hb. Spr. Syst. Veg. II. p. 266. n. 20. *Laurus Cassia* Roxb. Cat. Hort. Bengal, p. 30. Wall. Cat. n. 2580 A. *Laurus triplinervia* Reinw. in litt. *Cinnamomum Cassia* Don Fl. Nep. p. 67. *Cinnamomum camphoratum* Blume Bydr. p. 571. *Nieke Coronde*, Hist. Cinn. in Act. Ac. N. Cur. vol. J. App. p. 5. N. ab E. Frr. Disp. de Cinn. p. 64. t. 6. f. 6 (Ic. ex Act. Ac. N. C. repetita.)

[3. foliorum nervis lateralibus plerumque prope basin bifidis, nervulo tenui utrinque juxta basin accedente.—*Laurus albiflora* Wall. Cat. n. 2569 B. et D. *Laurus Soilyana* Hamilt. 1. c. p. 558. Spr. l. c. p. 266. n. 22.

Crescit in montibus Nepalie superioribus ad Cosam fluvium (Hamilt.); Palpa Nepalie et montes Majukani (ejusd. Herb.); in Horto Calcuttano, a. 1796 ex India allata (Roxb.). Var. [8 ab Hamiltonio Rungpuriae in horto lecta est et a Kamrup in Srinaghur, ab utroque absque flore et fructu.—In Javae insulae provinciarum occidentalium sylvis montanis cl. Reinwardt et Blume invenerunt. Floret a Februario in Aprilem usque; fructum fert Julio et Augusto mensibus (Roxb.).—Nomen apud Bengalenses *Tej* (Roxb.).—Fructum non vidi.—Arbor speciosa, *C. Tamala* admodum similis, sed certò diversa. Cortex fuscus, in ramis adultis (et radice) crassus, odore et sapore camphorato acri, in ramulis juvenilibus singulari, e camphora cum cinnamomo mixto dulci et mucilaginoso.

Adnot. 1. Var. [3 plantam juvenilem vel ramos steriles vegetosque sistit.

Adnot. 2. A *Cinnamomo Tamala* praeter folia floresque differt odore et sapore corticis.

11. *Cinnamomum duke*; ramulis teretibus glabris, foliis oblongis obtuse acuminatis basi acutis glabris concoloribus triplinerviis, nervis lateralibus costâque apicem versus venuloso-ramificatis tenuibus, paniculis axillaribus terminalibusque ramis trifloris, perianthii patentis laciniis ovali-oblongis medio deciduis.—*Laurus dulcis* Roxb. Hort. Beng. p. 30. Wall. Cat. n. 2581 A, B. *Cinnamomum chinense* Blume Bydr. p. 569. *Laurus Burmanni* N. ab E. Frr. Disp. de Cinn. p. 57. t. 4. f. 1 (descriptio quantum ad exemplum Hb. Willdenowiani respicit.)

Habitat in China. Vidi exemplum Horti Calcutt. cum Roxburghiano Herbario collatum; alterum in Herb. Willdenowiano.—Simile habitu *Cinnamomo albifloro*. Corticis sapor et odor cinnamomi debilissimus.

Adnot. 1. Inter species "foliis alternis" praeditas posuit hoc *duke* *Cinnamomum* Roxburghii in Horto Bengalensi, 1. c. quod quidem

non magis isti, quam pluribus reliquis, v. c. *C. albifloro* et *C. Tamala* convenit. Oppositiones foliorum in his, cunctisque CINNAMOMI generis arboribus ejusmodi sunt, ut ubicunque laetior vegetatio intervalla nodorum augeat, ipsa etiam intervalla foliorum eorundem parium, in iis, quae opposita dicuntur, ad minimum spatii redacta, in conspectum rursus veniant et primum quidem folia per paria sibi proxime conjuncta, mox autem, ulterius increcente nisu partes distrahendi, alterna communi sensu et fere eaeque inter vail is ea distantia procedant diverg. modo € , modo etiam £ .

Adnot. 2. In Disputatione de Cinnamomo 1. c. duas diversasque species errore confundimus, scilicet *Cinnamomum* hoc *duke* Roxburghii, ex Herbario Willdenowiano desumptum, et *Cinnamomum Kiamis* jam exponendum.

Questionem de Cinnamomo perpetuo florente Burmanni nunc, ut plane otiosam mittimus, etsi magis probabile nobis videatur, liunc Thes. Zeylanici locum ad *Cinnamomum Zeylanicum* γ_{K} *Cassiam* trahi posse. Flores 5-fidos dictos nihil moror. Sed utrum fructus, inferi et umbilicati dicti ad exemplum, quod 1. c. floribus gaudens depictum exhibetur vere referendi, an casu fuerint intrusi (cum planta non nisi in herbario observata sit a Burmanno), dirimi jam non potest*.

Cinnamomum Kiamis; ramulis acute tetragonis, novellis pubescenti-scabris, foliis ovali-lanceolatis utrinque acutis glabris subtus caesio-glaucis triplinerviis nervis lateralibus costâque mediâ apicem versus venuloso-ramificatis, paniculis axillaribus trifidis paucifloris, perianthii patentis laciniis oblongis supra basin deciduis.—*Cinnamomum Burmanni* Blume Bydr. p. 569. Fr. N. ab E. Handb. d. Med. Pharm. Bot. II. p. 424. *Laurus Burmanni* N. ab E. Frr. de Cinnam. p. 57. (ex parte), t. 4. f. 2.

Habitat in sylvis montanis provinciarum occidentalium Javae (Blume). Floret Decembri.—Nomen apud indigenas, *Kiamis*. Corticis crassi fusci odor et sapor singularis, dulcis, adstringens, Alyxiae subsimilis.

Adnot. 1. *Cinnamomum pauciflorum*, proxime isti confine, differt foliis latioribus longe cuspidatis simpliciter triplinerviis, pedunculis subtrifloris, cupulâ fructus truncatâ.

Adnot. 2. Ex hac arbore *Corticis Massoi* altera species colligitur, secundum Waitzium, Mater. Med. Javan. ed. Fisch. p. 21.; sed prior ilia hujus corticis species, quam Rumphius describit (Herb. Amb. II. p. 62.), diversae est arboris, in Nova Guinea crescentis, nec *Cinnamomi* generis.

12. *Cinnamomum pauciflorum*; ramulis quadrangularibus glabris, foliis elliptico-ovatis longe cuspidatis glabris subtus glaucis valide triplinerviis nervis apicem versus evanescentibus, pedunculis axillaribus compressis trifloris, perianthii patentis laciniis oblongo-cuneiformibus juxta basin deciduis.—*Laurus pauciflora* WM. Cat. n. 2579.

[3. Foliis angustioribus, exquisite cuspidatis.—*Laurus Tazia* Hamilt. in Act. Soc. Linn. Lond. XIII. 2. p. 557. Spr. Syst. Veg. II. p. 266. n. 21. *Laurus albiflora* Wall. Cat. n. 2569 F.

Crescit in Sillet (F. D.). Var. [3 prope Nathpur et in montibus Nepalie inferioribus ad Cosam fluvium (Hamilt.).—Frutex? Cortex fuscus, odoris aromatici et saporis debilis, *Cinnamomi Kiamis* similis.

Adnot. 1. A *Cinnam. Kiamis*, cui soli propinquum, quibus differat, sub illo invenies.

Adnot. 2. Var. [3, quae probabiliter hujus est loci, sine fructificatione a cl. Hamiltonio re] a est atque descripta.

13. *Cinnamomum Cullilawan*; ramis teretibus glabris, foliis ovato-oblongis attenuato-acuminatis glabris subtus glaucis triplinerviis, costâ infra apicem nervulosâ, paniculis axillaribus paucifloris pubescenti-canis, perianthii campanulati laciniis ovalibus medio deciduis.—*Laurus Cullilawan* Roxb. Hort. Beng. p. 30. N. ab E. de Cinn. Disp. p. 61 (ob synonym., quae ad hanc speciem omnia). Lin. Sp. Pl. ed. WiUd. II. p. 478. Lin. Mant. p. 237. Mat. Med. p. 208. Dierb. Med. Ph. Bot. p. 154. Wall. Cat. n. 2577. Hamilt. in Act. Soc. Linn. Lond. XIII. 2. p. 554. Spr. Syst. Veg. il. p. 265. n. 2. *Laurus Caryophyllus* Lour. Fl. Cochinch. ed. Willd. I. p. 307. n. 3. *Cortex caryophylloides* Rumph. Herb. Amb. II. p. 65. 1.14. Valent. Ind. litt. c. 24. p. 450. Ephem. Acad. Nat. Cur. Dec. II. Ann. I. p. 55. *Cinnamomum Cullilawan* Reinw. in litt. cf. N. ab E. Disp. de Cinnam. p. 62, (excl.

synon. *Syndoc Rumphii*.) *Crawlur* J Hist- of the Ind. x[r]chip. I. p. 512. Fr. N. ab E. Handb. d. Med. Ph. Bot IF. p. 429 ?

Crescit in Amboinse insulae districtu Leytimora circa pagos Saya, Rutton et Ema; in parte australi magnae Ceramae, in sinu Elipaputi usque ad Keffang, (quarum tamen cortex non tam praestans); in insula quoque Molucca, Batsjan dicta, ut et in Papuanis insulis, (quarum cortex Amboinensi praevallet fervore); magnâ etiam copiâ inveniuntur arbores in insulis Key at Aru; in ora orientali Celebis in tractu Caudipan; item in Sumatra circa Palimtmng, et in Borneo circa Succadana. Ex Java itidem Culitlawan advehitur, et puto, corticem osse *Syndoc*; in Solora inventus quoque hic cortex, sed sapore itidem differens ab Amboinensi, ut et in Mindanaou (Rumphius); in Cochinchina (Loureiro); in Java insula? (Reinwardt). Vidi exemplum cultum ex Horto Bengalensi, in quem a Christophoro Smith a. 1800 e Moluccis invectum est (Roxb. 1. c.)—Floret (in Horto Calcuttano, ut in Amboina,) Martio et Aprilis mensibus; fructus decidunt Augusto (Roxb., Rumph.).—Arbor permagna.

