THE

BOTANY

OF

CAPTAIN BEECHEY'S VOYAGE;

COMPRISING

AN ACCOUNT OF THE PLANTS

COLLECTED BY

MESSRS LAY AND COLLIE,

AND OTHER OFFICERS OF THE EXPEDITION,

DURING THE VOYAGE TO THE PACIFIC AND BERING'S STRAIT, PERFORMED IN HIS MAJESTY'S SHIP BLOSSOM,

UNDER THE COMMAND OF

CAPTAIN F. W. BEECHEY, R.N., F.R., & A.S.,

IN THE YEARS 1825, 26, 27, AND 28.

BY

SIR WILLIAM JACKSON HOOKER, K.H., LL.D., F.R., A., & L.S.,

MEMBER OF THE IMPERIAL ACADEMY NATURE CURIOSORUM, HONORARY MEMBER OF THE ROYAL IRISH ACADEMY, ETC., ETC.,

AND REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW.

AND

G. A. WALKER ARNOTT, Esq., LL.D., F.R.S.E., F.L.S.,

MEMBER OF THE IMPERIAL ACADEMY NATURE CURIOSORUM, ETC., ETC.

ILLUSTRATED BY NUMEROUS PLATES.

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M D C C C X L L I.
TO

CAPTAIN F. W. BEECHEY, R.N., F.R., & A.S.,
COMMANDER OF HER M. S. BLOSSOM, AND SUBSEQUENTLY OF HER M. S. SULPHUR,

UNDER WHOSE AUSPICES, AND BY WHOSE ZEALOUS ENCOURAGEMENT, THE PLANTS DESCRIBED IN THE PRESENT VOLUME WERE CHIEFLY COLLECTED,

THIS WORK IS DEDICATED,

WITH SENTIMENTS OF VERY HIGH REGARD AND ESTEEM,

BY HIS FAITHFUL

AND OBEDIENT SERVANTS,

THE AUTHORS.

Glasgow, 1st January, 1841.
ERRATA.

Page 269, line 1. The reference to Tab. LVI. should be omitted.
— 275, — 4. Tab. LVII. to be LVI.
— 280, — 11, from bottom, Tab. LVIII. should be LVII.
— 287, — 17. Tab. LIX. to be I.VIII.
LIST
OF
THE PLACES VISITED BY THE EXPEDITION
UNDER THE COMMAND OF
CAPTAIN BEECHEY, R. N.

1825.

Rio Janeiro, July 4th to August 14th.
Conception, (Chili,) October 9th to October 20th.
Valparaiso, (Chili,) October 26th to November 2d.
Easter Island, November.
Ducie's Island, (a Coral formation,) during the same month.
Elizabeth Island, (Coral,) December 3d.
Pitcairn Island, December 4th to December 20th.

1826.

Gambier Island, (Volcanic, surrounded by Coral,) January 2d to January 12th.
Hood Island,
Bow Island,
Clermont Tonnerre,
Barrow Tonnerre,
Byam Martin,
Cockburn,
Matilda,
Whitsunday,
Otaheite, or Tahiti, March 26th to April 26th.
Oahu, Sandwich Islands, May 19th to May 30th.
Onuheow, Sandwich Islands, June 1st and 2d.
Petropaulski, in Awtaschka Bay, Kamschatka, June 28th to July 4th.
Kotzebue Sound, July, August, and September, (parts of them.)
Oahu, again in February.

1827.

Macao, in April.
Loo-Choo, Bonin, or Archbishop's Island, June.
Petropaulski, again in July.
Kotzebue Sound, till September.
Port-Clarence, September 4th.
Monterey, November.
San Blas, Mexico, December 8th to February.

(Mr. Lay visited and remained for a long time at Tepic, 54 miles from San Blas, inland.)
Mazatlan, February.
Acapulco, April.
Valparaiso, May.
Coquimbo, May 25th.
Rio Janeiro, August; and return to
England, September of the same year.

The Botanical Collections were made by Mr. Lay the Naturalist, and by the officers of the ship generally; but in particular by Mr. Collie, who, during the temporary absence of Mr. Lay, zealously undertook the care of the department with which that gentleman was entrusted, and whose notes, as well as those of Mr. Lay, have been of much service in drawing up the following account. The collections of the different countries will be described nearly in the order of the places given in the above list. Those of Rio Janeiro, (the place first and last visited,) will, as being perhaps of less interest than the rest, be described the last.
Anemone decaurata
BOTANY
OF
CAPTAIN BEECHEY’S VOYAGE.

CHILI.

[Visited Valparaiso in October and November, 1825; and again Valparaiso and Coquimbo in May, 1828.]

After the investigations of Feuillée, of Ruiz and Pavon, of the Naturalists of the Russian Expedition under Capt. Kotzebue, partly made known by Chamisso and Schlechtendal in the different volumes of the Linnaea, and of Mr. Macrae, Dr. Gillies, and Mr. Cruckshanks, some of whose collections have been described in the Botanical Magazine and Register, and in the Botanical Miscellany, it is not to be expected that this portion of Capt. Beechey’s Herbarium should be of a very novel nature, particularly as the Naturalists had but little opportunity of visiting the interior of the country.

CL. I. DICOTYLEDONEÆ.

SUBCL. I. THALAMIFLORÆ. DC.

ORD. I. RANUNCULACEÆ. Juss. DC.

1. ANEMONE. DC.


Radix tuberosa; tubere solitario, oblongo, fibroso, vix uncinam longo. Folia omnia radicalia, circumscriptione cordato-rotundata, profunde trifida vel tripartita, hirsuta, juniora praecipe; lobis subrotundo-cuneatis, remote dentatis, incisivae. Petiolus pollicaris, dense pilosus. Scapus spithameus ad pedalem, hirsutus, superne praecipe, pilis erecto-patentibus, uni-biflorus. Involucra involucellaque triphylla; foliolis sessilibus, tripartito-multifidis, basi dilatatis, segmentis linearibus, acutis, primum dense pilosis, demum glabriusculis. Pedicellus digitalis ad palmarem, erectus, hirsutus. Sepala patentia, albo-caerulescentia, lineari-elliptica,

**Hab.** Conception. Not unfrequent upon the hilly grounds. *Mr. Collie.*—More perfect specimens of this plant, probably, than came under the observations of preceding authors, show that it is incorrectly placed by the excellent De Candolle in his section of *Anemonanthea*. It ranks in that of *Anemonospermos*, having, though sometimes a solitary flower on each scape, quite as frequently three or more, of which, as De Candolle has well characterized the group, one is destitute of involucellum, and the rest have each a two-leaved one. Indeed, its nearest affinity is the *A. multifida* of North America and the Straits of Magellan, differing, however, essentially in the shape of the leaves and involucr, and in the lengthened head of carpels. We possess specimens from the Horticultural Society, gathered by Mr. Macrae at Concept and at the Baths of Collina, and at Valparaiso by Mr. Bridges.

**Tab. I.** *Fig. 1, 1, Sepals; fig. 2, Petal; fig. 3, Carpel with its woolly covering:*—magnified.

### 2. RANUNCULUS. Linn.

#### Sect. Hecatonia.—§. Floribus flavis, foliis integris. DC.

1. *R. humilis*; *parva, annua, glaberrima, foliis longe petiolatis ovalibus integris tridentatis*, floribus pedunculatis solitariis oppositifolius, carpellis paucis globosis brevissime acuminatis punctulatis. (Tab. II.)—*R. humilis*. *Collie, MSS. (non Pers.)*


**Hab.** Conception.—This species we do not find any where described. It bears the name of *Ranunculus humilis* in Mr. Collie’s notes; and since the *R. humilis* of Persoon is referred to *R. pusillus*, we retain the appellation given by its discoverer. It comes next to *R. pusillus* in a systematic arrangement. It is also allied to *R. flagelliformis* of Smith, and *R. bonariensis* of Pursh: but besides the great difference in size, the former has orbiculari-cordate leaves, and the latter has the upper ones lanceolate sessile and serrated, and smooth carpels. In habit our plant approaches to *R. ophioglossoides*; but that plant has margined and tuberculated carpels.

**Tab. II.** *Fig. 1, Flower; fig. 2, Capitulum; fig. 3, A single carpell; fig. 4, Root-leaf; fig. 5, Upper stem-leaf:*—magnified.

§ §. *Floribus flavis, foliis indivisis.*


*Caules* 1–2-pedales, procumbentes, teretes, pilis patentibus flavescgentibus hispidi, ramosi. *Folia* petiolata, majuscula, rotundato-cordata, pilosa, profunde trilobata, lobis subrotundo-cuneatis, lateralibus nunc bifidis, omnibus profunde grosse et inaequaliter dentato-serratis, atro-viridia, subtus pallidiora; *superiora* nunc multo minora, 3-partita, bracteiformia, et tunc caulis superne paniculatus evadit. *Petioli* folii longiores,
Ranunculus humilis. Collie.
Ranunculus chilensis D.C.

Hab. Conception.—The specimen here figured has the leaves nearly similar in form from the base to the extremity of the stem, and thus the peduncles which accompany them appear solitary and single-flowered. But in others which we possess, gathered by Mr. Cruckshanks in the same country, the upper leaves gradually become smaller, different in shape, narrower and tripartite, with the segments acuminated and entire, whence the upper part of the stem resembles a bracted panicle.

Tab. III. Fig. 1, Inner side of a sepal; fig. 2, Exterior view of do.; fig. 3, Petal; fig. 4, Carpel;—magnified.

Sect. Echinella.—§. Foliis dissectis lobatisve. DC.


Hab. Conception.—Our Chilian specimens have the petioles dilated, which constitutes the character of De Candolle’s var. a. brasilianus: but the same circumstance occurs in the North American individuals. Mr. Douglas finds the species at Juan Fernandez: but as all the stations both in the southern states of North America and in South America are near towns or cultivated places, may it not have been imported from Europe? In Carolina, Elliott says, it is probably of exotic origin.

ORD. II. BERBERIDEÆ. Vent.

1. BERBERIS. L.

1. B. glomerata; spinis tripartitis, foliis rigidissimis cuneatis grosse 3–5-dentato-spinosis, floribus plurimis (8–10) in racemos vix folio longiores glomeratis.


Hab. Coquimbo.—This appears to be entirely an undescribed species, most nearly allied perhaps to the B. ruscifolia of Lam. Ill. t. 253, a native of Buenos Ayres: but that is a much larger plant, with fewer flowers on the racemes, and differently shaped leaves.

ORD. III. FUMARIACEÆ. DC.

1. FUMARIA. Tourn. De Cand.


Hab. Var. γ. Valparaiso.—In this variety the fruit is apiculated, as in F. parviflora; but the sepals are characteristic of the species.
ORD. IV. CRUCIFERÆ. Juss. De Cand.

Subord. Pleurorhizæ (o==). DC.

Trib. I. Arabideæ, seu Pleurorhizæ Siliquosæ. DC.

1. CARDAMINE. DC.


Hab. Conception.—This does not differ from the larger state of C. hirsuta found in our country, and which Continental Botanists have called C. sylvatica: and it equally appears to be the C. flaccida of Chamisso and Schlechtendal, which the former Naturalist gathered also in Chili.

2. C. tenuirostris; foliis pinnatis, foliolis omnibus anguste linearibus acutis integerrimis, petalis obovatis unguiculatis calyce duplo longioribus, siliquis erectis gracilibus in rostrum tenuissimum attenuatis.


Hab. Conception.—In habit this plant is certainly allied to C. pratensis, and especially to that var. with narrow leaflets which is described in the Flora Boreali-Americana, under the var. angustifolia: but its leaflets, and in particular those of the root-leaves, are still narrower, the flowers are smaller, and, in the extremely attenuated beak to the pods, it differs from all the species we are acquainted with.

Subord. II. Notorhizæ (o||).

Trib. Sisymbreæ, seu Notorhizæ Siliquosæ. DC.

2. SISYMBRIUM. All.


Hab. Conception.

Trib. Lepidineæ, seu Notorhizæ angustiseptæ. DC.

3. LEPIDIDIUM. Br.


Hab. Valparaiso.—The specimens in the collection are extremely small, scarcely two inches high, erect and simple. Those we have from the same country, gathered by Mr. Bridges, are a foot long, much branched, especially from the base. In both we find all the essential characters of the L. bipinnatifidum of Desvaux, who justly observes that it is nearly allied to L. bonariense.
Azara serrata R. et P.
4. CAPSELLA. Vent.

1. **C. Bursa-Pastoris.** Mœnch.—De Cand. Prodr. v. 1. p. 177.—Thlaspi Bursa-Pastoris. Linn.

_Hab._ Conception. In all probability imported from Europe.

5. MENONVILLEA. DC.


_Hab._ Conception.—It is remarkable that De Candolle, who has so fully described this plant in his Systema Vegetabilium, and De Lessert, who has otherwise given so excellent a figure of it in his Icones Selectae, should both consider the cotyledons to be accumbent; whereas, in many seeds that we have examined, we find that they are constantly incumbent (||o), hence we have removed the genus to the "Notorhizeae angustiseptae."

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**ORD. V. BIXINEÆ.**

1. **AZARA.** R. & P.


_Frutex_ valde ramosus; _ramis_ alternis, subdistichis, fusco-pubescentibus, foliosis. _Folia_ geminata, geminis alternis, membranaceo-coriacea, nervosa, distincte serrata, breve petiolata, glabra vel ad costam solumn modo obscure pubescentia; majori duas vel tres uncias longo, elliptico-lanceolato, basi apiceque acuto, altero quadruplo minori rotundato, basi obtuso, apice plumque acuto. _Flores_ in corymbis axillaris, pedunculatis, plerumque pendentibus. _Pedunculi_ bracteati, pedicellique pubescentes. _Calyx_ nostris exemplaribus 5-partitus, extus pubescens, lacinii oblongo-ovatis, acutis, cito reflexis. _Corolla_ nulla. _Stamina_ certe perigyna, ad basin calycis inserta, numerosa. _Filamenta_ longa, filiformia, basi setis numerosis intermixta. _Antheræ_ didymæ, subglobose, loculis longitudinaliter dehiscentibus. _Germen_ ovatum, glabrum, uniloculare, receptaculis 4 longitudinalibus parietalibus cui ovula plurima affixa. _Stylus_ elongatus, filiformis. _Stigma_ obtusum.

_Hab._ Conception.—We have given a figure of this plant, because we are not aware that any exists; but we have to regret that the fruit is unknown to us, and that it is therefore out of our power to offer any remarks on the natural order in which it should be placed. Ventenat thought it ought to rank with the _Samydeæ_ or the _Rosaceæ_, only that Ruiz and Pavon expressed their opinion that it was allied to _Prockia_. Adrien de Jussieu, in the Dict. Classique, says, that allied to _Abatia_ and _Prockia_, it should be ranked with these genera among the _Bixineæ_ of M. Kunth, where, indeed, De Candolle has placed it; but this latter author has classed _Abatia_ with the _Tiliaceæ_. The leaves of this plant are bitter, the flowers fragrant.

Tab. IV. _Azara serrata._ _Fig._ 1, Flower; _fig._ 2, Stamen; _fig._ 3, Flower from which the stamens are removed; _fig._ 4, Section of the germin._—_magnified._
CHILI.

ORD. VI. POLYGALEÆ. Juss.

1. KRAMERIA. Loefl.


1. K. cistoidea; caul fruticoso ramoso, foliis oblongis mucronatis sericeis, pedicellis folio longioribus bipracteatis racemum brevem efformantibus, sepalis petalisque 5, staminibus 4. (Tab. V.)


Hab. Coquimbo.—Of the six species of Krameria described by De Candolle, and the three by St. Hilaire, not one can be said accurately to correspond with the present; which is, moreover, a native of Chili; whereas all the inhabitants of Cumana and St. Domingo, of Mexico, of Peru, or Brazil. Assuredly, in general habit, our K. cistoidea comes near to the Peruvian K. triandra; but that has vastly larger flowers, according to the figure (Fl. Per. t. 93), and only 4 sepals, 3 stamens, and 4 petals: whilst in our plant, (and we have examined specimens gathered also at Coquimbo by Mr. Cruckshanks and Mr. Macrae,) there are constantly 5 sepals, 4 stamens, and 5 petals; on which account, and taking the different countries they respectively inhabit, we have thought it safer to distinguish the Chili plant specifically from that of Peru. In the number of the parts of the flower, our species agrees with the K. grandiflora and K. ruscifolia of St. Hilaire, both of which, from Brazil, have also 5 sepals and petals, and 4 stamens; but in these the stems are simple, or nearly so, and the flowers almost spicate, having very short pedicels; while in ours the stem is much branched, and the flowers distinctly racemose. K. cytisoides has also the same number of parts, but the central of the upper petals appears to be longer than the two others, and nearly filiform, and the leaves are ternate. K. tomentosa, St. Hil., has 4 sepals and stamina, and 5 petals. In K. Irida and K. glabra, Spr., 4 sepals, petals, and stamens have been observed, a peculiarity caused by the disappearance of the upper unguiculate petal. K. linearis, Poir. and D.C., (K. pentapetala, R. P.) has 5 sepals, 4 stamina, and 3 petals, of which the upper solitary unguiculate one is 3-lobed, indicating its triple origin. In K. triandra, as we have already observed, there are only 3 stamens; but it is probable that the upper one is double, or formed by the union of two, or that the anther contains four cells. Of K. pauciflora and secundiflora, from Mexico, nothing is known of the structure of the flower. But if we are at a loss to determine satisfactorily the species of this plant, our difficulty is greater in ascertaining the order in which it should be placed. Jussieu, in the 1st vol. of the Mémoires du Mus. p. 390, has arranged it with the
genera allied to *Polygalea*; but he observes that it recedes from them "in the number and structure of the parts of the flower, and in the absence of a perisperm." Mr. Brown, too, as also St. Hilaire, refers it to *Polygalea*. The flowers present peculiarities in their structure very unlike any thing we have seen in other plants. There are three bracteas, one on the stem at the insertion of the pedicel, the other two opposite, on the pedicel itself, and decussating with the lower bractea. The sepals are in a triple series; the lower, or that which is in the same line with the lower bractea, together with a similar superior one, are larger than the others, and exterior; the two intermediate ones are rather smaller and alternate with the exterior pair; the interior is still smaller, and is situated between the upper exterior and one of the intermediate ones, usually that on the right, but, in some blossoms, that on the left, as seems to be represented and described by St. Hilaire, under *K. grandiflora*. Petals 5; 3 similar in shape to each other, of which the lateral ones are opposite to the upper exterior and to the interior small sepal, while the central one is intermediate between these; 2 fleshy petals are placed opposite the two intermediate sepals. Stamens 4 and declinate, of which the two lower are longer and more bent, and alternate with the upper petals, and with these and the carnose ones. The ovary has the placenta on the side next the central upper petal; and the style, bending first downwards towards the lower exterior sepal, afterwards rises towards the central petal. Such is the structure that presents itself to us in this species, the only one we have had a sufficient opportunity of examining. It must be remarked, however, that this view of its structure is completely at variance with the analysis of *K. grandiflora*, given by St. Hilaire, (Mémoires du Mus. v. 17. t. 31, and Fl. Brasil. Merid. v. 2. p. 73,) for, by that able author, the insertion of the ovules or the line of the placenta is "*a petalis inferioribus aversum,*" while he declares the lower petals to be the three uniform ones. If, then, St. Hilaire were correct, there could be little doubt of the genus *Krameria* belonging to *Polygalea*, each anther and stamen with a double cell and double terminal pore being viewed as composed of two stamens, and two anthers, each with a single cell and pore, or tending to show that in *Polygalea* each pair of stamens forms but one; but our species presents the very different arrangement we have described, and from it we may state that, whether we take as our guide the subtending bractea, or the ascending style, which Brown finds to be anterior in every plant, or the placenta situated on the upper interior side of the ovarium, we consider the three similar petals to be superior, and, consequently, that an inversion of the common arrangement in plants, and in the *Polygalea*, takes place here. The relative position of the sepals and petals to the axis of the spike or bractea, is thus scarcely different from what exists in the *Leguminose*, where Sir J. E. Smith seems disposed to fix this genus. But neither is it altogether the same as in that order, for, looking at the sepals by themselves, the odd one, or that which has least relation to the others, is undoubtedly the small interior one: but with regard to the bractea, and a symmetrical disposition of the petals, stamens, and style, the inferior must be termed the odd one, the two intermediate ones forming one opposite pair, while the upper exterior, and the small interior, although placed in a very different series, must thus constitute the next pair. Viewing the analysis in what way we will, we are beset with difficulties, which are increased by observing that the two fleshy petals do not alternate with any of the sepals, but are opposite to the two that are intermediate, which would almost incline us to believe, with Kunth, that these are abortive stamens, and not petals. If *Krameria* belong to *Polygalea*, the arrangement and nature of the organs in that order are still involved in doubt; and if it be one of the *Leguminose*, its nearest affinity is with the genus *Cassia*, from which, however, it differs in very many important points. Perhaps some allied genus may yet be discovered, and a new groupe formed, exhibiting an additional intermediate link between these orders. We have not seen the ripe fruit, but St. Hilaire describes the cotyledons as auricled at the base, the auricles surrounding the radicle, which perhaps led De Candolle and others to believe in the presence of a fleshy albumen: that, however, is no objection to its forming part of *Polygalea*; for in some genera truly belonging to this order, as *Mommina* and *Securidaca*, the albumen has a tendency also to disappear. We may add, that in our idea of the position of the parts of the flower, we are borne out by Ruiz and Pavon, Jussieu and Kunth. The whole arrangement will be best understood by the following reference to the figures in the plate.

**Tab. V.**  *Krameria cistoidea*. Fig. 1, Section of a flower-bud; *a. a. a. a. a.* Sepals of the calyx; *b. b.* The two inferior petals of the corolla; *c. c. c.* The three superior petals; *d. d.* The two lateral and
longer stamens; e. e. The two upper and shorter ones; f. The pistil; fig. 2, Flowers expanded; A. front view, B. side view; fig. 3, One of the lower petals; fig. 4, One of the upper ones; fig. 5, A longer and a shorter stamen; fig. 6, Back view of an anther; fig. 7, Section of an anther cut open to show the cells within; fig. 8, Vertical section of the germen to show the two pendent ovules; fig. 9, The ovules, with their stalks attached to a parietal placenta:—all more or less magnified.

2. MONNINA. R. & P.


Hab. Coquimbo.—The above description, and the accompanying figure, are taken from specimens which we have received from Dr. Gillies and Mr. Cruckshanks, equally gathered in Chili: they being much more perfect than those in the present collection.

Tab. VI. Monnina linearifolia. Fig. 1, Flower; fig. 2, Sepals and wings; fig. 3, Corolla; fig. 4, Anther; fig. 5, Pistil; fig. 6, Capsule; fig. 7, Section of do. to show the pendent solitary seed; fig. 8, Embryo:—magnified.

ORD. VII. VIOLARIEÆ. DC.

1. VIOLA. Town.


Hab. Conception.


Hab. Conception.

2. IONIDIUM. Vent.

1. I. parviflorum; fruticosum ramosum diffusum, ramis elongatis bifariam puberulis, foliis alternis ovatis serratis in petiolum breviter attenuatis, stipulis subulatis petioli vix
longitudine, pedunculis glabris folium superantibus, sepalis ovato-lanceolatis acutis, labello calycem triplo superante ovato bilobo, lobis rotundatis patentibus, squamulis nectareis subclavatis, capsulis subrotundo-trigonis calycem triplo longioribus 3–5-spermis. DC.—

Hab. Conception.—The root of this plant is described by Feuillée as resembling that of Ipecacuanha in shape, and employed in lieu of Senna, and considered as one of the most sovereign purgatives of the country. Cavanilles (Ic. v. 6. p. 21,) has noticed this species as having been found at Montevideo, in Quito, and in Chili; and he has accurately described it.

__ORD. VIII. CARYOPHYLLEÆ. Juss.__

1. SILENE. Linn.

Hab. Conception.

2. ARENARIA. Linn.

1. A. rubra. Linn.—Cham. et Schlecht. in Linnaea, v. 1. p. 53.—A. marina. Sm. (not Linn.)
Hab. Conception.

3. CERASTIUM. Linn.

Hab. Conception. Probably introduced from Spain, along with Silene gallica.

__ORD. IX. LINEÆ. DC.__

1. LINUM. Linn.

1. L. obligophyllum; caulibus adscendentibus basi lignosis, ramis alternis, foliis linear-lanceolatis basi biglandulosis eglandulosive, inferioribus plerumque suboppositis, superioribus alternis, floribus oppositifoliis terminalibusque, petalis flavis, stylis ad basin usque liberis, stigmatibus capitatis, capsule subrotunda obtusa, valvulis dorso planis. Schiede.

Hab. Conception.

2. L. usitatissimum. Linn.
Hab. Conception: probably an imported plant.

__ORD. X. MALVACEÆ. Br. DC.__

1. MALVA. Linn.

1. M. parviflora. Linn.
Hab. Conception. Introduced.

2. M. eriocarpa; foliis palmato-quinquelobis inciso-dentatis, pedicellis geminis petioli

Hab. Near Conception.—This appears to agree nearly as well with the M. prostrata of Cavanilles as with the eriocarpa of De Candolle; only that the former is described as having its fruit glabrous, whereas our plant has the fruit somewhat hairy. The peduncles are solitary, not geminate as in De Candolle’s plant, so that we cannot but be doubtful as to the correctness of our name and synonyms.

2. SIDA. Cav.

1. S. vitifolia; foliis cordatis 3-5-lobis pilis stellatis supra parce subtus confertim tectis, lobis grosse crenatis magis minusve acuminatis, petiolo foliis longiore pedunculis axillaribus apice subtrifloris brevioriibus, pedicellis brevibus calyce multo brevioribus, stilis plurimis.—Cav. Ic. v. 5. t. 428? De Cand. Prodr. v. 1. p. 471?

Hab. Conception.—This does not well accord with Cavanilles’ figure and description above quoted, nor can we satisfy ourselves as to the division in which it ought to be placed, since we have no perfect fruit. The stem, branches, leaves, petals, peduncles, and calyx, are clothed with dense short stellated pubescence.

3. CRISTARIA. Cav.

1. C.? pinnatifida; caule foliis glabris pedicellis calyce pilis longis hispidis, foliis pinnatisolidis lobis linearibus distantibus.

Hab. Coquimbo.—Of this plant there is only one, and that a very indifferent, specimen. It has the habit of a Cristaria; and if it really belong to that genus, it is sufficiently distinct from any of the species hitherto described.

ORD. XI. SAPINDACEÆ. Juss.

1. AMIROLA. Pers. Llaguna. R. & P.

1. A. glandulosa; foliis petiolatis trifoliatis, foliolis ellipticis serratis glandulis nigris utrinque punctatis.


Hab. Coquimbo.—Of this we have to regret that the specimens are very indifferent; but they are sufficiently perfect for us to ascertain clearly the genus of the plant from the very remarkable structure of its flower; and that the species is an undescribed one, the leaves being covered with black, and, probably, when recent, viscid glands. The three species described by Humboldt have simple, not ternate, leaves.

ORD. XII. GERANIACEÆ. DC.

1. GERANIUM. L’Herit.

1. G. pyrenaicum. Linn.—Feuill. Chil. v. 3. t. 16.

Hab. Conception.
2. **G. Robertianum. Linn.**

HAB. Conception.

2. **ERODIUM. L’Herit.**

1. **E. cicutarium. L’Herit.**—Geranium cicutarium. Linn.

HAB. Conception.—This and the two Gerania above-mentioned were probably introduced with the seeds of European vegetables, and have now become naturalized. We have specimens of them from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges.—Nearly allied to this order, and connecting it with the *Oxalideae*, but which Mr. Don has referred to *Caryophyllea*, next to *Mollugo*, is the genus *Viviana* of Cavanilles, "Ann. de Cienc. Nat. v. 7. p. 211. t. 49." At the time the account of it was published in the Botanical Miscellany, v. 1. p. 174, under the name of *Macrea*, given to it by Mr. Lindley in Brande’s Journal of Science, v. 5. p. 104, we were not aware of its being identical with that of Cavanilles, whose name must, of course, be preferred. The same has also been described by Cambessedes, (Mém. du Mus. v. 18. p. 369. t. 18,) as a new Brazilian genus, and called *Cesarea*. We regret to say that it does not appear to have been gathered by the Naturalists of the Expedition, but we possess specimens of three species from Mr. Cruckshanks, Mr. Macrae, and Dr. Gillies, from various parts of Chili. A fourth species from Chili (*V. parviflora*), we have not received: it has, however, been found by Mr. Macrae.

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**ORD. XIII. OXALIDEAE. DC.**

1. **OXALIS. Linn.**


HAB. Coquimbo.—We have not been able to find more than three calycine segments to each flower, of an oblong shape, somewhat 3-toothed at the top; but it must be observed that the specimens are in a very imperfect state. There are 5 yellow petals, about the length of the calyx. The pedicels are bracteated at the base. Stamens 10: Stigmas 5. Pistil as in the genus.


HAB. Conception.—Mr. Collie notices this as a very succulent, acid, and powerfully antiscorbutic plant.

3. **O. laxa**; caule simplici folioso brevi, foliolis 3 late obcordatis supra pauce inferne densius pilosis ciliatis, petiolis pilosis, pedunculis folio duplo longioribus pilosis apice paniculam laxam gerentibus, sepalis pilosis angustissimae lanceolatis.

HAB. Conception.—A small species, with numerous leaves and panicles, which latter exceed the foliage in length.


HAB. Conception.—This is very nearly allied to *O. filiformis* of Humboldt, if it be not the same.

5. **O. rosea**; caule erecto carnoso folioso, pedunculis axillaribus longissimis apice corymboso-racemosi, foliolis obcordatis.
α. floribus majoribus, petalis lineatis roscis apice crenatis. (Hook. in Bot. Mag. t. 2830.)


β. floribus minoribus, petalis vix lineatis rubris apice integerrimis. Hook. l. c.—O. rosea. Sims in Bot. Mag. t. 2415.

HAB. Conception.

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ORD. XIV. TROPEOLEÆ. Juss.

1. TROPÆOLUM. Linn.

1. T. tricolorum; caule tenuissimo scandente ramoso, foliis peltatisectis, segmentis 6–7 oblongis obovatissime integris basi attenuatis, petiolis cirrhis, petalis unguiculatis calyce persistente subclauso parum longioribus obtusis integerrimis. Sweet, Br. Fl. Gard. v. 3. t. 270.

HAB. Coquimbo.—We have in our collection T. majus, (Feuill. Chil. v. 3. t. 8. fig. super.,) from the Horticultural Society, gathered at Coquimbo and Valparaiso by Mr. Macrae; and from Mr. Bridges we have received a new Chilian species, common in bushy places in the mountains near Valparaiso, and there called Flor de Perdiz, which we propose thus to name and characterize: T. brachyceras; foliis peltatisectis, segmentis 6–7 oblongo-ovatis integris sessilibus, petalis coniformibus, calycis segmentis obtusis calcare brevissimo obtusissimo.—The small size of the whole plant, particularly the flowers, and their short, thick, obtuse spur, distinguish it readily from all the others. Mr. Cruckshanks informs us that this is the other Chilian species, alluded to by Sweet, (Br. Fl. Gard.) under T. tricolorum, which has been introduced by him to our gardens, but no description of it has yet been published.

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ORD. XV. RUTACEÆ. Juss.

1. RUTA. Linn.

1. R. graveolens. Linn.

HAB. Conception: cultivated.

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ORD. XVI. CORIARIEÆ. Juss.

1. CORIARIA.


HAB. Conception.

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SUBCL. II. CALYCIFLORÆ.

ORD. XVII. CELASTRINEÆ. Br.

1. MAYTENUS. Feuill.

1. M. chilensis; foliis oblongis basi attenuatis apice acuminatissimis margine serratis.—
Rhus caustica.
Terebinthacea.


Hab. Coquimbo.—We have also specimens of this from Mr. Cruckshanks and Dr. Gillies.

Ord. XVIII. RHAMNEÆ. Br.


1. C. spinosa; spinis validis, florum fasciculis sparsis, calycibus urceolatis, filamentis elongatis extorsitis.


b. pubescenti-inanca.

Hab. β. Conception.

2. RETANILLA. Brongn.


Hab. Conception: in the more elevated parts of the country.—We are informed by Mr. Cruckshanks that the generic name ought to be written Retamilla, being a diminutive of the Spanish Retamo, or Furze. Allied to these two is the genus Trevoa, of which, when it was described in the Botanical Miscellany, v. 1. p. 158, the flowers of only one of the species was known to us; we have, however, since received both in flower from Mr. Bridges, who adds, that T. trinervis is used for fences, and is very abundant on all the mountains near Valparaiso.

Ord. XIX. HOMALINÆ. Br.

1. ARISTOTELIA. L’Her.


Hab. Conception.

Ord. XX. TEREBINTHACEÆ. Juss.

1. RHUS. Humb. & Kunth.

1. R. ? caustica; foliis simplicibus coriaceis ellipticis integerrimis cartilagineo-marginatis, racemis subpaniculatis axillaribus terminalibusque, floribus dioiciis decandris, fructu drupaceo sicco. (Tab. VII.)—Laurus caustica. Molina. Willd. et aliorum.—“Litri.” nom. vernac. (Gillies.)—Llithi. Feuill. Chil. v. 3. t. 23. (fig. ad dextram.)

Var. α. ramis subpubescentibus, foliis glabris.

Var. β. ramis foliisque subtus pubescentibus.

Frutex valde ramosus; ramis subangulatis, in α. glabriasculis, in β. pubescenti-hirsutis. Folia alterna, sparsa, breve-petiolata, 2–3 uncias longa, elliptica, obtusa nunc cum mucrone obtuso, integerrima, coriacea, nonnumquam purpureo tincta, margine crasso cartilagineo, oblique parallellim nervosa, nervis utrinque pro-

Hab. Conception.—There are so many points in common between this plant and the Mauria simplicifolia of Humb. and Kunth, Nov. Gen. v. 7. t. 605, that it is difficult not to believe them to be generically the same: but in Mauria the flowers are hermaphrodite; the stigma is solitary, thick, and angled, and the seed is pendulous: whereas, except in habit, our plant differs only from the simple-leaved species of Rhus in the greater number of its stamens; whence we have been led to refer it to that genus. This, Dr. Gillies, to whom we are also indebted for specimens, as well as to Mr. Cruckshanks and Mr. Bridges, considers to be the true “Laurus caustica” of Molina, the Litli or Litri of the natives, on which our friend observes, “The statement made by Molina, relative to the poisonous nature of this tree, seems to be well founded; as I am informed, by several intelligent people, that individuals resting or sleeping under it at certain times of the year, are afterwards attacked with eruptions all over the body.” We take this opportunity of stating, that we are enabled to correct, by means of Mr. Cruckshanks’ remarks, a mistake in Feuillee, which has led most succeeding botanists into a serious error. Feuillee, in his description, attributes the same properties to this plant as Molina has since done, and says he has not seen the flower or fruit: yet the figure to which the name “Litli” is affixed, represents a fruit larger than a chestnut; and Lamarck and Sprengel have, in consequence, described the Laurus caustica with such a fruit. But the whole has arisen from the names in the plate having been engraved under the wrong figures; the plant on the right without fruit is the Litli; while that in fruit on the left is the Lucuma obovata.

Tab. VII. Fig. 1, Male flower; fig. 2, Female flower; fig. 3, Flower from which the calyx and corolla are removed; fig. 4, Fruit; fig. 5, Section of do.—magnified.

ORD. XXI. LEGUMINOSÆ. Juss.

1. SPARTIUM. DC.


Hab. Conception. Doubtless introduced from Europe.

2. TRIFOLIUM. Tourn.

1. T. grandiflorum; caule repente, foliis obcordatis striatis denticulatis petiolisque pilosis, stipulis ovalibus apice longe aristatis, pedunculis vix pilosis adscendentibus petiolo triplo longioribus, calyce campanulato piloso, laciniiis inaequalibus lanceolatis tubum superantibus, corollis calyce 5–6-plo longioribus scariosis persistentibus.

Hab. Conception.—To this species the T. obcordatum of Desvoux, from Buenos-Ayres, is, perhaps, closely allied: but our plant belongs to a different section, the “Lupinaster,” as does the next species. The involucrum is small and many-leaved.

2. T. chilense; caule diffuso glabro, foliis angustis oblongo-obovatis argute denticu-
Lotus subpinnatus Lag.
latis glaberrimis petiolum æquantibus, stipulis ovalibus membranaceis nervosis pectinato-fimbriatis, capitulo longe pedunculato, involucro floribus breviore multisfido aristato, calyce campanulato lacinios tridentato-aristatis dente medio ceteris multo longiore corollam æquantibus.

HAB. Conception.—Nearly allied to T. fimbriatum of Mr. Lindley in the Bot. Reg. t. 1070, from California; but the leaflets are narrow and different in figure, the stipules rounded, shorter, and the whole plant is more slender.


HAB. Conception.—It is well observed of this curious little plant, by its original describer, Desvaux, that it should form a distinct section in this genus. Its nearest affinity is with the section "*Vesicastrum*" of De Candolle’s Prodomus; but there it is the upper lip of the calyx which becomes inflated, here the standard of the corolla. The flowers are sessile within the minute truncated involucre.

3. MELILOTUS. *Tourn.*


HAB. Conception. Introduced?

4. MEDICAGO. *Linn.*


HAB. Conception.

5. LOTUS. *Linn.*


HAB. Conception.—Whether or not this plant should continue in the genus *Lotus* is a matter of doubt. Its nearest affinity is with *Lotus tetraphyllus* of *Linn.* fil., having, like it, more leaflets than the three terminal ones usual in the genus; in *L. tetraphyllus*, there is one additional; in our plant *two*, and these two are constantly unilateral. The former, however, has a capitate stigma; ours an obtuse one: in these respects also departing from the true *Loti*, in which, as now circumscribed, the stigma is subulate. From
CHILL.

Hosachia, Benth., to which it approaches by the tendency to a pinnate leaf, it differs by the appressed ale, the entire absence of stipules, and the solitary flowers. De Candolle seems to have observed monadelphous stamens in his specimens, hence he has been led to refer this plant to the genus Anthyllis; but we find the stamens to be truly diadelphous.

Tab. VIII. Lotus subpinnatus. Fig. 1, Flower; fig. 2, Vexillum; fig. 3, 3, Aë; fig. 4, Carina; fig. 5, Side view of the carina; fig. 6, Stamens and pistil; fig. 7, Pistil; fig. 8, Legumen; fig. 9, Leaf with three terminal leaflets; fig. 10, Leaf with only two terminal leaflets.

6. PSORALEA. Linn.


Hab. Conception.—This plant, according to Feuillé, is employed by the natives as a vulnerary and purgative, and its dried leaves are often used instead of tea.

7. ASTRAGALUS. DC.

1. A. procumbens; ubiquitous hirsuto-tomentosus, caule prostrato ramosissimo, stipulis concretis liberis, foliolis 11-14-jugis ellipticis retusis, pedunculis folio longioribus racemosis, alis carina duplo brevioribus, leguminibus (vix maturis) linearibus hirsutis reflexis.


Hab. Conception.—This belongs to De Candolle's tribe, Hypoglossilidei, and is nearly allied to the A. Garvancillo of Cavanilles; nor is it far removed from A. unifolius of De Candolle. But those plants, besides their differential characters, are natives of Peru.

2. A. prostratus; diffusus, foliolis subpubescentibus obtusis, stipulis inter se et a petiolo liberis, racemis pedunculatis folio multo longioribus, floribus laxiusculis subsessilibus purpurascentibus, calyce nigro-pubescente.

Hab. Conception.—This belongs to the section of Atragatus, "Dissitiflori," DC.; but on account of the absence of fruit, and the paucity of specimens, we cannot give a satisfactory description. The flowers are in rather long, spiked racemes, and somewhat drooping.

8. ADENSTIA. DC.

1. A. papposa; caule herbaceo adscendente basi folioso et villosa, foliolis 8-10-jugis obovatis retusis cum murcrone parce pilosis, racemo terminali longissimo composito glabro multifloro, floribus remotis, calyce eglanduloso.—De Cand. Prodr. v. 2. p. 319.

Hab. Conception.—With the fruit of this we are unacquainted; but if, as we believe, the plant is the same as De Candolle's A. papposa, it is covered with soft feathery setae. The species differs, however, from that author's character and description, in which the leaves are said to be ovali-lanceolate, and the flowers in a compact raceme. The whole plant is free from glands, in which respect it is at variance with what we conceive to be A. longiseta of De Candolle, the only other known herbaceous species of the section, and of which we have received beautiful specimens from Mr. Cruckshanks and Mr. Bridges. In both the aë are wrinkled transversely at the back, their claws are united with the base of the claw of the vexillum for nearly their whole
Adesmia microphylla.
length, and two of the stamens are equally united, one on each side the vexillum, with these combined claws. The other eight stamens are free. The germin is linear, glabrous; the style filiform and much curved. In our A. papposa, the base of the limb of the vexillum has a tuft of hairs, and the upper teeth of the calyx are remarkably short.

2. A. microphylla; caule fruticoso ramosissimo, ramulis striatis pubescentibus divaricato-spinescentibus, foliolis minimis 6-jugis orbicularibus brevissime petiolulatis pubescentibus, racemis subcapitatis terminalibus simplicibus spinescentibus, bracteis orbicularibus, leguminibus triarticulatis, setis longissimis plumosis basi rigidiusculis nudis. (Tab. IX.)


Hab. Valparaiso.—This and the following species belong to a groupe of Adesmia hitherto undescribed, having fruticose, spinescent stems, and small rigid and somewhat fleshy leaves, a plumos-setose fruit, and free stamens and petals; of which several have been collected in Chili and Mendoza by Dr. Gillies and Mr. Cruckshanks. The present species was first detected by Mr. Menzies, whose specimens we possess. It has also been gathered by Mr. Macrae.

Tab. IX. Adesmia microphylla. Fig. 1, Flower; fig. 2, Petals separated from the calyx; fig. 3, Carina; fig. 4, Single stamen; fig. 5, Pistil; fig. 6, Legumen; fig. 7, Inner view of one of the valves:—magnified.

3. A. glutinosa; caule fruticoso ramoso, ramulis patentibus glandulosos-hirsutis glutinosis spinescentibus, foliolis subtrijugis ellipticis hirsutis, racemis elongatis terminalibus simplicibus spinescentibus bracteisque linearibus glandulosos-hirsutis, leguminibus triarticulatis longissimse setos-plumosis.

Hab. Coquimbo.—This differs from the preceding in its larger leaflets, longer racemes, narrower bractee, longer pedicels, and in the viscid glands and patent hairs which clothe all the younger parts of the plant except the corolla.—The genus Adesmia has been divided by De Candolle into two sections; the one Patagonium, characterised by the pods of from 4 to 8 joints, and either scabrous or puberulous: the other, Chorotrichia, having a pod of 2 joints, wrinkled, and bearing plumose setae. He even thinks the latter ought to form a distinct genus. We, however, possess some that cannot be referred to either section, but are intermediate; nor do we think the arrangement otherwise a natural one: we prefer, therefore, the subjoined division, and will notice some other species not in the collection, but which we have received from Chili.*

* Sect. I. Herba annua. Flores inferiores axillares solitarii pedunculati, versus caulibus apicem, folii decrescentibus, paniculam efformantes. Habitus Smithiae.—Hue A. maricata, Smithiae, et hispidula. DC.

1. A. tenella; pubescenti-hirsuta eglandulosa, caulibus procumbentibus simplicibus, foliis 3-4-jugis nunc cum impari obovatis obtusis petiolulatis inferioribus folium aquantibus, calyces lacinii ovato-lanceolatis subqualibus, leguminis 2—3-articulato rugoso muricato calyce quam.


2. A. angustifolia; pubescenti-hirsuta eglandulosa, caulibus procumbentibus, foliis remotis 4—5-jugis linearibus obtusiusculis, pedicellis inferioribus folio multo brevioribus, calyces lacinii lanceolatis subqualibus, legumine 5—6-articulato rugoso pilis raris rigidis plumosis calyce duplo longiore.
9. VICIA. Tourn.

1. *V. nigricans*; pubescens, caule tetragono, foliolis 9-10 oblongo-ellipticis obtusis alternis, cirrhis divisi, stipulis semisagittatis, pedunculis folio duplo longioribus multifloris, floribus conflatis, calycis dentibus 2 superioribus subnullis inferioribus subulatis, medio elongato tubum superante, stigmatice barbate.

Hab. Conception.—This seems to be a long straggling plant, which always turns black in drying, like *Orobus niger*. The leaflets are rather more than an inch long; the flowers almost capitate.

2. *V. parviflora*; parce pilosa, foliolis 3-4-jugis anguste linearibus acuminatis, cirrhis subsimplicibus, stipulis semisagittato-linearibus integris, pedunculis folio brevioribus bifloris, calycy brevi-campanulato dentibus lanceolatis tubum aquantibus, corolla glabra, leguminibus 6-permis semisagittatis compressis, suturis pilosis.

Hab. Conception.—This species is closely allied in habit to *Erwum tetraspermum*, and has an equally small flower: but the shape of the legumen is very different, and the stigma is that of a *Vicia*.

3. *V. linearifolia*; tota pilosa, caule angulato, foliolis 5-jugis linearibus retusis, cirrhis subsimplicibus, stipulis latiusculis semisagittatis basi dentatis impunctatis, floribus subsessilis solitariis, calycy campanulato viloso dentibus subulatis subæqualibus, corolla glabra, legumine hisutis.

Hab. Conception.—In some respects this approaches *Vicia Michauxii*, Spr., but there is no species with which it quite coincides in character. The flowers are not half the size of those of *Vicia sativa*, with some of the narrow-leaved varieties of which it coincides in other respects.

10. LATHYRUS. Linn.

1. *L. sessilifolius*; glaber nigricans, caule angulato vix alato, foliis unijugis petiolo perbrevi cirrhifero, foliolis lineari-lanceolatis stipula semisagittato-ovata petiolum qua-

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Hab. Valparaiso. Mr. Bridges.

Sect. II. Perennes herbaceae, racemi longissimi aphylli terminales paniculati.—Habitus Onobrychiid. —Huc forsan *A. dentata*, bicolor, pendula et punctata. De Cand., at de duratione nihil prostat; certe tamen *A. papposa*, atque longiseta.

3. *A. conferta*; ascendens pubescens, foliolis 6-jugis obovato-oblongis retusis cum mucrone versus petioli apicem approximatis, racemo terminali composito nigro-glutinoso multifloro, pedicellis fructiferis deflexis, calycy laciniosis ovatis, legumine 3-4-articulato muricato glanduloso.

Hab. Chili. Mr. Cruckshanks.

Sect. III. Caules fruticosi spinoscentes.—Huc *A. microphylla* et glutinosa, quaedamque species inedite, in ascensu orientali Andium a Mendoza ad jugum "Uspallata" lecte.

Sect. IV. Fruticoso inermes.—Habitus Zuccagnia.


Hab. Chili. Mr. Cruckshanks. West side of La Cuesta de la Dormida, in Chili. Dr. Gillies.—This is called in Chili "Jarilla." Dr. Gillies informs us that Molina refers to this plant in his History of Chili, vol. i. p. 134, Engl. ed., where he calls it *Mimosa balsamica*; and Bertero, in a letter published in the Bulletin des Sciences Naturelles, for 1830, names it *Adesmia balsamica*. His appellation we therefore adopt. The plant, besides being of great beauty, yields a balsam of a highly agreeable odour, which is perceptible at a great distance, and is found to be of much efficacy in healing wounds.
CHILI.

*CHILI.*

druplo superante multoties longioribus, pedunculis folio duplo longioribus subquinquefloris, calyce campanulato nervoso dentibus subaequalibus.

**Hab.** Conception.—Closely allied on one hand to *L. sylvestris*, and on the other to *L. pratensis*, but distinguishable by the above characters. From *L. magellanica*, Lam., it seems to differ principally in the shape of its leaflets.

2. *L. pubescens*; superne molliter pubescens, caule alato, foliis cirrhosis unijugis, foliolis oblongo-lanceolatis petiolum duplo superantibus, stipulis semisagittato-ovatis petiolo subdimidio brevioribus, pedunculis folio longioribus multifloris, calyce tubuloso pubescente dentibus lanceolatis.

**Hab.** Conception.—This has many points in common with *L. sylvestris*; but the latter is never pubescent. It is found at Valparaíso by Mr. Bridges and Mr. Macrae, and in the islands in the Parana River, on the Eastern side of the Andes, by Mr. Baird. Besides these two in the collection, we have another fine species of *Lathyrus* from Conception, gathered by Mr. Macrae, and in Valparaíso by Mr. Bridges and Mr. Cruckshanks. It belongs to a group with many leaflets and many flowers, but is easily distinguished from them all by the smallness of its stipules. It may be thus named and characterized: *L. Macræi*; pilosissimus, caule angulato, foliolis sub 6-jugis ellipticis retusis penninervis reticulatis venosis subtus albido subpellucido-punctatis, stipulis parvis semisagittatis integerrimis, pedunculis multifloris folio longioribus, calycis lacinia inferiori longissima subulata, superioribus brevissimis, stylo lineari utrinque, sed supra præcipue, piloso.

11. **LUPINUS.** Tourn.


**Hab.** Conception.

12. **ACACIA.** Neck. Willd.


**Hab.** Valparaíso.—Of this we have no fruit, and but one very small and imperfect specimen in flower exists in the collection. It is, however, the same with an *Acacia* we have received from Valparaíso, gathered by Mr. Bridges, of which he observes that the blossom is called *Flor de Aroma*, and the tree *Espinó* by the inhabitants, that it is used for various purposes, especially for yielding the best charcoal, that the fragrance of the flowers is very great, being perceptible at a considerable distance, and that immense tracts of land near Talca are completely covered with the tree.” Again, Dr. Gillies has the same plant from a garden at Buenos Ayres, and remarks that “it is identical, to all appearance, with the Espino of Chili, which is upwards of twenty feet in height.” Thus, it would seem to be an important and well-known plant in Chili; yet we do not find it any where noticed, except by Molina, who calls it *Mimosa Cavenia*. Its nearest affinity is with the *A. revoluta* of Kunth, (Mimos. t. 26,) but there the spines are larger and stouter, the pinn of only 3 pairs, and the flowers decandrous. It is also closely allied to *A. eburnea*, Linn. Unfortunately we have no fruit on any of our specimens. There is a small sessile gland beneath the lower pair of leaflets, which is, however, very obscure in Mr. Bridges’ specimens. The flowers are yellow. It is now cultivated in the Glasgow Botanic Garden, from seeds sent by Mr. Cruckshanks, but has not yet blossomed.
13. ZUCCAGNIA. Cav.

1. ? angulata; caule glabro ramisque angulatis, foliiis conjugato-pinnatis subbipinnatisque, foliolis (minutis) ovali-orbicularibus, racemis terminalibus pubescenti-glandulosis.

HAB. Coquimbo.—Our specimens of this plant are by no means in a sufficiently perfect state to decide even the genus; but it appears to us a Zuccagnia, and, if so, a very distinct species from the Z. punctata of Cav. (Ic. v. 5. t. 403.)

14. CASSIA. Linn.


HAB. Conception.


HAB. Coquimbo.

Ord. XXII. ROSACEÆ. Juss.

1. PRUNUS. Tourn.


HAB. Conception. Introduced.

2. ACÆNA. Vahl.


HAB. Conception.


HAB. Conception.

3. GEUM. Linn.


HAB. Conception.—This splendid species, which has been confounded with the G. coccineum of Greece, is now one of the greatest ornaments of our gardens, being perfectly hardy, even in Scotland. It is called Quell-gon by the natives, according to Feuillée.
4. FRAGARIA. Tourn.
Hab. Conception.

ORD. XXIII. ONAGRARIAE. Juss.
1. FUCHSIA. Plun.
Hab. Conception. —Sir James E. Smith in Rees’ Cycl., and even De Candolle, appear doubtful if this should be distinguished from *F. coccinea*; while, on the other hand, the author of the Botanical Register makes it a var. of the *F. gracilis* from Chili, (not Mexico,) notwithstanding that the name of Ruiz and Pavon is by far the older. The *F. lycoïdes*, (Lun, Feuill. Chil. v. 3. t. 24,) though not in the collection, we have received from Valparaiso, transmitted by Mr. Macrae, Mr. Cruckshanks, and Mr. Bridges.

2. GENOTHERA. Linn.
Hab. Conception; as well as the three following. We have them all, likewise, as well as *Œ. tenuifolia*, of Ruiz and Pavon, from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges.


CHILI.

ORD. XXIV. LOASEÆ. Juss.

1. LOASA. Adans.


HAB. Conception.—Although De Candolle has described six species of the genus from Chili, particularly from Conception and Valparaiso, and several new ones exist in our collection from the same country, this, as far as we can collect from the notes and specimens, seems to have been the only one observed.

ORD. XXV. PORTULACEÆ. Juss.

1. CALANDRINA. Humb. & Kunth.


HAB. Conception.—The Talinum adscendens, Hort. Berol., according to specimens and seeds we have received from Dr. Fischer of St. Petersburgh, which De Candolle has referred as a variety to C. compressa, Schrad., proves to be identical with C. pilosiuscula. Perhaps even C. compressa is a mere variety, with fewer stamens.

2. C. tenella; caule adscendente basi ramoso, foliis anguste linearibus glabris, racemo terminali ramoso, sepalis glabris triangularibus cordatis acuminatis.

HAB. Valparaiso.—Very closely allied to the last species, from which it principally differs by its small size and its quite glabrous, not ciliated, leaves, which, moreover, have no tendency to become spathulate.

ORD. XXVI. PARONYCHIEÆ. St. Hil.

1. CORRIGIOLA. Linn.

1. C. deltoidea; caule prostrato, foliis deltoideis longe petiolatis, racemis lateralibus basi bractea spathulata instructis.

HAB. Conception.—This plant bears a strong resemblance to C. littoralis, having a bractea at the base of the lateral racemes; but in the latter the leaves are oblong or spathulate, of the same shape with the bracteas; here they are of a deltoid figure, as in some species of Chenopodium, but much smaller.

ORD. XXVII. CRASSULACEÆ. De Cand.

1. TILLÆA. Mich.

1. T. erecta; caule basi simpliciter ramoso erecto, foliis connatis oblongo-linearibus, floribus brevissime pedicellatis axillaris solitarii 4-fidis, petalis 4 erectis calycem æquantibus.

HAB. Conception.—We have nothing to add to the specific character, farther than that it most resembles T. moschata, which, however, has a very different habit.
ORD. XXVIII. FICOIDEÆ. Juss.

1. TETRAGONIA. Linn.


Hab. Conception. Probably introduced.

ORD. XXIX. GROSSULARIEÆ. De Cand.

1. RIBES. Linn.


Hab. Conception.

ORD. XXX. LORANTHEÆ. Juss.

1. LORANTHUS. Linn.


Hab. Conception.

2. L. Cactorum; aphyllus glaberrimus, caule ramoso, ramis teretibus, bracteis 3 parvis ovatis, floribus subpaniculato-corymbosis tetrandris.


Hab. Coquimbo; and, according to Dr. Gillies, upon the stems of Cactus peruvianus. We must observe, however, that our valued friend just mentioned, considers it to be an aphyllous state of another species found by him abundantly on trees in Chili, and nearly allied to, if not the same as L. glaucus of Ruiz and Pavon. To us, however, it appears an entirely distinct species.

2. VISCUM. Linn.

1. V. chilense; caule tereti ramoso, ramis ramulisque oppositis compressis articulatis aphyllis, floribus 2 vel 3 ad genicula sessilibus.

Hab. Conception.

ORD. XXXI. UMBELLIFERÆ. Juss.

1. BOWLESIA. Ruiz & Pav.

1. B. geraniæfolia; stellato-pubescenta, caule procumbente gracili, foliis longe petiol-
CHILI.

Umbelliferae.


Hab. Conception.

2. MULINUM. Pers.


Hab. Valparaiso.—The umbel is certainly not sessile, although the peduncles are not so long as the leaves; on which account, we have quoted the above synonyms with doubt, the plant having been hitherto described with a sessile umbel. We have also received specimens from Mr. Cruckshanks, but on none of them have we been so fortunate as to find any fruit: we have referred it to Mulinum on account of its habit.

3. ASTERISCUM. Schlecht. et Cham.


Hab. Conception.

4. SANICULA. Linn.


Hab. Conception.—The above authors in the Linnaea have pointed out the following characters to distinguish these, the allied species, from the present:—1. S. canadensis. Linn.; pedicellis brevibus crassis fructu triplo brevioribus.—2. S. canadensis. Spr.—S. marylandica. Willd. En.—Jacq. Coll. 2. p. 239. Ic. Rar. t. 348; floribus masculis numerosis longius pedicellatis.—3. S. marylandica. Spr.—Lam. Ill. t. 191, f. 2; floribus masculis paucis subsessilibus.—The S. marylandica of Linnaeus is involved in much obscurity.

5. PETROSELINUM. Hoffm.


Hab. Conception.

6. HELOSCIADIUM. Koch.


Hab. Conception. Probably introduced.—Dr. Gillies found this also at Buenos Ayres.

7. OSMORHIZA. Raf.

1. O. chilense; hirsutum, foliis decompositis, foliolis pinnatifido-incisis, stylis brevissimis divergenti-divaricatis.

HAB. Conception.—This belongs to the *Uraspermum* of Nuttall, or *Osmorhiza*, Raf. We are not aware of any species of the genus having been hitherto observed in Chili.

**ORD. XXXII. RUBIACEÆ. Juss.**

1. **RUBIA. Linn.**


HAB. Conception.—The berries are globose, of a red colour. Schlechtendal and Chamisso, after an examination of Willdenow’s plant, consider it the same as theirs; but they pronounce *R. chilensis* of Molina to be distinct, having rounded stems. After all, however, the difference may exist only in Molina’s incorrect description, as he must surely have been acquainted with the *Relbun*, which is found in different parts of Chili, as well as Brazil.

2. **GALIUM. Linn.**


HAB. Conception.—A species closely allied to *G. palustre*, Witheringii, and *uliginosum*, having the same habit, but differing by the above characters.


HAB. Conception.—The description given in the Flora Peruviana is too incomplete to permit us to say with certainty that our species is identical; and the other synonyms, again, depend on it. Nor are the specimens in the collection in a perfect state; their flowers are not even developed, and we are quite ignorant of the appearance of the fruit.

3. **G. Aparine. Linn.**

HAB. Conception. Probably introduced.

**ORD. XXXIII. VALERIANÆÆ. De Cand.**

1. **VALERIANA. Tourn.**

1. *V. crispa*; foliis carnosis superioribus pinnatifido-laciniiatis segmentis crispis acutis dentatis, panicula fructifera subcoarctata, achenii subcordato-ovatis plano-convexis late marginatis antice linea media longitudinali elevata dorso tricostatis, pappo plumoso basi membrana unito.—Ruiz et Pav. Fl. Per. v. 1. p. 41?

HAB. Conception.—We have no means of ascertaining if this be the species of the Flora Peruviana, no figure being there given of it. Schlechtendal and Chamisso, in the Linneæa, say that their specimens were
collected in fruit, but they have omitted to give a description. If ours prove distinct, it may bear the name of *V. pterocarpa*.


Hab. Conception.—This appears to be only known to previous authors in a young state, its fruit being always described as crowned with minute teeth, which, eventually, as in the other species, change into a feathery pappus. The *V. hyalinorhiza*, Humb. and Kunth, v. 3. p. 331, “achenis glabis, foliis glabriusculis,” is surely different from the Chilian plant.

2. **FEDIA.** Gart.

1. *F. laxa*; herbacea glabra, foliis radicalibus cordato-ovatis obtuse dentatis caulinis lyrato-pinnatifidis lobo terminali maximo, panicula laxa divaricata, pedicellis ultimis brevibus congestis, acheniis ovatis hinc excavatis dorso tricostatis annulo crenulato coronatis.

Hab. Conception.—This approaches most in habit to *Valeriana paniculata* of the Flora Peruviana, but that is pubescent, and has a pappose fruit. The achenium of our plant has, in addition to the three strong dorsal ribs, a lateral one on each side, though not so elevated as the others.

Ord. XXXIV. COMPOSITÆ. Juss.

Subord. I. CICHORACEÆ. Juss.

1. **SONCHUS.** Linn.

1. *S. oleraceus.* Linn.

Hab. Conception.

2. **HYPOCHÆRIS.** Linn.

1. *H. apargioides*; foliis radicalibus lanceolatis basi attenuatis sinuato-dentatis nunc pinnatifidis hirsutulis, scapis elongatis ramosis, bracteis linearibus subintegerrimis, ramis unifloris, involucro densissime ferrugineo-tomentoso, pappo sessili.

Hab. Conception.—Plant from one and a half to two feet high. Leaves from four to six inches long.

Subord. II. LABIATIFLORÆ. DC.

3. **PROUSTIA.** Lag. DC.

1. *P. ilicifolia*; foliis ovalibus rigidis coriaceis nitidis reticulatim venosis marginibus dentato-spinosis, panicula terminali, involucri foliolis externis minutis ovatis subcoriaceis interioribus sensim majoribus membranaceis, pappo scabro apicem versus subplumoso.

Hab. Coquimbo.—Undoubtedly a congener of *P. pyrifolia*, which we have received from Chamisso, gathered at Conception; and from Dr. Gillies, from the neighbourhood of Concon, who states it to be the “Voqui,” or “Boqui,” of Chili. This must not, however, be confounded with the *Boigue* of Chili, which, Mr. Cruckshanks informs us, is the *Drymis chilensis*, (Feuill. Chil. v. 3. t. 6.)

4. **LEUCÆRIA.** Lag. DC.

1. *L.? senecioides*; caule erecto ramoso, foliis pinnatifidis laciniis inciso-angulatis sub-
CHILI.


HAB. Conception.—We believe that this belongs to the Leuceria of Lagasca, but we do not find any trace of paleae among the radiate florets.

5. CHÆTANTHERA. Ruiz & Pav. DC.

1. C. chilensis; foliis lineari-lanceolatis rariter serratis, inferioribus sericeis.—De Cand. in Ann. du Mus. v. 19. p. 70. t. 3?

HAB. Valparaiso.—In our plant the root is annual, and from the crown of it issue several short, usually one-flowered stems. The leaves are narrowly spatulate, obtuse, and very sharply toothed. The figure given by De Candolle bears hardly any resemblance to our specimens, and we should not have had the least idea of its being the same, did we not possess a specimen from Chamiso, which is consequently the same as that described by Lessing in the Linnea, named as above, and identical with our own. Mr. Cruckshanks, Mr. Macrae, Mr. Bridges, and Dr. Gillies have also gathered it at Valparaiso.

6. BARNADESIA. Linn.

1. B.? ulicina; foliis subulatis rigidissimis pungentibus, spinis nullis, involucri folioliis subulatis rigidis scariosis (flavis), exterioribus recurvis ciliatis inferioribus erectis extus sericeis, pappo plumoso.

HAB. Coquimbo.—The only specimen we have ever seen is too imperfect for us even to ascertain the genus with any certainty. The habit is very remarkable. The plant shrubby, with glossy, yet slightly tomentose branches; leaves numerous, about three-fourths of an inch long, shining, with an obscure nerve at the back, grooved within, very rigid, and tipped with a yellow pungent point, bearing always in their axils a cluster of young leaves, which are slightly downy. The receptacle is dotted and naked, and the general aspect of the flower not unlike that of Carlina vulgaris.

7. TRIPTILION. Ruiz & Pav. DC.

1. T. spinosum; herbaceum, foliis radicalibus pinnatifidis, caulinis sessilibus inciso-dentatis spinosis, caule superne paniculato-corymboso. Spr.—Ruiz et Pav.

HAB. Valparaiso.

SUBORD. III. CORYMBIFERÆ. Juss.

8. EUPATORIUM. Linn.

1. E. reticulatum; fruticosum, ramis angulatis, foliis oblongo-ovatis subattenuatis petiolatis crenato-dentatis subcoriaceis subitus reticulatis junioribus præcipue viscosis, panicula corymboso-capitata, involucri sub-13-flori folioliis serie duplici glanduloso-pilosis.

HAB. Valparaiso.—This seems to approach very near to E. viscosum, Kunth, but that is described with a diffuse panicle, while in our plant the flowers are in a compact head.

9. CACALIA. Linn.

1. C.? denticulata; fruticosa pubescenti-lanosa, caule angulato, foliis subcoriaceis
ovalibus argute denticulatis, basi in petiolum latum attenuatis, paniculis terminalibus foliosis, floribus parvis.

HAB. Conception.—The florets in our specimen are unexpanded, but there is so excellent a character in the beautiful close denticulation of the foliage, that we are unwilling to pass it over in silence. The leaves are about three inches long, slightly woolly on both sides, paler beneath, where they are finely reticulated, becoming gradually smaller upwards, and passing into linear bracteas among the upper flowers of the panicle. It may possibly be a Baccharis.

10. AGERATUM. Linn.
1. A. conyzoides; herbaceum annuum, caule piloso, foliis ovato-oblongis obtusiusculis crenatis, floribus corymbosis. Spr.—Linn.

HAB. Conception.—Different varieties occur throughout all South America.

11. CEPHALOPHORA. Cav.

HAB. Coquimbo.—In the Exotic Flora it is stated that Feuillée’s plant was a second species of Gramia; but we are now disposed to unite the whole of the above synonyms. Mr. Cruckshanks finds it abundantly at Valparaiso; and at Quintero, about ten leagues farther northward, it was observed by Mrs. Graham, covering whole tracts of country. Mr. Cruckshanks mentions that he never understood that it was applied to dyeing, but that the natives make a decoction of it, which they use instead of chamomile.

12. BIDENS. Linn.
1. B. bipinnata; foliis bipinnatis glabris, foliolis lanceolatis inciso-pinnatifidis, floribus corymbosis discoideis. Spr.—Linn.—Feuill. Chil. v. 2. t. 33.

HAB. Valparaiso.—We have it also from Dr. Gillies. There is no difference of any importance, that we can perceive, between the North American specimens and those in this collection: it seems to be very generally diffused over South America.

13. BACCHARIS. Linn.
1. B. rosmarinifolia; caule fruticoso dense folioso, foliis linearibus obtusis margine revolutis resinoso-glandulosis, corymbis terminalibus densis paucifloris, involucro cylindrico imbricato.

HAB. Conception.—We possess the same, gathered at Valparaiso by Mr. Bridges, who says that all the species are called Romero. It may be B. linearis, Pers., but we do not observe any of the leaves to be toothed. Perhaps Person’s character may be drawn up from more than one species of this difficult genus.

2. B. mucronata; caule fruticoso, foliis fasciculatis cuneatis basi attenuatis sessilibus dentato-spinosis rigidis, floribus solitariis ramulos versus apicem caulis foliosos breves terminantibus et ita quasi spicato-racemosis.

HAB. Coquimbo.—The nearest species is B. uniflora, Pers., which is described as having lanceolate leaves. Perhaps it is the B. banksiaeifolia of Bertero in the Bulletin des Sciences Nat. 1830, p. 108, but no description of that has been published.

3. B. obovata; suffruticosa glabra foliis obovatis cuneatis superne profunde dentatis
inferne in petiolum perbrevem attenuatis membranaceis, floribus paucis subumbellatis ramos terminantibus, pappo fulvo.

**HAB.** Conception.—The leaves, though somewhat resembling in shape those of the preceding species, differ widely in their texture: the arrangement of the flowers is also very dissimilar.


**HAB.** Conception.—This, as far as we can judge from the specimens, appears to be a true *Baccharis*. The pappus is tawny: leaves scarcely an inch long, broadly cuneate, truncated at the top, presenting a few angles in the upper half, and remarkably coriaceous. Kunth says that Lamarck’s *B. cuneifolia* is nearly allied; Sprengel unites them.


**HAB.** Valparaiso. Mr. Bridges has likewise sent it.—Besides these species, we possess from Chili, gathered near the waterfall at the end of Almendral in Valparaiso, another species, which we cannot distinguish from the *B. articulata*, Pers.

14. GNAPHALIUM. *Linn.*


**HAB.** Conception.

2. *G. chilense*; foliis utrinque argentee-elanatis inferioribus spathulatis superioribus linearibus, floribus glomerato-spaticis, involucri foliolis nitidis acuminatis.—*Spr. Syst. Veget. v. 3. p. 480?*

**HAB.** Conception.—We feel almost certain that this must be the plant gathered by Chamisso, and described by Sprengel, but the characters do not altogether accord. It is certainly, however, not the *G. lanuginosum*, Kunth, which has acuminated leaves.

3. *G. citrinum*; caule herbaceo erecto tomentoso, foliis lineari-lanceolatis acutis longe recurruntibus supra velutinis subitus albo-tomentosis, corymbis terminalibus, floribus glomeratis citriniis, involucri squamis oblongis obtusis nitidis.

**HAB.** Conception.—This appears liable to considerable variation, the upper surface of the leaves being sometimes almost naked, and in other specimens densely velvety. It is about a foot and a half high. It is probably the *Elichrysum*, &c. of *Feuill. Chil. v. 3. t. 13*, which figure resembles much our plant in the leafy branches of the corymb. We possess another very curious new species, sent from Valparaiso by Mr. Bridges, which may be thus distinguished:—*G. urophyllum*; annuum, basi decumbente valde ramosum, ubique arachnoideo-lanosum, foliis linearibus acutis decurrentibus undulato-crispatis, corymbis elongatis, floribus glomeratis sordidis, involucri squamis oblongis obtusis nitidis.
15. ERIGERON. *Linn.*

1. *E. spiculorum*; caule herbaceo anguloso pilis albidis hispidulo, foliis lineari-oblongis acutis margine (præcipue) cartilagineo-spinulosis, panicula multiflora, pedunculis pilis albis appressis, involucro subpiloso.

*Hab.* Valparaiso.—Mr. Bridges has likewise transmitted this plant, whose nearest affinity appears to be with *E. linifolium*, Willd.

16. SENECIO. *Linn.*

1. *S. bipinnatifidus*; frutescens glandulosos pilosus viscidus, ramis angulatis, foliis semamplexicaulis bipinnatifidis, laciniiis linearibus obtusis basi subauriculatis, corymbo paucifloro, involucro tomentoso, radio patente.

*Hab.* Coquimbo.

2. *S. glabratus*; frutescens glaber, ramis (ultimis) striatis, foliis semamplexicaulis bipinnatifidis, laciniiis linearibus obtusis, corymbo paucifloro, involucro glaberrimo, radio patente.

*Hab.* Conception.—This may be perhaps a denuded state of the last, but it is perfectly glabrous in all its parts: we have only seen one, and that an indifferent specimen.

3. *S. arnicoides*; caule herbaceo, foliis radicalibus lanceolatis angulato-dentatis obscure trinerviis subpubescentibus longe petiolatis, scapo foliis linearibus dentatis bracteiformibus, triplo longiore, corymbo subtrifloro, radio patente.

*Hab.* Conception.—Nearly allied to *S. pauciflorus*, Kunth.

4. *S. nigrescens*; caule herbaceo adscendente ramoso, foliis ovalibus amplexicaulis inciso-lobatis glabris, panicula subcorymbosa, involucro glabro basi paucibracteato, radio patente, acheniis striatis pubescentibus.—“Nillgue.” *Feuill. Chil.* v. 2. t. 44.

*Hab.* Conception.—Although we cannot find this described in any systematic work, we cannot question for a moment that it is the plant of Feuillée, of which he says that it is much used for intermittent fevers.

17. GALINSOGEA. *Ruiz & Pav.*


*Hab.* Coquimbo.


*Hab.* Coquimbo.—We possess it also from the Viña de la Mar, near Valparaiso, sent by Mr. Bridges, who says that it is by no means a general plant. We refer it, with some hesitation, to *Galinsogea*, as the receptacle is not paleaceous. From *Hymenopappus* it differs by the presence of a ray, and by its unequal involucrum.

18. HELIANTHUS. *Linn.*

1. *H. glutinosus*; glutinosus, caule herbaceo erecto ramoso angulato, foliis alternis brevissime petiolaris ovato-lanceolatis penninerviiis reticulatis inferioribus repando-dentatis
superioribus integerrimis, corymbis multifloris foliosis, involucris foliolis lanceolatis squarrosis.—*Tithonia glutinosa*. **Collie, MSS.**


**Hab.** Valparaiso.—This has considerably the habit of a *Grindelia*, and Mr. Bridges informs us that it is very abundant on the hills near Valparaiso, growing from four to six feet high. It is called by the natives *Maravilla*, and a resin which it yields is employed by them for incense in their churches. He has furnished us with fine specimens, both of the plant and its resin.

**Subord. IV. Cynarocephalae.** **Juss.**

19. **CENTAUREA.** **Linn.**


**Hab.** Conception.—The marginal florets are neuter, infundibuliform, and radiate; those of the disc hermaphrodite, tubulous, and 5-fid. It undoubtedly belongs to Mr. Don’s groupe, *Plectocephalus*, which we consider a mere section of *Centaurea*. We have the same plant from Mr. Macrae, gathered on the Cordilleras of Chili, and another variety sent from Valparaiso by Mr. Bridges, having the segments of the leaves always simple and broader, downy on the underside as on the stem: this might be thought a species, but we have an intermediate specimen from Mr. Cruckshanks.

**Ord. XXXV. LOBELIACEAE.** **Juss.**

1. **LOBELIA.** **Linn.**

1. *L. polyphylla*; suffruticosa, caule simplici, foliis oblongo-lanceolatis superioribus multo minoribus bracteiformibus omnibus confertis argute serratis glaberrimis, floribus axillaris pedicellatis, pedicellis pubescentibus folio brevioribus, calyce hemisphaerico pubescente, dentibus subulatis integerrimis, corolla pubescente pedunculum aequante.

**Hab.** Valparaiso.—The two lower anthers are bearded at their extremity, the others glabrous. Flowers red. The inflorescence may almost be called a terminal, densely leafy raceme, in which the flower with its pedicel is only the length of the floral leaf. From Mr. Collie’s notes we learn that this plant, when cut, yields a milky acrid juice.

**Ord. XXXVI. ERICEÆ.** **Juss.**

1. **ARBUTUS.** **Tourn.**

1. *A. furiens*; caule subsimplici pubescente, foliis ovalibus breve petiolatis denticulatis coriaceis margine revolutis supra nitentibus utrinque glandulosis, glandulis pilo terminatis, racemis brevibus axillaris, rachi pedicellisque pubescentibus squamulosis, calyce glabro, corolla extus glabra intus pilosa.—*Qued-quad*. **Feuill.** v. 3. p. 56. t. 43.

**Hab.** Conception.—A small low-growing shrub, with few and small leaves at its base, which are almost orbicular. The fruit of this is described by Feuillié as being a reddish-brown berry, which is dangerous when eaten, causing delirium; whence the Indian name, which signifies *madness*.

2. *A. punctata*; ramosissima, ramulis pubescentibus, foliis subsessilibus ovato-lanceo-
CHILI.

Subcl. III. COROLLIFLORÆ.

Ord. XXXVII. OLEINEÆ. Hoffmannsegg et Link.

1. OLEA. Tourn.

1. O. europaea. Linn.

Hab. Conception. Probably a cultivated plant.

Ord. XXXVIII. GENTIANEÆ. Juss.

1. EXACUM. Linn.

1. E. filiforme? Sm.—Gentiana filiformis. Linn.

Hab. Conception.—Two small specimens of this, scarcely more than an inch high, each with a single small, terminal and pedunculated flower, will not enable us to satisfy ourselves whether the species be distinct or not from the European E. filiforme. It is probably the E. chilense of Bertero in Bull. des Sc. Nat. 1830, p. 111, but of which no description is given.—Belonging to the Gentianae is the "Cachen-Laguen" of Chili, the Chironia chilensis, Willd. (Cachen, Feuill. Chil. v. 2. t. 35), but which is a true Erythraea. The calyx, corolla, and stamens, in our specimens from Mr. Menzies, and from Gouan’s herbarium, follow the quinary arrangement. The nearest to it, as Kunth remarks, is his E. quitensis, only differing by the parts being in fours; but we do not consider that a distinct species. Though it be much used medicinally in Peru, Humboldt never saw it wild there; but it was cultivated in the plains of Chillo, the inhabitants of which may have originally brought it with them from Chili, where it is undoubtedly a native. The circumstance of only four stamens, instead of five, being observed in the Peruvian specimens, is not, we conceive, sufficiently constant for a specific definition: we cannot, therefore, agree with Sprengel, who has, on that account, placed it in Exacum, without attending to other more important characters. The Peruvian name, too, is a corruption of the Chilian one, which ought to be written as above, the word "Laguen" meaning merely a plant; while the particular name of the present one, in the Indian language, is "Cachen."

Ord. XXXIX. APOCYNEÆ. Juss.

1. ECHITES. Jacq.

1. E. pubescens; caule volubili ferrugineo-pubescente, foliis molliter pubescentibus ovatis acuminulatis breviter petiolatis, pedunculis axillaribus subsolitariis dense bracteatis, staminibus inclusis.


Hab. Conception.
1. **CYNANCHUM** Linn.

1. *C. birostratum*; volubilis, foliiis anguste cordato-sagittatis lobis oblongis obtusis subcoriaceis glabris, umbellis multifloris, pedicellis calycibusque pubescentibus, corollae tubo urceolato laciniis lanceolatis extus pubescentibus, corona stamineae simplicis laciniis 5 bifidis, stigmate longe rostrato profunde bifido.

Hab. Conception. (It has been sent us from Valparaiso also, by Mr. Cruckshanks and Mr. Bridges.)—This is a long twining plant, with leaves not very unlike those of *C. acutum*, but generally much narrower, and with considerably larger flowers. The simple staminal crown has its segments membranous, white, and bifid: Anthers terminated by a membrane. The stigma gradually tapers upward into a long filiform bifid beak, as long as the corolla, resembling a bifid style.

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2. **CONVOLVULUS** Tourn.

1. *C. filifolius*; fruticosus ramosissimus diffusus, foliis angustissime linearibus teretibus, floribus axillaribus solitariis breviter pedunculatis, corolla campanulata.

Hab. Coquimbo.—We regret that for want of perfect materials we can give but an unsatisfactory account of this interesting plant. Our best specimens are from Mr. Cruckshanks, and judging by the flower (for they have no fruit) they appear to belong to the present genus. But the plant is quite shrubby and woody, much branched, and somewhat clammy. The leaves are about half an inch long, and, from their shrivelled appearance, probably fleshy when fresh. Peduncle a little longer than the leaves. Calyx 5-fid (not 5-partite), with linear teeth on the segments: Corolla plicate, widely campanulate, blue, about an inch broad.

2. **CALYSTEGIA** Br.


Hab. Conception.—Probably, as Mr. Brown suggests, too nearly allied to *C. Soldanella*, Br. The *Soldanella*, &c. Feuill. Chil. v. 3. t. 44, we might have taken for a diminutive representation of this plant, had it not already been referred to the genus *Tula*, and supposed to belong to the *Rubiacæae*.

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3. **CUSCUTA** Linn.

1. *C. chilensis*; pentandra digyna, floribus 5-fidis, calyce ter breviore corolla segmentis oblatis rotundatis, corolla intus infra medium fimbriato-squamata, lacinii ovatis tubo ter brevioribus recurvis, antheris sessilibus, stylo altero breviore, stigmatibus pileato-capitatis.—*Ker in Bot. Reg.* t. 603.

Hab. Conception.—First found by Mr. Menzies at Valparaiso; since, also, by Dr. Gillies, on the Chilian Andes.

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4. **SOLANACEÆ** Juss.

1. **FABIANA** Ruiz & Pav.

1. *F. lanuginosa*; ramulis tomento albo lanuginosis, foliiis fasciculatis linearibus obtusissimis carnosis patentibus, calyce lanoso.

Hab. Coquimbo.—The young shoots of this plant are clothed with a lax but abundant wool, and its fasciculated, terete, and fleshy leaves have much the appearance of some species of Portulaca. The fruit we do not possess. The flowers are truly those of a Fabiana, of which genus only two species had yet been described, F. imbricata of Ruiz and Pavon, and F. thymifolia, St. Hil. Pl. Rem. du Brésil, which latter, indeed, is most nearly allied to the present, differing, however, in the absence of the woolly covering to its branches, and in the scattered leaves. A fourth species has, however, been discovered in Chili by Mr. Cruckshanks, and, we believe, also by Dr. Gillies, which may be thus named and characterised:—F. viscosa; pubescenti-viscosa, foliis sparsis anguste linearibus patentibus obtusis dorso canaliculatis, pedunculis terminalibus fructiferis erectis.—Hab. Near Barasca in Chili, where it is called "Pichanilla." Mr. Cruckshanks.—This also resembles the F. thymifolia of St. Hilaire, but that has the peduncles mostly axillary, and, when in fruit, reflexed, and the corolla has the tube much broader at the base. F. viscosa has been cultivated at the Edinburgh and Glasgow Botanic Gardens, from seeds introduced by Mr. Cruckshanks. We possess the fruit, which is an oblong capsule, in part surrounded by the persistent calyx, 2-valved, the valves with their margins introflexed, so as to form 2 cells, and bifid at the extremity. Receptacle of the seeds central, becoming free from the dissepiments, and split through the middle, entire at the summit.

2. CESTRUM. Linn.

1. C. Parqui; foliis lanceolatis utrinque attenuatis subundulatis sparsis, pedunculis terminalibus corymbosis.—L'Herit. St. v. 1. t. 36.—Parqui. Feeuill. Chil. v. 3. t. 32.

Hab. Valparaiso.

3. BRUGMANSIA. Pers.


Hab. Conception; where it is much cultivated.

4. NICANDRA. Adams.

1. N. physalodes. Gærtn.—Feeuill. Chil. v. 2. t. 16.

Hab. Coquimbo.

5. SOLANUM. Linn.


Hab. Valparaiso and Conception.—Dr. Gillies finds it on the other side of the Andes, near Mendoza.


Hab. Coquimbo.

Hab. Conception.—In our specimens the corolla is slightly puberulous, which is not noticed in Ruiz and Pavon.

5. **NOLANA.** Linn.


Hab. Conception: on the sea shore.

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**ORD. XLIII. POLEMONIACEÆ.** Juss.

1. **COLLOMIA.** Nutt.


Hab. Conception.—This is certainly nearly allied to the North American *C. linearis* of Nuttall, yet truly distinct. The plant is less branched, its leaves narrower, the upper ones not forming an involucre around the flowers, and the flowers are as large as those of *Collomia grandiflora*.

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**ORD. XLIV. BORAGINEÆ.** Juss.

1. **CYNOGLOSSUM.** Linn.


Hab. Conception.—This plant grows two or three feet high. It has been found by Mr. Macrae in the same country.

2. *C. paniculatum*; adpresse pilosum, foliis lanceolatis acutissimis inferne in petiolum sensim attenuatis ciliatis nitidulis subitus cano-sericeis, racemis terminalibus paniculatissimis laxis paucibracteatis, pedicellis fructiferis longissimis gracilibus patenti-deflexis, fructibus glochidiatis.

Hab. Conception.—Mr. Macrae has sent specimens to the Horticultural Society, which he gathered at Murillo Bay in Peru. The base of the plant is suffrutescent; the stems are from one and a half to two feet high. The leaves 3-5 inches long, their margins slightly revolute. By the above peculiarities, and the lax terminal panicle, with the exceedingly long slender fruit-stalks, this species is distinguished from every other with which we are acquainted.

2. **LITHOSPERMUM.** Linn.


Hab. Conception.

3. **LYCOPSIS.** Linn. (non Lehm.)


Hab. Valparaiso. Introduced.
4. **MYOSOTIS. Linn.**

1. *M. fulva*; caule erecto subsimplex foliisque remotis lato-linearibus obtusiusculis hispidis, racemis spiciformibus conjugatis ebracteatis, calyce densissime piloso profunde 5-partito, nucibus 2 (alteris abortentibus.)

**Hab.** Conception.—(Near Valparaiso. Mr. Bridges.)—Plant about a foot high. Stem slightly branched upwards, arising from an annual, fusiform, scarcely fibrous root. Racemes terminal, forked, without bracteas. Pedicels very short, and, as well as the calyx, clothed with dense fulvous, erect hairs. Those of the leaves are paler coloured, and arise from a distinct white tubercle. The corolla is white (Bridges); the achenia two, (perhaps by abortion,) ovate, erect, wrinkled.

5. **HELIOTROPIUM. Linn.**

1. *H. stenophyllum*; fruticosum densissime foliosum, foliis fasciculatis angustissime linearibus carnosis obtusis margine revolutis pube brevissima scabris, spicis conjugatis ebracteatis folia superius vix superantibus.

**Hab.** Coquimbo.—This is perhaps most nearly allied to *H. curassavicum*, (which we possess from the same country, through the kindness of Mr. Cruckshanks,) but that has plane, and somewhatspathulate, glaucous leaves, and is quite glabrous.

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**ORD. XLV. CORDIACEÆ. Br.**

1. **CORDIA. Linn.**

1. *C. decandra*; foliis lineari-lanceolatis attenuatis scabris sessilibus margine revolutis subtus pubescenti-canis, floribus in corymbum foliosum terminalibus, calycibus 10-dentatis nigro-pubescentibus, corolla 10-lobata, staminibus 10. (*Tab. X.*)

**Frutex** 8–10-pedalis, ramosus, superne pube brevissima rigida asper. **Folia** alterna, coriacea, 2–3 uncias longa, erecto-patentia, lanceolata, sensim attenuata, supra, tactu, scaberrima, impresso-nervosa, marginem revoluto, subtus pubescenti-cana, nervis prominentibus. **Flores** magni, pulcherrimi, albi, fragrantes, paniculati, panicula dense corymbosa, foliosa, terminali. **Calyx** ovatus, subinflatus, extus dense nigro-intus albo-pubescentus, decem-angulatus, apice subtruncatus, 10-dentatus, dentibus parvis, angustissimis. **Corolla** ampla, infundibuliforme-campanulata, venosa, 10-fida, limbo patente: **Stamina** paulo intra tubum inserta, inclusa. **Filamenta** basi pilosa: **Antherae** oblongae: **Germen** ovatum. **Stylus** longitudine floris, bifidus, stigmatibus bifidis. **Capsulae** magnitudine Nucis Avellanae, papyracea, persistente tecta.

**Hab.** Coquimbo.—It is remarkable, that notwithstanding we have received specimens of it from Chili, gathered by Mr. Cruckshanks and Mr. Macrae, and that so handsome and remarkable a plant could not fail to attract the attention of every Naturalist who has visited that country, yet we do not find it to be described in any systematic work to which we have access. That it is a *CORDIA*, there can be scarcely a question; since it agrees in every essential particular with the characters of that genus, differing only in the duplication of the parts of the flower. Mr. Cruckshanks informs us that the wood, which is very compact, is extensively employed in the production of charcoal, (whence the vernacular name, *Carbon,* and likewise for fuel in smelting copper (as the dead and withered stems of the *Cactus* are for refining metal) in the mining districts of Coquimbo: so that in many places the country is almost cleared of these plants. *“Carbon* grows in the district of Guasco, Coquimbo, and Cuzceu. It is short and thick, and used for small articles of turnery; but it is incomparable for firewood. Two logs, that might not each be more than a yard long and one-third thick, suffice to keep a stew boiling, night and day, besides other kettles, enough for eight or ten people.”—*Account of Trees and Shrubs in App. to Mrs. Graham’s Chili.*

**Tab. X. Cordia decandra.** Fig. 1, Flower; fig. 2, Section of a corolla; fig 3, Pistil; fig. 4, Stamen; fig. 5, Capsule (natural size): all but fig. 5, more or less magnified.
Centaurea decandra.
ORD. XLVI. HYDROPHYLLEÆ. Br.
1. PHACELIA. Michaux.


Hab. Conception.—Specimens which we have received from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges, gathered in the more northern parts of Chili, seem to be identical with the P. peruviana, Spr., (Aldea pinnata, Ruiz and Pavon,) if, indeed, that species be really distinct from P. circinnata.

ORD. XLVII. SCROPHULARINEÆ. Br.
1. VERONICA. Linn.

1. V. acinifolia. Linn.

Hab. Conception.—It differs from the European plant of that name, only in the capsule being scarcely so deeply notched at the apex.

2. SCHIZANTHUS. Ruiz & Pav.


Hab. Valparaiso.—This we have received from Dr. Gillies and Mr. Cruckshanks; and the former gentleman has been so fortunate as to add three other species to this beautiful genus, by his researches in South America.

3. CALCEOLARIA. Linn.

1. C. integrifolia; foliis ovato-lanceolatis lanceolatisve denticulatis rugosis opacis subitus ferrugineis, caule calycibusque pubescentibus, paniculis terminalibus pedunculatis. Lindl.


b. angustifolia; foliis utrinque attenuatis grosse denticulatis, paniculis longius pedunculatis. Lindl. in Bot. Reg. t. 1083.

Hab. a. Conception. b. Valparaiso.—We, too, consider the narrow-leaved plant as a state of C. integrifolia, although cultivation for some years in our garden proves it to be a permanent variety. In the Botanical Magazine, the same plant has since been called C. rugosa; but it is neither C. rugosa, Ruiz and Pav. v. 1. t. 286, nor of Hooker’s Exotic Flora, t. 99. It has been also named C. salviaefolia by Schlechtendal and Chamisso in the Linnaea, v. 2. p. 565, who have been apparently led into this error by following Cavanilles, (Ic. v. 5. p. 31,) and by not having seen the figure of C. rugosa in the Flora Peruviana. In the herbarium, these species are very difficult of determination, the important differences existing in the upper lip of their corolla. In Feuillée’s plant, and, consequently, in Linnaeus’ C. integrifolia, Sp. Pl. ed. 13. (not 14, nor of Smith’s Ic. in ed. 1. t. 3, which is C. ovata, Roem. et Sch.) the upper lip, though not half so large as the lower, is similar to it in shape, and closes up its mouth. In C. rugosa, Fl. Per. and Hook. Ex. Fl. (the C. scabiosefolia of Née in Cav. Ic. L. e.) the upper lip is so extremely minute as to be at first scarcely discernible, and it is of a totally different shape from the lower.

2. C. corymbosa; foliis radicalibus ovatis cordatisque petiolaris birennatis, caulinis cor-

HAB. Conception.


HAB. Conception.


HAB. Conception.


HAB. Conception.

4. HEMIMERIS. *Linn.*


HAB. Conception.

5. MIMULUS. *Linn.*


HAB. Conception.—This is not the *M. luteus* of the Botanical Magazine and of most authors, which De Candolle has long ago showed to be a distinct plant, called by him *M. guttatus.* Linnæus established the species upon the figure given by Feuillé, without having seen a specimen, and it is only within these few years, by the exertions of Mr. Macrae and Dr. Gillies, that the plant has become well known. In beauty it far excels the commoner *M. guttatus.*

6. CASTILLEJA. *Muts.*

1. *C. laciniata*; pilis raris rigidis obsita, caule erecto herbaceo, foliis linearibus 3-fidopinnatifidis laciniiis elongatis filiformibus, floribus axillaribus subsessilibus, calyce corollam subæquante.

HAB. Conception.—Very closely allied to *C. nubigena,* but that appears fruticose, and has an inflated calyx, and the segments of its leaves are much broader and shorter than in our plant.

7. BUDDLEIA. *Linn.*


HAB. Conception.
ORD. XLVIII. GESNERIACEÆ. Rich.
1. SARMLENTA. Ruiz & Pav.


Hab. Conception.—Formerly arranged among the Scrophularineæ, but its real affinity was always considered doubtful till lately, when Martius, in the Nov. Gen. Bras. v. 3. p. 68, referred it to the Gesneriaceæ. We ourselves have no means of examining into the validity of his reasons, as the only specimen in the collection has but one flower, and no fruit.

ORD. XLIX. LABIATÆ. Juss.
1. SPHACELE. Benth.

1. S. campanulata; foliis basi attenuatis.—Benth. in Bot. Reg. t. 1289.—Algue Laguen. Feuill. Chil. v. 3. t. 1.


2. SATUREJA. Linn.

1. S. montana. Linn.

Hab. Valparaiso.—Introduced from Europe.

3. TEUCRIUM. Linn.

1. T. orchideum; foliis oblongis obtusis integerrimis trilobis pubescentibus, dentibus calycis ovatis, limbo corollae 5-fido secundo labellariformi, floribus axillaris solitariis, caule suffruticoso. Lindl. in Bot. Reg. t. 1255.

Hab. Conception.

4. STACHYS. Linn.

1. S. grandidentata; caule adscendente hispido, foliis ovato-oblongis grosse dentatis sublucidis hirsutis summis sessilibus, verticillis sub-6-floris, galea subintegra.—Lindl. in Bot. Reg. t. 1080.

Hab. Conception.—Ours is certainly the same with Mr. Lindley’s plant, but it appears to us very variable, and in some respects approaches too closely to S. arvensis.

ORD. L. ACANTHACEÆ. Juss.
1. RUELLIA.


Hab. Island of Quiriguina, near Conception.

ORD. LI. VERBENACEÆ. Juss.
1. VERBENA. Linn.

1. V. erinoides; caule adscendente ramoso hirto, foliis tripartito-laciniatis hirsutis,

Hab. Conception, Valparaiso, and Coquimbo.—There are several varieties of this polymorphous species in the collection. For a fuller account of them, see the Botanical Miscellany above quoted.

2. *V. salviæfoliæ*; ramis junioribus tomentosis, foliis ovato-lanceolatis sessilibus subseriatis supra scabris rugosis subutus pubescentibus reticulatis, pedunculis lateralibus elongatis, floribus verticillato-spicatis, calyce hispisedissimo, corolla 4-fida.


Hab. Coquimbo.—Very nearly allied to *V. gratissima* of Gillies and Hooker in the Botanical Miscellany, differing, however, in its much stouter mode of growth, its larger, more wrinkled, and more scabrous foliage, and, especially, in the much more crowded spike.

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**ORD. LII. PRIMUMULACEÆ. Juss.**

1. *ANAGALLIS. Linn.*


Hab. Conception.

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**SUBCL. IV. MONOCHLAMYDEÆ. DC.**

**ORD. LIII. PLUMBAGINEÆ. Juss.**

1. *PLUMBAGO. Linn.*


Hab. Coquimbo.

2. *ARMERIA. Tourn.*

1. *A. curvifolia*; foliis filiformibus flexuosis glabris, scapo elato terete glabro, involucri foliolis exterioribus acuminatis interioribus rotundatis.—*Bertero, in Bull. des Sc. 1830. p. 108. (absque char.)*

Hab. Conception.—We think there can be little doubt that this is the *A. curvifolia* of Bertero in the work above quoted, though, unfortunately, as of the other Chilian plants there mentioned, no specific characters are given. The leaves are five or six inches long, and filiform; the scape one and a half to two feet high. Bertero speaks of it as very common upon stony hills, and as being allied to *A. fasciculata*. We possess, however, other specimens from Conception, gathered by Mr. Cruckshanks and Mr. Macrae, which have much shorter, broader, and obtuse leaves, and which we can scarcely distinguish from the British *A. maritima*. 
ORD. LIV. PLANTAGINEÆ. Juss.

1. PLANTAGO. Linn.

1. P. media. Linn.

Hab. Conception.—This appears to accord with some of the states of P. tomentosa (Lam.) mentioned by Chamisso and Schlechtendal, which they describe as having three seeds in each capsule; and of P. truncata, of the same authors, which, however, has a clavate and truncated spike.

2. P. mollis; subcaulescens, foliis lineari-lanceolatis cinereo-sericeis, scapis folio vix longioribus pubescenti-hirsutis, spicis laxiusculis cylindricis, capsula biloculari disperma.

Hab. Conception.—Allied to P. hirsuta of Ruiz and Pavon, from Peru, (P. limensis, Pers.); but that has broader leaves and much shorter spikes. We have also received this from Mr. Bridges, from the mountains about Valparaíso.


Hab. Valparaíso.—Mr. Bridges has likewise sent us this species.

ORD. LV. POLYGONEÆ. Juss.

1. POLYGONUM. Linn.

1. P. maritimum. Linn.

Hab. Conception.


Hab. Valparaíso.—This also we have received from Mr. Bridges, gathered in the same locality. Sprenkel refers to it the Cocoloba australis of Forster, and certainly that, as well as the present species, is a congener with P. adpressum of La Billardièrè. We have received likewise from Valparaíso, from Mr. Macrae, a third species of this genus, but which we cannot distinguish from P. Persicaria, found also in Chili by Chamisso, and which is Persicaria, &c. Feuill. Chil. v. 3. t. 40.

2. RUMEX. Linn.


Hab. Cultivated fields near Conception.—The only specimen in the collection is in a very imperfect state, but from it, and the notes of Mr. Collie, who appears to have found it in fruit, we have determined it to be that variety of R. cuneifolius which was previously found near the same place by Chamisso.

ORD. LVI. CHENOPODEÆ. Vent.

1. SALICORNIA. Linn.

1. S. radicans? Linn.
Hab. Conception.—The specimen in the collection is so indifferent as to prevent us from determining it with precision. It may possibly be S. peruviana, Humb. and Kunth.

Ord. LVII. PROTEACEÆ. Juss.

1. LOMATIA. Br.


Hab. Conception.—Another, and a very interesting plant of this order, the Quadria heterophylla, Ruiz and Pav. Fl. Per. v. 1. p. 64. t. 99. f. b, or the "Nebu" of Feuill. Chil. v. 3. t. 33, occurs at Conception, but does not appear to have been collected. The nut is much esteemed, and is sold commonly in the market of Conception under the name of "Avellano," or chestnut. By the liberality of Mr. Cruckshanks, it has been introduced to the Glasgow Botanic Garden.

Ord. LVIII. SANTALACEÆ. Br.

1. QUINCHAMALIUM. Juss.


a. robustior; foliis linearibus.

b. gracilis; foliis filiformibus.

Hab. a. Conception. b. Valparaiso.—We have given no specific character, the other species mentioned by Sprengel, or the Arjonia tuberosa, Cav. Ic. v. 4. t. 383, from Patagonia, being hitherto involved in great uncertainty, and probably belonging to the Thymeleae.

Ord. LIX. EUPHORBIACEÆ. Juss.

1. EUPHORBIA. Linn.

1. E. rotundifolia; suffruticosa diffusa, foliis oppositis rotundatis emarginatis basi leviter cordatis integerrimis carnosulis glabris subtus pallidis, stipulis intrapetiolaribus, floribus paucis terminalibus umbellatis.

Hab. Conception.—This belongs to the section "Anisophyllum" of Roeper in the Botanicon Gallicum, but our specimens not being in fruit, prevent our giving a more perfect character. To E. serpyllifolia, Pers., and E. serpens, Humb. and Kunth, (one and the same species,) our plant is very closely allied; the flowers, however, are not axillary and solitary, but collected, five or six together, on rather short, simple peduncles at the extremity of the branches.


Hab. (ß. minor.) Conception.—We can find no essential difference between the, imperfect, specimen in the collection and the European plant, except the much smaller size, being only about fifteen inches high, and that the leaves, instead of being flaccid, are inclined to be coriaceous.


Hab. Coquimbo.
2. CROTON. Linn.

1. C. lanceolatus; herbaceus, foliis oblongo-lanceolatis remote dentatis glabris eglandulosis, junioribus ciliatis, racemis axillaribus, floribus masculis 5-andris, petalis 3-cuspidatis, fructibus tomentosis. Spr.—Cav. IC. v. 6. t. 557. f. 2.—C. tricuspidatum. Lam.

Hab. Conception.

ORD. LX. EMPETREÆ. Nutt.

1. EMPETRUM. Linn.

1. E. rubrum; procumbens, ramulis pubescentibus, foliis oblongis margine revolutis supra scabriusculis. Spr.—Vahl.

Hab. Conception.—Mr. Don has separated from this genus the E. album, under the name of Corema, in the Edin. New Phil. Journ. v. 2. p. 63, and, in the same paper, has pointed out, at length, the affinities of the order with the Euphorbiaceæ.

ORD. LXI. URTICEÆ. Juss.

1. GUNNera. Linn.


Hab. Conception.—We have determined the plant from Mr. Collie’s notes, for it has not been sent us in the Collection.—Allied to this Order, but forming part of the Monimeæ, is the Boldu of Chili, which, though no specimens were obtained by the Expedition, we ought not to pass over. One of the first plants, Feuillé says, that he collected on landing, was the “Boldu,” but neither in flower nor fruit, and the figure he gives was from another individual, gathered afterwards in the mountains. This has six stamens, and is the Boldus chilensis of Molina, (Saggio Sulla Storia, Nat. del Chil. ed. 2. p. 153,) and of Roemer and Schultes, Syst. v. 7. p. 57; but from what we have received from Mr. Cruckshanks, this is certainly not the true Boldu, a name confined to one plant, and not, as Molina says, given to several. The plant of Feuillé is still involved in considerable doubt, inasmuch as it is very uncertain if Molina ever saw it, he having in many cases contented himself with giving fanciful names to Feuillé’s indifferent descriptions. It is certainly, however, the Peumus Boldus of Molina’s History of Chili; and if actually an existing plant, may be arranged with his other kinds of Peumo, or Chilian species of Laurus; but the extreme resemblance of the leaf to that of the real Boldu, leads us to suspect that the plant of Feuillé, having opposite leaves, may be compounded of the stem and leaves of the true Boldu, while the flowers may belong to something very different. One species of the Peumo is now before us, from Mr. Macrae, agreeing tolerably with the Peumus rubra of Molina, and constituting probably the Laurus Peumus of Lamarck: the leaves are oblong obtuse, alternate on a very short petiole, one-nerved, the margin cartilaginous, or as if formed of a nerve, very entire, but undulate, at least in the dry state: the flowers (only in bud) are in a terminal raceme. The Boldu was first described in the Flora Peruviana, (Genera, p. 135. t. 29,) by the name of Ruizia Boldu, but there being already the Ruizia of Cavanilles, it was necessary to adopt some other appellation. Richard, in Persoon’s Synopsis, supposing it, as many others have done, to be the Peumus Boldus of Molina, took up that name, but with the character given by Ruiz and Pavon; and, soon afterwards, Jussieu gave it that of Boldoa. We prefer that of Jussieu, as the appellation “Boldu” is peculiar to our plant. We are aware that there is a Boldea of Cavanilles, but that is the same with Salpianthus of Humb. and Bonpl. We have received specimens from Mr. Cruckshanks, Mr. Macrae, and Mr. Bridges, from the neighbourhood of Valparaiso. The “Laurel” of Chili, (Laurelia aromatica, Juss., or Thuya chilensis, Mol., and Pavonia of the Fl. Per.) belongs also to the order of Monimeæ, but this we have not seen. Mr. Cruckshanks informs us
that it grows throughout the province of Conception, and that the wood is brought to Valparaiso, and much used, on account of its cheapness, for in-door work, as the following plant, the "Roble," Fagus obliqua, is for standing the weather.

ORD. LXII. AMENTACEÆ. Juss.

1. FAGUS. Tourn.


Hab. Conception.

CL. II. MONOCOTYLEDONEÆ.

ORD. LXIII. ORCHIDEÆ. Juss.

1. CHLORÆA. Lindl.


1. C. multiflora; foliis oblongis scapo longe brevioribus, sepals inferioribus lanceolatis patentibus apice carnosis dilatatis hinc membranaceis, labello oblongo membranaceo unguiculato, crista rara glandulosa, lobis lateraliibus abbreviatis intermedio elongato obtuso crispo. Lindl. in Brande's New Journ. of Science, 1827, p. 43.

Hab. Conception.—Mr. Lindley has described nine species of this genus, of which we possess several from Mr. Cruckshanks, Mr. Bridges, and Mr. Macrae. The "Gairlu," Feuill. Chil. v. 2. t. 18, is C. Gairlu, or Cymbidium luteum, Willd. The Epipactis, &c. Feuill. Chil. v. 2. t. 19, or Cymb. virescens, Willd., is Chl. virescens. The Epipactis, &c. Feuill. Chil. v. 2. t. 17, is Spiranthes diuretica. The other orchideous plant of Feuill. t. 20, Mr. Lindley has not referred to.

ORD. LXIV. IRIDÆ. Juss.

1. SISYRHYNCHIUM. Linn.

1. S. graminifolium; scapo tereti, foliis lineari-ensiformibus scabriusculis scapo subæqualibus, spathis exterioribus subfoliaceis interioribus obtusiis marginatis, intimis mem-

HAB. Conception.

2. *S. pedunculatum*; caule folioso teretiusculo, foliis ensiformibus, pedunculis elongatis simplicibus, spathis exterioribus ovatis marginibus membranaceis, interioribus sicariosis albidis, perianthii laciniiis obovatis basi angustatis, staminum columna densissime glanduloso-pilosa, stigmatibus brevissimis, ovario glabro. *Hook. in Bot. Mag.* t. 2965.—*Gillies, MSS.*

HAB. Conception.—Dr. Gillies and Mr. Cruckshanks found it likewise at Valparaiso.


HAB. Valparaiso and Conception.


HAB. Conception. (Also at Valparaiso. *Mr. Cruckshanks.*)


HAB. Conception: probably introduced.—A well-known garden plant, originally from Mexico.


HAB. Conception.—We have not seen the flowers in a state which enables us to describe them. They appear to be pale yellow. The stamina are free for their upper half: the stigmas are long.

**ORD. LXV. AMARYLLIDÆ. Br.**

1. AMARYLLIS. *Linn.*


HAB. Conception.—Very variable in the colour of its blossoms. The *A. flavmea*, Ruiz and Pav. (Fenill. Chil. v. 3. t. 21,) found also at Conception, and allied to this, has never more than one flower. There are several other species, natives of Chili.

2. ALSTRÉMERIA. *Linn.*

1. *A. Salsilla*; caule volubili, foliis glabris petiolatis lanceolatis acuminatis resupinatis,

Hab. Conception.—From this the A. acutifolia of Link and Otto is chiefly to be distinguished by the leaves and the peduncles being pubescent.

Ord. LXVI. Dioscoreae. Br.

1. Dioscorea. Linn.

1. D. gracilis; caule glabro, foliis cordato-ovatis acuminatis 7–9-nerviis glabris, racemis axillaribus rari floridis, floribus masculis subbinis, fructibus subrotundis 3-alatis.

Hab. Valparaiso.

2. D. obtusifolia; caule glabro, foliis alternis cordato-subrotundis mucronulatis 7-nerviis utrinque glabris, racemis axillaribus subsimplicibus elongatis rari floridis, floribus (masculi) pedicellatis subternis.

Hab. Island of Quiriguina, near Conception.

Ord. LXVII. Asphodeleae. Br.


1. L. radicans; caule suffruticoso geniculato folioso scandente radicante, foliis alternis lanceolatis obliquis, pedunculis axillaribus divisis. Spr.—Ruiz et Pav. Fl. Per. v. 3. t. 298.

Hab. Conception.

2. Leucocoryne. Lindl.

Perianthium hypocrateriforme, cum pedicello continum, limbo 6-partito. Stamina 3 fertilia e tubo exorta; 3 sterilia carnosa teretia e fauce laciniiis corollinis opposita. Squamae hypogynae nullæ. Ovarium sessile triloculare polyspernum; stylus teres, cum ovario articulatum; stigma simplex.—Herbæ (chilenses,) cormis induviatis. Flores umbellati. Lindl.

1. L. odorata; foliis linearibus glaucis, limbi laciniiis lanceolatis sublaciniiatis, staminibus sterilibus subulatis obtusis, pedunculis subaequalibus tubo brevioribus. Lindl. in Bot. Reg. t. 1293.

Hab. Valparaiso.

2. L. alliacea; foliis linearibus, limbi laciniiis erectis acuminatis subaequalibus, staminibus sterilibus clavatis, pedunculis valde inaequalibus; longioribus capillaribus. Lindl. in Bot. Reg. sub. t. 1293.

Hab. Conception.—One other species, L. ixioideis, (Brodica ixioideis, Bot. Mag. t. 2382,) is known. Allied to this genus is Triteleia, Hook. In it, however, there are six fertile stamens, a pedunculated ovarium, with which the style is continuous, and three stigmas: of three species mentioned by Mr. Lindley, one, T. bivalvis, is from Chili.
3. **ORNITHOGALUM.** Linn.


**Hab.** Conception.

4. **ANTHERICUM.** Linn.


**Hab.** Conception.—This probably belongs rather to *Thysanotus*, Br.

5. **STYPANDRA.** Br.


**Hab.** Conception.—Mr. Brown, in his *Prodromus Fl. Nov. Holl.* p. 279, first suggested that this species, as also the *Anthericum coarctatum* of the Flora Peruviana, was referable to *Stypandra*.

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**Ord. LXVIII. JUNCEÆ. Juss.**

1. **LUZULA.** DC.


**Hab.** Conception.—La Harpe unites this with *L. racemosa*, Desv. perhaps correctly, but we are not quite certain that ours is the plant intended by Desvaux: it is, however, that which Reemer and Schultes (I. c.) have described from Chili, as seen in the Herbarium of Martius. The panicule consists of dense racemose spikelets, one of which, at a distance from the others, arises from the axil of the upper leaf.

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**Ord. LXIX. CYPERACEÆ. Juss.**

1. **SCIRPUS.** Linn.


**Hab.** Conception.—This seems to agree exactly with Vahl's plant.

2. *S. longifolius*; radice repente, culmo folioso triquetro, foliiis angustis acute carinatis spongiosis culmum superantibus, spiculis 4-5 glomeratis subsessilibus lateralibus, glumis emarginatis mucronatis, setis hypogynis 3, stylo 3-fido.

**Hab.** Conception.—Very similar to *S. mucronatus*; but the leaves are much longer. The bracteas are oblong and scariose, and furnished with a dorsal nerve that becomes a long triquetricus mucro. The glumes resemble the bracteas, but the mucro is shorter.
2. CAREX. Linn.

1. C. hebecarpa; culmo triquetro scabriusculo, foliis margine scabris, bracteis foliaceis elongatis inferiore vaginato superioribus evaginatis, spicis sterilibus 2 vel 3 sessilibus, squamis oblongo-lanceolatis fertilibus cylindraceis acutis superioribus subsessilibus infima pedunculata, pedunculo vagina duplo longiore, squamis subulatis fructum lanceolatum striatum hispidum rostro bifido glabro äquantibus, stigmatibus 3.

Hab. Conception.—Very closely allied to C. riparia, from which it differs by its narrower scales and much more attenuated fruit, which is covered with short papillæ or scabrous points. Of the sterile spikes, the lower scales are oblong and mucronate, but the membranous portion becomes shorter and the mucro longer towards the extremity of the spike, so that at the top the scales are nearly as in the fertile spikes.

3. UNCINIA. Pers.


Hab. Conception.

Ord. LXX. GRAMINEÆ. Juss.

1. TORRESIA. Beauv.


Hab. Conception.

2. AIRA. Linn.

1. A. caryophyllea. Linn.?

Hab. Conception.

3. POLYPOGON. Desf.


Hab. Valparaiso.—Polygongon australis of Brongniart, in Duperrey’s Voy. p. 21, appears to be only a variety of the present.

4. CALOTHECA. Beauv.

1. C. stricta; culmo scabriusculo, foliis convolutis scabris, panicula subsimplici coarctata, spiculis ovatis erectis 7-floris, glumis calycinis ovatis rotundatis 3–5-nervibus glabris corollinis glabris nitentibus, exteriore duplo majore subrotundata acutiuscula mutica.

Hab. Conception.—This is closely allied to the C. rotundata, Rœm. and Schul. (Bromus rotundatus, H. and B.) and also to Desvaux’s Chascolytrum erectum, whose panicle has the branches simple. The species referred to these two genera by Rœmer and Schultes, are in great confusion. Thus, their Calotheca rotundata is a Chascolytrum. The Cal. brizoides, Beauv., is not the plant of Desvaux, or of Rœmer and Schultes,
but is the *Chascolytrum erectum* of Ræm., and Schul. Even the two other synonyms, reduced by these authors to *C. brizoides*, cannot belong to it; for the *Briza mucronata*, Lam. (founded on the *Uniola mucronata*, Burm.) is an East Indian, not a South American plant; and *Bromus brizoides*, Lam., has an erect panicle and glabrous glumes; it has, however, a lanceolate calyx, and seems to be a true *Calotheca*. *Calotheca elegans*, Beauv., not noticed by other authors, is *Chascolytrum subaristatum*, Desv.

5. **ALOPECURUS.** Linn.

1. *A. pratensis*. Linn.

Hab. Conception.

6. **MELICA.** Linn.


Hab. Valparaiso.

7. **POA.** Linn.

1. *P. annua*. Linn.

Hab. Conception.

8. **HORDEUM.** Linn.


Hab. Conception.

9. **CHUSQUEA.** Kunth.


Hab. Valparaiso, (sent also by Mr. Bridges.)—This we have the authority of Mr. Cruckshanks for stating to be the plant of Molina: there is, however, only one flower in each spikelet, instead of three, as he and Poiret assert it to have; nor can we discover any essential difference between it and the Peruvian plant of Kunth; but this last we only know from his description. Our plant has the flowers monoeious or polygamous. The style is bipartite: the hypogynous scales with two acuminated points.

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**Cl. II. ACOTYLEDONES.**

**ORD. LXXI. EQUISETACEÆ.**

1. **EQUISETUM.** Linn.


Hab. Conception.—As far as can be judged from the descriptions of *E. pratense* of Ehrh., our plant is the same species. The specimens are from 4-5 inches to a span long, much branched at the base. We have the same species from Valparaiso, gathered by Mr. Mathews. It seems to differ from the *E. palustre* only in its rougher stems.

**ORD. LXXII. FILICES.**

1. **NOTOCHLÆNA.** Br.

1. *N. rufa*; frondibus linearibus pinnatis, pinnis subsessilibus alternis ovatis obtusis

**Hab.** Conception.—The specimen is a solitary one, scarcely two inches high, and agreeing with Prelj.'s *var. ß* in having the upper side of the frond nearly destitute of hairs.

2. **POLYPODIUM. Linn.**


**Hab.** Conception.


**Hab.** Conception.—Our specimens entirely accord with the New Holland plant figured by Labillardière.

3. **ASPIDIUM. Br.**

1. *A. subintegerrimum*; fronde lato-lanceolata bipinnata, pinnis lineari-lanceolatis attenuatis, pinnulis coriaceis ovatis subfalcatis petiolatis basi superne auriculatis mucronatis obscure crenato-serratis summis confluentibus, inferioribus rachi parallelis subpinnatifidis supra glabris subtus stipite rachique paleaceo-hirsutis.


**Hab.** Conception.—Very nearly allied to *A. aculeatum* and others of that groupe, but particularly to *A. stramineum*, Kaulf.;—from all which it differs in the lengthened attenuated pinnae, nearly entire pinnulae, of which the lower ones are remote, the lowest pair more or less lobed, or even pinnatifid, standing parallel with the rachis.


**Hab.** Conception.

4. **BLECHNUM. Linn.**


**Hab.** Conception.
5. **PTERIS.** Linn.


6. **ADIANTUM.** Linn.


Hab. Conception.


Hab. Conception.


Hab. Conception.

7. **HYMENOPHYLLUM.**


Hab. Conception.

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**ORD. LXXIII. OPHIOGLOSSAE.** Br.

1. **OPHIOGLOSSUM.**

1. *O. tuberosum*; parva, spica caulina, fronde oblongo-lanceolata reticulata in petiolum attenuata, pedunculo fronde triplo longiore, radice tuberosa.


Hab. Conception.

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**ORD. LXXIV. MUSCI.**

1. **LEPTOSTOMUM?** Br.

1. *L.? splachnoidenum*; caulibus caespitosis brevibus, foliis densissime imbricatis erectis oblongis acutis concavis minute reticulatis nervosis piliferis, seta caule subæque longa, capsula cum apophysi rotundata ovata obtusa, operculo brevi-hæmisphericco subumbonato.

Hab. Conception.—The specimens of this are few, and in an indifferent state. The leaves are like those of *Leptostomum*, (Br.) and the capsule resembles that of *Splachnum sphæricum*, but we are unable to find any peristome.
2. POLYTRICHUM. Linn.

1. *P. canaliculatum*; caule brevi, foliis linearibus acuminatis rigidis incurvis siccitate tortis marginibus scariosis integerrimis incurvis nervo lato lamellato, capsula suburceolato-cylindracea, operculo longe rostrato.

Hab. Conception.

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ORD. LXXV. HEPATICÆ.

1. JUNGERMANNIA.


Hab. Conception.

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ORD. LXXVI. ALGÆ.

1. CONFERVA. Linn.


2. MYCINEMA. Ag.

1. *M. flava*; stellatim cæspitosa decumbens confluens, filis ramosis flavis, ramis elongatis secundis, capsulis secundis subglobosis sessilibus.

Hab. Conception; on the dead leaves of *Quadria heterophylla*.—This curious plant, of a yellow colour, sometimes tinged with green, covers old leaves of the *Quadria* (*Gevuia avellana*, Mol.) with dense cæspitose but radiated jointless filaments. Fructifications are frequent on the upper sides of the prostrate lateral filaments.—We must confess that we are doubtful respecting the genus.

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ORD. LXXVII. FUNGI.

1. DOTHIDEA. Fries.

1. *D. granulosa*; nuda suborbicularis planiuscula atra opaca rugosa intus concolor, cellulis immersis, ostiolis minutis numerosissimis prominulis granuliformibus.

Hab. Valparaiso; on the lower side of the leaves of *Eugenia Temu*.—This little plant forms irregular black spots on the epidermis, and has a near affinity with the *Dothidea* of the *Betula nana*, in Europe: but there the surface is shining, the cells are white, and the ostiola are larger and more prominent.

The following additional species appear to have been detected by the Expedition on its return to Chili, probably at Valparaiso, and were placed in the same packet with the Mexican Collection: on which account they were previously overlooked by us.

Page 5.—Ord. I. MAGNOLIACEÆ. 1. DRIMYS. Forst.—1. *D. Chilensis*; foliis oblongo-ovatis subtus glaucis, pedicellis confertis unifloris aut e pedunculo communi ortis, petalis 6–9 oblongis subobtusis. De Cand. Prodr. v. 1. p. 78. De Less. It. Sel. v. 1. t. 83.—Hab. Valparaiso.—This, we learn from Mr. Cruckshanks, is called *Boigue* in Chili.

Page 5.—2. BERBERIS ACTINACAHTHA; spinis palmato-5-fidis margine revolutis, foliis ovatis ellipticis brevissime petiolatis basi vix attenuatis rigidis spinoso-dentatis mucronatis junioribus integerrimis, pedunculis 4–5 subumbellatis, foliis brevioribus subcrumis, germinibus ovatis apice vix attenuatis. Mart. in Schult. Syst. Veget. v. 7. p. 12.—Hab. Valparaiso.—This plant we have lately received from Messrs. Bridges and Mathews from the same country; and from Mr. Macrae, gathered at the Baths of Collina.
Page 7.—2. Azara dentata; foliis ovatis serratis scabris subtus tomentosis, corymbis sessilibus paniculatis. Don.—Ruiz et Pav. Syst. Veget. Fl. Per. v. 1. p. 138. De Cand. Prodr. v. 1. p. 262. Don, in Ed. New Phil. Journ. v. 10. p. 117.—HAB. Valparaiso.—Mr. Don considers the smaller leaf to be a persistent stipule, while the other stipule is very deciduous and minute. The same Botanist gives the following character for A. serrata; foliis oblongis serratis levibus, corymbis pedunculatis multifloris.

Page 7.—3. A. integrifolia; foliis obovatis oblongisve integerrimis glabris, stipulis cordatis subequalibus, floribus spicatis. Don.—Ruiz et Pav. l. c. De Cand. l. c. Don, l. c.—HAB. Valparaiso.—We refer to Mr. Don's paper for full characters of this genus and its species; he places it in Homalineae, where it seems to rank naturally next to Pineda. The above three species are all named Corcolen in Chili: but there is a fourth with reticulated leaves and a panicled inflorescence, called Lilen, the A.? Lilen, Bert. (Lilenia, nov. gen. Bert. MS.), found also at Valparaiso, which we have received from Mr. Bridges, and which appears to be the same with A.? celastrina, Don.


Page 19.—Adesmia.—Our Adesmia microphylla we have received from Mr. Mathews as the A. arborea of Bertero's MSS. But this plant of Bertero M. Guillemin is disposed to refer to Zuccagnia punctata of Cavanilles.—Our A. angustifolia is sent to us by Mr. Mathews, under the name of A. vesicaria, Bertero.—What we have spoken of as the A. longiseta, (p. 18.) De Cand., Mr. Mathews has given as A. muricata.

Page 22.—13.* Coulteria. Humb. et Kunth.—1. C. tinctoria; foliis glabris ovali-oblongis interdum subpuberulis, calycibus glabriusculis, leguminibus glabris sessilibus obtusis. De Cand.—a. petiolis primariis solu modo aculeatis.—C. tinctoria. Humb. et Kunth, Nov. Gen. Am. v. 6. p. 330. t. 569. De Cand. Prodr. v. 2. p. 481.—C. Chilensis. De Cand. Prodr. v. 2. p. 481.—Cesalpinia pectinata. Cav. Prodr.—Tara tinctoria. Molina.—b. petiolis omnibus petiolulisque basi aculeatis.—Poinciana spinosa. Feuill. Chil. v. 2. t. 39.—Coulteria horrida. Humb. et Kunth, Nov. Gen. Am. v. 6. p. 327. t. 568.—HAB. Valparaiso: but probably from the gardens there, in which, Mr. Bridges informs us, it is cultivated under the name of Tara.—To us it appears that this plant is exclusively a native of Peru, and we can scarcely doubt that the two species described by Humboldt are mere varieties, differing only in the more or less abundant aculei on the leaf-stalks.* Both are used in dyeing, and from their beauty, are amply deserving of cultivation. Feuillé was in the habit of making a beautiful and very black ink from this plant, by infusing the pods with a little alum in water for a night, and afterwards boiling them.

Page 22.—Cassia frondosa. The Coquimbo specimens in the Collection, and others that we have received from the same spot, gathered by Mr. Bridges, have the leaves more or less hairy on the nerves, and remarkably ciliated at the margin, and of a less firm texture than those from Valparaiso, which we have from other travellers, and which appears to us to be the true frondosa.


* In the specimens of the Collection, the leaflets are all aculeated at the base; in those we possess from Mr. Bridges, the aculeis are confined to the base of the primary petioles.
Botanist should recognize this as the *Fuchsia rosea* of Ruiz and Pavon, which those authors declare to be found in rocky places about Valparaiso, and still more strange that both Andrews and Sir J. E. Smith should give it as an inhabitant of the North-West coast of America. It was long ago introduced to our gardens by Mr. Menzies from the coast of Chili.

*Page 23.—Ord. XXIII. MYRTACEÆ. Juss.—1. *Eugenia Cheken*; pedunculis axillaris sub 1-floris solitariis folio longioribus, sub flore bracteolis 2 minutis linearibus deciduis, folii glabris densissimis ovalibus utrinque acutis brevissime petiolatis obsolete parallelum nervosis pelucido-punctatis, segmentis calycinis obtusissimis.—*E. Cheken. *Mol. Chil.*—De Cand. Prodr. v. 3. p. 278.—*Feuill. Chil.* v. 3. t. 32.—HAB. Valparaiso. This we have also received from Mr. Cruckshanks and Mr. Bridges, but without the vernacular name; nevertheless it accords so well with the *Cheken* of Feuillée, that we have little doubt of its being his plant. When the upper leaves fall off, the peduncles appear to be terminal and corymbose, as in that author’s figure.

*Page 23.—2. *E. Temu*; paniculis axillaris plerumque solitariis subcorymbosis pancifloris longitudinibus fere foliorum, folii elliptici ovatis ovatis obtusissimis coriaceis subtus pallidis (junioribus rumulisque subvelutinis) brevissime petiolatis.—HAB. Valparaiso. This we have received from Messrs. Cruckshanks and Mathews, both of whom affirm it to be the *Temu* of Chili; but it cannot be the *Temus moschata* of Molina, which he considers the *Temu* of the country, but which, from his description, authors have arranged with the *Magnoliales*, and near to Drimys.—Our plant has quadrifid flowers, and is a true *Eugenia*, but it may perhaps be the *Myrtus Luma* of Molina and Sprengel, which De Candolle with doubt refers to his *Myrtus multiflora*.

*Page 25.—Ord. XXIX.* SÁXIFRÁGEÆ.—1. *Escallonia.—1. E. rubra*; ramulis glanduloso-pubescentibus, foliis obovato-lanceolatis acutis, basi in petiolum attenuatis duplicato-serratis inferne glandulosis subtus resinoso-punctatis, pedunculis in axillis foliorum terminalium simplicibus vel ramosis bracteolis, floribus cylindraceis. *Pers.—Hook. in Bot. Mag.* t. 2890. *De Cand. Prodr.* v. 4. p. 3.—*Escallonia Poppigiana. De Cand.* l. c.—*Stereoxylon rubrum. Ruiz et Pav. Fl. Per.* v. 3. t. 236. b.—HAB. Valparaiso. This appears to be frequent in Chili, and liable to much variation in the shape of the leaves, in the simple or branched peduncles, in the breadth, &c. of the calycine segments, and in the pubescence and glands: hence we have been led to unite with it the *E. Poppigianum* of De Candolle, which is indeed the *E. rubra* of Poppig himself.


*Page 25.—2. L. Cactorum.* We have recently ascertained that the plant which we have thus named at p. 25, is the *L. aphyllus* of Miers, in Bull. des Sc. Nat. v. 19. p. 319, and of De Candolle, Prodr. v. 4. p. 307.


*Page 26.—Osmorhiza chilensis.* This appears to be the *O. Berterii* of De Cand. Prodr. v. 4. p. 232, which name is of course to be preferred. It is also the *Scandix chilensis* of Molina and De Candolle.

Page 29.—2. Eupatorium ageratoides? Linn.—Spreng. Syst. Veget. v. 3. p. 419.—Hab. Valparaiso.—The present plant may perhaps be a distinct species, having the stems shrubby at the base, the leaves smaller and more irregularly toothed.

Page 30.—9. SPILANTHES.—1. S. oleracea. Linn.—Spreng. Syst. Veget. v. 3. p. 444.—Hab. Valparaiso.—We may here remark that the Eupatorium Chilense is the Flaveria Contrayerva of Persoon, (Feuill. v. 3. t. 14.)


Page 30.—2. Baccharis linearis; foliis linearis dentist integerrimisque, floribus subcorymbose. Spr.—Pers. Syn. Pl. v. 2. p. 425. Spreng. Syst. Veget. v. 3. p. 463.—Hab. Valparaiso.—This has the leaves much larger and longer than in B. rosarinifolia, and they are, in general, decidedly toothed.

Page 31.—6. Baccharis rigida; caul fruticoso ramoso, foliis coriaceis rigidis ovali-ellipticis sessilibus venosis spinoso-dentatis, paniculis corymbose.—Hab. Valparaiso.—This we have received also from Mr. Cruckshanks and Mr. Bridges.

Page 31.—7. Baccharis absinthioide; caul erecto herbaceo ramoso angulato foliisque lanceolatis acutis in petiolum attenuatis integerrimis vel grosse remote dentato-serratis incanis, corymbis multifloris, floribus congestis, pedunculis incano-tomentosis.—folis longioribus subintegerrimis.—Hab. a. Conception. bet. Valparaiso. (Mr. Bridges.)—Leaves often fasicled, 3-4 inches long; under the microscope exhibiting minute yellow dots. Mr. Bridges states it to be from 6-8 feet high.


Page 32.—5. Senecio Bridgesii; suffruticosus, glaber, foliis sessilibus pinnaatidis laciniiis linearibus acutis, corymbo denso multifloro, involucris subcylindraceis, foliolis uniseriabilibus apice vis phacelatis basi bracteolatis, radio patente.—Hab. Valparaiso; whence we have also had it from Mr. Bridges.—It is nearly allied to S. artemisiifolius, but that is herbaceous, and has bipinnatifid leaves.


Page 32.—Helianthus glutinosus.—We have since ascertained that the plant so called at p. 32, is the H. thurifer of Molina, whose name ought therefore to be preferred.

Page 32.—18. XANTHUIUM. Linn.—1. X. spinosum. Linn.—Hab. Valparaiso.—May not the X. catharticum of Kunth, from Peru, be the same?


Page 41.—*Sphacele campanulata.*—We have already, under this plant, referred, as a synonym, to the *Alque Laguen* of Feuill. Chil. v. 3. t. 1, which is also the authority for the *Phytoxys acidissima* of Molina and Sprengel, a name which has the priority.

Page 41.—1.* Mentha. Linn.—1. *M. Pulegium. Linn.*—Polco, Feuill. Chil. v. 3. t. 28.—HAB. Valparaiso.


Page 41.—*Teucrum orchideum.*—We now believe this to be the *Teucrum heterophyllum* of Cav. *L.* v. 6. t. 577, not of Lam., and the *T. bicolor* of Smith in Rees' Cycl., which latter name ought to be retained.


HAB. Valparaiso.—This plant we long ago received from Mr. Cruckshanks, and since from Mr. Mathews and Mr. Bridges; as well as from Mrs. Graham and Dr. Bertero, who find it at Juan Fernandez; from the latter gentleman, under the appellation of *Poppigia cyanocarpa, MSS.,* a name we should gladly have adopted, but that the genus seems scarcely to differ from *Citharexylon.* The corolla and fruit are the same in both genera: the anthers are ovate, as figured in *Rauwolfia flexuosa,* (Ruiz and Pav. Fl. Per. t. 152, which Mr. Don considers a true *Citharexylon*) not linear, as described in *Citharexylon* of Mr. Don: the stigma is 2-lobed, and the inflorescence can scarcely be called racemose. We do not indeed find the pedioles to be "callous at the base, and evidently jointed." The leaves are dotted on the underside, as in the *Myrtaceae.* It is named in the country *Arayan de Espino,* and *Arayan macho.*—*Tab. XI. Fig. 1,* Flower; *fig. 2,* Stem and stigma; *fig. 3,* Fruit, enclosed in the calyx; *fig. 4,* Fruit removed from the calyx; *fig. 5,* The two nuts into which the fruit separates; *fig. 6,* Nut cut open to show the 2 seeds; *fig. 7,* Seed:—all more or less magnified.


Page 44.—ORD. LVI.* LAURINEÆ. Juss.—1. *Laurus. Linn.*—1. *L. Peumo.*—HAB. Valparaiso.—The specimen in the Collection, as well as that from Macrae, noticed at p. 45, is destitute of flower, and in a very imperfect state; so that we are not able to offer any further remarks upon it.

SOCIETY ISLANDS.

[Including Easter, Ducie's, Elizabeth, Pitcairn, and Gambier's Islands; those denominated "Coral Islands" at page 1, of this Volume; and Otaheite, or Tahiti. They were visited at the periods there stated.*]

ORD. I. CRUCIFERÆ. Juss.


The pouch in our specimens is broader than that described by De Candolle, in this respect approaching that of *L. O-Waihiense*, but the style is very conspicuous.

ORD. II. CAPPARIDEÆ. Juss.


HAB. Gambier's Island.


This appears scarcely different from the *C. spinosa*: nor does the *C. Mariana* seem to us deserving of the rank of a species.

ORD. III. MALVACEÆ. Juss.


* As many of the plants of these Islands appear common to the whole groupe, we have rarely thought it necessary to mention the particular stations of the species.
This agrees with the figure above quoted in all but the presence of glands on the underside of the primary nerves of the leaf; but Dr. Hamilton in Linn. Trans. v. 13. p. 492, states it as his opinion, that such a character is not to be depended on; and that that derived even from the duration of the stem is of no consequence. This belongs to his *G. nigrum*, “lana alba, semine nigricante,” which includes the *G. Barbadense* of Linn.
ORD. IV. BYTTNERIACEÆ. Br.
1. Melochia *hispida*; tota hispida, foliis inaequaliteris cordato-ovatis duplicato-serratis utrinque pilis stellatis subtus pallidis, umbellis 6–8-floris axilaribus petiolum subaequantibus.
The hairs on the stem, petiole, and peduncles, are long, spreading, and simple, though occasionally mixed with others that are shorter and stellated. Those on the leaves are altogether of the latter kind. Towards the apex of the petiole the hairs are short and much crowded, and of a yellow colour; and this portion falls off with the leaf. The calyx is glabrous, except on the margin of the segments and the line marking the union of the sepals, where the hairs are very long. We have been obliged to draw up our description from a solitary and indifferent specimen.
ORD. V. TILIACEÆ. Juss.
This plant, which we take to be the *T. procumbens* of Forster, has petals to the flower as well as united carpels, whence it cannot belong to either of the divisions of the genus in De Candolle’s Prodromus. The united fruit is nearly as large as an hazel nut, covered with rigid and hairy or plumose bristles. (Sec. descr. —tab. a nobis non visa.) *T. Fabriana*. Gaud. in Freyc. Voy. p. 478. t. 102.
ORD. VI. GUTTIFERÆ. Juss.
ORD. VII. SAPINDACEÆ. Juss.

ORD. VIII. OXALIDÆ. Juss.

ORD. IX. CELASTRINEÆ. Br.

We regret that the imperfect condition of our specimens will not allow us to offer any remarks upon this little known plant.

ORD. X. RHAMNEÆ. Juss.
1. Pomaderris *ziziphoides*; foliis oblongo-lanceolatis integerrimis coriaceis supra glabris nitidis subtus reticulatis incano-tomentosis, venis rufidulis, ramulis foliisque junioribus dense ferrugineo-pubescentibus, petalis calycem aequantibus.—Rhamnus *ziziphoides*. Spr.—De Cand. Prodr. v. 2. p. 27.


This was on the same paper with *Commersonia echinata*, and is probably therefore a native of Tahiti. It seems to be the *Rhamnus ziziphoides* of Sprengel; but its character, and its habit too, accord best with Pomaderris.


Brongniart is of the same opinion with ourselves, that the *Celastrus capsularis* of Forster is identical with the *Ceanothus Asiaticus* of Linnaeus.


ORD. XI. SAMYDEAE. Gaertn.
1. Casearia *impunctata*; foliis oblongo-ellipticis breve petiolatis coriaceis basi apiceque acutis obsolete dentatis glabris nitidis impunctatis, pedunculis brevibus glomeratis axillari-bus, calyce 5-partito, stam. fertilibus 10, stylo elongato, stigmatibus tribus capitatis.

Of this only one specimen exists in the Collection, whose flowers agree with those of Casearia, but the pellucid dots in the leaves, alluded to by Mr. Brown as characteristic of the Order *Samydea*, do not appear. The stigmas are very distinct and capitata.
ORD. XII. TEREBINTHACEÆ. Juss.

ORD. XIII. LEGUMINOSÆ. Juss.
1. Sophora tomentosa. Linn.—De Cand. Prodr. v. 2. p. 95.—Sloane, Jam. v. 2. t. 178. f. 3.


We are satisfied of this plant being the Hedysarum purpureum of Roxb., which, however, we do not find anywhere described. The same plant, too, we have received from the Island of St. Vincent in the West Indies, probably introduced from the Old World.—The figure in Burm. Zeyl. t. 53. f. 2, and again that in Burm. Ind. t. 55. f. 2, (H. siliquosum, Burm.) appear to be the same as this; but we do not know that they are referred to by any author.


ORD. XIV. LYTHRARIÆ. Juss.

ORD. XV. MELASTOMACEÆ. Juss.

Our specimens also are from Tahiti, but in a very indifferent state of preservation.

ORD. XVI. MYRTACEÆ. Juss.
We have quoted this with a mark of doubt, because all the *Jossinaceae* are stated to be natives of the Isles of France and Bourbon: at the same time, our specimens so entirely accord with Jacquin’s figure, that we consider it almost certain that our plant is the same as his.


2. *Metrosideros diffusa*; foliis oppositis ovatis venosis utrinque glabris, paniculis axillaribus terminalibusve oppositis villosis, pedicellis oppositis. *Sm. 1. c. v. 3. p. 268.*

Our specimens are from Tahiti, as were those gathered by Nelson, and mentioned by Smith in Rees’ Cyclopaedia.

3. *Metrosideros obovata*; foliis oppositis obovatis coriaceis obtusissimis venosis glabris in petiolum brevem attenuatulis, margine paululum reflexo, corymbis axillaribus terminalibusque, calycibus glabris elevato-nigro-punctatis. (Tab. XII.)


*Har.* Gambier’s Island.

**ORD. XVII. CUCURBITACEÆ.** *Juss.*


*Mr. Collie takes notice of some other species of Cucurbitaceæ, found in Tahiti, but they do not appear in the Collection: one is mentioned in that gentleman’s Notes as the Arroro of the natives, (probably Cucurbita Aurantia,) which is employed for holding the perfumed cocoa-nut oil, or Monoe.*

**ORD. XVIII. PORTULACEÆ.** *Juss.*


**ORD. XIX. FICOIDEÆ.** *Juss.*

Found on all the Coral Islands, according to Mr. Collie’s Notes, but the only specimen in the Collection was from Whitsunday Island, gathered by Mr. Lay.

**ORD. XX. UMBELLIFERÆ.** **Juss.**


**ORD. XXI. LORANTHEÆ.** **Juss.**


**ORD. XXII. RUBIACEÆ.** **Juss.**


Our specimens are only in bud, and may prove a distinct species. In one instance the peduncle is terminal and not jointed, so that it perhaps ought to be described as terminal on a short axillary branch, which is furnished about the middle with two small opposite deciduous leaves.

1. Cephaelis? *fragrans*; tetandra, ramulis compressis, foliis late ovalibus obovatissime obtusis coriaceis glabris reticulati venosis breve petiatis, stipulis ovatis acuminatissimis, pedunculis bibracteatis, bracteis cordiformibus basi bibracteolatis, floribus ternis sessilibus. (Tab. XIII.)


*Hab.* Elizabeth Island.—“This,” Mr. Collie observes, “forms a tree or shrub, the trunk of which is very slender, about two inches (feet?) in circumference, and twenty feet high. The wood is whitish, very hard, and close-grained, with a reddish inner bark.” It seems to approach the *Cephaelis speciosa* of Sprengel, (from Tahiti,) but the leaves are not “oblongo-lanceolate.”

Tab. XIII. Fig. 1, Bracteas, with flower and two germens; fig. 2, Stamen; fig. 3, Part of the style and stigma.


1. Petesia *carnosa*; foliis oppositis oblongo-obovatis obtusis basi attenuatis glabris carnosis, pedunculis axillaribus 1-floris.

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In the Linnaea, the parts of the flower are described as quinary or quaternary. In our specimens, their arrangement is sometimes senary.


Hab. Whitsunday Island. (Mr. Lay.)

1. Canthium *lucidum*; ramis inermibus, foliis breviter petiolatis ellipticis obtusis, basi paululum attenuatis coriaceis supra lucidis subtus pallidis, cymis pedunculatis axillaribus, bacca subgloboasa.

This plant has the calyx 4-5-toothed, the corolla 4-5-lobed, and either 4 or 5 stamens. The character accords with that of the genus in De Candolle’s Prodr. v. 4. p. 473, and our species appears closely allied both to *C. glabrum* and *C. nitens*.


This appears to us to be the *C. barbata* of Forster. Yet it is described as having the leaves *acutae* at both extremities, and the peduncles single-flowered. De Candolle says that in habit this differs from the genus, but he was only acquainted with the plant in an indifferent state.

Tab. XIV. Fig. 1. Flower; fig. 2. Part of the corolla, style, and stigma; fig. 3. Germen; fig. 4. Section of do.; fig. 5. Drupe; fig. 6. Section of the drupe, to show the two nuts.

2. Chiococca *odorata*; foliis lato-ovalibus subcoriaceis obtusissimis basi acutis in petiolum brevem decurrentibus, pedunculis axillaribus solitariis 3—4-floris, corolla favea barbata. —*Coffea odorata*. "Forst. Prodr. 1. n. 94."?

Hab. Elizabeth Island.—Of this we have seen no fruit; but the flowers and the general habit of the plant are so very similar to those of the preceding, that we cannot separate it from the genus Chiococca. The flowers are described as fragrant, and smelling like cowslips; and it may be the *Coffea odorata* of Forster, but the description given of that plant is too brief to enable us to judge with certainty respecting it.


**ORD. XXIII. COMPOSITÆ.** Juss.


2. Bidens paniculata; suffruticosa, foliis oppositis longe petiolatis lato-lanceolatis acuminatis glabris serratis acuminato intege-rimento, panicula patente terminali, floribus parvis parce radiatis, involucro brevi, acheniis dentibusque 2 brevibus hispidis.

The specimens are in a bad state. The plant is said to be suffruticoso by Mr. Collie, and, mixed with Cocoa-nut juice and boiled, is employed as a cathartic by the natives of Otaheite, who call it Motu.


Our plant, which is in a very imperfect condition, is an Ethulia, and appears to be a luxuriant state of the E. ageratoides.


**ORD. XXIV. GOODENOVIÆ.** Br.

1. Scævola Königii. Linn.

**ORD. XXV. JASMINÆ.** Juss.


Our specimens of this plant from Tahiti come so near the J. azoricum, that we scarcely know how they are to be distinguished; but the present has smaller flowers, and less distinctly marked teeth of the calyx than is the case in that species.

**ORD. XXVI. APOCINEÆ.** Br.


**ORD. XXVII. ASCLEPIADEÆ.** Br.


**ORD. XXVIII. CONVOLVULACEÆ.** Juss.

1. Convolvulus Batatas. Linn.

2. Convolvulus Pes Capree. Linn.

**ORD. XXIX. BORAGINEÆ.** Juss.

1. Heliotropium? anomalum; suffruticosum, foliis lineari-lanceolatis inferne attenuatis strigoso-hispidis, racemis glomeratis, segmentis calycinis valde inèqualibus, nucibus 5!

Hab. Whitsunday Island.—This singular and interesting plant may probably be the Lithospermum incanum, Forst.; but we nowhere find it remarked as having a fruit separable into five nuts, a character almost at variance with the Boragineae, to which Order, nevertheless, our plant undoubtedly belongs.

1. Tournefortia argentea. Linn.
3. Cordia discolor? Cham. in Linn.

One solitary specimen, of which the flowers are unexpanded, seems to agree with the C. discolor which we have from Chamisso, and also from Dr. Boog, gathered in Brazil, as well as from Rev. L. Guilding, gathered in St. Vincent.

Ord. XXX. Cyrtandraceae. Jack.

1. Solanum nigrum. Linn.
In our specimens the leaves are hairy.
2. Solanum Quitense.
1. Physalis angulata. Linn.

1. Scoparia dulcis. Linn.

1. Ocymum gratissimum. Linn.
1. Leucas decemdentatus. Sm. in Rees’ Cycl.—L. stachyoides. Spr.—Stachys decemdentata. Forst.

1. Verbena bonariensis. Linn.
1. Premna integrifolia. Linn.

Ord. XXXV. Myoporineae. Br.
1. Myoporum? euphrasioides; foliis oppositis ovatis subdentatis in petiolum attenuatis, floribus geminis, pedunculo petiolum aequante, calycibus ampliatis, drupa biloculari, loculis monospermis.

Hab. Whitsunday Island.—This singular plant has much the habit of some of the Scrophularineae, particularly Euphrasia and Bartsia, but there is only seed in each cell of the fruit, and that fills it up entirely. It differs from Myoporum in several points, nor do we know any genus to which it is decidedly referable.

ORD. XXXVI. NYCTAGINEÆ. Juss.

ORD. XXXVII. AMARANTHACEÆ. Juss.
1. Amaranthus viridis. Linn.
1. Gomphrena globosa. Linn.
1. Achyrantes aspera? Linn.
   This plant is much larger than the usual state of A. aspera; its leaves soft and velvety, with dense silky hairs; the spike a foot or a foot and a half long; the rachis very woolly; and the flowers remote.

2. Achyrantes velutina; fruticosa, ramis herbaceis hirsutis, foliis ovalibus utrinque acutis breviter petiolatis sericeo-velutinis, spica demum longissima, floribus inferioribus remotis, rachi lanata.

Hab. Bow Island.—Allied to Achyrantes aspera, but much larger in every part, with the leaves beautifully velvety, with dense silky hairs. We have the same plant, gathered by Mr. Menzies in Owhyhee and by Mr. Macræ in Oahu; that of the former shows the lower part of the plant to be decidedly woody. Some of the undivided stems are, including the spikes, nearly three feet long. From the axils of the leaves, upon exceedingly short ramuli, other leaves appear, which give a fasciculated or almost verticillate appearance to the foliage. The flowers are very glossy, at length reflexed, pentandrous, with 5 fimbriated processes alternating with the stamens. Style filiform. Stigma capitate.


The specimens are small, procumbent, and apparently annual.

ORD. XXXVIII. POLYGONEÆ. Juss.
1. Polygonum Persicaria. Linn.

ORD. XXXIX. THYMELEÆ. Juss.
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Tab. XV. Fig. 1, Head of flowers; fig. 2, Single flower; fig. 3, Flower laid open, to show the stamens and pistil:—magnified.

**ORD. XL. EUPHORBIACEÆ.** Juss.


Our plant is certainly a Bradleia, but in so imperfect a condition that we cannot be sure it is the Glochidion of Forster. It was gathered in Elizabeth Island.


This plant we have received from Baron De Lessert, marked "P. linifolius, Commers." as a native of the Isle of France, and from Madagascar, where it was gathered by Professor Bojer.

1. Euphorbia ramosissima; herbacea, ramosissima, prostrata, glabra, foliis oppositis brevi petiolatis rotundato-ellipticis integerrimis subtus glaucis, stipulis ovatis minute fimbriatis, paniculis dichotomis terminalibus paucifloris, involucris glandulis reniformibus petaloideis.

The nearest affinity of this Euphorbia, which is from Elizabeth Island, seems to be the E. Atoto of Forst.; but that, according to the character given by Sprengel, is erect, and nearly simple.

1. Hernandia Sonora. Linn.

1. Aleurites triloba. Linn.

**ORD. XLI. URTICEÆ.** Juss.


Our specimens, if they be really the plant of Forster, are decidedly annual, and of small stature, as described by Willdenow; whereas, Sir James E. Smith, in Rees' Cyc., says that what he described from Forster had woody branches, and appeared to belong to a shrubby stem of considerable size.

3. Urtica affinis; herbacea, debilis, flexuosa, foliis alternis cordato-acuminatis membran-
aceis longe petiolatis grosse serratis triplinerviis piloso-hispidis subtus pallidoribus, spicis axillaribus folia excedentibus glomerato-interruptis.

This is nearly allied to *Urtica cylindracea* of North America, in the shape of its leaves and general appearance of the flowers on the spikes; but the former are constantly alternate, and the whole plant is more hispid.


Our specimens of these two species of *Procris* are not in a sufficiently perfect state to allow us to judge how far one or other of them may belong to the Genera *Elatostema* and *Sciophila*, as denned by Gaudichaud in the Botany of Freycinet's Voyage. The present species we possess from the Mauritius and Prince of Wales Island, and it appears identical with the *P. integrifolia* of Mr. Don.

**ORD. XLII. AMENTACEÆ.** *Juss.*


**ORD. XLIII. PIPERACEÆ.** *Rich.*

1. *Piper latifolium*; fruticosum, foliis latissime cordato-subrotundatis 11–5-nerviis obtusis membranaceis petiolisque glabris, spicis axillaribus aggregatis.—"*Forst. Prodr. n.* 22."

1. *Peperomia rhomboidea*; herbacea, foliis rhombeo-rotundatis acutiusculis carnosis integerrimis breve petiolatis siccitate pellucidis 5–9-nerviis, spicis solitariis (?) filiformibus erectis folio longioribus.

Of this plant, the leaves are from an inch and a half to two inches or more in length, and about two-thirds the length of the spikes, on petioles that are scarcely two lines long.

**ORD. XLIV. ORCHIDEÆ.** *Juss.*

1. *Liparis revoluta*; bulbo unifolio, scapo ancipite racemoso folium lanceolatum sessile membranaceum striatum superante, perianthii f oliolis revolutis, labello ovato acuto integro apice revoluto basi ecalloso, bracteis pedicellis longitudine. (Tab. XVI.)


Tab. XVI. *Fig. 1, Flower; fig. 2, Labellum; fig. 3, Column:*—magnified.
Liparis revoluta


Flowers of this curious plant without leaves are in the Collection.


PTEROCHILUS. (Nov. Gen.)


1. Pterochilus plantaginea. (Tab. XVII.)


One specimen alone of this plant exists in the Herbarium, and this in a sufficiently perfect state to exhibit a labellum of a very remarkable character, sufficient, we believe, to authorize us in constituting of it a genus distinct from any hitherto described. It covers, in consequence of its peculiar shape and size, a considerable portion of the perianth, being extended above into two erect wings, while below it is broad and fimbriated at the extremity.

Tab. XVII. Fig. 1, Front view of a flower; fig. 2, Back view of do.; fig. 3, Anther-case; fig. 4, Interior of do.—magnified.

ORD. XLV. DIOSCOREÆ. Br.

1. Dioscorea bulbifera. Linn.

ORD. XLVI. AROIDEÆ. Juss.

1. Tacca pinnatifida. Linn.
ORD. XLVII. CYPERACEÆ. Juss.

1. Fimbristyli affinis; glabra, culmis caespitosis erectis triquetris, foliis angustissimis flacidis, involucro 3-4-phyllo, spiculis ovatis terminalibus paucis umbellatis centrali sessili lateralis longe pedunculatis, pedunculis involucrum æquantibus, squamis suborbeiculatis acutis trinerviis scariosis glabris, stylo complanato bifido margine fimbriate, achenio obovato lenticulare-compresso longitudinali striato.

This is very nearly allied to F. dichotoma and annua, which have equally the leaves of the involucre ciliated: but the whole plant is larger, and differs from the former in its smooth culm and leaves, and from the latter by the two, not three, stigmas.


This, Mr. Collie observes, is frequent in the moist meadows of Tahiti.


Our specimens are very imperfect. Mr. Collie states that it is used for making hats and women’s bonnets, and has been probably introduced. Its vernacular name is Tumarnu.

ORD. XLVIII. GRAMINEÆ. Juss.


Our plant turns almost black in drying. At the base of many of the spikes, (not of all,) we observe one or two rather long white hairs, which we presume are the setae of Mr. Brown.—Our specimens of P. praecox of Walt. from the late Mr. Elliott, gathered in Carolina, we cannot distinguish from the present. This is called in Tahiti Nōmeha, and is exclusively used for carpetting the houses.

1. Digitaria ciliaris. Willd.


Common in the moist meadows of Tahiti, where it is known by the name of Pirapire.


Most authors describe, and Pal. de Beauvois represents, the calycine glumes as three in number; whereas, in our plant, they are constantly two. The lower of the two flowers in the spikelet appears to be male, the upper one female.

1. Eleusine indica. Lam.—Cynosurus indicus. Linn.


2. Andropogon Tahitensis; ubique glaber, culmo striato erecto apice paniculatim ramoso, foliis planis, spicis conjugatis paniculatis, rachidis articulis brevissime pilosis, spiculis binis, altera sessili uniflora hermaphroditæ.

Culmus erectus, striatus, solidus, glaberrimus, inferne simplex superne paniculatim ramosus, rubescens:
We have not been able to refer this species to any described one. It approaches much to *A. hirtus* of the South of Europe, but differs from that and from almost every hitherto known species of the genus, by the nearly total absence of hairs on the rachis; these, indeed, are so short and so few as to leave some doubts if it ought to be retained in *Andropogon*, although agreeing well in other points with the reformed character as given by Trinius.


**Ord. XLVII. LYCOPODINEÆ.** Sw.

1. Lycopodium *Phlegmaria*. Linn.
2. Lycopodium *cernuum*. Linn.
1. Psilotum *triquetrum*. Sw.—Bernhardia dichotoma. Willd.—Lycopodium nudum. Linn.

**Ord. XLVIII. OPHIOGLOSSEÆ.** Br.

1. Ophioglossum *pendulum*. Willd.

One of the two specimens in the Collection has a very broad frond, in some parts nearly three inches in diameter, three or four times divided in a dichotomous manner.

**Ord. XLIX. MARATTIACEÆ.** Bory.


This plant is used by the natives for food in years of scarcity.

**Ord. L. OSMUNDACEÆ.** Br.


**Ord. LI. GLEICHENIACEÆ.** Br.


**LII. POLYPODIACEÆ.** Kaulf.

1. Acrostichum *aureum*. Sw.

Our plant is exactly the A. plantagineum figured by Blume, and equally the A. Lessoni of Duperrey’s Voyage. Nor does the A. Durvillei appear to us to be really distinct from it, according to Bory’s description.

1. Notochlaena pilosa; frondibus ovato-lanceolatis bi-atripinnatis, pinnulis oblongis remotiuliscus subtus margineque recurvo præcipue cum rachibus stipiteque nitidissimo glandulosopilosis.

This is allied to the N. distans of Mr. Brown, but has a broader frond, more lax pinnules, which are quite destitute of the palaceous setæ so copious in the former, and sparingly clothed instead with somewhat glandular hairs.

1. Niphobolus macrocarpus; frondibus lineari-lanceolatis obtusis inferne in stipitem longiusculum attenuatis subtus incanis, soris serialibus ellipticis magnis prominentibus. (Tab. XVIII.)

Caudex longus, repens, magnitudine penmæ convinæ, adpressim squamosus, hic illic fibrosus; squamis lanceolato-subulatis fuscis, margine fimbriatis. Stipites bi-atriplicares, glabri, versus basin articulati, infra articulum dense imbricatam squamosi. Frondes palmares, lineari-lanceolate, obtuse, coriaceae, supra areolis (soris oppositis) oblongis depressis, ubique squamulis minutis stellatim pilosis obside, demum superne nude, inferne semper incanæ, margine leviter recurvæ. Costa subtus prominens. Sori magni, elliptici, fusi, valde prominentes, in unam seriem intra costam et marginem dispositi, totam dimidiam et superiorem partem frondis occupantes.

Tab. XVIII. Niphobolus macrocarpus. Fig. 1, Capsules; fig. 2, Scales from the frond:—magnified.

1. Polypodium phymatodes. Linn.
   1. Asplenium Nidus, Linn.

We have seen no authentic specimen of D. arborescens: but our plant accords sufficiently with the description. We have received what we consider the same species from St. Vincent in the West Indies, and have doubted if it might not be a more than usually branched state of Asplenium ambiguum.


Although this entirely agrees with the plant above quoted, we are yet unable to decide if it be really distinct from the Doodia caudata of Mr. Brown. The terminal pinnæ can indeed scarcely be said to be
Niphobolus macrocarpus
elongated, the whole plant is much larger, the fronds themselves a foot or more in length, the pinnae longer and narrower: yet we possess specimens, from other sources, which seem to unite the two.

1. Blechnum orientale. Linn.

2. Blechnum occidentale. Linn.

This is identical with the West Indian B. occidentale, and probably the same as the B. caudatum of Cav. from the Philippine islands.

1. Sadleria pallida; pinnulis approximatis nervosis, rachi paleacea.

This is a true Sadleria of Kauffuss, a genus, however, which scarcely differs from Blechnum, except in the hardened nature of the involucres, the compound fronds, and somewhat arborescent caudex. The only species hitherto described, is a native of the Sandwich Islands, which differs from the present in its naked rachis, more elongated pinnae, more remote and narrower pinnules which are quite destitute of nerves, the dark colour of the whole frond, and almost black involucre. As some of the Sandwich Island and Tahiti Collections were mixed, it is probable that this plant was found in the former place, particularly as it occurs also among specimens undoubtedly from these islands.


We have seen only the fertile state of this plant which agrees with the figure of Labillardière.


1. Pteris nemoralis. Willd.

1. Cheilanthes dissecta; frondibus 3–4-pinnatis, foliolis lineari-oblongis obtusiusculis subpinnatifidis superioribus coadunatis substus pubescentibus, soris solitariis, rachibus stipiteque glabris.

This is a plant of a rather rigid habit, 3 or 4 times pinnated, with narrow, elongated, more or less pinnatifid or lobed pinnules, whose underside is downy, while the rest of the plant is glabrous. The rachis and stipes are quite destitute of scales. It appears to be most nearly allied to the Cheilanthes arborescens, (Lonchitis tenuifolia, Forst.)


2. Adiantum pulverulentum. Linn.

We cannot distinguish this from the species in the New World known by that name.


Forster says of the ultimate segments of the frond, “segmentis margine interiore infra apicem fructificalibus,” which well expresses the character of this species: indeed, the sori being not terminal on the laciniae,
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but placed a little to one side, distinguishes this from the other congeners with which it is most likely to be confounded.

1. Trichomanes membranaceum. Linn.—Hook. Ex. Fl. t. 76.

Hitherto this species has been only known as a native of the West Indies.


Bory (in Duperrey's Voyage) states that Gaudichaud's plant, originally from the Moluccas, had been found in Tahiti by Durville; and his figure, with the exception of the magnified extremity of the involucre, which is probably erroneous, answers pretty well to our plant.—This and the following belong to Desvaux's genus Didymoglossum.


Notwithstanding some slight difference between Willdenow's description and the above character, we believe our plant to be the same; the more so as Bory states that Durville has likewise met with it in Tahiti. We have long ago received it from Mr. Menzies, under the manuscript name of T. bilineg.


We may here remark that Mr. Collie gives a list of fifty-two species of Ferns collected in Tahiti; whereas we can find only forty-one in the Collection; and, in Mr. Collie's notes, the Sadleria is not noticed.

ORD. LIII. MUSCI. Juss.


The specimen in the Collection is in a young state, so that we cannot be positive of its identity with the Mexican species; the calyptra, also, is here provided with a few hairs, while in the other it is decidedly glabrous.


The Hypnum duplicatum, (Hedw. Sp. Musc. Supp. 3. t. 279,) gathered by Mr. Menzies in Tahiti, appears to us merely Neckera pennata, found there also by Durville.


Our authentic specimens of H. Chamissonis differ from those in the Collection by having rather smaller thece; but we can perceive no other distinction. The theca is perfectly straight, and nodding (not cernous) by the curvature of the top of the seta.

2. Hypnum fusescens; caule vage ramoso laxe caespitoso prostrato, foliis distichis sub-
Lycopodium fuscescens.
secundis ovatis acuminatis apice obscure serratis enervis laxe reticulatis membranaceis nitidis, seta lævi apice arcuato-curvata, theca (parva) ovata brevi, operculo hemisphaerico mucronato. (Tab. XIX.)

This plant is loosely tufted, and the mass exhibits a brownish hue, like many Jungermanniae. Although the leaves be slightly secund, it belongs certainly to the distichous division.

Tab. XIX. Hypnum fuscescens. Fig. 1, Plants:—natural size; fig. 2, Single plant:—magnified; fig. 3, Portion of the stem, with leaves; fig. 4, Single leaf; fig. 5, Capsule; fig. 6, Lid; fig. 7, Calyptra; fig. 8, Portion of the inner peristome; fig. 9. Portion of the outer do.:—all more or less magnified.

ORD. LIV. HEPATICÆ. Juss.

1. Anthoceros lavis. Linn.

1. Jungermannia multifida. Linn.

ORD. LV. LICHENES. Juss.


The Parmelia strigosa and Sandwichiana of Gaudichaud in Freycinet’s Voyage, and Parmaria erythrocarpa of Bory in Duperrey’s Voyage, seem identical with this species.

2. Parmelia calicarpa; diffusa, thalli lacinii imbricatis latis rotundatis sinuatis plumbeis rueulosis selatinoso-membranaceis, apicibus convexis, subtus intense fusci subpubescentibus, apotheciis majusculis undulatis rufo margine crenato ioliaceo.

The nearest affinity of this species is perhaps P. colpodes of Acharius, figured by Swartz in his American Lichens, t. 4. f. 3; but the lacinia of the frond in our plant are much broader, and the margin of the apothecia more evident, crenate, lobed, and leafy.

1. Collema Turneri; thallo foliaceo membranaceo gelatinoso pellucido badio, lobis irregularibus plicato-undulatis, apotheciis sparsis majusculis convexus centro depressis fusci, margine amplo rosulato foliaceo.

This Collema is perfectly distinct from any we have yet seen or can find described. It grows upon the trunks of trees, in large patches of a deep brown colour, and of a thin gelatinous texture, the laciniae round, much waved, and crisped; the margin of the apothecia is very remarkable, forming a beautiful leafy circle around the fruit, and five or six times broader than the young fructifications. The C. phyllocarpum of Gaudichaud, (Freyc. Voy. p. 204,) from Brazil, differs in the glaucous colour of its foliage, but the margin of the apothecia appears to be the same.


1. Ramalina homalea; thallo compresso ancipiti levigato nudo ramoso albo pallescente transversim subrimoso, ramis dichotomis attenuatis, apotheciis sparsis centro affixis concaviusculis subimmarginatis concoloribus. Ach.

α. cartilagineo-cornea subpellucida, apotheciis valde concavis.

β. cartilaginea opaca, apotheciis planiusculis.

We possess both these varieties from Mr. Menzies: the former, gathered in California, must be viewed as the true plant of Acharius. Both are in the present Collection, from Tahiti.

ORD. LVI. ALGÆ. Juss.


This agrees pretty well with the figure above quoted, but is rather more divaricated. Another plant exists in the Collection without fructification, but evidently allied to the present species, more slender in every part, the main branches being beset with numerous short simple ramuli, while the ultimate ones are subsecund.

**ORD. LVII. FUNGI. Juss.**

**PHALLUS. Mich.**

**Div. Hymenophallus.** *Capitulum liberum reticulatum, pervium, inferne indusiatum. Fries.*


Of this extraordinary and beautiful *Fungus*, no specimen exists in the Collection; but an admirable drawing has been kindly communicated to us by Captain Beechey, which he made from the recent plant in the island of Tahiti; and which, with a vertical section from the pencil of the same gentleman, gives a better idea of its structure than can be conveyed by words. The volva was probably omitted to be gathered. There can scarcely be a doubt of its being the same species with that figured by Rumphius: and it corresponds in so many particulars with the *Dictyophora phalloidea* of Léveillé, (the *P. indusiatus* of Vent. and Fries,) from South America, that probably the two species may safely be united. Its geographical range is certainly very extensive; being found in the interior of India, whence we have specimens from Dr. Wallich, gathered at Silhet.

*Tab. XX. Phallus Daemonum. Fig. 1, Plant, (exclusive of the volva); fig. 2, Vertical section of the same:—natural size.*

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**SANDWICH ISLANDS.**

[Comprising Oahu, Woahoo, or O-Wahu, and Oneeheow or Nihow.]

**ORD. I. PAPAVERACEÆ. Juss.**

1. Argemone Mexicana. *Linn.—De Cand. Prodr. v. 1. p. 120.*

**ORD. II. CRUCIFERÆ. Juss.**


The specimen before us agrees admirably with the description given in the above-mentioned work: it is however, extremely doubtful if it be distinct as a species from *L. piscidium*. The only specimen in the packet was from Oneeheow or Nihow; but it also occurred at Oahu, according to Mr. Collie’s notes.

**ORD. III. CAPPARIDÆ. Juss.**

Phallus Daemonium: Rumph.
ORD. IV. MALVACEÆ. Juss.


1. Hibiscus Youngianus; caule fruticoso velutino aculeato setifero, foliiis cordatis subtropicalibus dentato-serratis, involucelli foliolis 10 teretibus apice divaricato-bifidis.—Gaud. in Freyc. Voy. p. 91? (absque descriptione.)


We have no authority for supposing this to be the H. Youngianus of Gaudichaud, farther than that he states it to be a new species of the section Furcaria of De Candolle, to which ours certainly belongs, and is a species closely allied to H. bifurcatus, Cav. It was found in Oahu.


From the imperfect state of the specimen before us, we cannot affirm positively to be the plant of De Candolle. The leaves are ovate, slightly coriaceous, 3-nerved, perfectly smooth, and quite entire. The peduncles are short, scarcely an inch long, and very stout. The calyx 5-toothed, and split up on one side by the swelling of the fruit, as in De Candolle's species Mankhot. The carpels are polyspermeus, and the seeds covered with fulvous hairs. Perhaps, then, this is a new species, and more closely allied to H. rhombifolius, Cav.; but we possess a plant in flower from Owhyhee, collected by Mr. Macrae in Byron's Bay, which seems to be the same as ours; this certainly belongs to the section Crementia by the nature of its corolla, and has toothed leaves, as in H. Boryanus: the flowers are, however, red, not white, and the leaves are 3-nerved, as in the specimen from Oahu.


1. Sida ulmifolia; foliis ovato-cordatis acutis serratis glabriusculis, pedicellis solitariis alterius petiolo subæqualibus, carpellis 5 longe bistrostratis.—Cav. Diss. 1. p. 15. t. 2. f. 4? De Cand. Prodr. v. 1. p. 464?

Found in Oahu, where it was also met with by Mr. Macrae. It differs principally from S. ulmifolia of Cavanilles, by the leaves being not acuminate and scarcely at all pubescent; but we do not consider it a distinct species.


There are three states of this specimen in the Collection; one with the pedicels solitary, and this appears to be the type of the species; another with the pedicles in pairs, and also densely clustered or umbellate at the tops of the short young branches, but differing from the former in no other respect; the third has the leaves much smaller and rounder than either of the others, and the peduncle solitary. We might have been disposed to have separated these into as many distinct species, but Mr. Collie, whose notes are before us, calls them all by the manuscript name of S. inæqualis, stating that their vernacular appellation is Irima; while, again Gaudichaud remarks that Rima, Irima, and Ouirima, are all applicable to S. rotundifolia.

ORD. V. BYTTNERIACEÆ. Br.

Upon the same specimen there is frequently a transition from the sessile to the long peduncled heads of flowers, and from ovate to oblong leaves.


Our specimens are not in flower, but appear to be the plant of Forster. They were among the Oahu Collection, but Mr. Collie has not noticed them in his notes.


Our specimens, found at Oneeheow, are neither in flower nor in fruit, and we should have referred them to O. corniculata, but Gaudichaud having mentioned O. repens as a native of the Sandwich Islands, and not O. corniculata, we have retained the above name.

Ord. IX. Zygophylleæ. Br.


The juice squeezed from the roots of this plant is employed by the natives as an emetic. Eight full grown roots supply enough for one dose. (Collie.)

Ord. X. Rhamneæ. Juss.


—Colubrina Asiatica. Brong.


1. Brunellia Sandwicensis; foliis oppositis simplicibus oblongis integerrimis supra glabris subtus minutissimæ pubescentibus, racemis simplicibus paulifloris axillaribus.—Gaud. in Freyc. Voy. p. 93? (absque descriptione.)

Our specimen, found in Oahu, is in a very imperfect state; still we have little hesitation in believing it to be the same with the species noticed by Gaudichaud, and also by Adrien de Jussieu, in his Memoir on the Rutaceæ. The young branches, peduncles, and pedicels are pubescent, as also the carpels. In the specimen before us, the peduncle has only three flowers, one of which is terminal, and the other two are lateral and opposite to each other, all of them pedicellate. Although, following De Candolle's Prodromus, we have placed this genus in Terebinthaceæ, Jussieu appears to us to have done right in referring it to the Rutaceæ, near Zanthoxylon.
ORD. XII. LEGUMINOSÆ. Juss.


We have already described this species at page 62.

1. Dolichos luteus. Swartz?—De Cand. Prodr. v. 2. p. 398?


Found in Oahu.—The want of authentic materials, and the imperfect descriptions hitherto given of Dolichos and the allied genera, render an accurate determination of the species next to impossible. If we be correct, this plant has only been previously met with in Chili.

1. Canavalia pubescens; caule volubili, ramulis petiolisque pubescentibus, foliolis ovato-ellipticis breviter acuminulatis basi subobliquis membranaceis supra glabris subtus pubescentibus, pedunculis axillaribus trifloris.

This was found in Oneeheow.—The two upper lobes of the calyx are very large and rounded, the lower ones oblong and obtuse. As a species, it is very closely allied to Dolichos galeatus, (Gaud. in Freyc. Voy. p. 486. t. 115,) which is also a Canavalia, but that has perfectly smooth acuminate leaves, and the lower divisions of its calyx are lanceolate and acute.


The specimen in the Collection, as well as one collected by Mr. Macrae at Byron’s Bay, in Owhyhee, is not in fruit.


We have seen only the leaves, but we think there can be no doubt as to the plant.


Gaudichaud remarks of this species, that in the more elevated parts of the island, its phyllodia always bear bipinate leaves, but that in the lower districts these disappear; also, that the higher up they grow, the narrower are the phyllodia, while below they are broader, being linear-lanceolate, lanceolate, and sometimes oval. In the specimens found by Mr. Menzies, the phyllodia are considerably broader than in those in the present Collection, so that we have not hesitated to unite again, as had been formerly done by Lamarck, the A. laurifolia with the present species. The peduncles sometimes bear only one head of flowers; but more commonly, and on the same plant, they form a raceme.


1. Cassia (Sect. Chamaesenna. DC.) Gaudichaudi; caule fruticoso, foliolis 4-jugis elliptico-oblongis apice subemarginatis glabris subtus pallidis, glandula lineari tenui obtusa inter
infimum foliolorum par, stipulis subulatis, racemis axillaribus erectis folio brevioribus, leguminne pendulo lineari compresso membranaceo sub-8-spermo.

This species seems to have been observed by Gaudichaud (Freyc. Voy. p. 94.) to whom we have dedicated it; but he says that the pods are narrow and short, which does not well apply to ours. The whole plant is perfectly smooth; the leaves about six inches long, and the leaflets an inch and a half; these last are on short petioles, about a line in length: the lower pair only are provided with a slender filiform gland, rather more than half a line long, which is incrassated and blunt, not acute at the apex as in C. oxyadenia, to which this species seems allied. The pod is about three lines broad, and 3–4 inches long, very compressed and membranaceous, suddenly and shortly attenuated at both extremities. There are complete septa between the seeds, which are flat and almost black.

**ORD. XIII. ROSACEÆ. Juss.**


**ORD. XIV. ONAGRARIÆ. Juss.**


We agree with Gaudichaud in referring the species found in Oahu to *J. angustifolia*. The leaves, however, are slightly petiolate, and the lobes of the calyx, although acute, are not remarkably so. Mr. Collie, in his notes, remarks that the petals are obovate, rotundate, and emarginate; their claws, internally, and the bases of the stamens, are somewhat villous.

**ORD. XV. LYTHRARIÆ. Juss.**


This we possess, from the same country, from Mr. Menzies, Mr. Macrae, and Chamisso.

**ORD. XVI. MYRTACEÆ. Juss.**


α. Foliis subrotundo-ellipticis cordatis.—β. Foliis ovatis vel ovato-ellipticis basi rotundatis.—γ. Foliis oblongis basi acutis.—δ. Foliis lanceolatis.

These varieties, again, but particularly the first, occur either perfectly smooth or more or less tomentose. Specimens of all of them are in the Collection, and we possess, in addition, several distinct forms of the second variety, collected by Mr. Macrae. Var. β. was found long ago by Mr. Menzies, but was probably confounded by Smith with his *M. villosa*, to which it is indeed too closely allied, and perhaps only distinguishable by the pedicellate flowers. This appears, according to Gaudichaud's valuable observations, to be a most variable plant. Nothing, says he, is more remarkable than the *M. polymorpha*, which is found with linear leaves towards the summit of the mountain, but successively linear-lanceolate, lanceolate, ovate, obovate,
elliptical, round, and even heart-shaped foliage, in descending; and which, from smooth and shining, as in the first instance, become pubescent, downy, and more and more tomentose. Were it not for such authority, we might have been induced to make several species out of this. Some forms of var. \( \beta \) are very closely allied to \( M. \) diffusa, (page 63,) and are chiefly distinguishable from it by the shape of the inflorescence, and the much larger calyx and flower. The petioles, which, in the present plant we have termed short, are not more than one-fourth of the length of the leaf; this is, however, common to most of the genus, but not to the following species.

2. Metrosideros macropus; foliis oppositis ovatis longe petiolatis coriaceis glabris, corymbis terminalibus, floribus pedicellatis, bracteis bracteolisque oblongo-lanceolatis per inflorescentiam subpersistebus, calycibus pedicellisque glabris.


We have been enabled to draw up this description more fully by means of specimens collected by Mr. Macae. It must be remarked that the character in which we were once inclined to place most confidence, the peculiarly conspicuous bracteas during the first stage of flowering, is sometimes so considerably impaired, that were it not for the uniformly long petals, double the length, in proportion to that of the leaf, of those in \( M. \) polymora, \( M. \) diffusa, and their allies, we had almost arranged it as a variety of the former.


ORD. XVII. CUCURBITACEÆ. Juss.

1. Lagenaria vulgaris. Ser. in De Cand. Prodr. v. 3. p. 299.—Cucurbita Lagenaria. Linn.


1. Sicyos pachycarpus; ramis glabris, foliis cordatis 5–7-lobatis denticulatis supra glabris subtus papilloso-sacbris, cirrhis glabris trifidis, floribus masculis paniculatis fœmineis capitate-congestis, fructibus ovatis rostratis inermibus.

The leaves are decidedly but not deeply five or sometimes seven-lobed; smooth on their upper surface, except towards the margin, where they are furnished with small white tubercles, similar to those which cover the whole underside, and make it rough to the touch. The male flowers are in branched panicles, the panicle on a peduncle about two inches long, which is axillary; the perianth is five-cleft; all the filaments are connected together into a tube, at the top of which are five sessile anthers, forming a little head. The female flowers are numerous in each capitulum: they are sessile; but the capitulum itself is on a peduncle, about three-fourths of an inch long, that springs from the same axil with that which supports the males. The fruit is ovate, about a line and a half long, suddenly attenuated into a beak which is almost half the length of the broad portion: many fall off before maturity, leaving only four or five to each peduncle: there are no spines, but the surface appears somewhat uneven. There is one seed in each.—This species appears most nearly allied to \( S. \) microphyllus, H. B. K., but differs in many particulars. It was collected by Mr. Collie among the volcanic rocks on Diamond Hill, in Oahu.
ORD. XVIII. FICOIDEÆ. Juss.


ORD. XIX. SAXIFRAGÆ. Juss.


This is a small-sized tree, the branches being soft and spongy, and filled with pith. The leaves are opposite; the petioles are short, and furnished with a remarkable dilatation or appendage at their back, where they spring from the branch. This dilatation is not connected with the branch by any vessels; but when the leaf falls off, which it does very readily, it leaves a heart-shaped scar, so large as almost to meet that at the base of the opposite leaf. De Candolle places this in the Saxifrageæ, close to Hydrangea and Deutzia, to the former of which genera it is allied in habit: but the style, which is very short, has a truncate and simple, although indistinctly lobed stigma; and the ovary has five cells, and is perfectly free from the calyx.

ORD. XX. UMBELLIFERÆ. Juss.


ORD. XXI. ARALIACEÆ. Juss.


The panicles are much shorter than the leaves. Two of the leaflets are often abortive, so that the leaves appear ternate. The three styles render it dubious whether to place this species in Aralia or Panax. It was first discovered long ago by Mr. Menzies, from whom we have a specimen in our herbarium.

2. Panax? ovatum; caule arboreo glabro inermi, foliis petiolatis superioribus oppositis, foliolis tribus longe petiolulatis ovatis integerrimis coriaceis.

The whole plant, as far as we can judge from the individual before us, is quite glabrous. The petioles are opposite, about three or four inches long: the partial ones about an inch or an inch and a half. The leaflets are broadly ovate, not acuminate, but slightly obtuse; the upper surface is glossy; the margin perfectly entire. There is neither flower nor fruit on the only specimen in the Collection, which was found in Onheeheow; but it is very nearly allied to the last species.

3. Panax? platyphyllum; caule arboreo glabro inermi, foliis petiolatis superioribus oppositis, foliolis tribus longe petiolulatis transversim oblongis longitudine duplo latioribus apice subiter apiculatis coriaceis integerrimis, pedunculis terminalibus umbellis paniculatim dispositis gerentibus.

Caulis arboreus, inermis, glaber ut tota planta. Folia, saltem superiora, opposita: petiolus 4 uncias et petioli partales duas longi: foliola circumscriptione valde singulares, tres fere uncias longa et tantummodo sesquiquinciam lata, vix emarginata at breve apiculata, venis plurimis parallelis divergentibus. Panicula
magna, folium subaequans: pedunculus sesquiuscunciam longus; rami 6–8 oppositi, sesquiuscunciam longi, apicem versus iterum duos vel tres ramulos oppositos gerentes; pedicelli umbellati quaterni, duas lineas longi. Styli duo brevissimi.

This is a very remarkable species, and we have seen it in no other collection. The flowers are not expanded, so that we cannot describe the fruit. It was among the plants found in Oahu, but no notice has been taken of it in Mr. Collie's notes.

ORD. XXII. RUBIACEÆ. Juss.

1. Petesia? terminalis; foliis oblongis basi obtusis apice acutiusculis membranaceis glabris, paniculis terminalibus racemosis folio dimidio brevioribus, corollæ hypocrateriformi lobis tubo brevioribus, stylo bifido.