Nomen Malaice *Culitlawan*, quasi diceret Culit-lawan, per abbreviationem Culit-Buguliwan, h. e. cortex caryophylleus, ob odorem, quem fert. Amboinice dicitur *Salackal*, et *Salackar*, Javani quidam hanc quoque vocant *Sindoc*. Ceterum *Tedjo* vocatur a Ceram-Lauwensibus et *Eyck* in Aru Haumo (Rumph.). *Poheree-lawan* Malaicâ linguâ vocari (Roxburgh 1. c.).

Adno U *Cinnamomum Culitlawan javankiim* cum foliorum figurâ recedat, cum suis synonymis ut dubium subjunxi, eoque magis, cum Humphio differre Culitlawan Javanensium ab Amboinensi persuasum fuisse videatur, et *Cinnamomum Culitlawan* Blum. Bydr. p. 571, ut e specimine (sterili eo quidem), colligo, aliena sane a nostra sit species foliis oblongo-lanceolatis, basi eximie cuneatis, alte triplinerviis diversa, magisque ad *Cinnamomum eucalyptoides*, quod dixi, accedens. In tanta autem, quae inter Laurinas versatur foliorum inconstantia, odorum et saporum, a solo situque certò certius pendendum, leviores discrepantia ad dubia illa confirmanda solas vix sufficiunt, nisi graviora argumenta, ex aliis forte deducenda, subsidia illis praebeant.

Cinnamomum Sintoc Blum. Bydr. p. 571, quod *Sindoc* Rumphii, solis jam paniculis laxis fusco-tomentosis satis distinguitur.

14. *Cinnamomum Heyneanum*; ramulis teretibus petiolisque pubescentibus, foliis lanceolatis acuminatis glabris subtus glaucis triplinervi-

viis nervis lateralibus apicem versus evanescentibus, pedunculis axillaribus subterminalibusque trifidis, perianthii laciniis juxta basin suturatis persistentibus.—*Laurm Heyneana* Wall. Cat. n. 2576.

Habitat.... Vidi exemplum Herbarii Heyneani, cum calycibus fructus fructuque maturo.—*Cinnamomo vimineo* simile.

Adnot. Quoad folia species haec cum *Cinnamomo* genere eximie congruit, et cum sutura quoque ad basin laciniarum perianthii accedat, dubium non videtur, quin revera sit *Cinnamomi* species.

Species dubiae.

?15. ? *Cinnamomum vimineum*; ramulis tetragonis petiolisque pubescentibus, foliis lanceolato-oblongis apice subattenuatis obtusis basi acutis glabris subtus glaucis valide trinerviis nervis lateralibus apicem versus evanescentibus, pedunculis infraterminalibus (axillaribusque?) trifloris (?).—*Laurus viminea* Wall. Cat. n. 2578. Lecta in Penang a G. Porter, absque floribus, sed pedunculis floribus exutis.—Frutex?

?16. ? *Cinnamomum caudatum*; floribus fasciculatis, fasciculis axillaribus pedunculatis, foliis ovatis caudato-cuspidatis trinerviis.—*Laurus caudata* Wall. Cat. n. 2603.

Habitat in Napalia, ubi a Wallichio a. 1822 inventum est.—Arbor?

Adnot. 1. Species primo intuitu e foliis cuspidatis floribusque in pedunculo communi fasciculatis distinguenda.

Adnot. 2. Singularis est in hac specie gemmarum ex ramorum axillis procreatio. Scilicet e folii axilla ramus oritur, simul cum folio nascens citissimoque progressu assurgens, simulque brevi spatio supra angulum, quem ille cum ramo primario describit, gemma prodit parva, quiescens, tomento induta, quae eminentiam rami, folium cum suo ramulo ferentem superne claudit.

Adnot. 3. Cum fructus non innotuerit, non liquet, an CINNAMOMI sit generis, an potius CAMPHORS.

Species aliena.

Laurus V. smilacifolia Wall. Cat. n. 2572 in Penang a G. Porter lecta, non hujus est familiae, sed propter stipulas caducas et reliquum habitum probabiliter Buttneriaceis, (Sterculiae forsani generi) vel Tiliaceis adscribenda.

Species suspecta.

Laurus ?? lucida Wall. Cat. n. 2590. Quercini potius esse videtur generis. Conf. ? *Alseodaphne lucida*, in antecedentibus descripta.

ACACIA MOLLIS. Tab. 177-

ARBOREA, erecta, inerinis; foliis bipinnatis pinnisque multijugis, mollissimè villosis; pinnulis semiovatis, acutis • glandulâ concaviusculâ supra basin petioli, duabusque inter ultimas pinnas; capitulis fasciculatis, longè pedunculatis' corymbosis; filamentis longissimis. *

Nomen monticularum, *Lakhey*,

Colitur in hortis convallis magnae Napaliae, florens Aprilis et Maio.

ARBOR procera et speciosa, umbrosa. RAMI cylindrici, inermes, calloso-punctulati, fusci; superiores subflexuosi, tenellique dense villosi. FOLIA alterna, patentia, approximata, fere pedalia, bipinnata, 4—8-juga, utrinque obsita villis adpressiusculis, copiosis palUde ferrugineis, raollissimis et sericeis. PETIOLUS 2-pollicaris, gracilis, basi tumidus, supra plano-sulcatus, abiens in rachin gracilet catam; glandula parva, sessilis, orbiculata, concava supra basin petioli, aliaeque* duae ad apicem rachis, inter pinnarum juga dao^aoA^h, PINNIB oblongae, 5-pollicares, exactè oppositae, fere sessiles. PINNULE 14—18-jugae, dimidiato-ovatae, oblongae, cuspidato-ac t H^h* semicordata hinc gibbosae, inde acutae, utrinque decrescentes, mediae lineas 8 longae, mollissimè villosae, subtusl parikm r^u, sessiles in rachi partiali filiformi, recta. STIPULE oppositae, parvae, lineari-lanceolatae, pubescentes, vattle decidua C le^{te}culatae J rosea, nunc alba, longè pedunculata, fasciculata, axillaria foliorum supremorum, terminaliaque', corymbum formâ tTM* magnâ amplam. PEDUNCULI graciles, teretes, villosi, 2—4-pollicares. FLORES subsessiles, majusculi. CALYX oblongus 5 d nve S ter mmalem nunc lateraliter fissus. COROLLA flavescens, subinfundibuliformis, calyce triplo longior, pubescens; limbus di *^ucc^{ta}*U^p Pube scens, lanceolatae, acutae. STAMINA plurima, patentia, recta, rubicunda, lacvia, sesquipollicaria; *Jilamenta* ca ill- h- *sim* as 5 P^{atu}l>S> longitudinem aequantem connata; *anther** parvae, glabrae. OVARIUM lineare, glabrura: *stulus* |on<r|*ⁿ,v "K . A m t u b u m corolla; ow*««uun, rufus; stigma

This is a very large and shady tree with fine rose-coloured flowers, changing sometimes into white with the ends of the filaments tinged red. It is commonly cultivated in the gardens at Katmandu, but there is no doubt that it is also a native of the neighbouring mountains, although I have in vain searched after it.

Plate CLXXVII. Fig. 1. A detached flower. 2. The same, dissected.

SAURAUJA NAPALENSIS. Tab. 178.

Saurauja napalensis Decand. Prodr. 1. p. 526.—Suprà, p. 40.

Crescit in omnibus partibus Napalise tàm inferioris quàm superioris, florens sub pluviis, fructifera Novembre.

ARBOR mediocris altitudinis. RAMI cylindrici, fuscì, punctati; exteriores novellique densè vestiti tomento copiosissimo, pallidè ferrugineo, furfuraceo, solubili, intermixto squamis fuscis, subulatis, acuminatis. FOLIA sparsa, patentia, approximata, oblonga, nunc elliptica, acuminata, cuspidato-serrata, basi integra et rotundata, dodrantalia, pedalia vel ultrà; suprà glabra, vel pilis raris adpressis conspersa, obliquè sulcata, subtùs tenuitè ferrugineo-tomentosa, nervis plurimis, conspicuis, obliquis, parallelis, approximatis, ad marginem arcuatis, costâ carinatâ, squamulosa, venis reticulatis. PETIOLUS pollicaris, tomentosus. CORYMBI axillares, solitarii, longè pedunculati, folio breviores, ovati, squamuloso-tomentosi. PEDUNCULUS communis cylindricus, 5-pollicaris; *partiales* alterai, parçè ramosi. FLORES majusculi, rosei; csetera ut in *S.fasciculata* (vide suprâ, p. 40.).

Plate CLXXVIII. Fig. 1. 2. & 3. Flower. 4. 5. Corolla, opened. 6. Pistil. 7- Ovary, opened.

BLACKWELLIA NAPALENSIS. Tab. 179.

Blackwellia napalemis Decand. Prodr. vol. ii. p. 54.

Habitat ad Balajee in convalle Napalias magna, florens Augusto; fors etiam in montibus Sillet vicinis.

ARBOR magna. RAMULI grisei, punctis creberrimis, callosis, pallidis notati, cum foliis laberrimi. FOLIA alterna, approximata, patentia, ovata, acuminata, grossè et obtusè serrata, 5-pollicaria, coriacea, suprâ nitida, subtùs nervoso-venosa, reticulata, *petiolis* insidentia unguicularibus, suprâ sulcatis. STIPULE axillares, oppositæ, minutæ, lineares, caducissimæ. INFLORESCENTIA axillaris, folio paullo brevior, ovata, attenuato-acuminata, breve pedunculata, ramosa, constans *racemls* brevibus, paniculatis. PEDUNCULI teretes, pubescentes. FLORES parvi, alterni, brevissimè pedicellati, albidì, foetidi, cano-villosi. CALYX patens, divisus in lobos 12 vel 14 duplici ordine dispositos, oblongos, obtusos, ciliatos, interioris seriei exterioribus dupl5 latiores, subspathulatos. STAMINA lobis calycis interioribus numero sequalia, iisdemque opposita, patentia, glabra; *Uamenta* capillacea, glandulis minutis, ovatis alternantia. ANTHERS geminato-capitate, retusæ, biloculares; *loculi* globosi. OVARIUM semiadnatum, villosum, infernè oblongum, superne ovatum, 1-loculare; *ovula* 8—16 pendula, placentis quatuor parietalibus, linearibus regulariter inserta. STYLI 4, teretes, breves, villosuli. STIGMATA obtusa.

I have found this tree nowhere except at a place called Balajee, in the great valley of Nipal, where it attains a very large size. Together with *Blackwellia spiralis*, *B. foetida* (*Ludia foetida* Roxb.) and *B. propinqua* (a species found in Penang), our tree belongs to the same genus with Loureiro's *Astranthm*, according to the observations of the illustrious author of the Botanical Appendix to Tuckey's Expedition to Congo. The three-celled anther of which Loureiro speaks, is nothing else than an ordinary bilocular anther, of which the globular cells are rather more distant towards the top than at the base, in consequence of a slight dilatation of the apex of the filament, giving the interstice somewhat the appearance of a third cell.

Plate CLXXIX. Fig. 1. 2. Flower. 3. Flower, opened. 4. Ovary, opened.

MUSSAENDA MACROPHYLLA. Tab. 180.

Mussaenda macrophytta, Wall, in Roxb. Flor. Ind. vol. 2. p. 228.

Habitat in montibus Nagarjun et Chandaghiri Napaliae, florens sub pluviis, fructifera Novembre, Decembre.

Plate CLXXX. Fig. 1. Flower. 2. Calyx. 3. Corolla, opened. 4. 5. Ovary, opened.

CERASUS ACUMINATA. Tab. 181.

FOLIIS lanceolatis, acurainatissimis, remote serratis, floribusque glaberrimis, subtus nunc sparse glandulosis, basi petiolisque midis; racemis axillaribus, solitariis vel fasciculatis, foliis paulo brevioribus.

Nomen Parbutteum, *Aroo*.

Habitat in montibus Napaliae, ilorens mensibus anni primis.

ARBOR 20—30-pedalis, ramosissima, omnibus partibus glaberrima. RAMULI graciles, fusi. FOLIA alterna, approximata, patentia, perennantia, lanceolata, acuminatissima, remotè et acutè serrulata, basi rotundato-acutiuscula, lasevia, lucida, 3—5-pollicaria, suprà atro-iridia, subtus reticulata, costà elevatà, gracili, ssepùsque glandulis aliquot parvis, excavatis inter nervos sparsis; *petiolo* suffulta brevi, profundè sulcato, eglanduloso. STIPULE lineares, fugacissimæ. RACEMI axillares, solitarii, vel pauci fasciculati, subnutantes, cylindrici, attenuati, longitudine ferè foliorum, glaberrimi, brevè pedunculati. FLORES mediocres, ex flavido albi, remotiusculi, sparsi, patentes. PEDICELLI semiungulares, trètes, basi *bracteoid* minuta, ovata, ciliata, carnosà, caducà. CALYX turbinatus, flavescens, limbo 5-dentato, intus villosulo. PETALA ovata, acuta, subcrispata, patentia, calyce ferè duplè longiora. STAMINA 15 vel 20, glabra, petalorum longitudine. OVARIUM ovatum, sericeo-villosum, 1-loculare; *ovula* 2 e fomicè loculi pendula alterum sphaclato-abortivum. STYLUS filiformis. STIGMA subcapitatum. DRUPA ovata, laevis, putamine glabro, tenui; maturam haud vidi.

Plate CLXXXI. Fig. 1. 2. Flower. 3. The same, dissected.

MAGNOLIA INSIGNIS. Tab. 182.

Magnolia insignis, Wall. Tentam. Florae Napalensis Illustrat. v. 1. p. 3. t. 1.

Nomen Nevarense; *Seete*.

Habitat in convalli Napaliae ad Sankoo adque cacumen montis Sheopur, altitudine pedum 6,000 ad 10,000.

Floret mensibus Aprilis et Maii; fructus maturos profert Octobre.

Although a figure of this *Magnolia* has been already published in my *Tentamen Florae Napalensis*, I venture to add a plate of it in the present work, as the means which I had in India were very inadequate for doing justice to this truly superb tree. It grows in great abundance at a place called Sankoo, in the great valley of Nipal, and sparingly on Mount Sheopur, towards its summit. I have not met with it anywhere else; nor have I ever heard of its growing in any of the other mountainous parts of Hindustan. It is in full blossom in April and May, at which period it is impossible to behold a more magnificent object. The flowers are produced in vast numbers; they are very beautiful, large, and fragrant, of a yellowish white colour, with the apex of the petals pink, and the reflexed leaves of the calyx brownish red, and elegantly reticulated with pale green nerves and veins. The capsules are purple, and disposed in large, erect, oblong cones, from which the scarlet seeds hang down in all directions, being suspended on delicate white threads. The leaves are dark green and leathery, and form a very umbrageous crown; in winter, from November until February, they fall off, leaving the branches quite naked.

The tree attains a vast size, its trunk frequently measuring four or five feet in diameter. If it could be brought from the elevated region in which it grows on Sheopur, it would no doubt admit of being acclimated in England; an event which its beauty renders extremely desirable, and which I hope to live to accomplish. The wood is pale yellow, and close-grained.

For a full description of the tree I must refer to the work quoted before.

Plate CLXXXII. Fig. 1. Stamens and pistils. 2. Pistils, the stamens being removed. 3. Two detached stamens. 4. 5. Detached pistils. 6. The same, opened. 7. Cone of ripe capsules. 8. A detached capsule, which has burst open. 9. Seed. 10. 11. The same, dissected. 12. The same, after the pulpy part has been removed. 13. 14. Stipules.

BIGNONIA AMCENA. Tab. 183.

ARBOREA, foliis tripinnatis, trijugis, foliolis lanceolatis, acuminatis, integerrimis, laevibus; paniculà terminali trichotomà; calyce obtuse trilobo, corollae limbo puberulo; capsulà cylindrica, gracili, spirali.

Habitat in Mauritio; inde in Hortum Calcuttensem a Dom. Carolo Telfair introducta anno 1818. Floret a mense Novembris usque ad Maium; fructus fert fine temporis calidi.

ABBUSCULA ramosa. RAMI cylindrici, punctis callosis plurimis asperi; *juniores* alternatim complanati, petiolique cano-furfuracei. FOLIA patentissima, opposita, magna, sesquipedalian lsevissima, bipinnato-decomposita, basi nempfc tripinnata, circumscriptione triangulari-ovata, petiolata, 3—4-juga; *foliola* 3-juga, petiolata, inferiora impari-pinnata, 2-juga. FOLIOLA lanceolata, acuminata, integerrima, basi attenuato-acuta, margine levit&r recurvata subundulataque, coriacea, lucida, 3—5-pollicaria, ^{supr}L atro-viridia, subfrs cost& albicante, gracili, nervis suboppositis, capillaceis, arcuato-anastomosantibus. PETIOLUS communis palmaris et ultr&et, teres, basi valdfc incrassatus; *rachis* gracilis, ^{supr}L plana, ad insertionem pinnarum articulata; *petioli* foliolorum longitudine varii, unguiculares vel semiunguiculares, apice articulati. STIPULJS nullse. PANICULA terminalis, lato-pyramidata, brachiata, trichotoma, laxiuscula, glaberrima, nuda. PEDUNCULI opposite punctati. FLORES magni, bipollicares, fragrantissimi, dilutissimfc flavicantes, *inibs* aurantiaci, longiusculfe pednnculati, subcorymbosi, nutantes. CALYX coriaceus, subcylindricus, ferfc pollicaris, pedicello brevior, versus os 2- vel 3-lobum parim dilatatus; *lobi* insequales, breves^ rotundato-obtusi, margine membranacei et emarcescentes, tubo corollse adpressi. COROLLA *tubus* e basi angusta ampliatus et campanulatus, calyce plus dupl6 longior; *limbus* patens, inaequaliffr 5-lobus; *lobi* subrotundi, pubescentes, crenulato-ciliati, crispatuli, inferiores 2 paull5 minores; *faux* ampla, striis aurantiacis ornata. STAMINA versus latus tubi inferius depressa, vix faucem attingentia; *Jilamenta* curva, teretia, ad insertionem supra basin contractam tubi villis hyalinis, capitato-glandulosis vestita, caeterilm glabra; *stamen quintum, sterile*, subulatum inter inferiora. ANTHERS *locula* gracillima, longiuscula, admodum divaricata, ad juncturam cuspidul& communi subulate aucta. OVARIUM oblongum, laeve, *disco* amplo, camoso basi cinctum; *stylus* teres, longitudine ferfc staminum; *stigma* ovatum, bilabiatum. CAPSULA gracilis, cylindrica, pendula, parim spiralis, pedalis vel sesquipedalis, pennam anserinam crassa, ferruginea, lsevis, basi vestigio annulari insertionis calycis dilapsi notata, 2-locularis, 2-valvis. SEMINA plana, utrinque terminata alâ tenuissim&, oblong^ alba, *placenta* Hberse, fragili, cylindricae adplicata, cum alis pollicem dimidium emetientia.

For the introduction of this most beautiful species of *Bignonia*, the Honourable Company's Botanic Garden is indebted to Charles Telfair, Esq. of the Mauritius, one .of the most amiable and excellent of men, in whom during twenty years I have had the happiness of possessing an intimate and esteemed friend, whose name will always rank very high among the most liberal and most enlightened benefactors of Indian botany and horticulture. The tree is a native of the Mauritius, originally perhaps of Madagascar: in Bengal, where it thrives luxuriantly, it forms a small but truly ornamental tree, on account of its flowers and foliage, the former of which are exquisitely fragrant. It has also been introduced into the hothouses in England, but as yet, I believe, it has not flowed here.

Plate CLXXXIII. Fig. 1. 2. Calyx and corolla, opened. 3. Ripe capsule. 4. A. section of the same. 5. Placenta, with seeds attached. 6. A detached seed. 7- Outline of part of a leaf.

POLYGALA PERSICARLEFOLIA. Tab. 184.

Poly gala persicaricefolia Decand. Prodr. v. 1. p. 326.

Crescit in sylvis montanis convallis Napaliae, florens fructiferaque sub pluviis. In Kamaon invenit Robertus Blinkworth. In Herbario Heyneano asservantur specimina nomine *Polygalcd* inscripta, sed absque patriae indicatione.