This has much the habit of Stylocoryne racemosa, Cav., but cannot be placed in that genus, on account of the quadridentate calyx and bifid style.

2. Petesia? coriacea; foliis oblongis basi subacutis apice obtusis coriaceis glabris, corymbis terminalibus densis paucifloris folio multo brevioribus.

We only possess this in a very imperfect state: there is no corolla, but the mature fruit is a dry bilocular polyspermus berry, as in P.? terminalis, exhibiting the remains of four teeth at the apex. It is closely allied to the last species, but the leaves are more obtuse and coriaceous.


In our specimens, all the leaves are perfectly sessile: those towards the bottom of the branch are oblongo-lanceolate, while a pair of cordate ones subtend each division, both general and partial, of the inflorescence, giving it a remarkable bracteated appearance. Of this we possess the lower leaves only, in a specimen from Mr. Menzies.

2. Kadua glomerata; ramulis inferne teretiusculis superne compressis, foliis oblongo-lanceolatis basi subiter in petiolum brevissimum contractis, panicula terminali, ramis elongatis oppositis apice bracteas duas foliaceas floresque glomeratos gerentibus, calyce corollaque pubescentibus.

The flowers may be said to be in axillary pedunculate capituli, if the axis of the panicle be viewed as a continuation of the branch. The calyx and corolla are pubescent: the teeth of the calyx are linear and very rigid. Hedyotis conostyla, Gaud. in Freyc. Voy. p. 471. t. 94, is a species of Kadua, bearing considerable affinity to the present. We possess also from Mr. Macrae another allied species, K. centranthoides; ramulis inferne teretiusculis superne compressis, foliis cordato-lanceolatis subsessilibus, panicula terminali, ramis brevibus oppositis apice flores subnudos glomeratos gerentibus, calyce corollaque glabris.

We have drawn up, for this and *K. cordata*, characters somewhat different from those given by De Candolle, in order that they might suit the specimens before us. With regard to *K. Menziesiana*, the *Hedyotis coriacea* of Smith is by no means the same, although also a species of this genus. This last may be called *K. Smithii*; ramis teretibus versus apicem compressis, foliis coriaceis ovato-ellipticis glabris petiolatis, stipulis triangularibus obtuse apiculatis, panicula terminali trichotoma densa, calyce corollaque pubescentibus. The tube of the corolla is long, and has the segments of the limb strongly deflexed, with long acuminate recurved points.


We have not observed that the segments of the calyx are ciliated, as the above-mentioned authors describe them, although the bracteoles are so.

2. *Coffea Chamissonis*; foliis elliptico-oblongis in axillias venarum scrobiculatis margine reflexis utrinque glaberrimis, stipulis ovatis caducis margine cicatricis glabro, cyma terminali longe pedunculata 5-radiata radiis 4 verticillatis, corollis 5-fidis fauce nuda.

It is unnecessary to give a more detailed description, so similar is this species to the last. It principally differs by the leaves, even the younger ones being quite glabrous, and by the absence of the fringe of short red hairs at the upper margin of the cicatrice, upon the fall of the leaves: the bracteoles, also, are free from any ciliation. In both, the shape of the fruit is precisely the same, being turbinate, with often one abortive cell.—There are fragments of some more *Rubiaceae* plants in the Collection, but too imperfect to be made out.

**Ord. XXIII. COMPOSITÆ. Juss.**


The specimen before us is so very imperfect, that we have preferred referring it as above, to constituting a new species of it, although it differs slightly in several points from the detailed description given by Kunth. It is allied to our *B. paniculata,* (page 66.)


This appears to us to have considerable affinity to *Eichrysium gnaphalioides.* H. B. K.
1. Erigeron \textit{multiflorus} ; glaber, caule herbaceo, foliis lineari-lanceolatis basi in petiolum longum attenuatis integerrimis, panicula ramosissima compacta, ramis nudis, ramulis squamatis, squamis involucri oblongo-lanceolatis, radio involucrum subequantae.

There is only one specimen in the Collection, and in it the stem is simple below the panicle.

2. Erigeron \textit{pauciflorus} ; caule fruticoso ramoso glabro, ramulis pubescentibus, foliis confertis glabris cartilagineo-serrulatis lineari-lanceolatis basi attenuatis atque ciliatis, junioribus subpubescentibus, panicula terminali corymbosa, ramis 2–4-floris nudis, squamis involucrui oblongis acutis, radio involucrum subequantae.

In many respects very closely allied to \textit{E. linifolius}, W., and still more to \textit{E. Canadensis}. We have it also from Mr. Macrae. The stigmas are long, linear, and papillose, almost as in \textit{Eupatorium}.


We do not observe in our specimens that the leaves are distinctly digitate, they are merely deeply lobed, but otherwise they agree with the above character given by Gandichaud. They are opposite and very rugose. The stem is scabrous. The flowers are on long peduncles. The involucrem is double, the exterior of five broadly ovate coriaceous leaves; the inner smaller, five-leaved, and membranaceous. The florets of the ray are about nine in number, and yellow. The receptacle palaecous. The achenia of the ray are trigonal, and crowned with three awns; those of the disk compressed, and with two arista. — Of this there are in the Collection fragments of a variety, or perhaps a closely allied species, with the leaves not at all lobed, but differing in no other particular.

2. Verbesina \textit{hastulata} ; suffruticosa, foliis oppositis breve petiolatis ovato-lanceolatis 3-nervibus versus basin utrinque sursum lobulatis grosse serratis supra scabris subitus hispidis.

We almost incline to suppose that \textit{V. comnata}, (\textit{Gaud. in Freyc. Voy. p. 464,}) may be the same with this, being found in the same island, and possessing many points in common: but that author says that in his species the leaves are sessile and connate, whereas, in ours, they are shortly but decidedly petiolate. There is only one specimen in the Collection.

3. Verbesina \textit{succulenta} ; herbacea glabra nitida succulenta, foliis oppositis oblongo-ovatis apice obtusis mucronulatis basi in petiolum attenuatis supra medium crenulato-serratis.

Found among volcanic rocks on the shore of the island of Onecheow, where it is called \textit{Nehe} or \textit{Nenehe}. The lower part of the leaf is quite entire. The peduncles are terminal and solitary, and the leaves of the involucre orbicular. The receptacle is convex: the achenia are compressed or trigonal, one of the angles being exceedingly sharp, or almost produced into a wing, which is denticulate: they are crowned by two or three short arista, according to the number of angles. We feel uncertain as to the genus: the character agrees sufficiently with that of \textit{Verbesina}, but the habit is more that of \textit{Spilanthes} or \textit{Acinella}.

1. Dubautia \textit{laxa} ; foliis oblongo-lanceolatis basi attenuatis argute serratis subitus strigoso-hispidis, panicula corymbosa \textit{laxa} nudiuscula.

If Gandichaud be correct in his description, our species cannot be the same as his, which may be characterised thus: \textit{D. plantaginea} ; foliis amplexicaulibus lineari-lanceolatis acuminatis crenatis glabris, panicula
foliata, floribus fasciculatis. Gaud in Freyc. Voy. p. 469. t. 84.—It must be observed, however, that his specimens seem to have been even less advanced than ours, and this circumstance may also account for the slight difference in the generic character, which we shall now give as more suited to the specimen before us:—

**Dubautia. Gaud.**; Involucrum campanulatum suboctophyllum, foliolis liberis margine sibi mutuo incumbentibus. Flores 8–10, tubulosi, hermaphroditì. Filamenta linearia, apice vix incrassata. Stigmata dilatata acuta ciliata. Achenium oblongum. Pappus paleaceus dorso et margine setis patentibus rigidos plumosus.—**Suffrutices, ramis apice foliosis, inferne nudis, cicatriso-annulatis. Folia opposita, sessilia, basi subcomata, rigida, parallele venosa. Panicle terminalis; ramis hispide setosis.—**This genus is most allied to Tridax and Craspedia. It has also some affinity to the new genus Raillietia, of which we possess three new species from Mr. Menzie's and Mr. Macrae, all from the Sandwich Islands.

**Ord. XXIV. LOBELIACEÆ. Juss.**


As the characters of Delissea and the two following genera, whether they be viewed as distinct genera, or only as sections of Lobelia, are only to be found in the above-quoted work, we shall transcribe them here.—**Delissea. Gaud.**; Calyx ovario arcte adnatus, limbus liber 5-dentatus persists. Corolla tubulosa, arcuata, decidua, tubo cylindraceo indiviso, limbo 5-partito subbilabiato. Stamina 5; filamenta in tubum liberum connata; antherae cohaerentes, 2 inferiores barbatae. Stigma bilobum, pilis cinctum. Capsula baccata, calyce persistente coronata, bilocularis non dehiscentis. Semina creberrima.


The specimen in the Collection has much larger leaves than that figured by Gaudichaud, to which another in our herbarium, from Mr. Macrae, exactly corresponds; but to the latter the term *folia magna* can scarcely be applied, while those before us well deserve the name, being from a foot to a foot and a half long. Gaudichaud thus characterises Rollandia:—*Calyx ovario arcte adnatus; limbus liberus 5-partitus, lacinii abbreviatis obtusi. Corolla tubulosa, lateribus compressa arcuata, tubo indiviso, limbo 5-partito subbilabiato. Stamina 5; tubus stamineus inferne parti superiori corollae adnatus. Antherae cohaerentes barbatae. Stigma bilobum pilis cinctum. Capsula baccata, indehiscentis, bilocularis, calyce persistente coronata. Semina creberrima.—*The genus Clermontia, Gaud., was not observed during the expedition under Capt. Beechey: we, however, possess *C. oblongifolia* and *grandiflora*, Gaud., from Mr. Macrae. This differs from the former genera by the calyx being coloured, tubular, curved, and as long as the tube of the corolla.*

4. Lobelia macrostachys; glaberrima, caule elato stricto, foliis lineari-lanceolatis utrinque attenuatis subcrenatis, racemo simplici terminali longissimo, pedicellis simplicibus secundis horizontalibus apice sursum vergentibus, bracteae lineari pedicello breviore, calycis tubo hemisphaerico, limbi lacinii obtusi, corolla pedicello duplo longiore.

*Calyx ovario arcte adnatus; limbus liber, 5-partitus; lacinii oblongis, obtusis, tubum aquantibus. Corolla tubulosa, duas ad tres uncias longa, arcuata; tubus cylindraceus 5-fidus, hinc fissus. Stamina 5;*
menta in tubum liberum connata. Antheræ coherentes, due inferiores barbate, cæteræ glabrae. Stigma bilobum; lobis planis, crassis, cartilagineis, rotundatis, divaricatis, imberibus. Fructus immaturus.

From the appearance of this plant we may presume it to be either shrubby or suffruticos. The flowers are of a whitish colour, but were probably bluish when recent.

**ORD. XXV. GOODENOVIÆ. Br.**


In the specimen before us, the leaves are not falcate; but there is no other essential difference between it and the plant of Gaudichaud. We regret we cannot retain the name applied to it by that Botanist, as there is a previous S. montana of Labillardière.


In our specimen, the corolla is scarcely pubescent, and is smaller than as exhibited in Gaudichaud’s figure.

3. Scaevola glabra; fruticosa erecta glabra, foliis cuneato-ovatis oblique acuminulatis longe petiolatis obscure et remote glandulo-so-denticulatis, axillis barbatis, pedunculis axillarisibus unifloris petiolo dimidio brevioribus nudis, corolla glabra, calycis dentibus tubum, æquantibus.

This species appears, at first sight, very nearly allied to S. Chamissoniana, but the inflorescence is totally different. The leaves are almost entire, only exhibiting a few distant very minute glandular teeth. There are no bracteas, apparently, on the peduncle; but at the same time, a decided scar is to be seen at the base of the calyx, on both sides, which seems to indicate that they may have been present at a very early period. The corolla is much larger than in the last species. The petiole is about an inch, or an inch and a half long.


Very closely allied to S. sericea, Forst., but, as we think, perfectly distinct. The whole plant is so extremely fragile, that there is not an entire specimen in the Collection. Besides these four species, we also possess S. Königii from the same islands, gathered by Mr. Macrae.

**ORD. XXVI. EPACRIDEÆ. Br.**


That the present, although only in fruit, is truly the plant of Chamisso, we have satisfied ourselves by a comparison of it with specimens sent us by that Botanist; but we are by no means certain whether C. Banksii
(Gaud. in Freyc. Voy. p. 98,) is the same, since no description has been given. Mr. Brown takes notice of two other species found in the Sandwich Islands, both with the segments of the corolla quite naked; these, however, we have not seen. The habit of our plant is so similar to Leucopogon obovatus, Labill., that Sprengel has united them without attending to the position or number of the bracteae at the base of the calyx.

ORD. XXVII. APOCYNEÆ. Juss.

1. Alyxia sulcata; folii oppositis ovatis obtusiis submembranaceis utrinque nitidis obsolete parallellim venosis, pedunculis axillaribus solitariis 3-floris folio dimidio brevioribus, fructibus olivæiformibus longitudinaliter multi-sulcatis.

This is a very handsome species, and perhaps, as we at first thought, the A. oliviformis of Gaudichaud (Freyc. Voy. p. 451,) found in the same islands; but there are too many points of discrepancy to allow of our joining them. The leaves are never, that we see, in threes; nor are they acute at both extremities, as in Gaudichaud's plant; nor do we think he would have neglected to notice the numerous longitudinal furrows on the fruit. From A. scandens, Forst., this differs in many respects, particularly in the furrowed fruit, which has a perfectly even surface in that species; a character we omitted to remark at page 66, from not being at that time acquainted with the present plant.


This species is omitted by Sprengel, and placed by Willdenow and subsequent authors among the doubtful species. It is very closely allied to C. maculata, Willd., nor can we easily point out any character to separate the two, except the shape of the leaves, which in our plant are very much broader, and not at all spotted, as is well represented in the other species by Jacquin, (Ic. Rar. ii. t. 321.) There are constantly four leaves in each whorl. The bracteae are small, and, towards the base, furnished with several spinous processes, or teeth.

ORD. XXVIII. CONVOLVULACEÆ. Juss.


The specimen is not in flower, and is otherwise imperfect.


In the specimens before us, the branches are long and slender, from which we might almost conclude the plant to have been prostrate and not erect. We possess, in our herbarium, a plant from Mr. Menzies, also from the Sandwich Islands, which is a remarkable variety of the present species, being densely pubescent,
nearly tomentose. This was found both in the islands of Oahu and Oneheow, but the preceding five species appear to have been observed in the latter only.

ORD. XXIX. BORAGINEÆ. Juss.


There is in the Collection a very slender state of this species from Oahu; the more common appearance is from Oneheow.


This appears to be cultivated.

ORD. XXX. CYRTANDRACEÆ. Jack.


The specimen is very imperfect, though decidedly the plant figured by Gaudichaud.


There are two varieties in the Collection, one of which has the leaves twice as long as those figured by Gaudichaud.


Although Gaudichaud describes his plant as having single-flowered peduncles, still we think it the same as ours; indeed, on some of the specimens before us there is only one flower, or rather fruit, to each peduncle; but a slight inspection shows that this is caused by all the pedicels but one having fallen off. In the Collection there are two states or varieties; one with much smaller and more rigid leaves than the other. Gaudichaud enumerates and figures yet another species, C. triflora; foliis oblongis subacuminatis basi cuneatis subduplicato-serratis glabris, nervo venisque subtus adpresso-pubescentibus, pedunculis trigloris, calycibus glabriusculis. Gaud. 1. c. t. 52.—We have also another in our herbarium, from the same islands, discovered by Mr. Menzies, which we propose to call C. Menziesii; foliis quaternis oblongis brevissimis acuminatis basi cuneatis versus apicem subdenticulato-serratis supra scabriusculis subtus glabris, nervo

M 2
venisque adpresso-pubescentibus, pedunculis apice flores plures umbellatim dispositos gerentibus, calycis hirsuti dentibus subulatis.

**Ord. XXXI. SOLANEÆ.** Juss.

1. Solanum *Sandwicense*; caule fruticoso, ramis teretibus, ramulis canescentibus, foliis angulato-sinuatis ovatis supra glabris subtus pubescenti-canis, racemis corymbosis terminalibus vel lateralibus, calyce minuto quinquefido, staminibus equalibus.

This appears to have been also observed by Gaudichaud, but neither named nor described. At first sight it resembles some of the *Lasiopetalae*.


**Ord. XXXII. LABIATÆ.** Juss.


Found on the islands of Oahu and Oneeheow. Gaudichaud notices a species of this genus which he met with, and which is the same as ours. The calyx is more or less covered with yellow resinous glands, which we do not find noticed by authors. Mr. Bentham, in the *Linnaea*, v. 6. p. 80, states the species detected in Oahu, by Chamisso, to be *P. parviflorum*, Willd.; and certainly ours accords well with the figure given in the *Hort*. Berol. t. 65; but the calyx is described as without glands.

1. Phyllostegia *glabra*; glaberrima, folii petiolatis ovatis acuminatis serrato-crenatis basi rotundatis, floralibus minoribus breviter petiolatis, racemis subpaniculatis, pedunculis utrinque elongatis trifidis, calycis ovato-campanulati dentibus brevibus acutis demum patentibus, corolla calyce vix duplo longiore, styli lobis clavatis recurvato-divaricatis. *Benth. in Linnaea*, v. 6. p. 79.—Prasium glabrum. *Gaud. in Freyc. Voy.* p. 252. t. 64. (ex parte.)

Mr. Bentham remarks that Gaudichaud's plate is compounded of the present and the next species: in this, the corolla is much the smallest. The specimen in the Collection is very imperfect, but we have one from Mr. Macrae. As this genus has been only lately separated by Mr. Bentham from *Prasium*, we shall here quote the character: *Phyllostegia*. *Gaud.* Calyx ovatus, 10-nervis, subequalis, nunc 5-fidus, lobis ovatis foliaceis, nunc breviter 5-dentatus. Corolla tubo calyce superante, nunc longe exserto, sepium incurvo, fauce non inflata, bilabiata; labio superiore subpatente integro subplanio; inferiore longiore patente 3-fido, lobis ovatis, medio majore integro. Stamina 4, sub labio superiore adscendentia. Antherae biloculares, loculis divergentibus vel demum divaricatis. Stylus apice clavatus, breviter bifidus, lobis clavato-divaricatis vel lunatis. Achenia carnosa. Verticillastra racemosa vel paniculata, foliis floralibus bracteiformibus.


The corolla is about an inch and a quarter long, being almost as large as in *P. grandiflora*, but it is glabrous and not pubescent.


**ORD. XXXIII. VERBENACEÆ. Juss.**

1. *Lantana annua*. *Linn.?*

The only specimen is in very bad condition: it is most probably a cultivated plant.

1. *Avicennia tomentosa*. *Linn.?*

**ORD. XXXIV. MYOPORINEÆ. Br.**


Of this we possess three very distinct appearances in our herbarium, collected by Mr. Menzies and Mr. Macrae, in the same islands. In one the leaves are oblongo-lanceolate, and not at all acuminated; in another they are very narrow, lanceolate, and much attenuated: the specimens in the Collection are between the two, precisely similar to what we possess from the east coast of New Holland. This species has the smell of the true Sandal-wood, and is exported to China.

**ORD. XXXV. PLUMBAGINEÆ. Juss.**


**ORD. XXXVI. NYCTAGINEÆ. Juss.**


**ORD. XXXVII. PLANTAGINEÆ. Juss.**


The specimen before us is not more than half a foot high, and perfectly unbranched, but it seems
extremely doubtful whether *P. princeps*, (Cham. et Schlecht. in Linnæa, v. 1, p. 167,) is not the same; indeed, we have before us specimens from Mr. Menzies and Mr. Macrae, intermediate in general appearance, but, from their not being entire, it is almost impossible to say whether or not the stem be branched or simple. We possess another allied, but distinct, species, *P. Fernandeziana*, Bertero, gathered by that Botanist in the island of Juan Fernandez.

**ORD. XXXVIII. AMARANTHACEÆ.** **Juss.**


This genus being of recent formation, we shall here, as we have hitherto done, quote its character: *Charpentiera, Gaud.*:—Flores hermaphroditici: Perianthium 5-partitum subregulare trisessilis. Stamina 5, basi in urceolum ovario breviorem connata, interjectis lobulis totidem rotundatis. Antherae cardiaceae, bilocularres. Ovarium ovatum, tardius ovatum, monospermum, ovulum podospermum ovatum, capsula membranacea, ovatum, monospermum, calyptrato suffultum. Stylus nullus. Stigma profunde bipartitum, laciniis subulatis interne villosis patulis, capsula membranacea, ovatum, monospermum, calyptrato suffultum. Semen reniforme.—In this genus, the leaves are alternate and very entire, and the panicles axillary. It ranks next to *Chamissona*.


We have received this from Mr. Macrae also.

**ORD. XXXIX. CHENOPODIACEÆ.** **Vent.**


Our specimens having only ten stamens and five styles, we have referred them as above, though the habit is entirely that of *P. decandra*. Gaudichaud (in Freyc. Voy. p. 94) mentions having met with a species in Oahu with from five to six stamens, and as many styles, which is probably a variety of *P. octandra*, but the limits of the species in this genus are but ill understood.

**ORD. XL. THYMELEÆ.** **Juss.**

1. *Daphne Indica*; *Linn.—vide in hoc op. p. 68. t. 15.*

**ORD. XLI. SANTALACEÆ.** **Br.**


This is perhaps one of the most interesting plants in the whole Collection, being the celebrated Sandwich Island Sandal-wood. Another species, *S. ellipticum*, with axillary racemes and yellowish-green flowers, has been likewise discovered by Gaudichaud. We possess also, in our herbarium, a third, from the volcano of Owhyhee, collected by Mr. Macrae, which may be thus named and characterised;—*S. Loniculatum*; foliis late ellipticis venosis planis petiolo multoties longioribus, paniculis terminalibus multifloris, caule arboreo. It is difficult to decide from the specimens, whether the stem be that of a large shrub or a tree: the petioles are not more than two lines long, but the leaves an inch and a half or two inches.

The specimens in the Collection are imperfect, but they accord so precisely with others from New Holland in our herbarium, that we can scarcely entertain any doubt of their being the same species.

**ORD. XLII. EUPHORBIACEÆ.** *Juss.*


2. *Euphorbia myrtifolia*; caule inermi fruticoso ramoso, foliis late ovatis oppositis acutis obsolete serratis membranaceis glabris, pedicellis axillaris brevibus divisis paucifloris, involucri glandulis rotundatis integerrimis.

We cannot refer this to any known species.

3. *Euphorbia multiformis*; caule inermi fruticoso ramoso, foliis oppositis ellipticis obtusis integerrimis membranaceis glabris subitus pallidis purpureo-venosis, floribus axillaris terminalibusque solitariis sessilibus, involucri glandulis rotundatis integerrimis.

*Gaud. in Freyc. Voy.* p. 100? (absque descriptione.)

If we be right in referring this to the plant alluded to by Gaudichaud, it must be a very variable species; that Botanist remarking that in elevated situations, it forms a small tree, the trunk of which is three or four inches in diameter; but, in descending, is found smaller; till at last, in low cultivated places, it is only suffrutiocose or even herbaceous.

4. *Euphorbia clusiafolia*; caule inermi fruticoso ramoso, foliis oppositis oblongo-ellipticis obtusis integerrimis coriaceis glabris subitus avenis, pedunculis axillaris bifidis.

The specimen before us is in an imperfect state: resembling in habit certain *Peperomia*, particularly *P. clusiafolia*. The above species of *Euphorbia* were only observed in Oahu.

1. *Phyllanthus distichus*; caule fruticoso, ramulis ancipitibus pinnaeformibus, foliis oblongis acutiusculis subitus pallidoribus, pedunculis subsolitariis capillaris cernuis folio 'quater brevioribus.

Allied to *P. rhamnoïdes* and *P. cernus*, but not agreeing with either. The branches below the leaves are almost cylindrical, but, nearer the extremity, they are more compressed and two-edged. The bark is slightly rugose. The leaves vary from one to two inches in length.


**ORD. XLIII. URTICEÆ.** *Juss.*

1. *Urtica grandis*; caule fruticoso, foliis oppositis cordato-ovatis grosse serratis rugosis supra pubescenti-scabras subitus glabris, petiolis venisque foliorum pubescentibus, stipulis oblongo-lanceolatis magnis caducis, paniculis axillaris pedunculatis subsimplicibus, ramis filiformibus interrupte floriferis.

The panicles are not more than half the length of the leaf, including the petiole. It appears most allied to *U. hastata*, Forst.

This genus, by its sessile, multifid stigma, approaches most to *Procris*, but its habit is that of *Parietaria*. The character of *Dubreulia*, as given by Gaudichaud, is nearly as follows:—Flores sessiles; masculi et feminini in eadem panicula, bracteati. Masc. perianthium 4-partitum. Stamina 4. Pistilli rudimentum clavatum. Fœm. perianthium 3-lobum, lobis valde inequalibus, exteriore maximo inerassato cucullato. Stamina 3, sterilis, squamiformia, incurva. Stigma sessile multipartitum.—Gaudichaud does not seem to be aware of its identity with *Pilea* of Mr. Lindley. *Urtica serpyllacea*, *microphylla*, *callitrichoides*, and several others, belong to it.

1. *Procris glabra*; foliis alternis ovatis vix acuminatis crenato-serratis glabris, cymis divaricatis pedunculatis.

*Procris*, with which we consider *Elatostemma* identical, as also *Sciophila*, *Pellionia*, and *Langeveldia* of Gaudichaud, differ from *Boehmeria* by the stigma, which, in the latter genus, is simple, elongated, and villous on one side.

1. *Boehmeria albida*; dioica arborea, foliis alternis late ovatis acuminatis trinerviis serratis supra minute rugosis et pubescentibus subtus albidó-tomentosis, capitulis utriusque sexus globosis axillaribus sessilibus, perianthio membranaceo, achenio ovato-elliptico.

A very handsome species, belonging to the section *Procris* of Gaudichaud; but we have, along with Sprengel, retained that name for what Gaudichaud calls *Elatostemma*.


*Neraudia* of Gaudichaud is principally distinguished from *Boehmeria* by the shape of the achenium, and the consistence of the perianth surrounding the ripe fruit. We do not think it necessary to separate them.

**ORD. XLIV. PIPERACEÆ. Rich.**


2. *Peperomia leptostachya*; caule erecto tomentoso, foliis quaternis ovato-ellipticis acutiusculis trinervis utriusque pubescentibus, spicis axillaribus terminalibusque pedunculatis gracilibus folio longioribus.


The leaves are so membranaceous, that this species may perhaps belong to the genus *Piper*: the specimens in the Collection are not, however, in a state to enable us to determine that point.


We are very doubtful of the synonyms: it is certainly not *P. rhombea*, Ruiz et Pav., which Sprengel refers to *Piper reflexum*. It has much the appearance of some species of *Rubia*.

**ORD. XLV. SCITAMINEÆ. Br.**


**ORD. XLVI. SMILACINEÆ. Br.**


**ORD. XLVII. ASPHODELEÆ. Br.**

1. *Dianella Sandwicensis*; foliis radicalibus lineari-ensiformibus carina marginibusque lavibus, panicula decomposita, ramis ramulisque divaricatis, pedicellis laxe racemosis arcuatis secundis pluribus perianthium subsequantibus.

Gaudichaud appears also to have found this species; but he has given neither specific name nor character. It is very closely allied to *D. divaricata*, Brown.


**ORD. XL VIII. MELANTHACEÆ. Br.**


Gaudichaud met with a species also in Oahu, which he has described under the name of *A. veratroides*, having the leaves tomentose on both sides. It may, however, be merely a variety.

**ORD. XL IX. PANDANÆÆ. Br.**


Our specimens are without flower and fruit. This genus appears to be the same as that alluded to by Mr. Brown, from Norfolk Island, and is distinguished from *Pandanus* as follows:—*Flores dioici*. *Fœm.*: *Pericarpia baccata*, mollia, per paria interdum connata, unilocularia; *placentae* 4-14, parietales, per paria approximate. *Semina cereberrima*, minutia, fusiformia, striata, altero latere strophiole longitudinali instructa.

**ORD. L. FLUVIALES. Vent.**

ORD. LI. CYPERACEÆ. Juss.


We agree with Gaudichaud in thinking the plant from the Sandwich Islands scarcely distinct from that found in North America.


Found both in Oahu and Oneheeow. This species belongs to the genus Trichelostylis, Lestib., but it ought not to be placed in a different one from F. dichotoma, or from our F. affinis.


This genus being lately established, and peculiar to the Sandwich Islands, we shall here give its character: Morelotia, Gaud.—Spicula apice uniflora; squamae complures undique imbricate, ovata, concava, apice aristata. Stamina 3, exserta, persistentia. Ovarium ellipticum, sessile. Stylus filiformis, exsertus. Stigma 3, plumosa. Fructus ellipticus, osseus, lævis, nitens, sulcis tribus longitudinaliter exaratus.—The stems are cæspitose, erect, leafy, and cylindrical; the leaves very narrow, linear. The panicles are terminal and crowded. The fruit is deciduous, but remains for some time suspended by the filaments, which become entangled with the convolute apices of the squame.


Gaudichaud named this genus in honour of Bory de St. Vincent, but as there is already Borya dedicated to him, a second is, by all Botanical rules, inadmissible: we have, however, allowed it to remain, rather than create confusion by altering it.—We believe there can be no doubt entertained of our plant being identical, as a species, with that described by Gaudichaud, but the character given does not strictly accord with the specimens before us. We therefore propose the following:—Vincentia;—Spicula subsexiflore. Squamae undique imbricate, carinato-concave; inferiores concave summaque vacue. Perianthium trivalve. Seta hypogynæ nulæ. Stamina 3. Ovarium sessile, triangulare, angulis acutissimis. Stylus 1, inferne dilatatus, triangularis, pubescens, cum ovario continuus, superne tridentus. Nutri quinque, basi styli persistente cuspidata.—To this genus belong Scirpus lavarum, anceps, and iridifolius, nor perhaps are there any good specific characters to be found between them: they have all been usually referred to Machaerina restoides, from which, however, this genus differs by the absence of hypogynous setæ, and by the scales imbricated on all sides: from Lepidosperma it is distinguished by the nature of the perianth.

The specimens in the Collection agree sufficiently with the above character. To us, this species seems closely allied to *R. fusca*.

2. *Rhynchospora sclerioides*; paniculis densis erectis rigidis axillaribus, squamis adpressis, foliis rigidis margine dorsoque scabris culmum triquetrum æquantibus.


Found in the Island of Oneeheow.


We feel extremely doubtful about any of the synonyms. Our plant, judging by a solitary imperfect specimen, is nearly allied to *C. strigosus*.


6. *Cyperus trachysanthos*; spiculis oblongis compressis plurimis glomerato-umbellatis, umbellulis ultimis confertim umbellatis subterninis, squamis ovatis mucronatis apice recurvis dorso denticulis asperatis, involucro triphyllo elongato, culmo trigono.

Sometimes the rays of the umbel are not again divided, but bear the ultimate sessile spikelets in a head at their extremity. There are two varieties in the Collection, one with spikelets, containing about thirty flowers, and the culm free from all asperities; the other with shorter, more ovate spikelets, of from eight to ten flowers, and the angles of the culm scabrous near the umbel. In this last, the ultimate umbels are not half the size of those in the first variety.

7. *Cyperus caricifolius*; spiculis patulis spicatis racemosis ovato-oblongis turgidis congestis, squamis subrotundis concavis obtusis nervosis albidis, involucro partiali nullo universalis 5-6-phyllo elongato, culmo obtuse trigono, foliis carinatis margine carinaque scabris.
This has many points in common with *C. Monti*; but the stem is acutely angular. Each ray of the umbel has on its upper half several horizontal alternate branches, of which the lower are the longest, and the upper gradually shorter. These again, particularly the lower ones, have also alternate branches, along which are placed the turgid spikelets. The stem is from fifteen inches to two feet high. The leaves resemble those of some of the larger species of *Carex*.

8. *Cyperus Prescottianus*; spiculis linearibus elongatis compressis horizontalibus alternis spicatis, spicis corymboso-racemosis, squamis hiantibus obtusiusculis nervosis, involucris universalis polyphylli foliolis tribus umbella duplo longioribus, partialibus umbellula breviore, culmo acute triquetro.

There is only one specimen in the Collection. We have named this species in honour of J. D. Prescott, Esq. of St. Petersburgh, who has made the Cyperaceæ his particular study.

9. *Cyperus multiceps*; spiculis subulatis spicatis, spicis umbellatis conflentis, umbella et umbellulæ intermedia atque ultimis multiradiatis, squamis oblongis obtusis, involucris polyphylli foliolis tribus inflorescentia quadruplo longioribus, involucellis umbellulas proprias æquantibus, culmo triquetro.

Of this only one specimen exists in the Collection. The flowers are not sufficiently advanced to enable us to decide whether it be a true *Cyperus* or a *Papyrus*.

**Ord. LII. Gramineæ. Juss.**


2. *Panicum gossypinum*; totum dense ac molliter pilosum, foliis planis, panicula ramosa effusa, ramis gracilibus, spiculis lanceolatis, glumis subæqualibus, floris neutri glumula superiori minimo.

The silkiness extends not only to the stem and leaves, but to the branches of the panicle and the glumes. The stems grow in a tufted manner.

3. *Panicum affine*; caule foliis (planis) vaginisque pilosis, panicula ramosa, ramis erectis strictis pilosis, spiculis ovatis, glumis pilosis subæqualibus, floris neutri glumula superiori nullo.

Closely allied to the preceding species, but the panicle is much more glabrous, and the shape of the spikelets is very different.

4. *Panicum nephelophilum*; foliis planis minute pubescentibus basi supra vaginisque villosis, ligula nulla, panicula subcoarctata, ramis strictis erectis elongatis, glumis subæqualibus acutis nervosis glabris, floris neutri glumula superiori brevi.—Gaud. in Freyc. Voy. p. 411?

As it appears doubtful whether this is the same as the species discovered by Gaudichaud, we have altered the specific character to what corresponds to our specimens. The hairs on the sheaths of the leaves spring from tubercles, and often fall off on the upper part. It appears to be a tall plant.

5. *Panicum Beecheyi*; culmo ramoso glablo decumbente, nodis sericeis, foliis convolutis vaginisque glabris, ligula brevi ciliata, panicula contracta, glumis subæqualibus nervosis pilosis, floris neutri glumula superiori minutissimo.
The outer or lower glumule of the neuter floret is as long as, and similar to, the calycine glumes: the upper one is very minute and rounded.

6. Panicum *tenuifolium*; glabrum, culmo ramoso, foliis convolutis, ligula ciliāformi brevi, panicula coarctata, glumis subequalibus acutis nervosis, floris neutri glumula superiori subnullo.


This is allied in habit to *Agrostis tenuifolia*, M. B. as figured by Trinius, Spec. Gram. fasc. 3. n. 35; but is a true *Panicum*.


Our specimens are of the variety with two flowers in each recess of the rachis. *Rottboellia complanata*, Sw., and *R. stolonifera*, Poir., also belong to this genus. *Stenotaphrum* appears to have little affinity with *Rottboellia*, and ought to come near to *Panicum*, in which latter genus Linnaeus placed *S. complanatum*.


Found in Oneeheow.


Of this, Gaudichaud enumerates three varieties, our specimens approaching most to his var. *a. culmo procerrimo, panicula diffusa*; but all those in the Collection, although the stem be tall, have the panicle contracted.


Ord. LI. III. Lycopodineae. Sw.

1. Psilotum triquetrum. Sw.—Bernhardia dichotoma. Willd.—β. gracile; ramis longioribus angustioribusque.


1. Lycopodium (Phlegmaria) phyllanthum; caule dichotomo pendulo, foliis quadrifariis subdistichis lanceolatis acutissimis inferne attenuatis vix petiolatis, squamis capsula duplo longioribus superioribus vacuis foliaceis.


   The nearest affinity of this species is undoubtedly with L. Phlegmaria; but its leaves are more decidedly sessile and narrower; the spikes stouter and broader, in consequence of the larger and more acuminate scales, which are twice the length of the capsules; the upper ones barren and larger, approaching in shape and texture to the true leaves.


Ord. LIV. Ophioglossae. Br.

1. Ophioglossum pendulum.

Ord. LV. Marattiaeæ. Kaulf.

1. Marattia alata. Sm.

We have this from Mr. Macrae, who also gathered it in Oahu. The main stalk is less scaly, and the partial one less winged than in the Jamaica specimens; but the foliage is exactly similar.
A. *Polypodium Pseudo grammitis*
B. *Polypodium setigerum*
SANDWICH ISLANDS.

ORD. LVI. GLEICHERNIÆ. 


ORD. LVII. POLYPODIACEÆ.


This is assuredly the plant of Gaudichaud, and agrees with Willdenow's description; but Kaulfuss must have some other species in view when he describes the fronds as on both sides "stellato-squamoso."


Gaudichaud has accurately described this species, and we think it equally certain that it is the Pleopeltis elongata of Kaulfuss; but, in our specimen, the scales on the underside of the frond, and of the fructification, are quite obliterated, and indeed are described as so very fugacious, that we prefer arranging the plant with the Polypodia rather than with the Pleopeltides.

2. Polypodium setigerum; fronde simplici linear-i-lanceolata brevissime stipitata utrinque margine pilis rigidis sparsis atro-purpureis, soris biserialibus approximatis rotundatis setosis. (Tab. XXI. A.)


The fronds of this are very tender and membranaceous, 1-6 inches long, sometimes unequally forked towards the extremity.


The fronds of this are very tender and membranaceous, 1-6 inches long, sometimes unequally forked towards the extremity.

Tab. XXI. A. Fig. 1, Portion of the frond, with a sorus; fig. 2, Capsules; fig. 3, Hairs from the frond: —magnified.


Fronds 6-8 inches in diameter. This remarkable plant does not appear to have been found any where but in the Island of Oahu, whence we also possess specimens, gathered by Mr. Macrae.


This has assuredly very much the habit of the well-known *P. pendulum* of the West Indies, and cannot generically be separated from it, without violence to nature. It differs as a species from that plant, in its much greater size, in the dark-coloured longer scales of the short caudex, in the claviform glands of the stipes, in the different colour (never black) of the stipes, and, above all, in the presence of the peculiar club-shaped glands which are mixed with the capsules, and which, it must be confessed, are similar to those which in part characterize the *Adenophori*—a genus, it has been observed in the Icones Filicum, only to be distinguished by the habit and peculiar glands, from *Polypodium*. In both, the sori are at the apex of a simple vein, not, that we can find, “dilated into a receptacle.”

Tab. XXII. Fig. 1, Segment of a frond, with sori; fig. 2, Capsules and clavate glands; fig. 3, Glands from the stipes:—magnified.

7. Polypodium *polycarpon*; fronde pinnata, pinnis oblongis acuminatis basi truncatis hinc auriculatis sessilibus sinuato-serratis coriaceis glabris venis superne pubescenti-scabris ad marginem attingentibus et in sinibus versus costam redeuntibus, venulis anastomosanti-bus medio soriferis, soris numerosissimis.

The only specimen of this plant is destitute of stipes, and presents a frond 12–14 inches long, ovate. Rachis stout, fulvous, glossy, grooved on the upper side. Pinne 4–6 inches long, oblong, acuminate, nearly an inch broad at the base, truncate, sessile, divided on the upper side, tapering upwards, often subfalcate, rigid, subcoriaceous, glabrous, except on the costa and nerves above. The costa sends forth its lateral and horizontal nerves opposite the centre of each tooth; these extend to the margin, branch off there and descend in two opposite divisions to the sinus, whence they again enter the substance of the frond, and form, as it were, a parallel intermediate nerve, reaching almost to the costa, and connected with the main vein by transverse bars or veinlets, near the centre of which the sori are produced. A somewhat similar appearance is observable in *Aspidium Debrueilium*; but there the intermediate nerve seems rather to be formed by the junction of the veinlets.

8. Polypodium *Sandwicense*; glaberrimum decompositum tripinnatum, pinnulis lanceolatis acuminatis, pinnulis oblongis obtusis basi decurrentibus grosse serratis, serraturis approximatis acutis subincurvis, soris intra costam et marginem uniserialibus distinctis.

Of this Fern, we are incompetent to speak as to the habit, size, caudex, or stipes. The two specimens in the Herbarium may even not be entire fronds, but portions of a much larger plant. They are two feet long, ovate in outline, and rather acute, twice divided in a pinnated manner in the upper part, below thrice or almost four times pinnated, every where glabrous; all the divisions approximate, the primary ones ovate,
Polypondium. Adenophorus.
acuminate, the secondary lanceolate or oblong and acuminate (broadest at the base); the ultimate divisions, or pinnules, oblong, obtuse, strongly and closely serrated with incurved mostly entire teeth. We can find no appearance of an involucre on the sori.

9. Polypodium unidentatum; decompositum laxe tripinnatum, pinnulis pinnatifidis lanceolatis attenuatis, laciniiis oblongis obtusis subfalcatis crenatis, sinibus soriferis unidentatis.

The specimens in the Herbarium of this Polypodium likewise appear to be but fragments, separated from a much larger frond. It is remarkable for the lax distant divisions and subdivisions; for the sori being confined to the sinuses of the notched segments; and for those sinuses having a sharp tooth beneath, or a little on one side of the sinus.

10. Polypodium crinale; decomposite pinnatum, pinnis oblongo-lanceolatis obtusissimis rigidis pinnatifidis glabris, laciniiis ovatis obtusis, marginibus incurvis unisoriatis, rachibus costaque subtus paleaceo-crinitis.

Fragments only of this very distinct Fern exist in the Collection, from which we may infer that the plant is at least tripinnate; the pinnules 1–2 inches long, of a rigid, almost coriaceous texture, pinnatifid: each lobe of the pinnule bearing a sorus of naked capsules near its superior margin. The rachides, general and partial, and the costa, beneath, are almost shaggy with long, spreading, subulate, or setaceous scales.


1. Nephrodium exaltatum. Sw.


This is certainly the plant of Gaudichaude, above referred to; but in our specimens the pinnæ are rather deeply serrated than "subpinnatifid." It is equally, perhaps, the A. cyatheoides of Kaufuss; though differing in being glabrous on the underside.


This appears to be a tall Fern, having a remarkably glossy purple-black stipes and rachis, with membrana-
SANDWICH ISLANDS.

It is assuredly the *Aspidium sinuatum* of Gaudichaud, but not of Labillardière, which has a setose stipes and rachis, and tufts of hairs in the sinuses of the margins of the fronds; and is, moreover, a much less divided plant. The *indusia* are very unlike those of *Nephrodium Hippocrepis*, to which it has a considerable affinity, and the colour of the stipes and rachis is different; in the latter particular, too, it is at variance with the *Aspidium apifolium* of Schkuhr; but in all other respects, it seems entirely to accord with that plant, whence we have been induced to adopt that name.

5. *Nephrodium squamigerum*; supra decompositum tri-quadripinnatum, pinnulis oblongis obtusis pinnatifidis basi decurrentibus supra ad nervos præcipue puberulis, stipite rachibusque subtus dense squamulosis, squamis fimbriatis, soris subserialibus intra costam et marginem, indusiis reniformibus tenerrimis fimbriato-ciliatis.

The specimens in the Herbarium are but portions of a larger frond, densely divided, flaccid, the primary divisions acuminated; the upper surface glabrous, or only downy on the secondary rachides and nerves, while the stipes and rachides beneath, and even the primary nerves or costae, are densely clothed with copious, delicate, membranous, and reticulated, and fimbriated scales.


In our specimens of this variable plant, the lower pinnae are much broader than the rest, and again pinnated with 2-4 rhomboid pinnae.


That this may be a state of the following plant, we think very probable; but we cannot agree with Gaudichaud, that it is a variety of *A. horridum*.


A very remarkable plant: first detected, as were the two following species, by Mr. Menzies, in the Sandwich Islands.


Habit and texture of the two preceding, but constantly twice pinnated: the primary pinnae lanceolate, much acuminated, 4-6 inches long, having numerous pinnales, which are from an inch to an inch and a half in length, and more or less deeply inciso-pinnatifid, according to their situation upon the plant. The veins are almost parallel with the costa, and hence give a striated appearance to the pinnales.

This plant is a foot and a half long. Frond linear-oblong, with patent short primary pinnae of a delicate membranaceous texture. Sori one or two on each lobe.

8. Asplenium diplazioïdes; glabrum, fronde bipinnata, pinnulis subremotis patentibus lanceolato-acuminatis pinnatifidis, lobis ovali-oblongis obtusis crenato-lobatis, soris numerosissimis obliquis sœpe geminatis.

Neither among the many Asplenia that have been published, nor among the Diplazia, do we find any species that accords with this, which, indeed, partakes as much in the character of the one genus as of the other. The fronds (and we have no perfect stipites) are broadly, almost deltoidly ovate; the divisions rather remote; the primary ones broadly lanceolate, 4–6–8 inches long; the secondary ones or pinnules 2–3 inches long, and half an inch in breadth. Fructifications very copious, at length almost confluent.

9. Asplenium ambiguum? Sw.—Schkuhr, Fil. t. 75. a. b.

Without the lower part of the frond, which is wanting in our specimen, it is difficult to say if this be decidedly the A. ambiguum of Swartz.


This may perhaps prove to be a species distinct from D. flaccida. It is often two feet or more in height. The fronds are very flaccid; the pinna have the segments (which are linear and bearing one sorus in D. flaccida) again pinnatifid with two or three segments, and bearing two sori.


See page 75 of the present volume, for some remarks on this plant.


This is indeed a very variable plant, yet easily recognised in its different states by the peculiar ramification of the frond. The P. geraniifolia of Raddi, Fil. Bras. t. 67, tolerably correctly represents the state of the single specimen of this plant in the Collection.


1. Vittaria elongata. Sw.
1. Davallia Macreana; fronde pinnata, pinnis membranaceis glabras dimidiato-oblongis obtusis basi oblique truncatis cuneato-attenuatis margine superiore crenatis dentibus sori-feris, caudice longe repente.

This beautiful Fern has been already alluded to by Dr. Greville and Dr. Hooker, when describing Davallia Boryana, at tab. exliii. of the Icones Filicum. To that species ours is very nearly allied, differing principally in its more rigid frond, and in the upper margin of each pinnule, which, in D. Boryana, is irregularly cut and crenate, with few sori. Here, the crenation is very regular, and each tooth has its sorus at a certain distance from the margin, so that the fructifications form a line.


Kaulfuss well observes that the laciniae are much broader than those of D. tenuifolia: this is the case, especially if compared with the figure in Schkuhr, (tab. cxxviii. a., sub nom. D. venusta;) but our specimens from the Mauritius, under the name of D. tenuifolia, and, we presume, the plant of Willdenow, are identical with the present.


The genus Cibotium is thus defined by Kaulfuss: “Sori globosi submarginales contigui. Indusia cartilaginea globosa fornicata verticaliter oris callosis dehiscentia, bivalva, valvulae exteriori majori.” To this, besides his C. Chamissoi, Kaulfuss has referred the Dicksonia antarctica; but to us the latter appears to belong to the same author's genus Balantium, if that be really distinct from Cibotium. In Cibotium, the involucre or indusium is a distinct substance from the margin of the frond: in Balantium, the outer valve of the involucre is formed of the substance of the margin of the frond.—Mr. Menzies first detected this plant in the Sandwich Islands, in the year 1787, and we have long been in possession of two states of it, presented to us by that liberal Botanist: the one with longer and narrower pinnae, more deeply cut in a pinnatifid manner, the lower segments distinct, forming separate pinnules, all very glaucous beneath;—the other with pinnae not at all glaucous, and more coriaceous in texture, not so deeply pinnatifid, and nowhere are the pinnae again pinnated. Captain Beechy’s Collection contains likewise two states, the first resembling the glaucous variety of Mr. Menzies, but it is less glaucous; the other not at all glaucous, larger in all its parts, particularly in the sori, which are fewer on each lacinia, and more confined to the lower part of it, while the pinna is pinnatifid, with broad, rounded laciniae, which do not extend half way to the rachis.


The following is the character of this genus:—Deparia, Hook. et Grev.;—Sori subglobosi in dentibus ad margines frondis venulas terminantes. Involucrum infra sorum insertum, pateriforme, membranaceum, margine sublaceratum.
1. Hymenophyllum *recurvum*; frondibus bipinnatis (6-8-pollic.), pinnis elongato-recurvatis, pinnulis dichotomo-pinnatifidis, lacinii simplicibus elongatis integris, soris supra axillaribus solitariis, indusiis ovatis (latissimis), rachi stipiteque alatis, caudice filiformi repente. *Gaud. in Freyc. Voy. p. 376.*

Colour, a pale delicate green.

2. Hymenophyllum *lanceolatum*; fronde lanceolata (3-pollic. badia) pinnata, pinnis ovato-lanceolatis bipinnatifidis, lacinii linearibus obtusis erecto-patentibus, pilis erectis simplicibus solitariis vel subfasciculatis, stipite terete hirsuto, rachi superne alata, indusiis subrotundis compressis longe ciliatis lacinias laterales terminantibus.

This is distinguished by its dark brown colour, the lanceolate circumscription of the frond, with erecto-patent divisions, fringed with upright hairs, and the ciliated, nearly orbicular, indusia.

3. Hymenophyllum *obtusum*; frondibus caespitosis oblunghi obtusissimis tripinnatifidis, lacinii (approximatis) linearibus erecto-patentibus, costa marginibusque pilis longis stellatis obsitis, stipite gracillimo hirto, indusiis (in lacinii supemis) terminalibus orbicularibus pilis ramosis dense ciliatis.

This may be known from *H. hirsutum* by the longer branched or stellated hairs, which are confined wholly to the midrib and margin. The ultimate laciniae are somewhat corymbose, generally reaching to the same height, so as to give almost a truncated appearance to the outline of the frond.

**Ord. LVIII. MUSCI. Linn.**


1. Thysanomitrion *umbellatum*? *Arn.*—*Schwaegr.*

This has no fruit, and we are doubtful, in consequence, of the species.


3. Hypnum *Sandvicense*; ramis pinnatis, foliis distichis teneris nitidis ovato-lanceolatis falcato-secundis acuminatis undique serrulatis, nervo brevissimo obscuro, capsula brevi-ovata cernua, calyptra juniori apice pilosa.

This is a small delicate species, in some respects allied to *H. elegans*, *Musc. Exot.*, and in others to *H. cimicinale*, but differing by the characters above given.

Some other of the Hypnoid family are in the Collection, but without fructification, and although probably new species, yet in too imperfect a state to allow us to describe them in a satisfactory manner.—The same may be said of some of the next Order, the Hepaticæ.
ORD. LIX. HEPATICÆ.

1. Jungermannia multifida. Linn.
3. Jungermannia bicuspidata, var. Linn.
4. Jungermannia conchifolia; exstipulata caespitosa, foliis bifariis equaliter bilobis, lobis conduplicatis concavissimis integerrimis, fructu? (Tab. XXIII.)

In habit and mode of growth, much resembling the J. cochleariformis of Europe, and the J. sphagnoides of St. Helena, but totally different from both in the structure of its leaves.

Tab. XXIII. Fig. 1, Portion of a branch; fig. 2, leaves:—magnified.


ORD. LX. LICHENES.


ORD. LXI. ALGÆ.


The other Algae are too imperfect to be determined.

The following plants, which seem to be also from Oahu, were found in a separate part of the Collection.

PITTOSPORÆ. Brown.

1. Pittosporum glabrum; foliis oblongo-ovatis obtusis basi attenuatis utrinque glaberrimis supra nitidis, cymis axillaribus pedunculatis paucifloris, floribus glabris.

This species is very closely allied to P. revolutum, but is glabrous in every part. The fruit is as large as a hasel nut, bursting longitudinally.

ELÆOCARPEÆ. Juss.

1. Elæocarpus bifidus; foliis ovato-acuminatis remote serratis longe petiolatis, racemis axillaribus laxifloris, petalis apice bifidis. (Tab. XXIV.)

Arbor, ramis intense fuscis subrugosis, junioribus apicibus gummiferis. Folia digitalia, ovato-acuminata, subcoriacea, utrinque glaberrima, penninervia, remote serrata, serraturis appressis, longe petiolata. Racemi axillares, petiolo longiores, 5—6-flori. Calyx 5-sepalus, sepalis ovato-lanceolatis, acutiusculis, intus pubes-
Jungermannia conchifolia.

This agrees in every respect with the genus *Elceocarpus*, except that the petals are bifid, not trifid and lacerated; nor are the anthers setigerous. Indeed, the bifid petals might seem at first to remove it from this Order, with which, however, it otherwise entirely accords.

Tab. XXIV. *Elceocarpus bifidus*. *Fig. 1*, Flower; *fig. 2*, Inner view of a sepal; *fig. 3*, Stamens; *fig. 5*, Torus and pistil.

### KAMTSCHATKA.

[All are from Avatschka Bay, in lat. 53°.]

#### ORD. I. RANUNCULACEÆ. Juss.


This is without flower: we are therefore doubtful in regard to its identity with *T. majus*.


Judging from specimens which we have received from Dr. Fischer of *A. reflexa* and *A. caerulea*, we think they may be safely united.


Professor De Candolle doubts if the var. β. (the only kind in the Herbarium,) may not be a distinct species from α.

ORD. II. FUMARIACEÆ. De Cand.

1. Corydalis ambigua; radice bulbosa solida, caule subsimplici erecto sub ramo infimove folio squamigero, folis 2–3 bibernatim sectis segmentis ovalibus obtusis subcuneatis primariis longe petiolatis, racemo multifloro laxo, bracteis integris, siliquis linearibus erectis. Cham. in Linnaea, v. 1. p. 558. (et in Herb. nostr.)

ORD. III. CRUCIFERÆ. Juss.


Our specimens are not in fruit, and without it we are unable to determine whether it may not be a Sisymbrium, and the same with S. arabidoides, (Hook. in Fl. Bor. Am. v. 1. p. 63. t. 21. Arabis lyrata, Linn.) which it very much resembles.


ORD. IV. VIOLARIEÆ. De Cand.


ORD. V. CARYOPHYLLÆÆ. Juss.


The leaves of C. Fischerianum, from the same country, are described as ovate; those of our plant are narrow-lanceolate.

ORD. VI. GERANIACEÆ. Juss.


The G. eriostemon, of Fischer and De Candolle, does not appear to us to be distinct from this.

ORD. VII. LEGUMINOSÆ. Juss.


ORD. VIII. ROSACEÆ. Juss.


This plant (the var. β.) is probably distinct from the P. villosa, which Chamisso remarks is not found on the Asiatic side of Behring's Strait. Ours is much slenderer and more procumbent: the leaves are thinner, with the nerves not impressed; on both sides, especially at the margins, they are sericeo-pilose with appressed hairs, not at all white, nor with prominent veins beneath.


3. Potentilla fragarioides; caule erecto dichotomo, stolonibus reptantibus, foliis pilosis radicalibus pinnatisectis lobis ovato-lanceolatis (ovalibusve) dentatis distantibus subconcoloribus, lobis cauliniis ternato-quinatoque pinnatisectis, stipulis lanceolatis acutis, laciniiis calycinis ovatis obtusiusculis inter se subæqualibus, petalis obovato-subrotundis calyce vix

Our specimens are rather larger, and have broader leaflets, but otherwise accord well with the figures above quoted. At the same time, we must observe that the *P. Sprengeliana* (Lehm. Pot. t. 3.) comes so very near our plant, that if the flowers be yellow, which cannot positively be determined from the individuals in the Herbarium, those before us may probably be rather united to that species than to *P. fragarioides*.


Chamisso remarks that this occurs on bushy banks about the harbour of Petropaulski, and that no tree is found there besides, except the Beech.

**ORD. IX. CRASSULACEÆ. De Cand.**


**ORD. X. SAXIFRAGÆ. Juss.**


A strange confusion has existed respecting this plant, which, nevertheless, is well described by Linnaeus, from Gmelin's specimens, collected in Eastern Siberia. Sternberg has correctly figured small individuals in the plates above quoted, but under the name of *S. gracilis*, and likewise as the true *S. punctata*. Mr. Don has referred Linnaeus's plant to *S. umbrosa*, from which it is widely different, while Gmelin's figure, and the plant of Sternberg, he has quoted under *S. Geum*.


At first sight, the var. θ., the only one in our Collection, and which we have also from Wormskiold, gathered likewise in Kamtschatka, appears to be distinct from *S. bronchialis*; but we possess, from Mr. Menzies, found in Behring's Strait, specimens exactly intermediate. It has much the habit of *S. Chamissoi*, but the leaves in that are tridentate.


We cannot judge, from our solitary specimen, whether this be really distinct or not from *C. oppositifolium*. 
ORD. XI. UMBELLIFERÆ. Juss.


Of this plant, we only judge from some fragments of a leaf in the Herbarium: Chamisso was, for a similar reason, uncertain about his specimen.


ORD. XII. CORNEÆ. De Cand.


ORD. XIII. CAPRIFOLIACEÆ. Juss.


ORD. XIV. RUBIACEÆ. Juss.


ORD. XV. COMPOSITÆ. Juss.

1. Leontodon Taraxacum. Linn.


Our specimens in this part of the Collection have no flowers.


There is in the Collection, a leaf of what appears to be a species of Cnicus, which is large, deeply pinnatifid, with the segments lanceolate and laciniated, the lacinia terminated by a long and soft spinule.

**Ord. XVI. ERICINEÆ. Juss.**


**Ord. XVII. POLEMONIDEÆ. Juss.**


**Ord. XIX. PRIMULACEÆ. Juss.**


**Ord. XX. POLYGONEÆ. Juss.**


The specimens of this are a foot and more high, with leaves far larger than in the European state of the plant.

**Ord. XXI. EMPETREÆ. Nutt.**

1. Empetrum nigrum. Linn.

**Ord. XXII. AMENTACEÆ. Juss.**

1. Myrica Gale. Linn.
Salix rhamnifolia.

The figure of Gmelin, above quoted, sufficiently accords in foliage with our plant; but his description scarcely suffices to say that the two are identical, and no other author appears acquainted with it: the stems and branches are erect, glabrous, dark brown. The leaves are about an inch long, truly obovate and remarkably attenuated at the base into a short petiole, scarcely at all toothed at the margin, mostly quite entire, and very glossy above, reticulated with prominent veins, opaque and glaucous beneath. **Catkins** longer than the leaves, peduncled, with lax, patent germens, whose scales are woolly, not longer than the pedicels. **Style** short, and, as it were, set upon the obtuse germin, which does not gradually taper into it. In many respects, the *Salix pamila*, &c. of *Gmel. Fl. Sib.* p. 160. t. 35. f. 2, agrees with this, especially in what he says of the catkins, and the glossiness and reticulation of the leaves.

Tab. XXVI. *Fig. 1*, A scale; *fig. 2*, Germens:—magnified.


The scales and germens are more silky than in our British *S. Forsteriana*, otherwise the two plants seem to correspond.


In our specimens, the foliage is quite glabrous: but they are assuredly the true plant of Pallas.

**Ord. XXIII. CONIFERÆ.** Juss.


**Ord. XXIV. ORCHIDEÆ.** Juss.


This is probably, as Chamisso suspects, (who also found it in Kamtschatka,) a species distinct from the *O. latifolia* of Linneus. The petals are remarkably acuminated, and the habit is considerably different.

**Ord. XXV. IRIDEÆ.** Juss.

1. *Iris Sibirica*. Linn.—Bot. Mag. t. 50, et t. 1604. (γ.)

**Ord. XXVI. SMILACINEÆ.** Br.


*S. Canadensis* appears in no respect distinct.

**Ord. XXVII. ASPHODELEÆ.** Juss.


**Ord. XXVIII. LILIACEÆ.** Juss.


**Ord. XXIX. MELANTHACEÆ.** Br.


**Ord. XXX. JUNCEÆ.** Juss.

1. Luzula campestris. Desv.—Juncus campestris. Linn.

**Ord. XXXI. CYPERACEÆ.** Juss.

1. Carex curta. Linn.


Culm a foot high, triquetrous, rough at the angles above, leafy below. Leaves acuminate, linear, as long as the culm, or nearly so, rough at the margin above. Bractae leafy, amplexiculm at the base, not at all sheathing, the margin rough. Spikes generally 4, oblong or subclavate, all more or less stalked, especially the lower one, erect, approximate. Scales closely imbricated, large, dark brown, rather glossy, nerve scarcely paler, rough at the back, and running out into a long scabrous, rigid point, about as long as the capsule. Capsule oval, or broadly elliptical, compressed, with longitudinal striae, upon a conspicuous stalk, the mouth forming a short entire beak. Stigmas 3. The male flowers occupy the lower part of the terminal spike, and some few of them are mixed with the upper.—The species is allied to C. atrata and C. Buxbaumii, but is truly distinct from both. We conceive the figure of Gmelin, above referred to, to be decidedly intended for this plant; though no author appears to have noticed it.

Tab. XXVII. Carex Gmelini. Fig. 1, Male flower; fig. 2, Female do.; fig. 3, Scale, from a female flower; fig. 4, Fruit:—magnified.

3. Carex bispicata; spica fœm. solitaria pedunculata erecta ovata pauciflora laxa, squamis amplis ovatis longe acuminatis capsula ovata longe rostrata bisfla sublongioribus; masc. solitaria longe pedunculata cylindracea, squamis arcte imbricatis ovalibus cuspidatis, caule aphylo, bractea foliacea vaginata spicum fœmineam excedente, stigmatibus 3. (Tab. XXVIII.)
Of this, the leaves are slender, entirely radical, almost smooth, even at the margins, as is the slender, rounded, or obtusely angular stem. The male spike is terminal, on a long peduncle, which arises from the same sheath as the female spike. Each is constantly solitary. Bracteae of the female spike reddish-brown, with a broad pale-green nerve; those of the male all red-brown.

Tab. XXVIII. Carex bispicata. *Fig. 1*, Extremity of the stem; *fig. 2*, Male flower; *fig. 3*, Scale of a female flower; *fig. 4*, Fruit; *fig. 5*, Section of a leaf:—*magnified*.


Two other *Carex* exist in the Collection, but their fructification is not sufficiently advanced to enable us to determine them.

**Ord. XXXII. Gramineæ.** Juss.


1. Poa pratensis. Linn.

2. Poa nemoralis. Linn.

3. Poa annua. Linn.


This exactly agrees with the *B. purgans* of Dr. Richardson, which, however, has the leaves hairy, as well as the florets and sheaths. In regard to the degree of hairiness, this species is probably liable to much variation; and the *B. pubescens* of Muhl., the *B. Canadensis* of Mich., and the *B. ciliatus* of Linn., may perhaps be only different states of one and the same species.

1. Elymus arenarius. Linn.

**Ord. XXXIII. Equisetaceæ.** Willd.


**Ord. XXXIV. Polypodiaceæ.**


**Ord. XXXV. Musci.** Linn.


This is without fruit; but is remarkable for the narrow spinuloso-dentate contorted leaves, with a very broad sheathing base.


4. Hypnum laricinum; caulibus suberectis simpliciter pinnatis, ramis longis gracilibus decurvis, foliis remote imbricatis erectis (siccitate laxis) cordato-ovatis basi valde contractis acuminatis serrulatis dorso papillosis profunde carinatis, nervo medium versus evanescente, margine revoluto. Wils. MSS.—H. abietinum. Sw. in Herb. nostr. (non Hedw.)

This Moss, which has perhaps been confounded by Botanists with H. abietinum, is truly distinct from it, and has lately been found bearing fruit, in Cheshire, by Mr. Wilson, whose character we here adopt.


Ord. XXXVI. HEPATICÆ. Linn.

Ord. XXXVII. LICHENES. Ach.

KOTZEBUE'S SOUND.

[Including the Plants gathered on the American Coast of Behring's Strait, from lat. 67° to 71°.]

The same Plants will be found more fully noticed in the "Flora Boreali-Americana" of Dr. Hooker.

Ord. I. RANUNCULACEÆ. Juss.


The single-flowered variety alone, as mentioned in the Fl. Bor. Am., exists in the Collection. It is smaller than the American state of the plant, and clothed with dense silky hairs.


ORD. II. PAPAVERACEÆ. Juss.


ORD. III. FUMARIACEÆ. De Cand.


ORD. IV. CRUCIFERÆ. Juss.


ORD. V. DROSERACEÆ. De Cand.

1. Parnassia palustris. Linn.

ORD. VI. VIOLARIEÆ. De Cand.


ORD. VII. CARYOPHYLLEÆ. De Cand.

1. Cerastium alpinum. Linn.

ORD. VIII. LEGUMINOSÆ. Juss.


Both states of the plant are in this Collection. The var. β. may probably prove to be a distinct species.


**ORD. IX. ROSACEÆ.** Juss.


**ORD. X. ONAGRARIAE.** Juss.


**ORD. XI. HALORAGIAE.** Br.


**ORD. XII. PORTULACEÆ.** Juss.


Of this, one of the specimens in the Collection has the leaves remarkably broad and sheathing at the base; but it has the appearance rather of a monstrosity than of a variety, or distinct species.


**ORD. XIII. CRASSULACEÆ.** De Cand.


**ORD. XIV. SAXIFRAGEÆ.** Juss.


There are, in the Herbarium, some remarkable states of this plant, 6–8 inches high, branched upwards, and each branch bearing a large flower, no bulbs. This is perhaps the most perfect form: and the very opposite to that which grows in Scotland, where almost all the flowers are turned into sessile bulbs. Perhaps the \( S. \) Stephaniana Sternb. Saxifr. Suppl. p. 8. t. 6. f. 2, may be correctly referred to our variety \( \beta \). \( S. \) Sibirica also seems too nearly allied to it.


4. Saxifraga Dahurica. Sternb. Saxifr. p. 13. et var.—var. \( \beta \) foliis angustioribus glanduloso-pubescentibus, panicula decomposita.

This species seems to vary considerably in the breadth and pubescence of its leaves. Our var. has the pubescence and panicle of the \( \beta \) latifolia of Sternberg (Saxifr. Suppl. t. 5.) but the leaves are narrower.


\( \text{Caulis} \) spithamæus ad pedalem, erectus, robustus, simplex, glandulis pedicellatis asper, inferne glaber superne pubescens. \( \text{Folia} \) ampla, longe petiolata, orbiculari-cordata, coriacea-membranacea, glabra, reticulatim venosa, crenato-lobata, dentibus acutis, margine nervisque subitus glandulis pedicellatis instructis. \( \text{Petioli} \) ad basin membranaceo-vaginantes. \( \text{Racemus} \) digitalis ad spithamæum, compositus, densus, subspiciformis: rachis pedicellisque pubescentes et glandulosi. \( \text{Bracteæ} \) lanceolate, acuminatae, floris longitudine, margine glanduloso. \( \text{Flores} \) inter maximos hujusce generis. \( \text{Calyx} \) glandulosus, lacinii ovatis, acutis seu acuminatis, erecto-patentibus. \( \text{Petala} \) patentia, obovata, subunguiculata, hirsuta. \( \text{Stamina} \) petalis breviora. \( \text{Ovarium} \) seminferum. \( \text{Styli} \) 2, erecto-patentes.

It is very strange if this fine Saxifragae should have escaped the notice of Chamisson; yet we do not find it described by Sternberg in the Supplement to his Monographia Saxifrag., where the other species of Chamisson are detailed. We possess the same plant from the Rocky Mountains, gathered by Mr. Drummond.

Tab. XXIX. Saxifraga Nelsoniana. \( \text{Fig. 1, 1, Flowers.} \)


1. Chrysosplenium alternifolium. Linn.

Ord. XV. UMBELLIFERÆ. Juss.


Ord. XVI. Corneæ. De Cand.


Ord. XVII. Caprifoliaceæ. Juss.


1. Leontodon Taraxacum. Linn.

2. Leontodon palustr.

1. Artemisia borealis. Pall.—supra, p. 115.—Lessing, in Linnaea, v. 6. p. 211.—β. lanuginosa; racemis dense lanuginosis, floribus duplo majoribus, foliis superioribus latio-

Besides the true A. borealis, we have the variety just noticed, which has a stouter habit, much broader cauline leaves, and a dense woolly raceme (peduncle, pedicels, and involucres); the tomentum of a yellowish hue, and flowers more than twice as large—as large indeed as those of A. arctica, from which it differs remarkably in its foliage and tomentum. It will probably, on a future examination and comparison with other species, prove to be distinct.


This is assuredly subject to much variation, and is nearly allied to A. Norvegica, which has the flowers of the present species, with the leaves of A. borealis. Of this, our tallest specimens (one foot high) are glabrous, with the segments of the leaves very sharply acuminated; the pedicels an inch long. A second state of the plant is very downy, almost woolly: it has stouter stems, less divided leaves, and pedicels two inches long. A third is only four or five inches tall, with the pedicels so long, especially the lower ones, (3-4 inches), that they form a corymbus.


We can hardly think but that this is the A. glomerata of Lessing, although the leaves of his plant are
described as being more compound. It forms dense tufts of many inches in diameter, the barren tufts looking more like some silky Androsace than anything of this Natural Order.


1. Gnaphalium alpinum. Linn.


This, in a more luxuriant state, bears 2–4 flowers, and it appears then to become the A. Chamissonis of Lessing l. c., who describes two other allied species from Unalaschka, differing from these by the corolla being quite glabrous.


This has entirely the habit of Arnica, yet agrees with the character of Senecio as defined by Lessing in the Linnaea, v. 6. p. 239.


1 Senecio Kalmii. Nutt.—Cineraria Canadensis. Linn.


Lessing unites the T. corymbosa with the T. frigida, and perhaps with justice.

1. Erigeron alpinum. Linn.

1. Solidago Virga-aurea. Linn.

1. Aster salsuginosus; caule uni-paucifloro, foliis lanceolatis acutis subintegerrimis
venosis inferioribus in petiolum longe attenuatis reliquis sessilibus, involucris squamis lineari-
bus acutis pubescentibus subsquarrosis disco vix duplo (radio plus triplo) longioribus. Rich.
v. 6. p. 124.


ORD. XXI. CAMPANULACEÆ. Juss.


2. Campanula lasiocarpa; humilis, caule uniflоро nudiusculo, foliis radicalibus confertis
lanceolato-oboivatis setaceo-denticulatis, petiolis ciliatis, calyce tubo villosa lobis acuminatis
denticulatis, corollae infundibuliformi-campanulata lobis calycinis duplo longiorum, capsula

ORD. XXII. ERICINEÆ. Juss.

1. Azalea procumbens. Linn.

1. Arbutus alpina. Linn.

1. Andromeda polifolia. Linn.

2. Andromeda tetragona. Linn.

1. Ledum palustre. Linn.

1. Pyrola rotundifolia. Linn.


3. Vaccinium Oxycoccos. Linn.

ORD. XXIII. GENTIANAE. Juss.

1. Gentiana glauca. Pall.—Cham. et Schlecht. v. 1. p. 175.—G. caesitosa. Graham in

2. Gentiana Rurickiana; corollis 4-fidis hypocrateriformibus, fauce nudis calye plus
duplo longioribus, laciniiis lanceolatis setaceo-acuminatis, calycis fere usque ad basin divisi.
laciniiis inequalibus duabus maximis, floribus longe pedunculatis. Cham. et Schlecht. in
Linneae, v. 1. p. 176.


ORD. XXIV. POLEMONIDÆ. Juss.

1. Polemonium cæruleum. Linn.

1. Phlox Sibirica. Linn.

ORD. XXV. BORAGINEÆ. Juss.


One of the specimens in this Collection appears rather to agree with the Lithospermum (Pulmonaria) pilosum of Cham. et Schlecht, than with L. denticulatum; but although we have specimens of both from these excellent Botanists, we cannot satisfy ourselves of the essential difference between the two plants.


ORD. XXVI. SCROPHULARINEÆ. Juss.


4. Pedicularis Langsdorffii. Fisch. ex Stev. l. c. p. 49. t. 9. f. 2. (excl. var. ß.)


ORD. XXVII. PRIMULACEÆ. Juss.


1. Androsace septentrionalis. Linn.


ORD. XXVIII. PLUMBAGINEÆ. Juss.

1. Statice Armeria. Linn.

ORD. XXIX. POLYGONEÆ. Juss.


2. Polygonum alpinum. All.—Cham. et Schlecht. in Linnae, v. 3. p. 38.


1. Rumex Acetosa. Linn.


This exactly agrees with Reichenbach's figure, except that the leaves are longer and narrower.

ORD. XXX. CHENOPODEÆ. Vent.

1. Atriplex littoralis. Linn.

ORD. XXXI. EMPETREÆ. Nutt.


ORD. XXXII. AMENTACEÆ. Juss.

1. Alnus incana. Willd.—supra, p. 117.

This precisely resembles the Kamtschatkan specimens above-mentioned.

1. Betula nana. Linn.

1. Salix arctica? Br. (non Pallas?)

Of this plant, which we refer to Mr. Brown's S. arctica, there are two states in the Collection, both much larger in the foliage and catkins; the one having the leaves very downy and silky beneath, the other glaucous and slightly silky beneath.


5. Salix retusa. Linn.

Although there is no fructification on the specimen of this plant, yet it is altogether so remarkable in appearance, and so unlike any other Salix with which we are acquainted, or can find described, that we venture on giving it a name and character. The branch is about a foot long, strait, and very stout in proportion to its length; covered throughout, but especially towards the extremity, with remarkably dense upright yellow silky hairs. Leaves four inches or more long, an inch or an inch and half broad, moderately firm, quite entire, acute, oblongo-lanceolate, tapering into a densely woolly footstalk, about half an inch long, dilated considerably at the base, where it embraces a densely silky leaf-bud: the upper side of the leaf has only a few scattered lax woolly hairs, beneath it is white and cottony. Stipules linear-subulate, longer than the petiole, membranaceous, brown, woolly.


1. Iris Sibirica. Linn.—supra, p. 117.

1. Anthericum serotinum. Linn.
1. Allium Sibiricum. Linn.

Ord. XXXVI. Melanthaceæ. Br.


This was first discovered by Dr. Richardson, and described by him in the Appendix to Captain Franklin’s first Expedition, from recent specimens, in Arctic America, and which were lost in crossing the barren
grounds. Mr. Menzies found it on the North-West coast of America; Chamisso detected it in Unalaschka; and Messrs. Lay and Collie in Kotzebue's Sound. Dr. Richardson describes the scape and bracteas as reddish, and the sepals as marked with a red line down the back, or wholly dull red; whence the specific name. That Author, too, well observes, "Herba elegantia T. borealis tota carens." The leaves are more flaccid, and of a duller colour, and the flowers are almost entirely sessile; thus bringing the involucrum close to the flower, which, in T. borealis, is separated by the length of the pedicel.

Tab. XXIX. Tofieldia coccinea. Fig. 1, Flower and bracteae; fig. 2, Sepal and stamen; fig. 3, Stamen; fig. 4, Pistil; fig. 5, Capsule, with the persistent withered stamens and perianth; fig. 6, Capsules combined; fig. 7, One of the capsules cut open to show the seed; fig. 8, Seed:—magnified.

ORD. XXXVII. JUNCEÆ. Juss.

The specimens in this Collection are twice or thrice as tall as those of Scotland; two feet or more high.


ORD. XXXVIII. TYPHACEÆ. Juss.

1. Sparganium natans. Linn.

ORD. XXXIX. CYPERACEÆ. Juss.

1. Eriophorum capitatum. Schrad.

2. Eriophorum angustifolium. Roth.

1. Carex Gmelini.—supra, p. 118. t. 27.

2. Carex atrata. Linn.

3. Carex saxatilis. Linn.


ORD. XL. GRAMINEÆ. Juss.


1. Vifla arundinacea; foliis planis lanceolato-linearibus, panicula patula, gluma inferiore


This we had taken for the Vilfa algida, (Phippsia, Br.) but it is larger, and certainly the V. monandra of Trinius, who observes that it is the var. of P. algida, mentioned by Mr. Brown, as found by Mr. Nelson, at Tschutski. Chamisso also discovered it in the Bay of St. Lawrence.


There are two states of this plant, as it appears to us, in the Collection; a purple-flowered one, with usually a single flower only in each calyx, and a yellow-flowered var., with two flowers in each calyx, one upon a rather long stalk. In other respects, the characters are the same. The lower branches of the panicle are often horizontally patent, sometimes completely deflexed.


2. Poa nemoralis. Linn.


In the Collection are specimens, varying in height from 4–6 inches to two feet.

1. Festuca ovina. Linn.

2. Festuca duriuscula. Linn.


1. Elymus arenarius. Linn.—supra, p. 119.

ORD. XLII. EQUISETACEÆ. De Cand.

1. Equisetum arvense. Linn.—supra, p. 119.

ORD. XLII. LYCOPODIACEÆ. Sw.

1. Lycopodium annotinum. Linn.

2. Lycopodium Selago. Linn.

ORD. XLIII. POLYPODIACEÆ. Br.


Lichenes.}

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Ord. XLIV. MUSCI. Linn.

1. Sphagnum acutifolium. Ehrh.
1. Conostomum boreale. Sw.
1. Trichostomum lanuginosum. Hedw.
1. Bryum palustre. Sw.—supra, p. 120.
2. Bryum nutans. Schreb.—supra, p. 120.
1. Hypnum salebrosum? Hoffm. (sine fruct.)
3. Hypnum aduncum. Linn.

Ord. XLV. HEPATICÆ.

1. Marchantia polymorpha. Linn.—supra, p. 120.

Ord. XLVI. LICHENES. Ach.

1. Peltidea aphthosa. Ach.—supra, p. 120.
1. Stereocaulon paschale. Ach.—supra, p. 120.

Ord. XLVII. Fungi. Linn.
   Cr. Fl. t. 200. f. 2.

Ord. XLVIII. Algæ.

CALIFORNIA.
[Collected at San Francisco, and a few at Monterey Bay.]

Ord. I. Ranunculaceæ.
1. Ranunculus aquatilis. Linn.
2. Ranunculus Chilensis. DC.—vide supra, p. 4. t. 3.
   Although this plant is in the Herbarium, from California, it may have been unintentionally introduced 
   from the Chilian Collection.

Ord. II. Berberideæ. Vent.
1. Berberis acuifolium; foliis bi-tri-jugis, jugo inferiore a petioli basi distante, foliolis 
   ovatis approximatis spinuloso-dentatis basi cordatis uninnerviis, racemis erectis confertis, 
   The single specimen is not in a good state, being destitute of flower or fruit.

ORD. IV. CRUCIFERÆ. Juss.


ORD. V. VIOLARIEÆ. De Cand.


ORD. VI. CISTINEÆ. Juss.

1. Helianthemum ——— ?

Specimens of a shrubby Helianthemum exist in the Collection, but in so bad a state, that it is impossible to describe it. It probably comes near H. tripetalum, Moc. et Sess. in De Cand. Prodr. v. 1. p. 284; but the petals appear to be five.

ORD. VII. FRANKENIAEÆ. St. Hil.


ORD. VIII. CARYOPHYLLÆÆ. Juss.

1. Stellaria media. Linn.

CALIFORNIA.

ORD. IX. MALVACEÆ. Br.


ORD. X. HYPERICINEÆ. Juss.


In general appearance and size, this approaches the H. quinquenervium of Walter and of Hook. Fl. Bor. Am. v. 1. p. 110, but that is an erect plant.

ORD. XI. GERANIACEÆ. Juss.


ORD. XII. OXALIDEÆ. De Cand.


ORD. XIII. RHAMNEÆ. Br.


The only specimen of this in the Collection, is in exactly the same state as that which was received from Mr. Douglas, and described in the Flora Boreali-Americana, that is, destitute of flower and fruit: we are therefore unable to add anything to the very unsatisfactory account there given of this highly curious shrub.


The specimens of this exhibit, what Eschscholtz has correctly noticed, that the calyx is blue, and the petals white.
ORD. XIV. TEREBINTHACEÆ. Juss.


This agrees with specimens from Eastern America, and the *R. Toxicodendron* is scarcely different from it.


The specimens in the Herbarium differ in no respect from the more northern ones discovered by Mr. Douglas at Fort Vancouver on the Columbia, and figured in the *Flora Boreali-Americana*.

ORD. XV. LEGUMINOSÆ. Juss.


Introduced?


Probably introduced from Europe.


The plant in this Collection differs from the more northern *H. decumbens* of Mr. Douglas, in the smaller size of the leaflets and flowers, in the less degree of pubescence, and, when dry, in its becoming of an almost æruginose green colour. In other respects, the two species accord.

3. Hosackia *tomentosa*; tota incano-tomentosa, foliolis 5 obovatis acutis, floribus umbellatis sessilibus, bractea folium simulante.

This will assuredly rank next to *H. decumbens*, from which it differs almost solely in the very dense covering of white hairs. Only one specimen exists in the Collection, and that has young fruit, and no flowers. The *legumes* are short, in proportion to the length of the *style*. The *stigma* is not capitate, but simply obtuse, as in *Lotus subbipinnatus* of Lagasca, and of this work, p. 17. t. 8; which, Mr. Bentham is decidedly of opinion, should be referred to Hosackia.

4. Hosackia *Purshiana*; pubescenti-villosa, foliolis 3 raro-4-5 lato-oblongis, stipulis
This exactly agrees with our original specimen of *Trigonella Americana*, received from Mr. Nuttall, except that the leaflets are rather shorter in proportion to their breadth. There is, however, nothing silky about the plant in its dried state, as Pursh's name would seem to imply: it is clothed with soft and short patent hairs, which give no glossiness to the stems or foliage, and which are best seen when the plant is held up between the eye and the light. In the greater number of its leaflets, this species differs from *H. unijoliolata*, and in the larger flowers and seed-vessels.


The legumes of this very fine species of *Phaca*, which was first found by Mr. Menzies in California, are remarkably large, inflated and membranaceous; in these respects, exactly resembling those of *Phaca inflata*, of Dr. Gillies (in *Bot. Misc. Ined.*), from Uspallata in South America. The habit of the two species is likewise very similar; but, in Dr. Gillies', the whole plant is glabrous, and the flowers are much smaller.


This appears to be a very variable plant, and the specimens in the Collection have the leaflets smaller and narrower than is the case with the plant figured in the Bot. Mag.; but not more so than in some specimens from the Columbia, gathered by Mr. Douglas.


We cannot be mistaken in this plant, although only a single leaf exists in the Collection.

2. *Lupinus macrocarpus*; suffruticosus, foliosus, foliis subbrevi-petiolatis septenis, folioliis lanceolatis obtusissimis inferne attenuatis supra glabris subtus appresso-pubescenti-sericeis, racemo multifloro, floribus (inter maximos) raro verticillatis, calycibus pedicellis rachique appresso-sericeis, leguminiis lineari-oblongis tumidis hirsutis 8–10-spermis.

Found by Mr. Menzies during the voyage with Captain Vancouver, and probably common about San Francisco; yet it does not correspond with any described species, nor with any found by Mr. Douglas. The lower part of the stem is decidedly shrubby, the leaves and legumes large in proportion to the size of the plant, apparently yellow when recent. Perhaps, in habit, its nearest affinity is with *L. littoralis*, Dougl., but the leaves are, in that plant, silky on both sides, the flowers are differently coloured, and the legumes are not half the size.

3. *Lupinus sericeus*; fruticosus, ubique pulcherrime appresso-sericeus aureo-nitens, caule valde folioso, foliis breviter petioliis septenis, folioliis lanceolatis acutis inferne attenuatis,

This, along with the preceding, has long lain in our Herbarium undescribed, the gift of the generous Menzies, who gathered it in California, and probably at San Francisco. It is, without doubt, the L. sericeus of Eschscholtz, and probably too of Pursh; though we have no authentic specimen to confirm this opinion. It is among the most beautiful of the genus, small, suffruticose, densely leafy, often throwing out numerous short branches, and every where, except the corolla, clothed with densely appressed aureo-nitent silky hairs. The flowers are described by Eschscholtz as yellow, though in the dried state, as that author observes, they become tinged with purple.

**Ord. XVI. ROSACEÆ.**

(Sect. Spiraceæ. De Cand.)

**ADENOSTOMA.** Nov. Gen.


1. Adenostoma *fasciculata.* (Tab. XXX.)

Frutex rigidus glaberrimus ramosus; rami stricti subvirgati. Folia fasciculata lineari-filiformia rigida brevissime petiolata basi stipula minutissima suffulta. Fasciculi foliorum etiam stipulati, stipula bifida. Flores fasciculati in spicam interruptam terminalem aphyllam congesti, parvi, albi; bracteis plurimis parvis subimbricatis, ovatis, acutis, rigidis, exterioribus sape divisis.

It is to be regretted that we do not possess perfect fruit of this plant, which we consider as unquestionably belonging to the Natural Order Rosacceæ, and very different from any genus yet described. In habit, it perhaps comes nearest to some species of Spirææ, yet the flowers are abundantly different: the calyx being furnished with five conspicuous fleshy glands or scales at the mouth, and the stamens remarkably and obliquely truncated at the extremity, and there and there only very pubescent. It constitutes apparently a small rigid shrub, glabrous in every part, with upright twiggy branches clothed with greyish-brown bark. The leaves are small and always fasciculated, the fascicle, as well as each individual leaf, being subtended by a stipule; that of the latter is bifid. Flowers in an interrupted terminal leafless spike, clustered, with many small imbricated bractææ at their base. It grows in sandy plains in the Bay of Monterey.

Tab. XXX. Adenostoma fasciculata. Fig. 1. Fascicle of leaves; fig. 2. Single leaf; fig. 3. Flower-bud; fig. 4. Expanded flower; fig. 5. Flower, from which the petals have fallen away; fig. 6. Inner view of a portion of the flower, to show the glands; fig. 7. Petal; fig. 8. Stamen; fig. 9. Pistil:—all more or less magnified.


This is a very distinct species from the *H. congesta* of Douglas and Hook. in Bot. Mag. t. 2880, and has been well described by Chamisso and Schlechtendal in the Linnaea.


This is a more luxuriant plant than Mr. Menzies' specimens, but in every other respect the same. In many points, it agrees with the *R. ursinus* of Chamisso and Schlechtendal; but in that, the leaves appear to be frequently simple, and those authors compare it with *R. Ideus*.

3. Rubus *velutinus*; inermis, caule fruticoso erecto flexuoso pubescente basi nudo, foliiis amplis simplicibus profunde cordatis acute 5-lobis serratis reticulatis molliter densissime pubescenti-tomentosis subtus pallidis velutinis, stipulis ovatis acuminatis sericeis, corymbis paucifloris, calyces velutinis laciniis obtusis corolla (alba) brevioribus longe cuspidatis.

This is abundantly distinct, both from *R. odoratus* and *R. Nuthamus*, and, as far as can be judged from the description, equally so from the *A. vitifolius* of Cham. et Schlecht., which, however, like the present, is a native of San Francisco: all belong to the simple and lobed fruticos species of the Genus. The underside of the leaves is pale and velvety, and beautifully relieved by the reticulations.


Specimens, quite according with the description in the Linnaeus, are in the Collection; but in a very imperfect state. Perhaps the var. β of the *F. Chilensis*, noticed in *Hook. Fl. Bor. Am.*, should be referred to it: but here, the peduncle is single-flowered, and very short.

Rose;—Of this genus, three species are in the Collection: one with double flowers, and probably the inhabitant of a garden. The others are too imperfect to be satisfactorily determined, having no perfect flower nor fruit. Neither of them, however, accords with the *R. Californica* of Schlechtendal, and must be different from it, unless we make great allowance for the sportive nature of the species of this most difficult genus.

**ORD. XVII. ONAGRARIÆ.** Juss.


This very remarkable genus, with flowers in shape and colour resembling a *Fuchsia*, but with the fruit of an *Epilobium*, was first discovered in California by Mr. Menzies, and noticed in the "Annals of Botany," by Mr. König (v. 1. p. 543.) It was not, however, described and named, till it appeared very
recently in the valuable *Reliquia Hænkeana* of Presl. That author thus defines the generic character:


**Ord. XVIII. Cucurbitaceæ.** Juss.

There are two Cucurbitaceous plants in the Collection, but without flower, and probably cultivated, as is assuredly the case with a *Mesembryanthemum* in the Herbarium.

**Ord. XIX. Grossulariæ.** De Cand.


There is still a third species of *Ribes* (Sect. *Grossularia*) in the Herbarium, with a solitary stipulary spine and no aculei, and with leaves resembling those of *R. Cynosbati*, only thrice as large: but being destitute of flowers and fruit, it cannot be determined.