PLANTA herbacea, gracillima, adscendens, ferfc simplex, palmaris, pedalis vel sesquipedalis. RADIX parva, fibrosa. CAULIS tenerrimus, teres, pilis brevibus pubescens, infernfc nudus, simplex vel aliquando basi mediove in *ramos* aliquot integros divisus, apice ssepits bifidus. FOLIA sparsa, patentia, lineari-lanceolata, cuspidato-acuminata, ferfc sessilia, membranacea, integerrima, obsolete repandula, 2—3-pollicaria, ciliata, ^{supr}& glabra, subAs puberula. RACEMI oblongi, 3-pollicares, multiflori, pedunculati, terminates, vel e divisura caulis terminal^ erecti, solitarii. FLORES parvi, purpurei, pedicellati; *pedicelli* basi tribracteolati, *rachisque* pubescentes. CALYCIS *foliola* exteriora lanceolata; *alas* magnse, foliaceae, pallidae, flavicantes, rotundato-obovatae, elegantfer reticulato-venosse. COROLLA alis par&m brevior, apice cristata. QAPSULA obcordata, ciliata. SEMINA oblonga, sericeo-pilosa.

Plate CLXXXIV. Fig. 1. 2. Flower. 2. 3. Corolla.

POLYGALA CROTALARIOIDES. Tab. 185. (fig. superior.)

Polygala crotalarioides, Hamilt. ex Decand. Prodr. v. 1. p. 327.

polygala capitata, Herb. Hamilt.

Crescit in sylvis montium Napaliae, florens sub pluviis. In Kamaon, Blinkworth. In Sukanaghur, Hamilton.

PLANTULA decumbens, vel suberecta, pilis canis pubescens, nunc omnibus partibus densè pilosa. RADIX perennis? subfusiformis. CAUSES aliquot simplices, teretes, 6-pollicares, in varietate nana (e Kamaon missa) bipollicares. FOLIA approximata, sparsa, patentia, cuneato-obovata; obtusa, vel cuspidulata, integerrima, deorsum attenuata, basi acuta, subsessilia, utrinque pilis paucis, depressis conspersa, ciliata, 2-pollicaria, subtus glaucescentia. PETIOLUS brevissimus, vix ultra semilineam emetiens, teres, crassiusculus. FLORES parvi, purpurei, densè dispositi in racemos laterales vel subaxillares, ovatos, nunc umbelliformes, folio dimidio breviores, ferè pollicares, sessiles. PEDICEILI pilosi, brevissimi, suffulti bracteolis 3 lanceolatis, pilosis, persistentibus. CALYCIS foliola 3 exteriora lanceolata, ciliata; ala ovatae, ciliatae, basi acutae. COROLLA densè penicillato-cristata. CAPSULA reniformi-obcordata, copiose ciliata, lateribus vesiculosis. SEMINA cano-villosa.

Plate CLXXXV. (the upper representation). Fig. 1. Flower. 2. The same, enlarged. 3. The same, opened. 4. Stamens. 5. Carina, with its crest. 6. Capsule.

ARGOSTEMMA VERTICILLATUM. Tab. 185. (fig. inferior.)

Argostemma verticillatum Wall, in Roxb. Flor. Ind. v. 2. p. 325.

Habitat ad Mareko montis Sheopur Napaliae, florens mensibus Julii et Augusti.

A detailed description of this neat little plant has been published by me in 1824, in Roxburgh's work just quoted.

Plate CLXXXV. (the lower representation). Fig. 1.2. Flower, enlarged. 3. Calyx, opened. 4. Corolla, opened. 5. Stamens. 6. Ovary, opened.

STAUROGYNE.

CALYX 5-partitus, 3-bracteatus, lobis aristato-acuminatis, inaequalibus. Corolla tubulosa, limbo 5-lobo. Stamina 4, inclusa, didynama (cum rudimento quinti?), antherarum loculis discretis, reflexo-parallelis. Ovarium disco carnoso insidens, biloculare, polysporum; ovula axi adfixa. Stylus gracilis. Stigma infundibuliforme, trilobum; lobi subulato-acuminati, laterales breviores, divaricati. Fructus . . .

Classis Linneana: *Didynamia Gymnospermia*.

Ordo naturalis: *Acanthaceae* f

Habitus: Herba carnosa, erecta, parè ramosa, foliis subtus argenteis, floribus racemoso-capitatis, terminalibus.

STAUROGYNE ARGENTEA. Tab. 186.

FOLIIS oblongis, sepalis bracteisque scabris.

Crescit in Sillct, florens sub pluviis, Invenit F. De Silva.

PLANTA erecta, brevis. RADIX ratione plantae magna, perpendicularis, sublignosa, fibras emittens plures, horizontales, pubescentes. CAULIS semipedalis, carnosus, cylindricus pilosulus, aetate glaber, nunc aliquot ex eadem radice. RAMI pauci, oppositi, teretes, breves, simplices. FOLIA opposita, patentissima, interstitiis ter pluriesve longiora, lanceolato-oblonga, acutiuscula, basi subacuta, integerrima, vel obsolete crenulata, 3—4-pollicaria, subcarnosa, supra glabra, punctis creberrimis minutis obsita, subtus argenteo-alba, subnitida, secus vasa puberula, costae elevatae, nervis alternis, ad marginem oblique excurrentibus, venis capillaceis, reticulatis. PETIOLUS carnosus, teres, supra sulcatus, folio dimidiis tripliciter brevior, basi lineola elevata ad oppositum migrans. FLORES subsessiles, aliquot dispositi in racemum brevem, subcapitatum, terminalem, breviter pedunculatum, pubescentem. CALYX 5-phyllus; foliola erecta, inaequalia, lineari-lanceolata, trinervia, margine nervisque subpiloso-scabra, desinentia in aristam longam, capillaceam, scabram, in planta adulta ferè pollicarem, rufescentem. BRACTEAE tres infra calycem, cujus laciniis simillimae sed pariter minores. COROLLA tubulosa, calyce vix longior, glabra, ferè pollicaris; tubus amplus, pallide violaceus, basi flavidus leviterque contractus; limbus brevis, patens, 5-lobus, purpureus; lobi subrotundi, obtusi, inferiores 2 pariter minores et disco albidis; faux nuda, pervia. Stamina 4, supra basin tubi inserta didynama; filamenta filiformia, puberula; anthera albidis, 2-loculares, pariter nutantes; loculi retroflexi, paralleli, basi tantum connectivo brevi, clavato unitae. Rudimentum staminis quinti inter inferiora filamenta? OVARIUM disco carnoso, brevi insidens, glabrum, oblongum 2-loculare; ovula plurima, cuneiformi-cylindrica, angulo recto e placenta axili parallelè divergentia. Stylus gracillimus, staminibus pariter longior, apice leviter incrassatus. STIGMA in fauce corolla, magnum, infundibuliforme, 3-lobum; lobi subulati, valde acuminati, laterales breviores, in formam crucis divergentes (unde nomen genericum). FRUCTUS haud visus.

I possess another species, which was found at Tavoy by William Gomez in 1827. It may be distinguished in the following manner: *Staurogyne angwtifolia*, foliis lineari-lanceolatis, sepalis bracteisque hispidulis.

Plate CLXXXVI. Fig. 1. 2. Flower. 3. Calyx, opened. 4. Corolla. 5. 6. Two detached stamens, enlarged.

CEROPEGIA PUBESCENS. Tab. 187.

VOLUBILIS, foliis ovatis, acuminatissimis, pilosulis; corollae tubo longo, cylindrico, subrecto, limbo ovato, 5-carinato, basi hiante, caudâ cylindricâ terminato.

Crescit in monte Chandaghiry Napaliae, florens mense Junii.

CAULIS herbaceus, gracillimus, tortuosus, longissimfc volubilis, glaberrimus, ramosus; *rand* filiformes. **FOLIA** opposita, patentissima, remotiuscula, ovata, attenuato-acuminata, integerrima, repandula, basi rotundata, 3—6-pollicaria, membranacea, minutlm pellucido-punctulata, ciliata, pilis sparsis Subadpressis utrinque obsita, praecipuè subtis ubi pallida, nervis elevatis, obliquis, suboppositis, ad basin inaequalem subquinquenervia; *superiora* ovato-oblonga. **PETIOLUS** 2-pollicaris, teres, supra par&m sulcatus ciliatusque, basi utrinque glandulâ sessili, globosâ, sphacelatâ munitus, cum opposito petiolo caulem ramumve linea elevata amplectens. **FLORES** magni, tubulosi, purpurei, limbo flavi inodori, dispositi in fasciculum axillarem vel extra-axillarem, suffultum *pedunculo communi* tereti, puberulo, petiolum ferè sequante; *pedicelli* crassiusculi, inaequales, unguiculares, circit^r 6 vel 8 in singulo fasciculo, *bracteolis* ad basin subulatis, parvulis. **CALYX** parvus, 5-fidus; lsevis; *ladnice* lanceolate. **COROLLA** sesquipollicaris, extds glabra; *tubus* cylindricus, levitfer incurvus, basi vix dilatatus, intiis villosulus; *limbus* ovatus[^] pentagonus, processu longo subcylindrico terminatus, dimidio tubo vix longior, sestivatione clausus, 5-carinatus, demiim medi6 inter bases laciniarum patens; *ladnice* valvaeformes, ovatae, attenuatae in acumen longum, teres, intûs subangulare, angulo per paginam interham lacinae lineols, elevata[^]decurrente. **COLUMNA staminum** brevis in fundo tubi corollae. **CORONA** subduplex: *exterior* minuta, 5-dentata, squamaeformis, interiore multfrm brevior, basibus ejus opposita; *interior* purpurea, 5-loba, *hbi* subulati, basi intus^s pro recipienda basi ilamenti sulcati, apice levitfer recurvati. **FILAMENTA** brev[^]ima. **ANTHERE** subglobulares, nuda. **MASS[^]B POLLINIS** erecta, fuscae, ope fili subtilis insertae medio corpusculi oblongi, atri. **Ov[^]P1 2**, subcylindrica, laevia. **STIGMA** carnosum, depresso-subquinquangulare, supr[^] membranulis 5 angustissimis subcarinatum.

Plate CLXXXVII. Fig. 1. Flower. 2. Corolla.

HYMENODICTYON FLACCIDUM. Tab. 188.

Hymenodictyon flaccidum[^] Wall, in Roxb. Flor. Ind. vol. ii. p. 152.

Habitat ad latus septentrionale montis Sheopur versus basin; etiam in convalli Napaliae minore, Noakote dicta; florens, fructuque onustum praecedentis anni mense Junii.

Plate CLXXXVIII. Fig. 1. Flower. 2. Calyx; and 3. Corolla, opened. 4.5. Ovary, dissected. 6. Raceme of ripe capsules. 7. A detached fascicle of capsules.

PYRUS FOLIOLOSA. Tab. 189-

ARBUSCULA, ramis subvolubilibus; foliis pinnatis, 8-jugis, foliolis oblongo-lanceolatis, versus apicem cuspidato-serrulatis, subtus petiolisque villosis; pomis obovato-rotundatis.

Crescit versus apicem montis Sheopur, et ad Gossain Than. Floret mense Maii; fructus profert Augusto.

ARBUSCULA. **RAMI** elongati, subvolubiles, cortice induti cinereo, scabro, ad extremitates vestiti lanugine densâ, niveâ, demùm d^{eci}ua. **GEMMAE** ovatae, obtusse, nuda. **FOLIA** approximata, alterna, patentia, 6-pollicaria, impari-pinnata, 7—8-juga; *foUola* exacts opposita, patentissima, subsessilia, pollicaria et ultrâ, oblongo-lanceolata, cuspidato-acutâ, extrorsium acutè serrulata, dimidi[^] inferiore parte integerrima, basi obtusa parimque inaequalia, sup[^]A laevia, nitida, subtis subferrugineo-tomentosa, aetate glabra; media reliquis pau^{ll}o majora. **PETIOLUS** pollicaris vel sesquipollicaris, 6ulcatus, basi levitfer incrassatus, tomentosus; *rachis* recta, submarginato-sulcata, VOL. II.

ad insertionem foliolorum subarticulata; *petioli purtiuks* perquam breves. STIPULE lanceolatae, acuminatae, nunc lobulosae, 3 lineas circiter longae, petiolo utrinque adnatse, deciduse. PANICULA terminalis, ramosa, rotundata, foliis supremis brevior. PEDUNCULI teretes, villosi, ad divisuras muniti *bracteis* parvulis, linearibus, caducis. FLORES albi, parvi, suaveolentes, breve pedicellati. CALYCIS *ladnice* lanceolatae, breves. PETALA orbiculata, brevissime unguiculata. OVARIUM obovatum, villosum, 2—3-loculare; *hcula* 2-sperma. STYLI 2, 3, vel 4. POMUM parvum, glabrum, obovato-rotundatum, rubrum.

Plate CLXXXIX. Fig. 1. 2. Flower. 3. The same, dissected. 4. Ovary, opened.

HEDERA POLYACANTHA. Tab. 190.

ARBOR aculeis armata frequentissimis, compressis, sursum incurvis; foliis palmatim 5—7-lobis, subtus pedunculisque puberulis, lobis ovatis acuminatis, serrulatis; umbellis racemoso-paniculatis, villosis.

Crescit in monte Sheopur alibique in Napalia, florens Februario.

ARBOR satis magna. RAMULI patentes, crassi, cylindrici, cinerei, aculeis armati valde numerosis, brevibus, compressis, sursum incurvis, fusciscentibus; supernè pedunculique pubescentes. FOLIA versus summitates approximata, sparsa, patentia, longè petiolata, subrotundocordata, palmata, 5—7-loba, 6—10-pollicaria, plana, coriacea, supra nitida, lsevia, subtus vix puberula, costis 5 vel 7 valdè crassis, nervosovcnosa; *lobi* ovati, acuminati, cuspidato-serrulati, inferiores basi ad latera sinus gibbosi. PETIOLUS gracilis, cylindricus, folium sequans vel eodem duplo longior, basi valde dilatatus. INFLORESCENTIA terminalis, magna, ovata, constans *racemis* umbellularum pluribus, oblongis, approximatis, alternis. PEDUNCULI cylindrici, pubescentes; *communis* aliquandò aculeo parvulo, vago munitus. FLORES parvi, flavicantes, *pedice Uiqae* extus densè villosi, dispositi in *umbellas* globosas, pedunculatas. CALYCIS *denies* 5, breves, valde villosi. PETALA patentissima, lanceolata, acuta, intus levitè carinata. STAMINA 5, longitudine petalorum *, *antherce* majusculae. OVARIUM turbinatum, pubescens; *stylus* brevis, subangulatus; *stigma* retusum.

Plate CXC. Fig. 1. 2. Flower. 3. The same, opened. 4. Ovary, opened. 5. Part of a branch. 6. Full-grown leaf.

DEUTZIA STAMINEA. Tab. 191.

Deutzia staminea Brown MS.

Philadelphm vel Leptospermum stamineum Wall, in Herb. Procur. Ampl. Merc. Angl. Indiae Orient., anno 1824.

Habitat in montibus altissimis prope vallem Napaliae raagam; etiam in monte prope vallem Deyra dictam. In Kamaon legit Robertus Blinkworth. Floret Aprili, Maio.

FRUTEX ramosus, 3—4-pedalis. RAMI oppositi, patentes, graciles, elongati, cylindrici, cortice induti pallido, dum juniores foliaque subtus vestiti tomento cojjioso, minutim stellato, adpresso, albo; vetustiores glabri, a foliis fere denudati. FOLIA opposita, patentia, in ramis recentibus numerosa et approximata, lanceolata, attenuato-acuminata, cuspidato-serrulata, ad basin acutiusculam apicemque integerrima, 2—3-pollicarta, pallida cabrida, utrinque obsitae, prsecipue ad paginam inferiorem ubi densissimè, tomento cano, e squamulis adpressis, minutissimis, peltatis, depresso-umbilicatis conflato, pilisque stellatis; subtus costa nervisque obliquis elevatis. PETIOLUS vix bihneans, supra levitè sulcatus, basi lineola elevata trans ramum continuatus. STIPULE nullae. FLORES magni, albi, odorati, extus stellato-tomentosi, ternati, pedunculati, dispositi in *corymbos* parvos, omnium ramorum ramulorumque terminales. PEDUNCULI teretes, carnosissimi, indivisi, saepius 2 vel 3, pollicares; *pedicelli* unguiculares, graciles, infra medium bracteoia una alterave minuta, lineari. CALYX parvus, 5-partitus; *ladnias* lanceolatae, acutae, subdistantes. COROLLA 5-petala, calyce multo major, aestivatione valvata; *petala* semiunguicularia, oblonga, obtusa, subpatentia, glanduloso-punctulata, extus pilosula, intus glabra, basi latiuscula vertici ovarii inserta, laciniis calycis alteraantia. STAMINA 10, erecta, quorum 5 petalis alternantia et longitudine eadem subaequantia, 5 breviora, iisdem opposita; *filamenta* filiformia, utrinque aucta membrana lineari, sursum dilatata, terminata dente lanceolata, obtuso, parum divergente, apice subulata, nuda; primo aspectu filamentum apice 3-dentatum, esse apparet dente medio subelongato, subulato, antherifero, lateralibus planis, obtusis, nudis. ANTHERA ovata, erecta, bilocularis, utrinque debiscens. OVARIUM inferum, obovato-turbinatum, cano-tomentosum, magnitudine grani piperis nigri, vertice planiusculum, 5-loculare; *ovula* plurima, placentae angulo interiori loculi adfixae, carnosae, bipartibili inserta. STYLI 4 vel 5, staminum longitudine, tereti-subclavati, basi paralleli, apice paulb recurvati. STIGMATA laevia, carnosa, obtusa.

Plate CXCI. Fig. 1. Fascicle of flowers. 2. A detached flower. 3. Stamens. 4. Pistil. 5. 6. Ovary, opened. 7. A detached leaf, showing the stellate tomentum on the under surface.

POTHOS DECURSIVUS*. Tab. 192.

Pothos decursiva Roxb. Flor. Ind. vol. i. p. 456.

Habitat super arboribus in Sillet, M. R. Smith; secus ripam fluminis Attran in Martabania, florens Martio. In Horto Calcuttensi floret Octobre.

Plate CXCII. Fig. 1. A detached pistil. 2. Stamen. 3. Ovary, opened. 4. Outline of a full-sized leaf. ft. A detached lobe of the same.

IMPATIENS PUBERULA. Tab. 193.

Impatiens? puberula Decand. Prodr. vol. i. p. 687.

Impatiens mollis Wall, in Roxb. Flor. Ind. vol. ii. p. 461.

Habitat in sylvis densis Sheopur Napaliae, florens sub pluviis.

Plate CXCIII. Fig. 1. 2. Flower.

IMPATIENS INSIGNIS. Tab. 194.

Impatiens insignis Decand. loc. cit. p. 688.

Crescit in montibus Napaliae, florens et fructifera sub pluviis.

PLANTA annua, carnosa, lsevis, erecta, 2-pedalis. CAULIS cylindricus, sulcatus, valde caj-nosus, pallidus, inferne digitum te fe c i ^ u , , ad distantiam pollicis nodoso-intumescens, basi *radiculas* exserens longas, fibrosas; simplex vel *ramum* emittens unum alterumve brevem, simplicem, gracilem. FOLIA approximate, alterna, lanceolata, attenuato-acuminata, serrata, serraturis gibboso-obtusis cum cuspidula decumbente, basi attenuato-acuta, 3—4-pollicaria, utrinque glabra, punctisque minutissimis, subbyalinis obsita, supra atroviridia, ragosula, subtus nervis valde obliquis, parallelis costaque elevatis. PETIOLUS brevissimus, vix ultra lineas duas emetiens, basi utrinque *glanduld* stipulseformi, magna, carnosâ, rotundatâ. RACEMI versus apicem caulis axillares, solitarii, longe pedunculati, 6-pollicares, *paniculam* formantes magnam, terminalem. PEDUNCULUS *communis* teres, gracilis, purpurascens, 3-pollicaris, abiens in *rackm* teretem, coloratam; *partiales* filiformes, fere pollicares, suffulti *bracted* ovata, acuta, concava, decidua; fructiferi elongati, decurvati. FLORES magni, nutantes, inodori, coloris sanguinei. CALYCIS *foliola* ovata, cuspidata, purpurea. PETALUM *supremum* ovatum, patulum; *laieralia* biloba, subunguiculata; *inferius* amplum, fauce orbiculato-truncatum, hinc acutum, desinens in *calcar* gracile, teres, leviter arcuatum, sesquipollicare, pedunculo fere duplo longius. CAPSULA cylindrico-clavata, laevis, pendula, longe pedunculata.

Plate CXCIV. Fig. 1. Flower. 2. The same, dissected. 3. Capsule.

DENDROBIUM MOSCHATUM, Varietas. Tab. 195.