**Ord. XX. Umbelliferae.** Juss.

1. *Sanicula arctopoides*; subcaulis, foliis longe petiolatis profunde 3-partitis laciniiis elongato-cuneatis lateralibus bifidis intermedio trifido omnibus subciliato-pinnatifidis, ped-
unculo foliis breviore, involucri foliolis foliaceis lanceolatis integerrimis umbella compacta simplice longioribus.

First discovered, along with the following species, by Mr. Menzies. The general similarity of the plant to *Arctopus capensis* has suggested the specific name. There are scarcely any stems, and the umbels are nearly concealed among the leaves, which are almost fringed with long narrow and much acuminated teeth, the larger ones of which are likewise so fimbriated.

2. *Sanicula Menziesii*; caulescens, superne subpaniculata, foliis longe petiolatis profunde trifidis, lobis lato-ovatis cuneatis inciso-serratis serraturis acuminatissime mucronatis, umbellis compositis, involucelli foliolis lanceolatis acutis umbellam sequantibus.

Evidently allied to the *S. arctopoides*; but having a stem nearly a span high, with compound umbels, the *umbellules* globose, flowers small, yellow.

1. *Eryngium aquaticum*? Linn.

There are no leaves, and only the extremity of a stem of a solitary specimen, so that we are unable satisfactorily to determine the species.

1. *Cicuta maculata*? Linn.

1. *Apium graveolens.* Linn.


1. *Heracleum Sphondylium*? Linn.

A wretched specimen of this obliges us to put a mark of doubt to the name.


This has a good deal the habit of the *Helosciadium repens* of Europe, but is vastly larger, with more numerous and more divided pinnae. It appears likewise to depart from the generic character, in having several leaves to the involucre, and a long style. The fruit is essentially the same in both.

The Herbarium contains two other Umbelliferous plants, from California, but with fruit so young, that we cannot refer them to any known genus. Both have their leaves many times divided into very narrow, linear, almost filiform segments, and the vagina of the leaf is singularly large and inflated. The one is nearly stemless, very pubescent, almost woolly about the umbels and involucres. The *involucella* are about as long as the umbellules, broadly lanceolate, and apparently entire: the very short stems (many arising from the crown of the root) bear each a peduncle about as long as the leaves. The other has a flaccid, apparently procumbent stem, with remote leaves, and is nearly glabrous. There are no involucres, and the involucella are lobed in a somewhat palmated manner, with the lobes acute, and about as long as the small compact *umbellula*.

**Ord. XXI. Corneæ.** De Cand.


This exactly agrees with our specimens of *C. alba*, from the United States; and, indeed, scarcely differs from *C. circinata* of L'Heritier, with which Chamisso unites it, except in the shape of the leaves. It extends as far north as the Columbia on the western side of America.
ORD. XXII. CAPRIFOLIACEÆ. Juss.


We presume this is the Caprifolium ciliosum of Pursh, which Lewis found on the Kooskoosky river, but the character given by Pursh is too imperfect to enable us to speak with certainty. It seems to be a large climbing plant, with perennial coriaceous leaves. The younger, or upper branches, are remarkable for the hairs which clothe only one side, the other being glabrous, or nearly so. These hairs are coarse and rigid, and still more so upon the peduncle and among the flowers, which are truly hispid; they are generally terminated by a minute gland. The corolla we have not seen; it is described as yellow by Pursh. The Caprifolium occidentale of Lindley, in Bot. Reg. t. 1457, differs from this in the glabrous branches and peduncles, in the capitule flowers, and red corollas.


We have kept this distinct from the L. involucrata of the Banksian Herbarium, Xylosteum involucratum of Dr. Richardson, with considerable hesitation. That our plant is the same with L. Ledebourii of Eschscholtz and Chamisson, there can be no question, for it exactly agrees with authentic specimens now before us. These differ from Dr. Scouler's and Mr. Douglas' L. involucrata, from the mouth of the Columbia and Puget's Sound, (which is assuredly the same as that of Sir J. Banks, gathered on the same coast, between lat. 56° and 64° North,) solely in their more elongated and straighter branches, their greater degree of pubescence, and the more rigid and wrinkled leaves, usually oblong rather than ovate. Dr. Richardson's plant, and specimens gathered by Mr. Drummond in the Rocky Mountains, between lat. 42° and 46°, are in every respect similar to those of Dr. Scouler and Mr. Douglas, only that the leaves are still less pubescent, and more membranaceous and flaccid: and the L. involucrata of Bot. Reg. t. 1179, is equally characteristic of both these. In our plant, and probably in the L. involucrata also, the two inner bracteae are hardly visible till the fruit advances to maturity, when they become remarkably large and enclose the fruit.


This is likewise gathered, by Mr. Douglas and Dr. Scouler, at the mouth of the Columbia, and likewise at Nootka.

ORD. XXIII. RUBIACEÆ. Juss.

1. Galium ?

Of this genus, or of Rubia, there are two species, much branched, and with rather small oval leaves, but with only imperfect flowers, and no fruit: we dare not endeavour to discriminate them.

ORD. XXIV. ERICEÆ. Juss.

We refer a very indifferent and solitary specimen of a supposed Arbutus to the *A. Menziesii* of Pursh, although we only know his plant from the short character above quoted. Ours is a branch, 7-8 inches long, waved, and as thick as a swan's quill, with excessively hard wood, and having a glabrous, slightly wrinkled, ferruginous surface, from which, however, it appears that a coarse bark has peeled or scaled off. The petioles are an inch or more long; the leaves 3-4 inches long, oval or elliptic, obtuse at the base and the extremity, coriaceous, almost black (in the dry state,) quite entire, glabrous, pale, and apparently glaucous beneath, with innumerable reticulated, and slightly prominent, rather dark-coloured veins. The racemes are in fruit, and in that state the bark has in a great measure peeled off. Berries about the size of peas, black, the integument areolated, or cracked into a number of small scales. Seeds many.—Mr. Collie had named the specimen "Arbor ferruginea," from which it may be inferred that the stems and branches, and probably the leaves below, are of a rusty colour. We regret much that we can give no better account of this fine arborescent Arbutus.


Of this we have several varieties, differing, however, almost solely in the pubescence.—Var. α, the original plant from Mr. Menzies, and from which Mr. Pursh drew up his character, has the whole specimen, except the flowers, very downy, especially on the underside of the upper leaves and young branches; and these latter, and the petioles, and lower part of the costa beneath, have numerous long rigid hairs mixed with the pubescence, so as to give the plant a remarkably hispid appearance. This is from the Columbia.—Var. β, is destitute of long rigid hairs; but has the pubescence on the young stems and young leaves still copious, as is the case with some of Mr. Menzies' specimens, which have no more particular locality than North-West Coast of America, and with some in Captain Beechey's Herbarium.—Var. γ, with the branches slightly pubescent, and the leaves almost entirely so, except the petioles and the base of the costa beneath; and var. δ, with the stems and leaves perfectly glabrous: both these we have from San Francisco, in California; the former is in the present Collection, and the latter we received from Dr. Fischer, marked "Arbutus Menziesii?"—In all, the foliage, in a dry state, is of a singularly pale green colour, remarkably coriaceous, and marked with copious but minute reticulations.


Habit of *Arbutus Uva Ursi,* and with leaves of the same size, but sufficiently distinct, being broader, upon longer petioles, often quite obtuse, or even retuse at the base, downy with a whitish pubescence except the oldest, more or less serrated, and always terminated by a very sharp pungent point. Flowers small, urceolate.

**ORD. XXV. VACCINIEÆ. De Cand.**

1. *Vaccinium ovatum*; erectum, valde ramosum, ramis pubescenti-hirsutis, foliis perennialibus oblongo-ovatis coriaceis nitidis breve petiolatis marginibus revolutis serratis, petiolis hirsutis, racemis axillaribus terminalibusque brevibus, floribus cylindraceo-campanulatis bracteatis, calycebus acutis.

This, in its foliage, almost exactly resembles the *Arbutus mucronata* of the Straits of Magellan, but the flowers are racemose, and truly those of a *Vaccinium.* It was first detected by Mr. Menzies, and afterwards, according to Mr. Pursh, found by M. Lewis on the Columbia.
ORD. XXVI. COMPOSITÆ. Juss.


This is certainly the plant of Lessing, agreeing both with specimens received from him, and now in Dr. Hooker’s Herbarium, and with his description; but since in the true species of *Troximon*, the pappus is harsh and persistent, while in our plant, it is soft and very caducous as in *Sonchus*, we have referred it to *Borchhausia*, notwithstanding the different involucrum which most species of that genus possess. The achenia are attenuated into a long beak, which is dilated at the apex, forming a disc for the reception of the pappus and florets. In *Troximon*, although usually described with a sessile pappus, or, in other words, without a beak to the achenium, there is really a short beak, by which, and by the different kind of involucrum, that genus seems principally distinguished from *Leontodon*.


1. Sonchus *oleraceus*. Linn.

1. Eupatorium —— ?

We have seen but one specimen, and that in a very bad state, presenting only a branch of the inflorescence. The upper part of the stem is herbaceous and quadrangular. The flowers are in panicked corymbs. Involucrum of 4 or 5 oblong, obtuse, striated and whitish leaflets, furnished at the base with about as many short scales, similar to the involucrum. Flowers very few in each capitulum. Achenia linear, glabrous, with about five angles, formed by as many prominent nerves. Pappus capillary, scabrous at the base, at the apex incrassated and slightly plumose. A detached leaf, probably not belonging to the specimen, accompanied it in the Collection.

1. Madia *viscosa*. Cav. *Ic.* v. 3. t. 298.

Of this there are two varieties in the Collection: α. resembling the figure above quoted; and β. with the leaves not above half-an-inch long and half-a-line wide, disposed copiously along the branches, and somewhat erect. The whole plant is slender and small, scarcely exceeding eight or nine inches, so that probably this variety is caused by growing in a dry and poor soil. In habit it is very different from the common variety.

1. Erigeron *Canadensis*. Linn.


The specimens in the Collection vary, with the leaves oblongo-lanceolate and slightly acuminate, with the stem and leaves nearly glabrous, and with the racemes so contracted as to lose the second and recurved appearance described above. We, however, possess intermediate forms. The leaves are always more or less conspicuously three-nerved, with a few distant narrow deep serratures, or teeth, which point upwards.


Leaves and stem, in one specimen, scabrous, with a short greyish pubescence: in the others, they are almost entirely glabrous.
1. Aster Califormicus; caule brevi-ascendente piloso vix ramoso, ramis ante apicem aphyllis unifloris, foliis carnosulis spathulatis apice mucronulatis petiolatis glabris hispidociliatis, involucri foliolis imbricatis anguste linearibus acuminatis hirsuto-villosis.—Lessing in Linnea, v. 6. p. 121.

The ray, judging from the dried specimen, appears to be of a reddish colour. Mr. Menzies detected this plant in California, during the voyage of Captain Vancouver.

2. Aster spectabilis; radice bienni? caule ramoso inferne glabro ad medium linea duplici piloso sursum hirsutiusculo, foliis oblongo-lanceolatis glabris basi auriculato-amplexicaulis margine scabris inferioribus praecipue medio serratis, involucri foliolis oblongis acutiusculis.—Ait.?—Spreng. Syst. v. 3. p. 538?

The leaflets of the involucre are probably squarrose, although they do not present that appearance in the dried plant, whence arise our doubts; but as in this very difficult genus, it is almost impossible to describe in words the slight differences between the species, and as neither figures nor authentic specimens are accessible for the purposes of elucidation, it is not unlikely that the present may either prove to be a new species, or something very distinct from Aiton’s plant.

3. Aster? filaginifolius; caule ramoso, ramis divaricato-patentibus gracilibus fragilibus lanuginosis ramulis ultimis unifloris elongatis, foliis distantibus oblongo-spathulatis mucronulatis basi attenuatis venosis dense subtus praecipue breviter albidolo-lanatis, involucri foliolis glabris oblongo-lanceolatis margine membranaceis, stigmatibus apice aspergilliformibus, flosculis radii neutris.

The only species to which this approaches is Aster sericeus, Vent.; but whether, like it, the stems are shrubby, the specimen before us can scarcely permit us to say: we think they are. The floccose tomentum on the stem and branches is easily rubbed off. Upper leaves entire; lower ones probably furnished with a few sharp serratures near their apex, at least one or two of the lower ones on the specimen in the Collection are so. Florets of the ray emarginate, and neuter. Stigmas of the disc exserted, furnished about their extremity with a conspicuous tuft of hairs; which double character seems to remove this plant from Aster. Pappus brown, scabrous. A fragment of another allied, but certainly different species, exists in the Collection, which may be characterised as follows:—


1. Aplopappus ericoides; fruticulosus, ramosus, ramis apice pedunculos paucos bracteatos unifloros gerentibus, foliis acerosis teretibus divericatis pubescentibus in axillis ramulos abortivos foliatos foventibus, involucri foliolis glabriusculis ciliatis, pappi serie exteriore dimidio breviore.—Diplopappus ericoides. Less. in Linn. v. 6. p. 117.

We retain the genus Aplopappus of Cassini, for those species of Lessing’s extended Diplopappus which have the exterior row of the pappus similar to, and frequently as long as, the inner series. To this, probably, Chrysopsis divaricata of Nuttall belongs.

2. Aplopappus squarrosus; fruticosus, ramosus, ramis pubescenti-hirsutis, foliis semiamplexicaulis patentibus obovalibus glabris rigidis resinosis serratis, serraturis apice mucronatis recurvis, capitulis florum versus apicem ramorum axillaribus subsessilibus, involucri campanulati foliolis foliaceis squarrosis, pappi serie exteriore dimidio breviore.
Nearly allied to *Baccharis mucronata* of this work, (p. 30,) which, from an examination of better materials, we have now ascertained to belong to the present genus, along with many other Chilian supposed species of *Baccharis*.


The only specimen in the Collection agrees with Nuttall’s specific character. *Diplostephium* of Kunth, and *Chrysopsis* of Nuttall, are synonymous with *Diplopappus* of Cassini.


a. Folia punctis glutinosis micantibus conspersa.

b. Folia subintegerrima carnosula opaca.

Although we do not consider these two varieties as distinct species, yet it must be confessed their aspect is very different. Our second variety has quite that peculiar appearance which many plants assume which grow on the sea-shore; but we are ignorant if this be its true locality. Most authors unite this species with *G. inuloides*, Willd.; and if they be correct, then the following species stands in a similar situation, for it is in many points intermediate between the two others.

2. Grindelia *hirsutula*; pilis albidis hirsutula, caule cæspitoso herbaceo parce ramoso, ramis elongatis unifloris, foliis angusto-oblongis subamplexicaulis serratis, involucri pubescentis squamis lineari-lanceolatis basi appressis apice subsquarrosis.

Very closely allied to *G. angustifolia*, Kunth, (not Dunal,) but that species appears to have always a simple stem. This differs from the preceding, by the hairs that are found on its stem, leaves, and involucre, and by the long one-flowered branches.

3. Grindelia *humilis*; glabra, caule herbaceo simplici unifloro, foliis radicalibus linearius obtusis basi attenuatis caulinis sessilibus inferioribus angustissime linearius superioribus subulatis bracteiformibus, involucrli foliolis lineari-lanceolatis apice squarrosis.

The only specimen in the Collection is about eight inches high, and is very unlike any of the other species. The cauline leaves decrease gradually upwards, resembling subulate bracteæ. On this plant Messrs. Lay and Collie remark:—“folia recentia lineari-spathulata, antiquiora oblonga basi dilatata spinuloso-dentata;” the latter kind of leaves we have not seen.


Perhaps *B. salicifolia*, Pers., is not distinct, but then Sprengel unites to it *B. gnidiifolia*, Kunth, of which plant the leaves are described as sessile, and not attenuated into a kind of petiole at their base, as in ours. Chamisso does not appear to have met with this species; but Lessing (Linnea, v. 6. p. 505,) mentions having found *B. linearis*, which is surely distinct, otherwise we might have supposed that Lessing and we had the same plant in view. We can perceive only one series of hairs of the pappus.

2. Baccharis *glomeruliflora*; fruticosa, foliis approximatis obsolete trinervibus obovatis

There are two very distinct states of this plant, which we had almost supposed to be different species; but Lessing, whose authority is doubtless high, as he appears to have seen numerous specimens, describes both without distinguishing them even as varieties. In one, the heads of flowers are collected usually by threes, into short compact spikes or racemes, which are almost invariably axillary. In the other, the inflorescence is more lax, and the heads of flowers are constantly solitary and terminal. Neither in the involucre, achenium, pappus, nor leaves, is there any difference. It was found also by Mr. Menzies, on the coast of California.


The fruit of this species is larger than that of X. strumarium, and the two beaks to it are slightly incurved at the apex, while in X. strumarium they are nearly straight. Whether these be sufficiently good characters, we are inclined to doubt, but have not been able to discover any others. We presume it is the X. strumarium of Pursh, Nuttall, Elliott, and other North-American Botanists, and indeed we have seen no other from North America.


The spines of the fruit are short and strong.

1. Franseria Chamissonis; hirsuto-incana, caule decumbente herbaceo, foliis confertis rotundato-ellipticos integris bipinnatisectisve segmentis divergentibus obtusis, petioliis planis, capitulis masculis cernuis femineis erectis.—Lessing in Linnaeae, v. 6. p. 507.

The solitary and most imperfect specimen of this plant in the Collection, we have compared with one received from Chamisso. The leaves seem very variable.


If this were to form a new genus, we would propose the name of Layia, after one of the discoverers; and this would principally differ from Tridax or Balbisia, by the shape of the involucre, its consisting of numerous leaves, which are opposite to, and are respectively wrapt round, the achenia and tube of the corolla.
of the radical florets; by the marginal achenia without pappus, and by the imperfect manner in which the receptacle is provided with scales: indeed it is difficult to say if these in the present case ought not to be viewed as an inner series of involucral leaves, to which some of them bear a close resemblance in colour and texture. In Tridax procumbens, the leaves of the involucre do not surround the achenia, and the marginal achenia have a pappus precisely the same as those of the disc, and similar to what we have above described in our plant. Only one specimen, and that far from a good one, exists in the Collection: the inflorescence so resembles a Galardia, that had we not examined it minutely, we should have placed it in that genus.


This appears to be a true species of the genus, but the leaves are more like those of a Rudbeckia: these, particularly the lower ones, are about five inches long, and much attenuated at the base into a flat petiole, which is about three inches in length. In the upper ones the limb is longer, while the petiole is shorter. In Mr. Douglas's specimen from the Columbia, the leaves are decidedly glutinous, as if varnished.


The above character applies to the usual state of the plant; but sometimes the leaves are either quite entire, or they present one, or at most two, short lobes or segments at the side, about the middle. We much suspect that in this state it may become the Eriophyllum stechadifolium of Lagasca. All the florets are fertile: those of the ray are without stamens, and usually about six in number. Leaves of the involucre at first tomentose, but afterwards becoming often quite glabrous. Achenia with four or five angles, or projecting ridges, somewhat hispid. Scales of the pappus eight or ten, unequal, linear, obtuse and striated, about one-fourth of the length of the achenium. Between Eriophyllum of Lagasca, to which Mr. Lindley has united Trichophyllum of Nuttall, and Bahia, there appears to be almost no difference: indeed, the only character pointed out by Lessing consists in the palea of the pappus being unequal, linear, and truncated in Bahia, and equal, obtuse, and narrowest at the base in the other genus. In the present individual, the paleae are not, as Lessing says, truncate, but rounded at the apex: while, on the other hand, those of Trichophyllum appear sometimes truncated and lacerated. Nor does their attenuation below, or their equality, prove a good character, since in our specimens of what we consider Bahia ambrosioides, from Chili, (the only species we have received from that country, and which consequently is the type of Lagasca's genus Bahia,) the paleae are short, equal, obtuse, not truncate, and narrower at their base than at the apex. Bahia artemisiifolia was first discovered by Mr. Menzies, in California.


Lessing appears entirely to have overlooked the marginal series of scales on the receptacle, which constitutes this a Helianthemum, as its habit indicates, and not a Cephalophora or Actinella. From H. quadridentatum it differs by the shape of the receptacle, and from H. autumnale by the leaves, which we have always found entire, and by the much smaller ray, as well as by the long simple one-flowered branches, like those of H. quadridentatum.
1. Spilanthes pseudo-acmella. Linn.

Of this there is only one, and that a very imperfect specimen, in the Collection.

1. Achillea Millefolium. Linn.

Chamisso appears only to have found A. magna, (with which Lessing unites A. lanata, Spr.) but specimens, gathered by Messrs. Lay and Collie, appear in no respect distinct from A. Millefolium, and certainly do not accord with what we possess in our Herbaria as A. magna.


As this genus is peculiar to California, and only lately constituted, we extract the following character:—

Coinogyne; Involucrum cylindraceum pauciserial, foliis obtusissimis margine scariosis, inferioribus brevioribus. Receptaculum conicum nudum. Flores disci tubulosi hermaphroditii; radii lingulati feminei. Anthera ecudate. Achenia calva. Stylus ramis cono superatis.—All the plant is fleshy. The leaves are decussated, lingulate, very entire, united at the base into a sheath about a line long. The genus approaches most in character to Chrysanthemum, but the branches of the style in this last are truncate. Lessing compares its appearance with Kleinia suffrutiocosa. There is but one specimen in the collection.

1. Artemisia Californica; fruticosa, ramosa, foliis gennuliferis approximatis pubescenti-incanis pinnatisectis segmentis angustissime linearibus obtusis, superioribus sensim integris, racemae subsecundo, capitulis cernuis brevissimse pedicellatis, involucro subgloboseo, foliis obtusis margine late scariosi glabriusculis, receptaculo nudo, corollis glabris.—Lessing in Linnae, v. 6. p. 523.

Allied both to A. Santonica and A. herbacea: the above character will readily distinguish it from both.

2. Artemisia inodora; herbacea, foliis glabris radicalibus subtrifidis, caulinis lanceolatis utrinque attenuatis margine incrassatis integerrimis, floribus pedunculatis erectis, involucris foliis margine scariosi. Spr.—Willd. En.

Our specimens, though imperfect, seem to accord with the above character; but the species is perhaps too nearly allied to A. Dracunculus.


This species seems scarcely to differ from some states of A. vulgaris. The A. longifolia of Nuttall appears to be distinct.


When describing the Chilian species in this work, (p. 31,) we were led to suppose that what we then called G. Chilense might, notwithstanding the great difference in the characters, be the plant of Sprengel. In the sixth volume of the Linnae, however, at p. 227, Lessing describes Chamisso's plant, and from his description it is obvious that what we have called G. Chilense, is G. falcatum, Lam.: while he unites Sprengel's G.
Chilense to *G. Piravira*, Mol., which is the same as our *G. citrinum*, a name that of course must yield to that of Molina's, although we are yet ignorant where it is published. When Lessing referred hither the *G. Chilense*, he must have trusted a little to Sprengel's character, as we did, for no other plant of Chamisson, from whom Sprengel had it, approached more closely. At p. 260, Lessing informs us that he had overlooked a packet, the description of which would form a supplement. Among these he adopts the *G. Chilense*, Spr., from California, and although, perhaps inadvertently, he refers to the former part, where he united it to *G. Piravira*, yet he now adopts the name from Sprengel; contrasting which with the character given by that author, we have, now no doubt of the present being what he intended; and as it is not a Chilian, but a Californian plant, we have considered it necessary to change the specific name. To *G. lanuginosum*, Kunth, it is very closely allied; but although Sprengel unites them, we consider the leaflets of the involucræ "argute acuta fuscescenti-virescentia" of the latter, may keep it distinct. Sprengel places this plant erroneously among the "Filaginea," but it is much more nearly allied to *G. polycephalum*, and particularly to *G. decurrens*. We may here remark, in addition to the two Chilian species already noticed, and described at p. 31, that our *G. ulophyllum* coincides with Lessing's *G. Indicum*, and *G. coarctatum* with his *G. stichydiotum*.


In the specimens before us, the leaves are narrower than in those we possess from the United States, and the panicle more destitute of foliage, but we can see scarcely any other difference. The woolly coat on the underside of the leaves is subject to be rubbed off. The Californian state approaches very nearly to *G. Sprengelii*, above described, from which it principally differs by the leaves not being cottony on both sides.


This was also found at California by Mr. Menzies, and it extends as far north as Nootka Sound.

**ORD. XXVII. CONVOLVULACEÆ. Juss.**


The style is bifid; stigmas two, globose and white; so that this is not a *Convolvulus*, as defined by Brown, but an *Ipomœa*.


**ORD. XXVIII. POLEMONIDEÆ. Juss.**


At the time Dr. Hooker published this species in the Botanical Magazine, he was not aware of a specific name being already given to it by Eschscholtz, which, however, has the claim of priority. Messrs. Lay and Collie appear to have found it about Monterey, Mr. Douglas near the source of the Multnomack River, one
of the southern branches of the Columbia. Eschscholtz describes the stem as biennial, and suffruticose; but the latter term is probably only applied to mark the rigidity of that part; in our gardens it appears to be annual.

**ORD. XXIX. BORAGINEÆ. Juss.**

1. Myosotis Chorisiana; biennis, subcaespitosa, caulibus adscendentibus subsimplicibus, foliis linearibus, racemis inferne foliosis, pedunculis folio plus dimidio brevioribus, calyce 5-partito laciniiis lanceolatis acutis sub fructificatione patulis, tubo adpresse strigoso-piloso, nucibus rugosis.—*Chamisso in Linnaea, v. 4. p. 444."

This species approaches in some points to *M. nana*, Vill., *M. clavata*, Ledeb., and *M. humilis*, Ruiz and Pavon; but it differs from them all.

1. Cynoglossum officinale. Linn.

1. Heliotropium Curassavicum. Linn.

**ORD. XXX. HYDROPHYLLÆ. Br.**

1. Nemophila Menziesii; foliis omnibus pinnatifidis scabris segmentis approximatis ovatis obtusis ciliatis subtridentato-lobatis, pedunculis oppositifoliiis folio duplo longioribus, segmentis calycinis lanceolatis accessoriis minutis.

Allied to *N. phaceloides* of Barton; but a much smaller plant in every respect; and the peduncle is also considerably longer in proportion. The leaves are precisely those of *N. parviflora*, a species found by Dr. Scouler and Mr. Douglas on the Columbia River; but in that individual the flowers are very small, and the peduncles scarcely so long as the leaf. The species has long existed in Mr. Menzies's Herbarium, and in those of his friends, to whom he liberally communicated specimens. Mr. Collie remarks that the capsule is polyspermous.


We cannot agree with Chamisso that there are sufficient characters to separate the above synonyms, indeed from Chili we have received intermediate states. Pursh's character of his *P. heterophylla* applies equally to our plant.

**ORD. XXXI. SOLANEÆ. Juss.**


Of this there are two states in the Collection; one with the leaves glabrous, the other with them more or less puberulous beneath. In both, the angles of the stem are rough, or almost prickly.


In addition to the character given by Eschscholtz, we may remark that the stamens are distinct, the filaments very short, and broadest at the base. Style straight. Stigma slightly capitate. Before the corolla is fully expanded, it appears campanulate, as in *Atropa*, with which genus the present individual has considerable affinity. The anthers are, however, furnished with two pores, or rather clefts, at their apex; but in some flowers, these pores showed a tendency to split downwards to the base of the anther.
1. Nicotiana rustica. Linn.

1. Salpiglossis? prostrata; sparsim glanduloso-puberula, caule prostrato ramoso, folii oblongo-spathalatis integris, pedunculis axillaribus unifloris folio multitie brevidioribus.


This certainly belongs to the same genus as S. linearis and S. integrifolia. Hook. Bot. Mag. t. 3113; but they differ from the other of the Chiilian species by the foliaceous lobes of the calyx, whereby approaching Petunia and Nierembergia: indeed, the latter of these two species is Nierembergia phaenicca of Don, while the former appears to be N. intermedia, Graham, in Ed. N. Phil. Journ. n. 27. p. 175. From Nierembergia, even although it be united with Petunia, as Don proposes, these plants appear distinct by the inflated tube of the corolla, which has scarcely any limb. Lindernia Montividensis, Spreng. Syst. v. 2. p. 769, of which Chamisso and Schlechtendal remark, (Linnaea, v. 3. p. 24,) “planta e Solanearum ordine, Nierembergia affinis,” is scarcely distinguishable from the present individual.

* Ord. XXXII. SCROPHULARINEÆ. Juss.

1. Scoparia dulcis. Linn.

1. Linaria Canadensis. Spr.—Antirrhinum Canadense. Linn.

1. Scrophularia Californica; caule acutangulo glabro parte florifero glandulosus-pubescente, folii oblongo-triangularibus acutis basi cordatis duplicato-serratis supra glabris subits parce glandulosus-pubescentibus penninerviis, thyrso aphylllo, lacinii calycinis ovatis acutis mucronatis margine angustissimae membranaceis, stamine quinto rudimentoso, capsula ovoideconica.—Cham. et Schlecht. in Linnaea, v. 2. p. 585.

As remarked by Chamisso and Schlechtendal, this species approaches very closely to the Európean S. nodosa: according to these authors the affinity is less with S. Marilandica, although to us it appears extremely allied to that species. From S. nodosa, the shape of the calycine segments and of the capsule will readily distinguish it. Our specimens have no root.


Although undoubtedly a distinct species from the Chilian M. luteus, it is by no means easy to point out a constant distinctive character. In M. guttatus the size of the flowers is usually much smaller, the peduncles are pubescent and shorter; but we do not find them so short as to verify the assertion that they are shorter
than the bracteas or floral leaves: they are generally shorter than the flower, while in *M. luteus* the lower ones especially are often considerably longer. What Sprengel means, when he says that in the one the peduncles have bracteas, and in no other are ebracteate, we scarcely comprehend.


This quite agrees with Mr. Menzies’ original specimens from the same coast.


1. **Castilleja affinis**; caule herbaceo subsimplici piloso-hispidio, foliis lineari-lanceolatis trinerviis pubescentibus integris, floralibus linearibus integris vel (raro) apice dentato-lobatis, floribus inferioribus pedunculatis, calyce florifero tubuloso antice posticeque fisso lobis bifidis segmentis lineari-lanceolatis acutis, corolla calycem superante.

It will be seen from the above character, taken from the Californian specimens, that there are considerable points of difference between them and the *C. pallida* of authors, the *Bartsia pallida* of Michaux. The floral leaves, not dilated, also separate it from *C. lithospermoïdes* of Kunth. From *C. integrifolia*, Linn. to which it is also allied, the tubar, not ventricose, calyx, during flowering, will keep it distinct.

2. **Castilleja latifolia**; caule subherbaceo ramoso inferne subhirsero pubescente superne subvillosi, foliis ovato-oblongis obtusis integris dense pubescentibus, floralibus dilatatis cuneatis apice trifidis lobis brevibus obtusi medio latiori, floribus subsessilibus, calyce florifero tubuloso antice postice æqualiter fisso lobis breviter obtuse bidentatis, corollæ tubo calycem aequante.

According to Mr. Collie this is from three to six inches high, and grows in wetsandy places: he mentions that the flowers are in a lax terminal spike; but, with the exception of one specimen, in which the bracteas have fallen away, those in the Collection exhibit a spike which is both short and dense. Chamisso appears to have found in the same place, “in arenosis littoralibus ad portum S. Francisci Novæ Californiæ,” a species which surely must be the same with ours, but which he refers to *C. Toluënsis*, H. B. K., owing, perhaps, to his having only seen “serotinas autumni proles.” This and the next must belong to the same subgenus or section of *Castilleja* as *Euchroma coccinea*, Nutt. having the same kind of calyx, while *C. affinis* has more the calyx of *Euchroma grandiflora*.

3. **Castilleja foliolosa**; niveo-tomentosa, caule fruticoso ramoso, foliis confertis inferioribus linearibus obtusis superioribus floralibusque divaricato-tripartitis rariusve integris, floribus subsessilibus, calyce florifero tubuloso antice postice æqualiter fisso lobis leviter emarginatis, corollæ tubo calyce breviore.

From two to three feet high, according to Mr. Collie, who found it in a clayey soil, in hilly situations. In some points it approaches to *C. fissifolia*, L. The axils of the leaves are furnished with a tuft of leaves on short abortive branches.

4. **Castilleja ambigua**; pubescens, annua, caulibus plurimis subramosis, foliis sparsi inferioribus lanceolatis obtusis superioribus floralibusque sensim majoribus dilatatis profunde
multifidis, calyce florifero tubuloso subaequaliter fere ad medium quadrifido lacinii subulatis corollae tubo calyce superante, labio superiori brevi inferiori trilobo lobis lateralibus rotundatis valde concavis intermedio recto mucroniformi.

_Bartsia tenuifolia_, Pursh, seems closely allied to this species. The lower lip of the corolla is quite at variance with the character at present given of the genus, yet the upper lip, and the whole habit of the plant agrees with it. The upper lip is so short, that when the lower is pressed against it, the two are nearly of the same length. At each side of the central lobe of the lower lip is a small gland, as in several other, if not all the species, of _Castilleja_. The seeds are oblong, acute at each end, and enclosed in a loose reticulated membranous bag, from which, when it is cut, they fall out. Perhaps, however, this bag is the testa.

**Ord. XXXIII. Labiatae. Juss.**

1. Thymus _Chamissonis_; caule procumbente ramoso pubescente, foliis petiolatis ovatis obtusis crenatis subus nervosis glanduloso-punctatis, pedunculis axillaris solitariis oppositis folio brevioribus basi setaceo-bibracteolatis, calycebus vix bilabiatis intus fauce subnudis fructiferis inflatis dentibus setaceis, corollis calyce duplo longioribus. _Benth. in Linnaea, v. 6._ p. 80.

The leaves are almost an inch long, and nearly the same in breadth. The bracteae in the same specimen are sometimes situated near the middle of the peduncles, hence we have doubts if _T. Douglasii_, _Benth._ l. c. said by Mr. Bentham to have been also found in California, and only to differ by the broader foliage and different situation of the bracteoles, be really distinct.


Most probably an introduced plant.

1. Stachys _ajugoides_; caule erecto humili villosissimo, foliis petiolatis oblongis obtusissimis crenatis basi rotundatis pilis subsericeis villosissimis floralibus sessilibus conformibus calyces superantibus, verticillastris sex-floris, bracteis subnullis, calycebus sessilibus campanulatis villosissimis dentibus ovatis brevissime aculeatis, corollae tubo calyce subduplo superante labiis patentibus superiori oblongo. _Benth. in Linnaea, v. 6._ p. 80.

Mr. Bentham farther mentions it to be from three to four inches high. The only specimen in the Collection is about eight inches: it differs slightly from the above character, by the leaves not only being not rounded at the base, but decidedly acute.

2. Stachys _Chamissonis_; caule erecto tetragono angulis pilis rigidis obverse aculeatis, foliis ovatis obtusis crenatis basi cordatis limbo utrinque velutino-lanato, petiolo pilosisimo, floralibus sessilibus ovato-lanceolatis calyce brevioribus, verticillastris sexfloris distantibus, calycebus subsessilibus tubulosis hispido-pilosissimis dentibus ovatis acuminatis subpungentibus, corollae tubo recto calyce subduplo superante labio superiore villosissimo. _Benth. in Linnaea, v. 6._ p. 80.

We have only seen one specimen, which is about two feet high, and nearly simple. There is also a fragment of an allied species in the Collection, too imperfect to be satisfactorily determined: its character, as far as we can draw it up, is as follows:—caule erecto gracili tetragono, angulis pilis rigidis raris reflexis hispidis, foliis supremis ovatis sessilibus floralibus subrotundo-ovatis basi subiter attenuatis omnibus crenato-dentatis dentibus rotundatis mucronulatis, limbo utrinque molliter breve piloso, verticillastris bifloris distantibus, calycebus subsessilibus folio florali triplo brevioribus tubulosis pilosisimus dentibus ovatis acuminatis pungentibus.—This, if new, may be called _S. biflora_.

__v 2__

The colour of the corolla, in the only one we have seen, does not appear red.


The specimens are in bad condition, and only show one or two upper leaves, which may account for the difference between the above character and that given by Kunth.

In addition to the above of this Order, there is a specimen of what may probably be a *Salvia*.

**Ord. XXXIV. Verbenaceæ. Juss.**

1. *Verbena Caroliniana*; caule diffuso hirsuto quadrangulari foliis cuneato-oblongis inaequaliter serratis scabris, spicis filiformibus paniculatis, calycibus fructiferis campanulatis fructu paullum longioribus bracteis subaequantibus.—Linn.—V. biserrata, H. B. K?

That *V. biserrata* is the same with *V. Caroliniana*, as is stated by Sprengel, is rendered probable by there existing a specimen, found by Humboldt, in Willdenow's Herbarium: the habitat, however, attached to it, according to Schlechtendal and Chamisso, (Linnaëa, v. 5. p. 98,) being "Mora in Mexico," applies more strictly to *V. veronicæfolia*, which seems to differ from the true *V. Caroliniana* by the roundish stems.

2. *Verbena lasiostachys*; caule diffuso hirsuto quadrangulari, foliis cuneato-ovatis sub-incisis duplicato-serratis scabris, spicis filiformibus axillaris terminalibusque, calycibus pentitim piolis fructiferis conicos attenuatis fructum plus duplo excedentibus bractea hirta longioribus.—Link?

Link's character, as given in Sprengel, is too imperfect to enable us to determine whether our plant be the same as his; both are from California. In some points ours approaches to *V. canescens*. H. B. K.

**Ord. XXXV. Primulaceæ. Vent.**

1. *Anagallis arvensis*. Linn.

**Ord. XXXVI. Plumbaginaceæ. Juss.**


**Ord. XXXVII. Plantaginæ. Juss.**

The above character, taken from the specimen before us, shows the slight differences between it and the plant found by Chamisso, its original discoverer.

2. Plantago major. Linn.

Specimen in a very poor state.

**ORD. XXXVIII. NYCTAGINÆ.** Juss.

1. Abronia umbellata; foliis oblongis glabris, involucro persistente 5-6-phylllo multifloro, perianthii (rosei) tubo elongato limbo laciniiis bilobis, staminibus inæqualibus inclusis.—Lam. Ill. t. 105.—Hook. Exot. Fl. t. 194.—Tricratus admirable. L'Herit.—Willd.—Spr.

The figure in the Exotic Flora does not represent the two-lobed segments of the limb of the perianth. Two other species are found along with this in the sands of the sea-shore in California, both of which, however, have yellowish flowers: the one is A. latifolia, Eschsch.; foliis latis subovatis obtusis bari acutis, involucro 2-3-phylllo paucifloro.—The other is A. arenaria, Menz.; foliis late subovatis obtusis bari acutis, involucro 5-phylllo multifloro, perianthii limbi laciniiis rotundatis undulatis. All the three have glabrous leaves, a persistent involucre, an elongated tube to the perianth, and the stamens unequal in length, and included within its tube: by which they form a distinct section from A. parviflora, H. B. K., where the involucre is deciduous, the tube of the perianth short, the stamens equal in length, and exserted. It is to be regretted, that Eschscholtz has not given more detailed characters of his A. latifolia; for with the exception of the colour of the flowers, there being few within the involucre, and the greater breadth of the leaves, which, however, he states to be extremely variable in shape, there is scarcely enough to separate it from A. umbellata.

**ORD. XXXIX. AMARANTHACEÆ.** Juss.


**ORD. XL. CHENOPODIEÆ.** De Cand.


Foli alterna, oblongo-elliptica, subsessilia integerrima, obtusa, obsolete trinervia, utrinque albido-furfuracea; non nitida. Spicia breves, axillares. Caulis decumbens, herbaceus, ramosus, angulatus, furfuraceus.

Apparently allied to A. Sibirica, L.; but we have not seen the fruit. It agrees with original specimens of Mr. Nuttall's A. arenaria in our Herbaria.

2. Atriplex angustifolia. Sm.

1. Chenopodium murale. Linn.

2. Chenopodium ficifolium. Sm.

3. Chenopodium ambrosioides. Linn.

These three species of Chenopodium seem to correspond with the European species of the same name.

**ORD. XLI. POLYGONEÆ.** Juss.

1. Rumex salicifolius; ramis decumbentibus, foliis lanceolatis integrerrimis subundulatibus, glomerulis spicatis subaphyllis, floribus monoicos, sepalis internis demum æqualibus oblongis obtusis integrerrimis unico (quandoque duobus) valde granulifer.—Weinmann, in Bot. Zeit. v. 4. p. 28.

Our specimens of this plant are very nearly allied to, if not the same with R. maritimus. It is gathered by Mr. Douglas, at the mouth of the Columbia, and by him and Drummond at Hudson's Bay; and we have the same from Patagonia.

1. Polygonum Persicaria. Linn.

2. Polygonum acre; caule erecto glabro folioso, ochreis hispidulis setaceo-ciliatis laxiusculis internodiis dimidio brevioribus, foliis subsessilibus prope ochreae basin affixis lanceolatis acuminatis glabriusculis margine revolutis carnosiusculis glabris subitus prominenter uniniervis subdeciduis, floribus majusculis subsolitariis breve pedicellatis axillariis ad apicem ramorum confertis octandris perianthio 5-partito, stylo longitudine germinis, stigmatibus 3 non capitatis! achenio incluso acute triquetro, faciebus lato-lanceolatis laevibus.—Cham. et Schlecht. in Linnaea, v. 3. p. 51.

Very nearly allied to P. maritimum, but quite distinct.

1. Eriogonum parvifolium; caule suffruticoso ramoso, foliis in ramulos novelloso approximatis alternis breve petiolatis margine recurvis supra glabrescentibus subitus dense tomentosis, floribus fasciculis glomeratis vel rarer discretis, perianthio pedicellisque glabris.—Sm. in Rees' Cycl.

Whale-Ship Bay. Sometimes, though rarely, the fascicles of flowers, instead of being arranged in a dense head, are situated singly at the extremities of short branches; this is probably what Sir James Smith means by saying that they are prolificous, and ought perhaps to be viewed as the normal state of the plant: the uniform abbreviations, and almost total disappearance of these little branches, causing the appearance we have above characterised, and which is the common state in the specimens before us. The specimens, however, entirely accord with our original ones from Mr. Menzies.

This species, although it sometimes bears a head of flowers, never seems to present the aggregated appearance of the last one, nor of the \textit{E. latifolium}, Sm., from which it is truly distinct. The long petiolated leaves are seated at the apex of a short ramification; but the greater number of them are radical.

**ORD. XLII. LAURINEÆ. Juss.**

1. Tetranthera? \textit{Californica}; foliis perennantibus oblongo-lanceolatis vix acutis penninervis reticulato-venosis glabris, pedunculis axillaribus simplicibus, floribus pluribus involucris hermaphroditis?


The flowers are too little advanced to permit us to ascertain whether the pistillum becomes fertile, and the plant consequently hermaphrodite: it however appears to us to be so. The inflorescence and involucrum are those of a \textit{Tetranthera}, while the hermaphrodite flowers, and somewhat capitate stigma allies our plant to \textit{Ocotea}. In one specimen we have observed the remains of the calyx after the drupe has fallen away, from which it appears to be cupuliform, entire, coriaceous, and persistent. The peduncle is monocarpic, or bears but one fruit, and is much shorter than the leaves.

**ORD. XLIII. EUPHORBIACEÆ. Juss.**

1. \textit{E. Peplus}. Linn.

The specimens differ somewhat from the European ones, by the leaves being rough, although scarcely serrated on the margin, and by having a slight mucro. The glands of the involucrum are lunate and two-horned, otherwise our specimens might have been referred to \textit{E. marginata}, Ph.

**ORD. XLIV. URTICEÆ. Juss.**

1. \textit{Urtica} ———?

The imperfect state of the specimen prevents us from ascertaining whether or not this belongs to the arborescent tribe. The leaves are opposite, varying from ovate, with a slightly cordate base, to oblongo-lanceolate and acuminate. They are deeply serrated, slightly hairy above, with a few rigid stinging bristly hairs intermixed, which are more abundant on the petioles: beneath they are provided with a short white villous pubescence. Spikes of flowers crowded at the axil of the leaves, slightly branched, pendulous. Fruit ovate; style none; stigma sessile, penicillate.

**XLV. AMENTACEÆ. Juss.**

1. \textit{Salix Hoffmanniana}. Sm.

The specimens, which are without the inflorescence, and consist only of the old branches with leaves, agree perfectly with the above plant, but we are not aware of its being an American species, as well as European. There is a gland or two at the base of the leaf, on each side of the petiole, and the base has no sinus, as in \textit{S. cordata}, Muhl., in Koen. Ann. of Bot. v. 2. p. 64. t. 5. f. 3., to which otherwise the leaf bears the strongest resemblance.

1. \textit{Populus balsamifera}. Linn.
1. Platanus occidentalis; foliis basi cuneatis vix ad medium 5-lobatis dentato-serratis subtilis floccoso-pubescentibus, stipulis denticulatis.—Linn.—Pursh, Fl. Am. v. 2. p. 635.

First detected by Mr. Menzies; and if we are correct in referring the plant to the M. Xalapensis, it is a native of Mexico also.


1. Alnus serrulata. Linn.

ORD. XLVI. CONIFERÆ. Juss.

1. Abies religiosa; ramulis glabris, foliis planis linearibus integerrimis acutis subtus pruinoso-glaucenscentibus.—Schlecht. et Cham. in Linnae, v. 5. p. 77.—Pinus religiosa.

"The native name is Red Cedar. The older wood in the centre is of a dark red colour, whilst the newer and outer is white. It is very dry and splintery, but continues a long time undecayed, when covered with earth. The trees grow large, straight, and tall, sending off their branches at right angles. They decorate the valleys and tops of the mountains, and are the most general trees on the shores of the Bay of San Francisco. I was informed that there are trees of this species in the valleys between Santa Clara and Santa Cruz, 150 feet high, one of which was 25 feet in circumference. When young, the wood is so full of sap, as to make it sink in salt water."—Collie, MSS. Perhaps Pinus taxifolia, Lamb. is not distinct.

1. "Pinus rigida?" Mill.

"Black or pitch pine.—Abundant on the granite hills close to the sea, on the South East side of the Bay of Monterrey, giving the name of Pine Point to the southern part of the bay. The trees grow to the height of 60 or 80 feet, are very straight, and of large diameter, rendering them very fit for masts. They are also used for rafters, but decay very soon when covered with earth. They contain much resin!"—Collie, MSS.—Of this, we regret to say, no specimen exists in the Collection.

ORD. XLVII. IRIDEÆ. Juss.

1. Iris humilis; rhizomate repente, caule subnullo, foliis linearibus scapo unifloro multo longioribus, tubo floris imberbis filiformi, capsula obtusae hexagona.—Marsh. Bieb. Fl. Taur. Caucas.

The Californian specimens exactly accord with Caucasian ones we possess from Dr. Fischer, and from Elizabethgorod from Mr. Prescott. Perhaps I. verna, Pursh, is not distinct.


1. Sisyrinchium anceps. Linn.

ORD. XLVIII. HEMEROCALLIDEÆ. Br.

1. Brodiaea congesta; umbella subcapitata, squamis perianthii bifidis.—Sm. Trans. Linn. Soc. v. 10. p. 3. t. 1.

ORD. XLIX. MELANTHACEÆ. Br.

1. Zigadenus glaberrimus; rhizomate repente, scapo folioso, foliis longe lanceolatis


Of this there appears to have been only one specimen gathered. The locality from which the specimens figured in the *Botanical Magazine* were derived, is unknown; Mr. Ker having merely supposed it to be Virginia and Carolina, from confounding it with Michaux’s plant.

**ORD. L. JUNCEÆ. Juss.**


Of this, there is only one specimen, but quite agreeing with the character.


Of this, only a fragment exists in the Collection. The testa is of the same shape as the seed.

**ORD. LI. GRAMINEÆ. Juss.**

1. *Vilfa stolonifera,* *P. B.?—agrostis stolonifera.* *Sm.?*

Of it there this only part of a specimen.

1. *Phalaris Californica*; panicula subspiciformi oblonga, glumis patentibus concavis ovato-lanceolatis trinervosis, glumellis pubescentibus, rudimentis duobus oppositis glumellulaeformibus pilosis e basi callosa subpedicellatis, vaginis foliorum arctis, ligula oblonga elongata.

This, as far as regards the panicle and habit of the plant, is intermediate between the true species of *Phalaris,* and *Digraphis* of Trinius. In character, it approaches most to the latter, especially by the shape of the rudimentary florets. The panicle is about the size and form of that of *Phalaris Canariensis,* or *Ph. bulbosa,* but it is not nearly so compact.

**ORD. LII. FILICES. Juss.**


The greater breadth of the fronds and of the segments, and the oval sori, readily distinguish this from *P. vulgare.*

1. *Gymnogramma triangularis*; frondibus triangularibus decompositis, pinnis oppositis adnatis pinnatifidis inferioribus margine exteriori pinnato-pinnatifidis, pinnula infima lineari-

This has likewise been gathered by Mr. Douglas, on the elevated grounds between the "Grand Rapids" and the "Kettle Falls" of the Columbia, and upon Mount Hood to the South of that River.


This belongs to that division of the genus with orbicular and peltate involucres, and to the same groupe with *A. auriculatum*, from which it is readily distinguished by the above characters. Mr. Menzies gathered it in the Voyage with Vancouver, and Mr. Douglas and Dr. Scouler about the mouth of the Columbia.


The excellent Kaulfuss compares the fronds and pinnules of this plant to *Aspidium Filix mas*, but to us they appear rather to approach those of *Asplenium Filix femina*, from which, however, the fructifications abundantly distinguish it.


This had been previously observed by Chamisso to be a native of California.


Kaulfuss has well observed that the species of *Azolla* are very difficult to be distinguished in a dry state. Whether the present ought to be separated or not from the *A. Magellanica*, it is certain that it is the plant of Kaulfuss now quoted, whose specimens were gathered in California by Chamisso.

**ORD. LIII. MUSCI. Juss.**

1. *Neckera Californica*; caulibus caespitosis erectis pinnatis, pinnis brevibus patentibus, foliis subpatulis undique dispositis ovatis breviter acuminatis integerrimis basi obscure uninervibus marginibus recurvis, setis brevibus perichaetio inclusis, capsula erectiuscula elliptica, operculo rostrato.

ORD. LIV. HEPATICÆ. Juss.

1. Marchantia polymorpha. Linn.
2. Jungermannia platyphylla. Linn.

ORD. LV. LICHENES. Ach.


The venerable and indefatigable Menzies was the first to discover this singular Lichen, on the North-West coast of America, where Mr. Douglas and Dr. Scouler also found it.


This is mixed with some of the other Lichens, among which it appears to have grown.

4. Ramalina scopulorum. Ach.—var. tenuissima.


ORD. LVI. ALGÆ.*

Trib. I. FUCOIDEÆ.

1. Fucus vesiculosus. Ž. Sherardi. Turn.—Ag. Syst. 276.
2. Fucus furcatus. Ag. Syst. 279.

Trib. II. LAMINARIEÆ.

1. Macrocystis Menziesii. Ag.—Fucus Menziesii. Turn. Hist. Fuc. t. 27.

Leaves two to three inches long, olivaceous, quite entire, membranaceous, translucid, the surface smooth and even.

Trib. III. FLORIDEÆ.

1. Delesseria platycarpa. Lamour.—Fucus platycarpus. Turn. t. 144.
2. Nitophyllum laceratum; γ. palmatum. Harv. MSS.

* By W. H. Harvey, Esq.
A very remarkable variety, with a stipitate frond, cartilaginous below, branched; branches or segments oblong, wedge-shaped, inclining to palmate, strongly nerved at the base: the nerve ramifying over the whole membrane, and visible to the extremity of the frond. In some specimens, these segments are stipitate, and almost resemble the leaves of a Delesseria. Sori in marginal leaflets.—*S. serrulatum.* Harv.—Frond linear, attenuated, much branched, with a broad nerve at the base, which vanishes about the middle, the margins sharply serrate.

   Another specimen in the Herbarium probably belongs to this species also.

A remarkable variety, with a lanceolate outline, throwing out stipitate lanceolate leaflets from its margine and disk; these in turn are ciliato-dentate, with lanceolate compressed cilia, or incipient tertiary leaflets on both surfaces.

3. *Gelidium? lanceolatum.* Harv. MSS.

6–8 inches high, pinnately branched, the branches (pinnae) long, simple, much attenuated at the base and apex; 1–2 lines broad in the middle, pinnated with foliaceous, lanceolate, mostly opposite ramuli, from 2–6 lines long. Both branches and ramuli are perfectly simple, and preserve their strictly lanceolate figure throughout.

2. *Laurencia pinnatifida.* Lamour.—*Fucus pinnatifidus.* Turn. t. 20.
1. *Chondrus mammillosus.* Grev.—*Fucus mammillosus.* Turn. t. 218.
2. *Chondrus constrictus.* Grev.—*Fucus constrictus.* Turn. t. 152.
3. *Chondrus vermicularis.* Grev. (?)—*Fucus vermicularis.* Turn. t. 221. (?)

The specimen which I refer to this species wants the fruit, which in the *Chondri* is of some moment in specific characters, but the ramification and substance agree with Turner's figure.

1. *Ptilota hypnoides.* Harv. MSS.; jugamento compresso filiformi bipinnato, pinnis pinnulisque alternis, his alternatim pinnatifidis (segmentis lanceolatis) et ramulis foliiformibus lanceolatis acutis alternantibus.

This, not excepting our own *P. plumosa*, is the most beautiful of the genus, and one of the most elegant of marine plants. It is readily known by the small leaflike ramuli, (1 line long) of a lanceolate figure, which regularly alternate with the pinnules, a pinnule and a leaflet being always opposite each other, but standing alternately on the stem. Stems bipinnate, 4–5 inches high, slender, two-edged, all the divisions alternate; pinnules closely pinnated with lanceolate leaf-like ramuli, between each of which rises a rudimentary branchlet, which in its turn bears also a set of similar little leaves, in an alternate series, opposite each of which is a clavate dark red receptacle full of small grains.
2. Ptilota pectinata. Harv. MSS.; jugamento compresso filiformi subbipinnato, pinnis pinnulisque alternis, ramulis extremis (nascentibus pectiniformibus) distichis divaricato-multifidis.

This, too, in its young state, is distinguished like the last by a very beautiful character, a little comb-like ramulus, inciso-serrate on its lower side, being placed opposite the insertion of each pinnule; but in older fronds, from a frequent multiplication of this structure, nothing is visible but a confused fascicle of multifid ramuli. The pinnules, or secondary branches, are closely set with similar ramuli, alternating with each other, and in the spaces between these are situated fructiferous multifid ramuli, which bear dense clusters of trisporous capsules.

Trib. IV. Gastrocarpeæ.

1. Iridæa papillata. Grev.—Sphaerococcus papillatus. Ag. 222.

A fine species, and an undoubted Iridæa. Shape of I. edulis, thick, flexile, its upper half bearing elongated papille in great abundance, each of which terminates in one or more umbilicated warts. These warts contain a mass of small seeds, lodged in a central cavity, and differ principally from regular capsules, (such as are found in the Florideæ,) by passing into the pedicels, and thence into the frond, without any perceptible alteration in the size or shape of the subjacent cellules. The outer coating of the frond also is continued round them without interruption, and the whole is perfectly opaque.

Trib. V. Siphoneæ.

1. Codium tomentosum. Stackh.—Fucus tomentosus. Turn. t. 135.

Trib. VI. Ceramiæ.


Parasitical on Iridea papillata.

1. Polysiphonia verticillata. Harv. MSS.; filis nanis repentibus parce ramosis; ramis obsolete articulatis, ramulis subverticillatis simplicibus acutis incurvis multistriatis articulis diametro brevioribus.

A very curious and distinct little species, 1–2 inches high, with a good deal the habit of Cladostephus, but possessing the structure and substance of Polysiphonia. Colour a deep brown.
Through the kindness of our valued friend, Charles Millett, Esq., we are in possession of many Chinese plants, gathered by himself at Macao and the adjacent Islands. The Collection also includes many from the Herbarium of the Rev. G. H. Vachell, Chaplain to the Factory at Canton, in whose bounty we have again likewise shared, through the medium of the Rev. Professor Henslow of Cambridge. These have all assisted us in materially determining many species in Captain Beechey's Collection; and they have furnished us with several species which our Naturalists had not the good fortune to meet with during their limited stay at Macao.

ORD. I. RANUNCULACEÆ. Juss.
1. Clematis viticella. Linn.—var. flore pleno.
Mr. Vachell and Mr. Millett have sent us specimens of C. hedysarifolia, De Cand. and Ker, in Bot. Reg. t. 599.

ORD. II. DILLENIACEÆ. De Cand.

Of this Mr. Millett and Mr. Vachell have communicated specimens marked "Actea aspera, Loureiro," which it is now generally acknowledged to be; and with the remark that the rough leaves are used by the Chinese to clean their tin-ware.

ORD. III. MAGNOLIACEÆ. De Cand.

1. Magnolia Yulan. Desf.?
Of this nothing but leaves are in the Collection.

ORD. IV. ANNONACEÆ. Juss.

Islands about Macao. Mr. Vachell and Mr. Millett.

Very closely allied to A. odoratissimus, Brown, (which comprehends the Uiona esculenta and U. uncinata of Dunal, and Uvaria odoratissima, Roxb. Fl. Ind. v. 2. p. 686,) but apparently distinct by the shape of the fruit, which in A. odoratissimus is rounded at the apex. Our friend Dr. Wight, however, informs us that he has observed the fruit vary so very much on the same plant in India, as to leave considerable doubts how far both species are not identical. Fine specimens are communicated by Mr. Millett.


Lappas Islands. Mr. Vachell. Mr. Millett.

ORD. V. MENISPERMACEÆ.

1. Cocculus? diantherus; ramis petiolis pedunculisque subsericeo-villosis, folii ovatis obtusus mucronulatis basi truncatis nunc subtrilobo-hastatis utrinque pilis raris pubescentibus demum glabriusculis, floribus masculis paniculatis, staminibus 6, anthera quadriloculari et duabus conflata.

The panicle is sometimes not much longer than the petiole, but appears also on the same specimen to be elongated; in the latter state, however, it seems to be a young branch from which the leaves have dropped off from the base of the true panicles. We have only seen the male flowers: the anthers are as in Menispermum, but the flower is divided in a ternary manner, as in Cocculus. We have also received it from Lappas Island, from Mr. Millett and from Mr. Vachell, from whom we have likewise the very nearly allied C. ovalifolius.

ORD. VI. CAPPARIDEÆ. Juss.

1. Capparis pyrifolia. Lam.?

The few leaves we have seen are scarcely acute, although acuminate. The spines are very short. Pedicells axillarly, one-flowered, usually solitary. We have received from Mr. Millett specimens of a Capparis which we presume may be the C. Cantomensis, Lour. Of this Order too, we possess Polynesia viscosa, both from Mr. Millett and Mr. Vachell, gathered on the Peninsula.

ORD. VII. DROSERACEÆ. De Cand.


This plant differs widely from all the forms of D. Burmanni, by the shape of the leaves and petioles, and from D. rotundifolia by the want of an arillus to the seed. The leaves are intermediate between D. brevifolia, Pursh, and D. intermedia, Drev. et Hayn.: the petiole, however, is pilose and ciliated, with hairs similar to those on the limb. Willdenow, in his edition of Loureiro, among the corrigenda at p. 883, remarks, "Drosera rotundifolia, a Burmanno depicta, ab Europea nostra differe videtur. Possideo specimen hujus plantæ siccum, quod alio loco et tempore fusus describam." If Willdenow has reclaimed his promise, we have not been able to ascertain the work in which he has done so, and therefore have proposed the above specific name.

Tab. XXXI. Drosera Loureirii. Fig. 1, Calyx, with the fruit and persistent corolla; fig. 2, Ripe capsule burst: the styles (fig. 3.) having separated from the fruit; fig. 4, Seeds:—magnified.
ORD. VIII. PITTOSPORÆ. Brown.


The flowers in the wild state are not half the size of those represented in the Botanical Magazine.

2. Pittosporum pauciflorum; foliis obovatis subiter attenuatis basi cuneatis planis petiolisque glaberrimis, pedunculis terminalibus unifloris subsolitariis glabris sepalis dorso glabris margine ciliatis oblongis acutis corolla subtriplo brevioribus, petalis linearibus obtusis. (Tab XXXII.)


This species is considerably allied to *P. undulatum*, Andr., and still more to *P. nilgherrense* and *P. tetraspernum* of Wight and Arnott’s Prodromus Florae Peninsulæ Indicæ Orientalis, in the course of publication.

Tab. XXXII. Pittosporum pauciflorum. Fig. 1, Flower:—magnified.

ORD. IX. MALVACEÆ. Juss.


Of this species, common to both the Old and New World, our synonyms are taken from notes made by Mr. Arnott, in De Candolle’s Herbarium, in 1825. To them ought probably to be added *S. mucronulata*, De Cand. Prodr. v. 1. p. 461, which is also a *Malva*, having a three-leaved involucre, and tricuspidate fruit; but De Candolle’s specimen differs slightly in the more glabrous leaves. It may be added, that Sprengel has most erroneously united *Sida carpinoides* with *S. ulmifolia*, Willd., to *S. spiraeafolia*, Link. The axillary flowers are always, we believe, solitary, but they are sometimes, though rarely, accompanied by a short branch, on which there are other flowers forming a kind of spike: this has given rise to the character sometimes given, of the axillary flowers being numerous and densely clustered, “floribus axillaribus glomeratis.” DC.


There appears to be no difference whatever between the Eastern plant, and that from the West Indies. Both have the leaves more or less distinctly crenated, with from one to three linear pores beneath on the nerves. The same is sent us also by Mr. Millett and Mr. Vachell, from the Island of Lintin.
The specimens in Capt. Beechey’s Collection, and those from Mr. Millett, have double flowers.

1. *Sida rhombifolia*; Linn.

The specimen in the Collection is in no way different from those from the New World, nor does it appear that *S. rhomboidea*, Roxb., is at all distinct. The species however, described in De Candolle, which our friend Dr. Wight has met with in the neighbourhood of Madras, has no beaks to the carpels.—*Sida humilis*, Willd., *S. cordifolia*, L. (according to Wallich), and *S. populifolia*, Lam., are communicated by Mr. Vachell and Mr. Millett; and *Gossypium arboreum*, from the gardens of Macao.

**ORD. X. BOMBACEÆ. Kunth.**

1. Helicteres *angustifolia*; foliis anguste oblongis obtusis mucronatis integerrimis subtus stellatim pubescentibus pannosis supra viridibus glabriusculis vel pilis stellatis subscabris, pedunculis terminalibus axillaribusque binis ternisve paucifloris, carpellis ellipsoideis hispidovillosissimis.—*Wall. Cat. n. 1187*.


β. foliis supra scabriusculis.

Of this we have been obliged to resort to more perfect specimens than those in the Collection, the first variety only being gathered, and that destitute of fruit. This is assuredly the true *H. angustifolia* of Linnaeus, of which Willdenow says "folia obtusiuscula." It appears also to be that intended by Loureiro, and is the only narrow-leaved species we have received from Macao. But then it can scarcely be the plant of Lamarck, Encycl. Meth. 3. p. 89, of which he says "feuilles lancelolées ou etroites-lanceolées, saliciformes;" and of which the description seems to be made up partly from Linnaeus’s character, and partly from the branchlets the Author says he obtained from Sonnerat. Again Sonnerat’s and Lamarck’s plant seems to be *H. lanceolata*, De Cand. Prodr. v. 1. p. 476; "species distinctissima;" and with it *H. angustifolia*, Wallich’s List, n. 1180, is identical, as also what Colebrooke named *H. spicata* to Sir James Smith, according to a specimen communicated by Sir James to Dr. Hooker. But this last must not be confounded with what stands as *H. spicata* of Colebrooke, in Wallich’s List, n. 1182, and is described by Mr. G. Don in his ed. of Miller’s Dictionary, p. 507, which precisely accords with specimens we have received from Canton, and which agree so well with the description given by Loureiro of his *H. hirsuta*, that we cannot consider them as any way distinct. This latter we possess from Mr. Vachell and Mr. Millett, gathered about Macao: whilst the true *H. angustifolia*, these gentlemen find on Lappas Island.

**ORD. XI. BYTTNERIACEÆ. Brown.**

1. Sterculia *lanceolata*; foliis oblongo-lanceolatis obtuse subacuminatis integerrimis glabris, paniculis axillaribus, laciniiis calycinis oblongis extus paniculæque ramulis pubescentibus, carpellis oblongis oligospermis.—*Cav. Diss. 5. p. 287. t. 144. f. 1.—Lindl. in Bot. Reg. t. 1296*.

In our plants, as well those from Messrs. Lay and Collie as others from Mr. Vachell and Mr. Millett, the flowers are in small lax panicles, and not in simple racemes.


Of this we have only seen the panicles of flowers.

This seems to be an abundant plant, if we may judge from the specimens we have received from various friends.


The capsule consists of five cocci, which split in an elastic manner, and separate from the central axis, very much as in *Hura crepitans,* to which also in the appearance of the foliage this plant bears considerable resemblance. The leaves are described by Dr. Wallich as pubescent beneath, and they are so likewise in the specimen from China before us; but those from the Calcutta Garden, distributed by Dr. Wallich, (n. 1144 of his List of Indian Plants,) are, as De Candolle says, perfectly glabrous. We scarcely know what is meant in the Flora Indica (l. c.) by "Anthers twin:" probably anthers two-celled, as there is really but one anther, although the two cells be slightly distinct. Mr. G. Don, in Miller's Dictionary, places this species in *Commersonia,* with which it agrees pretty well in habit, but not in the structure of the fruit, nor in the tridfilament.—With regard to *Commersonia,* we have at page 60 of this Work inadvertently been led into the same mistake as other authors, by referring to Rumph. Amb. 3. 119, as a figure of Forster's *C. echinata.* At first sight the figure agrees well, and is therefore quoted by Forster himself; but on turning to the text, Rumphius thus describes the leaves "adulta inferius sunt subrotunda, in medio antem latissime, sex nempe digitos transversales lata sunt illa, que palmam longa sunt." Besides the great size described, they are represented strongly serrated. Now the plant we had in view, and which, after a second careful comparison with Forster's plate and description, we still consider to be his species, has rigid coriaceous leaves, glabrous above, and covered with a compact white pubescence beneath; their shape is oblongo-lanceolate, slightly and unequally cordate at their base, while their margin is slightly and distantly toothed. There cannot, we think, be the smallest doubt but the *Commersonia echinata* of Blume, now called *C. Javensis,* by Mr. G. Don, in Miller's Dictionary, (with which again we consider as identical *C. platyphylla, V. De Cand. Prodr. v. 1. p. 486,* and *C. echinata* of Roxburgh, figured and described by him as n. 1392, at the India House, but omitted in his own Indian Flora, although the name is inserted in the Hortus Bengalensis at p. 22,) is the plant figured by Rumphius; and further, we do not see any satisfactory character to distinguish it from *C. platyphylla,* Andr., figured in the Bot. Magazine, t. 1813.

1. Pentapetes *phaneicea.* Linn.


*Waltheria indica* of this order is found by Mr. Vachell near Macao.

**ORD. XII. TILIACÆ.** *Juss.*

CHINA.


We have been particular about the synonyms of this plant, of which we have numerous specimens from Mr. Millett and Mr. Vachell, because there appears to have been much confusion; the state with leaves broader upwards having been described by three different Botanists, under as many different names, all considering it as distinct from the plant of Linnæus. Hamilton, however, appears to have had in view as the Linnæan plant, another species called *Microcos tomentosa* by Smith, and which is the *Grewia paniculata* of Roxburgh; and it is not improbable that, from the specific name, Roxburgh himself fell into the same mistake. As to the specific identity of the two forms, we for some time entertained considerable doubts: the figures in Roxb. *Corom. Rheede, and Plukkenet* all representing the Ceylon and Malabar plants and agreeing with a specimen of *M. paniculata*, *Sm.* preserved in the Linnæan Herbarium, exhibit a leaf that is ovato-lanceolate, and scarcely cordate at the base; while in the others from China, Ava, and Bengal, the leaves are usually broader upwards above the middle, and then shortly acuminate. To the first belongs, of Wallich’s List, n. 1098, C. E. F. G.: and to the second, the other specimens of the same number, excepting perhaps D, the *G. begoniiifolia*, Roxb. *Fl. Ind.* p. 592, about which we have not had it in our power to satisfy ourselves. Our friends Dr. Wight and Hamilton’s specimens appear to determine the point that the one is not distinct as a species or even as a variety, from the other, the former Botanist having found the ovato-lanceolate leaf mixed with so strong an approach to the obvato-lanceolate kind, as to be scarcely distinguishable on the same bush, in hilly situations in the Peninsula of India: and although Dr. Hamilton says “folia apicem versus latiora,” his own specimen, preserved in the Museum of the University of Edinburgh, is quite intermediate between that and the Ceylon plant figured in Burman.

Of the Order *Tiliaceae*, we have *Corchorus acutangulus*, Lam., and *Triumfetta Lappula*, gathered near Macao, by Mr. Millett and Mr. Vachell.

Of the Order *Ternstroemiaceae*, Mr. Millett’s Collection contains a very fine plant, which we refer to *Cleyera*, though the anther be not “retrorsum setoso-hispidum,” nor the stigma divided. We think the species well deserving of bearing the name of its discoverer, who has rendered so much service to Botany during his long residence in China. Its characters we give below.*

Of the Order *Camellia*, *Polyspora axillaris*, (*Camellia axillaris*, Ker.) is sent from Macao by Mr. Millett.

*Cleyera Milletii*; foliis oblongis obtuso acuminatis integerrimis (siccatitate) venosis supra nitidis, pedunculis solitariis unifloris supraaxillariis cernuis, sepalis petalisque subequales umbosis acutis, staminibus pilis erectis appressis setosis, stigmatic simplici. (Tab. XXXIII.)


From *C. japonica*, the original *Cleyera of Thunberg*, this is known by its veiny always entire leaves, by the sepal and calyx nearly equal in size, and remarkably acute, and by the entire stigma. In *C. echinacea*, of which we possess fine specimens from Dr. Wallich, the peduncles are clustered, the sepal and petals are quite rounded at the extremity, the anthers are retrorsely hispid, and the stigma is bifid: and the same characters are found in the *C. grandiflora* of Dr. Wallich.

Tab. XXXIII. Cleyera Milletii. Fig. 1, Flower; fig. 2, Stamen; fig. 3, Petal; fig. 4, Pistil.—magnified.
ORD. XIII. AURANTIACEÆ. Corr.


"The fresh leaves, when rubbed, smell like anise-seed."—Collie, MSS.


This must not be confounded with the M. exotica of some Botanists, particularly of Roxburgh, Flora Indica, v. 2. p. 374, and n. 48 of his drawings, in the East India Company’s Museum, and apparently of Dr. Wallich’s List, n. 6368, which appears to be the Chalcas paniculata of Loureiro, the Murraya paniculata of Smith’s Herbarium, and Rumphius’ Herb. Amb. 5. t. 17, a species which is too closely allied to M. Sumatrana. Roxb. Hort. Bengh. p. 32, and Fl. Ind. v. 2. p. 375. With this last, is identical M. paniculata, Jack, and Hook. Exot. Fl. t. 79; it has the flowers terminal, and not nearly so panicled, if indeed they can be said to be so at all, as in the other species, hence, as Jack observed, the name given by him ought to be changed to M. Sumatrana, even although he had not given it upon the supposition that his and Loureiro’s plants were the same. The true M. paniculata may be characterised, "foliis ovatis, floribus paniculatis;" while M. Sumatrana is distinguished shortly by "foliis ovatis acuminatis, floribus terminalibus subsolitariis."


The genus Glycosmis is perhaps only distinguishable from Limonia by the structure of the fruit. In Limonia, the pericarp is tough, and resembling the rind of an orange, and the seeds are covered with pulp. In Glycosmis, the pericarp is fleshy, like the eatable parts of a cherry, and the seeds are destitute of pulp.—We possess Clansena excavata, Burm., and Atalantia monophylla, DC., of this Order, from near Macao, gathered by Mr. Millett.

ORD. XIV. HYPERICINEÆ. Juss.


Sent also by Mr. Millett.


On account of the three large glandular bodies that alternate with the bundles of stamens, and which are described both by Lamarck and Loureiro, although passed over in silence by Choisy, this plant, which we have likewise received from Mr. Vachell and Mr. Millett, ought perhaps to form the type of a genus, in which might be included, H. Cochinchense of Loureiro, a plant with obtuse leaves, and H.? coccineum, Wall. List, n. 4823, if indeed this last be not the same with the species from Cochín China. Perhaps also H.? pulchellum and H.? horridum of Wallich's List, nos. 4821 and 4822, are congener. The genus Tridesmos would be also distinguished from Hypericum, by the flowers being more or less of a red colour.

ORD. XV. GUTTIFERÆ. Juss.


Such is all the character the solitary specimen before us will permit us to give. It does not well accord with the figure quoted by Choisy, in Rumph. Amb. 3. t. 32; but it agrees better with Loureiro's description. The genera Garcinia, Xanthochymus, and Stalagmitis are in great confusion, and require to be studied anew from living specimens. Thus, as Garcinia is at present characterised by both Choisy and Cambessedes, not one species would belong to it: in all the species, the structure of the male flower is precisely as in Stalagmitis: and even, if we suppose the character of “stamina libera” to allude to the hermaphrodite flower alone, we shall scarcely find any but G. Mangostana to which it is applicable; the other species being almost without exception dioecious, and not polygamous. In some, no doubt, as in G. paniculata, Roxb. Fl. Ind. (with which it may be remarked, that G. Boobicowa, Roxb. H. Bengh. and G. Tantook, Roxb. MSS. n. 1064, at the India House, are identical), there are rudiments of stamens in the female flowers: in others, there are stamina with glands instead of anthers, but such flowers cannot be termed hermaphrodite. Perhaps Garcinia may be restricted to the polygamous species, while Stalagmitis (or Brendonia, for we can see no difference between them) includes the truly dioecious ones. As to Xanthochymus, we believe all are polygamous, and have the male organs alike both in the male and hermaphrodite flowers; besides, there is in the hermaphrodite, a gland, and in the male, a lobe of the discoid torus, between each bundle of stamens, which is not to be seen in either Garcinia or Staglamitis. Cambessedes has properly removed both Staglamitis and Xanthochymus from the section, having unilocular fruit.


Choisy, in De Candolle's Prodromus, says that the flowers are loosely racemose, which is far from the case in our plant: but then he quotes, without doubt, Burman’s C. Soulattri, to which, again, Roxburgh refers with equal certainty, as his C. Suriga: Roxburgh's short character, “leaves linear, oblong, polished, flowers verticilled below the leaves,” belongs evidently to our species, although the flowers are really axillary, and not infra-axillary. With regard to the other species in the Flora Indica, they seem to be scarcely known, and even Dr. Wallich does not refer to Roxburgh in his List of East Indian Plants. Yet we believe there can be little doubt, when we compare the descriptions with the specimens, that C. Bintagor, for which Roxburgh quotes Rumph. Amb. 2. t. 71, is C. inophyllum, G., of Wallich's List, n. 4841; that C. angustifolium is Wallich's C. pulcherrimum, n. 4848; and that C. lanceolarium, is C. Tacamahaca, Willd. As to C. acuminatum, Lam., or Rumph. Amb. 2. t. 72, usually quoted under C. spectabile, it appears to be a distinct species, with narrow leaves, six inches or more in length.
ORD. XVI. ERYTHROXYLÆ. Kunth.


ORD. XVII. MALPIGHIACEÆ. Juss.

1. Hiptage Madablota; foliis acuminatis, racemis terminalibus.

The variety b., from Prome and Martaban, is precisely the same as in the Collection from China. There are no glands at the top of the petiole.

ORD. XVIII. ACERINEÆ. De Cand.

1. Acer trifidum; foliis circumscriptione rotundatis basi subcordatis ad medium fere trilobis subitus glaucis junioribus pubescentibus, lobis ovatis crenulato-serratis.—Thunb. Fl. Jap. p. 163?

ORD. XIX. SAPINDACEÆ. Juss.

1. Cardiospermum Halicacabum. Linn.


ORD. XX. MELIACEÆ. Juss.


As no satisfactory representation has yet been given of this plant, we have thought a figure made from one of Mr. Millett’s specimens might not be unacceptable.

Tab. XXXIV. Aglaia odorata. Fig. 1, Flower; fig. 2, Cup of the stamens; fig. 3, The same laid open, showing the anthers and pistil.


ORD. XXI. AMPELIDEÆ. H. B. K.

1. Cissus Japonicus; foliis pedato 5-foliolatis glabris, foliolis ovalibus aristato-serratis

The specimen in the Collection is very imperfect, and bears rather narrower leaves than in others which we have received also from Mr. Millett: the lateral leaflets, although shorter than the others, are sometimes scarcely obtuse.


Very closely allied to C. orientalis, Lam.: indeed, so much that we should not have separated them as species, were it not for the quinary arrangement of the parts of the flower in the present individual. The stamens are opposite to the petals, and inserted with them at the base of the large cup-shaped torus, which closely surrounds the germen: filaments straight, short, scarcely longer than the torus: anthers two-celled. Style short and thick. Stigma simple.

Mr. Millett has sent a species of Vitis, from Macao, which we can compare with no species of Vine of the Old Word, but which so closely resembles the V. serotina of N. America, according to specimens we possess from Mr. Nuttall, that we dare hardly venture to consider it distinct. Almost the only difference is, that our plant has the leaves rather less deeply serrated, and somewhat glaucous beneath.

ORD. XXII. OXALIDÆ. De Cand.


This appears to be abundant at Macao, whence we have also specimens from Mr. Millett.—Oxalis repens of this Order, is also sent by Mr. Vachell from Lappas Island.

ORD. XXIII. RUTACEÆ. Juss.


The petals are certainly ciliated, and not entire, or merely toothed, as in R. graveolens, which one would rather have expected to find in China, than the present species. Loureiro, however, mentions that it is only found in a state of cultivation.


Macao. Mr. Millet.—In addition to these two species, there are fragments of two others in the Collection, too imperfect for description.

CHINA.

l. c.—GONUS AMARISSIMUS. Lour. Cochin. 2. p. 809.—AILANTHUS GRACILIS. SALISB.—Rumph. Amb. v. 7. t. 15.

We believe there can exist no doubt of Salisbury’s plant being identical with that of Roxburgh; the younger leaves are quite villous on both sides, and the racemes sometimes simple, in which state only Salisbury and De Candolle appear to have seen it. We possess the plant from Mr. Vachell and Mr. Millett.

CUNENOSMA PEDUNCULATA of this Order, has been communicated by Mr. Vachell from Hong Hong Island.

ORD. XXIV. CELASTRINEÆ. BROWN.


Dr. Wallich, in his edition of Roxburgh’s Indian Flora, observes how liable the leaves of E. orientale are to vary in shape. The same remark seems applicable to the present species: they are sometimes ovate and obtuse, sometimes oblongo-lanceolate, sometimes perfectly entire, sometimes obtuse serrated, and even some leaves are rather acutely serrated. We have always, however, seen them much longer than the petiole, and not as De Candolle says, “petiolo vix tripllo longiora.” Thus there does not appear to have been one character given to separate the E. glaucum from E. orientale, until the shape of the fruit was pointed out: in E. orientale, the drupe is oblong. Surely De Candolle must have made some mistake when he says, in the generic character, that the drupe is 5-celled, although sometimes, by abortion, with fewer cells; implying that the ovary is always 5-celled. Roxburgh and Dr. Wallich attribute only two cells to the ovary; but Dr. Gertner, however, appears to have seen (Fruct. 1. t. 57.) three cells in the drupe in E. orientale, but Roxburgh, in his figure, at the India House, n. 73, represents only two, and occasionally one cell.

ORD. XXV. ILICINEÆ. BRONGN.

1. ILEX PUBESCENS; ramis dense pubescentibus, foliis ovato-oblongis acutis integerrimis supra sparse subtus dense velutino-pubescentibus, umbellis axillaris subsessilibus glomeratis, calyce 5-6-fido, corolla 5-6-partita, germe 5-6-loculari. (TAB. XXXV.)

CAULIS lignosus, teres. RAMULI, juniores presertim, dense ac molliter pubescentes. FOLIA subcoriacea, alterna, breviter petioluta petiolo pubescenti, ovato-oblonga vel elliptico-oblonga vel etiam elliptico-lanceolata, vix acuminata, acuta, basi acutiuscula, supra glabriuscula vel potius pilis raris mollibus brevibus velutina, subtus dense ac molliter pubescentia. FLORES hermaphroditici, numero quinario vel senario gandentes, umbellati; umbellis binis ternisve aggregatis, subsessilibus, axillaris; pedicellis petiolum duplo triplo superantes, pubescentes. CALYS PUBESCENS: segmentis rotundatis. COROLLA petalis vix distinctis, unguibus per filamenta alternantia adglutinati, lacinias rotundatis calyce triplo longioribus, planis patentiibus. STAMINA petalis brevioris: antheræ adnata, cordato-ovata. DISCUS nullus. GERMEN superum, ovatum, 5-6-loculare: stylus nullus: stigma capitatum, 5-6-lobatum.

TAB. XXXV. ILEX PUBESCENS. Figs. 1 and 2, Flowers; fig. 3, Front view of a stamen; fig. 4, Back view of do. — magnified.

1. PRINOS ASPRELLUS; foliis deciduis elliptico-lanceolatis attenuatis obtusi-acutis, supra tuberculis raris minuti breviter pilós subasperis subtus glaberrimis denticulato-serratis
denticulis incurvatis, floribus 5—6-fidis, pedicellis axillaribus, masculis aggregatis petiolum
vix superantibus, fœmineis solitariis petiolo plus duplo longioribus.

Rami lignosi, teretes, glabrî, cortice fusco. Folia petioluta, alterna, membranaeâ, decidua, ovato-vel
elliptico-lanceolata, basi subacuta, apice in acumen plus minusve elongatum sublineare obtusiusculum,
attenuata, denticulato-serrata, denticulis uncinatis parvis subspinisiformibus incurvis, subitus glaberrima,
supra punctis minutis brevissime piliferis hinc illinc adspersis asperata. Flores polygami. Calyx 5—6-fidus,
adpresso sub-pilosus, segmentis rotundatis margine minute ciliatis. Petala 5—6, calyceum plus duplo super-
antia: ungues ope staminum alternantium coali: limbi rotundati. Masc. Discus nullus. Pistilli rudiment-
Herm. Flores solitaria, longe pedunculata. Stamina fertilia. Pistillum oblongum: germne 5—6-loculare,
ima basi toro tenui cupuliformi arcte cinctum, at discus expansus nullus. Stylus nullus. Stigma capitatum,
lobatum.

This is very closely allied to P. decidua of North America. The male and hermaphrodite flowers appear
to be always on different plants.

Tab. XXXVI. Prinos asprellus. Fig. 1, Male flower; fig. 2, Hermaphrodite flower: —magnified.


1. Paliurus Aubletia; aculeis duobus stipularibus rectis, foliis ovatis crenato-serratis
trimerviis, corymbis axillaribus, fructu turbinato apice plano marginate, ala crassa triloba.—
Cochin. 1. p. 348.

Only one specimen, and that in a very imperfect state, is in the Collection, but we have received others
from Mr. Millett, gathered near Macao. There seem to be two forms of the plant, the one with
glabrous leaves and branches, the other with both very pubescent. The last only we possess in
fruit, which is also very pubescent. The ala is by no means membranaceous, nor so broad as in P. aculeatus, but
of the same texture as the pericarp; it is three-lobed, the lobes rounded, and very slightly crenulated.
In P. aculeatus the rim of the fruit is broad, membranaceous, crenulated, but not lobed. Loureiro unfortunately
mistook the convolute petals for a series of stamens; "filamenta 10 basi fissurarum calyceis per
paria insidentia: horum 5 brevissima (the petals), 5 alia (the true stamens) triplo longiora: antheræ brevi-
orum oblongae, magne (the limb of the petals), longiorum parvae, ovata." This error, indeed, De Candolle
has hinted at, when he states that he had examined a specimen from Loureiro himself, and found only 5
stamens, and these concealed by the hollow limb of the ungulicate petals. We trust that the above
description of the fruit will not only suffice to distinguish the species, but show the propriety of its being left in
the genus Paliurus, where it has been hitherto placed, though doubtfully, on account of the obsccurity in which
the plant has been involved.

1. Berchemia lineata; inermis, foliis ellipticis integerrimis retusiis cum mucronulo,
pedunculis terminalibus vel versus ramorum apices axillaribus paucifloris, calyceis limbo 5-
partito, segmentis linearibus tubo multo longioribus petala stamina stylomque filiforme

Rami diffusi, nonnunquam subvolubiles, glabri, nitidi: ramuli ultimi pubescentes. Folia alterna, brevi-
petioluta, elliptica, retusa, mucronulata, integerrima, bistipulata, stipulis minutis, subulatis, planis, submem-
branaeosis vix indurescentibus, juniora subplicata, glabra, penninervia, supra viridia subitus pallida, nervis
plurimis obliquis paralleliis purpureo-fuscis prominentibus, venis tenuibus transversalibus reticulatis instructa.
Flores breviter pedicellati, hermaphroditæ vel diclinae. Calyx tubo brevi hemispherico: limbi lacinii

The above description, together with the accompanying figure, will, we trust, reclaim this beautiful species from obscurity. There cannot be the smallest doubt of its being the plant intended by Linnaeus, and we think there is as little of its being that of Loureiro, notwithstanding the many little discrepancies between his account of it and ours. Loureiro states that his plant is furnished "aculeis multis, sparsis, solitariis, rectis, brevibus;" this distinction is, however, omitted by De Candolle, who says of Loureiro's plant, "ramis inermibus," and rightly, too, for it appears that Loureiro drew up this part of his character to suit Plucknett's Phyt. t. 122. f. 4, which he quotes as a synonym, but which is an East Indian, not a Chinese plant, and more allied to Zizyphus, if indeed it has anything to do with this natural order. Again, Loureiro says, "folia subcrenata," which is not correct, although the leaves, from the strong nerves beneath, do exhibit a somewhat undulated margin. His "calyx 5-dentatus, minimus," is obviously a mistake for the small hemispherical tube; while his "petala 10 lanceolata aqualia erecta," comprehend both the calycine segments and the petals, the latter being his "interiora quinque amplacentia stamina." The remainder of his description coincides with our plant. We ourselves have not seen the fruit.—We now come to Poiret's Rhammus lineatus, which De Candolle makes distinct: on consulting his description, all he says of the thorns is, "les stipules forment, à la base des petioles, de petites épines très-courtes et aigues:" and these, although we agree with Linnaeus in not calling them thorns, are precisely what we have seen. He describes the flowers as solitary—"solitaires et laterales dans l'aisselle des feuilles," and we have occasionally observed the racemes reduced to one flower; but we rather suspect that part of his character to be made merely to accord with Burm. Zeyl. t. 88, which he cites; and in this we are confirmed by what follows the above extract—"cependant vers l'extremité des branches elles forment souvent une petite gruppe presque terminale," as in our specimens. It is obvious to any one who is in the habit of consulting the Encyclopédie Méthodique, that Poiret and Lamarck, when they had not sufficient materials of their own, borrowed from other authors without acknowledgment: and, in the present instance, not only is this true with regard to the solitary flowers, but also as to the fruit, the description of which, "une petite baie arrondie," is evidently taken from Burman's figure just quoted. Poiret's analysis of the flower, and description of the leaves, even to the little terminal bristle or mUCRO, exactly agree with what is now before us. Thus, we trust, we have made out satisfactorily, that the Rhammus lineatus of Linnaeus, of Loureiro, and of Poiret, are all one and the same plant. Of the older synonyms quoted by these authors, there can be no doubt of Plukn. t. 408. f. 3, which comes from China; but, as we have already stated, we cannot refer here to Plukn. t. 122. f. 4. As to Burm. Zeyl. t. 88, the Berchemia Burmanniana of De Candolle, and Rhammus Vitis-idea of Burm. Fl. Ind., it has nothing to do with this tribe of plants. Bronniart, in his Memoir on the Rhamnaceae, has proposed to make it a new genus, near to Andracne. Moon, in his Catalogue of Ceylon Plants, refers it to Phyllanthus rhamnoides. Dr. Wight and Mr. Arnott (Flora Penins. Indiae Orient.) consider it identical with Plukn. Phyt. 69. f. 3, and both as referable to Phyllanthus multiflorus of Klein's Herbarium, and consequently of Willdenow. Perhaps Plukn. t. 122. f. 4, is a bad representation of the same plant.—Messrs. Vachell and Millett find this plant about Macao and the adjacent islands.