Dendrobium moschatum Wall, apud Lindl. Orchid, p. 82.

Epidendrum moschatum Buchanan apud Symes, Embass. to AVB, p. 478, cum icone.

Dendrobium Calceolaria Hook. Exot. Botany, vol. iii. tab. 184.

Habitat super arboribus montium Sillet confinium, unde in Hortum Calcuttensem misit M. R. Smith. Floret mense Aprilis, Maii.

PLANTA magna, speciosissima, super arborum trancis mdicans. CAULES cylindrici, lseves, sulcati, vaginati, *radiculas* plures, cylindricas, palhdas emittentes. FOLIA biferie alterna, valde approximata, coriacea, oblonga, acuta, lcevisissima, lucida, coriacea, 5-pollicaria, sessilia super *vaginis* arete canli adpressis, truncatis, vix pollicaribus. FLORES magni, patentissimi, diametrum fere 3-pollicarero emetiens,

The name *Pothos caudata*, inscribed on the plate, should be altered to that here given.

salvo labello glaberrimi, longè pedunculati, e flavo dilutè carnei, circiter octo distanter dispositi in *racemum* maximum, pendulum, lato-ovatum, pedunculatum, foliis oppositum, in caule aphylo lateralem. PEDUNCULUS *communis* 2-pollicaris, teres, leviter sulcatus, glaucescens, usque ad medium indutiis *squamis* laxiusculis vaginantibus, imbricatis, truncatis; *rachis* gracilis, flexuosa, 6-pollicaris; *pedunculi partiales* divaricato-patentissimi, cylindrici, suffulti bracteis membranaceis, lanceolatis, acutis, concavis, patentissimis, deciduis, apice subclavati. SEPALA oblonga, rotundato-acutiuscula, fere sesquipollicaria, recurvato-patentissima; *lateralia* basi oblique connata in *calcar* brevissimum et obsoletum, conicum, obtusum. PETALA lato-ovata, plana, sepalis paulo longiora, pollicem fere lata, obtusissima, basi contracta in unguem latum, brevissimum. LABELLUM petalis tertio minus, obovato-saccatum vel calcariforme, extus versus marginem incurvatum faucemque magnam villosum, intus glabrum, flavum, parietibus purpureo-maculatis, in unguem brevem, canaliculatum deorsum attenuatum. COLUMNA crassa, brevis, conica, apice utrinque terminata dente piano, lato, parallelo, obtuso; ad dorsum gibbosa, antice plana, cavitate stigmatica ampla excavata, basi leviter producta. ANTHERA magna, conica, carnosa, denticulo longo filiformi adfixa. POLLINIA 4, per paria parallela. OVARIUM breve, clavatum, partim sulcatum, laseve.

This truly beautiful plant is so perfectly like Dr. Buchanan's *Epidendrum ?nosc/iatum*, figured and described by him in Symes's Embassy to Ava, that I cannot distinguish it, except as a variety, differing only in the colour of its flowers. It was sent to the Calcutta Garden by the late Mr. Smith from the mountainous tracts bordering on Silet. The flowers are of a yellowish pink colour, and rather larger than those of *Dendrobium moschatum*, which I have seen in great perfection in the garden of my highly esteemed friend Dr. Carey, at Serampur, sixteen years ago, and in the Botanic Garden at Calcutta, where it was introduced by that gentleman.

I perfectly agree with my friend Prof. Lindley, (*Genera and Species of Orchid. Plants* p. 83, under No. 37,) in considering Dr. Hooker's *Dendrobium Calceolaria*, described and figured in the Exotic Botany of the latter eminent botanist, as specifically the same as the Pegu plant; it is in fact the same variety as mine, although its flowers partake in a greater degree of the tessellated structure of the original species. I was not so fortunate as to meet with Dr. Hamilton's plant during my tour through the Burmese countries.

Plate CXCIV. Fig. 1. Flower, opened. 2. Column, with the anther.

DENDROBIUM HETEROCARPUM. Tab. 196.

Dendrobium heterocarpum Wall, apud Lindl. loc. cit. p. 78.

Habitat in sylvis montanis Napaliae super arboribus, florens Febuario, fructiferum Martio.

RADICIS fibre plurimae, cylindrical cinerae, carnosae. CAULES plures, cespitosi, e basi flavicante, tereti clavati, penduli, leviter flexuosi, apice digitum minimum crassi, glaberrimi, obsiti *vaginis* tenuissimis membranaceis, arcte adpressis, parallelis multilineatis, ore obliquis; *Jloriferi* nudi, inter vaginas breves, emarcidas intumescentes. FOLIA bifaria alterna, approximata, lanceolata, acuta, sessilia, 5-pollicaria, membranacea, striata, lucida, lasevia. FLORES magni, patentes, flavi, fragrantis, ex ostio vaginarum aphyllarum geminati, nunc pauci subracemosi. PEDUNCULUS *communis* brevis, cylindricus, bracteis aliquot brevibus, vaginantibus involutus; *partiales* pollicares, teretes. SEPALA patentia, lanceolata, acuta, glabra, sequalia; *lateralia* basi in *calcar* breve, conicum, obtusum infra basin columnae connata. PETALA sepalis aequalia. LABELLUM magnum, flavum, ovatum, subinfundibuliformi-convolutum, basi glabrum, attenuatum in unguem sulcatum; *limbus* trilobus, crenulatus, *supra* cano-villosus, purpurascens; *lobi laterales* obtusi, *intermedius* maximus, ovatus, acuminatus, patens, apice subrecurvatus. COLUMNA brevis, conica, terminata dentibus duobus lateralibus, lanceolatis, acutis, basi valde producta. ANTHERA conica. POLLINIA 4, gracilia, duriuscula. OVARIUM breve, sulcatum. CAPSULA pendula, sesquipollicaris, pedunculata, clavata, 3-angularis, profunde 3-sulcata, angulis bilobis, utrinque obtusa, terminata collo cylindrico, brevi, columnae permanentis, incrassate superstite.

Plate CXCVI. Fig. 1. Flower, dissected. 2. Column and labellum. 3. Anthers and pollen-masses.

ERIA ALBA. Tab. 197-

Eria alba Lindl. loc. cit. p. 07.

Crescit in monte Sheopur, super arborum truncis, florens Maio.

PLANTA lasevis, gregaria, erecta, 6-pollicaris. FIBRIB RADICALES densissimae, capillaceae, ramosae, breves. PSEUOBULBI plures, seriati, valde approximati, ovati, complanati, sesquipollicares, fusi, nitidi, striis pallidis, ferrugineis, numerosis, parallelis, interque has sulcis totidem profiundis ornati, apice subacuto notati vestigiis aliquot dimidiato-annularibus ab insertione foliorum manentibus, basin rudi

mentis vaginarum praeteriti anni fibrosis. FOLIA pauca, 3 vel 4, bifaria, patentia, oblongo-lanceolata, utenuato-acuta, 3—5-pollicaria, supra atroviridia, lucida, subfrits pallida, levissimè nervosa, basi plicato-imbricantiã, caulemqne simulantia cylindricum, bipollicarem, e basi pseudobulbi surgentem, erectum, squamis alternantibus, adpressis, acutis vaginatum. SCAPULAE terminales inter folia intima, saepissimè 2, rarè 5 unicus, teretes, erecti, breves, puberuli. FLORES albi, mediocris magnitudinis, gratk odori, plures dispositi in racemum terminalem, erectum, oblongum, 2—3-pollicarem, vix ultra folia elevatum. RACHIS leviter hinc inde curvata, villosa, teres, carnosã. PEDUNCULI teretes, semiunguiculares, cum bractea sequante, lanceolata villosi. SEPALA lanceolata, acuta, patentia, fere unguicularia; lateralla basi paullo dilatata, obliquè connata in calcar brevissimum, obtusum, conicum. PETALA lineari-lanceolata, sepalis parhm angustiora. LABELLUM adscendens, infundibuliformi-convolutum, longitudinè petalorum, flavescens, intis tricarinarum; limbus 3-lobus; lobus intermedius ovatus, obtusus, recurvatus, integerrimus, suprk convexus, medib lineis, longitudinali, saturate flavè notatus; laterales triplò minores, erecti, paralleli, ovati, obtusi, rosei, COLUMNA brevis, apice truncato-concava. ANTHERA semiglobosa. POLLINIA 8, cuneata, compressa, alba. OVARIUM cuneatum, 3-angulare, pubescens.

Plate CXC VII. Fig. 1. Flower. 2. The same, opened. 3. Anther. 4. Pollen-masses. 5. Labellum, expanded.

PHAITJS ALBUS. Tab. 198.

Phaius albus, caulescens, foliis oblongo-lanceolatis, acutis, subtus glaucis; sepalis petalisque oblongo-lanceolatis, acutis, subaequalibus, labello oblongo, cucullato, denticulato, apice rotundato, disco 5-cristatoj calcare rectiusculo, emarginato.—Lindl MS.

Crescit super arboribus montis Chandaghiry Napaliae. In montibus Sillet propinquis legit Franciscus de Silva ? Floret mensibus Junii et Julii.

RADIX constans fibris ceespitosis, fuscis, brevibus. CAULES aliquot pedales bipedalesque, quin longiores, penduli, subrigidi, cylindrici, basi digitum minimum fere crassi, plis miniisve involuti vaginis cylindricis, laxè truncatis nunc ore obliquo subfoliaceis, apicem versus attenuati et foliiferi, demum omnino aphylli, uti tota planta seves, glaucescentes. FOLIA alterna, bifaria obliquè subpatentia, valde approximata, oblongo-lanceolata, attenuato-acuminata, 6—8-pollicaria, basi plicata et per articulationem in vaginas desinentia, supra lucida, subtus glauca, costis gracili, nervisque pluribus, filiformibus, parallelis, elevatis. FLORES magni, speciosi, albi, odorati, pauci dispositi in racemum terminalem, bracteatum, foliis breviora, pendulum, suffultum pedunculo cylindrico, vaginè involute, in rachin aequante subflexuosam. BRACTEA infra singulum florem, cujus longitudinem fere aequat, 2-pollicaris, lanceolata, acuminata, concava, membranacea, e viridi alba, series dilabescens. PEDICELLI cylindrici, fere pollicares. SEPALA lanceolata, acuta, sequalia. PETALA sepalis «qualia, nsdem paullo angustiora. LABELLUM rectum, infundibuliformi-convolutum, fere bipollicare, basi desinens in calcar levissimè recurvum, subcylindricum, apice subretusum, semipollicare, pedicello dimidiè brevius; laminae patentis, obsolete 3-lobae lobi laterales obtusi, in fere maxime maximus, ovatus, obtusus, crenulato-denticulatus, purpureo-venulosus, discus flavus, cristis 5 papillosis, parallelè usque adfundumlabellidecurrentibus. COLUMNA davata.