Tab. XXXVII. Berchemia lineata. Fig. 1, Flower; fig. 2, Section of do.; fig. 3, Petal and stamen.

The Rhammus theezae, Linn. (Sageretia, Brongn.) we have received from Mr. Millett; and also the Ceanothus Asiaticus.

Ord. XXVII. HOMALINEÆ. Brown.

1. Blackwellia fagifolia; folis elliptico-lanceolatis serrulatis supra glaberrimis subitus puberulis brevissimse petiolatis, racemis simplicibus spiciformibus axillaribus nutantibus folium subaequantibus, floribus 6-8-andris 2-4-gynis, perianthii laciniis 12-16 subbiseri-

It is extremely difficult to ascertain whether the narrow or broad segments of the perianth are exterior, so nearly do they all form one series: but the smaller ones will be found to form a small ridge on the tube, by their union to it, while there is a slight depression or channel from the base of the other series: on this account we have viewed the former as the exterior; but, whether they actually be so or not, it is at the base of the smaller segments that the glands are situated, the stamens being placed opposite to the broader series. De Candolle says of the genus, that the smaller ones are the interior, and opposite the stamens: perhaps different species vary in the relative size of the two series: but if not, and if it is the smaller series that is constantly exterior, a supposition confirmed by the structure of Homalium, then the stamens must be viewed as opposite to the exterior row, as in that genus. This plant seems very closely allied to B. axillaris, Lam. Ill. t. 412, f. 1, from Madagascar, where, however, the spikes of flowers are much longer than the leaves, the flowers smaller, and the leaves almost orbicular. The B. padiflora of Mr. Lindley, we consider to be identical with B. fagifolia.

The Rhus semialata, Murray, (R. Javanica, L.) is communicated by Mr. Millett from Macao.

ORD. XXVIII. CONNARACEÆ. Brown.


Macao. Mr. Millett.—Since Roxburgh says of this plant, "seed solitary, attached to the bottom of the capsule, as in the germ, ovate, invested in a complete orange-coloured aril: perisperm none," with which our observations accord, we trust there can be no doubt about the propriety of removing this species from Cnestis to Connarus. The same plant has been collected by Dr. Wight in the peninsula of India, so that its geographical distribution is tolerably extensive. On account of the firm and almost coriaceous nature of the leaves, the nerves and venation are not prominent, by which character it may be readily distinguished from C. santaloides, where the veins are prominent and reticulated beneath.

2. Connarus microphyllus; foliis 5-6-jugis oblongo-lanceolatis obtusis glabris vix coriaceis supra nitidis junioribus subtus glaucis venis prominulis, petiolis ramulisque glaberrimis, racemis axillaribus laxis paucifloris folio plus dimidio brevioribus.—Aegiceras minus. Gaertn. Fruct. 1. t. 46.

This species is very closely allied to C. mimosoides of Vahl, from the Nicobar Islands, which has also small leaflets, scarcely an inch long: but C. mimosoides is described with from 9 to 11 pairs, and they are said to be deeply emarginate. In Vahl's plant, too, the younger branches appear to be pubescent. Although, therefore, we acknowledge the close affinity of the two, we cannot unite them. The figure given by Gaertner, of his Aegiceras minus, so entirely accords with the fruit of our plant, both as to size and shape, that we have quoted it without hesitation: we ought to remark, however, that Roxburgh has pointed out its affinity to his Cnestis monadelphus, the fruit of which is considerably larger; and Sprengel has quoted it without doubt, under C. santaloides. In structure, it accords perfectly with the last species, and with the genus.

3. Connarus? juglandifolius; foliis 4-5-jugis ovato-oblongis subiter acuminatis acutissimis obliquis subfalcatis supra nitidis glaberrimis, petiolis ramulisque glaberrimis, paniculis apices versus ramorum axillaribus, fructu (juniore) compresso oblique ovato.

We have neither seen the flowers nor the germens, the only specimen in the Collection having the latter
considerably swelled, in which we have only been able to trace one ovulum suspended from a funiculus that rises from the very base of the cell. If there be really only one ovulum in the germen, this plant must not only be removed from Connarus, but from the tribe, and be placed near to Pistacia; in which case it may, with the P. oleosa of Loureiro and De Candolle, be referred to Dr. Hamilton’s genus, Cussambium. (Wern. Trans. v. 5. p. 256.) Against this, however, the structure of the advanced germen seems considerably to militate, being compressed, and evincing a tendency to split readily, nor does the epicarp separate, as in the case of Pistacia, and other young drupes. We are therefore inclined to suppose, that there may actually be two ovula present in the unimpregnated germen, and we place it in Connarus.

ORD. XXIX. LEGUMINOSÆ. Juss.


2. Crotalaria Vachellii; stipulis subulatis aculeiformibus minutis recurvis, foliis trifoliolatis, folioliis oblongis subretusis cum mucronulo subitus adpressae pubescentibus subpellucidopunctatis petiolum duplo longioribus, racemis patentibus subelongatis oppositifoliiis, leguminibus globosis breviter pedicellatis hirsutis styli basi indurato uncinatis.

This species is exceedingly common at Canton, but we have not been able to discover that it is noticed by Loureiro. It approaches very close to C. virgata, Koen. and Roxb. (n. 373 of his drawings at the India House,) or C. divaricata, Graham, in Wallich’s Catalogue of East India Plants. The stems are herbaceous, but what the duration of the plant may be we are ignorant. It belongs to a small group, proposed by Mr. Brown to constitute a genus, Cyrtolobus; but as no character of it is yet published, we have no means of judging of its validity, and therefore leave it in Crotalaria. Clavulium of Desvaux, (Ann. Sc. Nat. v. 9. p. 407,) another genus, consisting of species removed from Crotalaria, is not distinct from it, or it must comprehend many more species than the two pointed out by the Author.


Dr. Graham (Wallich's List of E. I. Plants, n. 5942,) appears perfectly correct in uniting this with M. altissima, Thuill. Perhaps, therefore, the latter name ought to be retained as the oldest; but M. leucantha is not only more expressive, but more generally adopted by Botanists. In like manner M. Indica is also superseded; it being no way distinct from M. parviflora, and is generally diffused throughout the world.


It is unnecessary to repeat here the character we have already given of this species; but we may remark
that the racemes of flowers are terminal as well as axillary. We place little dependence on the slightly angled stems: indeed, if Dr. Wallich be correct in uniting the *Hedysarum purpureum* and *Desm. angulatum*, we must almost suspect some error in the description given by De Candolle, as we have never observed the stems more angled than is usual in most species of the genus, where it is owing to the petioles being slightly decurrent. It is more than probable that several other species ought to be joined with it.


We cannot but consider this plant as distinct from Linnaeus' *Hedysarum juncceum* (*Lespedeza juncce, Pers.* and De Cand.) which has the leaves linear and cuneate; as it assuredly is from the *L. juncce* of Dr. Wallich, Cat. n. 5743, of which we possess specimens from that munificent Naturalist. Another and Siberian species has been named *L. Pallasii* by Mr. G. Don, in his edition of Miller's Dictionary, although he does not appear to be aware that it has been described and figured by Pallas, (Itin. App. 8. p. 394. t. 81. f. 4.) under the name of *Trifolium? hedysarooides*, and has actually been introduced into the genus *Trifolium*, in De Candolle’s *Prodrumus*, v. 2. p. 204. n. 114.

1. **Abrus precatorius. Linn.**


We think there is no doubt of our plant being that of Loureiro; although De Candolle, who examined an original specimen, says that the racemes are longer than the leaves; it is probable, however, that he only saw specimens in fruit, in which state the racemes might be elongated, although in the specimens we possess, with fully formed legumes, the racemes are still shorter than the leaf.

1. **Soja hispida. Mænch.**


The specimen before us agrees exactly with what we possess from Dr. Wallich under the same name; but we cannot perceive any constant mark to allow of its separation from *C. flava*, the number of seeds being very apt to vary.


We believe this to be Loureiro’s *Robinia mitis*; and as he mentions that it is a shrub only three feet high, while the *P. glabra* is a lofty tree, we have been induced to give a character that may more effectually separate the two.


2. *Inga dimidiata*; ramis angulatis, foliis bipinnatis pinnis 4-jugis, pinnulis inferioribus 4–5-superioribus sub 9-jugis, glandula ad basin petioli tetragoni communis et inter omnes pinnas
atque foliola, folioliis trapezioide-ovatis supra nitidis inferioribus parvis superioribus sensim triplo majoribus, florum capitulis paniculatis.

No Inga, hitherto described, appears to agree with this, which has also been sent us by Mr. Millett. The petiole is quadrangular, the pinnæ being inserted on each side of the upper angle, on the sharp edge of which, therefore, are seated the glands. The leaflets resemble those of what we possess under the name of I. fagifolia.

3. Inga bigemina? inermis, foliis conjugato-pinnatis, pinnarum foliolis 3–4-jugis oblongo-lanceolatis supra nitidis, glandula sessili ad medium petioli communis et inter omnia foliola, unica pedicellata in dichotomia, florum capitulis paniculatis, legumine torto.—Willd. Sp. Pl. v. 4. p. 1007?

If the figure of Rheede, Hort. Mal. 6. t. 12, which is usually referred to, be considered a correct representation, then our plant must be a different species; our character is therefore drawn up from the specimens in the Collection. Willdenow does not notice the gland about the middle of the common peduncle, otherwise his description accords pretty well. Vahl, however, (Symb. 2. p. 103.) says, “glandula in petiolo commun ad basin partialium et inter singulum par pinnularum,” which seems to imply that he had observed it.


We have so named this on the authority of our friend Dr. Wight, the specimen in the Collection being exceedingly imperfect. We have, however, quoted Willdenow with doubt, as the leaflets are smooth beneath, and only pubescent on the margin, and as we have not been able to discover a gland between the lower pinna; but we observe glands between the lower leaflets.

1. Caesalpinia Millettii; pinnis 7-jugis, foliolis 15–18-jugis oblongis obtusis basi obliquis subtus puberulis, aculeis parvis subtus inter pinnas, caule superne petiolisque dense pubescentibus, panicula elongata, calyce glabro.

Although we do not possess the fruit, we believe this species will be found to belong to the section "Sappania." The specimen in the Collection is destitute of leaves, and is only in bud, so that we have had recourse to specimens sent long ago by Mr. Millett, after whom we have named it.

2. Caesalpinia Chinensis?; pinnis bijugis, foliolis bijugis elliptico-oblongis utrinque obtusis coriaceis glabris supra lucidis, racemis axillarisibus pedunculatis recurvatis, petiolo communis ultra pinnarum par inferioris sparse minuto aculeato.—Roxb. Fl. Ind. 2. p. 361?

Roxburgh's plant had not flowered, but he describes the stem as scendent, (a point we cannot determine in the specimen in the Collection) and the "pinnæ and leaflets of from two to three pairs." In the two or three leaves in our specimen, they are constantly two pairs. It probably belongs to the section "Nugaria." The leaflets are precisely as in C. Sumatrana, Roxb.

LAYIA. Hook. et Arn.


1. Layia emarginata. (Tab. XXXVIII.)

Captain Beechey's Collection contains only the foliage and ripe fruit of this plant; but we have the good fortune to possess from Mr. Millett, specimens in flower, and are thus enabled to describe the plant as a genus hitherto unknown to authors. It is indeed probable that the Macrotropis of De Candolle, (Anagyris festida, and A. inodora of Loureiro), may have affinity with this plant; but the rounded many-seeded fruit, and the "folia multijugata" of the former, forbid the two to be united.

Tab. XXXVIII. Layia emarginata. Fig. 1, Flower; fig. 2, Calyx and Pistil:—magnified. Fig. 3, Legume; fig. 4, Seed; fig. 5, Embryo:—natural size.

1. Bauhinia variegata. Linn.

In the specimen before us, the leaves are puberulous beneath, and not glabrous, as described by De Candolle; at the same time we think it must be his var. s. Chinensis. Roxburgh, in his Indian Flora, vol. 2, p. 319, says, that the leaves are "somewhat villous underneath," so that they appear to vary considerably in that respect. B. candida seems a very closely allied species, if, indeed, it be really specifically distinct. De Candolle places the two in very different sections, but perhaps the only discrepancies are in the colour of the flowers, and the presence or absence of sterile filaments between the five fertile stamens.


Only two leaves have been collected, but we trust there is no doubt as to the identity of the plant. From Roxburgh's description, it seems to belong to De Candolle's section, Phanera.


One of the most elegant and delicate of the genus. Roxburgh says of it, "Stem scarcely anything that deserves the name, but many long slender branches and branchlets climb and spread in every direction, to an extent of many fathoms, running over high trees," &c. De Candolle's figure and description represents the fertile stamens shorter than the petals: in our specimens, they are sometimes longer, but usually about the same length.


Of this, only a fragment exists in the Collection, and we have referred it to the B. scandens, chiefly on account of the rusty coloured pubescence on the under side of the leaves, notwithstanding that each segment has only three nerves. Much confusion prevails about this species, and we shall therefore make no apology for transcribing the following description from Rumphius: "Tenera folia complicata sunt instar libri, interne penitus viridia et glabra externe quodvis segmentum per sex virides costas longitudinales distinguitur, atque ruftum, et ad tactum instar serici molle est, sine notabili tamen lanugine, et quodammodo splendens: seniorea folia sese aperiant seu explicant, suntque superne viridia, inferne vilva: eadem rufta lanugo in petiolis et ramulis supremis observatur, quoque folia sint vetustiora, eo magis inferne glauca sunt." De
Candolle attributes only three nerves to each segment of the leaf. Roxburgh’s *B. scandens* (Fl. Ind. 2, p. 326) has glabrous leaves and orbicular petals, and is now called *B. macrostachya* by Dr. Wallich, in his List of East Indian Plants, n. 5774.


**Ord. XXX. ROSACEÆ.** Juss.


We regret to say that the flower is double, as in all the specimens we have yet seen.


*S. corymbosa* of Roxburgh, we believe to be the cultivated state of this plant, more especially as he says, in his Flora Indica, that it is a native of China; he adds, however, that it is also a native of the Mountains north of India, from which he seems to confound it with *S. callosa*, Thunb. (the *S. Bella* of Sims, Bot. Mag. t. 2426.) The figure among his drawings, n. 949, at the India House, is not like either, having neither the lateral few-flowered slender umbels of the one, nor the corymbose panicle of the other. Mr. Lindley has accordingly, in Wallich’s List of E. I. Plants, n. 701. p. 21 and 248, considered it as probably a variety of *S. chamaedrifolia*.


It is singular that Seringe, in De Candolle’s Prodromus, and Mr. G. Don, in Miller’s Dictionary, both refer to *R. parvifolius* of Thunberg, when no such plant is described by him. We have, however, brought hither as a synonym *R. triphyllus* of that Author, on the authority of a specimen from Nagasaki in Japan, in Mr. Arnott’s Herbarium, from Dr. Fischer of St. Petersburg, and agreeing minutely with Thunberg’s description. Linnaeus’s plant was given him by Osbeck, and is most probably therefore from China; but he and succeeding Botanists have surely erroneously referred to Rumphius, Herb. Amb. v. 5. t. 47. f. 1. This last species has ovato-lanceolate leaves, and seems to be what Chamisso and Schlechtendal have described as *R. Tagallus*, (Linnaeus, v. 2. p. 9): if, however, it has tomentose leaves, but Rumphius does not say so, it may rather form a species with what Thunberg calls *R. Ideus*, but which can scarcely be the same with the European plant.

2. *Rubus reflexus*; ramis teretibus rufo-tomentosis, aculeis parvis sparsis folisque oblongo-cordatis 3–5-lobis infra dense tomentosis lobo terminali elongato venis reticulatis numerosissimis, stipulis bracteisque lanatis fimbriatis, racemis spiciformibus interruptis folio plus

Dr. Wallich proposes to unite this species to R. rugosus, as a variety: the shape of the leaves and of their lobes, is, however, considerably different. In cultivation the racemes are almost abortive, and very short; but in the wild specimens they are two or three inches long. It is probable that R. Lambertianus may be a nearly glabrous variety, but we are not acquainted with it. Seringe, in addition to the character he has given of it in De Candolle’s Prodromus, writes: “cette especce n’a rien qui frappe l’œil, mais elle me paraît se distinguer aux lobes de ses feuilles cordiformes assez semblables par leur grandeur et leur circonference aux feuilles d’ Althea officinalis: Les rameaux sont cylindriques, comme granuleux par une poussière floconenuse qui leur couvre:” Its native country also is China.


This has much the appearance of R. bracteata, but we have not been able to perceive the involucral bracteas which characterise the section to which that species belongs.


Although we have retained the above specific name for this species, yet we entertain very great doubts as to its being the plant intended by Linnaeus. Since, however, Mr. Lindley has paid much attention to the subject, we prefer following him and De Candolle to changing the names they have given. Loureiro’s Cratægus Indica, and we think also of Linnaeus, has lancelolate leaves, and belongs to R. phæostemon of Lindley: while C. rubra, Lour. we have referred here, our specimens having generally the leaves “cuneiformi-ovata,” as that Author describes. The R. rubra, Lindl., is very distinct.


β. prunifolia; foliiis ellipticis basi acutis apice vix acuminatis serrulatis, paniculæ terminalis corymbosæ ramis ramulisque strigoso pubescentibus, pedicellis calyce longioribus.

The shape of the leaf in our β. is so very different from that of α., as almost to justify our considering the two distinct species. We were inclined to refer it to P. levis of De Candolle, the Cratægus levis of Thunberg, which appears to have the leaves of the same shape; but that species is described “florum umbella subsimplici,” which cannot at all apply to our plant. In addition to these two states, we possess also from China, a third, from the late Dr. Livingstone, (very closely allied to Ph. Sieboldi, of G. Don in Miller’s Dict., or Maskilca Sieboldi, Blume,) which may be thus characterised:—β. obovata; foliiis cuneato-ovatis obtusis et basi ad apicem serrulatis, paniculæ terminalis corymbosa laxa, pedicelli pubescentibus calyce longioribus.—The leaves are all strongly emarginate in our specimen, but this may perhaps be accidental: they are also furnished beneath with very dark brown glands; an appearance which may have been produced by the specimens having been sent to this country in water saturated with salt, since neither of the other varieties has the glands so deeply coloured.—We possess Erioæotrya Japonica from Mr. Millett.
ORD. XXXI. MEMECYLAE. De Cand.


The interior of the germen is marked with eight or ten ridges, corresponding with the number of ovules; these probably become more apparent as the fruit swells, giving the appearance which Louriero describes in rather anomalous language, "bacca 8-locularis, monosperma." It is, however, only one-celled, and one-seeded, as in the rest of the genus. The flower-buds are about the size of the seed of Vicia lathyroides.

2. Memecylone nigrescens; ramis teretibus, foliis ovato-ellipicis basi acutis apice obtuse breviter acuminatis pergamaceis uninervis nigrescentibus breve petiolatis, floribus minutis numerosis in capitula globosa densa ad nodos infra folia sessilia digestis, germine uniloculari 8–10-ovulato.

The whole head of flowers is scarcely so large as a small pea, and consists of at least forty or fifty flowers, so minute as to render their structure difficult of determination. The torus appears to be grooved, as in the last species, and the germen one-celled: but it is probable that these characters are common to most of the genus, at least we have not been able to detect any true dissepiments in such species as we have examined. The interior of the germen is, however, marked with ridges, which at first sight might induce one to suppose that it contained more than one cell.

Of the Order Granatea, Mr. Millett sends Punica Granatum, flore pleno.

ORD. XXXII. COMBRETACEÆ. Brown.


Of the Order Onagraciea, we possess from Mr. Millett and Mr. Vachell, Jussieuia fruticosa, DC., and J. repens, L., both from Lappas Island.

Of the Order Lythraciea, we have beautiful specimens of Lagerstremia Indica, L., and L. Regina, Roxb.

ORD. XXXIII. TAMARISCINEÆ. Desv.


The specimens before us are destitute of flowers, and will not permit us to decide whether or not Ehrenberg is right in reducing it to T. Gallica.

ORD. XXXIV. MELASTOMACEÆ. Juss.

1. Melastoma Malabathricum; fruticosum, ramulis tetragonis strigosos-asperis, foliis elliptico-oblongis basi obtusis apice acutis integerrimis utrinque viridibus strigosos-scapris, corymbis 1–5-floris, calycis adpressae squamuloso-strigosoi lobis ovatis acutis, staminibus alternis, con-

The nerves of the leaves are generally five in number; sometimes they are reduced to three, and we have seen, in a specimen we have from Canton, as many as seven, in which state the species forms Loureiro's M. septennervium.—Mr. Vachell and Mr. Millett find the Melastoma macrocarpum, Don, and a variety of Osbeckia Chinensis, with narrow leaves, (the O. augustifolia, Wall,) and with a glabrous calyx.

**ORD. XXXV. ALANGIEÆ. De Cand.**


We have retained, along with De Candolle, the generic name given by Roxburgh, but we scarcely know why the older one of Stylis is not retained.

**ORD. XXXVI. MYRTACEÆ. Juss.**


The petals appear to be distinct, hence our doubts as to the genus; to which many species are now referred, of which the petals do not fall off like a calyptra. The tube of the calyx is obovate, with four angles: the limb is four-lobed, the undivided part being lined with the torus; lobes ovate, slightly carinate. Stigma simple. The leaves are from half-an-inch to an inch long; although we have described them as ovate, yet they vary occasionally to oblong, to cuneato-oblong, and even to cuneato-obovente: we have always found them obtuse.


Our plant agrees much better with the description given by Loureiro, than with the character of De Candolle. It ranks, as a species, very near to S. Zeylanicum, and S. politum, Wall., from which two it principally differs by the short, not elongated, tube of the calyx. The berry appears to be white. The specimen in the Collection is destitute of flower and fruit, our character of these being taken from specimens sent by Mr. Millett and Mr. Vachell. We possess, by the liberality of the same gentlemen, some other species, among which, are S. nervosum, De Cand., S. fruticosum, De Cand., and one or two apparently undescribed.

Roxburgh in his Flora Indica, introduces this species, both under Aiton’s and Loureiro’s names; but this, we think, is obviously a mistake of the printer, as the one is introduced without synonyms, and the other without a specific character.


2. Psidium pomiferum. Linn. l. c.—Rumph. Amb. 1. t. 48. Rheede, Mal. 3. t. 35.

The number of flowers varies from one to three on the peduncle, and the shape of the fruit is scarcely more constant than in a common pear, so that no character is left to separate this and P. pyriferum, except the larger size of the whole plant in the latter.—We have also, from Mr. Millett, P. pumilum, Vahl, which leads us to suspect, that P. caninum of Loureiro, is referable to that plant: the leaves, however, are decidedly opposite and entire, not alternate and serrated, as he describes them.


From Mr. Millett and Mr. Vachell, we possess of the Order Cucurbitaceae, the Cucumis sativus, L., Momordica Charantia, L., and M. monadapha, Roxb. MSS.

ORD. XXXVII. PORTULACEÆ. Juss.

One mutilated specimen of a plant of this Order is in the Collection, of the genus of which we are uncertain.—It may be thus described:


The seeds not being perfectly mature, we cannot ascertain their internal structure: the albumen appears farinaeous. On removing some of the scales from the bottom of the calyx, one filament is seen to be constantly attached to them in front, and another at each side, hence we presume the number of filaments to be fifteen; but in other of the scales, we could not observe the lateral filaments; and in some, we only saw a filament at one of the sides; hence we doubt whether the complete number might not be ten, five opposite to the scales and sepals, and five alternating with them. But whether all of them, or which of them bear anthers, we could not ascertain, they having all dropped off. In some points, this plant approaches to Talinum.

Of the Order Paronychiæ, Mr. Millett and Mr. Vachell find the Polycarpea corymbosa, Lam.

ORD. XXXVIII. CRASSULACEÆ. De Cand.


This species seems only to differ from K. Ägyptiaca by the yellow not orange coloured flowers, which is surely an insufficient character.
ORD. XXXIX. FICOIDEÆ. Juss.


Most probably cultivated.


ORD. XL. SAXIFRAGEÆ. Juss.


1. Itea *Chinensis*; foliis elliptico-oblongis acutiusculis denticulatis, racemis spiciformibus axillarisbus solitariis binisve folium subaequantibus. (Tab. XXXIX.)


We trust there can be no doubt of this being a true species of *Itea*. In some points it approaches to *I. macrophylla*, Wall. in Roxb. and Wall. Fl. Ind. 2. p. 419; but that is described with a half inferior germin, surrounded by an obscurely lobed concave fleshy disc, and has lately been referred, with doubt, to Wallich’s new and undescribed genus, *Kurrimia*, among the *Celastrineae*. The present does not appear to be rare at Canton, but we do not find it in Loureiro's *Flora Cochinchensis*. Mr. Lindley, some years ago, according to a specimen in Dr. Hooker’s Herbarium, considered it as perhaps a species of *Astranthus*, but this opinion was probably given more from the general habit of the plant, than from an examination of the flowers. *Itea Rosmarinus*, Roem. and Schult., or *Cedrela Rosmarinus*, Lour., has surely nothing to do with this genus.

Tab. XXXIX. Itea *Chinensis*. *Fig. 1*, Flower; *fig. 2*, Stamen; *fig. 3*, Petal; *fig. 4*, Pistil, with its anuular gland: —magnified.

ORD. XLII. UMBELLIFERÆ. Juss.


ORD. XLII. ARALIACEÆ. Juss.

1. Paratropia *Cantoniensis*; caule arborescente, foliis longe petiolutis digitatis, foliolis 5–9 ellipticis basi acutiusculis apice subiter brevi-acuminatis subcoriaceis glabris, racemo terminali
furfuraceo, floribus subfasciculatis decandris, stigmate sessili 10-fido.—Aralia octophylla.

We believe there can be no doubt of this being the plant of which Louriero says: "Nascitur prope Cantonem in Sinis hujus plantae (Aralia octophylla) varietas, ni velis species, caule, foliis et habitu florum omnino similis; differt autem staminibus decem et stigmate 10-fido;" on which account we have introduced that latter character. The specimens which we possess from Mr. Millett, however, have the flowers unexpanded: that in Capt. Beechey's Collection consists only of a leaf. The "calyx truncatus" and "stigma sessilia" obviously point out the genus Paratropia, rather than Aralia. As a species, it comes very near to P. pergamacea, De Cand.

Pranax aculeatam, Ait., we possess from Mr. Millett and Mr. Vachell.

ORD. XLIII. LORANTHACEÆ. Don.


ORD. XLIV. CAPRIFOLIACEÆ. Juss.


This has scarcely at all the appearance of a Viburnum, from which genus the presence of a style seems essentially to distinguish it. Indeed, were it not that we have been unable to discover any trace of stipules, it would seem to rank nearer the Rubiaceæ: and it had been previously marked in our Herbaria, under the MSS. name of Caffea monosperma. Hook. et Arn.

2. Viburnum nervosum; sempervirens, foliis elliptico-lanceolatis basi apice acutis glabris subitus impunctatis serraturis utrinque versus apicem paucis, nervis supra impressis subitus prominulis ad axillas glabris, venis transversalibus numerosis conspicuis, petiolis pedunculisque brevibus glabris, corymbo terminali.

This is closely allied to V. prennaceum. Wall.: the leaves have the same kind of nervation; but in the Indian plant we observe, besides the characters given by De Candolle, (Prodr. v. 4. p. 325,) that the axilae of the nerves are furnished with a tuft of short hairs, which are totally absent in the Chinese plant.

We possess a third species of Viburnum, as far as we can judge from the very young flowers, from Mr. Millett, which may be thus distinguished:—V? Chinense ; foliis membranaceis lato-ellipticos acutis grosse inaequaliter dentatis, supra glabris subitus praecipue junioribus puberulis impunctatis, corymbis terminalibus pubescentibus.

1. Lonicera Telfairii; ramis volubilibus glabris junioribus pubescentibus, foliis petiolatis

We first became acquainted with this species by specimens sent from the Mauritius by Mr. Telfair to Dr. Hooker; but it is only there probably in a state of cultivation. It is closely allied to the one hand to L. confusa, De Cand., from which it differs by the leaves being smooth above, and the short peduncles; and on the other to L. Leschenaultii, Wall., which, however, is said to have ovate subcordate ciliated leaves, and villous branches. This, with many others in the section “Nintooa” of De Candolle, might with justice be referred to the old L. Japonica, a species which has been perhaps too much dismembered.

ORD. XLV. RUBIACEÆ. Juss.


The specimen before us has the leaves considerably broader than is figured in the Bot. Magazine, which makes us suspect that A. peduncularis, De Cand., or Nauclea adinoides, Lindl., is a mere variety.


Notwithstanding such high authorities, we can scarcely consider this as distinct from M. frondosa: indeed the principal point of difference appears to be that, in the latter, the leaves and panicle are described as villous. Some Authors add that in M. frondosa the tube of the corolla is scarcely longer than the calycine segments, while in M. pubescens it is more than twice as long; and this may be true if the figure in Burman, Zeyl. t. 76, where it is so represented, be considered the type of the species and where the flowers are described as red; but then if the Belilla of Rheede, Hort. Mal. v. 2. t. 18, (not 17, as quoted by Roxburgh, Wallich, and De Candolle,) be the same, the calycine segments are remarkably short in comparison with the tube of the corolla. The Belilla of Rheede is, however, probably distinct, and the same may be said of M. Sumatranæ, Roth., although we suspect there is a mistake regarding the red coloured corolla in both the plant of Rheede and of Burman. After a careful comparison of Rumphius’ figure, in the Herb. Amb. v. 4. t. 51, and of his description of his Folium Principisæ angustifolium, we feel inclined to refer it here rather than to M. glabra, under which it is quoted by Vahl and De Candolle. Perhaps also M. frondosa, Roxb. Hort. Bengh. and Fl. Ind. v. 2. p. 557, as well as of Roxb. et Wall. Fl. Ind. v. 2. p. 227, Wall. List of E. I. Plants, n. 6250, a—e, and M. Dovinia, Ham. in Linn. Trans. v. 14. p. 203, who refers to the figure in Rumphius, as identical with M. pubescens, which, in cultivation in this country, has frequently the whole underside of the leaves pubescent.


1. Randia Sinensis; spinis brevibus oppositis subrecurvis, foliis (lanceolatis Lour.) superioribus ovatis lævibus glabris, corymbis terminalibus parvis paucifloris, calycis limbo tubuloso

The specimen before us is no doubt very imperfect, only exhibiting the upper part of a branch; but notwithstanding that the leaves are ovate and somewhat obtuse, we believe it to be the same species that Lourier had in view. We have not seen more than two flowers in the corymb; but it is probable that better specimens may exhibit more. As to *R. longiflora*, figured by Lamarck, and described by Roxburgh, under *Posoqueria longiflora*, we can discover no difference, except that the leaves and flowers are slightly larger, and the latter more numerous. De Candolle says of this genus, “Antherae intra nucem sessiles inclusae;” but in several species the anthers are exserted, as in *R. longispina, mutans, floribunda*, and *horrida*, in addition to the present species; and in *R. fasciculata* and *rigida* they are exserted for one-half and two-thirds of their length.

From *Gardenia*, however, to which it is most nearly allied, (not *Posoqueria*, as is stated by mistake in De Candolle’s Prodr. v. 4. p. 385,) it differs by the bilocular germin and fruit.


The specimens in the Collection have the leaves narrower and more acuminate than in the figure in the Hort. Malabaricus, which exactly agrees with specimens we have received from Dr. Wight, from the Peninsula of India; but we do not consider them as a distinct species.—Another *Cupia*, as it appears to be, from the habit and appearance of the fruit, (which, however, contains several seeds,) we have received from Professor Lindley, and the late Dr. Livingstone. It may be called *C. mollissima*; fruticosa, foliis lanceolatis utrinque sed subus precipue pilis brevibus numerosissimis mollissimis, calycis lobis brevibus obtusissimis, fructibus pubescentibus polyspermis.—The hairs which clothe every part of the plant are of a rusty hue.


This approaches very closely to *H. ulmifolia*, Wall., also to *H. lineata* of Roxburgh; but as far as we can judge from the character given in the Flora Indica, it is quite distinct. The specimen in the Collection is only in fruit. We are so fortunate as to possess beautiful flowering specimens from Mr. Millett, and also likewise, another species with a habit not very dissimilar, which may be characterised thus:—*H. uncinella*; suffruticosa glabra, ramis subsimplicibus, foliis petiolatis oblongo-lanceolatis venis longitudinalibus subsimplicibus parallelis, floribus axillaribus terminalibusque numerosis glomerato-verticillatis subsessilibus, capsula turbinata glabra tubo calycis contracto ejusque dentibus subulatis recurvato-uncinitis longe ciliatis coronata septica! bipartibili; but this may perhaps form the type of a new genus, to which, judging from the habit, for our specimens are not sufficiently advanced, it is probable that *H. cephalophora*, Brown in Wall. List of E. Ind. Plants, n. 842, may belong. In addition to these, we have also from China, the *H. angustifolia*, Cham. and Schlecht.


There is only one specimen in the Collection, and that so imperfect, as to prevent our solving the doubts about its being properly referred to this genus.


The above character and description will, we trust, distinguish this from the species of *Grumilea* already described, and others which we have reason to believe are still retained under *Psychotria*. Perhaps even the generic character, depending principally on the structure of the albumen, is not sufficient; and it is considerably invalidated by the following species of *Psychotria*.

1. *Psychotria scandens*; caule lignoso scandente radicante ramoso, foliis breviter petiolatis oblongis obtusiusculis basi attenuatis coriaceis glabris, stipulis ovatis obtusis interfoliaceis deciduis, corymbo terminali subsessili (vel foliis supræmis deciduis pedunculato) divaricato subsimplici paucifloro, corollæ tubo subcampanulato faucæ alba villosa, toro subgloboso elevato styli basin cingente, stigmate capitato subbilobo, fructu ellipsideo, albumine subruminato!


This species forms a small groupe with *P. laxiflora*, *leucocarpa*, and *sarmentosa* of Blume, and *P. serpens*, Linn. The three first of these we have seen, the last we only possess in flower. If the seeds of all prove to have a ruminated albumen, they might be judiciously removed to *Grumilea*. We shall here add, from specimens from Canton, the following description of *P. serpens*, Linn. to what De Candolle (*Prodr.* v. 4. p. 519) has given:— *Calyx* breviter obtuse 5-dentatus. *Corolla* campanulato-infundibuliformis: fauix villo albo copioso instructa. *Stylus* apice elavatus, basi toro elevato globoso carnoso cinctus. *Stigma* indivisum.

The specimens in the Collection are destitute of flowers and fruit.

In addition to the above, we possess, from Mr. Vachell, Bigelowia lasiocarpa, Wight and Arn. (Vachell, n. 297,) and a new species of Hedyotis, (Vachell, n. 105,) closely allied to H. Lawsonia, Wight and Arn. Prod. Fl. Pen. Ind. Or. 1. p. 407, and to H. stylosa, Brown, belonging with them to the first section Diplophysical; it may be thus named and characterised: H. Vachellii; glaberrima, caule suffruticoso ? erecto, ramis teretibus, foliis oblongo-lanceolatis unguiculatis coriaceis inferioribus brevi-petioliatis superioribus sessilibus, nervis paucis distantibus curvatis, stipulis persistentibus triangularibus acuminatis coriaceis margine denticulatis, panicula thyrsoida strictissima, calycis limbo cupuliformi 4-dentato, corollae glabrescentes tubo dentes calycinos plus duplo superante, fauce pilosa.—This, like its allies, has either the stamens short and the style much protruded, or the stamens exerted and the style short: in both cases the latter is filiform, and the stigma thick and bifid.

We have also received from Mr. Millett, Hedyotis intermedia, Wight and Arn. (Prod. Fl. Penins. Ind. Or. 1. p. 415,) two species of Spermacoce, (one of which is S. articulata, L.) Paederia fetida, L., Ixora blanda, Ker, and Morinda umbellata, Linn. The specimens of the latter present both oblong, lanceolate, and obovate apiculate leaves on the same branch, tending to prove more strongly the necessity of conjoining with it M. parvifolia, Bartl., and M. tetrandra, Jack, as has been proposed by Wight and Arn. (I. c. p. 420.) M. Royoc, Lour., not Linn., is undoubtedly the same species.

ORD. XLVI. COMPOSITÆ. Juss.


Under this Order we shall merely here enumerate the species. Some of them we have received from Dr. Wallich, but as Prof. De Candolle is at present engaged with the fifth volume of his "Prodromus," in which all the East Indian Compositae are to be described, we have thought it better to omit a specific character of these, than to attempt to frame one which would be quite insufficient to distinguish the plant from its allies, unless we had possessed them likewise. We have been induced to do this the more readily, because the specimens in the Collection of Chinese Compositae are little else than fragments.


Of this we have, either in the Collection, or from Mr. Millett, three forms; one, the s of De Candolle, agreeing with Burm. Th. Zeyl. t. 96. f. 1., and Rumph. herb. Amb. 6. t. 14. f. 1.: another has the leaves much narrower, agreeing in that respect with De Candolle's var. γ (l. c.) but differing by being as pubescent as in the common form; a third has the leaves still narrower and more entire, approaching to V. leptophylla, DC. (l. c.) but differing by their being obtuse.


We have likewise received this from Mr. Vachell; it is No. 210. b. of his plants, as distributed by Professor Henslow. The leaves are somewhat fleshy and very pubescent: sometimes, however, the pubescence wears off, and exhibits the under side elegantly marked with numerous slender waved purplish veins.


1. Verbesina prostrata; caule prostrato ramoso hinc inde radicante villosulo, foliis oppositis oblongis utrinque pauci-(sub 3-)dentatis basi cuneatis hirsutis, pedunculis monochephalis terminalibus vel ex ramulorum bifurcationibus folio longioribus, anthodii squamis biseriatus oblongis, rachidis bracteolis squamis paullo angustioribus caeteroquin consimilibus.

This species we have also received from Mr. Millett and Mr. Vachell, (No. 208.) The achenia, although compressed, have a rib or angle along the back, so that they may be almost considered as 3-angled: but the plant does not differ in any other respect from Verbesina, as defined by Lessing.

We have received from Canton the following other species of Composite from Mr. Millett and Mr. Vachell:

1. Siegesbeckia orientalis. L.
1. Elephantopus scaber. Linn.
1. Eclipta erecta. L.
2. E. prostrata. L.
1. Artemisia Indica. Willd.
2. E. . . . n. sp.

This plant certainly belongs to the genus Myriactis, and approaches M. Wightii, De Cand., but we have not yet seen the character of M. Javanica, and hence our doubts.


This is probably among Dr. Wallich’s species.

1. Aster . . . n. sp.

This comes nearest A. Chilensis, N. ab E. Syn. Ast.p. 123, but the leaves are quite smooth and glabrous, and the scales of the anthodium are acute.

1. Doellingeria . . . n. sp.

Allied to D. scabra, N. ab E. Syn. Ast. p. 183; it seems, however, to be quite distinct, by the inflorescence being a somewhat simple corymb, the pappus white, and leaves not serrated.

1. Blumea Chinensis; fruticosa?, ramis cano-pubescentibus, foliis elliptico-oblongis brevipetiolatis supra viridibus asperis reticulatis subtus sericeo-tomentosis dentato-serratis, serra-
turstis minutis glandula aculeiformi decidua apiculatis, ramis florigeris foliosis apice corymbum oligocephalum gerentibus in paniculam corymbiformem terminalem digestis.

This, which certainly belongs to De Candolle's genus *Blumea*, (see Wight's Contrib. p. 13, and Guillemin's Arch. de Bot. 2. p. 514,) is perhaps *Baccharis Chinensis*, Lour., but Loureiro's description does not quite accord. It is Vachell's n. 202.

**ANISOPAPUS.** *(Hook. et Arn.)*


This approaches in character to *Buphthalmum*, but has the habit of *Verbesina*.

*Adenophora Sinensis*, as we consider it to be, of the Order *Campanulaceae*, is in the collection from Mr. Vachell; and *Lobelia Chinensis*, Lour., (but with the leaves slightly toothed) in that from Mr. Millett.

** Ord. XLVII. ERICINEÆ. Juss. **


We have received from Mr. Millett and Mr. Vachell (n. 143) *Vaccinium orientale*, Sw. (*Acosta spicata*, Lour.) from the neighbourhood of Canton and Macao.

** Ord. XLVIII. SYMPLOCEÆ. Juss. **

1. *Styrax suberifolius*; *foliis* oblongo-lanceolatis coriaceis acuminatis supra impressopunctatis subtus dense pubescentibus rufescenti-albidis nervis supra impressis subtus prominulis, racemis simplicibus paucifloris, *floribus* quadrifidis 8-andris. *(Tab. XL.)*

*Tab. XL. Styrax suberifolius. Fig. 1. Flower; fig. 2. Corolla laid open; fig. 3. Pistil:*—magnified.

** Ord. XLIX. EBENACEÆ. Vent. **


** Ord. L. SAPOTEÆ. Juss. **


The specimen is too little advanced to permit us to ascertain even its genus. The above name was attached to it by Mr. Collie. We possess also *Mimusops Elengi*, Willd., from Mr. Millett.

1. *Sideroxylon Wightianum*; inerme, *foliis* obovato-lanceolatis glaberrimis in petiolum
Apocynum.] 

brevem attenuatis, supra nitidis subtus pallidoribus opacis, pedunculis axillaribus aggregatis unifloris petiolo brevioribus, floribus (calycibus precipe) extus sericeis. (Tab. XLI.)

Wall. Cat. of E. I. Pl. n. 4147.

Hab. Macao; Mr. Millett.

Tab. XLI. Sideroxylon Wightianum. Fig. 1. Flower; fig. 2. Corolla laid open; fig. 3. Pistil.—magn.


1. Myrsine? ardisioides; foliis longe petiolatis obovato-ellipticis acutiusculis integerrimis subtus glaucescentibus, racemis axillaribus petiolum subaequantibus, pedicellis elongatis versus racemi apicem corymboso-aggregatis, genuine semibiloculari, stigmatibus duobus subdiscretis crenulatis, ovulis paucis pendulis.

There is only one specimen, destitute of both corolla and stamens. The general appearance, particularly of the inflorescence, is that of an Ardisia, but there is almost nothing that can be termed a style. We have not been able to see a central free placenta, but on the contrary the ovules hang from the top of the cavity, which is almost divided into two cells by the introflexed margins of the two carpels of which the germen is composed. Indeed, it is probable not only that the plant does not belong to Myrsine, but not even to the same Natural Order. In some points it approaches Ilicineæ.

From Mr. Vachell (n. 146) we have Ardisia lentiginosa, and from Mr. Millett another species allied apparently to A. neriifolia, Wall.


2. J. hirsutum. Linn.?

The specimen in the Collection has the segments of the calyx not much longer than its tube, and many times shorter than the tube of the corolla. In the figure given by Burmann, (Fl. Ind. t. 3. f. 1.) the calycine segments are about as long as the tube of the corolla; but in Rheede’s figure (Hort. Mal. 6. t. 54.) they are much shorter in proportion than in the plant before us. J. hirsutum, L. and J. arborescens, Rich. are so closely allied as to render it difficult to say to which of them Nyctanthes grandiflora of Loureiro belongs.


We have from Mr. Millett and Mr. Vachell several other Jasminæ from Canton, among which are Olea acuminata, Wall., O. fragrans, Thunb., Jasminum Sambac, L., J. bracteatum, Roxb. (Vachell, n. 273,) J. grandiflorum, L., and J. paniculatum, Roxb.


Calyx 5-partitus, lacinii ovatis. Corolla infundibuliformis, faucis tuboque brevi absque squamis dentculosque: limbus 5-partitus, recurvus, lacinii aquilateris. Stamina 5 exserta: filamenta juxta basin tubi

This, if it be a *Parsonsia*, belongs to the second section, which hitherto consists of Australasian species: but we think there are sufficient characters, although we are ignorant of the fruit, to constitute it a distinct genus: in which case the plant may be named *Helicandra Sinensis*.

1. *Holarræna affinis*; antheris oblongis medio tubi insertis, stylo subelongato.


This accords so well with the figure in Vahl, Symb. 3. t. 59, of *H. mitis*, Br., that we should have considered it identical, did not Brown and Vahl describe the stamina as situated at the bottom of the tube of the corolla, as having almost no style, and omit all mention of the little annulus that surrounds the base of the germen.

**ECDYSANTHERA.** (Hook. et Arn.)


1. *E. rosea.* (Tab. XLII.)

**HAB.** Canton, Macao, and the adjacent islands. *Messrs. Lay and Collie, Mr. Millett, and Rev. G. H. Vachell.* (No. 144.)

There can be no doubt, we believe, of this being a genus distinct from any previously described. It is extremely allied to the next in habit; and it is probable that *Echites* ? *lucida*, Wall. List, n. 1670, belongs one or the other, but we have not seen flowers sufficiently advanced for examination.

**Tab. XLII.** Ecdysanthera rosea. *Fig. 1.* Flower; *fig. 2.* Corolla laid open.—magnified.

**POTTSIA.** (Hook. et Arn.)


1. P. Cantonensis. (Tab. XLIII.)

Hab. Canton; Mr. Millett.

We have named this genus in honour of Mr. Potts, who sent to Europe many interesting plants from Canton and its vicinity. Both it and the preceding belong to the same subdivision with Isonema, Vallaris, Parsonsia, and Lyonia; from the two last both differ by the very short filaments, from Isonema by the presence of hypogynous scales or an annular disk, and from Vallaris by the filaments being simple at the apex. The insertion of the stamens and many other characters readily distinguish them from each other.

Tab. XLIII. Pottsia Cantonensis. Fig. 1. Flower; fig. 2. Corolla laid open:—magnified.


We have restored the old specific name of divaricatus, Loureiro's description leaving no doubt about this being the plant he had in view. We agree with Dr. Graham in thinking it a very distinct species from S. dichotomus, a plant with which Nerium scandens, Lour. Cochín. v. 1. p. 143, and N. caudatum, Roxb. Fl. Ind. v. 2. p. 9, appear identical. In the native specimens the peduncles rarely bear more than two or three flowers. S. divaricatus of Wallich is probably a different species.


The leaves are of a thinner texture than in T. persicariafolia, Jacq., to which the only specimen in the Collection seems allied: the peduncles have only about three flowers.

2. T. mollis; ramulis glabris apice tantum foliiferis, foliis oblongo-ovatis basi apice vix acutis (junioribus) utrineque molliter pubescentibus, corymbis sessilibus terminalibus paucifloris calycibusque pubescentibus, bracteis minutis oblongis.

This is a true Tabernæmontana, but certainly not among those described by Loureiro, nor, indeed, have we been able to find it under any other genus in his work. We possess T. coronaria, Willd. from Mr. Millett.


Loureiro's plant was observed only on the eastern coast of Africa, and he states that he had never seen it in India or China; his description, however, seems to accord.


We can perceive no difference between Roxburgh’s plant and that from China. We have asserted it to be a climber on Roxburgh’s authority, as our specimens are not of sufficient length to enable us to determine that point ourselves. It is remarkable that it should not have been observed by Loureiro, particularly as from Roxburgh’s description it appears to be a very large plant “climbing over trees,” &c.

We have also received, from Mr. Millett, Wrightia tinctoria, Br.

ORD. LIV. ASCLEPIADEÆ. Brown.

TOXOCARPUS. (Wight and Arn.)

Corolla rotata; limbo 5-partito; lacinis contortis. Corona staminea 5-phylæ; foliis apice truncatis, dorso planiusculis, intus lacinula membranacea auctis. Massæ pollinis 20, erectæ, læves, apice corpusculi singuli exsulci quaternatim affixæ. Stigmasæpius rostratum, acutum, indivisum. Folliculi læves, divaricati.—Frolices volubiles; caules glabri vel rufopubescentes. Folia opposita, glabra, nervis lateralibus ante marginem coalescentibus. Panicula divaricata, dichotome corymbosa.

1. T. Wightianus; foliis anguste ellipticis apice breve acuminatlis, floribus breviter pedicellatis, corollæ tubo brevi gynostegium æquante, fauce glabra segmentis lingulatis tortilibus glabris, lacinulis foliolorum coronæ elongatiss ipsa foliola superantibus, stigmate rostrato ancipiti tubum corollæ duplo superante.—Asclepias Curassavica. Lour. Cochin. v. 1. p. 211? (non Linn.)

We have named this species in honour of our friend Dr. Wight, who has studied the Indian genera of this difficult Natural Order with peculiar zeal, and from whom we have derived much assistance in ascertaining the Chinese species. The genus was instituted for the Asclepias longistigma of Roxburgh, (Fl. Ind. t. 2. p. 46,) which differs from the Chinese plant by having the leaves much broader, and the lacinula of the coronal leaflets shorter than the leaflets. Our description is entirely derived from specimens received direct from China from Mr. Vachell and Mr. Millett; the only individual in the Collection being destitute of flowers, and having but two or three leaves, may perhaps be something different.


We possess specimens from Dr. Wight from the peninsula of India, agreeing so well with the Chinese plant, that we consider them the same. In the Chinese individual the leaves are slightly narrower and less pubescent beneath, but even in Indian specimens that character is exceedingly variable. We have only two other Asclepiadeæ from Canton, but they are not among Captain Beechey’s Collection: the one is Asclepias Curassavica, L., the other is what Dr. Lindley has described (Hort. Soc. Trans. v.
Boragineæ.]  

2, p. 268,) as Diplolepis ovata: it cannot, however, belong to that genus, being, as Dr. Wight has remarked to us, a species of Tylophora. We propose to call it T. ovata; and it is extremely probable that Apocynum Juventas, (Lour. Cochin. v. 1. p. 208,) is the same plant. It is n. 229 of Mr. Vachell's Collection.

ORD.* LV. PEDALINEÆ. R. Br.

1. Sesamum orientale. Linn.

ORD. LVI. CONVOLVULACEÆ. Juss.

1. Evolvulus alsinoides. L.

1. Cuscuta Millettii; floribus subcapitatis subsessilibus 5-fidis laevibus, corolla intus nuda lobis obtusis, staminibus inter lobos summō tubo insertis exsertis, stylis duobus, stigmatibus capitatis, fructu membranaceo.—Grammica aphylla. Lour. Fl. Coch. 1. p. 212?

Hab. Canton; Mr. Millett.

Loureiro does not make any mention of scales on the inside of the tube of the corolla, so that we are inclined to refer his plant here, rather than, as is usually done, to C. carinata. He describes the fruit as a membranaceous berry.

ORD. LVII. CORDIACEÆ. R. Br.


This is scarcely to be distinguished from E. paniculata, Roxb., nor do we know of any certain character except the colour of the pubescence on its inflorescence. We may remark that Erycibe is the same genus as Catonia, Vahl in Skrīvt. Naturf. Selsk. Kiovenh. 6 (1810) p. 98; but, from the scarcity of that volume, never perhaps offered for sale, and, therefore, only to be viewed in the light of an unpublished manuscript, the name given it by Roxburgh, although posterior, is always retained. Catonia glauca, Vahl, l. c. p. 99, is identical with E. paniculata, Roxb.

ORD. LVIII. BORAGINEÆ. Juss.

1. Tiaridium Indicum. Lehm.—Heliotropium Indicum. Linn.

* From this Order to the end of our account of the Chinese Collection, we have had principally in view our own herbaria. After finishing the Asclepiadæ, the whole of the species which we have already described in this work were returned to the Admiralty. Unfortunately the remainder of those from China were packed up with them; and before we had perceived the mistake, they had all been presented to private individuals.

2 c
We have received it both from Mr. Millett and Mr. Vachell, (n. 270.)


Hab. Canton; Mr. Millett.

1. Lithospermum Chinense; herbaceum strigoso-pilosum, caule erecto simplici vel e basi ramoso, ramis simplicibus, foliiis anguste linearibus acutis, floralibus bracteiformibus, floribus brevissime pedicellatis, corollae (luteae) tubo calycem vix sequante, nucibus laevibus glabriusculis (atris.)

Hab. Macao; Rev. G. H. Vachell, n. 286.

ORD. LIX. SOLANEÆ. Juss.


We possess, from Canton, two forms of var. nigrum; Vachell's No. 127 belongs to the first. To this variety also may be referred the plants which at p. 67, and 162 of this work, the one from the islands of the Pacific, the other from California, we noticed as S. nigrum. It must be confessed, that the difference between these, and also S. fistulosum and insertum, is very slight.

1. Capsicum fastigiatum. Blume.—Nees ab Esenb. l. c. p. 64.
1. Datura alba. Rumph.—Nees ab Esenb. l. c. p. 73.

ORD. LX. SCROPHULARINEÆ. R. Br.


Hab. Lappas island; Rev. G. H. Vachell, (n. 155.) Canton; Mr. Millett.


Hab. Islands near Macao; Rev. G. H. Vachell, n. 248.
Sphenostegia Chinensis
1. Buchnera _hirsuta_ Wall.—Benth. Scroph. Ind. p. 41.—B. Asiatica. Roxb. Fl. Ind. 3. p. 32. ?

2. Buchnera? _densiflora_; annua simplex scabra, foliis integerrimis radicalibus ovalibus caulinis inferioribus lineari-oblongis obtusis superioribus linearibus acuminatis sursum decrescentibus, spica oblonga pedunculata (a foliis remota) tetragona densa bracteata imbricata, bracteis ternis duabus lateralisibus subulatis tertia late ovata acuminata concava ciliata calycem 5-dentatum estriatum! æquante, corollæ (parvae) tubo subrecto, limbo subaequaliter 5-lobo lobis oblongis undulatis, capsulis inclus. 

_Hab._ Canton; Mr. Millett.

This agrees in many respects with _B._ cruciata, Ham. (Benth. Scroph. Ind. p. 11,) but it appears from Mr. Bentham's specific character of the latter, to be quite distinct. The whole plant, as is usual in the genus, becomes black by drying.

**SIPHONOSTEGIA. (Benth.)—Prismatanthus. Hook. et Arn. MS.**


_Hab._ Macao and the adjacent islands; _Rev._ G. H. Vachell, n. 184.

This approaches very much in character to _Bartsia_, from which it is distinguished by the calyx, and to _Pedicularis_, from which it is separated by the corolla and calyx. In habit it is not allied to any genus with which we are acquainted.

Tab. XLIV. Siphonostegia Chinensis. _Fig._ 1. Flower; _fig._ 2. Stamens; _fig._ 3. Anther; _fig._ 4. Pistil.—magn.

**PTEROSTIGMA. (Benth.)—Spaestheticma. Hook. et Arn. MS.**

_Calyx_ viscide pilosus, 5-partitus, segmentis lineari-lanceolatis, supremo longiori, basi bibracteolatus, bracteolis anguste linearibus. _Corolla_ cæruleascens, pollicaris, intus glabra, bilabiata; labium superius majus, subintegrum; inferius trilobum, lobis subaequalibus, obtusis; faux aperta. _Stamina_ quatuor, basi barbata; duo longiora fertilia, antheris didymis, ecalcaratis, lobis subglobosis; duo inferiora gracilia, sterilia, antheris glanduliformibus


Hab. Canton and Islands near Macao; Mr. Millett; Rev. G. H. Vachell, n. 244.


Loureiro says that the stems are terete and glabrous, but the remainder of his character appears to agree very well with the plant before us. The whole is about a foot or a foot and a half high; the stem, although herbaceous, is in some specimens of so hard a nature at the base, that we suspect the plant to be perennial.

Tab. XLV. Pterostigma grandiflorum. **Fig. 1.** Flower; **fig. 2.** Imperfect stamens; **fig. 3, 4.** Back and front view of the anthers of the perfect stamens; **fig. 5.** Pistil; **fig. 6.** Calyx, including the capsule; **fig. 7.** Capsule;—magnified.

**Ord. LXI. LABIATÆ.** Juss.


2. *Leucas Benthamiana*; perennis? herbaacea diffusa adpress sectante-crenata-pubescentes, ramis tetragonis, foliis post ovatis supra medium grosse dentatis laevibus molliter ac densius pubescentibus, verticillati sub-3-(4-8)-floris omnibus petiolum 2-3-plo superantis, bracteis minutis, calycebus tubulos pubescentibus striatis, ore æquali dentibus brevibus setaceo-acuminatis recurvo-patulis.—Ballota pilosa. Lour. Fl. Coch. 2. p. 442?

Hab. Canton; Mr. Millett. Lappas island; Rev. G. H. Vachell, n. 172.

Allied to *L. biflora*, but with more flowers in the verticillatum: also to *L. mollissima*, but the leaves are much thinner, not rugose, and not tomentose underneath. From *L. decemdentata*, it is known by the shortly petioloed floral leaves. It may possibly prove to be *L. javanica*, Benth., or *Phlomis Chinensis*, Blume; but of that no character is given by Mr. Bentham, nor any, we believe, by Blume himself.


Hab. Canton; Mr. Millett. Lappas Island; Rev. G. H. Vachell, n. 162.


ORD. LXII. VERBENACEÆ. Juss.

   Hab. Canton; Mr. Millett. Macao, in sandy soil; Rev. G. H. Vachell, n. 176.


   Hab. Canton; Mr. Millett. Macao; Rev. G. H. Vachell, n. 267.


3. Clerodendron fortunatum. L.
   The only specimen before us, from Mr. Millett, is imperfect.

4. Clerodendron castanceifólium; ramis minute strigillosa-pubescentibus, folis petiolatis oblongo-lanceolatis basi cuneatis integerrimis superne irregulariter dentatis supra minute et sparsim puberulis subtus glabris venosis, corymbis axillaris folio triplo brevioribus, bracteis bracteolisque subulatis deciduis, calyce 5-partitio segmentis ovatis acuminatis demum auctis.
   Hab. Canton; Mr. Millett.
   The leaves bear a considerable resemblance to those of the Chestnut, but are membranaceous, as in the other species of Clerodendron.


1. Lantana aculeata. Linn.

Sent from the gardens of Macao by Mr. Millett and the Rev. G. H. Vachell, n. 147. In all the specimens there are no prickles to be seen, agreeing in that respect with the remarks in the Botanical Magazine, t. 96.


Hab. Canton; Mr. Millett. Islands of Pootoy (or Grand Ladrone), Chicow, and the Lama; Rev. G. H. Vachell, n. 91.

Willdenow’s description is scarcely sufficient, nor did he seem to know from whence his specimens came: if our species prove distinct, it may be called C. Loureiri, for it is undoubtedly the plant of Lou-
reiro. In C. cana of Linnaeus, Vahl, Roxburgh, and Wallich, the leaves are cuneate at the base, becoming, as it were, half decurrent along the petiole. Either the present or the following one is probably C. Reevesii of Wallich's List, which we have not seen.

2. Callicarpa nudiflora; ramis petiolis foliis subtus corymbisque cano-velutinis, foliis oblongo-lanceolatis basi ovatis margine crenato-dentatis supra nervis venisque incanis caeteroquin glabris lævibus junioribus pulvrententis, pedunculis folio subdimidio brevioribus, corymbis dichotomis laxis, calyce glabro, staminibus exterris. (Tab. XLVI.)

Hab. Canton; Mr. Millett. Lappas Island; Rev. G. H. Vachell, n. 263.

Tab. XLVI. Callicarpa nudiflora. Fig. 1. Flower:—magnified.


Hab. Canton; Mr. Millett; Rev. G. H. Vachell, n. 174.

Tab. XLVII. Vitex ovata. Fig. 1. Flower:—magnified.


Hab. Islands near Macao; Rev. G. H. Vachell, n. 279.


Hab. Canton; Mr. Millett.

We have not seen the fruit; Loureiro states it to be one-seeded, probably from abortion.

Tab. XLVIII. Vitex Loureiri. Fig. 1. Flower:—magnified.

ORD. LXIII. ACANTHACEÆ. Juss.


Hab. Lappas Island or the Peninsula; Mr. Vachell, n. 170. Canton; Mr. Millett.


Hab. Whancum Island, near Macao; Rev. G. H. Vachell, n. 121. Loureiro, Fl. Coch. 2. p. 456, states that the Canton plant differs a little from that which he describes from Cochin-China: the former is the same as our’s; the latter is D. ebracteata, Juss.

1. Crossandra infundibuliformis, β.; Nees ab Esenb. l. c. p. 98. n. 1.—C. undulæfolia. Ait.—Justicia infundibuliformis. Linn.

We fear that C. oppositifolia, Wight, (N. ab Esenb. l. c. n. 3.) is a mere form of this species.


1. Adhadota Vasica. Nees ab Esenb. l. c. p. 103. n. 7.—Justicia Adhadota. Linn.

Hab. Canton; Mr. Millett. Lappas Island; Rev. G. H. Vachell, n. 177.


Hab. Canton; Mr. Millett. Lappas Island; Rev. G. H. Vachell, n. 171.

**Ord. LXIV. PLUMBAGINEÆ.** Juss.


**Ord. LXV. NYCTAGINEÆ.** Juss.


**Ord. LXVI. AMARANTHACEÆ.** Juss.


We feel much disposed to agree with Sprengel, when he unites to this species C. coccinea and C. castrensis, Linn., as also C. comosa, Retz. C. castrensis, Lour. Fl. Coch. 1. p. 202, appears to be certainly our plant. We have likewise from Mr. Millett, a variety, perhaps, of this, but with very dissimilar spikes. If distinct, it may be thus described:—Glabriuscula; folis petiolatis oblongo-lanceolatis basi apice attenuatis; spicis pedunculatis, elongatis, cylindraceis; flores inferiores discreti, superiores approximati, summì abortivi bracteolæformes; stylus gracilis, stigma bifidum ovarium pluri-ovulatum; utriculus 1-spermus; semen compressum, nitidum, atrum, cum aliis abortivis. But as we have already remarked, we prefer considering this as a mere form of C. cristata.


Hab. Lappas Island; Mr. Millett. Macao; Rev. G. H. Vachell, n. “v.”


**Ord. LXVII. CHENOPODIACEÆ.** Ventn.

We refer the Chinese plant here although there are some small points of difference, principally on account of its entire leaves, and paniced inflorescence of long and almost leafless spikes. The leaves (we have only seen the upper ones) are elliptical, obtuse, and mucronate; the achenium is even on the surface, shining, and horizontal, as in the true species of Chenopodium.


ORD. LXVIII. POLYGONEÆ. Juss.


We have received this from Mr. Millett. Probably, as Sprengel suggests, it is too closely allied to R. persicarioides and R. maritimus.


This we have only received from Lappas Island, both from Mr. Millett and Mr. Vachell, n. 113. b. Meisner, in his account of the East Indian Polygonæa, in Wallich's Pl. As. Rar., does not enumerate this species, although in his original work on the genus, he mentions it as a native of the East and of China. P. glabrum appears to occupy its place in India; but, at the same time, the plant before us is certainly not P. glabrum, nor is it distinguishable from the European form of the species.


Meisn. in Wall. Pl. As. Rar. 3. p. 60.

Our specimen from Mr. Vachell, n. 110, is var. a of Meisner, or P. polycephalum, Wall. l. n. 1707. a; but one from Mr. Millett belongs to another variety; it is therefore probable that they are not constant.

ORD. LXIX. LAURINEÆ. Juss.


Professor Nees Von Essenbeck, in the restricted generic character which he proposes, says that the three inner stamina alone bear stipitate glands; we, however, have sometimes found both the inner series furnished with them, exhibiting, altogether, twelve glands. Roxburgh, in his Fl. Ind. at p. 820, confirms this: "Nectarial glands from six to sixteen, shortly pedicelled, oval, peltate, alternate with the filaments, but three times shorter."


We agree with Roxburgh, that Tomex Japonica is not distinct from this species; and though Nees Von Essenbeck keeps them so, he doubts if they ought not to be regarded as mere varieties.
1. Iozoste rotundifolia, var. oblongifolia. Nees ab Esenb. in Wall. Fl. As. Rar. 2. p. 63.—
Litsæa Chinensis. Blume.

 Dioica.—Fl. Masc. Perianthium 6-partitum. Stamina 9; filamenta pilosa, tria interiöra ad basin glandulis duabus magnis rotundis sessilibus instructa.—We have not yet received the female plant.

Rar. 2. p. 69.—Calodium Cochinchense. Lour. Fl. Coch. 1. p. 302.—Vachell, "m."

**ORD. LXX. THYMELEÆ. Juss.**


**ORD. LXXI. NEPENTHEAE. Link.**

in Bot. Mag. t. 2798. Wall.? List of E. I. Plants, n. 2244. (non Linn.)—Phyllamphora

Such are the only synonyms we are disposed to adduce here; almost all the others quoted in the Botanical
Magazine belong to the Ceylon plant, which is that described in Fl. Zeylanica, p. 151. n. 321, consequently, we
presume, of Hermann's Herbarium, and therefore, the original N. distillatoria of Linneus. Lamarck, and,
following him, Brongniart, have given to this latter the name of N. Indica, a name as objectionable as that
bestowed by Linneus. The true N. distillatoria has been only met with in the island of Ceylon, and in
the Courtaulld district, towards the south extremity of the Peninsula of India. The present species is a
native of China, and the mountains of Silbot, to the north-east of Bengal; but certainly not, as has been
inadvertently said in the Bot. Mag. under t. 2798, of the Circar mountains, which lie to the north
of the Peninsula. The differences between these two species are well pointed out by Brongniart, in the first
volume of the Annales des Sc. Naturelles, pp. 43 and 48. N. distillatoria has a compound raceme,
or rather a panicle, each partial peduncle being branched, and bearing several spreading pedicles and
flowers. The Chinese one, on the contrary, has a long perfectly simple raceme. Dr. Graham has observed,
that in a state of cultivation, some of the partial peduncles are occasionally bifid, or trifid, and our
specimens from the Edinburgh Botanic Garden exhibit the same appearance; but this seems merely to arise
from luxuriance; not one of the very numerous specimens, both of the male and female, we have from time
to time received from Mr. Millett, principally collected in Lappas Island, presenting any such tendency.
We place little reliance on the leaves being petioled, nor, perhaps, ought the apparent petiole of N. Phyl-
lamphora to be regarded as more than an attenuation of the base of the leaf. Rumphiis' figure is very bad;
Loureiro's description is on the whole accurate, although the line-like parallel longitudinal veins are scarcely
conspicuous, and only so on the under-side of the leaf: the "spica longa, simplicissima" is very character-
istic: his "caulis simplicissimus" less so, unless we suppose either that he had only seen young plants, or,
what is more probable, taken that part of his description from Rumphiis' figure: in the wild state, however,
the stem appears to be much more simple than when cultivated. M. Brongniart, in his memoir, above
quoted, places too much dependance on the ascidia being furnished with, or nearly destitute of winged longi-
tudinal ribs: such marks afford no character whatever, those on young plants being very large and crest-like,
while the ascidia on older ones of the same species present mere ribs. Our specimen of N. distillatoria from
Dr. Wallich (n. 2244) has no flowers; the leaves are more sessile, and much narrower than in the Chinese
plant, and the crests or ridges of the ascidia are ciliated with longish hairs. We observe that Dr. Wallich's
collection was obtained from Singapore, Silhet, the Calcutta Botanic Garden, and Courtallum; the first is probably identical with Rumphius’ plant, the last with the Ceylon one, and the two others with that cultivated in this country, the seeds of which were forwarded by the late Dr. Carey.

Ord. LXXII. EUPHORBIACEÆ. Juss.


We have only received it from Rev. G. H. Vachell, n. 153, collected in Lappas Island.

2. Glochidion molle; ramulis compressis, petiolis pedunculisque pubescentibus, foliis petiolatis ovalibus basi retusis apice acuminatis subitus molliter pubescentibus, adultis supra glabris nervis pubescentibus, pedunculis petiolo subdimidio brevioribus multifloris, pedicellis masculis pedunculos subæquantibus, fœmineis filiformibus 2-3-plo longioribus.—Phyllanthus obscurus. Willd.?

From Roxburgh’s character, this appears to be closely allied to his Bradleia hirsuta (Fl. Ind. 3. p. 699). In the few specimens we have seen, and which we owe to Mr. Millett, the ovary and young fruit are constantly injured by insects: we refer it, however, without hesitation, to Glochidion, as defined by M. Adrien de Jussieu, from the structure of the male flower and of the stigma. We may remark, that the character given by him must be altered, if Bradleia pinnata, Roxb., in which the fruit is said to have 8-10 cells, and B. multilocularis, Roxb., or Agyneia multilocularis, Willd., belong to it; this last has 8-12 anthers.


We can scarcely clear up the synonyms between this and P. urinaria, Linn., nor are we quite certain that we are not reversing the appellations given by Linnaeus. What we here call P. Niruri; has smaller leaves than P. urinaria, and the capsule is perfectly smooth and even, which, in the other, is covered with numerous flattened small scale-like tubercles. To our P. urinaria belong Rumph. Amb. 6. t. 17. f. 2, and Rheed. Mal. 10. t. 15, which last represents faithfully our specimens from the Peninsula of India, from Dr. Wight: indeed, although this figure has been always quoted for P. Niruri, Rheede says decidedly, that the gemmae or capsules “sunt in superficie velut granulata ac in sex cancellos suturis distinctæ.” Pluknet’s t. 183. f. 6, seems distinct from either, unless it be a narrow-leaved form of Ph. Niruri. Linnaeus describes P. urinaria as the smaller plant of the two, and as having procumbent stems: we find it as large, and both to be erect. If, then, Linnaeus be correct in his reference to Rheede, our P. Niruri must be his P. urinaria, and vice versa. Both P. Niruri and urinaria of Poiret, in Lam. Encycl., appear to belong to our P. Niruri.


Our difficulty about Loureiro arises from his saying, that the male and female flowers spring from the same axis, which is not the case in our plant. As the name turbinatus was applied by Sims to this, while Koenig and Roxburgh intended by it another species, (that figured by Rheede in his Hort. Mal. 5. t. 43, which differs by the shape of the leaves, and several other characters,) we have availed ourselves of the older appellation given by Poiret. The Chinese plant, with P. turbinatus, Koen., P. patens, Roxb., P. vitis-Idea, Koen., and Roxb. (Rheed. Hort. Mal. 5. t. 44.) form a small groupe, with turbinate male perianths,
as are represented by M. Adr. de Jussieu, in his P. tristis, Euph. p. 22. t. 5. f. 16. B. To these M. de Jussieu adds P. cernua and P. rhamnoides. We suspect that he, as well as Poiret, mean by this latter Koenig's and Roxburgh's P. vitis-Idea; indeed, we are almost sure of it, for at p. 108 he looks on P. rhamnoides as, perhaps, the same with his P. tristis. What Retz's and Willdenow's P. rhamnoides is, we scarcely know, the synonyms adduced by the latter belonging to several very different plants. Roxburgh's species of that name has the male flowers racemed, and six scales on the middle of the leaflets of the perianth, "pointing inwards, before the flower expands, so as to cover the anthers like so many hoods:" he compares it with P. pendula, Roxb., and this last is, "when young, not unlike Niruri." We have received P. lucens from Mr. Millett and Mr. Vachell, n. 95.

3. Phyllanthus cinerascens; frutex glaber, ramis striatis cortice cinereo, foliis parvis obovatis vel ovalibus obtusissimis vel retusis coriaceis glabris approximatis fasciculatis vel 2-4 ad ramulos breves juniores, floribus 3-5-nis breve pedicellatis 6-fidis.

The only specimen we have seen, sent by Mr. Millett, is very imperfect. The leaves scarcely exceed a third of an inch: the flowers (we have only observed the male ones,) arise from a small scaly tubercle, or abortive branchlet; their structure is precisely that of P. lanceolata, Adr. de Juss. Euph. t. 5. n. 16. A. f. 2.

1. Bridelia Loureiri; ramulis pubescentibus virgatis, foliis oblongis acutiusculis utrinque glabris, stipulis minutiis deciduis, floribus plurimis axillaribus glomeratis sessilibus, processibus petaloideis late cuneatis apice grosse dentatis perianthio vix dimidio brevioribus, stylo trifido.—Cluytia monoica. Lour. Coch. 2. p. 784.

This was received, about ten years ago, in Sir Wm. J. Hooker's first packet from Mr. Millett. The flowers are sometimes 6-cleft, and with 6 anthers. It approaches very closely to B. pataula, but seems to differ in several particulars.

M. Adrien de Jussieu has remarked, (Euphob. Tent. p. 25.) that although four or five of the East Indian species of Cluytia agree with C. pulchella and the other Cape ones, in having a trifid style, and three-celled fruit, he is rather disposed to unite them with Bridelia, and make the principal difference between that genus and Cluytia to depend on the disk that lines the bottom of the perianth, (as in some genera of the Rhamnaceae) unaccompanied with the bifid or trifid appendages that alternate with the petaloid bodies, and characterise the Cape species. We have, therefore, inserted Loureiro's plant in Bridelia, and this, with C. stipularis, Linn., C. diversifolia, Roxb., C. collina, C. patula, and C. oblongifolia, will constitute a section distinguished by the trifid style and trilocular capsule. It is probable that C. semperflorens, Roxb. Fl. Ind. 3. p. 730, from Silhet, must form a genus (Silvea, Hook. et Arn.) distinct from either; in it there appear to be in the male, five glands that alternate with the insertion of the petaloid processes, instead of a disk, and the petaloid processes are of a deep purple colour; there are six anthers. In the female, the petaloid processes are wanting, but the ovary is surrounded at the base by a pentagonal ring, similar to what almost always usurps the place of a disk in the female flowers of Bridelia. The species belonging to the group with a three-celled fruit, may be thus distinguished:

§ 1. Stipulae majusculae.

1. B. stipularis; foliis ovalibus subtus tomentosis, stipulis ovatis acutis.—Cluytia stipularis. Linn.

2. B. diversifolia; foliis utrinque glabris ex obovatis obtusis in late lanceolata acuta, stipulis ensiformibus, floribus sessilibus, processibus petaloideis rotundato-obovatis.—Cluytia diversifolia. Roxb. Fl. Ind. 3. p. 731.

§ 2. Stipulae parvae vel minute.

3. B. collina; foliis ovalibus glabris, floribus paucis glomeratis breviter pedicellatis, processibus petaloideis minutis lanceolatis integerrimis.—Cluytia collina, Roxb. Cor. 2. t. 169; Fl. Ind. 3. p. 732.

5. B. Loureiri.—vide supra.


In this last, Roxburgh does not describe the disk of the male flowers, nor the stipules; had, however, the latter been large or conspicuous, he could not have overlooked them: the former, we presume, to be present, from its appearing in the female, as in most of the species, in the shape of a cup, round the base of the ovary. In offering these characters, we have relied for some on Roxburgh's accuracy, in the absence of authentic specimens: were we inclined to dispute it, it would be in the instance of his *Cl. semperflorens,* above mentioned, where it is possible that the five glands in the male flower, may prove to be merely thickened angles to an otherwise thin disk, as in some species of *Gouania.*


*Perianthium fīem.* cupuliforme 3-4-5-fidum (trifidum lobis 1 vel 2 postea fīssis:) *Stigma* 3, subsessilia, recurva, linear-o-blonga, crassa, intus dense papilloso-hirsuta.—Perhaps, notwithstanding some discrepancies, this may be also *Ricinus apellta,* Lour., and consequently likewise Sprengel's *Rott. Cantoniensis.* We have not seen the male plant.


Lamarck's plant is from Java, and his description agrees tolerably well with the Chinese one: whether either be the *Mallotus Cochinchensis* of Loureiro (2. p. 780,) we have no means of determining, the description given being at variance in several respects; but, at the same time, it is highly probable that the male plant he saw at Canton is the same as ours: he adds, "Fēmineus flos ibi non occurrīt," nor have any of our correspondents, as yet, sent it. This is n. 258 of Mr. Vachell's collection.


We have here added a specific character, M. de Jussieu having mentioned three other species from the Mauritius. The present one was long involved in the greatest obscurity, on account of the synonyms associated with it by Burmann. There does not appear to be any plant described by Roxburgh or Willdenow to which it is referable: in habit it approaches to Croton oblongifolium, Roxb. Fl. Ind. 3. p. 85.


Roxburgh ascribes to his plant, so far as we can collect from the description, a single cluster of female flowers and a small capitulum of male ones from a solitary bractea: some of the spikes on the specimens before us agree with that character, but others show two bracteas, and in one, where the inflorescence is almost terminal, the male flowers form a slender spike of about half an inch in length.


We have only received var. ß from Canton. It is merely distinguished from the type of the species by its stems not, being hispid with spreading hairs, but simply pubescent. We possess both from the Peninsula of India.


Involucri glandulae 4, pallide, orbicularis, disciformes, processubus conoloribus suffultcientibus minutis inter se subaequalibus duplo minores: fructus parce strigosi, parvi: semina ecarunculata, brunnea, obtuse tetragona, transverse subundulata.—The flowers occur several together in the axils, but they are very shortly peduncled, often almost sessile. This, with the following, belongs to Dr. Rooper's first section, characterised by the seeds destitute of a carunculus, and the glands of the involucre resting on one side of a more or less membranaceous scale or process, which he properly suggests ought to be regarded as analogous to stipules, they only occurring in the species provided with stipules.


Involucri glandulae minutae, sanguineae, orbiculares, processubus ejusdem fere coloris ac substantiae et vix glandula majoribus suffulte: fructus trigoni, strigoso-pilosii: semina brunnea, tetragona, leviter rugulosa, caruncula arillarii destituta.—It is n. 100, a, b, c, of Mr. Vachell's collection.

3. Euphorbia Vachellii; annua, erecta, glabra, glauca, foliis oppositis brevissime petiolatis linearibus acutis argute serrulatis, inflorescentia axillari fasciculata laxiuscula, involuci glandulis 4 minutis orbicularibus concavisculis processubus petaloideis albis majusculis orbicularibus paulli inter se inaequalibus suffultis, fructibus laevibus glabris, seminibus globosotetragonis atro-griseis subrugulosus caruncula destitutis angulo unico sulco levissimo exarato.

Hab. Macao; Rev. G. H. Vachell, n. 241.

4. Euphorbia bifida; glaberrima, glauca, caule decumbente, foliis oppositis breve petiolatis linear-oblungis basi oblique subcordatis obtusis serrulatis, inflorescentia bifida dichotoma,
foliis floralibus ad ejus ramificationum bases duobus oppositis parvis sursum decrescentibus deciduis, involucii glandulis orbicularibus disciformibus concaviusculis processu luteo orbiculari carnosulo duplo majore suffultis, processibus inter se aequalibus, capsulis glabis laevibus, seminibus subgloboso-tetragonis leviter rugulosus caruncula arillata destitutis angulo unico sulciformi.

**Hab.** Peninsula of China; **Rev. G. H. Vachell, n. 240.**

**ORD. LXXIII. URTICEÆ. Juss.**


We have seen but one specimen, and that very imperfect; it was sent by Mr. Millett.


The female perianth is urceolate as in *Boehmeria,* not 2-valved as in *Urtica.* Roxburgh hesitates about his plant being the same as *U. nivea,* from Loureiro's erroneous description of the female flower, "germen filamentis multis sterilibus circumdatum:" but Loureiro must have taken either the hairs on the ovary, or the styles of the other flowers, for "sterile filaments." The style is simple, with one, not two stigmas, as Loureiro says.


Willdenow describes this as an herbaceous perennial, and Sprengel, we know not for what reason, inserts the Ceylon plant among the shrubby species. Linnaeus mentions it as herbaceous, but does not speak of its duration: Roxburgh finds it annual. We have not seen the root, but the stems are certainly herbaceous. The specimens before us, from Mr. Millett, have the leaves opposite on the primitive stem only, and alternate on the branches, thus differing from both Loureiro's and Roxburgh's description, but agreeing in that respect with Roxburgh's *U. tuberosa*; this last, however, seems to have a differently shaped female perianth. The habit is quite that of a *Parietaria,* and although it and several of Roxburgh's species of *Urtica* present almost no difference in character from *Boehmeria,* they possibly ought to form a distinct genus, or at least a sub-genus. One specimen before us is simple with larger leaves, and all of them opposite, exhibiting more the habit of a small *Urtica*; this form agrees with Loureiro's character, but it seems to be merely a younger state of the other.

1. **Trophi scadens;** caule scandenti inerme, foliis breve petiolatis lineari-oblongis subiter obtuse acuminatis integerrimis utrinque glabris venosis laevibus, floribus axillaribus, masc. dense spicatis, fœm. paucis intra receptaculis suberosa pedunculata 1-5-na aggregatis, fructibus oblongis.—Caturus scadens. **Lour.** 2. p. 751.

**Hab.** Canton; **Mr. Millett.**

**Dioica.** Caulis scadens, glaber, brunneus, punctis albidis adpersus. **Spinae** nullæ. **Folia** alterna, rigida, breviter petiolata, anguste oblonga, basi subcordata, apice subiter acuminata, acumine longiusculo obtuso, utrinque glabra, tactu laevia, subundulata, supra laevissima, subtus nervis venisque protuberantibus notata,
This species approaches most to *T. spinosa*, Willd. (not Roxburgh,) or *Batis spinosa*, Roxb., but in that there are four stamens, thorns on the branches, roundish capuli of male flowers, and, from the receptacle of the female flowers enlarging and becoming fleshy, the fruit appears to remain enclosed, and never to be exsolved. There can be no doubt but all the species of *Trophis* have a true monophyllous perianth enclosing the ovary, similar to what we have recognized.—We shall here add the following abridged synopsis of all the species which have been hitherto described:

§ 1. *Flores fœmiae spiciati, nudii.*


§ 2. *Flores fœmiae glomerati, intra receptaculo globoso inclusi.*

2. *T. scandens*; triandra inermis, fl. masc. spicatis.


§ 3. *Flores spiciati, solitarii, receptaculo 4-6-phylo impositi.*


*Hab.* in jugis montium Circarensium.


*T. laurifolia* of Willdenow constitutes two species of *Styloceras*, *S. Kanthianum*, Adr. de Juss., and *S. laurifolium*, Kunth, and forms a genus among the *Euphorbiaceae*. Perhaps *T. aculeata*, Roth, may belong to the *Flacourtianæ*. We do not know *T. ? Heyneana*, Wall. *List of E. I. Plants*, n. 4642. *T. cordata*, Poir., or *Streblus cordatus*, Lour., from Canton, is certainly not of this genus, but rather a *Brousseontia*.


The equality or inequality of the base of the leaf, affords, we believe, no character, both kinds sometimes appearing on the same branch. We have three forms before us from China; one in which the leaves are whitish on the underside, at least when young, and their length about thrice the breadth; a second has the
leaves narrower, (almost cordato-lanceolate) much acuminated, and fulvous on the under side; a third presents the leaves broader, cordato-ovate, and less acuminated than in the other two, (their length being about twice the breadth,) and also fulvous; but we do not consider these forms sufficiently constant to mark them out as distinct varieties. We had almost referred here *Trema Cochinchensis* of Loureiro; but now feel disposed, from his account of the seed, to consider it a species of *Antidesma*.


Dr. Wallich’s plant differs in several particulars from this: the fruit in our specimen from him (n. 4495 a.) is considerably smaller, while the leaves are larger and rough to the touch on the under side.

2. *Ficus setosa*; arborea? ramis petiolis pedunculis receptaculis foliorumque nervis subtus hirsute flavido-pilosis, foliis breve petiolatis alternis oblongo-obovatis basi subcordatis et fere aequalibus apice acuminatis margine serratis, subtus ad venas piloso-pubescentibus supra hispido-strigosis, receptaculis globosis axillaribus solitariis binisve hispidissimis brevissime pedunculatis. *(Tab. XLIX.)*

This is altogether a very remarkable species: the setae on the young receptacles (which, in the antheriferous state, are about the size of a very large pea) are peculiarly close, stout, and spreading. The shape of the leaves is precisely that of the Chinese form of *Grewia Microcos*, both sides being almost equal, and very similar to those of *F. scabra*, Jacq., but there they are opposite, and have much longer petioles; nor is the fruit by any means so setose as in our plant.

*Tab. XLIX.* *Ficus setosa*:-*nat. size.*

**Ord. LXXIV.** CHLORANTHEÆ. *R. Br.*


**Ord. LXXV.** SAURUREÆ. *Rich.*


We can perceive no difference between the Chinese specimens from Mr. Millett, and those we possess from North America. The description of *Spathium Chinense*, Lour. Fl. Coch. 1. p. 270, although usually referred to *Aponogeton distachyum*, agrees in every point with this plant, except that we do not find what he calls a pedicelled one-flowered monophyllous spatha.

**Ord. LXXVI.** CONIFERÆ. *Juss.*


"Some few of the little twigs bear opposite imbricated small obtuse leaves" (Roxb.), which is the case in our specimens. Roxburgh likewise describes *J. Chinensis*, Willd., and three new species from China, which we have not seen: these are—

1. *J. aquatica*; foliis solitariis (alternis?) distichis linearibus haud mucronatis.
Ticus setosus
2. J. Chinensis; ramosa, valde patens, foliis ternis dense subimbricatis, mucronatis.
3. J. cernua; ramis tenuibus apicibus pulchre nutantibus, foliis ternis patulis mucronatis.
4. J. dimorpha; foliis ternis patulis mucronatis ad ramulos paucos subcomplanatos oppositis imbricatis minutis obtusis.

ORD. LXXVII. EMMENANTHUS. Hook et Arn.


Hab. Canton; Messrs. Lay and Collie.

The specimens exhibit old fruit, from which most of the seeds have escaped, and such of the latter as remain are empty: there are also flower-buds, but so very young as to render the determination of the number of ovules very uncertain; we could not, however, satisfy ourselves as to there being more than a single pair. We are very doubtful where this genus ought to be placed in the natural arrangement. In some points it approaches the Tiliaceae and Byttneriaceae, with which the habit perhaps best accords: in other respects there is a slight affinity with the group of Rutaceae. We leave it at the end of the Dicotyledones.

ORD. LXXVIII. ORCHIDEÆ. Juss.


ORD. LXXIX. IRIDEÆ. Juss.


Probably this, although it bears the name of Chinensis, is only known as a cultivated plant in China.

ORD. LXXX. SMILACEÆ. R. Br.

S. ovalifolia of Roxburgh, appears to be very closely allied to this species, but is said to have a compound umbel; if, however, as we think highly probable, his plant be a mere form of Rheede's Kari Vilandi, Hort. Mal. t. 31., it would only be distinguishable by its larger size. We have seen a specimen in Dr. Wight's Herbarium exactly agreeing with Rheede's figure.


Linnaeus and most systematic authors mention this as a native of North America only: Loureiro and Roxburgh, however, introduce it into their respective Floras, and it seems to agree well with Burmann's S. Indica. We cannot perceive any difference between our Chinese and North American specimens.


Roxburgh describes his plant with leaves glaucous on the under side, and with the "calycine leaflets broad, obcordate, sessile." We have not seen the perianth; the leaves in our specimens are not at all glaucous underneath. Roxburgh mentions that the root of his plant is large and tuberous; Loureiro says it is filiform and not tuberous. Notwithstanding these differences in description, we are disposed to consider Loureiro's plant to be the same as that of Roxburgh. The true S. lanceolata is a North American species; Sprengel places it among those with a prickly and angled stem; all other authors describe it as unarmed, nor have we found any prickles.


ORD. LXXXI. ASPHODELEÆ. R. Br.


Some of our specimens present a nearly simple panicle as described by Blume and figured by Rumphius (5. t. 73.); but others have it as much branched as in D. ensifolia: this last form exactly coincides with what we have described as D. Sandwichensis, supr. p. 97, which may therefore be considered as not different from Blume's plant. Blume seems to consider it only as a cultivated plant in India, so that it is not improbable but it may have been originally introduced from the Sandwich Islands. The leaves are perfectly smooth to the touch along the margins, even when the latter are carefully unrolled, but in the true D. ensifolia, the serratures are often distant and extremely minute; so that, as the habit is precisely the same, there may be a question as to the propriety of keeping them up as distinct species.—We have it from Canton (Mr. Millett), and from Lappas Island (Mr. Vachell, n. 126.)


Hab. Macao; Mr. Millett. Lappas Island; Rev. G. H. Vachell, n. 128.


1. Pontederia ovata; foliis ovatis acuminatis basi laeviter cordatis multinerviis, racemo paucifloro laxo breviter pedunculato e medio petioli erumpente, fructifero erecto.
This is very closely allied to *P. vaginalis* Roxb., but that species has the leaves only 5-7-nerved, and the racemes, after the flowers decay, become recurved. *P. ovata*, Linn. does not belong to this genus.

**ORD. LXXXIII. RESTIACEÆ. R. Br.**

1. Eriocaulon *Cantoniensis*; rhizome annua? intra folia parce arachnoidea, scapis strictis glabris 8-12-pollicaribus quinquangularibus quam folia lineari-acuminata vix duplo et quam vaginae pilis raris albidis patentibus adspersae quadruplo longioribus, capitulis de-mum globosis basi planis nucleus glabris, bracteis involucralibus plurimis testaceis rotundato-obovatis, interioribus cinereo-albis cuneato-rotundatis basi planiusculis glabris, bracteis involucralibus plurimis testaceis rotundato-obovatis, interioribus cinereo-albis cuneato-rotundatis apice breviter acuminulatis natis, perianthio masc. interiore monophylo tubuloso apice cristato-fimbriato, perianthii laciniis exterioribus duabus anticis navicularibus interioribus angustis integerrimis multo latioribus.

In the structure of the capitulum this is very much allied to *E. sexangulare*, Linn. (*Leucocephala spathacea*, Roxb. Fl. Ind. 3. p. 613), but the whole plant is much longer; the leaves are larger and broader, and the sheaths, and sometimes the leaves also, are sprinkled with a few spreading hairs. We almost suspect that this is *E. quadrangulare* of Loureiro (Fl. Coch. 1. p. 77.), but, at the same time, there are several points of difference. In our plant the scape, although always 5-angled, has one of the angles often so much smaller than the others as to appear like a mere nerve along one of the four principal sides; hence Loureiro might easily have supposed it to be only 4-angled. Loureiro’s plant, however, seems to be smaller than ours, and may possibly be rather *E. quinquangularis*, Linn.—We have received it from the neighbourhood of Macao from Mr. Millett, and Mr. Vachell, “j.”

**ORD. LXXXIV. PALMÆ. Juss.**


**ORD. LXXXV. COMMELINEÆ. R. Br.**


The leaves are sometimes almost round, sometimes lanceolate, but always obtuse at the point.


Hab. Lappas Island; Rev. G. H. Vachell, n. 83.


Hab. Lappas Island; Rev. G. H. Vachell, “s.”


Hab. Lappas Island; Rev. G. H. Vachell, n. 109.
Our plant has the inflorescence more elongated than Roxburgh attributes to his species, but all other points seem to agree; the filaments are quite glabrous. It differs from *T. thyrsiflora* of Blume by the sheaths being ciliated or almost bearded at the mouth and along the margins.

**ORD. LXXXVI. ALISMACEÆ. R. Br.**


We have not received the leaves: the inflorescence is quite the same with the European plant.

**ORD. LXXXVII. PANDANEÆ. R. Br.**


**ORD. LXXXVIII. AROIDEÆ. Juss.**

1. *Arum Colocasia*. Linn.? We have seen only one specimen of the spatha and spadix without any leaves.


Very nearly allied to *P. scandens*, Linn.

**ORD. LXXXIX. CYPERACEÆ. Juss.**

[The *Cyperaceae* and *Gramineae* form the most numerous and valuable part of the collections received from Canton, and from the extreme vagueness with which the Chinese and East Indian species of both orders have been usually described, it is necessary that they should be noticed more in detail than the other families. For the following account of them we are indebted to our friend Prof. C. G. Nees von Esenbeck of Breslau: and when we have added any species not elucidated in his MS., or have made any additional observations of our own, we have inserted them within brackets. The mere specific characters of most of the *Cyperaceae* have been already published in Wight’s Contributions.]

**TRIB. I. CYPERÆ. N. ab E.**


1. *C. polystachyus*. Rottb.—*N. ab E. l. c. *p. 75.* (cum char. et syn.)—α; Millett.—β; Vachell, *n.* 70. *a.*

Var. β non differt, nisi gracilitate quadam, et radiis omnibus longiusculis.

2. *C. capillaris*. Koen.—*N. ab E. l. c. *p. 76.* (cum char. et syn.)

*Spicula* $\frac{1}{4}-\frac{3}{4}$ pollis longae, lineam latae, valde compressae; rhachillae inter squamas scrobiculis oblongis insculptae; carinula utrinque inter squamas undatim conspicua. *Squamae* arcte imbricate, basi membranae rhachillam amplexentae, chartaceae, lateribus havigatae, luteae, magisve aut minus brunnescentes, dorso angusto spatio viridi nervulo utrinque carinaque prominulis, oblongae, apice obtuse. *Stamina* duo. Caryopses fuscae, foveis rhachillae rectangularis elongatis semi-immersae, obovatae, minutim punctulatae.
3. **C. compressus.** Linn.—*N. ab E. l. c. p. 76.* (cum char. et syn.)

**Hab.** Canton; **Millett; Vachell, n. 73. b.** (ex parte.)

Species e spiculis argute compressis, viridulis, lineolis purpureis, axate pro voci, antem macula marginalis flavo notatis, squamis argute acutatis, radiis umbellae 1-4 patulis magis minusve elongatis facile distinguenda. **Spiculae** in apice radiorum 3-5, approximatae, patentes, 4-8 lineas longae, 1-1½ lineas latae, radiatae aut digitatae, in centro umbellae magis congestae. **Caryopsis** distincte trigona. **Styli** rami tres gracillimi. **Stamina** tria.

4. **C. pectiniformis.** R. et Sch.?—*N. ab E. l. c. p. 77.* (cum char.)

Exempla nostra vix bipollicaria. **Culmi** caespitosi basi squamis laxis folioque uno alteroque angusto carinato culmum vix sequante laevi instructi, trigoni, in nostro haud adeo rigidi. **Spiculae** 10-12 pollicem longae, lineae latae, compressae. **Squamae** imbricatae, carinatae, ovatae, in acumen mucroniforme non nihil recurvum productae, nervis subundenis striatae, dorso virides demum griseae, marginve pallide, interdum macula lanceolata flavo notata; inferiores deciduæ. **Rhachilla** compressa, alternatim gradata. **Stamina** tria. **Stylis** ad ½ a vertice trifidus. **Caryopsis** trigona, obovata, laeviuscula, immatura alba, matura cinerascens. **Involucrum** folia tria, foliis similia, quorum unum spiculas magis minusve excidit, reliquae easdem subequant.

[Mr. Arnott has shown, in Wight’s Contributions to the Botany of India, p. 77, that *C. pectinatus* of Roxburgh, which name Roemer and Schultes exchanged for *C. pectiniformis*, (there being a previous *C. pectinatus*), is not the same as the present species, but is *C. Wightii*, N. ab E. The plant here described has been therefore named *C. Meyenii* by Wight and Arnott (Wight Cat. n. 1815) in honour of Meyen, who first discovered it in the island of Manilla.]

5. **C. castaneus.** Willd.—*N. ab E. l. c. p. 79.* (cum char. et syn.)—**Vachell, n. 296.**

[The Chinese specimen which we have received from Prof. Henslow has the umbel simple, as described by Prof. Nees Von Esenbeck; but in those from the Peninsula it is more frequently compound, as noticed by Roxburgh: the muero to the scales is often straight and patulous, but is usually slightly recurved; Roxburgh has described and figured this form) .

6. **C. Haspian.** Rotlb.—*N. ab E. l. c. p. 80.* (cum char. var. et syn.)

**Hab. β, circa Macao urbe; G. H. Vachell, “g.”** (ex parte.)

Est species elegans, infloroscentia valde regulari distincta. **Culmus** ½-1 pedem altus, acute triqueter, infra umbellam scaber, striatus, crassitie pennae gallinacea. **Ploctorum** loco in alii vagina una et altera ad basin culmi membranacea, acuminata, striata, purpurea; in alii vagina inferior transit in folium lineare carinatum obtusum margine scabrum, culmo brevius. **Folia** fasciculorum angustiora, complicata, culmum sequantia. **Involucrum** diphylum, folio altero umbella ½-½ breviore, altero ½-½ breviore. **Ochreae** communes margine apiceque membranaceae, oblique truncatae. **Umbellae** radii 6-8 valde inaequalis, 1-3 pollices longi, compressi, altero latere canaliculati, glabri, graciles, patuli. **Umbellulae** 6-8-radiate, medii pro more sessili. **Involucella** durum ochroleolarum longitudine, lanceolata, scariosa. **Ochreola** singuli radioli laxa, oblique truncata. **Radioli** semipollinares. **Cymulae** radii bifiödum spicula media sessili, ramo laterali utroque diversificato-recurrro, vel disticho, altera spicula terminante sessili, altera ad ejus basis pedicillata reflexa, vel altero saltem bifiödo tetraschiyo, scl. spicula media, unaque alterius lateris, alterius lateris radiolo dupli spicula instructo, quo figura cymulae pedata oritur. **Spicule** 2½-3 lin. longae, lineares, compressae, glabrae. **Squamae**
7. C. hexastachyum. Rottb.—N. ab E. l. c. p. 81. (cum char. et syn.)

HAB. Macao; Millett; Vachell, n. 71. et “f.”

8. C. marginellus. N. ab E. l. c. p. 83. (cum char.)

HAB. Ad Macao et in vicinis insulis; G. H. Vachell, n. 68.


9. C. canescens. Vahl.—N. ab E. l. c. p. 84. (cum char. et syn.)

HAB. Macao; Millett. In littore Tynon-Bay; G. H. Vachell, n. 67.


[From the above description, assisted by specimens from Dr. Wight, and determined by Professor Nees Von Esenbeck, we are now inclined to refer here our C. caricifolius, from the Sandwich Islands, supr. p. 99.]

10. [C. verticillatus]; umbella composta decomposita pluriradiata, radiis compresso-triquetris strictis apice umbellatis et spicis 3-8 sessilibus paullo inaequalibus patulis cylindraceis a basi densissime imbricatis et quandoque radiolo centrali oligostachyo, spiculis lanceolatis valde compressis dense spiraliter in rachi insertis ebracteolatis 6-14-floris, squamis ovatis obtusis mucronatis flavidis dorso trinervibus nervo carinali viridi, stylo trifide, caryopses ovali triquetrae laevi pallida, involucellis subdiphyllis umbellula paullo brevioribus,

HAB. Danes Island, 1828; G. H. Vachell, n. 73. c.


We have given the above character, in order that it may be compared with that of C. digitatus, traced by Nees Von Esenbeck, l. c. (where the leaves and involucres are said, by a typographical error, to be "margine rubris," instead of "margine scabris"); and the two will be found scarcely to differ. Nees Von Esenbeck, in his MS. remarks of this plant, "distinguitur inter confines spicis in radiis umbellulæ 1-2-polllicibus quinis sensis septenis, 2½-1 pollicem longis, 3-4 subequales majoribus, reliquis minoribus, crassitie penne anserine, a basi, ubi quandoque nonniil curvatur, densissimse imbricatis, manum cum digitis suis bene referentibus:" the first part of which agrees with our one, but the latter is not so evident either in the specimen before us, transmitted for our inspection by Professor Henslow of Cambridge, or in Roxburgh's description and figure, with which the Chinese plant agrees exactly.

11. [C. parvijlorus. Vahl.—N. ab E. l. c. p. 87. (cum char. et syn.)

HAB. Macao; Millett; Vachell, n. 62. b. (ex parte.)

Var. æ. ought to have been defined, "umbella explicata."]

12. C. Iria. Linn.—N. ab E. l. c. p. 87. (cum char. et syn.)

HAB. Macao; Millett; Vachell, n. 62. b. (ex parte.)

13. C. differmum. Linn.—N. ab E. l. c. p. 88. (cum char. et syn.)

14. C. distans. Linn.—N. ab E. l. c. p. 88. (cum char. et syn.)

HAB. Circa Macao urbem; G. H. Vachell, "g." (ex parte.)

Vera Iriarum socia, spiculis angustis, squamisque alternatim dispositis, dorso viridibus, laeviter quinque-nervisbus obtusissimis cum vel sine mucronulo, margine albido membranaceis Caryopsis æquantibus bene distincta. Stamina 3. Involucella 3-4-phylla, linearis-setacea, umbellam sequantia.

2. MARISCUS. Link. N. ab E. l. c.

3. KYLLINGIA. Linn.; N. ab E. l. c.

1. K. monocephala. Linn.—N. ab E. l. c. p. 91. (cum char. et syn.)
Hab. Macao; Millett; Vachell, n. 72. b.

2. K. nana; (N. ab E.) capitulo solitario sessili, involucro triphylllo capitulo 5-6-plo longiore, spiculis monandris, squamis ovato-acutis novemnervibus carina glabris, foliis planis angustis mollibus culmum humilem trigonum aquantibus.
Hab. Circa Macao et in insulis vicinis; G. H. Vachell, n. 72. a.

Similis K. brevifoliae, et fors ejus varietas; differt autem culmo vix 3-4-pollicari folia æquante et spiculæ squamis carina Isevibns multinnerviis. Distinctam igitur proponere, quam conjungere, malui.

TRIB. II. HYPOLYTREE. N. ab E.

4. FUIRENA. Linn.; N. ab E. l. c.
* Perigynii foliola interiora unguiculata.

1. F. Rottboellii. N. ab E. l. c. (cum char. et syn.)
Differt a F. pentagona, præter notas l. c. indicatis: culmo plerumque humiliore spithameo rarissimeve pedali flaeulo, foliis infinis semipolllicem longis latiusculis, omnibus, ut et vaginis, magis minusve hirsutis, capitulo terminali e pluribus quidem capitulis composito, sed is magis contiguus bracteolis aliquot foliaceis interstititis nec geminis alterm elevatiors; perigynio denique dimidio minore (etiam in fructu maturo) firmiori, lamina unguem æquante crassae trinervi basi emarginata apice utrinque leviter repanda qua mucronus medium inflexus producitur. Ad basim inter nervos laterales et medium macula oblonga pellucida quasi fenestra conspicit, accedente quandoque, ubi lamina quinquenervis, magis extrorsum et altera minori, quæ cuncta Rottboellii icox eximie monstrat.

TRIB. III. SCRIBEE. N. ab E.

5. ABILDGAARDIA. Vahl.; N. ab E. l. c.


Abildgaardiae genus inter Cypereas poni potest.

6. FIMBRISTYLIS. Vahl. N. ab E. l. c.

Hab. α. ad Macao urbem et in insulis vicinis; Vachell, n. "c."

Radix repens. Culmi fasciculati, pedales et bipedales, graciles, filiformes, compressi, hinc canaliculati, striati, nec scabri, glaucoscentes, torti. Ad basim vaginae 1-2 truncatae, membranaceae foliis filiformibus, culmo brevioribus eideimeque similibus, basi tereti-compressis sulculoque insculptis, extremo apice planis linearibus obtusiusculis instructae. Involucrum monophyllum, plano-convexum, incurvum, 3-4-policem longum, culmi apicem simulans, quare spicula ad speciem lateralis; haec sessilis est, involucello monophyllum filiformi spicula breviori, quandoque obsoleti, suffulta, ½-⅔ poll. longa, ovali-oblonga, erecta, levis, basi brevi spatio steriles; accedit una, rarius exaltera, pedicellata, pedicello involucrum modo æquante, modo eo breviore, compressa. Squamae arcte imbricate, membranaceae, subrotundae, latae, rotundatae, brevimucronate, pallide fer-
rugineæ, leves, nervo dorsali in mucronulum abente et aliquot eidem adjectis obsoletis predite, glabrae; squamae inferiores aliquot minores et sterile. *Stamina* tria, filamentis compressis. *Perianthium* subcylin-
dricum, sulcatum, truncatum, ovario angustius, in caryopseos stipitem longum abiens. *Stylus* compressus, utrinque ciliatus, bifidus, basi bulbulosus et solubilis. *Caryopsis* obovato-ellipticarum, stipitata, filamentisque ad basin stipitatis persistentibus cincta, obtusa, subulissime punctulata, albida, margine discretè obtuso cincta.

[Mr. Arnott, in Wight's Contributions, p. 97, has pointed out that the var. s of Prof. Nees v. Esenbeck, so far at least as relates to the synonym of *Scirpus tristachyus*, Roxb., is identical with Dr. Wight's specimens of *F. schenoides*, Vahl, as determined by Nees v. Esenbeck himself.]


Species est distinctissimae; quod ad spiculas quidem *F. diphylla* haud absimilis, sed statuра humiliori, sempedali culmo, foliis brevioribus subfalcatis ciliatis, plerumque vaginis margine late membranaceis oblique truncatis, umbellaque vix pollicari, bi-tri-quinqueradiata, radiis ¾–½ pollicem longis, longioribus tri-penta-
brevioribus mono-di-stachyis, spiculis lateralis pedicellatis media sessili, in centro spiculis aliquot brevi-
pedicellatis congestis, præsentem caryopsis magis compressa, margine obtuso sulculo discreto cincta utrinque parum convexa costulisque tuberculato-crenulatis predita, quorum interstitia angusta lineam punctum


3. *F. tomentosa*. Vahl.—*N. ab E. l. c. p. 100. (cum char. et syn.)*

*Umbella* partiales 4-8-radiate, radiolis vel omnibus monostachyis, vel uno altere longiori distachyo. *Involucella* di-triphylla, foliis setaceis umbellula duplo et triplo brevioribus. *Squamae* spiculum chartaceae, ovatae, brevi-mucronatae, costa viridi, basi albae, superius fuscae, plerumque glabrae. *Caryopsis* obovata, albida, exterior latere gibbosa, costis novem, interiori planiusculo costis undecim, interstitiis transversim sulci-
cis. *Culmus* sulcato-angulatus, glaber. *Folia* culmin sequantia vel paulo breviora, linea vix latiora, flava, obtusiuscula, utrinque cum vaginis striata et pilosa. *Vaginarum tubus* truncatus, altero latere ferru-
gineus, punctulatus.

4. *F. diphylla*. Vahl.—*N. ab E. l. c. p. 100. (cum char. et adnot.)*


*Rhizoma* validum, repens, fibris ramosis sparsis radicans, foliiorum culmorumque fasciculos in caespitem collectos gignens. *Culmi* 4–8 pollices longi, rigiduli, sulcato-angulati, setulis exiguis adpressis inspersi, basi dense foliosi. *Folia* flabellatim disticha et vaginis imbricatis membranaceis ferrugineis subpuberulis fasti-
giata, 1-1½ pollicem longa, linea angustiora, attenuata et acutiuscula, apice plerumque sphaelato, plani-
uscula, recurva, glanca, supra dense argenteo-sericea subbus sparsus puberula; inae in culmo paululum ad-

[We have received this beautiful species only from Mr. Millett; the leaves are about two or two and a half
inches long, but in every other respect the above description is most faithful. We presume it is *F. argentea*, N. ab E, in Herb. Lindl.; but we have not seen his specimens.]

7. TRICLELOSTYLIS. Lest.; N. ab E. l. c.

1. *T. complanata*. N. ab E. l. c. p. 103. (cum char. et syn.)

Hab. Circa Macao urbem et in insulis vicinis; G. H. Vachell, n. 61. et " e."

2. *T. milacea*. N. ab E. l. c. p. 103. (cum char. et syn.)


8. ISOLEPIS. R. Br.; N. ab E. l. c.


TRIB. IV. RHYNCHOSPORÆ. N. ab E.

9. RHYNCHOSPORA. Vahl.; N. ab E. l. c.

1. *R. Chinensis*. Nees et Meyen.—N. ab E. l. c. p. 115. (cum char. et syn.)

Hab. Circa urbem Macao et in insulis adjacentibus; Vachell, n. 60.

*Planta* 2-3-pedalis, pro statura gracilior. *Culmi* ad foliorum originis articulati, fistulosi, triquetri. *Folia* 4-5, culmo breviora, æquidistantia, decrescentia, linearia, acuminata, carinato-canaliculata, margine et carina
scabra, vaginis longis trigonis striatis, herbacisis, ore hinc brevi spatio membranaceo. Corymbi e foliorum duorum superiorum axillis, folio multo breviores, fasciculato-bifidi, bracteolis setaceis scariosis interstincti. Pedunculus gracilis, compressus, scaber. Spicula in ramulis geminate, subglobosum approximatae, 7-8 in quovis fasciculo corymbuli bifidi, oblongae, 4-5-flore. Squamae late, ovatae, acuta, uninerves, nervo excurrente mucronate, brunneae, margine pallidiores; infimae duae steriles, minores, obtusiusculae cum mucrone.


10. HAPLOSTYLIS.* N. ab E. l. c.

Hab. Insula Lappas; Millett. In vicinia urbis Macao, et in insulis adjacentibus; G. H. Vachell, n. 65. Ad Promontorium Syng-moon; Meyen.

Planta caespitosa. Radices fibre dense, pallidae, compressae, spongiosae. Culmorum bases incassatae, vaginis exarida elongatissimis laxe vestitae. Culmi 1-2 pedes alti, crassitie pennes Columbinae, teretiusculi, altero latere paullo magis depressa, altero inaequaliter costulato, striati, in seco nonnulli Forti, non scabri, basi sola foliosi. Vaginae ratione laminae breves, striate, compressae, laevae, altero latere membranae laco-dehiscentes, in laminam continue. Folia culmo aliquanto breviora, 1½ lin. lata linearia, acuminata, carinata et basin versus complicata, glabra, laevia, margine scabra, flaccida, glanca. Capitulum terminale, magnitudine nucis moschatae, subglobosum, densum. Involucrum 4-6-phyllum, foliis a basi 1½ lineam lata planiuscula ciliata, in acumen carinatum continue attenuatis, totis herbaceis et rigidis patulis, inerne ciliatis apicem versus serratulo-scabris, quorum majus vix biplicare, reliqua ad 1½ pollices decrescunt minoraque capituli ambitum intrant. Spiculae per fasciculos 3-4-stachyos sessiles distributae, confertae, omno sessiles, primum pallide virescentes, demum ferrugineae, glabrae, lanceolatae, compresso-ancipites, acuminatae, incurvae, primum arcte imbricatae, sub fructu apice dehiscentes. Squamae omno distichae, ovatae, chartaceae, uninerves, carinatae, septenae; quatuor inferiores steriles, breves, magnitudine tamen crescentae, acuta; quinta precedente majore 1½, sub fructu 2½ lin. longa, longius acutata; sexta ejusdem formae sed paullo longior et angustior magis scariosa acuminata, convoluta, amplectens marginem baseos pistillum apiceque stylum arcte retinens, per se quidem sessilis, sed sinu recondens squamam septimam minorem teneriorem, oblongam, acutam, convolutam, stamina continentem. Pistillum unum in axilla squame quintae. Stylus longissimus, squamam sextam excessit, filiformis, glaber, simplicissimus, apice semel bisse contortus acutiusculus, basi strictura insertis vertici ovarii spongiosoloso capituliformi; ovarium oblongum, trigonum, perigynio sexseto cinctum. Caryopsis obovata, seminis papaveris magnitudine, utrinque convexa, subtilissime punctulato-exasperata, margine angusto calloso pallidio a vertice in basin angustatam continuo cincto, apice orbiculo convexo carinato ruguloso coronata, basi periantithi setulis 4-6 tripli brevioribus retrorsum hispidis fundo conjunctis stipitata, primum lutea, dein fusca. Perigynii exterioris lacinulæ albae, filiformes, caryopsi multo breviores, denique obsolete. Flos masc. stamina tria, squama septima circundata; filamenta linearia, brunnea, squamam sub anthesi æquantia; antheræ lineares, apiculate, bilocellata, luteae, basi veluti in stipitem sterilem filiformem attenuate ejusque opera filamento strictura argute intercedente impositae, ita ut primo adstrictum defluant.

Ad sectionem hujus generis secundam, Pierorrhynchium, N. ab E., caryopsi concavo-convexa rostro

continuo compresso obtuso coronata et margine angusto ab eo decurrente ad basin usque cincta insignitam pertinet H. Bahiensis, N. ab E., seu Schanu monocephalus, Salzm., et Rhychospora pterocarpa, Presl. (ex parte.)

Trib. V. Cladieae. N. ab E.


1. C. Chinense (N. ab E.); culmo inferne tereti inter paniculae ramos profunde canaliculato scabro, foliis linearibus longissimis caudato-acuminatis margine et carina serrulato-acuteatis, paniculae ramis axillaribus supradecompositis corymbosis, spiculis capitatis primum oblongis demum subglobosis, capitulis oligocostis squamis inimis ovato-subrotundis mucronatis mediis subrotundis, superioribusque ovatis obtusis, stylo trifido.


Media quasi species est inter C. Germanicum et leptostachyum, Nees et Meyen; differt ab utroque rachi inter coryumbs partiales profunde canaliculata marginibusque scaberrima, que in C. Germanico oblique complanata, in C. leptostachyo autem leniter depresso-excavata, fere semiteres; tum vero gracilitati culmi et foliorum maxime attenuatorum longitudine et forma. A C. Germanico insuper recedit spiculis plerumque paucioribus in capitolo (8-10) obscurioribus, stigmatibusque constanter tribus, seil. altero styli ramo bifido, altero integro; a C. leptostachyo spiculis pluribus in capitulo, corymbis laxioribus nec supradecomposita multifirosis, et stigmatum etiam numero.—Nux ovata, grisea, acuta, basi orbiculo depresso instructa, sulcis aliquot verticalibus (2-3) insculpta. Endocarpium (an testa?) crassum, fuscum, intus nitudulum, mucronulatum.


1. G. tristis (N. ab E.) panicula spicata supradecomposita, spiculis glomeratis, squamis exterioribus elongatis acuminati, tribus interioribus brevioribus obtusis, nucula trigona nitida alba, papilla sphecalata.—Didymonema filifolium. Presl. Diss. de Didymonemate?

Hab. In vicinias Macao urbis et in insulis adjacentibus; Millett. G. H. Vachell, n. 59.


13. Lepidosperma. La Bill.


Hab. China, ad Promontorium Syng-moon, (Julio, floribus nondum explicatis); Meyen. In vicinias Macao urbis insulisque adjacentibus, (April), et in insula Lappas, (Octob. spiculis juvenilibus); G. H. Vachell, n.
39. a, b. **Culmi rigidi**, 1½-2 pedes alti, penneae gallinaeae vel scriptiae tenuioris crassitie, subtorti, inferne tereti-compressi, superiors versus vel semiteretes versus inaequaliter ex subtereti-uniangulari, striati, laves, glauci. **Folia fascicularum** (scil. folia radicallia in fasciculus solito more collecta) gemina, vagina aphylla amplexa, cumculbrovira, stricta, e semitereti compresa, apicem versus potius trigona, apice rigido fusco, margine levia. **Vaginæ** striatæ, spicæ obtuse carinatae margine fusco-membranaceo in ligulam folio adnatam concurrentes. **Culmea** duo, fascicularum folis similis, paullo crassiora, basi comprossa-semiteretaria, apice tereti-trigona; **vaginae** ut in illis. **Spica** 2-6-pollucaris, decomposita, e spicis partialibus 6-10 approximatis, alternis, tri-unipollucaris, summis semipollucaris. **Rachis** depresso-semi-teres, levis, altero latere canaliculato. **Bractea** sub singula spica partiali ovalis, scariosa, fusca, basi vaginas, apice contracto in mucronem rectum linearem planum obtusum procurrens, spica partiali brevior, nervoso-stritata pruinosus. **Spicae** partiales 6-5, alternæ, approximatiæ, ovatae, 1-1½ poll. longæ, bracteatae. **Spiculae** in ramulo suo subimbricate, geminæ vel solitariae, bracteola communii similis aristulata longitudine spicularum stipatæ, lanceolate, 1½-2 lin. longæ, compressæ, squamis 5-6 aequilibus trisfariam imbricatis chartaceo-cartilagineis, oblongis, acutis, infra apicem mucronulatis, carinatis, subnervatis, basi teniouribus pallide rufis, apice crassioribus fuscis scabriusculis rigidioribus, omnibus prater penultimam, quæ mascula, et terminalem quæ minor teneriorque et pallidor, sterilibus exstructæ. **Stamina** tria, antheris linearibus mucronulatis. **Urceoli** denticulati vestigia ovarium fulcienit. **Stylus** ad medium usque trifidus; ovarium oblongum, trigonum, in styli basin crassisculam convinens. **Spica** fructifera major, subnunans. **Caryopsis** nucamentacea, ovalis, subtrigona, mucronulata, fusca, albo-irrorata, levis, basi perigynio brevi obconico cartilagineo acute sextedentato albo suffulta.

[Our specimen, also collected by the Rev. Mr. Vachell, and under the same number from Professor Henslow, does not quite agree with the above description; we, therefore, insert also the specific character we had drawn up previously to receiving that by Prof. Nees von Esenbeck:—Culmo (apicem versus saltem) aphylllo glaberrimo levi tereti-compresso apice uniangulato, rachi leniter flexuosa, spicis oblongis in spicis densis dispositis, spicis erectis inferioribus compositis ovato-oblongis breviter pedunculatis mediis subsessilibus, ovatis superioribus simplicibus confertim glomeratis, bracteis prunosis omnibus spica propria multo brevieribus, squamis oblongo-lanceolatis, exterioribus obitusiusculis sterilibus, interioribus carinatis acuminatis. Thus the principal difference consists in the lower partial spikelets of our plant being peduncled, and forming a kind of panicle.]

**TRIB. VI. SCLERIEÆ. N. AB E.**

14. SCLEIRIA. Berg.; N. ab E. l. c.

1. **S. ciliaris**. N. ab E. l. c. p. 117. (cum char.)

HAB. In vicina Macao urbis; Millett; Vachell, n. 40.

**Culmus** 1-2-pedalis altus, basi bulbosus, et purpureus. **Folia inferiora culmum aequantia**, 2 lineas lata, floralia 4-3 pollucis longa, 2½ lineas lata, omnia apicem attenuata, apicem ipso obtuso. **Panicula** axillares, 1-3, satureae purpureas, 1½-2 poll. longae, basi ramosæ, apice ramisque simpliciter spicatis. **Bracteae** subulate, basi dilatata purpurea, pilis rigidis ciliata. **Spiculae** gemine, conferae.

[To the description and character given by Prof. Nees Von Esenbeck, we may add that the caryopsis is at first only slightly rugulose, the elevated parts being covered with numerous short bristles; afterwards it is almost or quite glabrous; the lobes of the hypogynium are obtuse and not more than one-fourth the length of the caryopsis. The margins of the leaves and sheaths are often only slightly scabrous.]

2. **S. Neesiana**; culmo argute triquetro stricto angulis scabris, foliis strictis linearibus acuminatis apice obtiususculo supra versus apicem marginque scabris, vaginis triatatis margine scabris, lobulo oppositifolio brevi subrotundo villos-ciliato, paniculis axillaribus terminalique spicato-decompositis breviter pedunculatis ovatis, bracteis et basi dilatata brevi-
membranacea nudæ subulatis asperis, nuce (livide fusca) globoso-ovata obtuse subtrigona leviter undulato-rugosa pubescenti-hirtula mucronata, mucrone concolore, hypogynio tri-partito lobis lanceolatis nuce dimidio brevioribus.

Hab. Circa urbem Macao; *Millett*; *G. H. Vachell*, n. 66. (ex parte.)

This species obviously approaches extremely close to *S. ciliaris*, but is not only very different in habit, but in the structure of the hypogynium, colour of the fruit, shape of the lobe that is opposite to the leaf, and in the want of the ciliæ on the bractæ and bracteolaæ. We have only seen one specimen sent by Mr. Millett, and another, but imperfect one, in Prof. Henslow's collection. The spikelets are in pairs, one male, the other female.]


**Trib. VII. Cariceæ.** *N. ab E. l. c.*

15. *CAREX.* *Linn.* *N. ab E. l. c.*


Hab. Ad Macao et in insulis vicinis; *Millett*; *Vachell*, n. 66. (ex parte.)


[The above observations seem to have been made by our friend to show that this species was distinct from *C. ramosa*, Schk. In that species, however, Willdenow, on Schkuhr's authority, asserts that there are only two stigmas, notwithstanding that the fruit is triquetrous; it comes from the Mauritius. Sprengel combines with it a different plant, *C. cruciata*, Wahl. and Willd., and draws up a character, probably without seeing either, which partakes of both; *C. cruciata*, however, is from Canton, nor is there anything in Wahlenberg's description to induce us to suppose it distinct from the above *C. valida*, *N. ab E.*, except where Wahlenberg says that the fruit has a short beak, while in our plant it is rather long; we consider them the same: the *C. cruciata*, *N. ab E. l. c.* p. 123, from Nepal and the Peninsula of India, is quite distinct, and is *C. Hookeriana*, Herb. Arn.]

2. *C. Retzii*. *N. ab E. l. c.* p. 128. (cum syn.)

[This we have not seen, nor does our friend Nees von Essenbeck appear to have met with any plant agreeing precisely with Retz's and Wahlenberg's description: we have, however, a solitary specimen before us from Canton, which we suspect must be the same, an account of which we subjoin, as it differs in one or two points from the character usually given.

Retz and Wahlenberg attribute to this a single purely male spike, remote female ones, and mention that the whole plant is a span long: our species is obviously considerably larger, the female spikes are not remarkably remote, and the mixture of female flowers on the terminal spikes may be the effect of accident. On the other hand, the description of the fruit, of the scales, of the sheaths to the bracteae, of the bracteae themselves, and especially their being about equal in length to the spikes, the number of stigmas, and the smoothness of the culm, are the same in both. We scarcely entertain a doubt respecting their identity.]

**ORD. XC. GRAMINEÆ.** Juss.

**TRIB. I. PANICEÆ.** N. ab E.

1. **PASPALÆ.** Linn.

   a. **GENUNI.** N. ab E.


   [This varies with the glume 5-7-nerved and the spikes either in pairs or several, or 3-nerved, and then the spikes are usually in pairs: in the Chinese specimens (Vachell, “Z.”) referred here by us, the glumes are 3-nerved; there are several (3-5) spikes, and the spikes are more spreading than usual; the plaits on the glumes, which are rather small for this species, are not very conspicuous. It is the only species, we believe, from the East, with orbicular spikelets placed in two rows on the rachis.]

b. **PANICOIDEI.** N. ab E.

2. *P. Chinensis*; racemis 4-5 alternatim approximatis fastigiatis, spiculis geminis ternisve ovali-lanceolatis imbricatis, rhachi plana spiculis paullo latiori, gluma valvulaque neutra

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* The terms used by Professor Nees v. Eschbebeck being not quite the same as those employed by Trinius, the following extract from his Memoir on the *Gramineae*, in Wight and Arnott’s *Prodromus Fl. Penins. Ind. Or. vol. 2*, (ined.) may be acceptable:—

1. *As to the distribution of the spikelets*. The words *homogamous* (viz. spikelets) and *heterogamous* signify the distribution of the sexes in different spikelets on the same individual. They are called *homogamous* if there be no difference in this respect between any of the spikelets of the same individual, as in *Bromus*; — *heterogamous*, if the arrangement of the sexes be different in different spikelets from the same root, as in *Andropogon*. *Diecéssis* signifies that there are some spikelets conformably male (whether provided with an accessory neuter floret or not) on one individual, and conformably female on another, as in *Gynærium*: and *monóceous*, that male and female spikelets (whether or not they be accompanied by a neuter floret) are distributed apart from each other, but on the same individual, as in *Zea*.

2. *As to composition*. The terms *hemiologamous*, *hemigamous*, and *polygamous*, serve to indicate the distribution of the sexes among the different florets of the same spikelet. A spikelet is called *polygamous*, if one of the two florets which it contains be unsexual, and the other bisexual, as in *Spodiopogon*, and several *Panica*. A *hemiologamous* spikelet is that in which one of the two florets is neuter, and the other bisexual, as in several species of *Panicum*. *Hemigamous* signifies that a spikelet is composed of one neuter floret and another unisexual, whether male or female, as in *Ischaemum*. Spikelets are also called *Monoecious in composition*, where one of the two florets is male and the other female.—*N. von E.*

Hab. Ad Macao urbem; G. H. Vachell, “X” (ex parte.)

Differt a P. filiformi rhachi latiori recta, spiculis paullo majoribus imbricatis aut densius saltern confertis; a P. nematode culmo erecto gracili, vaginis foliisque protractis.

[Kunth’s Chinese locality is taken from Roxburgh; but Roxburgh’s Panicum filiforme is obviously a true Panicum, allied to his P. lineare (P. pseudodurva, N. ab E.) and P. commutatum, N. ab E., but differing by the upper glume being only half the length of the neuter floret, and both three-nerved and slightly villous on the margin.]

2. HELOPUS. Trin.


Hab. Circa urbem Macao; G. H. Vachell, n. 57. (ex parte.)

Differt a reliquis sui generis gracilitate racemi, pedunculis longioribus bifloris, defectu vel minimi vestigii glumae inferioris.

3. PANICUM. Linn.

a. DIGITARIA.


Hab. Circa Macao urbem; Millett. Vachell, n. 34.

Species singulares integumento spicularum et foliis vaginisque extra oras glabris, ut et proportione glumae superioris, tum a P. ciliari, tum etiam a P. marginato, Link, bene distincta.

b. PASPALIDEA.

2. P. colonum; spica composita, partialibus pluribus (5-9-nis) alternis discretis approximatis erectis, rhachi communi glabris, partialibus scabris, spiculis quadrifariis imbricatis ovatis turgidulis, glumis mucronulatis hispido-scabris, inferiori triplo breviori, flosculo neutro bivalvi valvula inferiori mucronata, hermaphroditio levi mucronato, culmo basi ramoso nodis foliisque glabris, his margine scabris.—a. Culmo plerumque humiliorie, foliis

Hab. β. Circa Macao urbe; Millett. Vachell, n. 44.

Formae α et β in numeris lusibus, (quod olim jam suspicatus eram, nunc autem clarissimis documentis comprobatum video) adeo miscentur, ut vix varietates habendas esse senseam, tantum abest, ut specie distinguendas.—Variant rachidibus propriis spiculisque valde hispidis.

[Some of our Chinese specimens are only 3-4 inches high and very slender, others about two feet.]

c. Paniculigera.


Hab. Circa Macao urbe; Millett. Vachell, n. 57. (ex parte.)

Spiculis in racemum decompositum coarctatum dispositis pallidis acutis, culmoque magis minusve rigido inferne vaginato, foliis, saltem ubi breviora sunt, rigidos distichos patentibus et siccando convolutis, supra semper basin versus pilosis, subitus modo glabris modo circa basin etiam pubescentibus, vaginarumque fimbria densa mollisque a reliquis facile distinguetur.


Valvula flosculi neutrius superior brevissima.

[The few Chinese specimens we have seen, sent by Mr. Millett from Canton, are smaller and more slender than those we possess from the Peninsula of India, and the leaves are shorter and narrower; but we have no reason to suppose them specifically distinct.]

5. **P. psilopodium**; panicula capillari, ramis inferioribus basi præsertim strictis, ramulis subfasciculatis pedicellisque tenuissimis flexuosis scabris, axillis nudis, spiculis oblongis acutis glabris purpurascensibus lutescentibusve, gluma inferiori duplo breviori obtusa trinervi, superiori 7-nervi, flosculi neutrius bivalvis valvula inferiori 7-9-nervi, hermaphrodito oblongo lævi.

**Hab.** Circa Macao ur beef; *Millett.*


[Roxburgh has no where described a *P. virgatum,* nor attached that name to any of his drawings; we presume, therefore, that he must have merely given it incidentally to some of Koenig's specimens in the Banksian Herbarium.]


**Hab.** b. circa Macao ur beef; *G. H. Vachell,* n. 45. b.

Involucellis brevioribus rigidioribus spiculisque majoribus facile distinguitor a *P. penicillato.*


**Hab.** Circa Macao ur beef; *Millett. Vachell,* n. 37. b.


**Hab.** Circa Macao ur beef et in insulis vicinis; *Millett. G. H. Vachell.*

**Hab.** Ad Macao et in insulis vicinis; G. H. Vachell, n. 37. a.

In forma Chinensi, *folia* pilosa, *vaginae* autem glabrae, *flosculus* haud laeviusculus sed granulatim undatimque exasperatus.

[Of this the specific character is unfortunately wanting in Nees von Esenbeck's manuscript, and we have not seen Mr. Vachell's specimen: if, however, a species which we have received from Millett, also from Canton, be the same, it constitutes a form intermediate between the English *P. viride* and small states of *P. Italicum*: the raceme is slightly lobed, and all the ramuli as well as the involucral bristles are very patent. If we be correct in referring these specimens, *P. viride* can only be distinguished from *P. Italicum* thus:—Racemo arcto simpliciter vel sublobato-spiciformi breviusculo, racemis partialibus subsessilibus paucifloris, involucellis rectiusculis, *folis* pilosis vel glabris.—All the remainder of the character of *P. Italicum* applies to *P. viride*; in both, the fertile floret is more or less conspicuously but minutely and transversely rugulose.]

d. **Echinochloa.**


**Hab.** Circa Macao et in insulis vicinis; Millett. Vachell, n. 43.

We have drawn up the above character from Chinese specimens, among which we have two extreme forms with every gradation between them; one has the partial spikes short, close pressed to the rachis, and the bristle of the neuter floret is seldom longer than the spikelet; the other is much more luxuriant, having more numerous and slightly spreading partial spikes, and the bristle, although short in some spikelets, is usually 3-8 times longer than the florets: this last state approaches so closely to *P. crus-Pavonis*, N. ab E. (Agrost. Bras. p. 259.) that we cannot detect any difference, except in the latter having the lower partial spikes compound, and perhaps the lower glume not cucullate. Between *P. hispidulum* and *P. cesium*, notwithstanding the differences pointed out by Nees von Esenbeck below, we find still greater difficulty of drawing a line: in Prof. Henslow's specimens of the latter, determined by Nees von Esenbeck himself, the rachis is certainly striated, the lower glume is cucullate, and the upper as distinctly 5-nerved as that of *P. hispidulum*, while the glaucous hue, as well as the colour and size of the spikelets, is too dependant on soil and situation to afford any but secondary characters; we have thus left only the convex back of the rachis and the decidedly alternate partial spikes to characterise it, and that these are constant and not the effect of fortuitous circumstances we have reason to doubt.]

11. **P. cesium**; spica composita erecta, partialibus alternis subadpressis basi et ad insertiones spicularum barbatis, rachi inferne semitereti compressa superne triquetra dorso convexo, spiculis quadrifarisis ellipticis hispidulis coloratis, glumis ovatis trinervibus, inferiori spicula triplo breviore acuta, superiori acuminata, flosculi neutrius bivalvis valvula inferiori
longe setigera, caryopsi ovali laevi subrostellata, culmo procumbente ramoso, vaginis foliisque linearibus glaucis his margine scabris, ligula nulla.

**HAB.** Ad Macao urbem; **G. H. Vachell, n. 45.**

*P. hispidulorum* affine, a quo differt: glaucedine, culmo gracili procumbente adscendente, spiculis minoribus purpureis, rachi dorso convexa laeviuscula nec striata, subtus carinata, nervis glumarum paucioribus, &c.

2. **ISACHNE.** **R. Brown.**


**HAB.** Apud Cantonem; **Millett.**

*Inter reliquas Isachnes* statura, foliis asperrimis, panicula parva 1-1½ pollicem longa, plerumque fuso-purpurea, glumis muricatis, flosculis diclinibus facile distinguitur.

[Our Chinese specimens have the glumes much less conspicuously muricated than in those from Dr. Wight, collected in the Peninsula of India; but there is no other difference. Some of our plants from Dr. Wight have the panicle 3 inches long. It is probable that both *I. pulchella* and *I. miliacea* of Roth are referable here, there descriptions being bad. *P. patens*, Roxb., seems likewise to be the same, judging from his drawing in the East India Company's Museum, t. 803, notwithstanding that both in the description and figure he has represented the upper floret as bisexual, an error he might have readily fallen into on the supposition of its being a species of *Panicum.*]

3. **GYMNOTHRIX.** **P. de Beauv.**


**HAB.** Ad Macao et in insulis vicinis; **Millett. G. H. Vachell, n. 48.**


[It is probable that the above description had been taken from a single imperfect specimen. We have, however, a more complete series before us; some, and indeed almost all the specimens, (except those in a young state,) bear a closer resemblance to *G. alopecurus,* N. ab E. in Herb. Wight, (or *G. cenchroides,* Kunth, excluding
all syn.) and even to *G. hordeiformis*, N. ab E. (or *G. caudata*, Kunth,) than to any species of *Penicillaria*: and this appearance is supported by the structure of the spikelets, which is truly that of *Gymnothrix*. In *Penicillaria*, however, the inflorescence is a raceme with the pedicels and involucres persistent; in *Gymnothrix* it is usually a spike, the sessile involucres being deciduous: in the present plant, it is a raceme, but the short pedicels, as well as the involucres, are deciduous, thus agreeing in every point with the genus to which we have removed it. The leaves are glabrous, but, at the same time, scabrous on their margin. The spike, or rather raceme, is usually about three or four inches long; we have rarely seen it so long as described above: at first it is acute at both ends, but afterwards the pedicels often spread out horizontally, presenting a lax appearance. Pedicels frequently a line and a half long, articulated with the rachis. The bristles of the involucre are at first pale, but afterwards of a beautiful purple from almost their base to the apex. From *G. alopecurus*, the only other species with distinct pedicels, it is readily distinguished by their being almost as long as the spikelets. Trinius' figure is excellent, if taken from a young specimen; he, and Nees von Esenbeck, and we also, have found only one spikelet in each involucre: Kunth says that there are one or two.]

**Trib. II. Tristegineæ. Link.**

4. **ARUNDINELLA.** Raddi.

**Subgen. 1. Acratherum.** Arista apici valvulae integro inserta.—*Acratherum*, Link.

1. [A. glabra; culmo foliisque linearibus valde acuminatis glabris, vaginis ore barbatis, paniculæ coarctatae elongatae, ramis fasciculatis a basi florigeris, glumis (fuscis) minutissime pubescentibus subelevato-nervosis, inferiori ½ breviore, flosculi fertilibus valvula inferiori (seu setigera) acuminata.

*Hab.* Prope Macao; *G. H. Vachell, ''T.'''


*Hab.* β. Circa Macao urbem; *G. H. Vachell, ''V.'''

*Culmus* pedalis et alior, erectus, e radice fibrosa torta, crassitie fili emporectici, teres, laevi, cum nodis glaber, inferne purpurascens, 4-nodus, ramosus. *Vaginae* arctæ, internodiis breviore, striatae, tuberculis
Trii. III. Saccharineae.

Subtrib. I. Sorgeae.

5. Chrysopogon. Host. Trin.—Raphis, Lour. (non Linn. fil.)


Hab. Circa Macao et in insulis adjacentibus; Millett. G. H. Vachell, n. 49.


Subtrib. II. Andropogoneæ.


Hab. Circa Macao; Millett. Vachell, n. 36.

Quod ad figuram in universum nostra exempla descriptionem Willdenowianæ et iconi Palisotianæ respondent. Sed flosculus inferior in speciminiis Wightianis [atque Chinensibus] vel deest omnino vel adeat neuter univalvis, valvula exigua lineari, gluma inferiori multo minore. Reliqua ut apud Belvisium; hic autem flosculum neutrum distincte bivalvem majusculum exhibit, qualem et in speciminiis Royleanis coram
habeo. Cl. R. Brown, *Saccharum panicum*, Lam. citans, valvum floscui hermaphroditae superioris de-

icientem notat. An itaque plures hic species, nescio an plura fors genera, latent?

[In Prof. Nees V. Eisenbeck's MS. to Dr. Lindley, and more lately in a letter to ourselves, we find that he now

inclinates to consider the species from Dr. Wight, also from Ceylon and China, as a distinct one, and he thus

characterises it:—"*P. refractum*; gluma inferior brevior truncata, superiori apicem versus hirta, seta flosci-

fertilis basi reflexa.—Differt et *P. polyostachyo* (scl. plante, cui nomen hoc reliquum) spiculis duplo 

fere minoribus, vix lineam longis, cum isti 1/3 lineam sint longae, opacis; gluma inferiori breviori et ratione longi-

itudinis latiori, fere recta truncata; superiori apicem versus hirsuta, seta flosci ab origine fere arce parvo 

refracta quae isti leniter retrovergens subtortuosaque. Reliqua utrisque convenient. Flosculus inferior uni-

valvis, superior bivalvis, valvis ciliatis. Folia angusta valde scabra, magis tamen in *P. refracto*, ad os vaginae 

longe barbata.—*P. polyostachyo* diagnosis haec est: *P. glumis equilibus levibus apice barbatis, seta recurva 

flexuosa."—The direction of the seta, however, is perhaps inconstant: it is erect in Roxburgh's figure (in E. I. 

C. mus. tab. 875) of his *Andropogon monandrus*, and in some of Dr. Wight's younger specimens; but Rox-

burgh's plant is certainly *P. refractum*, for although in his description he states the glumes to be equal, he 

represents them unequal, and the lower one of the sessile spikelet truncated in his drawing; and besides, the 

lower floret appears to have been so minute as to have escaped his notice. In the specimen of *P. poly-

ostachyum*, N. ab E., which we possess, we are uncertain from what part of India, the lower floret of the 

sessile spikelet is conspicuously 2-valved, as in Beauvouis' figure, and contains a single apparently imperfect 

stamen, which falls out as soon as the florets expand, and is therefore only to be observed in an early 

stage: the bisexual floret contains two fertile stamens. The pedicelled spikelet has the lower floret, so far 

as we have observed, always neuter, and with one conspicuous valvelet, and the upper one with or without 

one unfertile stamen. When Mr. Brown speaks of *Saccharum panicum*, Lam., not having an upper val-

velet to the upper floret, he probably merely alluded to Lamarck's figure, where it is erroneously represented so.]

7. Homoeatherum. *N. ab E.*

*Spiculae* in axi articulata gemine heterogame; altera sessilis hemigama, altera pedicellata neutra. He-

mi-gamae: *gluma* due, membranaceo-charitateae; inferior angustior minoreque canaliculata, 2-4-nervis; nervi 

lateralibus in dentes setasque excurrentibus; superior cymbiformis compressa ad apicem bifidum un un 

nervi medio longe setigera. *Flosculi* duo membranacei tenues: inferior univalvis, valvula lanceolata ciliata 

mutica aut in setalam subtilem extenuata; superior bivalvis; valvula inferiori lanceolato-cymbiformis inter 

laciniis apicis latusculas ciliatas setam emittens validum, inferiori tortam in medio reflexam; valvula superior 

minor, linearis, binervis, bidentata, dorso concava lateribus inflaxis. *Lodiculae* subcarnosae, colorate (flave), 

truncato-bidentata. *Stamen* (in unica speeie) unum. (*Antherae* fulvae) *Styli* discreti; *stigmata* asperr-

miformia. Neutri: *gluma* due; inferior subherbacea, plana, multinervis, ex apice bidentata bisetove longius 

setigera; superior angustior, submembranacea, margine inflexa, ex apice ciliato brevi-dentato setam parvam 

emittens. *Flosculi* inferioris neutriusque valvula plus minus evoluta. *Flos. superiir* omnino deest.—In-

florescentia: spicce geminate, in pedunculis vagina microphylla involutis subfasciculatae. Racheos articuli 

cuneiformes, apice oblique truncati et excavati, oblique trignoi, latere exteriore laetore convexo. Pedicelli 

spiculae imperfectae articulis racheos similis, hinc concavi, inde concavi. Habitus omnino Andropogonis e 

sectione Cymbopogonum.

Est genus intermedium inter *Pogonatheram* P. de B. et *Andropogones*, illis tamen revera magis propin-

quum. Differt a *Pogonathero* generis spiculis singulis parvis non modo heterogamis, sed etiam forma diversis, 

gluma utraque spiculæ pedicelliteæ setigera, inferiori quoque spiculæ sessilis sepe biseta; tum vero lodiculis 

distinctis carnosis.


Hae. In China circum Macao et in insulis adjacentibus a Julio in Septembrem 1829, legit G. H. 

Vachell, n. 52.


1. *I. Koenigii*; foliis fasciculorum angustis elongatis, culmis brevioribus in vaginis summis denique obsoletis basi ciliatis, panicula spiciformi laxiuscula, nodis plerumque barbatis.


Hab. α. Circa Macao atque in insulis adjacentibus; *G. H. Vachell, n. 47. a.*

Folia culmi infima conferta, subacespitosa, fasciculorum foliis latiora, duplo breviora.—*Gramen caricosum* A. Rumph. Herb. Amb. 6. t. 7. f. 2. a. vix hujus loci, quippe cui folia 4-5-pedes alta, pollicem fere lata tribuantur, cum in nostro culmi ½-2 pedes alti, nec folia altiora, et 1-1½ lin. lata, basi angustiora. Spica cylindrica ½-3 poll. longa et paullo longior.

[Roxburgh in his Flora Indica states, concerning the leaves, “those of the root or lower part of the culm are much longer than the culm, tapering equally towards each end;” and as his observations were made on the living plant, we suspect that Nees has taken his description from herbarium specimens only; at the same time, Rumphius’ figure can scarcely be our plant; perhaps it is a true species of *Saccharum.*]


Hab. Circa Macao, et in insulis vicinis; *Millett. G. H. Vachell, n. 31.*

Of this, which seems to be very common about Macao, we have not received the leaves. It appears to be a remarkably tall plant, and the panicle is very similar to that of *S. officinarum*, from which, however, it differs by the large and conspicuous valvelets of the fertile floret. *S. procerum* differs by the upper valvelet of the bisexual floret.
S. exaltatum, according to Roxburgh’s observations and drawing, has the upper valvelet of the bisexual floret wanting in the pedicelled spikelet, but about equal to the other and acute in the sessile one; according, however, to N. v. Esenbeck’s examination of what he considers the same plant, in Dr. Wight’s herbarium, it is the upper valvelet of the pedicelled (not the sessile) spikelet which is equal and similar to the other, while in the sessile one it is much shorter and obtuse. As we have not seen the leaves of the Chinese plant, we are uncertain about its being the same as Roxburgh’s; and, besides, that author, in his drawing, represents the upper valvelet much narrower and more acuminated than in our specimens, but probably his figure may be inaccurate in that respect. The neater valvelet and both those of the fertile florets are ciliated.


In nostro specimen (in Benghalae superiori a Royleo lecto) panicula magis contracta; sed distinctissimum valvula inferiori flosculi fertilis omnino deficient; superiori autem satis conspicua, linear-lanceolata, ciliata. Valvula neutra ista major, lanceolata, magis ciliata. Lodicula cuneiformes, truncatæ, pro magnitudine spiculae satis magnæ. Glumæ glabrae. Vagina suprema ventricosa, in folium angustum attenuatum contracta.

10. HETEROPOGON. Pers.


Hab. Ad Macao et in insulis adjacentibus; Millet; G. H. Vachell, n. 46 (ex parte).

[After having carefully examined the Chinese plant, and H. polystachyus R. et Sch., of which last N. ab Esenbeck considers the Andropogon contortus of Roxburgh, and perhaps also of Linnaeus, (but not of Brown’s Prodr. 1. p. 201,) to be a variety with solitary spikelets, we can see no good grounds for separating them. Both have the peduncles elongated and often fascicled, each with one short-leaved sheath, the male spikelets ciliated, and the leaves linear scabrous and more or less ciliated at the base: in the Chinese specimens the hairs on the glumes and leaves are softer, and spring out of inconspicuous tubercles; in Dr. Wight’s specimens of H. polystachyus the hairs are rigid, and arise from pretty large tubercles, but we can see no other difference between the two; if then our friend be correct in referring our Chinese plant to H. contortus, we should be inclined to reunite it to H. polystachyus.

11. ERIANTHUS. Rich.


Hab. b; In vicinia urbis Macao, inque insulis adjacentibus; G. H. Vachell, n. 35.

Ab E. aureo, N. ab E. in Wight, Cat. n. 1690, cui proximus, notis memoratis bene distinguitur. Memorabilis est bulbus culmi cæteroque gracilis erecti et simplicis, piso major, densissime tomento ferrugineo tectus. Culmi apex tomentoso-hirtus. Lodiculae carneæ, crassiusculæ, bidentatae.

2 i

Hab. In insula Lappas; G. H. Vachell, n. 31. b.


[To the above may be added.—Gluma inferior planiuscula, binervis; superior dorso convexa vel potius subcymbiformis, trinervis, nervis extus fere obsoletis intus satis conspicuis, margine ciliata. Flosculi superioris valvula inferior bifida cum arista flexuosa torta, superior in exemplis nostris plane deficiens. Spiculae geminae; una breviter (½ lin.), altera recurvo-patula longiuscula (1½-2 lin.) pedicellata, pedicello utriusque glaber.—Thunberg found this in Japan; we have it also from Otaheiti.]

12. SPODIPOGON. Trin.

1. S. villosus; repens, foliis lineari-lanceolatis pilosis basi longe ciliatis, nodis vaginisque villosissimis, spica bifida, spiculis rhomboe-ovalibus, gluma inferiori basi convexa lævisima a medio depressa (in spicula pedicellata compressa) stricta anguste marginata bidentata, superiori subulato-acuminata, seta flosculi (dorsali) spicula duplo longiori, rhachi triquetra alternatim semisfercata gemini flora angulis poriformibus, articulis pedicellisque breviter ciliatis.

Hab. Prope Macao.

Perquam similis est S. obliquivalvi, N. ab E. (qui Ischemum aristatum, Roxb., non Lin., et I. ciliare, Retz, at non Arthaxon ciliare, P. B.) sed bene distinctus inter confines vaginis nodisque pilis longis mollibus patentibus dense villosis, gluma superiori subulato-acuminata, nec bidente cum brevi apiculo interjicto, seta longiori fortiori, spicilisque majoribus et rhachi triquetra. Folia 3-4 pollices longa, duas lineas lata, acuminatissima, supra pilosula, et circa margines inferius longe ciliata. Spicæramus alter brevis. Spicula 2 fere lineas late, glabre: glume margine scabra; inferior a basi ad medium levis in parte depressa striataque sepe transversim subrugosa aut lacunosa; superior paullo longior. Seta et dorso valvulae medio infra incisuram egressa, 4 lineas longa, a basi ad genericulum purpureo-fusca.

13. ANDROPOGON. N. ab E.—ANDROPOGONIS SPEC. Linn.


Ab A. annulato (seu A. Ischaemo, Roxb.) cui proxime accedit, differat: foliis angustioribus pilosis, nodis culmi non pilis patentibus reflexive sed mollioribus brevibus adpressisque cinctis, spicis brevioribus longius pedunculatis, spiculis minoribus, \( \frac{1}{2}-\frac{3}{4} \) lineas longis, que illi 2-3 lin. longe, gluma inferior 6-neo 8-nervi, basi margineque pilis brevioribus vestita. Reliqua omnino ut in A. annulato. Ab A. obtuso, N. ab E. (qui A. Bladhii, Roxb.) longius distat glumis nec multinevris nec apice, ut in illo, obtusatis, tum vero et spicis in rhachi brevi approximatis, racemum abbreviatum fasciculi formem basi sepe vagina involutum exhibitibus nec longiori tractu in culmi parte superiori dispositis.


Hab. In vicinia urbis Macao Imperii Chinensis et in insulis adjacentibus; Millet; G. H. Vachell, n. 50.

Summitas culmi circiter pedalis, erasitie pennæ columbinæ, teres, lábris, glabra, sub inflorescentia nuda. Vagina suprema longa, convoluta, glabra. Folia summa 3-12 lineas longa; [penultima, in \( \beta \) tantum modo nobis obvia, 4-6 pollcies longa, 2-3 lin. lata, linearia, plana, acuminata, utrinque margineque aspera, supra ad basin piloso-barbata]. Inflorescentia 6 pollcies longa, oblonga; rami quini, quaterni, terni, bini, sparsi denique erecti, ad axillas barbatis, hinc ad 4 lineas simplices, glabri, mono-distachyis, spicis erectis, 1-1½ pollcies longis, geminarum altera breviore: [in \( \beta \), inflorescentia paniculata conico-oblonga; ramis ut supra descriptis, inferioribus 1½-2½ pollcies longis; spicis 8-16 lineas longis, quandoque apice abortivis vel cito cassis brevioribusque, patulis; axillis ramorum ut in \( \alpha \)]. Rhachis angusta, recta, ad angulos pollcis erectis ciliolata, hinc ad insertiones spicarum altero latera barbula pilorum aliquot longiorum instructa. Pedicellus spiculæ sterilis articulo conformis, fertilem spiculam sequans. Spicula 1½ lineas longæ. Gluma inferior spicula sessilis in medio canaliculata, basi lábris pilis brevibus erectis vestita, in inferioribus quandoque glabra, sursum 6-8-nervis, nervis medio tenuioribus, margine scabra, apice angusta bidenticulata nec membranacea; superior gluma carinata, tenuior, acuta, margine fimbriolata. Flosculi neutrius valvula una, lanceolata, ciliolata, mutica; fértilis umam tantum vidi linearis-angustam, apice toto transacte in setam 7-8 lineas longam tenuem scabram tortilem basi rufam. Stamina tria; antheræ fulvae. Stigmata purpurea. Spicula pedicellata gluma inferior plana, 8-10-nervis, purpurascens; superior minor: flosculi non nisi inferioris valvula adest.
[The plant which we have joined as var. $\beta$, to that described by Nees von Esenbeck, differs from it in no respect except in the more branched inflorescence: the structure of the spikelets being identical in both. On the other hand, we see few grounds for separating the more luxuriant or more perfect form, and which is by far the most abundant in our collection, from $A.$ montanus, Roxb.; Roxburgh, however, describes the leaves as "long and narrow," and figures even the uppermost one close to the panicle, and 6 or 8 inches long, while in our plant it is very short and subulate; Roxburgh, moreover, does say that the lower glume of the fertile spikelet is channelled on the back, which could scarcely have escaped the notice of N. von Esenbeck. Var. $\alpha$ has much the appearance of $A.$ leptostachys, Wight and Arn., (or $A.$ saccharoides, Roxb., and n. 890 of his drawings at the India House), but in that also the uppermost leaf is elongated and similar to the lower ones, and the branches of the inflorescence seem constantly alternate, simple, and bearing a single slender spike that is fully more than an inch and a half long. We have received both $\alpha$ and $\beta$ from Prof. Henslow, under n. 50 of Mr. Vachell's collection; Mr. Millett has only sent the var. $\beta$.]

4. A. (Cymbopogon) hamatulus: culmo ramoso alto farcito nodisque levi, foliis linearibus filiformi-acuminatis margine scabris vaginisque glabris, ligula rotundata, spicis geminis brevibus paucifiolosis fasciculato-paniculatis reflexis, panicule ramis racemosis strictis, pedunculis geminis bractea brevioribus, rhachi pedicellisque albo-hirsutis, spiculis glabris oblongo-lanceolatis, fertili gluma inferiori 4-6-nervi apicem versus marginata, seta glabra flexuosa spicula duplo longiore gracili, lacinii valvulae linearibus.


Differt ab A. Schæantho spiculis duplo minoribus. Ab A. pachnode, Trin., non solum spiculis paullo minoribus 1½ lin. vix longis, sed etiam gluma inferiori spiculae fertills distincte 4-5-6-nervi et seta multo breviori, gracili, valde flexuosa, 3½ lineae longa, tum foliis angustioribus et ligula breviori. Bracteae purpurascentes; communis pedunculos bis breves distychos promenis. Spicae vix 3-4 lineae longae. Spiculae virides, structura omnino ut in A. Schæantho.—Rami 1-2 axillares erecti, vaginati, vaginis ramulos breves fasciculatos (geminos) alios simplices pedunculos exhibentes, alios compositos bracteis bi-distychis præditos præmentibus, unde ramus paniculae singulos racemum angustum exhibet.

5. A. (Cymbopogon) cosius: culmo procumbente erectove ramoso nodis foliisque lineari-acuminatis caæio-glaucis lævibus et glabris, spicis geminis fasciculato-paniculatis bracteatis bracteis spicas aequantibus, rhachi pedicellisque albo-hirsutis, spiculae fertills oblongo-lanceolatae, gluma inferiori 2-4-nervi margine superiori carina albo-membranacea serrulata, valvulae fertillis bifida lacinii filiformibus, mascula pedicellata mutica, gluma inferiori octonervi acuta, pedicello crasso.—$\alpha$; gluma binervi. N. ab E. in Wight Cat. n. 1700.—$\beta$; gluma quadrinervi. N. ab E. l. c., n. 1700. b.—$\gamma$; elatior, culmo erecto firmo. N. ab E. l. c., n. 1700. c.

Hab. $\alpha$ et $\beta$, in vicinia urbis Macao, et in insulis adjectis; Millett; G. H. Vachell, n. 41. a.

CHINA.

[We fear that the difference between these varieties is not constant: we have observed on the same panicle some glumes with four nerves, others where the middle pair had coalesced into one in the centre, and others where the two lateral ones had merged into the margin; so that the glumes might be said to be either 2-, 3-, or 4-nerved: the smaller the specimen, the more decidedly were the glumes only 2-nerved.]

14. ANTHISTIRIA. *Retz; Trin.; Gartn.*

*Spiculae* heterogami, in fasciculis simplicies aut bi-trídifos dispositae. Quatuor verticillatae, masculae vel neutrae, sessiles vel brevipedicellatae, in quorum centro una hemi-ologama hermaphrodita, sessilis vel subsessilis, adjectis neutris masculisve geminus longius pedicellatis, saltame earum pedicellis sterilibus, ex quo numeros primarius septenarius singuli flosculi ortur; ubi autem alter pedicellus hermaphrodita adjectorum alteram fert spiculam feminea unius vel masculinus geminam stipitam, novem numeramus in fasciculo spiculas, sc. neutras masculasve 7, et hermaphroditam duas. In una specie spica adest simplex, dimera, ex duabus conjunctionibus spicularum exstructa, quorum inferior spiculam unam exhibit fertilis sessilemque setigeram, alteram neutram aut masculam muticum, superior simili ratione vel unam vel binas pedicellatas masculasve feminæ uni consociatas. Spicularum structura omnino *Andropogonum* e subgenere *Trachypogonos.* Habitus *Andropogonum* et subg. *Cymbopogonis;* a quibus *Anthistiria* non charactere spicularum, sed inflorescentia distinguish, quam si sensu latiori intelliges omnesque species, vaginata inflorescentia gaudentes, hoc solo charactere, neglecta positione verticillari, *Anthistiriæ* communi nomine appellablis, naturali dispositione melius consules. Constat fasciculus primitivus *Anthistiria* e ramulo paniculae bifido, cujus ramuli singuli, pro more, spiculam hemiologamam hermaphroditam unam, cum binis incompletis sustinent. Abortientibus autem binis lateribus fertilibus, restat quadriga spicularum sternum cum intermedio fertili binis sterilibus stipata. Ponas autem singulum triadem, ut in fascieulo enneastachyam videmus, ab altoe latere spiculam singulam sterilam ab alto autem fertilum cum suis sterilibus stipantibus proferre, et tum vero habebis spicam, abortu naturali in illam tetraastachyam *Andropogonis* (Cymb.) nani abuentem. Sunt igitur ejusmodi fasciculi revera spicae tres digitate, ad exilissimum partium numerum redactae; aut, si omnes in spicam unam coalescere posse fingis, spica tribus aut quatuor paribus constans.


HAB. Prope Macao et in vicinis insulis; *G. H.* Vachell, n. 46 (ex parte).


HAB. Ad Macao et in vicinis insulis, Danorum dictis; Millett; G. H. Vachell. n. 42.

Similis A. microstachya, sed distincta a valvula flosculi fertili spicis sessilis omnino mutica cymbiformi acuta. Bractea spicis integre abit in subulam [vel sepulibus utrinoque ad cuspidis basis unidenticulata]. Gluma primaria spicis integra. Spicularum pedicellatarum altera sepe abortiva, altera bispora, flosculo inferiori masculo, superiori abortu femineo. An revera differat ista species ab A. mutico, Linn., merito dubitabilis.—Exempla Javanica hujus graminis differunt fasciculis distantibus valvulisque ciliatis, qua nescio an diversae sint speciei.

SUBTRIB. III. ISCHÆMÆÆ.

16. MEOSCHIUM. P. de Beauv.

1. M. lodiculare; spiculae sessilis gluma inferiori basin versus hirsuta utrinoque quadrinodulosa, pedicellatæ floscolo fertili submutable, lodiculæ flosculi masculi linearibus bidentatis elongatis minutis truncatis atque illis flosc. hermaphroditis omnino conformibus in omnibus nostris exemplis, foliis linearibus utrinoque attenuatis subtus pubescenti-scabris, ligula rigida ovata. N. ab E. in Herb. Lindl.

HAB. In vicinia Macao urbis inque insulis adiectis; Meyen; Millett; G. H. Vachell. n. 47. b.

Culmus [teretiusculus, basi decumbens, ramosus, hinc infra nodos altero latere canaliculatus], glaber, sub spicis longe exsertus: genicula adpresso-barbata. Vagina suprema longa, striata, glabra, sursum attenuata et dehiscens; [inferiores hirsutae]. Ligula erecta, fusca, rigidula, incisa. Lamina sex pollices longa, 2 linita, plana, acuminata, basi angustior, supra nervosa, subutus pubescentia subtili rigidula conspersa, basi magis pubescentes; [foliorum inferiorum longior.] Spicae gemine, erectae, quadruplicatae. Articuli rhachis trigoni, angulo extero toto, reliquis circa apicem, ciliatis; latere altero, spiculae pedicellatae objecto, concav. Pedicellus spiculae alterius longitudine dimidi artifici, compressus, utrinoque ciliatus. Spiculae oblongo-ovales, conformes, 3 lines longae. Gluma inferior oblique oblonga, subcircularis, plana, obtusiuscula vel (in spicula pedicellata) bifida, a basi ad medium villis erectis canescens et in spicula sessili, utrinoque serie tuberculorum quaternorum obsita, utrinoque ungero crassiori geminato et in parte media tenériore nervis octo tenuirioribus per intervalla transversim anastomosantibus predita; superior acuta, acute carinata, uninevris, margine ciliata. Flosculi in utrinoque spiculae conformes, texturae satis firmae membranaceæ, dentem incarnatæ, inferior masculus; valvulae aequales, lanceolatae, acutes, plane, dorso depressæ, ciliatæ, muticae: inferior uninevris, superior binervis, ad latera inflexa. Lodiculae due, valvulis vis ½ breviores, lineares, membranaceæ, apice bidenticulatae, longitudinalis filamentorum: [hoc tamen N. ab Esenbeckius in errorem haud levem illabie nobis videtur, de quo plura infra.]. Stamina tria; [anteree lateae.]. Flosculus superior hermaphroditus, aut hermaphroditico-femineus; valvula inferior in spicula sessili oblonga, ad medium bifida, laciniosis linearibus obtusiusculis et dorso ad basin incisuræ emittens setam 6 lines longam leviscolam ad medium fuscum tormisque, hinc reflexam et ad apicem usque pallidam; color valvulae inferiori rufescens, apicis albus; valvula superior longitudine fere inferioris, at multo angustior, lANCEOLATO-LINEARIS, obtusiuscula, alba, parum ciliata basi ovarium arete amplectens. Lodicula ovarii longitudine, subquadrata, sinu lunari emarginatae angulis
acutis, membranacae. Stamina tria, jam perfecta, jam castrata. Ovarium oblongum; stili distincti, graciles; stigmata aspergilliformia, purpurea, demum subfusca. Idem flocculus in spicula pedicellata ejusdem est structure et indolis, eo autem differens, quod valvula inferior fere integra est et inter duos denticulos minutos apicis mucronulum brevissimum setaceum, quandoque et nullum omnino, emittit.

[Our specimens from Mr. Millett, and those in Prof. Henslow’s herbarium from Mr. Vachell, now lying before us, some of which were examined by Nees v. Esenbeck, agree with the above description in every particular, except that the lodicules of the male floraet are actually as small as, and precisely similar to, those of the bisexual one: in both they are somewhat cuneate and truncated, and not longer than the ovary. We are therefore disposed to suspect some error of observation in those parts from which the specific name has been derived; nor can we readily account for it unless on the supposition that, while dissecting the flower, the inflexed margins of one of the valvelets had been in part or wholly separated and supposed to be the lodicules.]

TRIB. IV. OLYREÆ.

17. SPINIFEX. Linn.


Hab. Prope Macao et in insulis vicinis; G. H. Vachell, n. 32, a (forma junior), b (fem.), et 33 (masc.).

Globi florales pugno majores; rhaches feminineae praelongae (5-6 pollicares); acumen spicæ masculæ 3-6-floræ ½-¾ pollicis longum. Gluma inferior major superiore 7-nervis, superior 5-nervis; utraque ovata. Valvulae floccorum oblongae, acuminatae, æquales, omnium tam masc. quam fem. chartacea; inferior 5-nervis; superior binervis acumine bidente. Singulare, quod lodicula a valvula superiori excludantur. Anthereæ violacea.

[18. ZEA. Linn.]


Hab. Culta circa Macao; Millett.]

TRIB. V. PEROTIDEÆ.

19. PEROTIS. Ait.; Brown.

Inter genera cognita, huic maxime affinis est, præsertim quod ad habitum attinet, Holboellia, Hook. in Bot. Misc. v. 2. p. 144. t. 76., gramen propter glumarum formam maxime memorabile.

1. P. longiflora; spiculis fructiferis patentibus pedicellatis lineari-lanceolatis in setam excurrentibus, flocculi valvulis inæqualibus, inferiori mucronata trinervi.—N. ab E. in Herb. Lindl.

Hab. Ad Macao et in vicinis insulis; Millett; G. H. Vachell, n. 38.

Similis omnino P. patuleæ (seu P. latifoliae Ait. at minime tam species est latifolia quam P. hordeiformis, N. ab E. in Herb. Royle, et Mont. Himalayis, n. 280), sed differt spiculis duplo fere majoribus, 2 lineas, et
cum seta majori 9 lineas longis, minus divaricatis, tum glumis magis adhuc lenissimeque in setam acutatis pro longitudine angustioribus. Flosculus glumis triplex brevior; valvula inferior membranaea, satis firma, trinervis, ovato-lanceolata, in acumen mucroniforme producta; superior brevier, linearis, apice bidentata. Stamina tria, antheris luteis. Stigmata purpurea. Gluma scabra, cum setis suis pallide. Folia rigida, densa, glauca, margine basin versus calloso-denticulata ciliataque.—Species duas sic distinguendae:—P. hordeiformis; spiculis fructiferis florentibus erectis subsessilibus, valvulis flosculi equalibus.—P. patula; spiculis fructiferis patentissimis pedicellatis, valvulis flosculi inaequalibus.

[With P. hordeiformis we are unacquainted. Between P. latifolia (for we are still inclined to retain that name instead of patula) and P. longiflora, there are some obvious differences in the foliage: in both the leaves are of the same general shape; but in P. latifolia they are waved, and have a cartilaginous discoloured (in our specimens) margin, which is armed with rigid, close, sometimes bristle-bearing teeth, from the base to near the apex; in P. longiflora, they are flat or involute towards the apex, decidedly glaucous, and the margin toothed only near the base. In P. latifolia the sheaths are strongly striated; in P. longiflora, scarcely at all. In P. latifolia the leaves are scattered at equal distances on the lower half of the culm; in our specimens of P. longiflora they are crowded for about one-fourth from the root; but as in both the two upper leaves are remote, we are disposed to regard the approximation of the lower ones as the effect of a greater or less development of the whole plant.]

TRIB. VI. AGROSTIDEÆ.

20. VILFA. Adans.—Sporobolus. R. Br.
1. V. elongata, N. ab E.—Var. panicula sesquipedali strictissima valde attenuata, spiculis albicantibus.

Hab. Ad Macao et in insulis vicinis; Millet; G. H. Vachell, n. 53.

[Although our friend has not sent the specific character, we presume he here means V. elongata, Trin. unifl., or Sporobolus elongatus, Brown; but our specimens do not altogether agree with Brown’s observations, in as far as he states the branches of the panicle to be alternate and the lower ones distant; whereas here they are more or less fascicled or verticillate, and the lower ones are not more remote than in V. tenacissima: the glumes are ovate, the upper one between twice and thrice, and the lower nearly four times shorter than the floret. The leaves are convolute. On the whole, therefore, we do not see why our plant ought not to be rather referred to V. tenacissima, Humb. and Kunth; perhaps, however, as Trinian says, V. elongata is too closely allied to it. In both, the branches of the panicle are floriferous from their very base or nearly so.]

TRIB. VII. ARUNDINAE.

21. ARUNDO. Linn. N. ab E.
1. [A. Henslowiana; culmo tenui foliisque convoluto-subulatis glabris, vaginis glabris ore barbatis, panicula subcontracta oblonga ramis fasciculatis compositis gracilibus, spiculis 5-7-floris, glumis spicula duplo brevioribus subulata acutatis, flosculis patulis, valvula inferiori dorso glabra versus marginem longe lanata, seta recurvo-patula flosculo fere duplo breviore.]


Panicula (in exemplo unico tantum nobis obv) tripollicaris. Valvula flosculorum inferior apice bifida, inter lobos subulatos breves setam proferens.
[This is probably the same as Nees von Esenbeck has observed a fragment of among Prof. Royle’s plants (n. 81.) from the north of Bengal, and which he has in his MSS. designated “Arundinis (Donacis, Beauv.) species Madagascariensi, Kunth, seu Donaci Thouarsii, Beauv. affinis.” Indeed, so far as the description goes, which he has kindly communicated to us, the two appear identical.]

TRIB. VIII. CHLORIDEÆ.—CHLORIDEÆ ET PAPPOPHOREÆ. Kunth.

22. LEPTOCHLOA. P. de Beauv.

1. L. filiformis; spiculis subsessilibus 2-3-floris muticis, glumis scabris, spicis parti-

Hab. β, Circa Macao, et in insulis vicinis; Millett; G. H. Vachell, n. 58.

2. L. chinensis; spiculis pedicellatis patulis 5-6-floris muticis adpresso-puberulis sub-

Hab. Circa Macao; Millett.

Spicolarum pedicello licet brevi, flosculorum numero et pubescentia magis minusve conspicua, foliorum glaucedine, satis distincta species. Rhachilla spicularum gracilis et flexilis, ubi flectitur flosculos separatos et veluti pedicellatos ostendit, qui quidem minime eam ob causam “pedicellati” cum Rothio appellanti sunt, cum pedicellus, quem diceres, non inter singulum flosculum et rhachillam positus sit, sed inter flosculum quemque inferiorem proximeque superiorem.

23. ELEUSINE. Gaertn.

perata; spicis 3, spiculis 3-4-floris, culmo humili. Kunth, l. c.—γ; macrostachya; spicis longis apice abortu spicularum attenuatis magis corymbosis quam digitatis, foliis culmo multo brevioribus.


2. E. Coracana; culmo erecto compresso simplici, vaginis ore barbatis, spicis latis demum incurvis, rhachi margine dilatata ætate repanda, spiculis subsexfloris dilatatis

HAB. Ad Macao et in insulis adjacentibus; Millett; G. H. Vachell, n. "H."

Simillima præcedenti, e qua, praeter characteres adnotatos et habitum proprium parum differt. Gluma superior quandoque dorso 5-nervis; etiam valvula inferior 5-nervis occurrit.

24. **DACTYLOCTENIUM.** *P. de Beauv.*


HAB. Ad Macao, in insula Lappas, et in aliis vicinis; Millett; G. H. Vachell, n. 73. b. (ex parte).

*D. aristatum,* Link, non minus ac relique hujusce est varietas. Restat igitur solum *D. radulans,* P. Beauv., seu *Eleusine radulans,* Brown, jure suo ut species proprià viudicandum.

[We have before us, from Mr. Millett, two forms of this plant, both belonging to α; one is smaller than the other, with roots from the joints, and the leaves and sheaths shortly hairy and ciliated; this may prove to be *D. aristatum,* Link. The other is more robust, the ascending portion of the culm being about a foot high, and the spikes almost an inch and a half long, and thick in proportion; the leaves are very scabrous on the margin, and more or less bearded at the mouth of the sheath, but are otherwise, as well as the sheath itself, glabrous: the lower part of the culm forms a very remarkable branched prostrate densely leafy rhizoma one to two feet in length. The spikelets are sometimes pubescent, sometimes glabrous and shining: but all these variations, as well as var. β, seem to depend much on the localities in which they are found, and not to be permanent.]

25. **CHLORIS.** *Linn.*


HAB. Prope Macao; Millett.
TRIB. IX. FESTUCEÆ.


§ 1. Caudate: rami paniculae elongati breves, fasiculiformes.


Hab. Circa Macao urbem; Millett. In insula "Danorum" dicta, 12 mill. infra Cantonem; G. H. Vachell, n. 56.


[Our specimens from Mr. Millett are much less advanced: the panicle is very contracted, cylindrical, and composed of short, crowded, adpressed, compound, alternate branches, as described by Roxburgh. The spikelets are tinged with purple. The glumes and lower valvelet of the florets are minutely strigo-pubescent, but otherwise glabrous and without ciliate on the margin.]

§ 2. Megastachya; paniculœ, paniculae ramis validiusculis, spiculis ovatis oblongis lanceolatisve, valvulis non pellucidis.


Hab. In insula Lappas; G. H. Vachell, n. 55.

Gramen perelegans, spiculis brizoides purpureo pallidoque variis.—In adumbranda Poa sua uniloide Retzius ante oculos habuisse videtur spiculam ex inferiore parte panicule paucifloram, cui glumæ jam delapse deficient. Tum vero flosculorum duorum inferiorum inferiores valvulæ glumæ esse, sive calycem, existimabant, obstant quibus utriusque calycem, superiores, quas nisi calycem alterum interioremque declararet, non habebat quibus explicaret.

3. E. megastachya; panicula racemoso-composita patente erecta, ramis inferioribus subverticillatis alternisque in axillis et ad ramificationes barbatis, reliquis omnibus alternis prope a basi divisis pedicellis brevibus, spiculis lineari-oblongis pallidis aut plumbeo-viridibus 15-25-floris, valvula inferiori obtusa subemarginata brevissime munronata trinervi nervo laterali prominulo superiori ciliata, caryopsi globosa, culmo ramoso adscendente nodisque glabris, vaginis glabris ore barbatis, foliis lanceolato-linearibus margine serrulato-

Hab. Ad Macao; Millett.

[Our Chinese specimens belong to the form which Roth has called Poa cuspidata, the axils of the panicle being almost naked; the panicle is large, as in Roxburgh’s P. flexuosa, and like it some of the specimens have the lower branches alternate; others, however, have them somewhat verticillate. It sometimes happens in this species that the upper florets of the spikelet are abortive, when the spikelet is roundish-ovate as in Poa annua.]

4. [E. Millettii; panicula racemoso-composita patula erecta rigida, ramis alternis prope a basi divisis axillis nudis, pedicellis spiculam sæpius æquantibus rarius in ramis compositis illa brevioribus, spiculis linearis-lanceolatis demum stramineis 8-16-floris laxe imbricatis, valvula inferioris ovata acutiuscula mutica subchartacea trineri nervo laterali parum prominulo superiori margine scabra persistente, culmo simplici stricto basi dense folioso, foliis subdistichis patulis convoluto-subulatis vaginisque patentim hirsutis, radice fibrosa cæspitosa multicolori.

Hab. Circa Macao, et in insulis vicinis; Millett; G. H. Vachell, n. 54.

This elegant and very remarkable species is readily distinguished from all others of the section with which we are acquainted, by its very hairy convolute leaves and sheaths. Unless by accident another plant has been mixed, this must be what Nees v. Esenbeck calls, in his MS. to Dr. Lindley, E. Brownii; at least what Prof. Henslow has sent to both of us from Mr. Vachell’s collection, n. 54, is the present species: it is possible, however, that he might not have seen the foliage, for in that respect it differs widely from E. Brownii of Kunth, and of N. v. E. in Herb. Wight.]


Hab. Circa Macao; Millett.

Rhachilla, imprimis peracta anthesi, valde flexuosa, ramis etiam paniculæ flexuosis et caryopsi majore compresso-trigona obtusissima (postice modo concava, modo obtusata) facile distinguitor ab E. Brownii, Kunth;


*Hab.* Ad Macao, et in insulis vicinis; *G. H. Vachell, n. 54.*

Caryopsis forma et ramificatione paniculæ satis différre videtur ista species a *P. polymorpha*, Willd.

[We have retained this name as it is in N. v. Esenbeck’s manuscript, and as we are informed both by Dr. Lindley and Prof. Henslow that it was part of Mr. Vachell’s, n. 54, which was subjected to his inspection; all the other specimens of that number, however, which we have seen, belong to our *E. Millettii*, nor have we ourselves yet seen a single plant of *E. Brownii* from China.]

§ 3. *Tenellæ*; panicula capíllari sape verticíllata, spicíulis angustís, valvulis plerumque tenuibus pellucídis.


*Hab.* γ, Circa Macao, et in insula Lappas alíisque vicinis; *Millett; G. H. Vachell, n. “b.”*


[With regard to Róxburgh’s species, we may add to the above: that *P. diandra* (in E. I. C. Mus. tab. 1830) appears to be unquestionably the common form of this plant, or that where the axils of the panicle are scarcely or not at all beardless. His *P. punctata* (figured in E. I. C. Mus. tab. 839, under the name of *P. amabilis*) may be a form, but has the branches of the panicle truly simple, and the carýopsi oblong: if belonging to this species, it is a form of the same variety as *P. diandra*, Roxb. As to *P. tenellam*, Roxb.,
or tab. 837 of the drawings in the India House, it certainly does not belong to <i>E. tenella</i>, P. Beauv., and bears much more resemblance to the present species; but it differs from both by all the branches of the panicle being short, and consequently with a habit nearly that of <i>E. Koenigii</i>, N. ab E., or <i>P. interrupta</i>, Roxb. We have hitherto seen no forms of <i>E. verticillata</i> that resemble either of the two last mentioned of Roxburgh.]

§ 4. Ciliares; <i>paniculæ, aut paniculato-spicate, valvula superiori, omnibusve et valvulis et glumis ciliatis</i>.


Hab. Circa Macao et in insulis vicinis; G. H. Vachell, n. “a.”

TRIB. X. BAMBUSACEÆ.

27. BAMBUßA. Linn.


Hab. Circa Macao; Millett.

Our specimens agree in every respect with Schultes' description above referred to, except as to the number of florets in the spikelet, which is probably subject to much variation. We cannot see how <i>B. Thouarsii</i>, Kunth, En. 1. p. 431, judging from the specific character given in that work, differs; but nearly all the synonyms there adduced belong to other species. <i>Nastus</i>, Beauv. Agr. t. 25. f. 3, can scarcely belong to either, although the shape and disposition of the spikelets are not much at variance on account of the style being represented bifid.

We have received, also, from Mr. Millett, from China, another species of <i>Bambusa</i>, in which the inflorescence seems to form an immense panicle, or decompound spike, with the branches only of which we are acquainted: these emit from the joints alternate fascicles of 2 or 3 long unequal simple spikes; on these last are placed alternate dense fascicles, composed of several sessile subulate acute spikelets, each nearly an inch long; the lower florets are sterile, the upper ones, in all we have seen, purely male, without any bisexual one: the long lower valvelet of the male florets is oblong, acuminated, and glabrous; the upper one very
small in comparison, glabrous, and only minutely or scarcely at all ciliated along the angles of inflexion, commonly called the margins. We have not seen the stem or leaves, nor can we refer it satisfactorily to any described species: in many points it approaches to B. Blumeana, Schult. Syst. Veg. 7. p. 1343, but that species is said to have the spikes or branches of the panicle solitary, and the spikelets surrounding the knot on all sides: the other parts of Schultes' description agree pretty well, so that, perhaps, our plant ought to be considered a variety of B. Blumeana.

ORD. XCI. FILICES. Juss.

1. Lycopodium cernuum. L.

Hab. Lappas Island; Vachell. Macao; Millett.


Hab. Macao; Vachell.


Hab. Macao; Vachell.—The Lycopodia with sessile spikes, distichous leaves, and superior stipules arranged in two series, so abundant in the tropics, are by no means easy to define. The present, in its paler colour, less glossy foliage, and more attenuated branches, differs from what we conceive to be the true L. canaliculatum; but we can hardly consider these characters sufficient to separate it from that species.


Hab. Macao and neighbouring islands; Rev. G. H. Vachell.—An extremely singular and beautiful species of Osmunda, resembling, however, the O. Javanica of Blume; but that has many of the pinnae lobed and pinnatifid, and the fructification confined to the middle pinnae.


Hab. Macao; Vachell; Millett.


Our specimens exactly agree with one from Brazil, sent under this name by our friend Dr. Klotzsch, and which has doubtless been compared with the original plant in Willdenow's herbarium. The pinnae are very glaucous beneath, but narrower than in the last species, always downy or rather arachnoideo-tomentose beneath, especially on the ribs.

1. Lygodium Japonicum. Sw.

Hab. Macao and Lappas Island; Vachell.—This varies much in the length and breadth both of the sterile and fertile pinnales.


Hab. Macao; Vachell.


Hab. Macao; Vachell; Millett.
1. Polypodium (Phymatodes) *quercifolium*. L.