Plate CXC VIII. Fig. 1. Flower, dissected. 2. Pollen masses, detached.

ENGELHARDTIA ROXBURGHIANA. Tab. 199.

FOLIOLIS ovatis, acutis, junioribus tomentosis; fructibus hispidissimis, alis linearibus, junioribus acutiusculis, racemis foliolosis.—Z. W. MSS.

Engelhardtia Roxburghiana, Lindl. MSS.

Juglans pterocarpa Roxb. Hort. Beng. p.

Nomen Hindustanicum, *apama* (ex Roxb.).

Crescit in Sillet F. D. 5^a Camrupae borealis sylvis, Hamilt.; ipse observavi in Napalia «t ad orain Tensasirim. Floret et fructus profert mensibus Septembris-Aprilis.

Arbor magna et robusta, MULI scabri, punctis notati elevatis, albis; novelli obsiti squamulis aurei colons. FOLIA alterna, vel snbopposita, linearibus, junioribus ovatis, acutis, 6—12-pollicaria. FOLIOLA 3—5, usque ad 13, brevè petiolata, obliquè lanceolata, obtusè acuminata, integerbrevior, plures 3—6 longa, pollicem vel 2 lata. PETIOLUS teres, initio squamulosus. PANICULA axillaris terminalisque, foliis squamis amantibus pluribus gracilibus, simplicibus, femineis paucis intermixtis, squamulosis. FLORES masculi suffulti inserta CALYX 4-phyllus; foliola rotundata, concava, distantia. COROLLA nulla. FILAMENTA 12, basi sepalorum VOL II^a bilobae. FLORUM femineorum squamae et calyx ut in masculis, sed majores. OVARIUM inferum, turbinatum,

lepidosum, uniloculare; *ovulum* solitarium fundo loculi insertum. STIGMA subsessile, 2-lobum; *lobi* patentes, sublacerti. Nux rotundata, valde pilosa, magnitudine pisi, unilocularis, basi pseudoquadriocularis, coronata calyce permanente, suffulta squamâ amenti auct&, trilobata; *alae* longae, lanceolatae, obtusae, scariosae: *intermedia* maxima, *laterales* interdum productae in processum brevem, bilobum. SEMEN 4-lobum. INTEGUMENTUM simplex, tenue, fuscum. PERISPERMUM semini conforme, parvum, sebaceum. EMBRYO inversus. COTYLEDONES contortuplicatae, bipartite; *lobi* bifidi. PLUMULA biloba. RADICULA supfca.—*Roxk MSS.*

I am indebted for the description of this and the following plant (*Ulmus lancefolia*), and for the drawings from which the engravings have been made, to the valuable collection made by the late Dr. Roxburgh, and deposited in the library of the Honourable East India Company. Dr. Roxburgh says that the bark possesses much tannin, and is reckoned by the natives of Silet the best they are acquainted with for the purpose of tanning.

Plate CXCIX. Fig. 1. 2. Male flower. 3. Female flower. 4. Scales of ditto. 5. 6. Ovary, cut vertically and horizontally. 7. Fruit.

U L M U S LANCEJEFOLIA. Tab. 200.

FOLIIS obliquè lanceolatis, acuminatis, acutè serrulatis, coriaceis, glabris, lucidis, floribus hexandris, fasciculatis. Habitat in montosis provinciae Chittagong, ubi floret Martio.—*Roach.*

ARBOR magna. RAMI undique extensi, patentissimi; *ramuli* graciles, nutantes, glabri. FOLIA bifaria, brevè petiolata, inaequaliter lanceolata, obtusè aequaliter serrata, firma, lucida, 2—3-pollicaria. STIPULE ensiformes, caducæ. FLORES parvi, numerosi, *longh* pedicellati, dispositi in *fasciculos* solitarios, axillares foliorum inferiorum vel delapsorum praeteriti anni. PEDICELLI villosi, graciles, uniflori, basi *bracteolis* ovatis, ciliatis, numerosis. CALYX campanulatus, glaber, 5-dentatus. STAMINA 6, calycè longiora, plana, glabra. ANTHERS ovatae, bilobae. OVARIUM pedicellatum, oblongum, 1-loculare, 1-sporum; *ovulum* fornicis loculi adfixum. STYLI 2, breves, latiusculi, intis villosuli. STIGMATA simplicia. CAPSULA pedicellata, obliquè obcordata, tenuis, al& scariosa circumdata, pollicaris, 1-locularis. SEMEN ovale, compressum. INTEGUMENTUM fuscum, simplex, tenue. PERISPERMUM nullum. EMBRYO semini conformis, inversus.—*Roxb. MSS.*

Plate CC. Fig. 1. Flower. 2. The same, more advanced. 3, 4. Samara. 5. Embryo.

END OF VOL. II.



Printed by G. S. Phillips, New York, U.S.A.

Aster bellidiflorus



Senecio angustifolia

Senecio squarrosus

W. Hooker del.

Printed by G. Sowerby and Son, 15, Abchurch Lane, London, E.C. 4.

W. Hooker del.



Aristolochia saccata

Walters del.

Painted by J. G. Smith.

J. G. Smith.



A k

W. & A. G. B. 1847

Printed by Charles Johnson, and Sold by W. & A. G. B.

Pl. Amer. 1847

Acer larigatum



Acer sterculiacum

From the description of Gmelin &c.

J. Smith del.

W. Woodcut.



Illustrated by

Printed by Englewood Press, London, E.C.

M. G. S. S. S.

Carpinus remota



Castanea maritima = *Castanopsis argentea* A. DC.



Eugenia formosa



Betula acuminata

Pinus & Saperosus, 1797, Tab. 17.

Walters, 1811.

Walters, 1811.



Uaria macrostachya

Painted by Engemann 1871 under G. D.

K. SCHUBERT



W. H. K. 267

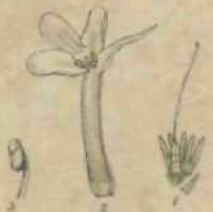
Printed by G. S. Smith, Col. Great B.S.

W. H. K. 267

Leucomeris spectabilis



Justicia curviflora



Justicia calcarata



Arum tortuosum

KHHi



Arisaema guttatum.

From the Herbarium of the University of Cambridge



Salvia cana

Pinna by Chapman, del. Gould & Co.



Rosa macrophylla



Symplocos ternstroemii



Passiflora pinnata



Lacostera formosa.

Arnicae del.

Illustr. by Engelman and Gould etc.

Al. Moore del.



Uvaria grandiflora

Illustration of the plant

Illustration of the fruit and seed

Illustration of the flower



Printed by Englemann, King Street, E.C.4.

G. Sargent & Co.

Uvaria macrophylla.



Rhododendrum arboreum album



Syzygium umbellata



Carosia glauca

Carosia glauca

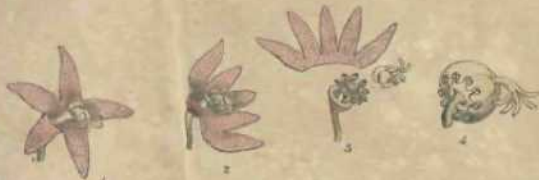


Paris polyphylla

Wiedemann del.

Wiedemann sculp.

1842



Sterculia cornosa L.

Printed by Ziegler, No. 10, Colindale St.

J. Smith del.

Sterculia cornosa



Delphinium ajacis



Painted by Engelman, engr. by G. C. & C.

Thalictrum cyathocarpum

A. N. S. P.



Acacia medulosa

Painted by J. G. Smith, engraved by J. G. Smith



Alnus nepalensis.



Printed by DeBenedictis, 179, New York St.

Acer caudatum

W. H. Burdett del.

J. H. Smith sculp.



Pithecoctenium DC.

Printed by Engelmann, Prof. Dr. L. E. B.

L. sarcophylla

Lonicera sarcophylla



Viburnum vulpium



Arum crubescens



Asium echanatum



Panax pseudoginseng

Illustration by Engelmann, 1847, Bot. Beechey



Senecio jacobina

Senecio jacobina

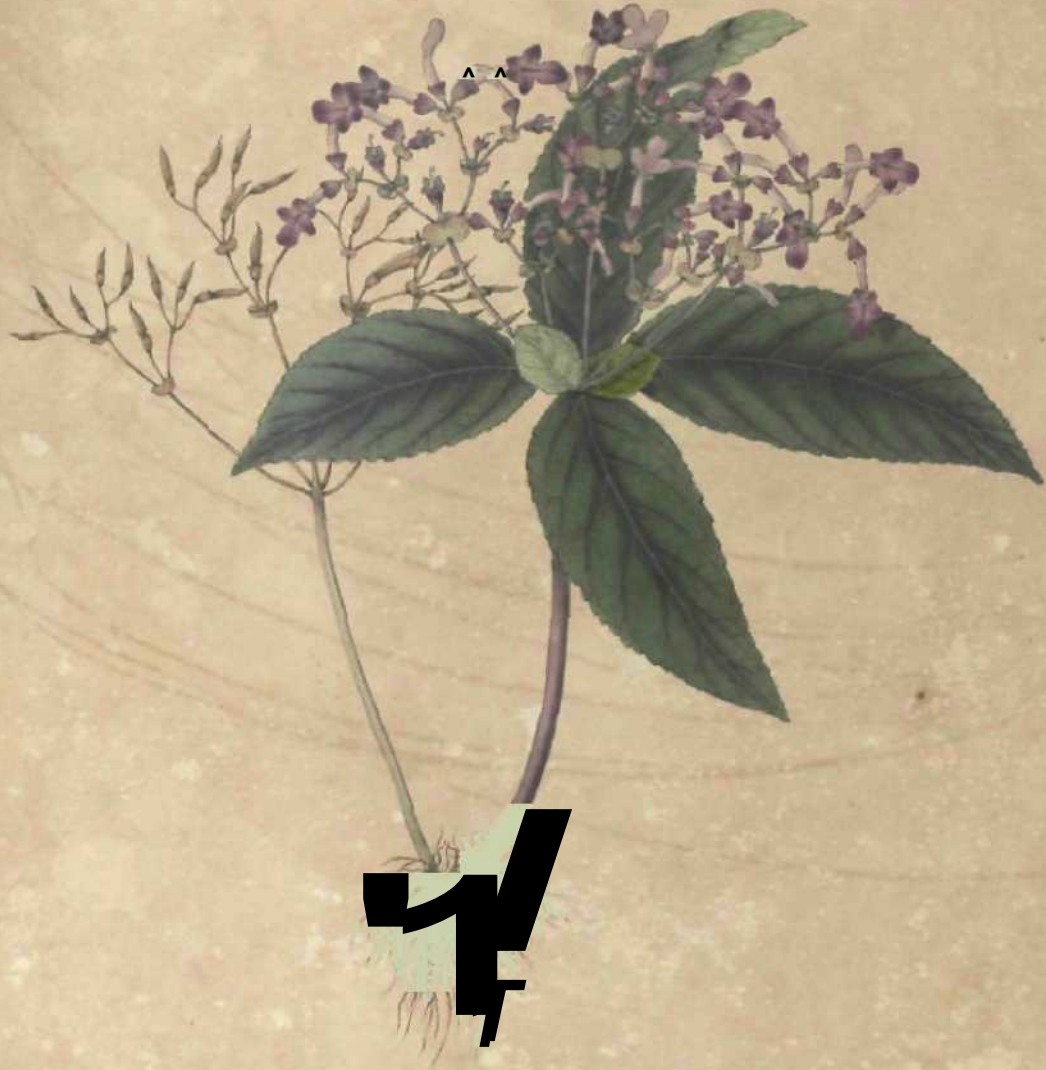
M. Goussier del.