2. Polypodium (Phymatodes) *subtriphyllum*; fronde triangulari subtus puberula 3-5-foliolata, foliolis inferioribus petiolatis basi inaequalibus terminalique triangulari-ovatis acuminate pinnatifido-lobatis lobis infinis acuminate reliquis obtusis, foliolis intermedii (si adsint) lanceolatis acuminate sinuato-pinnatifidis, soris submarginalibus copiosis. (Tab. L.)

*Hab.* Macao; *Vachell*—This species has the closest resemblance in general structure to the *Aspidium trifoliatum*, Sw. Presl; but the copious specimens are in all stages destitute of involucrum, which, in the *Aspidium*, is large and persistent.

*Tab. L.* Polypodium subtriphyllum.  *Fig. 1.* Portion of the frond:—magnified.


*Hab.* Macao, &c.; *Vachell*—Involucrum almost entirely orbicular.


*Hab.* Macao; *Vachell*—Involucrum lanceolate, opening towards the apex of the pinna.

3. *Aspidium* (Nephrodium) *unitum*. Br. (vix Sw.)—Aspidium pteroides. Sw.—Of this there are two varieties, as we believe them to be; the one larger, with more membranaceous fronds; the other smaller, with subrigid fronds; and of this latter the pinnae vary much in breadth.


5. *Aspidium* (Nephrodium) *molle*. Sw.—β, *glabriusculum*.—γ, *paucisorum*; fronde latori soris solummodo in venulis infinis.—This may prove to be a new species, having broader fronds than is usual in *A. molle*; and in several specimens gathered by Messrs. Lay and Collie, as well as in a Chinese specimen in our herbarium from Prof. Lindley, the sori are entirely confined to the lowest veinlets, thus forming 2 parallel lines nearly the whole length of the pinnae, one on each side the costa.

1. Asplenium *Nidus*. L.


*Hab.* Lappas Island; *Vachell*.


*Tab. L1.* *Pteris costata*.  *Fig. 1.* Fertile pinnae; *fig. 2.* Portion of sterile do.:—magnified.

2. *Pt. serrulata*. L.
Poly podium subtrifolium

1. Lomaria longifolia; frondis fructificantis pinnis longissimis (pedalibus) linearibus acuminatis brevissime petiolatis.

Only a portion of the fertile frond of this plant exists in the herbarium; it is about 2 feet long, and the pinnae are alternate, remote, a line or a line and a half wide, and a foot in length, quite glabrous above, beneath covered by the fructification, except on the costa.

1. Blechnum orientale. Sw.


The pinnae are sometimes entire, sometimes deeply incised.


Hab. Macao and adjacent islands; Vachell; Millett.


Hab. Macao; Millett.

2. Lindseaea variabilis; erecta glabra pinnata, pinnis petiolatis undique sorediatis basi oblique cuneata excepta, superioribus infinisque hastato-oblongis, reliquis, nunc subpinnatifidis integrisque, nunc pinnatis, pinnulis nervosis oblongo-hastatis inferioribus rotundatis oblique cuneatis. (Tab. LII.)

Hab. Macao; Millett.

Tab. LII. Lindseaea variabilis. Fig. 1. A pinna from the upper part of the plant; fig. 2. A pinnule from a lower pinna:—magnified.


1. Dicksonia polypodioides. Sw.

2. D. flaccida. Sw.

1. Davallia ferruginea. Cav.—Nees in Nov. Act. Acad. 1823. p. 122. t. 12.—Very nearly allied to D. tenuifolia, perhaps not distinct;—and may not Davallia Chinensis, Sw. and D. Chusana, Willd. be the same species?


Hab. Lappas Island; Vachell.

ORD. XCII. ALGÆ. Juss.

1. Cystoseira Thunbergii. Ag.

Hab. N. E. side of the peninsula of Macao; Vachell.
   **Hab.** On the peninsula of Macao; *Vachell*.

   **Hab.** Macao; *Vachell*.

   **Hab.** Macao and adjacent islands; *Vachell*.

**ORD. XCIII. LICHENES.** *Juss*.

   **Hab.** Macao; *Millett*.

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**LOO CHOO AND BONIN.**

[The Flora of these islands resembles rather that of Japan than of China; often, however, exhibiting the plants of both those countries.]

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**ORD. I. RANUNCULACEÆ.** *Juss*.

   **Hab.** Loo Choo.

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**ORD. II. FUMARIACEÆ.** *De Cand*.

   **Hab.** Bonin.—This, which agrees sufficiently well with the description given by De Candolle, is an undoubted species of the genus *Corydalis*, as restricted by Bernhardi. The fruit is more than an inch long, and nearly two lines broad. The general aspect of the plant is that of several species of *Eucapnos*, Bernh.
ORD. III. PITTOSPORÆ. Brown.


Hab. β, Loo Choo (in fruit); Bonin (in flower). — Our var. α, from China, appears to us to be the Cortex filarius of Rumph. Amb. 7. p. 13. t. 7; but is very different from the P. ferrugineum of Aiton.

ORD. IV. CARYOPHYLLEÆ. Juss.

1. Dianthus Chinensis. Linn.—Var. floribus subaggregatis.

Hab. Loo Choo.


Hab. Loo Choo.


Hab. Loo Choo.—Of this only a small fragment exists in the collection; it may prove to be a new species, its leaves being subulate: like some specimens of the true A. procumbens, the habit is that of A. media, but there are no scariose stipules. The capsule is 5-valved.

ORD. V. MALVACEÆ. Juss.


Hab. Loo Choo.


Hab. α, Loo Choo.—β, Bonin.—The specimens of both are very imperfect; we have doubts if β be not a distinct species; the structure of the flower, calyx, and involucel, however, do not differ from the usual form of the plant.


Hab. Loo Choo.—Better specimens of our Sida rhombifolia, from China, (vide supra p. 169), prove our plant to be S. microphylla. Cav.

ORD. VI. ELÆOCARPEÆ. Juss.

1. Elæocarpus photiniaefolius; arborescens, foliiis petiolatis alternis cuneato-oblongis subacuminatis serratis, serraturis incurvis acutis, axillis subtus glanduliferis, petiolis eglandulosis, racemis simplicibus ex axillis hornotinis folia subæquantibus, staminibus plurimis, antheris apice barbulatis. (Tab. LIII.)

Hab. Bonin.

Glaber. Ramuli subangulati. Folia obovata vel obovato-oblonga, obtuse ac brevissime acuminata basi cuneata, in petiolum attenuata, coriacea, 1½-2½ poll. longa, 3-1½ lata, margine subrecurva, versus basin remote, versus apicem copiose, serrata, serraturis incurvis glandula apiculata, venis primariis inferioribus ad axillas glandula subsphaerica pertusa instructis. Petiolus marginatus, eglandulosus, 3-6 lineas longus. Racemus

This differs from *E. serratus* by the habit and the foliage.

Tab. LIII. *Eleoecarpus* photinisefolius. *Fig. 1. Petal; fig. 2. Anther:* magnified.

**Ord. VII. Ternstroemiaceae. De Cand.**


*Hab. Loo Choo.*—In our plant the leaves are smaller and much more approximate than in Thunberg's plate; in size and shape they exactly resemble the uppermost of that figure. The specimen is in fruit. The style is persistent, short, and trifid at the apex.

**Ord. VIII. Aurantiaceae. Corr.**

1. **Murraya exotica. Linn.**

*Hab. Loo Choo.*—Called by the natives Gee-Keetza. Most botanists consider that Japan is the native country of this plant, but it does not seem to have been noticed there by Thunberg.

**Ord. IX. Guttiferae. Juss.**

1. **Calophyllum Inophyllum. Linn.**

*Hab. Bonin.*—Plukenet's Alm. t. 147. f. 3, referred here by some botanists, by others to *C. Tacamahaca*, is considered by Dr. Buchanan Hamilton to be a species of *Gardenia*; it resembles *Xanthochymus ovalifolius* more than any of these, and is probably that species.

**Ord. X. Sapindaceae. Juss.**

1. **Dodonaea Burmanniana. De Cand. Prod. 1. p. 616.**

*Hab. Bonin.*

**Ord. XI. Ampelideae. H. B. K.**


*Hab. Loo Choo.*—If the genus *Cissus* is to be retained, its characters must rest on the quaternary portion of the flower (quinary in *Vitis*), and the distinct style; the inflorescence is considerably different.


*Hab. Loo Choo.*

**Ord. XII. Balsamineae. Rich.**

1. **Impatiens Balsamina. Linn.—Balsamina hortensis. Desp.**

*Hab. Loo Choo.*
ORD. XIII. OXALIDÆ. De Cand.


ORD. XIV. ZANTHOXYLACEÆ. Adr. de Juss.


Hab. Loo Choo.


Hab. Bonin.—In our plant the leaflets do not exceed three and a half, or at most four lines in length, while many are only about two and a half; and it is principally from their small size that we have doubts about the synonyms adduced.

ORD. XV. CELASTRINEÆ. Brown.


Hab. Bonin.—From this, E. japonicus of Dr. Wallich, and of Mr. G. Don, in Mill. Dict. 2. p. 5, is quite distinct. Thunberg’s description is, on the whole, so accurate, that it is unnecessary here to give a new one. The leaves vary a little in shape, being sometimes oblong, sometimes obovate. The petals are rather longer than broad.

Tab. LIV. Evonymus japonicus. Fig. 1. Flower; fig. 2. Petal.—magnified.

ORD. XVI. ILICINEÆ. Brongn.


Hab. Bonin.—We refer this to Prinos rather than to Ilex, principally from the inflorescence. The leaves of the specimen before us are from three to four inches long; whereas Thunberg says of his plant that they are only an inch; the petioles of the Bonin plant are three-fourths of an inch long, of Thunberg’s “vix unguiculares.”

ORD. XVII. RHAMNEÆ. Juss.

Berchemia lineata. De Cand.—Vide supra, p. 177 et tab. XXXVII.

Hab. Loo Choo.
ORD. XVIII. LEGUMINOSÆ. Juss.

   HAB. Loo Choo.

   HAB. Loo Choo.

   HAB. Loo Choo.—This accords well with the short specific character given in the above work. Hedy-
   sarum sericeum, Thunb. Fl. Jap. p. 287, may be this species, but Thunberg describes its leaves as silky on
   both sides, whereas in our plant they are quite glabrous on the upper surface. Hed. junceum, of Roxburgh,
   appears also to approach closely, but if that proves, as we presume, from Hamilton’s synonym being the origin
   of both, the same with L. eriocarpa of De Candolle, it must differ from the Loo Choo species. The legume
   is minutely pubescent. The plant is shrubby.

2. Lespedeza striata; humilis herbacea erectiuscula, caulibus canescentibus, stipulis ovatis acuminatis petiolo longioribus, foliolis cuneato-oblongis obovatisve obtusis vel retusis setula brevissima terminatis pellucide ac copiose parallelim venosis, floribus axillaribus solitariis breve pedunculatis, corolla calycem duplo superante, ovario rhombeo.
   HAB. Bonin.

Herba (in nostris) annua vix tripollicaris, fide Thunbergii pedalis et ultra, parce ramosa. Stipula

   HAB. Loo Choo.

1. Arachis hypogaea. Linn.
   HAB. Loo Choo.

   HAB. Bonin.

ORD. XIX. ROSACEÆ. Juss.

   HAB. Loo Choo.
1. Raphiolepis? integerrima; foliis coriaceis elliptico-oblongis obtusiusculis basi acuminatis integerrimis, bracteis deciduis, fructu (immaturo) anguste obpyriformi apice limbo calycis cupulato truncato coronato.

 Hab. Bonin.—This plant has two long slender styles, which are glabrous as in Photinia; but the structure of the limb of the calyx allies it more to Raphiolepis. The corymb appears to be simple and few-flowered, there being only 4 pedicels composing it in the only specimen we have seen.

Ord. XX. COMBRETACEÆ. Brown.

1. Terminalia Catappa. Linn.

Hab. Bonin.

Ord. XXI. GRANATÆ. Don.

1. Punica Granatum. Linn.

Hab. Loo Choo.—By a letter we have lately received from Dr. Wight of Madras, we learn that Mr. Griffith (Hon. E. I. C. service) has now determined that this Order is truly distinct from Myrtaceæ, and that the explanation of the structure of the fruit, given by those who unite it to the latter order, is quite erroneous.

Ord. XXII. CUCURBITACEÆ. Juss.

1. Cucumis sativus. Linn.

Hab. Loo Choo.

1. Bryonia . . . . ; foliis petiolatis late cordatis subangulatis grosse dentatis supra punctis callosis albis onustis subtus glabris, cirrhis simplicibus.

Hab. Loo Choo.—This does not agree with any published species, nor have we materials sufficient to enable us to describe it. If it be B. Japonica, Thunb., that plant is very ill defined by that author.

Ord. XXIII. CRASSULACEÆ. De Cand.

1. Sedum uniflorum; caulibus ramosis e basi procumbente adscendentibus, foliis alternis subteretibus obtusis basi solutis glabris, floribus solitariis ramulos terminantibus, petalis lanceolatis acutiusculis.

Hab. Loo Choo.—Stems from five to six inches long, weak and slender. The petals appear to have been reddish.

Ord. XXIV. FICOIDEÆ. Juss.

1. Tetragonia expansa. Ait.

Hab. Bonin.

Ord. XXV. UMBELLIFERÆ. Juss.

1. Hydrocotyle asiatica. Linn.

Hab. Loo Choo and Bonin.

Hab. Loo Choo and Bonin.


Hab. Loo Choo.—We scarcely see how this species differs from small specimens of the European *T. Anthriscus.*


Hab. Loo Choo.

**Ord. XXVI. CAPRIFOLIACEÆ. Juss.**

1. Lonicera affinis; tota glabra, ramis volubilibus, foliis petiolatis ovatis acutiusculis integris supra lucidis subtus pallidis, pedunculis axillaribus petiolo fere brevioribus bifloris, corollæ tubo gracili folio duplo breviore.

Hab. Loo Choo.—This is very closely allied in habit to *L. chinensis,* but the branches and leaves are perfectly glabrous. In character it resembles *L. longiflora,* but there the flower is very long.

**Ord. XXVII. RUBIACEÆ. Juss.**


Hab. Loo Choo.


Hab. Bonin and Loo Choo.—This differs principally from *G. fragrans* in the shape of the leaves.


Hab. Loo Choo.


Hab. Bonin.—Although the specimens be very imperfect, they obviously belong to this genus, and apparently to the present species.

1. Hedyotis (Diplophragma) multiflora. *Cav. Ic.* 6. t. 574. f. 2?

Hab. Bonin.—The only specimen in the collection has no flowers, but the remains of a few old capsules, which enable us to refer it to the neighbourhood of *H. Lawsonia* and *H. fruticosa*; our plant is considerably branched, and is probably shrubby at the bottom of the stem.


Hab. Loo Choo.—The largest leaves are only about three-fourths of an inch long, and two and a half lines broad. The capsule and inflorescence are precisely as in the usual form. Had Chamisso and Schlechtendahl not described their *Gerontogea racemosa* with lanceolate and acuminate leaves, we should have rather referred it to the Loo Choo variety of this species, than to *Hed. (Oldenlandia) racemosa.* *Hedyotis biflora,*
Brown, or Oldenlandia biflora, Linn., must not be confounded with Oldenlandia biflora of Lamarck and most other botanists, which is Hed. (Old.) Burmanniana, Br.—Gonoethea Blumei, De Cand. l. c. p. 429, is, on the authority of the specimen referred to in the Paris museum, and which was compared for us by M. Adr. de Jussieu, identical with Hedyotis alata. (Keenigia, Wall. Cat. n. 6196, and Wight and Arn. Prod. 1. p. 413.)


Hab. Loo Choo and Bonin.


Hab. Loo Choo.—In our plant the fruit is young, and covered with numerous sharp papillae, or very short straight hairs, so that it appears to be more allied to the Euparines or Coccogalia of De Candolle, than to the section to which G. rotundifolium belongs. We are ignorant of the duration of the plant; De Candolle does not seem to notice it.

Ord. XXVIII. COMPOSITÆ. Juss.


1. Hisutsua? serrata; foliis omnibus serratis.—Hab. Loo Choo.

Perhaps this is a mere variety of H. cantoniensis (De Cand. Prod. 6. p. 44), to which species our Myriactis javanica (supra, p. 195) certainly belongs. This genus seems scarcely to differ from Myriactis, as now defined by M. De Candolle; the glands on the underside of the ligulate florets are in our specimens so inconspicuous as only to be observable with a microscope: the appearance of the flower is that of one of the Aster tribe.


1. 

Loo Choo.


1. Lactuca sativa. Linn.—HAB. Loo Choo.


1. Scævola sericea. Forst.—HAB. Bonin and Loo Choo.


Ord. XXXI. Vaccinieæ. De Cand.


1. Sideroxylon ferrugineum; inerme, foliis coriaceis obovatis vel oblongo-lanceolatis basi attenuatis apice obtusis vel acutissulis, subtus ferrugineo-sericeis demum denudatis pallidis, pedunculis axillaribus aggregatis unifloris petiolo paullo brevioribus calyceque ferrugineo-pubescentibus corollæ squamis subulatis filamenta sterilia æmulantibus. (Tab. LV.)—HAB. Bonin.

Corolla 5-fida, rotata. Stamina 5 fertilia, laciniis corollæ opposita, filamentis sterilibus (corollæ squamis) alternantis.

Tab. LV. Sideroxylon ferrugineum. Fig. 1. Flower; fig. 2. Portion of the corolla, with stamens and sterile filaments:—magnified.


1. Nerium odorum. Linn.—HAB. Loo Choo.


Erythraea cochinchinensis, Spr. is probably a mere variety of this species.
Ord. XXXVI. Convolvulaceæ. Juss.

1. Ipomæa reptans. Chois.—HAB. Loo Choo.
In these specimens the leaves are more cordate and less hastate than in the common form of the plant.


Ord. XXXVII. Ehretiaceæ. Mart.

1. Carmona heterophylla. Cav. Ic. 5. t. 438.—Ehretia heterophylla. Spr.—HAB. Loo Choo and Bonin.
To this genus, as has been already observed by Adr. de Jussieu, Ehretia buxifolia likewise belongs; the ovary contains six cells.

Ord. XXXVIII. Boragineæ. Juss.

1. Echinopspermum javanicum. Lehm.—HAB. Loo Choo.

Ord. XXXIX. Solanææ. Juss.

1. Solanum biflorum. Lour.—HAB. Loo Choo.
2. S. Melongena. Linn.—HAB. Loo Choo.

1. Physalis angulata. Linn.—HAB. Loo Choo.

1. Lycium chinense. Mill.—L. Barbarum, var. chinense. Auct.—Lam. Ill. t. 112. f. 2.—HAB. Loo Choo.
The five teeth of the calyx are nearly equal and equidistant, but there is nevertheless a tendency to being disposed into two lips, the one bifid, the other trifid. We have, therefore, doubts if L. Barbarum, chinense, and Trewianum, are really specifically distinct.

Ord. XL. Scrophularinææ.


1. Buddleia curviflora; ramis teretiusculis subtomentosis, foliis tenui-membranaceis ovato-lanceolatis acuminatis subdentatis supra glabras subitus pubescentibus demum glabris, racemis terminalibus elongatis, pedunculis pauci-(3-10-)floris, corollæ tubo elongato apice supra antheras incurvo.—HAB. Loo Choo.
Perhaps this may be B. acuminata of Poiret; but he could scarcely have omitted to mention the singular incurvation of the corolla, precisely similar to what is seen in the genus Striga. Poiret also says that the panicle is short; here the raceme is six to eight inches long.
ORD. XLI. LABIATÆ. Juss.


This differs from L. chinensis by being much less tomentose, and by the mouth of the calyx not dilated. From L. biflora it differs by the more numerous flowers in each verticilium. It is also allied to L. pubescens, but the flowers are less crowded, and the whole plant is only slightly more pubescent than in L. biflora. From the imperfect specimen before us, it appears annual.


ORD. XLII. VERBENACEÆ. Juss.

1. Verbena officinalis. Linn.—HAB. Loo Choo.


1. Clerodendron paniculatum. Linn.—HAB. Loo Choo.

2. C. fragrans. Linn.—HAB. Loo Choo.

3. C. viscosum. Venten.—HAB. Loo Choo.


Of this we have two forms before us. That from Bonin has oblong-lanceolate gradually acuminate leaves, and axillary corymbs; the other, from Loo Choo, has roundish-ovate suddenly acuminate leaves, and the inflorescence from the uppermost axils only. In both, the young foliage is covered, particularly on the under side, with a mealy pubescence, but in the adult state it is glabrous. In many respects both agree with Roxburgh's description in the Flora Indica.

ORD. XLIII. ACANTHACEÆ. Juss.


ORD. XLIV. PRIMULACEÆ. Juss.

1. Anagallis caerulea. Linn.—HAB. Loo Choo.

1. Lysimachia lineariloba; glaberrima, foliis spathulato-obovatis obtusis basi in petiolum attenuatis crassiusculis impunctatis, racemo bracteato, pedunculis subunifloris bracteis foliaceis sessilibs subaequantibus apice pentagonis, corollae lacinios linearibus
obtusis calycem subcoriaceo duplo longioribus, staminibus inclusi. (Tab. LVI.)—HAB. Loo Choo.

This has white flowers, and approaches in many respects to L. Ephemerum of Europe, and some East Indian species, with which it forms a peculiar group.

Tab. LVI. Lysimachia lineariloba. Fig. 1. Flower; fig. 2. Stamen; fig. 3. Pistil:—magnified.

ORD. XLV. PLANTAGINÆ. Juss.

1. Plantago asiatica; foliis ovalibus obtusis glabris crassiusculis integerrimis petiolatis, petiolis ima basi parce lanatis, scapo glabro superne angulato, spica gracili basi dissitiflora, corollæ lobis ovatis acutiusculis, capsula 4-sperma.—P. asiatica. Linn.?—HAB. Loo Choo.

Perhaps this may be a variety of P. Cornuti, De Cand.

ORD. XLVI. NYCTAGINÆ. Juss.


ORD. XLVII. AMARANTHACEÆ. Juss.


ORD. XLVIII. CHENOPODIACEÆ. Venten.

1. Chenopodium Vachellii; foliis planis ovalibus obtusis cum mucrone integerrimis subtus subfarinosis, spicis terminalibus paniculatis aphyllis caryopsi horizontaliter depressa.—C. acutifolium? Hook. et Arn. supra, p. 207.—HAB. Loo Choo.

The only specimen before us is very imperfect: it agrees with S. nudiflora in the short floral leaves or bractææ, but the stem is herbaceous.

ORD. XLIX. POLYGONEÆ. Juss.


ORD. L. LAURINEÆ. Juss.

1. Cinnamomum zeylanicum. var. oblongifolium. Nees ab Esenb.—HAB. Bonin and Loo Choo.
ORD. LI. SANTALACEÆ. Juss.


This seems to be the species described by Mr. Brown, but he adds that the segments of the perianth are longitudinally margined: in the Loo Choo plant the margin is paler, but not, that we can perceive, at all thickened.

ORD. LII. EUPHORBIACEÆ. Juss.


Thunberg's figure and description do not represent the leaves as cordate, but rounded at the base; in our plant they are either emarginate or slightly cordate.

2. R. aurantiaca; arborescens, foliis oblongo-lanceolatis acuminatis integerrimis subitus pubescentibus, glandulis ad basin obsoletis, floribus racemosis, capsula aurantiaca farinosa.—Hab. Loo Choo.

This approaches very closely to some narrow-leaved forms of R. tinctoria, Roxb.


Our specimens agree well with Sprengel's character of the plant, except that the leaves are rather oblong than oblong, being broader towards the apex than the base. The two glands at the base are flat and concave, and almost immersed in the substance of the leaf. If this be really Willdenow's plant, there is probably either some error in the locality given by that author, or Messrs. Lay and Collie have accidentally mixed a part of the Brazilian collections with the present packet. We might have considered it C. elevagnifolium of Vahl, but here there are two glands at the base of the leaf, and the petiole is two or three lines in length. The leaf is from one to four inches long.

1. Phyllanthus rhamnoides. Retz?—Hab. Loo Choo.

Leaves larger than in Burman's figure, usually referred to this species. We have not observed any male flowers, so that we cannot determine whether it belongs to the restricted genus Phyllanthus, or to Melanthesa, of Blume. We may here remark, that Ph. lucens (supra, p. 210, cum synon.) is Melanthesa chinensis, Blume Bijdr. p. 592.

ORD. LIII. CHLORANTHEÆ. R. Br.

Ord. LIV. URTICACEÆ. Juss.

1. Ficus septica. Rumph.—HAB. Loo Choo.

2. F. pumila. Linn.?—HAB. Loo Choo.

3. F. Beecheyana; foliis integerrimis oblongo-lanceolatis apice attenuatis basi subcordatis trinerviis alioquin penninervibus subtus pallidis junioribus supra sparsim subtus dense pubescentibus adultis glabris, fructibus solitariis pedunculatis globosis apice mammillatis basi attenuatis et bractea triloba instructis junioribus pubescentibus maturescentibus glabris.—HAB. Loo Choo.

This we cannot refer to any described species.


1. Boehmeria densiflora; fruticosa, ramis pubescentibus, foliis oppositís breviter petiolatis anguste oblongo-lanceolatis attenuatis argute serratis trinerviis supra et ad nervos subtus strigosís, spicis feminineis axillariibus folia subæquentibus cylindricis dense multífloris.—HAB. Loo Choo.

Ord. LV. CONIFERÆ. Juss.


We have not seen the fruit.


Ord. LVII. SCITAMINEÆ. R. Brown.


The peduncles are solitary, and two or three-flowered.
1. Alpinia Allughas. Roscoe?—HAB. Loo Choo.

This, as well as all the Monocotyledones, except some of the Gramineæ and Cyperaceæ, are so mutilated as to prevent our determination of the species with any degree of certainty.


Ord. LIX. Asphodeleæ. Br.

1. Allium angustum. G. Don?—HAB. Loo Choo.

This is the only species to which we can refer the Loo Choo plant, but it differs by the umbel being bulbiferous and not crowded: it may, however, be A. odorum, of Thunberg and Loureiro, which Mr. G. Don calls A. Thunbergii. The stamens are exserted, simple, and arise from a broad triangular membranous base.

1. Dianella graminifolia. Linn.—HAB. Loo Choo.

Ord. LX. Dioscoreæ. R. Brown.


Rumphius' Amb. 5. tab. 123, gives a good representation of our plant. Perhaps it is only a form of D. alata, but the branches are slender and nearly terete.

Ord. LXI. Commelinae. R. Brown.

1. Commelina polygama. Roth.—HAB. Loo Choo.

Ord. LXII. Palmæ. Juss.


A branch of the male spadix only is present, without leaves.

Ord. LXIII. Cyperaceæ. Juss.


1. Cyperus hexastachyus. Rottb.—HAB. Loo Choo.

1. Mariscus cyperinus. Vahl.—HAB. Loo Choo.


The specimens are not sufficiently advanced to enable us to determine the structure of the fruit accurately; the stems are more slender than in the Indian specimens.
Gramineæ.] LOO CHOO AND BONIN. 273


1. Carex *Boottiana*; culmo brevissimo, foliis subradicalibus linearibus longissime subulato-attenuatis margine revolutis et ad nervum subthus scabris inflorescentiam 2-3-plo superantibus, spica mascula solitaria terminali, fœmineis subquaternis remotiusculis longiusculae pedunculatis erectis cylindraceis apice masculis, fructibus squama lanceolata setaceo-acuminata brevioribus oblongo-lanceolatis rostratis rostro longe bicuspidato nervosis glabris patulis trigonis, angulis duobus acutissimis dorsali obtuso, stigmatibus tribus.—HAB. Bonin.

Allied to *C. Hœnkeana* of Presl, but that is described as having pendulous female spikes, ovate squamæ, and broad leaves.

Ord. LXIV. GRAMINEÆ. Juss.


We can perceive no difference between this and the specimens from the Peninsula of British India. The sheaths of the leaves are hirsute, the hairs springing from tubercles.


6. P. *penicillatum*. Willd.—HAB. Loo Choo.


1. Isachne *muricata*. Nees ab Esenb.—Vide supra, p. 236.—HAB. Loo Choo.

The only specimen in the collection has leaves longer, in proportion to the breadth, than usual.


1. Imperata *Kœnigii*. P. de B.—Nees ab Esenb.—Vide supra, p. 240.—HAB. Loo Choo.


1. Spodiopogon *aureus*; caulibus caespitosis adscendentibus nodisque glabris, foliis lan-
ceolatis acuminatis subconvolutis glabris vel basi ad margines parce pilosis, spicis binis dichotomis, spiculis subconformibus lanceolatis, rhacheos ramis triquetris flavo-ciliatis angulis poriformibus, gluma inferiore ad medium usque connexa lævi supra medium plana nervosa versus margines pubescente spicæ sessilis acute bicuspidata pedicellata subulata vel longe ante apicem hinc unicuspida, superiore bicuspidata inter dentes setigera, arista flosculi superioris hermaphroditis spiculam subquadruplo superante.—

HAB. LOO CHOO.

2. S. ischamoides: culmo noddis vaginisque glabris, foliis lineari-acuminatis glabris planiusculis, vagina summa subinflata microphylla, spica dichotoma oblonga densiflora, spiculis ovatis, gluma inferiore spiculae sessilis basi connexa lævi supra medium nervosa marginata minute bidentata, superiore acuminata seta spiculam fere duplo superante spicæ pedicellatae mutica, rhachi triquetro parce albido-ciliata caeteroquin ad spiculam basin glabra.—Ischænum minus. Presl, in Kunth, En. 1. p. 514?—HAB. Bonin.

1. Vilfa elongata. Nees ab Esenb.—Var. spiculis aeneis.—HAB. LOO CHOO.

1. Avena fatua. Linn.—HAB. LOO CHOO.
1. Oryza sativa. Linn.—HAB. LOO CHOO.
1. Bambusa . . . . . . .—HAB. LOO CHOO.—(There are no flowers.)

ORD. LXV. FILICES.

1. Lygodium Japonicum. Sw.—supra, p. 255.—HAB. LOO CHOO.

1. Grammitis (Loxogramme, Presl,) coriacea, Kaulf.; fronde lanceolata utrinque attenuata acutiuscula coriacea evenia integerrima margine plana, soris obliquis crassis subelongatis.—HAB. Bonin.

Allied to Gr. lanceolata, Sw. (Hook. et Grev. Ic. Fil. t. 43.) but that has larger, broader, and much less coriaceous fronds, with the lines of fructification parallel with the costa.


Nearly allied to Aspid. (Cyrtomium, Pr.) caryotideum, Wall. in Hook. et Grev. Ic. Fil. t. 69, but very different in the form and serratures of the pinnae, and in the nature of the indusium, which is here furnished with a distinct umbo.

2. A. (Nephrodium) exaltatum. Sw.—supra, p. 256.—HAB. LOO CHOO.

1. Pteris longifolia. Linn.—HAB. LOO CHOO.


This is very distinct from any *Woodwardia* we have had the opportunity of seeing. It can scarcely be the *W. orientalis* of Swartz (a native of Japan) of which the pinnae are described as sinuato-pinnatifid. The reticulation on the laciniae is certainly more copious in our plant than in any other of the genus; but its most remarkable feature arises from the copious scaly buds, each bearing a young frond, which appear on the upper side of the laciniae, and always from a certain point of the nervation, in the upper angle of the costal nerves, occasioning a corresponding depression on the under side. Our specimens are almost entirely destitute of sori.

Tab. LVII. Woodwardia *prolifera*. *Fig. 1.* Upper side of a proliferous lacinia; *fig. 2.* Under side of do.

1. Davallia *ferruginea*. Cav.—supra, p. 257.

**Ord. LXVI. ALGÆ.**

1. Dictyota *spinulosa*, n. sp.; fronde lato-lineari dichotoma spiraliter torta membranacea olivaceo-fusca minute reticulata disco utrinque marginisque spinulosis.—HAB. Loo Choo.

Frond about a span long, flat, membranaceous, many times dichotomous, ½ an inch broad near the base, 2 or 3 lines broad in the ultimate shoots, the margins and the whole disc on both sides beset with spinous processes of the texture of the frond. The reticulation is very minute and peculiar, consisting of broadish transverse bands and more crowded, and far slenderer longitudinal lines, both equally visible in the dry and in the moist state.

**MEXICO.**

When no habitat is mentioned, the specimens are understood to have been collected at Tepic. We must remark, however, that there seems to have been a considerable mixture of the specimens collected at Loo Choo and Bonin with those of Mexico, the same species occasionally occurring in both packets. Thus nearly all the specimens of what we have called *Euonymus Japonicus* and *Elsocarpus photiniaefolius*, are in the Mexican collection; and on the other hand, we found a bad specimen of *Gordonia Lasianthus* among the Loo Choo collection, although we thought it unnecessary to notice it.

**Ord. I. RANUNCULACEÆ. Juss.**

2. C. Caraccasana. De Cand. Syst. 1. p. 142; Schlecht. in Linn. 5. p. 209.—C. Caracca.

The only specimen in the collection appears to be the extremity of a branch, and has all the leaves trifoliate.

**Ord. II. DILLENIACEÆ. DC.**


This is not noticed by Schlechtendal as a Mexican plant.


**Ord. III. MENISPERMACEÆ. Juss.**


Both the male and female plants are in the collection; the upper as well as under side of the leaves are densely clothed with a harsh tawny tomentum.

**Ord. IV. FUMARIACEÆ. DC.**

1. Corydalis (Bulbocapnos) ambigu.a. Cham. et Schl.?—HAB. Talisco.

There is only the fragment of a raceme, without stem or leaves. Another specimen is in the Mexican collection, but as it belongs to what we have noticed among the Loo Choo plants as Corydalis racemosa, we presume it was only placed here by mistake.

**Ord. V. CRUCIFERÆ. Juss.**

1. Senebiera Mexicana; foliis linearibus acutis integris vel apice tridentatis, racemo laxifloro, siliculis subcompressis didymis subsevibus.

This we do not find noticed by authors, although we already possess it in our herbarium, also from Mexico, where, particularly on the west side, it is probably not uncommon. It has quite a different appearance from the *S. didyma* of Europe. We may here remark, that *S. serrata*, Poir., from Montevideo, and a new species, (foliis angustissime linearibus integerrimis) from Tweedie, found in North Patagonia, form a new section of the genus, which may be characterized thus: *Silicula nec apice emarginata nec dorso cristata: flores subumbellati.*

1. Lepidium virginicum. L.—De Cand. Prod. 1. p. 205; Schlecht. in Linn. 5. p. 213.

**Ord. VI. CAPPARIDEÆ. Juss.**


The stamens of our plant are considerably shorter than in Vellozo's figure referred to.
Malvaceæ.

MEXICO.

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Ord. VII. FLACOURTIANEÆ. Rich.


Kunth describes the leaves of his plant as membranaceous; in ours they are hard and firm, and almost coriaceous. There are two forms in the collection: one, the male, obtained at Tepic, where most of the collection was made, has the leaves cuneate and narrow-oblong; the other, the female, collected at Talisco, has oval leaves; in both they are acute at the base.

Ord. VIII. BIXINEÆ. Kunth.

1. Bixa Orellana. Linn.

Ord. IX. POLYGALEÆ. Juss.


2. Polygala (Timutua) aparinoides; herbacea perennis (vel suffruticosa?), caulibus ramium simplicibus quadrangulatis, foliis verticillatis 2-6-nis obovato-oblongis mucronatis subepunctatis flaccidis margine scabris, spica longe pedunculata gracili subdensiflora, alis obovatis carina cristata paullo brevioribus, corolla eglandulosa, seminibus clavato-oblongis retrorsum pubescentibus appendiculis 2 seminis longitudine.


Ord. X. CARYOFLYLLEÆ. Juss.


This genus has stipules, and rather belongs to the Paronychiaceæ.


This principally differs from M. cerviana by having the umbels either sessile or on short peduncles.

Ord. XI. MALVACEÆ. Juss.


The carpels of the specimen in the collection are covered towards the apex with several white erect bristles, but are otherwise glabrous. De Candolle says they are quite glabrous.

1. Malachra bracteata. Cav. ?

2. M. Mexicana. Schrad.?—Schlecht. in Linn. 11. p. 354 ?

We refer to this with doubt, having seen no description: we scarcely know how it differs from M. capitata, which Schlechtendal also formerly (see Linneæ, 5. p. 227, and 6. p. 422) considered his plant to be.

1. Pavonia (Cancellaria) racemifera; herbacea? ramis petiolis pedunculisque stellatopilosis, foliis cordatis 5-angulatis lobo medio acuminato serratis supra pubescentibus subtus tomentosis, floribus pedunculatis, pedunculis inferioribus axillaribus petiolo 2-3-plo longioribus, superioribus racemosis brevioribus primum approximatis demum
remotis, bractea ad pedicelli basin filiformi elongata, involucello sub-8-phyllo calycem subduplo superante, foliolis lineari-subulatis calyci fere ad medium usque adhaerentibus, carpellis inermibus dorso pubescentibus bisulcatis.—An Malvacea, No. 1309, Schlecht. in Linn. 6. p. 423, et 11. p. 370?

Carpella quinque capsularia bivalvia monosperma dorso inter margines elevatos et carinam sulcata. Columna staminea inclusa, antheris stigmatibusque exsertis.


The upper leaves are broadly ovate, quite entire or obscurely crenated, and perfectly glabrous on both sides. Involucel 8-9-clf.

Perhaps Paritium Pernambucense, G. Don, l. c., does not differ specifically. To this belongs the glabrous specimen, which we noticed under Paritium tiliaceum, from Bonin, (supra, p. 259) but which we are now inclined to suspect was misplaced.


The specimens belong to the form with the carpels very shortly mucronate.

1. Sida rhombifolia. Linn.?

The specimens are very imperfect: there are rather large linear-oblong acuminate glabrous stipules at the base of the petioles.

3. S. filiformis. Moric.?
This specimen also is very imperfect.

5. S. urens. Linn.

The leaves are more acuminate than usual.

1. Abutilon albidum; foliis longe petiolatis cordato-ovatis acuminatis utrinque tomentosis rugosis grosse crenatis, pedunculis axillaribus unifloris petiolo longioribus sub calyce articulatis, laciniis calycinis ovatis paullum acuminatis, carpellis sub-10-truncatis mucronatis calycem æquantibus hirsutis.—Sida albida. Willd.?


In many respects this agrees better with Sida ceratocarpa, H. & A., (which is also an Abutilon,) than with any other species we know, but the carpels are very different.
ORD. XII. BOMBACEÆ. Kunth.


ORD. XIII. BYTNNERIACEÆ. Br.

1. Guazuma ulmifolia. Lam.—Schlecht. in Linn. 11. p. 374.

2. G. polybotrya. Cav. Ic. 3. t. 299.—HAB. Acapulco and Tepic.

Fructus cocci tuberculati, tuberculis confertis acutis 2-3 subulato-attenuatis caetera longe superantibus.

1. Melochia parvifolia. H. B. K.

1. Riedlea serrata. Vent. ?

Our specimen is so imperfect that we cannot determine whether it belongs to Riedlea or Melochia: it does not agree well with De Candolle's description of R. serrata, but that is the only Mexican species of either genus hitherto noticed by Schlechtendal that at all approaches to it.

ORD. XIV. TILIACEÆ. Juss.

1. Corchorus siliquosus. Linn.—Schlecht. in Linn. 11. p. 376.

1. Triumfetta dumetorum. Schlecht. in Linn. 11. p. 377 ?

Our specimens agree well with the description there given, except "floribus versus apices in cymas axillares dispositis," whereas they form an almost leafless thyrs or compound contracted raceme.

Capsulae setae glabrae tenues fructus longitudine.

ORD. XV. ELÆOCARPEÆ. Juss.

1. Elæocarpus photinæfolius. H. et A. supra, p. 259. tab. LIII.

As the majority of the specimens collected in the expedition were placed along with the Mexican plants, we insert the species here, not doubting, however, but this took place through inadvertency. It may, however, have been cultivated in some garden in Mexico.

ORD. XVI. TERNSTRÆMIACEÆ. Mirb.

No leaves accompany this specimen. We have the same from the island of Antigua.

Of this we find no trace among Schlechtendal’s papers: We have not seen the fruit, but in every respect, save that the leaves are here perfectly entire, it agrees well with the figure in the Botanical Magazine, t. 668.

ORD. XVII. AURANTIACÆ. Corr.


ORD. XVIII. HIPPOCRATEACEÆ. Juss.


ORD. XIX. MALPIGHIACEÆ. Juss.


De Candolle conjectures that there are perhaps several species confused under this name, and certainly the shape of the leaves in our specimens, which appear to be var. α of De Candolle, is very different from what is represented by Cavanilles, Ic. 6. t. 563. In ours they are oval and obtuse, and in Cavanilles, which forms De Candolle’s var. γ, they are lanceolate and much attenuated at both ends. The petals of this genus become hard, dry, and persist, and have a strong middle nerve, which is canalicate on the upper side and slightly carinate on the under.


TAB. LVIII. Hiraea cycloptera. Fig. 1. Flower; fig. 2. Stamens and pistil; fig. 3.3. Carpels, front and back view.—magnified.

1. Triopteris sericea. Schlecht. in Linn. 11. p. 243.

The largest leaves in the specimen before us are upwards of two inches long: those seen by Schlechtendal never exceeded one and three-quarters; which is the only point of difference we can perceive between our plant and his description.
Rhynchosia grandiflora
1. Tetrapeteris Mexicana; foliis longiuscule petiolatis oblongo-lanceolatis acuminatis adultis utrinque glaberrimis, umbellis pedunculatis subquadrifloris axillaribus subbinis, petalis cordato-suborbiculatis basi cuneatis.—HAB. Talisco.

Folia juniora utrinque parce subsericea, adulta glaberrima, nervis subtus prominentibus etiam glabris.


The fruit is that of Heteropteris.

ORD. XX. SAPINDACEÆ. Juss.

1. Sapindus glabrescens; rachi foliorum aperta pubescenti-tomentosa, foliolis 2-4-jugis oblongo-lanceolatis basi subinæqualibus integerrimis supra glabris subtus junioribus per totam paginam adultis versus nervum medium subvillosis, racemis terminalibus paniculatis, fructu globoso-subtrigono vix lobato.

2. S. Drummondi; petiolo aperto, rachi inter juga superiora submarginata pubescente, foliolis 3-4-jugis basi inæqualibus oblongo-lanceolatis acuminatis subfalcatis supra elevato-reticulatis subtus molliter pubescentibus, panicula terminali divaricata.—α; foliolis acute acuminatis. Drummond Fl. Tex. III. n. 54.—ß; foliolis obtuse acuminatis.—Sapindus inæqualis. Schlecht. in Linn. 6. p. 419? (vix Lam.)

The specimens in the present collection belong to our second variety. We have not seen the fruit of either.

1. Thouinia decandra. H. B. K. Pl. Æquin. 1. t. 56.—HAB. Acapulco.

The stamens seem to vary from 8 to 10.


1. Serjania Mexicana; foliis biternatis, petiolo nudo, petiolulis partialibus anguste alatis, foliolis oblongis ovatisæ sepius acuminatis inciso-dentatis cuneatis attenuatis utrinque glabris vel subtus puberulis nervo primario subtus sepe molliter pubescente, axillis venarum pilosis, racemis compositis, carpellis apice pubescentibus alis deorsum dilatatis glabris.—S. mexicana. Willd.?—HAB. Acapulco and Tepic.

Our doubt as to this being Willdenow’s plant arises from the stem being described as aculeated, even by De Candolle, who gives a reformed character from the figure in the Flora Mexicana. In our specimen there is certainly no appearance of prickles on the branches that bear the leaves and flowers; on the older branches or stem, however, from which the former arise, the (last year’s?) peduncles are either wholly converted into stout tendrils, or are so completely abortive as to resemble sharp tubercles. Probably, therefore, as the
botanical character hitherto given seems to be derived almost entirely from figures, these tubercles are the prickles mentioned by authors; though we have no doubt but similar ones may be observed on most species of the genus.

1. *Paullinia fuscescens*; foliis biternatis, petiolo tereti, petiolulis anguste alatis, foliolis oblongis omnibus acutis vel obtusiusculis grosse crenato-serratis basi cuneato-attenuatis supra in nervo venisque hirtis alioquin puberulis subtoverus molliter tomentoso-hirtis, capsulis globoso-pyriformibus tomentosis adultis glabrescentibus, valvis sursum carinato-alatis.*

Our specimens appear only to differ from Humboldt's by the shape of their leaflets. They seem also very closely allied to *P. velutina*, De Cand. (which probably does not differ from *P. mollis*, H. B. K.), but that has the petioles not margined.


The specimen in the collection appears to belong to the var. *a* of Kunth Syn. 3. p. 168.

**Ord. XXI. AMPELIDEÆ. De Cand.**

1. *Cissus* . . .

The specimen is extremely mutilated: the leaves or leaflets (for they are lying loose on the sheet without any petiole by which we might conjecture whether they were simple or compound) are oblong-lanceolate, acuminated, glabrous, fleshy, and sharply toothed.

**Ord. XXII. ZYGOPHYLLEÆ. Br.**


*Ehrenbergia tribuloides* of Martius is another species, and seems to differ from the more common one by having the carpels crested at the back, and the colour of the flowers. Here the carpels are slightly muricated and wrinkled. *Tribulus trijugatus* of Nuttall is probably the same species; he, no doubt, attributes to it five one-seeded carpels, but as there is little doubt that his plant and the *Trib. maximus* of Elliott are identical, we learn from Elliott that there are ten seeds; and although Elliott hesitates about his being the true *T. maximus*, his description accords in every particular both with the West Indian and Mexican species.

**Ord. XXIII. ZANTHOXYLÆ. Adr. de Juss.**


In our plant the leaflets are from four to eight pairs, about 12 or 14 lines long and 4-6 broad: the petiole and rachis have no prickles. In a plant allied to, or a variety of this, from Texas (Drummond, Tex. III. n. 68), the petiole is likewise unarmèd, but the leaflets are much smaller, scarcely more than 4 or 5 lines long, and are obovate. The only prickles in both are in pairs at the base of the petioles, and are more or less curved.

A specimen of *Zanth. piperitum* is also in the Mexican collection, but we presume that it had been accidentally transferred from that made at Loo Choo and Bonin.

1. *Brunellia? quadrilocularis*; glabra inermis, foliis oppositis sublonge petiolatis late
ovalibus rotundatis integerrimis, pedunculis axillaribus petiolo dimidio brevioribus, carpellis 4 in fructum 4-locularém 4-lobatum localicido-dehiscentem coalitis obtusis.

The internal structure of the carpels is not very dissimilar to that observed in Brunellia and Zanthoxylon. The fruit is dotted with reddish glands; the seed has a black shining testa. The leaves are so very obscurely dotted as almost to be impunctate: they are about 2½ to 3 inches long, and from 2 to 2½ broad. In some respects it approaches Zanthoxylon Aubletia, De Cand., judging by De Candolle's short description; but that has the carpels quite distinct, according to M. Adrien de Jussieu.

**Ord. XXIV. CONNARACEÆ.** Br.


2. R.? oblongifolia; foliis 3-5 sub-alternis coriaceis oblongo-lanceolatis acuminatiis glabris basi obtusis vel acutiusculis, floribus axillaribus paniculatis, carpellis subcylindricis.

The carpels are like those of R. santaloides, W. and A. The leaflets resemble in shape those of Omphalobium Lamberti, De Cand., but are smaller, and the carpels of that species are almost obovate. We have neither seen perfect flowers nor fruit.

**Ord. XXV. CELASTRINEÆ.**

1. Mygindus Scoparia; ramis virgatis elongatis quadrangulatis, foliis oppositis (parvis) remotis lanceolatis acuminatis glabris petioli argute serratis, pedunculis dichotomis cymoso-umbellatis paucifloris filiformibus folio 1½-4 plo longioribus.—Myginda Uragoga, var. foliis angustioribus. Schlecht. in Linn. 5. p. 603.—Hab. Acapulco.

This appears to be only suffruticose; but is evidently allied to M. Rhacoma, Sw.; it differs from M. Uragoga, by the glabrous leaves, besides other characters. The calyx is 4-lobed. Petals 4, with a broad base. Stamens 4, almost as in Euonymus. Style 1.

In the Mexican collection are specimens, probably misplaced, of what we have already described and figured as Euonymus Japonicus.

**Ord. XXVI. RHAMNEÆ.**

1. Rhamnus (Antirhamnus) biniflorus; Moc. et Less. in De Cand. Prod. 2. p. 26.—var.? pedunculis trifloris, foliis oblongis ovatis vel ovalibus acutis vel obtusis cum mucrone basi acutiusculis.—Hab. Talisco.

De Candolle compares his plant with R. umbellatus, Cav. Ic. 6. t. 504, but that species has the leaves almost sessile, while in our plant they are on rather long petioles. The segments of the calyx persist even while the fruit is ripe, as in R. umbellatus, and are not deciduous, as in R. terniflorus, De Cand., or Colubrina triflora, Brongn. We have not seen the petals, but Cavanilles represents them cucullate in the analogous R. umbellatus. The fruit is drupaceous: the nut is scarcely separable into nucules, but contains four cells, of which two appear always to be abortive, as well as sometimes one of the remaining two: the embryo is flat, as in the section Frangula of Brongniart. R. Humboldtiana is said to have the cells 2-seeded; but we are inclined to suppose that the dissepiment dividing the two seeds had been overlooked, and that it forms part of the group Antirhamnus.
ORD. XXVII. SAMYDEÆ. Vent.


ORD. XXVIII. TEREBINTHACEÆ.

1. Rhus terebinthifolia. Schlecht. in Linn. 5. p. 600.
   Torus a five-crenated disk. Stamens 5, inserted under its margin. Petals 5, broad at the base, inserted under the disk. Sepals 5. Styles 3.

2. R. aromatica. Ait.—var. folis subtus dense fulvo-tomentosis.
   This differs in no respect from the species found in the United States and Canada, except in the leaves being much more tomentose and occasionally wrinkled. Rafinesque, De Candolle, and most botanists, place this and R. suaveolens in a distinct section, Clibadium, on account of there being supposed to be 2-lobed glands placed under the ovary, alternating with the stamens; but such is not the case: the torus or disk is orbicular, with 10 crenatures, two of which are between each pair of stamens, and have been mistaken for glands. The petals are slightly hairy on the inside, as in many Sapindaceæ, and indeed the whole plant bears no small resemblance to Schmidelia. There is one simple but very deeply trifid style, not three short styles as usually described.


The figure above quoted is so faithful a representation of our plant, in every particular except the entire wing of the rachis, that we are not disposed to separate it from that species. Our specimens being very much advanced will account for the less tomentose foliage.

ORD. XXIX. LEGUMINOSÆ. Juss.

1. Sophora tomentosa. L.

   This exactly agrees with the C. ovalis figured in the Botanical Magazine, and which was raised from Mexican seeds.

2. C. sagittalis. L.

3. C. dichotoma; fruticosa diffusa, foliis ternatis cuneato-ellipticis pilosiusculis mucronatis, stipulis subulatis reflexis persistentibus, racemis oppositifoliis paucifloris. Grah. in Bot. Mag. t. 2714.—β; foliolis angustioribus longioribus.—Hab. β; Talisco.
4. *C. incana* L. — $\beta$; foliolis obovato-lanceolatis subtus (præcipue foliis junioribus) aureo-sericeis.

This is probably a distinct species, but our materials are scarcely sufficient to afford good characters. It is smaller, the young branches and under-side of the leaves very silky, and often inclined to a golden hue. The leaflets are obovato-lanceolate.


This seems to be a tall growing plant, with small leaves, the leaflets but little more than half an inch long: the racemes a span long, many-flowered; the beak of the carina, which is suddenly curved up at an angle, is very long, and not at all ciliated.

1. *Trifolium repens* L.?

The head of flowers is metamorphosed into small leaves.


Of this plant we possess a specimen gathered in Mexico by Schiede, and named *D. verbenacea*, from the Berlin Museum. It is a little less silky than our plant, but in other respects the same. The stems are woody, tall, much branched, and almost every branch is terminated with a spike of purple flowers, having very silky calyces, and of which spike the rachis is very thick, cylindrical, pitted with depressions for receiving the flowers. Legume ovato-subrotund, laterally compressed, indehiscent, 1-seeded.

2. *D. argyrostromachys*; erecta ramosa fruticosa, foliolis 10-14-jugis ellipticis carnosis parvis brevissime petiolulatis glabris subtus grosse nigro-punctatis, rachi plana ad insertionem foliis dentata, spicis terminalibus elongatis, bracteis lanceolato-acuminatis deciduis calycibusque pulcherrime nitido-sericeis, dentibus calycinis subulatis longitudine florum.

At first sight this has the appearance of *D. alopecuroideus*; but the stems are altogether shrubby, the leaves fleshy, and the leaflets smaller, decidedly elliptical, obtuse at the base, where the little petiole is inserted. The rachis is broad and flat. The spikes are long and broad (in consequence of the rather large flowers), most beautifully silky, and the teeth of the calyx are equal in length with the corolla, which latter appears to be yellow.

3. *D. crenulata*; fruticosa glaberrima ramosa, ramis erectis virgatis brevibus, foliis sese in ramos brevissimos floriferos, foliolis 3-6-jugis parvis ellipticis crenulatis supra (sub lente) oblique lineatis, racemis brevibus plurifloris, calycibus obovatis sulcatis dentibus late ovatis acutis brevibus, petalis longe exsertis, bracteis minutissimis.

Whole shrub of a dark-purplish hue, as is the following.—A most distinct and well-marked species. Every leaflet is distinctly crenulated all round the margin. Found at Talisco.
4. **D. gracilis**; fruticosa paniculatim ramosa, ramis divaricatis gracillimis filiformibus, foliolis 4-6-jugis oblongo-obovatis integerrimis supra oblique lineatis, racemis terminalibus laxis paucifloris, calycibus obovatis sulcatis dentibus late ovatis acutis brevibus, legumine triangulares-compresso.

This species and the foregoing differ considerably in habit from the other *Dalea* that are known to us, especially in the lineated upper side of the leaves, the absence of black glandular dots, the decidedly racemous fructification, deeply furrowed calyces, with sometimes glands (which are not discoloured) between the furrows. The petals are very deep and bright purple.

(There is still a 5th and very distinct-looking species of *Dalea* in the collection, but too imperfect to justify our framing a specific character for it. It is annual, throwing up several branches from the base, which are long, twiggy, green, striated, and glabrous. The few imperfect leaves show that the leaflets are 4-5-jugate, linear-oblong, glabrous, with black glandular dots beneath. Spikes terminal, on short branches, ovato-cylindrical, dense. Bracteas ovate, aristate, ciliate, as large as the calyx, with large black glands on the back. Calyx with long hairs and long setaceous, ciliated teeth.)

1. **Tephrosia toxicaria.** Pers.—*Plum. Ic. t. 135.*

This seems a very variable species in the size of the leaves and number of the leaflets. It is the same, however, as what we have received from Guiana and the West Indies, and which we believe to be the true *T. toxicaria.*

1. **Indigofera Anil. L.**

2. **I. torulosa**; erecta fruticosa laxa ramosa, foliolis ellipticis mucronatis 4-6-jugis appresso-pubescentibus, racemis fructicicantibus elongatis folio longioribus, leguminibus erectis longe cylindraceis torulosis subarticulatis longe rostratis.

A very remarkable species of *Indigofera,* with large leaflets, some of them nearly an inch in length, and legumes nearly 2 inches long, erect, slender, 8-10-seeded, much contracted between the seeds, and internally separated by dissepiments as in *Sesbania,* yet in other respects the habit and pubescence are quite those of the present genus. *Ind. Galegoides,* DC. n. 39, from Ceylon, has the foliage and the long erect beaked legumes of this plant, but the fruit is broader and not torulose. *I. Domingensis* and *I. dispersa* are described as having torulose fruit, but their other characters are extremely different from our species.

1. **Neurocarpum multiflorum**; fruticosum volubile, foliis sublonge petiolatis trifoliolatis, foliolis petiolulatis ovato-ellipticis lateralibus obliquis omnibus coriaceo-membranaceis supra glabris reticulatim venosis subtus pubescenti-hirsutis, racemis multifloris, legumine lato-lanceolato acuto basin versus contracto pubescenti-velutino.

We possess no flowers of this species. The legume is 3 inches long and \( \frac{3}{4} \) of an inch in its greatest diameter, compressed, clothed with tawny velvety down, with a strong prominent nerve running the whole length through the middle of each valve. The peduncles evidently have many flowers, and in the old flower-stalks there is a large tubercle at the insertion of each pedicel.

1. **Sesbania tomentosa**; ubique molliter tomentosa fruticosa, foliolis 8-10-jugis oblongo-ellipticis utrinque obtusis supra (sub lente) minutissime atro-punctulatis, racemis folio brevioribus, leguminibus longis gracilibus teretiusculis cuneatis glabris vix torulosis folia sequantibus longe rostratis.—*Hab.* Acapulco.
A very fine and distinct species, exceedingly tomentose, with large, apparently white flowers, and leaflets nearly an inch long. The young foliage and branches are almost silky and tawny.

1. **Stylosanthes viscosa.** Sw.—Probably also *S. glutinosa*, H. B. K. Nov. Gen. t. 596, but the plant is larger and stouter in every part, and the leaflets are narrower.—Hab. Talisco.

1. **Æschynomene hirsuta.** DC.—Schlecht. in Linn. 5. p. 583.—Hab. Talisco.

1. **Desmodium plicatum.** Schlecht. in Linn. 5. p. 585, et in Herb. Nostr.—β, compactum; foliis floribusque magis densis, foliolis latioribus magis coriaceis.

This species, of which we have two varieties in the collection, is well described by Professor Schlechtendal in the place above quoted.


3. **D. triflorum.** DC.—Schlecht. in Linn. 5. p. 584.—Hab. Talisco.

1. **Rhynchosia grandiflora;** fruticosa subvolubilis rufescenti-hirta, foliis ternatis brevissime petiolatis oblongis mucronatis, venis utrinsecus 10-15, racemis terminalibus axillarisbusque, calycibus vexilloque sericeo-hirsutis, leguminibus ovalibus compressis oblique rostratis villosissimis. (Tab. LIX.)—Schlecht. in Linn. 5. p. 588.—Hab. Talisco.

Schlechtendal has well observed that this is closely allied to **Rhynchosia (Glycine, H. B. K.) rufa,** Humb. Nov. Gen. t. 574; differing, however, in its larger flowers, longer leaves, and the more numerous primary veins.

**Tab. LIX.** Rhynchosia grandiflora. *Fig. 1. Flower; fig. 2. Legume; fig. 3. Valve of do., with a seed:—magnified.*

2. **R. Mexicana;** volubilis gracilis pubescens, foliis trifoliolatis, foliolis rhombeo-ovatis latis acutissimis lateralibus subsessilibus obliquis, intermedio petiolulato, pedunculis axillarisbus folio longioribus racemosi, vexillo pubescenti, leguminibus oblongis pendulis pubescenti-hirsutis dispersis.

Very small and imperfect are the specimens of this plant in the Herbarium. Every part, save the inner petals, is downy. The legumes are scarcely ½ an inch, the leaflets 2 inches long.

1. **Phaseolus micranthus;** annuus? hispido-hirsutus volubilis gracilis, foliolis rhombeo-ovatis integerrimis, stipulis stipellisque ovatis striatis, pedunculis laxe racemosi folia duplo triplove superantibus, calycibus hispidis, leguminibus lato-lineari-oblongis falcatis planis sub 7-spermis.—Hab. Talisco.

Leaflets, the largest of them, an inch or rather more long. Flowers small, yellow and purple.

1. **Inga pungens.** Humb. et Willd.—DC.—Schlecht. in Linn. 5. p. 692.—Hab. Acapulco.

1. **Mimosa asperata.** Willd.—DC.—Schlecht. in Linn. 5. p. 591.

2. **M. floribunda.** Willd.—DC.—Schlecht. in Linn. 5. p. 591.
1. Schrankia *aculeata*. Willd.—DC.—Schlecht. in Linn. 5. p. 593.


The spines in our plant are strong, about an inch in length.

1. Acacia *filicina*? Willd.—DC.—Mimosa *filicioides*. Cav. Ic. 1. t. 78?—Hab. Talisco.


Leaves only of this plant are in the herbarium from Acapulco.

1. Brongniartia *glaabrata*; foliolis 3-4-jugis lato-ellipticis obovatis reretis mucronatis supra ramisque glaberrimis subtus (oculo armato) minutissime pubescenti-scabris, stipulis nullis aut deciduis, carina maxima.

In general habit this species very much resembles the *B. podalyrioides* of H. B. K. t. 588; but the leaflets are fewer and almost entirely glabrous, the stipules are wholly wanting or they soon fall away, and the carina is remarkably large in proportion to the rest of the flower. There can be no doubt of its belonging to this genus, which again, perhaps, as De Candolle suggests, should be united with *Peraltea* of H. B. K.


Our specimens have no perfect flowers, and no fruit. The leaflets are many of them 4 inches long.


If ours be the true plant, it is glandular and viscid in every part, very woody, with much branched stems. Leaves copious. Leaflets obovate. Racemes few-flowered, reddish-orange colours. Legumes oblongo-lanceolate, compressed, hisurate or almost hispid, 1-celled, about 5-seeded.


Obs. We are obliged to omit the insertion of two other species of *Bauhinia*, and several *Leguminosae*, on account of the very insufficient specimens.

**Ord. XXX. ROSACEÆ. Juss.**

Of this Order there are two species in the collection, but both appear to have been placed there by accident, and were probably gathered at Loo Choo or Bonin. One is *Photinia serrulata*, Lindl., a variety with oblong-obovate rather obtuse leaves, the serratures of which are bluntest, and may almost be called crenatures. The other is our *Rhaphiolepis integerrima*; but in the specimen now before us, although many of the leaves be quite entire, others are crenato-serrated. This appears, therefore, to be *Crataegus lavis* of Thunberg, which is usually considered a *Photinia*, but has certainly not the calyx or fruit of that genus.

**Ord. XXXI. LYTHRARIÆ. Juss.**


From this we scarcely think that *H. siphilitica*, De Cand., specifically differs.

The specimen is unique, and very much advanced, so that we have not seen the petals, nor do we know how, in this state, it may be distinguished from *A. occidentalis*, De Cand., which may therefore prove the same species.


The petals, in a dry state, are not of a blood-colour, but very pale pink.

1. *Cuphea bracteata*; fruticulosa patens, ramulis calycibusque patentim horto-pubescentibus, foliis ovato-lanceolatis acuminatis basi subcordatis subsessilibus utrinque horto-pubescentibus, pedicellis unifloris solitariis vel binis supra axillaribus alternis folio florali 2-4-plo brevioribus, calycibus 6-7 lin. longis basi gibbis, petalis 6 duobus obovato-oblongis (3-4 lineas longis) caeteris pusillis cito marcescentibus, staminibus 12? inclusis alternis pilosis, ovario sub 14-ovulato styloque glaberrimis.—*C. bracteata* L. ?

Hab. Talisco.—The longer and unguiculate petals are purple, the others (when dry) pale. It appears to belong to De Candolle's section "Fruticosæ."

2. *C. tenella*; annua ramosa, ramis gracilibus puberulis, foliis angusto-lanceolatis obtuse acuminatis basi in petiolum attenuatis utrinque glabris vel minute puberulis, pedicellis capillaris opposití (nunc alternís) folium florale aequantibus, calyce fructiferó anguste oblongo basí subequali glabro glanduloso punctato, petalis minutís, stylo brevi pubescenti, fructu 21-24 spermo.

Calyces floriferi vix lineam superantes, subcylindracei; fructiferi 1-sesquilineam longi, anguste ampullacei, collo oreque obliquís.

We have not ascertained satisfactorily the number of stamens, although there are at least eleven, and we think twelve; they are all included within the tube of the calyx; the number of petals is also doubtful, but appears to be six.

3. *C. floribunda*; caule fruticoso ramoso, ramis elongatis scabris, foliis oblongo-lanceolátis acuminátis basi in petiolum longiusculum attenuatis utrinque nitidulis scabris, floribus racemosis in paniculas secundas saepius digestis, ramis inflorescentiae bracteisque linearibus patentim glanduloso-hirsutis, calycibus deflexis arcuatis basi obtusi calcaratis pubescenti-viscosis ore intus villosis, ovario 18-21-ovulato apice in styllum exsertum glabrum sensim attenuato.

Hab. Talisco and Tepic.—The calyx is red, and resembles that of *C. Melvillae*, but is not above eight or nine lines long. The two tolerably large petals (1½-2 lines long) are of a deep blood-red colour, the others we have not observed. There seem to be eleven stamens, all of them included. It obviously approaches to *C. secundiflora*, Fl. Mex., which we at one time thought it might be; but that is said to be an annual, or at all events an herbaceous plant. It is also much allied to *C. Melvillae*, but that has longer calyces and no petals.

duobus, staminibus 12? subexsertis, filamentis quibusdam (3 vel 4?) nudis caeteris valde purpureo-lanatis duobus etiam ultra antheram purpureo-barbatis, stylo glabro incluso.

HAB. Talisco.—This resembles, in some points, C. procumbens, Cav., but that has a much shorter flower, and the hairs on the calyx glandular. We judge that the terminal flowers form a spike-like raceme, from the appearance of one from which every flower has fallen off from the short pedicels. The tube of the calyx is rather more than an inch long.

5. C. equipetal. Cav.—HAB. Talisco.

ORD. XXXII. RHIZOPHOREÆ. Br.

1. Rhizophora Mangle, Linn.

ORD. XXXIII. COMBRETACEÆ. Br.

1. Terminalia Catappa. Linn.

From the appearance of the specimens, we suspect that they were collected at the same time, and along with, those noticed from Loo Choo and Bonin. But we believe the species, or a variety of it, is also a native of Mexico.

1. Conocarpa erecta. H. B. K.


HAB. Acapulco and Tepic.

2. C. Mexicanum. H. and Bonpl. Pl. Equin. 2. t. 132?

HAB. Acapulco.—The petals of our plant are yellow; the fruit is oblong and 4-winged.

ORD. XXXIV. MELASTOMACEÆ. Juss.


HETEROCENTRON. Nov. Gen.


1. H. Mexicana.

This plant does not accord with any of the genera described by De Candolle. It belongs to the Rhexiaceae, but is, nevertheless, allied to Castradenia of G. Don (Gen. Syst. Gard. 2. p. 765), formed for the Rhexia inaequilateralis of Schlechtendal (Linnea. 5. p. 567); in that, however, the connectivum of all the stamens seems to be stipitate, the ovarium to be crowned with a few hairs, the inflorescence to be axillary, and the pair of opposite leaves to be unequal.
ORD. XXXV. MYRTACEÆ. Juss.

1. Myrtus communis. Linn.? This differs slightly from the European forms, by the ends of the young branches being covered with a rusty pubescence, and by the larger fruit (5-6 lines in diameter). We have not seen the flower, but so far as we can judge by the remains of the calyx-limb, the segments are obtuse, and often four or five in number. The structure of the seed is that of a true Myrtus.

1. Eugenia? Capuli. Schlecht. in Linn. 5. p. 561. Hæ. Acapulco.—According to Messrs Lay and Collie, this is called by the inhabitants Capolin.

ORD. XXXVI. ONAGRARIEÆ. Juss.


SEMEIANDRA. Nov. Gen.


Tab. LIX. Semeiandra grandiflora. Fig. 1. Flower; fig. 2. Capsule; fig. 3. Capsule laid open, showing the seeds in the inner angles of the cells:—magnified.

DIPLANDRA. Nov. Gen.

Calyx limbus alte quadrisidus, paullo curvatus, laciniiis duabus superioribus inter se fere ab apice sepius cohaerentibus. Petala quatuor, rotundato-obovata, inclusa, ad basin laciniarum calycis inserta, inaequalia, posterius majus. Stamina duo, antheriferæ, inter se et a stylo libera. Antheræ oblongo-lineares, oscillatoriae. Ovarium quadriloculare. Stylus filiformis, inclusus. Stigma parvum, capitatum. Capsula nuda, globo-sa, quadrilocularis (nunc abortu trilocularis), apice loculicide quadrivalvis, dissepimentis placentæ centrali adnatis,

1. *D. lopezoides*. (Tab. LX.)

The immature seeds are flat, compressed; we have not observed more than one ovule in each cell of the ovarium. This genus connects *Lopezia* with *Hauya*.

Tab. LX. Diplandra lopezoides. *Fig. 1. Flower; fig. 2. The same laid open; fig. 3. Capsule; fig. 4. Capsule laid open; fig. 5. Receptacles and dissepiments; fig. 6. Outer; and fig. 7. inner view of a seed:—magnified.*

**Ord. XXXVII. CUCURBITACEÆ. Juss.**


Hab. Acapulco.—We cannot make out whether the fruit, before being pressed, was reniform, as in others of the genus, or ovoid.


1. *Sicyos vitifolius*; caule sulcato subtriquetro pube glanduloso scabriusculo, foliis cordato-subrotundis quinquelobis scabris, lobis latis obtusis subdenteculatis, cirrhis sub-bifidis, floribus masculis subcorymbosis longe pedunculatis, femineis glomeratis breve pedunculatis, fructibus ovatis longe spinuliferis, spinis obscabris, seminibus ovoideis utrinque obtusi.—*S. vitifolius*. Willd.? The fruit is about a line and a half or two lines long, and the spines about the same length.


We have described the position of the flowers of this plant, from the remains of the peduncles and pedicels; both flowers and fruit have fallen off. The genus, therefore, is very obscure; it has more the habit of *Tacsonia* or *Passiflora* than of the *Cucurbitaceae*, but there are no glands on the leaves or petioles, and the cirrh are lateral.

**Ord. XXXVIII. PASSIFLOREÆ. Juss.**


Hab. Acapulco.—Judging from the description, we do not conceive that Humboldt's plant differs in the smallest degree from that of Cavanilles. In ours, the pedicels are sometimes solitary, sometimes in pairs. The fruit is almost globose, six or seven lines in diameter, supported on a stalk about an inch and a quarter long. The seeds are compressed, oval, acute at both ends, whitish, and deeply filled with wrinkles. It
differs from *Taesonia* by the calyx being only five-cleft, and the want of bracteas; from *Passiflora*, by the tube of the calyx being as long as the segments; from *Murucuja*, by the structure of the corona; but it is perhaps nearest this last.


*Hab.* Talisco.—This, having large bracteas, and a five-cleft calyx, differs from all other species which we know, and even from all the sections of the genus proposed by *De Candolle*. We have little doubt of its being *Smith’s* plant.

**Ord. XXXIX. Turneraceae. DC.**


We have not seen the flowers.

**Ord. XL. Fouquieraceae. DC.**


**Ord. XLI. Portulaceae. Juss.**


**Ord. XLII. Ficoideae. Juss.**


Perhaps both this and the last belong to the *Loo Choo* collection.

**Ord. XLIII. Umbelliferae. Juss.**


Most probably this also belongs to the *Loo Choo* or Bonin collection.


The habit of our plant resembles *E. pani culatum* and *E. aquaticum*, but some of the leaflets of the involu- 
 

3. *E. tenue*; *caule tenui simpliciusculo apice subcorymbosim ramoso, foliis radicalibus
... caulitis petiolatis apice palmatifidis spinoso-serratis, floralibus capitulo breve pedunculato ovali approximatis sessilibus ovato-lanceolatis inciso-spinosis parvis, involucris foliis lanceolato-subulatis integerrimis capitulo brevioribus paleis consimilibus.—Hab. Talisco.

Caulis 6-7-pollicares. Capitula lineas duas longa.

4. E. Beecheyanum; caule erecto striato simplici apice corymboso, foliis radicalibus lineari-oblongis basi attenuatis serraturis acuminato-spinosis a basi ad apicem instructis, caulitis subsessilibus basi serrato-pinnatifidis apice palmato-partitis, capitulis pedunculatis ovalibus comosis, involucris foliis 9 capitulum subaequantibus lanceolato-subulatis integerrimis vel sæpius utrinque unidentatis, paleis integris, fructu minute papuloso.—Hab. Talisco.

Caulis vix pedalis. Capitula semipollicaria.

1. Pastinaca sativa. Linn.

Probably cultivated.

Ord. XLIV. ARALIACEÆ. Juss.

1. Hedera arborea; foliis simplicibus late ovalibus basi apice rotundatis vel ovatis acuminatis, floribus umbellatis, umbelis racemosis superioribusve subumbellatis longe pedunculatis, pedunculis patentibus vel deflexis, stylis in unicum pentagonum conicum coadunatis.—H. arborea. Sw.? De Cand.? Prod. 4. p. 262?

Petala quinque, libera, calycis margo quinquecrenatus.

Of this order we find two other species in the collection, both without leaves. The one is from Talisco, and has the flowers capitately arranged in a raceme, as in many species of Actinophyllum and Hedera, but has only two styles, as in Panax, to the known species of which it has little resemblance. In the other, from Tepic, the flowers are umbellate, from fifteen to thirty in each umbel: these umbels form a corymbose panicle, the branches of which are covered with a mealy pubescence that is easily rubbed off; there are five styles, which are united into one near the middle, the upper portion being recurved. This is perhaps Aralia pubescens.

Ord. XLV. LORANTHACEÆ. Juss.

1. Loranthus calyculatus. De Cand.?  
The structure of the flowers and bractea is the same with the plant of De Candolle, but the young branches are angled: we should have supposed it to be L. Scheidianus, Schlech. (in Linnaea, 5. p. 172), so well does it generally agree with the description, but that has a corolla three inches long, while in ours it does not exceed half that length. The leaves are ovate-lanceolate, falcate, and acuminated.

In the collection there is another species of Loranthus, or perhaps of Viscum, with opposite, oval, acute, or obtuse leaves, and long slender branches, but there is neither flowers nor fruit.
Leptopetalum Mexicanum
ORD. XLVI. RUBIACEÆ. Juss.

LEPTOPETALUM. Nov. Gen.


1. Leptopetalum Mexicanum. (TAB, LXI.)

Tab. LXI. Fig. 1. Flower; fig. 2. Corolla and stamens; fig. 3. Pistil; fig. 4. Fruit; fig. 5. The same cut through transversely:—magnified.


1. Farameum? (Tetramerium)——; foliis breviter petiolatis oblongo-lanceolatis acutis stipulis caducis ramulorum latis brevibus exaristatis, cyma terminalis trichotoma, bacca globosa calycis dentibus brevibus coronata.

Hab. Acapulco. Apparently near F. jasminoides or sessilifolia. Leaves two to four inches long.

1. Cephalanthus occidentalis. Linn.

1. Bigelovia distans—Borreria distans. Ch. & Schl.—Spermacoe distans. H. B. K.

2. B.——?


We cannot refer this satisfactorily to any described species, although most probably it may be among those enumerated by De Candolle; it may be Borreria Bartlingiana, but approaches much also to B. Wydleriana.


1. Diodia barbigera; prostrata glabra, foliis oblongis acutis basi in petiolum attenuatis, stipularum setis 4-5 tubo basi barbatum æquantibus, floribus aggregatis verticillatis, calycis dentibus 4 obtusis, corolla (minuta) ore albo-barbata.—Hab. Talisco.


There are three other Rubiaceæ in this collection, but they are already noticed among those from Loo Choo and Bonin, whence they were, in all probability, brought.
ORD. XLVII. VALERIANÆÆ. Juss.


ORD. XLVIII. COMPOSITÆ. Juss.

1. Stevia glandulosa; fruticosa tota pubescenti-glandulosa, foliis oppositis sublonge petiolatis ovatis serratis, corymbis densis polycephalis, involucro trifloro, pappo paleaceo brevi exaristato.

Hab. Talisco.—A shrubby and apparently rather tall growing plant, every where clothed with glandular viscid down. Leaves, including the petioles, near two inches long. Capitula very compact. Achenia black, linear, crowned with about 5 short paleaceous, nearly equal, jagged scales.


The E. nudicaulis of the United States is not specifically distinct from this.


1. Pectis Taliscana; caule erectiusculo glabro tetragono opposite ramoso, foliis lineari-bus acuminatis mucronatis grosse glandulosae versus basin utrinque 2-3-ciliatis supra pubescenti-scabridis, pedicellis bracteatis monocephalis capitulos 2-4-plo superantibus, involucri squamis 5 linearibus convolutis acutiusculis, pappo radii et disci setis 3-6 aristatis basi dilatatis paleisque paucis brevissimis.

Hab. Talisco.—A small and incomplete specimen is all that we have had the opportunity of examining, but the pappus does not correspond with that of any described species.

2. P. diffusa; glabra, caule ramisque diffusis, foliis lineari-bus submucronatis, pedicellis elongatis pauci-bracteatis, involucri squamis 5 oblongis acutiusculis, pappi paleis setiformibus scabris imaequalibus in disco 10-20, in radio paullo paucioribus, ligulis oblongo-linearibus involucrum duplo superantibus.

Hab. Talisco.—Allied to P. elongata, but smaller, and with a very diffuse habit.


1. Gymnocoronis latifolia; foliis ovatis serratis utrinque acuminatis secus petiolum decurrentibus, involucri foliolis oblongis acutis.

Hab. Talisco.—The flowers very much resemble those of G. attenuata, DC. (Alomia spilanthoides, Don; et Hook. et Arn. Bot. of S. Am. in Comp. to Bot. Mag. v. 1. p. 238); but the capitula are much larger, the scales of the involucre broader, and the leaves are vastly longer, and two inches and more in diameter.

1. Phania? *urenifolia*; herbacea glabra, foliis alternis grosse serratis petiolatis trifidis v. pinnatim trisectis lobo terminali petiolato trifido segmentis obtusis, capitulis paucis axillaribus longe pedunculatis subcorymbosis permultifloris (fere 100), involucri squamis striatis externis paucis ovatis acutis, internis 40-50 lineari-acuminatis, corolla pappi longitudine æquali perangusta lobis brevissimis obtusis, pappo brevissime coroniformi in setas tenues rigidas 4-5 producto, styli ramis elongatis longe exsertis tenuibus.

We are extremely doubtful of this genus; but the plant has so many points in common with *Phania multicaulis*, DC., that we, for the present, refer it to the same genus, from which it differs in many of its characters.

The scales of the involucre are very numerous; the achenia and corolla exceedingly slender; the setæ of the pappus slender, rigid, rough, and of a dark purple colour.

1. Bolbostylis *rigida*; fruticosa, ramis elongatis, foliis rigido-coriaceis ovatis acutis sessilibus reticulatis supra nitidis scabris subtus albo-tomentosis superioribus minoribus bracteiformibus, capitulis pedunculatis terminalibus axillaribusque subsolitariis, involucri turbinato-hemispbæri foliolis imbricatis, ext. late ovatis acutis, int. oblongis.

Leaves 1½ to 2 inches long. Flowers large. Scales of the involucre blackish at the tips. Achenium narrow, furrowed. Pappus of many slender setæ slightly thickened below the point.


Hab. Talisco.—This seems to agree with the plant thus named, except that there are about 18 (not 10) flowers in each capitulum.


Specimens very imperfect.


3. *E. ovaliflorum*; fruticosum pubescens subvelutinum, foliis oppositis brevi-petiolatis anguste ovatis acuminatis subcoriaceis 3-5-nerviis serratis, panicula trichotome composita, involucri ovalis sub 23-flori squamis arcte imbricatis ovatis obtusis striatis nitidis.

The leaves are singularly harsh and rigid, but clothed, especially above, with a short and almost velvety down. The involucre are almost exactly oval, contracted at the apex, and embracing tightly the florets. It seems most nearly allied to *E. divergens*; Less.


The old leaves are glabrous, as are the stems and older branches; the young leaves and pedicels and involucre are slightly downy.

5. *E. lasioneuron*; fruticosum, foliis patentibus sublonge petiolatis ovatis acuminatis submembranaceis serratis supra glabriusculis subtus ad costam præcipue lanuginosis, corymbis polycephalis, involucri patenti-campanulati foliolis glabriusculis laxis 1-2 externis
brevibus reliquis (14-15) subæqualibus lineari-lanceolatis membranaceis striatis sub 15-floris, achenis striatis puberulis.

Hab. Talisco.—Leaves 3-4 inches long; petiole 1 inch. Capitula ⅔ of an inch in diameter. Pappus white, as the corollas also appear to be.


The H. leptoglossa, DC, is probably not distinct from this.


In our plant, the exterior scales of the involucre are ovate, the interior oblong, slightly but distinctly ciliated, and the lower part of the branches appears woody.


If this be the plant of De Candolle, the leaves are 5-6 inches long, an inch or an inch and a half broad, the capitula densely clustered, of a pale straw-colour, almost white.


CHÆTYMENIA. Nov. Gen.


1. Chætymenia peduncularis. (Tab. LXII.)

Hab. Talisco.—This genus appears to belong to the Subtrib. Tagetinæ of the Senecionideæ (DC): but the character of the genus comes near to Burrielia in the Helenieæ. It, however, seems quite distinct from anything hitherto published.

Tab. LXII. Fig. 1. Floret of the ray; fig. 2. Do. of the disk; fig. 3. Seta of the pappus:—magnified.


TULOCARPUS. Nov. Gen.

1. T. Mexicanus. (Tab. LXIII.)

This genus, we believe, will be found to be quite distinct from any yet described. We have derived the generic name from the large wart or fleshy excrescence at the base of the outside of the achenium.

Tab. LXIII. Fig. 1. Capitulum; fig. 2. Floret from the disk; fig. 3. Floret of the ray, with the accompanying leaflet of the involucre, showing a front view; the fruit nearly ripe; fig. 4. Back view of the fruit, with its curious caruncle at the base.


2. M. (Zarabellia, DC.) tenellum; caule herbaceo erecto trichoto mo piloso, foliis oblongo- v. lineari-lanceolatis hinc inde parcedentatis utrinque attenuatis supra strigilosis, pedicellis folio longioribus, involucri squamis 4-5 rotundatis obovatis, achaeniis curvato-obpyramidalibus apice truncatis lineis longitudinalibus transversalibusque rugosis reticulatim notatis, lateribus doroque compressis.—M. oblongifolio proximum.


1. Jaegeria pedunculata; hirsuto-hispida, caule subsimplici, foliis lanceolatis incisodentatis apice dentibusque callosis, pedunculo elongato gracili monocephalo.

Hab. Talisco.—Habit of J. mnioides; but a span long, hairy, almost hispid, with lanceolate leaves, and a very elongated and slender flower-stalk.


A single capitulum alone, without foliage, is in the collection, from Acapulco.


1. Tagetes (§ Leptocephalæ) congesta; caule erecto pusillo ramosissimo, ramis per- brevibus, foliis confertis oppositis pinnatisectis, segmentis linearibus mucronatis, capitulis corymboso-fasciculatis breviter pedicellatis cylindraceo-oblongis, flosculis 10-12, ligulis solitariis involucro longioribus, pappo aristis 2-4, paleis 2-3 truncatis v. obtusis.
1. Allocarpus scabrifolius; ramis pubescentibus, foliis oblongo-lanceolatis acuminatis calloso-dentatis 5-nerviis supra scabris subitus ad nervos hirsuto-pubescentibus, capitulis corymbosis multifloris, ligulis 15-20, involucris squamis 15-20 3-4-serialibus striatis, achenis radiis glabris triquetris calvis, disci obovato-cylindraceis superne pubescentibus, paleis plurimis lineari-subulatis uniserialibus.—Hab. Talisco.

1. Chlamysperma arenarioides; humilis pubescenti-glandulosa, foliis ovatis integerrimis. (Tab. LXIV.)

There can, we think, be no doubt of the propriety of referring this to the same genus with C. pratense, Less. and DC., so well figured by Humboldt and Kunth under the name of Unxia pratensis (Nov. Gen. Am. t. 401). In our plant, however, the central florets have the limb quadrifid, and they are abortive. The curious broad incurved wing of the marginal achenia is quite smooth, not tuberculated.

Tab. LXIV. Fig. 1. Plant:—nat. size;—fig. 2. Capitulum; fig. 3. Floret from the disk; fig. 4. Floret from the ray, with the accompanying leaflet of the involucre; front view; the fruit nearly ripe; fig. 5. Back view of the fruit; fig. 6. Transverse section of the same:—magnified.


1. Trixis (§ Macrochlæae) obvallata; fruticosa, foliis sessilibus oblongo-lanceolatis acutissimis sparse denticulatis glabris subitus junioribus ramulisque subsericeis, capitulis (magnis) corymbosis breviter pedicellatis, involucro 8-phyllo basi bracteis 4-5 amplis foliaceis ovato-lanceolatis obvallato, receptaculo piloso-fimbrillifero. (Tab. LXV.)

Near T. longifolia, Don; but the leaves are quite sessile. Corollas bright yellow; pappus tawny.

Tab. LXV. Fig. 1. Capitulum, with its double involucre; fig. 2. Young floret; fig. 3. Old do.:—magnified.

2. T. (§ Prionantheæ) latifolia; fruticosa glabra, foliis sessilibus obovatis spinulosodentatis rigidis basi cordatis, ramis floriferis elongatis bracteatis apice laxe corymbosis, involucri foliolis omnibus imbricatis lanceolatis spinoso-acuminatis pubescentibus, capitulis 10-12-floris.

Leaves in the lower part of the plant 4-5 inches long, 3 broad. Lower bracteas leaf-like, small; upper ones acuminate subspinulose, and gradually passing into the spinescent scales of the involucre. Receptacle naked. Achenium erospate. Pappus nearly white. Corollas apparently yellow.

ORD. XLIX. LOBELIACEÆ. Juss.

1. Lobelia ovalifolia; herbacea ubique pubescentis, caule erecto stricto, foliis sparsis ovalibus sessilibus subcoriaceis duplicato-glanduloso-serratis acutissimis, pedicellis elongatis solitariis axillarisibus unifloris, corolla pubescente (rubra) superne usque ad basin fissa, limbo 5-fido, lacinia lineari-acuminatis, filamentis hirsutis.

Nearly allied to L. mucronata, Cav. (and Hook. Bot. Mag. t. 3207) ; but the leaves are much smaller, of a different form, coming suddenly to a very sharp point, and the serratures are considerably larger and more
Chlamysperma arenaviooides
Lobelia divaricata
unequal. The stems are leafy to the top, and hence the flowers are axillary. In *L. mucronata*, the leaves suddenly become bracteas among the flowers, and then the flowers are said to be racemose; but this we consider no permanent character, as is clearly shown in the following species.


This belongs to the same group with the preceding, as does the following, and it is possible that the three may be varieties of one and the same species. The present is distinguished from *L. ovalifolia* by the shape of the leaves and nearly glabrous corolla, and quite glabrous filaments: from *L. angulato-dentata*, by its downy stem and leaves, which latter are sessile, more rigid, and by the nature of the serratures.


4. *L. arabidoides*; annua subcaespitosa glabra, caule gracili paniculato, foliis inferioribus lanceolatis grosse inciso-serratis in petiolum brevem attenuatis apice tenui-acuminatis, floribus racemosis, calycis tubo brevissimo ore valde obliquo inferne calcarato, limbi laciniiis lineari-lanceolatis inaequalibus, corolla (caerulea) superne usque ad basin fissa 5-fida bilabiata, labio inferiore bituberculato, fructu semisupero. (*Tab. LXVI.*)

The curious spur-like process at the lower margin of the calyx, in the sinus of the two shorter laciniae, both of this and the following species, varies in length, and the base of the corolla is prolonged into it.

*Tab. LXVI.* Fig. 1. Flower; fig. 2. Fruit.—magnified.

5. *L. cordifolia*; annua subcaespitosa glabra, caule gracili paniculato, foliis inferioribus longe petiolatis cordato-rotundatis reliquis lanceolatis omnibus grosse inciso-serratis, floribus racemosis, calycis tubo brevissimo, ore valde obliquo inferne brevi-calcarato, limbi laciniiis lineari-lanceolatis inaequalibus, corolla (caerulea) superne usque ad basin fissa 5-fida bilabiata, labio inferiore bituberculato, fructu semisupero.

Nearly allied to the preceding, but very different in the foliage, and the spur of the calyx is much shorter.

6. *L. divaricata*; parva annua ramosa glabra, ramis divaricatis tetragonis, foliis subdentatis inferioribus ovalibus petioliatis reliquis anguste lanceolatis, floribus racemosis, calycis æqualis tubo turbinato, laciniiis lineari-lanceolatis uniformibus, corolla (caerulea) superne usque ad basin fissa quinquefida bilabiata, labio inferiore grosse bituberculato, fructu semisupero. (*Tab. LXVII.*)

Hab. Talisco.—A small, often straggling species, apparently very distinct from any hitherto described.