Coccoloba lucida (Lam.) DC.

Coccoloba lucida

W. Kuhn del.



Didymocarpus oblonga



Amboina Ind.

Painted by Z. G. Schumacher, engr. G. G. G. G.

J. J. J. J.

Dalymiscarpus aromatica



Trichostema affluens



Prunus Pindana



Smilacina purpurea



Lilium Hebelianum

Robert Smith del.

Painted by J. G. Smith, 1840

London



D. Williams del.

Painted by D. Williams and W. Woodcut.

M. Jones sculp.

Wrightia mollissima



Painted by Englemann, Col. Gould del.

J. Smith del.

Michelia aurantiaca



Laurinaga fuscescens



Quercus laevis

Quercus laevis (Mill.) B.S.P.



J. Smith del.

Painted by E. B. Smith

M. Smith sculp.

Quercus velutina



W. G. Smith del.

W. G. Smith del.

Platycodon vulgaris



Lobelia rosea

Walt. in *Botanica*, t. 1, p. 152.

Lobelia rosea



Linaria cathartica



Pedicularis carnea

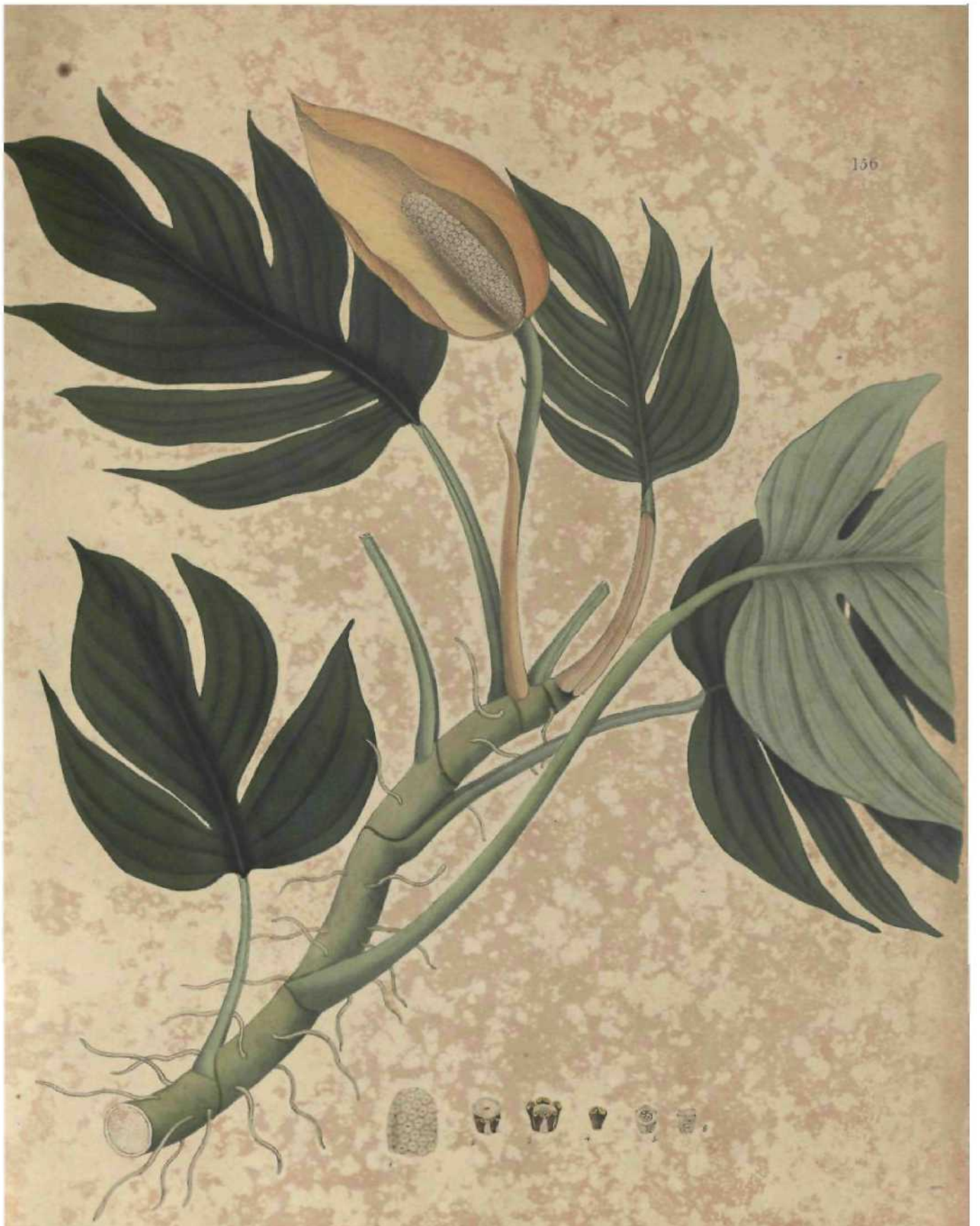


Richardson del.

Printed by Burdett, New Bond St. &c.

W. Smith sculp.

Convolvulus barbatus



Philodendron glaucum



Desmodium sequax



Thomas Wallich

Printed by Deighton, 1789, number 1714

Deighton del.

© Thomas 1789



Eria conchataoides

Described by Engelman, in J. Gardn. & Co. Bot.

W. H. Bull. Bot. Gard. Cal.

J. R. Smith del.



Ena excavata

Printed by Deighton, Sons, & Co.

M. Smith del.



Eugenia hystrix

Printed by Deighton, Son & Co. London

Wm. Woodcut 1827

Wm. Woodcut 1827



Fuchsia acrota

W. G. Smith del.

W. G. Smith del.



A

Raphistemma pulchellum

Printed by E. S. Ashmun, West. Hill, N. Y.



Thunbergia Hortensis



Podium

Podium

Podium lanuginosa



Calceolaria teretifolia



Malva subaegyptia





Asplenium lanceolatum



Engelmann del.

Journal de Botanique, 1847, Volume 4, p. 169

J. Smith sculp.

Viburnum stellulatum



Koenig del.

Pinx. et. Scultoris. Tab. 100. fig. 1.

17. Junii 1811.

Uncaria pilosa



Cissampelos Nightingale

Painted by G. S. Gardner, and colored by G. S. Gardner

W. H. & A. S. Gardner

W. H. & A. S. Gardner



Belvisia subulata
 T&t&nMJ f. subulata
 Pencil by Englemann and painted by G. S.
Belvisia subulata Hook.

V



Pyrus indica

Printed by G. G. & Co. at the University Press, Cambridge.

W. G. & Co. 1850.



Quercus semicarpifolia

Painted by Engelmann and Gussone de Co.

M. Gussone del.

M. Gussone del.



Adesiu hymenandra.

Drawn by Engelman, from Greene, &c.

W. H. & C.



Linnaeus det.

Printed by Engelmann and Gledits Die

J. H. Miller del.

Tetraanthera nitida



Acaena mollis

Proprietor by Engländer, Carl, London, N. 10.



Saucarya nepalensis

Printed by Messrs. G. & J. Sowerby, London.



Blackwellia nepalensis

Printed by R. D. B. & Co. at the University Press, Cambridge.

W. & A. G. & Co. London.



Mussaenda macrophylla



Sorbus acuminata

Printed by Deighton, London, 1840.



Magnolia insignis



Vanilla planifolia



Polygala persicariaefolia

Painted by Engelman. Drawn by Schimper.

© 1844



Polygala votalarunda



Argemone vestitatum



Sturogynis argentin

Described by ...

...

...



Ceropogon pubescens

Printed by DeGruyter, New York, N.Y.

J. C. Smith, del.



Hymenocallis flaccidula

Walter R. Woodhouse del. & sculp.

1853



Lycium foliolosa

Printed by DeBenedictis, New York & Co.



Hederia polyantha



Pouteria stameua

Printed by G. G. & Co. London



Peltandra carinata

Painted by Engelm., from specimens of the



Impatiens puberula.

Franch. & Leprieux. Voy. Amboine & C.

Blume del.



Impatiens insignis

Painted by J. G. Smith and engraved by G. S. S.



Dendrobium meschatum var.

Printed by Engelmann, Prof. Smith & Co.

X. 1000



Dendrobium heterocarpum

Printed by Engelmann, Graf, Senzler & Co.



Cria alta

Painted by Engelmann and Schuler & Co.

Engelmann del.



f

Vanilla planifolia

W. Smith del.



Engelhardtia Roxburghiana.
 Described by Engelmann, and Lindley & Co.

X. Guss. del.



Ulmus lanceifolia

Ulmus lanceifolia (L.) Mill.

Ulmus lanceifolia

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