*Tab. LXVII.* Fig. 1. Flower; fig. 2. Fruit.—magnified.
ORD. L. GESNERIACEÆ. Rich.


Allied to G. elongata, H. B. K., but far less hairy, with shorter leaves, smaller flowers, and a longer upper lip.

1. Trevirania parviflora; foliis ovatis uniformibus grosse inaequaliter serratis, pedunculis aggregatis gracillimis, corollæ limbo parvo erecto-patente.

The flowers are very much smaller than in the well-known T. coccinea (Cyrilla pulchella, Bot. Mag. t. 374), and the limb is extremely short, and scarcely spreading. It is still more different from T. grandiflora, Schlecht. in Linnaea, 8. p. 247; and equally so from T. heterophylla, Mart.: both of them likewise Mexican species.

ORD. LI. ERICEÆ. Juss.


ORD. LII. SAPOTEÆ. Juss.

1. Lucuma? ferruginea; foliis obovatis obtusis in petiolum attenuatis subtus (junioribus sericeo-) ferrugineis, floribus aggregatis.

ORD. LIII. ASCLEPIADÆ. Br.


Hab. Acapulco.—The leaves are glabrous; in other respects it seems to agree with Humboldt's Cumana plant.


ORD. LIV. APOCINEÆ. Br.


ORD. LV. GENTIANÆ. Juss.


With our imperfect specimens, we dare not venture upon offering a character of this plant, of which there are two varieties, if not two distinct though closely allied species: both having the habit and paniculated stem with divaricated branches of E. Mexicana; Griseb. in Herb. nostr. ; but the calyx is more deeply cleft. In the one from Tepic, the flowers are twice the size of the other kind (from Talisco), but we do not find any structural difference.


ORD. LVI. BIGNONIACEÆ. Juss.


ORD. LVII. POLEMONIACEÆ. Juss.


ORD. LVIII. HYDROLEACEÆ. Br.


ORD. LIX. CONVOLVULACEÆ. Juss.

1. Convolvulus (Ipomæa, Chois.) densiflorus; volubilis, ramis teretibus junioribus pubescentibus, foliis longe petiolatis cordatis (sinu lato profundo) brevi-acuminatis integerrimis supra pubescentibus subtus (junioribus præcipue) pannosis, pedunculis umbellatis, umbellis compositis multifloris, calycis laciniis lato-ovatis obtusis convolutis, corolla subinfundibuliformi, limbo patente.

Leaves extremely and densely downy on the underside. Flowers numerous, 20 or more, in a compound umbel.


Too near *C. indica*; and that again Choisy is disposed to consider as a mere variety of *C. Cretica*.


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**ORD. LX. BORAGINEÆ. Juss.**


1. *Tiaridium Indicum*. *Lehm.—Heliotropium Indicum. L.*


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**ORD. LXI. SOLANEÆ. Juss.**


2. *S. refractum; fruticosum, ramis pubescenti-ferrugineis scabris aculeatis, foliis glabriusculis profunde pinnatifidis costa subitus aculeatis, laciniiis remotis patentibus latolanceolatis integerrimis terminali longiore, racemis folio longioribus lateralibus compositis, ramis elongatis refractis apice præcipue floriferis, floribus secundis, pedicellis florem æquantibus, calyce hemisphærico-campanulato 5-dentato glabro, corolla profunde quinquefida.*

Leaves a span long, tapering gradually into a short footstalk; the midrib beneath, and the branches, clothed with numerous short recurved prickles. Flowers apparently white, and about the size of those of *S. Dulcamara*.


ORD. LXII. ACANTHACEÆ. Juss.

1. Justicia (Leptostachya. N. ab E.) pectoralis. Linn.


There are seven other species of Acanthaceae, but in too imperfect a state to allow us to determine one of them.

ORD. LXIII. VERBENACEÆ. Juss.

1. Callicarpa Americana. Willd.—Lam. Ill. t. 69. f. 1.

2. C. subpubescens; foliis oblongo-lanceolatis utrinque attenuatis petiolatis serratis glabris adultis subtus sparse stellato-pubescentibus, pedunculis axillaribus petiolum æquantibus, floribus copiosis cymosis.

Leaves, including the petiole, nearly a span long, two inches broad in the widest part, closely serrated.

3. C. parvifolia; foliis coriaceis obovatis obtusissimis breve petiolatis læviter crenatis supra adultis glabris subtus dense cano-tomentosis reticulatim venosis, pedunculis petiolum æquantibus, floribus capitato-cymosis.

Leaves an inch and a half long; the younger ones inclining to rust-colour beneath. The peduncles and petioles are densely stellato-tomentose, like the under side of the foliage.


Hab. Acapulco.—Corolla short, tubular, 5-lobed; four lobes uniform, the fifth dilated, flabelliform, and cucullate. Ovary 4-lobed.


Our specimens have no flowers; but the foliage seems to agree with that of V. flavens.


The foliage and the stems of this are extremely scabrous.


Very near some of the varieties of V. officinalis.


1. Lantana lippoides; fruticosa, ramis angulatis scabris, foliis breve petiolatis ellipticis rigidis serratis strigoso-scabris reticulatim venosis rugosis, pedunculis axillaribus solitariis petiolum æquantibus, capitulo subgloboso pedunculi longitudine, bracteis cordatis acutissimis appressis pilosis.
HAB. Talisco and Acapulco.—Whole plant hoary with short, rigid, whitish hairs. Leaves an inch long. The veins much sunk on the upper surface, prominent beneath.

Fragments of two other Lantanae are in the collection.


1. Avicennia tomentosa. L.

ORD. LXIV. LABIATÆ. Juss.


The white, woolly, globose, remote verticillastra upon the long slender peduncles, readily distinguish this species.


3. S. n. sp.? near S. Keerlii, Benth. Lab. p. 263, and S. Scorodonia, Poir., but probably different from both; the inflorescence is much paniculated.


HAB. Talisco.—The specimens very imperfect.


5. H. n. sp., in some respects corresponding with Mr Bentham's 3d Sect. Apodotes; but we dare not venture to characterize it.

ORD. LXV. PRIMULACEÆ. Juss.

1. Lysimachia glaucophylla; fruticosa glabra, caule terete subangulato, foliis lanceolatis sparsis obtusis punctatis inferne attenuatis sessilibus, subitus glaucis, pedunculis
axillaris solitarii unifloris folio breviaribus, calyce 4-partito lacinis lanceolatis inæqualibus foliaceis costatis corollam 5-partitam rotatam superantibus, filamentis glandulosis, stylo incrassato. (Tab. LXVIII.)

A fruticose plant, with leaves a good deal resembling those of L. Ephemerum, but with a totally different inflorescence.

Tab. LXVIII. Lysimachia glaucophylla. Fig. 1. Flower; fig. 2. Corolla laid open; fig. 3. Pistil:—magnified.

**ORD. LXVI. SCROPHULARINÆ. Juss.**


1. Stemodia parvisflora. Ait.—Schlecht. in Linn. 6. p. 376.


2. S. dulcis. Linn.


1. Buchnera elongata? Sw.—Schlecht. in Linnaæ, 8. p. 245.—Hab. Talisco.


2. L. cordata. Schlecht. in Linnaæ, 5. p. 103.

Hab. Talisco.—This must be, in a living state, a very fine plant, 2-3 or more feet high, with long spikes of large scarlet secund flowers.


**ORD. LXVII. PLUMBAGINEÆ. Juss.**


It seems scarcely to differ from P. Zeylanica, and may perhaps be cultivated.
ORD. LXVIII. NYCTAGINEÆ. Juss.
1. Salpianthus purpurascens.—Boldoa purpurascens. "Cav. Hort. R. Madrit. t. 7?"

ORD. LXIX. AMARANTHACEÆ. Juss.
1. Iresine celosioides. L.
1. Brandesia n. sp.?—foliis lanceolatis 2-3 uncialibus longis acuminatis glabris, paniculis axillaribus, floribus globoso-capitatis.—HAB. Acapulco.

ORD. LXX. PHYTOLACCEÆ. Br.

ORD. LXXI. POLYGONEÆ. Juss.
1. Rumex crispus? L.
1. Polygonum ——?

There are three species of this genus, in a very imperfect state; two of the Persicaria group, and one of the Avicularia group.


1. A. leptopus; petiolo gracili. (Tab. LXIX.)
Of this curious genus there is one,* perhaps two species, in the Mexican collection of Andrieux, from which the excellent Endlicher has derived his character of the Genus *Antigonon*, and which he has rightly placed next to *Brunnichia*, in the order *Polygonaee*, Trib. III. "*Polygonaee spuriae*." Indeed all the three are so closely allied, that they may possibly constitute but one species, the only striking difference I can find being that Andrieux's specimens (which are not very perfect) have singularly dilated footstalks to the leaves. In the n. 117 of Andrieux, there is, on each side of the stem, at the base of the petiole, a rather large transverse stipule; but in the other specimen, or species, the base of the petiole is continued merely in the form of a slightly elevated line all round the stem, as in our plant. Perhaps the stipules themselves have been very early deciduous. In our specimen, again, there is a slight difference in the flowers, which have three outer leaves of the perianth considerably larger than the rest; and there are three inner ones, of which one is generally abortive. Our fruit, though fully formed in appearance, contains only an imperfect seed.

**Tab. LXIX.** Fig. 1. Flower; fig. 2. The same, the three outer leaves of the perianth being removed; fig. 3. Stamens, including the pistil; fig. 4. Outer, and fig. 5. inner view of an anther; fig. 6. Pistil:—all magnified.—fig. 7. Fruit:—nat. size.—fig. 8. Single fruit; fig. 9. Achenium; fig. 10. Portion of the stem with the scar (?) of the fallen stipule:—magnified.

**Ord. LXXII. LAURINEÆ. Juss.**


The flowers seem to be all female, and we are doubtful to what genus of *Laurineæ* of Nees von Esenbeck this should be referred. That author, indeed, places it in *Nectandra*, but he had not seen the flowers. We are rather disposed to refer it to his section *Oreodaphneæ*, and probably it may come under *Ocotea*, as now circumscribed by Nees.

There are specimens of two other *Laurineæ* in the collection, one belonging to the *Cinnamomum* tribe.

**Ord. LXXIII. ARISTOLOCHIEÆ. Juss.**

1. Aristolochia *Taliscana*; volubilis glabra, folii petiolatis cordato-rotundatis obtusissimis basi sinu profundo lateque bilobis lobis rotundatis subtus pallidoribus, pedunculo axillari solitario unifloro folium superante, perianthii tubo breviusculo labium recurvum late ovatum intus filamentosos-papillosum æquante.

*Hab.* Talisco.—Apparently a distinct species from any hitherto described. The leaves about two inches long, and the same in breadth. The lip of the flower is nearly an inch long, about equal in length with the tube, suddenly bent back, clothed on the upper side with fleshy club-shaped appendages.

**Ord. LXXIV. EUPHORBIAEÆ. Juss.**

1. Jatropha *Curcas*? *L.—Hab.* Talisco.

1. *Hermesia? Mexicana*; pubescenti-scabra, ramis teretibus, folii ovato-oblongis acutis serratis, spicis masculis solitariis axillaribus, perianthii masc. 3-partito, staminibus 8?

*A. platypus*; petiolo superne dilatato alato. "*Anedera?*" *Andrieux Plant. Mexic. cœisc. n. 117.—No. 116 also, of the same collection, is an *Antigonon*, with larger flowers and leaves, and the petiole narrower, though distinctly winged; but it may be merely a variety. Both inhabit Tlacolola of Oaxaca.*
Adrien de Jussieu unites the *Hermesia* of H. B. K., with *Alchornea*, Sw. How far justly we have no means of determining.


**Hab.** Acapulco.—The lower leaves are almost entirely cordate, the upper ones more approaching to ovate.


3. E. *strigosa*; caulibus herbaceis erectis flexuosis, foliis strigoso-hirsutis lanceolatis (2 poll. longis) brevissime petiolatis integerrimis, involucris cupulatis laceratis eglandulosis paucis subumbellatis, bracteis sub 4 coloratis umbella longioribus.

This has a perennial root, bearing several flexuose branching stems, about a foot long.


1. Acalypha *rhombifolia*? *Schlecht. in Linnae*, 7. p. 382.

**Ord. LXXV. URTICEÆ. Juss.**


1. Ficus *lancifolia*; foliis sublonge petiolatis oblongo-lanceolatis tenui-acuminatis integerrimis submembranaceis, fructibus solitariis vel ternis axillaribus globosis sessilibus glabris.

**Ord. LXXVI. PIPERACEÆ. Kunth.**

1. Piper *scabrifolium*; fruticosum, ramis obtuse tetragonis pubescentibus, foliis subcoriaceis brevi-petiolatis oblongo-ovatis brevi-acuminatis venosis utrinque scabris basi inæqualibus, spicis brevi-pedunculatis elongatis cylindraceis folio brevioribus.

2. P. *patens*; fruticosum, ramis divercatis ad nodos geniculatis, foliis ovato-lanceolatis membranaceis acuminatis utrinque molliter pubescentibus nervosis basi acutis vix inæqualibus, spicis brevi-pedunculatis cylindraceis folio dimidio brevioribus.


**Ord. LXXVII. AMENTACEÆ. Juss.**

1. Salix *microphylla*; valde ramosa, foliis parvis patentibus sparsis sessilibus linear-lanceolatis acutis obscure serratis costatis enervibus glabriusculis junioribus sericeis, stipulis minutis caducis, amentis coætaneis in ramulis terminalibus ovalibus parvis,
squamis (foemineis) obovatis venosis pubescenti-hirtis, staminibus 2. (Tab. LXX.)—S. microphylla. Schlecht, in Linnea, 6. p. 354.

A very remarkable species of Salix, with leaves like those of some small Lythrum, and flowers small in proportion. Our specimens possess only the male catkins.

Tab. LXX. Salix microphylla. Fig. 1. Outer view of a scale from the male amentum; fig. 2. Inner view, with flower; fig. 3. Leaf:—magnified.

MONOCOTYLEDONES.

Ord. LXXVIII. ORCHIDEÆ. Juss.
1. Oncidium sp.—HAB. Talisco.

Ord. LXXIX. IRIDÆ. Juss.
1. Sisyrinchium sp.?—HAB. Talisco.

Ord. LXXX. BROMELIACEÆ. Juss.
1. Tillandsia usneoides. L.—HAB. Talisco.

Ord. LXXXI. SMILACEÆ. Br.

Two other species, in a very imperfect state, are in the collection.

Ord. LXXXII. RESTIACEÆ. Br.

Ord. LXXXIII. ANEILEMA. Br.

Ord. LXXXIV. ALISMACEÆ. Rich.
1. Alisma virgata; foliis latissime ovasi obtusi basi cordatis, paniculæ ramis elongatis strictis, floribus densis verticillatis, verticillis remotis, pedicellis flore vix duplo longioribus, bracteis ovaris verticillo brevioribus.

2. A. Andrieuxii; foliis elliptico-lanceolatis acuti basi attenuatis, paniculæ ramis elongatis strictis, floribus densis verticillatis, verticillis subremoti, pedicellis flore subaequantibus, bracteis subulatis verticillo longioribus.—Alisma. Andrieux Pl. Mexic. Exsicc. n. 91.

The same species was found by M. Andrieux about Tehuantepec of Oaxaca.
Ord. LXXXV. AROIDEÆ. Juss.

1. Pistia Stratiotes. L.

Ord. LXXXVI. CYPERACEÆ. Juss.


1. Fimbristylis ferruginea.—Isolepis ferruginea? Schlecht. in Linnaea, 6. p. 27.


C. exaltatus is indeed an East Indian species, but we scarcely see how this differs from it. It agrees too in many points with C. Toluccensis, H. B. K., but the glumes are not reflexo-mucronate.

Ord. LXXXVII. GRAMINEÆ. Juss.


2. P. sp.—elatum, foliis lanceolatis acuminatis basi cordato-amplexantibus glaberrimis, panicula ramosissima, spiculis compressis, glumis inaequalibus obtusis striatis glabris.


Very nearly allied to P. commutatum from the East Indies.


1. Cenchrus echinatus. L.


ACOTYLEDONES.

Ord. LXXXVIII. FILICES.


1. Nephrolepis exaltata. Schott.—Aspidium exaltatum. Sw.

1. Asplenium Nidus. L.

2. A. subalatum; caespitosum pinnatum, pinnis oblongis rigidis subacutis subtus basi superiore truncata margine inferiore dimidiato integro, reliquo inciso-pinnatifido lacinii
plerumque bifidis, soris longitudinalibus 1-2 prope marginem inferiorem, rachide (ater-rima nitida) facie inferiore concaviuscula alato-marginata, dorso semicylindrico. (Tab. LXXI.)

A very nearly allied species to this, if not the same, differing only in the more acuminated pinnae, is No. 1287 of Mr Cuming's collection from Columbia. In our Mexican specimens, probably from not being submitted to pressure when freshly gathered, the rachis is incurved, and all the pinnae refracted, so that they all point to one side. The fructifications are so sunk into the frond, as to give a tuberculated appearance to the anterior surface.

Tab. LXXI. Fig. 1. Anterior, and fig. 2. posterior view of a fertile pinna:—magnified.

1. Woodwardia radicans. Sw.

1. Blechnum occidentale. L.

Ord. LXXXVIII. HEPATICÆ.

By a reference to the first page of this work, it will now be seen that we have described, as far as lay in our power, the species of the various collections made during the voyage of H.M.S. Blossom, with the exception of those of Rio Janeiro. This was the first and it was the last place visited by the Naturalists. But the collection is so small, the specimens in such very wretched condition, and those few plants which can be determined so well known, that we think it unnecessary to enumerate them. We believe we shall further the cause of science much more by occupying the remaining pages of our work with a Supplement to the Californian Collection, which we are enabled to do from that made, chiefly at Monterey and San Francisco, (at no great distance from the coast,) by the unfortunate Douglas, as narrated in the Companion to the Botanical Magazine, vol. 2. p. 79, &c.; and from another, very recently sent to us by Mr Tolmie, from the "Snake Country," in the interior of California. This is a name given to the vast extent of Prairie through which Lewis' branch, or the Snake River, holds its course. Fort Hall is situated at the confluence of Blackfoot with Snake River, near Blackfoot Hill, in N. lat. 42° 30', W. long. 114°. Snake Fort is built at the junction of Reed's River with the Snake, the position of which is in N. lat. 44° 20', long. 116° W. The specimens, in beautiful preservation, were gathered, in the summer of 1837, by a friend of Mr Tolmie, who conducted a party from Fort Vancouver, on the Columbia, to the rendezvous of the American Trappers, in the interior of California. Some few of the specimens are from the "Green River," for the meeting of the Beaver Trappers, who, to the number of 500 or 600, are scattered through the Rocky Mountains and adjacent country, was held in that year in the valley of the "Green River," a stream which is considered to be probably the main branch of the Rio Colorado, and which empties itself into the Gulf of California. There is not, perhaps, in the whole of North America, a district more interesting to the Botanist than that from which these plants are derived; situated near the western foot of the Rocky Mountains, at an immense distance from the coast, and at a great elevation, as may be inferred from the fact of its being near the sources of two great rivers, the one having its course to the north (into the Columbia), the other to the south (into the Gulf of California); and whose respective windings seem to circumscribe the whole of New California, except that portion of it which is washed by the Pacific Ocean. If other gentlemen attached to the hunting expeditions of the Hudson's Bay and American Companies would thus occupy a portion of their leisure time, we should soon be as well acquainted with the vegetation of the interior of this vast continent as we now are with that of its coasts.
CALIFORNIA.—SUPPLEMENT.

Where not otherwise mentioned, it is to be understood that the following species are from the collection of Mr Douglas. They were presented by the Horticultural Society of London, in whose service Mr Douglas was at the time that he gathered them.

ORD. I. RANUNCULACEÆ. Juss.


This var. has all the leaves capillaceo-multifid: the segments divaricated. Peduncles less than an inch long, invariably shorter than the leaves.


Hab. Snake Country: Blue Mountains. (Tolmie.)


This will rank near R. Chilensis; from which, however, it is readily discriminated by its smaller size, fewer flowers and petals, more deeply divided leaves, and especially by the tuberculated and hispid carpels. The much more hairy leaves and carpels, and the deeply divided leaves, distinguish it from R. parviflorus, Sm., to which, in other respects, it bears a considerable resemblance.

4. R. dissectus; caule erecto glabriuscule ramoso, foliis radicalibus inferioribusque longe petiolatis bi-tripinnatim sectis hirsutis supremis minus divisis sessilibus, lacinii linear-lanceolatis acutissimis basi decurrentibus, vaginis elongatis sulcatis hispidissimis, floribus subpaniculatis, calycibus reflexis hispidissimis, petalis 11-14 obovato-oblongis, ovariiis stylo brevi recurvato.

A species remarkable for the much divided leaves in a pinnated manner, and for the segments being broad and decurrent at the base. The flowers are large, many-petaled. It may be placed near R. orthorhynchus, Hook. Fl. Bor. Am. v. 1. p. 21. t. 9; like which, it has a root formed of many thickish descending fibres.

1. Isopyrum occidentale; apetalum, radice — ? petiolis basi vix dilatatis, capsulis 6-7 oblongis compressis transversim venosis patentibus stylo filiformi apice recurvo mucronatis 8-9 spermis.

This appears to belong to the Enemion of Rafinesque and De Candolle, which I can only consider as an apetalous Isopyrum. From Enemion biternatum, which I still think may prove a var. of I. thalictroides, the present one differs in the smaller sepals, scarcely dilated base of the petioles, and especially in the more numerous capsules, and their different figure and direction, and the number of seeds: in the
**Enemion triternatum**, the capsules are only two or three in number, reflexed, broadly ovate, with two or three oblique veins, two- or at most three-seeded, tapering gradually into a long recurved style. This also seems to be the structure of the fruit of *Isop. thalictroides*, judging from Jacquin's figure (*Fl. Austr. t. 105*), for my own specimens of that species do not possess the fructification.


HAB. Snake country, between Henry's and Fish Rivers. *(Tolmie.).—The flowers will at once distinguish this from all the other *Aquilegia*, for they are nearly three inches in diameter, and the long subulate slender straight spur is also nearly three inches long. The colour is probably blue in the recent state, nearly white when dry.

*(Tab. LXXII.* *Aquilegia macrantha*;—nat. size.


In the Californian plant, which is, I think, identical as to species with the *D. grandiflorum* of Siberia and China, the upper petals are yellow, the lower ones with the yellow spot less distinct than in the variety of the Old World, and the leaves have shorter and thicker segments. In one of our specimens, the whole of the petals are variegated, dingy yellow and blue.


Very similar in the structure of the flowers to the preceding, but these flowers are larger and more hairy. —From the coast, *Douglas*, to the Snake Country. *(Tolmie.)*


Of this variety, which differs from Mr Douglas' in no essential particular, except in the shorter spur, there are two states in the collection; one with the stem and leaves downy, the other quite glabrous. In all, the form and relative size of the petals are the same; and I cannot agree with those botanists who have multiplied the species of the Genera *Delphinium* and *Aconitum* upon the slightest possible grounds. Perhaps indeed Messrs Torrey and Gray are right in referring this to *D. Menziesii.*


These are very fine specimens, with their densely flowered racemes sometimes a foot in length. In other respects, this plant entirely agrees with my specimens from the eastern side of North America. Messrs Torrey and Gray consider it a distinct species.

6. *D. (Delphinastrum) sarcophyllum; petiolis basi dilatatis, foliis carrasis sub-peltatis tripartitis inferiorum segmentis obcordatis crenato-lobatis superiorum oblongis integerri

A very singular and most distinct species, two feet and more high, branched. Leaves principally from the base, but by no means all radical, thick and fleshy, of three deep obcordate and lobed segments. Flowers in large lax panicles, of a red-purple colour, with a very long spur, nearly glabrous. Petals all spathulate; the upper ones longer than the calyx, much exserted. The D. nudicaule of Torrey and Gray, though found by Mr Douglas, does not quite accord with this plant, and these authors do not notice the singularly fleshy leaves.

**ORD. II. BERBERIDEÆ. Vent.**


My specimen of this plant shows that the flowers are sometimes in rather large lax panicles. Some of the leaflets are more than two inches in diameter.

**ORD. III. PAPAVERACEÆ. Juss.**

The plants of this family in Mr Douglas' collection are possessed of peculiar interest; affording, as they do, eight new species, and three new genera; of which latter, one is remarkable for the beauty of its blossoms, as another is for its frutescent habit and rigid coriaceous leaves and fruit, an anomaly in the Order. Some of these having been cultivated in the garden of the Horticultural Society, our valued friend Mr Bentham has directed his attention to them, and has admirably characterized the new genera and species above alluded to, in the *Transactions of the Horticultural Society of London*. His characters we cannot do better than adopt.

**PLATYSTEMON. Benth.**


"This little annual," Mr Bentham observes, "flowered" (the first season) "very sparingly; but the fine specimens transmitted by Mr Douglas in a dry state, promise that it may become as interesting to the horti-

* There is a very distinct species of Berberis (Section Mahonia), in Mr Andrieux's collection of "Planta Mexicana exsicc. n. 469," without any name, and with only the remark, "Locus proprius incertus." It may be thus characterized:

B. Andrieuzii; foliis pinnatis, pinnis 4-5-jugis cum impari oblonga obtusis submembranaceis reticulatis venosis laeviter serratis, racemis laxis sparsis folio subbrevioribus.
culturist from its beauty, as it is to the botanist, from forming the connecting link between the Ranunculaceae and Papaveraceae. The trisepalous calyx, and numerous distinct ovaria, would have placed it in the former Order, were it not for the structure of the anthers, the very deciduous sepals, and the general habit, which do not admit of its being removed from Papaveraceae, especially considering its close affinity with *Eschscholtzia*, (Chryseis, Lindl.) through Platystigma and Dendromecon."

The original discoverer of this curious plant, it is but right to state, is Mr. Menzies, who gathered specimens in California, during the celebrated voyage of Captain Vancouver, and distributed them to his botanical friends in this country; but which, I regret to say, have, along with many other of his treasures thus generously dispersed, remained to the present day unpublished.—The *P. leiocarpum*, Fisch., is considered by Messrs Torrey and Gray a variety of this.

**PLATYSTIGMA. Benth.**


Herba pusilla, caespitosa. Caules brevissimi, dense foliosi. Folia linearia, integerrima, amplexicaulis, 1-nervia. Scapi semipedales, erecti, uniflori, patentim pilosi.—A smaller plant than Platystemon, and growing in closer tufts, but otherwise resembling it very much in habit, though so different in botanical character. The flowers are yellow, rather smaller than in Platystemon.

**DENDROMECON. Benth.**


A very singular plant, as Mr. Bentham justly remarks, in this Order; with completely woody stems, and rigid pungent leaves, scabrous rather than toothed at the margin, the principal nerves few, and running nearly parallel with the midrib, united by transverse ones, which give a reticulated appearance, particularly on the underside, where the nerves are prominent.


I was much struck with the circumstance of there being no specimens of the *C. Californica* of our gardens in this Californian collection, and was thence led to refer to our first authority for this species, the figure and description of Chamisso, in the *Hoeæ Physica Berolinenses*, (p. 73, t. 15.) as well as to original speci-
mens in my herbarium; and it results from this examination, that Chamisso’s original plant, gathered at San Francisco, as well as Mr Menzies’ original specimens from Monterey (lat. 36°), are assuredly what we have hitherto called C. crocea. If, then, the species be really distinct, which perhaps may admit of some doubt, it is imperative that we transfer the name of “Californica” to the plant of Chamisso, who has so well figured and described it. The more northern plant, the principal station for which seems to be from lat. 40° to the sources of the Multnomah, in lat. 43°, may then bear the name of its discoverer, C. Douglasii. The localities they inhabit seem to be also different: the Californian species is found in dry sandy (sea?) shores, at the port of San Francisco (Chamisso); the northern plant, in open prairies, on the banks of streams.


“Flowers yellow, considerably smaller than those of C. Douglasii and Californica.”


“Habit nearly that of C. Douglasii; but the leaves are much smaller, and the flowers not one-third the size. It bears much resemblance to Hypecoum grandiflorum.”


“These two species of Meconopsis belong to the first section of De Candolle. The flowers of both are of an orange-red, about the size of those of Papaver Argemone.”

Ord. IV. FUMARIACEÆ. De Cand.

1. Dielytra chrysanth a; caule elato folioso ramoso, foliis bi-tripinnatis sectis segmentis linearibus acutis glaucis, panicula elongata, bracteis calycibusque late ovatis obtusis, petalis spatulatis exterioribus basi vix gibbosis, interioribus dorso fere per totam suam longitudinem lato-alatis, stigmate latissimo truncato. (Tab. LXXIII.)

longa. Petala clausa, omnia spatulata versus apicem dorso insigniter concavo-carinata: 2 exterioribus basi
vix gibbosum: 2 interioribus apice unitis, dorso per totam fere longitudinem lato-alatis, ala undulata protrusa.
Stamina diadelpha, singula phalanx e filamentis tribus, leniiter coadunatis, apicibus liberos. Anthera lineares.
Germen lineare in stylo longo attentaturn. Stigma magnum, marginibus deflexis undulatis apice truncato.
Tab. LXXXIII. Dielytra chrysanthæ. Fig. 1. Flower; fig. 2. Inner petals; fig. 3. Stamens and pistil.

ORD. V. CRUCIFERÆ. Juss.

1. Turritis? lasiophylla; simplex elongata stricta inferne pilis simplicibus rigidis hispida
superne glabriuscula, foliis oblongo-lanceolatis pinnatifidis petiolatis suprémis linearibus integerrimis basi
attenuatis, calycibus subpilosis petalis, linearibus (flavis) unguiculatis, siliquis (immaturis) longis angusto-linearibus strictis arcte
deflexis.

A very distinct species, 1½ foot to 2 feet high, very straight, unbranched; lower leaves on long petioles,
pinnatifid with sharp unequally sized teeth. Petals yellow, linear, about half as long again as the calyx.
Young pods very narrow, not in the least curved, deflexed.

1. Arabis blepharophylla; foliis utrinque nudis marginibus pilis albis rigidissimis sim-
plicibus vel furgatis ciliatis, radicalibus obovato-spatulatis caulinis oblongis sessilibus,
calyeci foliolis ellipticis obtusi superne stellato-pubescentibus, petalis obovatis in ungulam
attenuatis (purpureis).

A small plant, three or four inches high, with a perennial root. Stem simple. Radicais leaves several,
spreading, an inch or more long, naked on both sides, those of the stem hispid on the costa beneath; all of
them margined with white, singularly rigid, simple or forked hairs. Calyx membranaceous, slightly coloured,
and scariose at the margin, half of the length of the petals, which appear to be purplish.

1. Pachypodium integrofolium; glaberrimum, foliis lineari-lanceolatis integerrimis sub-
glaucis, floribus fructibusque dense corymbosis, siliquis angusto-linearibus teretibus toruloso,
stylo brevi, stigmate parvo capitato. (Tab. LXXXIV.)—Nutt. in Torr. et Gr. 1.
p. 96.

Tab. LXXXIV. Fig. 1. Flower; f. 2. Siliqua with the valves separated; f. 3. Unripe seed: magnified.

* After the above had been printed under the name of Cardamine extravulosa, Hook. et Arn., authentic specimens in
Dr Boot's Herbarium have proved to us that this is the Pachypodium integrofolium, l. c. The genus is founded upon
Macropodium laciniatum, Hook. Bot. Misc. 1. p. 341. t. 68. (which has much compressed pods); and is separated
by Mr Nuttall from Macropodium (Br.) on account of the incumbent cotyledons and narrower siliqua, with shorter
stipes. The present plant has the siliqua perfectly terete and torulose, and scarcely differs from Cardamine or
Arabis, except in the direction of the radicle, which indeed, though dorsal in its origin, is applied obliquely to the
cotyledons.

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Quite different from the S. maculatus, Nutt., from the obtusifolius, Hook. Bot. Mag. t. 3317, as well as from the S. hyacinthoides, Hook. Bot. Mag. t. 3516. The lower part of the plant is always more or less hispid, the leaves pinnatifid (the uppermost ones sometimes excepted), with the teeth or segments terminated by a gland; the flowers (of the same colour as the last-mentioned handsome species) never drooping, but secund; the silica always curved, glabrous.

2. S. sagittatus: subglaber, foliis radicalibus spathulatis caulinis sessilibus sagittatis integerrimis acutis inferioribus oblongis superioribus linearibus, floribus siliquisque erectis, petalis obovatis longe tentuiterque ungulatis.—Nutt. in Torr. et Gr. Fl. 1. p. 76.

Hab. Snake Country, about Thomas' Fort. (Tolmie.)—An erect, rather stout plant, a foot to 18 inches high, glabrous, except in the petioles of the lower leaves, which are distantly ciliated. Stem-leaves strongly sagittate, in our specimens 4-5 inches long; but in general 2-3 inches.


The few specimens of this plant in our collection appear to have the habit and character of Streptanthus. They are small, 6-8 inches high, simple, unbranched; the cauline leaves sessile, but not amplexicaul, nor in any way auricled at the base. The flowers are yellow, but the anthers have a purplish tinge. Germen and young fruit (which is erect) hairy; style evident; stigma capitate.


Hab. Pine Creek, in the Snake Country. (Tolmie.)—Very fine specimens of this plant are in the beautiful collection of Mr Tolmie, from the Snake Country, which enable us to give a figure of it. Radical leaves large, oblongo-spathulate, hoary, with minute, dense, stellated down, tapering into petioles, which are dilated at the base, quite destitute of pubescence, glossy, and of a bright straw-colour. Scapes, as they may be called, (rather than stems,) scarcely twice the length of the root-leaves, nearly glabrous, as are the small oblong leaves which they bear themselves. Corymbs of many large bright purple flowers. Young siliqua spreading.*

Tab. LXXV. Fig. 1. Pod; fig. 2. Another pod, with one valve removed:—natural size.—fig. 3. Seed and podsosperm; fig. 4. Embryo; fig. 5. Embryo in an unusual state:—magnified.

* Since the above was in type, we have had the pleasure of seeing the fruit of this beautiful plant, sent to Dr Boott by Mr Nuttall, as his Phenocaulis cheiranthoides. This fruit indeed differs (as may be seen from that which we have now added to our figure) from Hesperis (we more particularly allude to H. aprica), in the pods being broader, fewer, about (3)-seeded, the seeds without margin; and in having the cotyledons accumbent; though in our seed, which had a third imperfect cotyledon, the cotyledons were incumbent. In every other respect the flowers and the fruit quite agree with Hesperis, on which account we are led, for the present, to continue it in that genus.
CALIFORNIA.—SUPPLEMENT.


Hab. Snake Country. Confluence of Reed’s River with the Snake River. (Tolmie.)


Hab. Snake Country. (Tolmie.)


Hab. Snake Country; about the American falls on the Snake River, and at Green River. (Tolmie.)

2. E. ? glaberrimum; foliis radicalibus spathulatis caulinis pinnatifidis supremis linearibus integgerrimis.

Hab. Snake Country. Confluence of Reed’s River with the Snake River. (Tolmie.)—Root perennial, bearing at the summit several erect stems, scarcely a foot high, and their stems are simple. Lower leaves spatulate, entire, soon withering; the principal ones of the stem pinnatifid; the uppermost ones linear, entire: all glabrous, as is every part of the plant. Corymb of several rather small flowers. Calyx glabrous, of four membranaceous ovato-lanceolate leaves. Petals yellow, but not very bright. Petals obovate, clawed, nearly twice as long as the calyx. Young silique narrow, linear.

1. Lepidium corymbosum; glabrum, ramis corymbosis, foliis pinnatifidis inferioribus bipinnatifidis, floribus dense corymbosis, petalis 4, siliculis apteris (parvis) orbiculari-ovatis obsolete emarginatis, stylo exserto.

Hab. Snake Country. American falls of Snake River. (Tolmie.)—A very distinct species. Root annual. Whole plant glabrous. Stem erect, rigid, a span to a foot high, bearing, especially in the upper half, several erecto-patent branches, the lower ones the largest, so that all the specimens have a very corymbose appearance, and each branch bears several corymbs of largish white flowers. Leaves 1-2 inches long, pinnatifid; the segments oblong, those of the lower leaves again pinnatifid. Corymb very dense, and the fructified racemes are very short. Silicules small, quite glabrous, broadly ovate, approaching to orbicular, wingless, scarcely notched, and with a rather considerably exserted style.


This is a remarkable plant, of a singularly compact mode of growth; the branches stout, downy, humifuse; the leaves many of them 3-4 inches long, glabrous, or only here and there ciliated, bipinnatifid; the segments linear. Corymbs of exceedingly numerous, very closely placed, small flowers, succeeded by broad crowded racemes of fruit. Petals small, ciliated. Pedicels broad and quite flat, downy. Silicule large for the size of the plant, elliptical, compressed, reticulated, more or less clothed with white hairs: the margin of the sepalum broad; the apex on each side the minute sessile stigma extends into two acuminated wings, nearly equal in length with the pouch.

3. L. oxycarpum; subpubescens, caulibus procumbentibus gracilibus, foliis linearibus integris vel pinnatifidis, fructus racemis laxis, pedicellis latis compressis patenti-reflexis,

A much branched and spreading annual, with long slender racemes of fruit, and recurved compressed pedicels. The pouch is very similar in form to that of Lepidium bipinnatifidum, but broader at the base, and with the lobes longer and slightly diverging. The leaves and general aspect of the plant are very different in the two.

4. L. leiocarpum; glabriusculum, caulibus procumbentibus, foliis pinnatifidis, fructus racemis laxis, pedicellis latis planis patenti-reflexis, siliculis glaberrimis nitidis orbicularibus compresso-planis marginibus subincurvis apice emarginatibus, stigmate sessili.

Habit of the preceding, but less slender. The leaves are more pinnatifid: the pedicels broader and flatter; the siliculae rather larger, very glossy, destitute of reticulation; the margin a little curved upwards; the apex with only a minute notch.


A most beautiful species, very different from the original T. curvipes. Our specimens have all a woolly disk to the silicule, in which particular alone it differs from T. elegans, Fischer et Meyer, and is probably the same as the same authors notice from California, as discovered by M. Deppe, differing only in the longer style. The present variety is 1½ to 2 feet high, lower leaves slightly pinnatifid and hairy, upper ones glabrous, entire, sagittate at the base, racemes of fruit 8-10 inches long. Siliculae of a most elegant structure, margined with a broad somewhat crenated wing, in which is a range of rather large oblong perforations all round the woolly disk.


The var. β. alone is in this collection, differing in no respect from the original T. curvipes, except in the downy fruit.


These two states of the plant are mixed together, as if gathered in the same locality, and I see no reason to consider them other than varieties of the same species. The species is chiefly distinguished from T. curvipes by the much longer style, and the scarcely notched apex of the silicula.


A very minute plant. The flowering specimens probably do not equal an inch in height; but the inflorescence runs out into slender racemes, 3 or 4 inches long, bearing siliculae to the very base. These are scarcely so large as flax-seed, orbicular, compressed, and not distinctly winged, but clothed all over with spreading uncinate white hairs.
ORD. VI. CAPPARIDEÆ. Juss.


_Hab._ Snake Country. Between Burnt River and Malheur River. (Tolmie.)

ORD. VII. VIOLARIEÆ. DC.


_Hab._ Snake Country; at Hans Forks.


With the exception of the different shape of the leaves, this seems scarcely different from _V. Nuttallii_, Ph. and Hook. Fl. Bor. Am. 1. p. 79. t. 26; and we had marked it as a broad leaved var. of that species, till we saw our friends Messrs Torrey and Gray had described it as a new species; whose opinion, in this case, we are willing to adopt. The flowers are large, handsome, golden colour.


One of the most distinct of all the species of this extensive genus. The root, if it may be so called, seems to be a congeries of subterranean filiform stems, agglutinated together; the portion of the stem above ground being very short. Leaves bi- sometimes even tripinnatifid, very unlike those of any other _Viola_. Flowers large, golden yellow, the two upper petals with a brown cloud on the outside, the lower with a very short spur, and a few dark lines above the base. Anthers slightly combined.


Too near, I am afraid, to _V. Canadensis_. It is, however, a glabrous plant, very slender. The leaves are narrower, the flowers smaller, the upper petals deep purple, the two lateral ones with a purplish spot above the beard, the rest of the flower nearly white.

ORD. VIII. CARYOPHYLLACEÆ. Juss.


Hab. β. Snake Country; at Snake Fort. (Tolmie.)—This var. is probably the A. Hookeri of Nutt. l. c., which he found in the Rocky Mountains, lat. 40°, and of which he remarks that it is “allied to A. Franklinii, but with shorter leaves, bracteas, and sepals.”


Hab. Snake Country. Thomas’ Fork. (Tolmie.)


These specimens quite agree with the Mexican L. pulchra, above quoted, except in the narrower leaves. The petals are deep red.

**Ord. IX. Malvaceae. Juss.**


We do not see how this in any way differs from the M. rotundifolia of Europe, and it is in all probability an introduced plant.

2. M. malachroides; herbacea erecta ubique piloso-hispida, foliis longe petiolatis membranaceis profunde cordatis subprofunde 5-7-lobis acutis grosse subinciso-dentatis, stipulis subulatis, pedunculo terminali foliis breviore, floribus spicatis, involuceri bracteis 3 subulatis calycque hispidissimis, petalis bifidis.

We possess no fruit of this plant, which seems very different from anything hitherto described.


Column of stamens, as Messrs Torrey and Gray have described it, double; outer one hispid externally lobed below the middle, the anthers in a single row, about five at the summit of each of the lobes; inner one irregularly lobed, rather shorter than the outer, and connate with it above the base. Ovaries 9, one inserted into a shallow 9-toothed cap.

*Tab. LXXVI. Fig. 1. Column of stamens; fig. 2. The same, the outer column laid open; fig. 3. Pistil.*

3. S. grossulariafolia; incana stellatim pubescens, foliis cordatis 3-5-partitis, lacinii cuneatis 3-5-fidis, pedunculis axillaribus 3-5-floris, calyce 5-fido ad basin foliis 2-3 subulatis deciduis.
Megade
Californicum.

Bear River, Snake Country. (Tolmie.)—Messrs Torrey and Gray observe that this comes very near to *S. coccinea*, but it is smaller, the leaves much more divided, and the segments narrower, and I believe really distinct.

**ORD. X. ACERINEÆ.** Juss.


This is a totally different species both from *N. fraxinifolium*, Nutt. (*N. aceroides*, Moench, and Torr. et Gray,) and from *N. Mexicanum*,* of which there are fine specimens in Andrieux's *Pl. Mexic. Exsicc. p. 489.

Tab. LXXVII.* Negundo Californicum.


**ORD. XI. HIPPOCASTANÆ.** DC.


**ORD. XII. AMPELIDEÆ.** Rich.


Fruit the size of a currant.

**ORD. XIII. GERANIACEÆ.** Juss.

1. *Erodium macrophyllum*; pubescenti-pilosum, foliis longissime petiolatis cordatis breviter 5-7-lobs crenato-serratis, pedunculis longitudine foliorum umbellatis calycibusque glanduloso-pilosis, umbellis 3-5-floris, sepalis ellipticis mucronato-acuminatis margine membranaceis, coccis oblongis basi attenuatis apice truncatis sericeo-villosis.

This is a true *Erodium*, having the five sterile stamens in the flower, and the awns of the fruit spirally twisted, and bearded internally with red hairs. Leaves 2-2½ inches broad.

* And which may be thus characterized:—*N. Mexicanum*; glaberrimum, foliis trifoliolatis foliis cordato-ovatis anguste acuminatis nitidis aequaliter serratis lateralis ad marginem inferiorem bilobis intermedio trilobis, fructibus ovato-oblongis ala oblique oblonga.—Hae. In montibus circa Toluccam. Andrieux.
ORD. XIV. LIMNANTHACEÆ. Br.


ORD. XV. OXALIDEÆ. De Cand.

1. *O. Oregana*; acaulis, rhizomate elongato ramoso hic illic squamis dentato, foliis longe petiolatis foliolis (magnis) late obcordatis ciliatis subtus petiolis scapoque unifloro supra medium bibracteolato calycibusque pilosis pilis ubique ferrugineis, petalis obovatis, staminibus calycem subaequantibus.—Nutt. in Torr. et Gr. Fl. 1. p. 211.

Mr Nuttall is quite correct in making this western *Oxalis* different from the *O. Acetosella* of Europe and Eastern America. It is much larger, the young leaves and buds and the petioles, peduncles, bracteas and calyx, and underside of the leaves and their margins, are clothed with ferruginous hairs. The description in *Hook. Fl. Bor. Am.*, of *O. Acetosella*, belongs exclusively to that plant: the North-western specimens, and the remarks on them, belong to *O. Oregana*. It was first found by Mr Menzies in California.

ORD. XVI. RHAMNEÆ.


1. Ceanothus *incanus*; ramis brevibus crassis teretibus siccitate subpruinosis (vix pubescentibus), foliis petiolatis lato elliptico-ovatis 3-costatis coriaceis glanduloso-serratis obtusis supra velutinis subts pubescenti-canis, glomerulis multifloris densis sessilibus folio brevioribus.—Torr. et Gr. Fl. 1. p. 266.—β. minor; foliis angustioribus supra nudis.

Ovary with three distinct lobes rising above the disk. Flowers white.


In its flowers this bears a great resemblance to the preceding; but the leaves are very different, much less strongly nerved, and the prominent angles of the stem are wholly wanting. The ovary, too, is smooth, and does not present three projecting lobes as does that of *C. thyrsiflorus*.

4. *C. sorediatus*; ramis teretibus resinoso-verrucosis, ramulis patentibus subsericeis, foliis elliptico-ovatis obtusis subcoriaceis minute glanduloso-dentatis 3-costatis supra glabris subtus incano-pubescentibus ad nervos sericeis, glomerulis multifloris densis folio parum longioribus, (floribus caeruleis).

The short dense glomerules of flowers resemble those of the first species; but these flowers are blue. The germen, too, is without lobes. The branches are copiously studded with resinous warts; in the more exposed parts of the stem, frequently forming large patches.
5. *C. integerrimus*; glaber, ramis subangulatis parce resinoso-viscosis, foliis 3-costatis submembranaceis oblongo-ellipticis obtusis integerrimis subtus pallidioribus, paniculis elongatis multifloris, floribus glomeratis albis.

A very distinct species, with quite entire leaves, and very long narrow panicles of white flowers. Except on the very youngest leaves or branches, there is no appearance of pubescence on the plant. Ovary without projecting lobes.


We agree with Messrs Torrey and Gray in thinking that *C. macrocarpus*, Nutt. (which is certainly our original *Rhamnus? cuneatus*), and the *C. cuneatus*, Nutt., constitute in reality but one species, differing as they do almost exclusively in the colour of the pubescence. Both have the same balsamic odour. The authors just mentioned are likewise disposed to consider the *C. verrucosus* of Nutt., in Torr. et Gr. *l. c.*, as another var. of *C. cuneatus*.


This species has a fragrant and somewhat resinous smell.

**Ord. XVII. LEGUMINOSÆ. Juss.**

1. *Thermopsis macrophylla*; caule angulato, petiolis calycibus ovariiisque hirsutissimis, foliis trifoliolatis, foliolis obovato-ellipticis utrinque acutis supra glabris subtus pubescentibus, stipulis maximis (biuncialibus) ovatis acutis.

Leaflets 4 inches long. Calyx angled, deeply 2-lipped; upper lip ovate bidentate, lower 3-partite, the segments lanceolate-subulate. Stamens 10, free. Ovary linear, densely sericeo-villous, on a short glabrous stipes. A very fine and distinct species, with apparently white, but probably, when recent, yellowish flowers. Leaves much longer than in any hitherto known species.
Probably imported.


These specimens exactly agree with those of Chili. The flowers are small, a little protruded beyond the silky calyces, dark purple, pale at the tips. It is a small slender spreading plant. Stems a span long. Stipules often ovate.

2. T. dichotomum; erectum dichotomum patenti-pilosum, foliiis anguste obovatis denti-culatis, stipulis folioli dimidium æquantibus lato-ovatis acuminatis, capitulis lato-ovatis obtusis longe pedunculatis, calycibus sessilibus dense piloso-sericeis dentibus longis setaceis rectis subæqualibus corollæ longitudine.

In many particulars this agrees with the preceding species, but it is, in every respect, a much larger and stouter plant, apparently growing quite erect. The stipules are ½ to ⅔ of an inch in length, the capitula more than an inch. The calyx is quite as long, or rather longer than the corollas, which latter appear to be of a purple colour.

3. T. gracilentum; annuum glabrum, caulibus erectis gracilibus, foliolis obcordato-cuneatis serratis serraturis aristatis, stipulis e lata basi lanceolato-acuminatis integerrimis, pedunculis elongatis, floribus umbellatis demum deflexis, calycis glaberrimi striati dentibus subulatis tubo longioribus corolla brevioribus inferiori reliquis sub ½ breviore, legumine dispermo stipitato.—Torr. et Gr. Fl. 1. p. 316.

A slender, erect, annual plant, glabrous in every part. Corollas purple, apparently persistent, and becoming scariose.


5. T. (Involucraria) amplectens; parvum erectum glabrum, foliolis cuneatis dentatis, stipulis ovatis membranaceis cuspidatis, pedunculis axillaribus folium æquantibus, capitulo 3-5-floro, involucro profunde 3-5-fido membranaceo lobis rotundatis membranaceis sub-incisis, calycis rigidi tubo brevissimo dentibus subulato-setaceis corollam floriferam parum brevioribus nunc bifidis, vexillo demum maximo inflato membranaceo, legumine oblongo transversim rugoso 4-spermo vexilli longitudine. (Tab. LXXVIII.—) Torr. et Gr. Fl. 1. p. 319.

In size and general aspect this Trefoil accords with T. depauperatum, but there the involucre is obsolete and truncate, here (comparatively) large and deeply lobed.

Tab. LXXVIII. Fig. 1. Capitulum of flowers; fig. 2. Single flower; fig. 3. Capitulum of three fruits, with the persistent corollas:—magnified.

6. T. (Involucraria) microdon; glabrum subdecumbens ramosum, foliolis obcordatis acute serratis, stipulis ovatis acuminatis integerrimis, involucris hemisphæricis multifidis nervosis capitulo denso parum brevioribus laciniis 3-5-fidis spinuloso-serratis, calycis
Trifolium amplectens.
Trifolium microdon!

This differs in no respect from the Chilian plant we described in our Contributions to the Botany of South America.

Tab. LXXIX. Fig. 1. Capitulum and involucre; fig. 2. Single flower; fig. 3. Legumen:—magnified.


This comes very near T. Chilense, Hook. et Arn. supra, p. 16; but the stems are much taller, bearing more copious heads of flowers, and the teeth of the calyx are quite entire.


About a foot or more high, downy. Flowers large in proportion to the involucre. Corollas long, pale-coloured, with a dark spot on the keel: the vexillum very blunt, and at the apex slightly toothed or jagged. Ake very narrow, almost as long as the vexillum.


This is found in Chili as well as in California and N. W. America.—It varies considerably in size, from six inches to a foot or more in height; with its leaflets more or less narrow, sometimes obtuse, sometimes quite acute. Segments of the calyx broad, with two (lateral) very short teeth and one long spinous one.


This is a very variable species, or there are three distinct species in our collections. The original plant of Lindley has short teeth to the calyx, and those quite entire; and to this T. spinulosum, Dougl. in Fl. Bor. Am. 1. p. 133, must be referred. Our β., gathered in California by Mr Menzies, has obcordate leaves, but it does not in other respects differ from Dr Lindley's plant. Our two other vars., as we here consider them, are in the present Californian collection, var. γ. having the lower segment of the calyx always deeply 3-fid, while our var. δ. has larger paler-coloured flowers, longer teeth to the calyx, and those teeth, in the greater number, bi- or trifid.

Among the largest and handsomest of all the Trefoils, and at the same time the most singular. In some of our specimens the stipules are an inch long, and nearly \( \frac{3}{4} \) of an inch broad, and the fructified capitula are more than two inches in diameter.


First found by Mr. Menzies in California.

I possess specimens of this plant (but without flowers) gathered also at the great falls of the Columbia by Mr. Douglas.


A tall growing plant, with striated stems, and leaflets 2-3 inches long. Flowers purplish, subtended by very large glandular bracteas which almost conceal them.

Tab. LXXX. Fig. 1. Bractea; fig. 2. Flower; fig. 3. Pedicellated gland; fig. 4. Pistil.


Allied to P. pubescens, which we have from Peru, but that is much more hairy, the leaflets are broader at the base, the calyx rough with glands, and the corollas smaller.

Flowers rather large, purple. Leaflets two inches and more long.


Our former specimens from the Columbia, with only withered flowers, led us into an error with respect to the relative length of the calyx and corolla. The corolla is in reality twice the length of the calyx. After flowering, the latter becomes longer and inflated, and quite encloses the 1-seeded legume.


HAB. Between Bruneau and Onyhee Rivers, Snake Country. (*Tolmie.*)


A very distinct species, most allied perhaps to *A. fruticosa.*

1. *Phaca macrodon*; erecta dense pubescenti-canescens demum glabriuscula, caule angulato, foliolis 11-13-jugis oblongo-lanceolatis obtusis apiculatis brevissime petiolulatis, stipulis parvis lanceolato-acuminatis persistentibus, pedunculis folio subbrevioribus, racemis elongatis multifloris, bracteis subulatis membranaceis longitudine pedicellorum, calycis tubo ovali, dentibus filiformi-subulatis flexuosis tubum æquantibus corolla parum brevioribus.

A tall growing species. Leaves six inches long, pubescenti-villosus and hoary, in the older leaves as well as on the pale reddish-brown angular stems, at length less hairy and almost glabrous. Flowers apparently yellow, at first patent, then reflexed; the corolla a good deal curved upwards. Calyx with singularly long flexuose, narrow, subulate teeth. Ovary linear, compressed, silky.


Habit of the preceding, and of several acknowledged *Phaca*, on which account, in the absence of fruit, I refer it to the present genus. Flowers large, probably cream-coloured when fresh, erecto-patent.

Apparently a straggling plant, 1½ or 2 feet long, glabrous in every part, except the calyx and the ovary, though the hairs almost disappear on the fully formed legumes.


A straggling plant, slightly hoary with down. The leaves and leaflets crowded.

5. P. astragalina. De Cand.—β. foliolis floribusque minoribus.

We have compared what we have considered a slight variety of P. astragalina, with the common alpine and arctic state of the plant, and can find no difference, except in the smaller and slenderer flowers and leaflets. California, however, must undoubtedly be considered a very southern station for it. It is scarcely distinguishable from P. debilis, Nutt., but that is a Rocky Mountain and not a coast plant.


Hab. Pine Creek, Snake Country. (Tolmie.)—Mr Nuttall's A. goniatus, from the Rocky Mountains, N. California, is precisely the same.


Hab. About Snake Fort, Snake Country. (Tolmie.)—Mr Nuttall had considered his A. argophyllus as probably the same as the A. melanocarpus of Dr Richardson; but on a comparison of specimens, we find that not to be the case. The argophyllus is identical with the A. glareosus of Douglas.

3. A. didymocarpus; suberectus pilosiusculus, foliolis sub-8-jugis oblongo-subobovatis emarginatis, stipulis parvis ovatis membranaceis ad basin petioli subconnatis, pedunculis folio longioribus, floribus capitatis parvis, calycis hirsuti dentibus subulatis rectis longitumine tubi, leguminibus coriaceis didymis rugoso-venosis lobis monospermis. (Tab. LXXXI.)

This is a very remarkable species, especially in the structure of its legumes. These are obovate, laterally compressed, strongly nerved and wrinkled, with the introflexed margins (from beneath) reaching nearly to the back, so as to divide them into two compressed one-seeded lobes.

Tab. LXXXI. Fig. 1. Flower and bractea; fig. 2. Carina; fig. 3. Ovary; fig. 4. Fruit, with the persistent calyx; fig. 5. View of the underside of the fruit; fig. 6. The lobes of the fruit forced back, when they easily separate into two 1-seeded portions; fig. 7. Seed:—magnified.
1. Lathyrus palustris. L.—var. i. (Torr. et Gr. Fl. 1. p. 276); minute pubescens, calycis dentibus lateralis oblongis obtusiis tubo multo brevioribus, foliolis 4-5-jugis rigidis, caule subangulato.

I quite agree with Messrs Torrey and Gray in referring this to L. palustris of Linnaeus, which is a very variable species.

LUPINUS. L.

The Lupines of California, sent by Mr Douglas to the Horticultural Society, having been fully and carefully described by Professor Agardh, Jun., in his valuable "Synopsis Generis Lupini," we shall content ourselves by referring to that work for their characters and synonyms.


A native of Chili as well as California.


5. L. concinnus. Ag. l. c. p. 6, tab. 1. f. 1.


10. L. gracilis. Ag. l. c. p. 15. tab. 1. f. 2.


12. L. grandifolius. Lindl. in Ag. l. c. p. 18.


23. L. Douglasii. Ag. l. c. p. 34.

To the above species, fully described by Agardh, we have the two following to add:

24. L. truncatus; appresse pubescenti-pilosus demum glaber, foliolis 5-7 linearibus basi angustatis apice bi-tridentatis, stipulis minutis linearibus brevibus, racemis elongatis, floribus alternis, bracteis pedicello brevioribus persistentibus, calycis bracteolati labio superiore bipartito inferiore integro (minute tridentato, Nutt.), oario lineari-oblongo hirsutissimo.—Nutt. mst.—Torr. et Gr. Fl. ined.

Nearly allied to L. linifolius, Roth; and an imperfect specimen, in Dr Lindley’s collection from Douglas (California), is doubtfully referred to that species by Agardh. But it is truly distinct, in the more truncate leaflets and the much smaller stipules and bracteas, which latter are also persistent. Mr Nuttall found it at San Diego, N. California, and his name we adopt. Flowers deeply tinged with purple.

25. L. parviflorus; elatus erectus ramosus pubescenti-hirsutus demum glaber, foliolis 5-7 obovato-lanceolatis, stipulis minutis subulatis persistentibus, racemis elongatis, floribus (parvis caeruleis) subverticillatis, bracteis subulatis pedicellum æquantibus deciduis, calycis sericei labiis subœqualibus superiore bidentato inferiore integro, (legumine hirsuto subtrispermo).—Nutt. mst.—Torr. et Gr. Fl. ined.

Hab. Between Henry and Smith’s Rivers, Snake Country. (Tolmie.)—An exceedingly well-marked species, 1½ to 2 feet high, subglaucous. Leaflets broader upwards, acute or generally very obtuse. Racemes long, slender, of numerous small bluish flowers.

**ORD. XVIII. ROSACEÆ. Juss.**

**NUTTALLIA.** Torr. et Gr. Fl. Am. ined.

(Not of De Candolle® or Dick.)


* The Nuttallia of De Candolle, founded upon the Ilex Canadensis, Mx., is the Nemopanthes, Raf., and the Nuttallia of Dick is now divided between Sida and Malva.

1. Nutallia cerasiformis. Torr. et Gr. Fl. of N. Am. ined.—(Tab. LXXXII.)

The greater part of the accompanying drawing of this entirely new genus, was made from imperfect specimens gathered on the Columbia by Mr. Douglas and Dr. Scouler in 1825. It has since been sent me, in various states, from the "margins of pine woods," in the same country, by Dr. Gairdner and Mr. Tolmie, and from these specimens the drawing was completed. It now appears in Mr. Douglas' Californian collection; and I have lately received the same plant from Mr. Nuttall, gathered by that gentleman on the Columbia, and bearing the ms. name of Nutallia cerasiformis of Torrey and Gray, a name which I have the greatest pleasure in thus perpetuating. Nor could the name be attached to any plant with greater propriety than to one inhabiting a district of country where that gentleman has so eminently signalized himself by his recent laborious researches and discoveries. We here subjoin Mr Nuttall's description, drawn up on the spot, as copied from his ms. by my friend Dr. Gray, and which shows how well he distinguished all its remarkable features.

"A small forest-tree, about the size of Amelanchier Botryapium, exhaling a faint scent of Bitter Almonds with a smooth brown bark on the branches, and alternate, oblong, entire, thin leaves. Racemes filiform, connected at the base with a branchlet, both included in the common bud. Leaves alternate, entire, cuneate-oblong, apiculated, and attenuated below into a short petiole, more or less pubescent or glabrous beneath; the same bud producing both leaf and raceme. Raceme pendulous, and, with the white flowers and unguiculate oblong petals, resembling Amelanchier Botryapium. Bracts membranous, narrow, and acuminate. Male calyx campanulate, half-way 5-cleft. Segments lanceolate. Stamens about 12-15, inserted on and below the margin of the calyx. Female calyx dividing circularly towards the base; the base remaining beneath the fruit. Stamens minute and rudimental, fewer. Germs 5, roundish, 2-3 usually soon abortive; styles filiform, deciduous; stigma small, 2-lobed. Germens for some time gibbous, the mature drupe at length nearly straight, the internal indehiscent suture scarcely visible; pulp a mere succulent blackish-brown skin, furnished with a bloom. Nut 1-seeded; no perisperm or albumen. Embryo straight, the radicle inserted towards the summit of the fruit. The fruit is greedily eaten by robins and other baccivorous birds, though almost bitter to the taste, and with the heavy odour of the bitter almond."

Tab. LXXXII. Nutallia cerasiformis.—A. Branch of a male plant in flower.—B. Branch of a female plant, from which the calyx and petals have fallen, and exhibiting the fertilized ovaries.—C. Branch with ripe fruit: —nat. size.—Fig. 1. Flower; fig. 2. Calyx of a male flower laid open, showing the situation of the stamens; fig. 3. Female flower, after the calyx has fallen away; fig. 4. Pistillum; fig. 5. The same, laid open; fig. 6. A single fruit; fig. 7. The same, laid open; fig. 8. Embryo: —magnified.


This species comes so very near the description of the Mexican C. fothergiloides, H. B. K. Nov. Gen. Am. t. 559, that until we examined specimens lately sent by Mr. Hartweg, we hesitated whether it should not be referred to that plant. All the specimens, however, from Mr. Douglas, as well as one collected by Mr. Nuttall on the Platte River, have the leaves smaller, and more downy beneath, than Humboldt's species, the flowers not clustered, but geminate and recurved, the fruit larger, and the cauda much longer and more plumose. A second species, found by Mr. Nuttall (C. betuloides, Nutt. ms. in Herb. Hook., and Hook. Ic. Pl. t. 322), is also quite distinct from the Mexican plant; while a third species, C. ledifolia (Nutt. ms. in Herb. nostr., and Hook. Ic. Pl. t. 324), is extremely different from all the rest.

With regard to the genus itself, it must rank very close to Purshia, from which it scarcely differs, except
in the absence of petals, in the deciduous calyx, and in the much larger and plumose style. In our present species, the calyx is sometimes carried up by the elongated persistent style, on which it remains some way below the apex.


Mr Nuttall's specimen is from the Columbia; his S. pauciflora, from the same country, seems scarcely different.


We can perceive no difference between Mr Nuttall's two supposed species. His A. brevifolia is but a more stunted plant, with shorter leaves.


From this we can scarcely distinguish the P. Oregana, Nutt. ms. in Herb. nostr., nor even his P. fissa, ms.

2. P. anserina. L.


Mr Lindley states this to have come from California; but our specimens were collected by Douglas in 1835, in the interior, and probably in Columbia.


H. parviflora, Nutt. ms., differs by being more villous, by having fewer leaflets to the radical leaves, and the accessory calycine segments twice as narrow as the others. It is from the mountains of California.


Lindley mentions that this is a Californian plant; but our specimens were collected by Douglas on the Cascade Mountains of the Columbia.

Dr Lindley states that this also was found in California, but our specimens from Douglas were collected, in 1835, in the interior of the Columbia, and those from Nuttall are from the Wallamet plains. These differ in no respect from the plant long ago figured in the Bot. Mag., and are distinguished from all the preceding by the lower part of the stem and petioles of the leaves being very hisute, with long, patent, harsh hairs. In habit, and particularly in the shape of the segments of the radical leaves, this approaches most to H. fusca.

5. H. grandis; pubescenti-villosa, foliis caulinis inferioribus 4-5-jugis laciniiis subalternis cuneato-subrotundis 3-5-partitis, lobis cuneato-obovatis incisis terminali alte trifidis, floriibus solitariis longe pedunculatis omnibus e dichotomus calyces villosi laciniiis accessoriiis ovato-oblongis subtrifidis quam interiores lanceolatas acutas majoribus petala fere duplo superantibus, stipulis pinnaatifidis.

Our specimens are from California. When we compare this with H. Californica, Cham. et Schlecht. in Linnaea, 2. p. 27, we find so many points of resemblance, that we are almost inclined to suppose them the same, and that the present plant may not be completely developed, and therefore not exhibiting the ample panicle described by these authors. The points of resemblance are—1. H. Californica, like ours, does not seem to have the flowers capitata, as in all the other species, but has them disposed in "panicula multiflora ampla, basi pluries dichotoma cum alari, apice racemosa." 2. The outer segments of the calyx are broader and less sharp than the inner, and are usually furnished with a small tooth or incision on one or both sides. 3. The plant is more villous towards the extremity. 4. The leaves are large, and the leaflets, of a similar shape, are few, and somewhat alternate or pseudo-opposite. 5. The calyx is large, and the petals small.—The chief discrepancy lies in the length of the peduncles; in our plant, those belonging to the lower flowers are upwards of an inch long, whereas, in H. Californica, they are said to be "sesquilineares, inferiores remoti majores."


These specimens of Mr Douglas exactly accord with the var. $\gamma$. of our Chilian A. pinnatifida, published in the Bot. Miscellany; and we now doubt very much if the A. trifida, R. et P., be really distinct from it. Our specimens are in very fine condition, but we regret that they do not exhibit the nature of the fruit.


Of the plant which we here refer doubtfully to R. blanda, there is one fine specimen; but that only in fruit. It appears to belong to a tall and stout growing plant, without any glossiness on its purplish stem and foliage, and every where wholly destitute both of aculei and secatæ. Leaves closely placed. Leaflets 5-7, oval or obovate, regularly serrated, except at the base, slightly plaited, generally obtuse, glabrous (but not lucid) above, downy, with short soft hairs beneath. Corymb bearing copious flowers. Fruit globose, and, as well as the peduncles, quite smooth and glabrous. Sepals uniform, persistent, spreading, ovato-lanceolate, much acuminate, downy and slightly glandular, white at the margin.
We do not see that P. nudiflora of Nuttall's ms. in Herb. Hook. differs in any respect from the present species. This was first discovered by Mr Menzies, during Vancouver's voyage.

1. Cerasus ilicifolius (Nutt. ms.); foliis coriaceis perennantibus lucidis cordato-ovatis breve petiolatis spinoso-dentatis, racemis densifloris axillaribus terminalibusque folia æquantibus, bracteis pedicello brevioribus. (Tab. LXXXIII.)
This singular species has leaves resembling those of the Holly, equally harsh, rigid, and spinous; but with the fruit we are unacquainted. The racemes are copious and thickly flowered.

Tab. LXXXIII. Cerasus ilicifolius.—Fig. 1. Flower:—magnified.

Ord. XIX. CALYCANTHEÆ. Lindl.
1. Calycanthus occidentalis; foliis ovato-lanceolatis acuminatis rigidis nitidis utrinque concoloribus scabridis glabris, pedunculis elongatis. (Tab. LXXXIV.)
Branches smooth, of a rusty red colour. Leaves subcordate at the base, about six inches long and two broad, gradually acuminated from below the middle, where they are broadest, to the apex, neither glauceous nor tomentose underneath, even when young. The peduncles are either terminal, or from the forks of the branches, and from two to three inches long when the flower is expanded.

Tab. LXXXIV. Calycanthus occidentalis.—Fig. 1. Calyx-tube, showing the stamens, the sepals being removed; fig. 2. Stamen; fig. 3. Calyx-tube laid open, showing the ovaries.

Ord. XX. ONAGRARIEÆ. Juss.
Of this there are two forms in the collection: the one has the whole plant, but especially the leaves and flowers, much more densely canescent than the other; its flowers too are smaller, and of a less lively red colour.

1. Clarkia pulchella. Pursh.—var. flore purpureo et albo.
Hab. Snake Country, about Snake Fort. Mr Tolmie.

This varies much in the hairiness of the ovarium and calyx; but is quite distinct from the following, with which Spach unites it.


A solitary specimen of this we found mixed with Clarkia rhomboidea, with the foliage of which it agrees pretty well; but it has very different flowers.

1. Onothera (Holostigma) alyssoides; humilis multicaulis puberula, foliis inferioribus molto majoribus oblongo-lanceolatis inæqualiter dentatis in petiolum attenuatis caulibus paullo brevioribus, superioribus linearibus, racemis foliosis secundis circinnatis, ovarii
tenuissimis sessilibus, petalis filamenta æquantibus stylo brevioribus, capsulis contortu-
plicatis striatis torulosis.—Hook. Ic. Pl. vol. IV. (ined.)

This is one of the most remarkable species of the group with which we are acquainted. It has a slender
perpendicular branched root, from the summit of which arise several short ascending stems, from three to five
inches long, the central one, however, erect, and always apparently floriferous from the base to the summit,
the capsule at the base almost mature, while the upper portion is only in flower. Lower leaves almost
equal in length to the stems, and sometimes nearly an inch broad, while the upper ones become bracteæ
and are shorter than the flowers. Flowers pale yellow, and retain their colour when dried, as in _Œn. dentata_, Cav.;
they are copious, racemose and seced, the upper portion of the raceme being recurved until the flowers
expand. Petals roundish, obovate, obtuse, and not at all emarginate. The whole habit is that of some
species of _Alyssum_, or rather, perhaps, of _Vesicaria_. The capsules are about an inch long, contortuplicate,
slender, not half a line thick at the base, slightly attenuated at the extremity, somewhat terete, but striated,
torulose by the constrictions between the seeds. To this, _Œ. contorta_, Doug. in Hook. Fl. Bor. Am.,
seems allied: but of that plant we possess only a very imperfect specimen, and it seems quite distinct.

Hab. Pine Creek, Snake Country. Mr Tolmie.

2. _Œ. (Holostigma) spiralis (Hook.);_ radice multicipite, caulibus adscendentibus
puberulis simplicibus, foliis oblongo-spathulatis (inferioribus longe) in petiolum attenuatis
integerrimis canescentibus, floribus axillaribus, petalis stamina stylumque superantibus,
ovario piloso e basi crassiore attenuato, fructu acute tetragono acuminato incano spirali-

More perfect specimens, from California, than those we formerly possessed, have enabled us to draw up
the above character; and we may observe, that the figure of _Œ. cheiranthifolia_, Horn. Bot. Reg. t. 1040,
is so extremely similar to the present species, that were it not stated by its original describer to be a native
of Chili, we should have considered it the same. The flowers, as in all the following individuals of this sub-
genus, become green when dry. The stems are from four to eight inches high.

3. _Œ. (Holostigma) micrantha._ Horn.—H. hirta. Link.

Œ. heterophylla, Nutt. ms., comes very near this, and is perhaps not really distinct; but in the only
specimen we have seen, the capsule is thinly covered with short adpressed hairs, and not rough with spreading
hairs, as in Hornemann’s plant.

4. _Œ. (Holostigma) graciliflora_; acaulis pilosa, foliis anguste spathulato-linearibus
integerrimis vel apice denticulatis, floribus sessilibus, tubo elongato filiformi foliis paullo
breviore, petalis late obcordatis.—Hook. Ic. Pl. vol. IV. (ined.)

This is a small annual plant; the leaves are erect, and from an inch and a half to two inches long, and
scarcely a line broad near the apex, while they taper gradually downwards. We have not seen the fruit,
but the ovarium is oblong. The flowers are large in proportion to the size of the plant. It is very distinct
from any other species with which we are acquainted.

(We may here remark, that _Œn. maritima_, Nutt. ms., from St Diego, in California, is the same with
Œ. viridescens, Hook. Flor. Bor. Am. 1. p. 214; and _Œn. (Gyranthus) lithospermoides_, Nutt. ms., is
Œn. Boothii, Doug. in Hook. Fl. Bor. Am.; while the _Œ. pygmya_ of the same botanist, l. c., is probably
also not distinct from it. Douglas, in the Flor. Bor. Am., says of _Œ. Boothii_, that the style is much ex-
serted; but in his own as well as in Nuttall’s specimens, it is scarcely the length of the petals.)

5. _Œ. (Godetia) purpurea._ Wild.—Godetia Willdenowiana. Spach.
Our only specimen has the capsule hirsute; the seeds are horizontal, as in *CE. decumbens* and *CE. lepida*, from both of which, however, it is readily distinguished, by the greater length of the fruit. The leaves are more pointed than in the cultivated form of the species, and slightly toothed.


This nearly agrees with *CE. procumbens* in the form of the fruit, but it is more hairy; the stem of the present species is erect, and the leaves, especially in the wild specimens, are slightly hairy. They are, however, too closely allied.

7. *CE. (Godetia) viminea. Dougl.—var. parviflora?*

Of this variety, the only specimen in the collection has flowers as small as those of *CE. quadrivulnera*, from which it differs by the canescent, not hairy, fruit, and by the infundibuliform tube of the calyx being longer than the ovariun, even longer in that respect than in the usual form of *CE. viminea*. The calycine segments are as long as the corolla, while in the common state they are only half its length. If new, it may be distinguished from the other species of *Godetia* as follows:—Calycis tubo infundibuliformi ovario longiori, laciniiis corollam aequalibus, staminibus corolla duplo brevieribus, stylo ultra tubum exserto, stigmatis lobis brevibus ovalibus, capsula basi crassiore canescente, seminibus adscendentibus.—There is likewise another plant in the collection, so very closely allied in characters to the common appearance of *CE. viminea*, that we feel unwilling to separate it as a species, without a more numerous set of specimens; in it the branches are acutely angled, and the habit is entirely that of *CE. purpurea*; it may be recognised by the following marks:—Erecta glabriuscula glaucescens, ramis angulatis apice densifloris, foliis anguste lanceolatis acuminatis denti- culatis, calycis tubo infundibuliformi ovario subaequali, laciniiis staminibusque corolla duplo brevieribus, stylo ultra antheras exserto, stigmatis lobis brevibus ovalibus, capsula basi crassiore demum glabra, seminibus adscendentibus.

8. *CE. (Godetia) tenella. Cav.—var. β. tenuifolia. Lindl.?*

We have two forms in the collection, which we can scarcely distinguish from the narrow-leaved variety of Dr. Lindley, or *CE. tenuifolia* of Cavanilles: the one is pale-flowered; the other has deep purple small flowers, exactly resembling our *CE. tenella*, var. *parviflora*, from Chili. It differs from *CE. viminea* by the very short calyx-tube, and from *CE. Romanzovii* (which appears to be occasionally cultivated, under the name of *CE. tenella*, in our gardens) by the long exserted stigma. Perhaps, however, these characters are variable, and, if so, several of the allied species from the West Coast of America may likewise be referred to *CE. tenella*.


Mr. Douglas’ specimens are imperfect, and, as far as regards the colour of the flowers, resemble the figure of *CE. roseo-alba*, in Sweet Brit. Fl. Gard. t. 268, more than that given by Dr. Lindley; the leaves are, however, much narrower and more acute, and the species, along with the hybrid *CE. bifrons*, Bot. Reg. t. 1405 (not of Sweet Br. Fl. Gard. 2d Ser. t. 386, which has yellow flowers), tends to unite *CE. roseo-alba* to *CE. Lindleyi*. All the three species have ascending seeds, a capsule attenuated at the base, with the stigma-lobes linear, and are perhaps most easily distinguished thus:—1. *CE. roseo-alba*, stem erect, leaves oblong or lanceolate-oblong, obtuse.—2. *CE. rubicunda*, stem erect, leaves acuminated.—3. *CE. Lindleyi*, stem diffuse, ascending.


In this the stigma-lobes are rather shorter than the usual form of the plant from the Columbia.

11. *CE. (Eucnothera) marginata (Nutt. ms.); patentim canescenti-villosa, caule
humillimo foliis radicalibus lanceolatis longe petiolatis dentato-pinnatifidis multo breviore, calycis tubo longissimo, capsula oblongo-cylindracea obscure tetragona.

Hab. Near the Blue Mountains, and about the Salmon Falls of the Snake River, Snake Country. Mr Tolmie.—The flowers are large and handsome; the tube about as long as the radical leaves.

12. CE. (Eucenothera) odorata. Jacq.?

The leaves are rather more hairy than usual; but we perceive no essential difference.

1. Gaura (Spach) decorticans; glabra basi fruticosa, foliis lineari-lanceolatis utrinque attenuatis dentatis, junioribus pubescentibus, spicis bracteatis laxis brevibus obtusissimis, ovario longe subulato subpubescente, calycis tubo ovario 2-3-plo breviore lacinias petalaque æquantibus, stigmati subgloboso 4-lobo.

The bark is a shining white, with a reddish tinge, and readily peels off from the stem. Leaves two to three inches long. Bracteas leafy, linear, shorter than the subulate germen. Petals 4, somewhat unilateral. Style longer than the stamens. The spike, while one or two of the lower flowers only are open, is broad and very obtuse, and resembles the raceme of a Diploptaxis.

ORD. XXI. SALICARIEÆ. De Cand.

1. Lythrum lineare. Linn.

ORD. XXII. LOASEÆ. Juss.


3. B. micrantha; tota pilis brevibus hispida, caule erecto dichotomo albescente, foliis ovatis acuminatis basi cuneatis sessilibus sinnatto-pinnatifidis, floribus glomeratis folio florali brevioribus ebracteatis, petalis 5 ovatis segmenta calycina superantibus, staminibus 15-20, 5 petaloideis apice emarginatis, capsula oblongo-cylindracea 3-sperma apice trivalvi, stylo leviter spiraliter torto.—(Tab. LXXXV.)

The hairs are jointed, and some of them, particularly those on the pedicels and branchlets near the flowers, are spinulose at the joints; the spines verticillate and reflexed. This plant has quite the habit of Mentzelia, especially in the broad foliage and few-seeded fruit, and the B. albicaulis tends to unite Acrolasia of Presl again to Bartonia; indeed we scarcely find a single character left to distinguish that genus. None of the species can be said to have more than 5 petals: B. ornata has 5 sterile petaloid stamens; B. leucicaulis, parviflora, micrantha, and probably also B. nuda, have the petaloid stamens antheriferous; while B. albicaulis, aurea, and Acrolasia Bartonoides are destitute of the petaloid stamens. In B. ornata, leucicaulis, and some others, the stamens are very numerous; in B. albicaulis there are about 30; in B. micrantha not more than 20; and in Acrolasia, 10. The seeds in most of the species are very numerous; in B. albicaulis fewer; but in B. micrantha, and in Acrolasia they are reduced by abortion to one to each placenta, placed in the capsule one above the other. The only difference then between Acrolasia and Bartonia lies in the style of the former not being twisted, and spirally twisted in the latter; but that character again is weakened by our present species, for here the style is so slightly twisted as scarcely to be perceptibly so. From Bartonia we do not see how Mentzelia can well be distinguished. Kunth's two species have 10 petaloid fertile outer stamens; M. hispida 10 outer subulate stamens, longer than the others; while in M. aspera and oligosperma they are
similar to the others. So that, if we rely on the definite number of seeds, we must place both B. micrantha and Acrolasia in Mentzelia.

Tab. LXXXV. Fig. 1. Flower, with floral leaf; fig. 2. Flower; fig. 3. Inner stamen; fig. 4 & 5, Outer or petaloid stamen; fig. 6. Young fruit; fig. 7. Seeds; fig. 8. Hairs from the branchlets near the flowers; fig. 9. Portion of the same.


2. C. lanceolata. Pursh.

Hab. Snake Country. Mr Tolmie.


Ord. ? Portulaceis affinis. (Spætalumæ. Nutt.)


Hab. Common throughout the interior of the Snake Country. Mr Tolmie.

The specimens from the Snake Country of California consist of flowers only, but those in a most beautiful state. Others, collected by Mr Tolmie himself, to the north of the Columbia, have the leaves and roots quite perfect, and the flowers with capsules almost fully formed. Thus we are enabled to give a more complete account than has yet appeared of this plant, so well known to the Indians of N. W. America, and so much employed by them as an article of food. We may premise, that the account of the foliage and scapes and flower-buds, given in the Botanical Miscellany, is quite correct. But the roots were imperfect, from having been prepared for food; in which operation not only the fibrous parts are removed, but the whole of the bark also, (dark brown externally, bright red within,) leaving only the nearly pure white fleshy inner portion of the root. The flowers are large, the scapes succulent, jointed above the middle, and involucrated with 5-7 subulate membranous scales. Sepals about 7, orbiculare-ovate, membranous, spreading, obtuse, pale brown, persistent. Petals 8-10, of a delicate filmy texture and rose colour, 2 or 3 narrow and almost linear, the rest ovate acute, spreading, marcescent, and ultimately twisting around the stamens and pistil, while the sepals retain their form and colour. Stamens numerous, inserted at the base of the calyx. Filaments slender, shorter than the petals. Anthers linear-oblong, yellow, slightly bifid at each extremity, inserted by the back just above the fork. Ovary globose-ovate, finely striated, and contracted at the base into a very short thick stipes. Style persistent, but apparently jointed with a dark line a little above the base, and then dividing
into about 6 filiform downy stigmas. Capsule coriaceous membranaceous, as in *Cerastium*, globose, terminated by the style and stigmas, and firmly surrounded by the twisted withered corolla, separating transversely at the base, and there cleft into about 6 segments, leaving the short stipes in the form of a fleshy ring. Seeds numerous, dark-brown, hard, shining, smooth, reniformi-globose, each attached to a long white podosperm, arising from the base of the cell. Embryo terete, yellow, curved round the white mealy albumen. Radicle short. Cotyledons long, unequal.

We do not find all the petals equal and narrow-lanceolate, as represented by Mr Nuttall.

Mr Nuttall considers this plant as intermediate between *Ficoidae* and *Cactoidae*; but the above description and accompanying plate confirm the views we have all along entertained of its close affinity with *Portulacaceae*. With that Order it agrees in the one-celled capsule, the long podosperms and stigmas, the structure of the seed-coat, albumen, and embryo, and with some of the species in the marcescent corolla twisting round the pistil. It differs principally in the more numerous sepals (Torrey and Gray having lately limited *Portulacaceae* to those genera which have two or rarely three sepals), and by the capsule bursting from the base upwards. If, however, it be thought necessary to form of it a new Order, surely the name *Levisiae* is much to be preferred to the barbarous one given by Nuttall, derived from that by which the plant is known to some of the Indian tribes.

Tab. LXXXVI.—A. Flowering specime, with growing leaves; part of the root with the bark taken off, exhibiting the state in which it is eaten.—B. Specimen in fruit, with the old dry leaves:—nat. size.—

Fig. 1. Side view of a flower; fig. 2. Stamens; fig. 3. Pistillum; fig. 4. Ovary laid open, showing the ovules; fig. 5. Ovule, with its podosperm; fig. 6. Capsule firmly enveloped with the marcescent petals; f. 7. Capsule separated from the receptacle, splitting upwards at the base; f. 8. Seed; f. 9. Seed laid open, showing the albumen and embryo; fig. 10. & 11. Embryo, with its unequal cotyledons.

**ORD. XXIV. GROSSULARIAE. De Cand.**


Mr Bentham, in the *Hort. Soc. Transactions*, appears to describe this as a new species, without advert- ing to the circumstance that it had been long ago accurately defined by Smith, under the same name, from specimens collected by Menzies. In the *Flor. Bor. Am.* it is united to *R. sanguineum*, from which, how- ever, we are now convinced it is perfectly distinct, on account of the short pedicels. Both these species have the branches of the style very short and recurved, while in *R. glutinosum* they are long and upright.


Some of the young vigorous unbranched shoots, which are from a foot and a half to two feet long, are clothed with numerous rigid bristles or prickles, which give those portions of the plant a very different appearance from that in which it is usually figured and described. We have seen no fruit.

6. R. Californicum; glabrum, ramis nudis, spinis stipularibus ternis, foliis cordatoreniformibus 3-5-lobis, lobis subincisis, pedunculis 1-3-floris, bracteis rotundato-ovatis, calycis tubo brevi, laciniiis ovato-lanceolatis tubo 3-plo longioribus demum reflexis apice glabris, staminibus petala triplo superantibus styloque simplici glabris, ovario glanduloso-pilosso.

This differs from R. niveum, Lindl. (with which we are only acquainted from the figure in the Bot. Register), besides what is pointed out in the above diagnosis, by the erect, or rather patulous, not connivent, stamens.

7. R. occidentale; glabrum, ramis nudis, spinis stipularibus solitariis, foliis cordatoreniformibus 3-5-lobis, lobis incisis, pedunculis 1-3-floris, calycis laciniis oblongis tubo sublongioribus demum reflexis apice pedicellatis staminibus petala triplo longioribus glabris, stylo glabro ultra medium bifido stamina superante, ovario echinato.

The stamens in this and the next species, as well as in the last, have their anthers ovate, much larger in proportion to the flower than is usual in the genus, and tipped with a distinct blue mucro.

8. R. subvestitum; glanduloso-pubescentis (foliis supra exceptis), ramis rigide setosis, spinis stipularibus 3-4 gracilibus, foliis cordatis 3-5-lobis supra parce pilosis, lobis incisis, pedunculis 1-3-floris, calycis pubescenti-glandulosi tubo ovarium subduplo superante laciniiis oblongis parium breviore, staminibus petala duplo superantibus glabris, stylo glabro simplici (nunc bifido!), ovario piloso-glanduloso.

In all the flowers, except one, the style is decidedly simple, but in that one it is bifid to near the middle. The whole plant, with the exception of the upper side of the leaves, is covered with a glandular pubescence: the ovary, although glandular and hairy, exhibits no tendency to become a prickly fruit.


ORD. XXV. SAXIFRAGEÆ. Juss.

1. Tellima (Lithophragma) parvifolia; hirsuta scabra, foliis omnibus tripartitis, segmentis inciso-pinnatifidis, petalorum lamina tripartita ovario semi-infero. Hook. Fl. Bor. Am. v. 1. p. 239. t. 78. A.

Hab. Green River of the Snake Country. Mr Tolmie.

2. T. (Lithophragma) heterophylla; hirsuto-scabra, foliis radicalibus cordatis 3-5-lobis crenato-lobatis, caulinis profunde 5-fidis, lobis inciso-trifidis, petalorum lamina apice trifida, ovario omnino supero.

The sub-genus Lithophragma of Nuttall (Pl. Rock. Mount. p. 26), we are disposed to distinguish by the unguiculate 3-lobed petals, and three distinct styles, while in the true species of Tellima, the petals are oblong-linear, sessile and irregularly laciniate, and the styles only two. From this sub-genus we of course exclude Mitella trifida, to include which Nuttall has given a very different character. The present species varies extremely in the size of the foliage, the leaves being sometimes only one inch, in other specimens two or even three inches in diameter.
1. Heuchera hispida; scapo nudo petiolisque hirsuto-pilosis, foliis cordatis rotundato-lobatis utrinque parce pilosis, panicula elongata angusta laxa, calycibus æqualibus undique longe et canescenti-hispidis, petalis lineari-oblongis pusillis fugacibus, staminibus 5 vix exsertis, stylis brevibus!

The filaments are not longer than the lobes of the calyx. It appears to be a very distinct species, approaching, in the short stamens, to H. cylindrica, Dough., but with a totally different habit. The short styles are slightly at variance with the generic character usually given, but in H. cylindrica they are almost as short. In H. cylindrica no petals have been observed, here they are extremely caducons, so much so as not to be found soon after the flower-buds expand. It is therefore probable, that they may be also present in younger specimens than we have seen of H. cylindrica, and that the two species may form a sub-genus of Heuchera, distinguished by the fugitive petals, short thickish styles, and short filaments.

**ORD. XXVI. UMBELLIFERÆ. Juss.**


2. S. nudicaulis; caulescens, foliis præcipue radicalibus longissime petiolatis cordatis 3-partitis segmentis lato-ovovatis sublobatis setoso-dentatis lateralibus bifidis caulinis consimilibus duobus oppositis ad umbellæ triradiate basin, calycis tubo echinato.


4. S. laciniata; caulescens, foliis petiolatis circumscriptione cordatis profunde 5-partitis, segmentis laciniato-pinnatifidis, laciniis angustis setoso-acuminatis, umbellis compositis, involucris involucellisque bipinnatifide laciniatis.

This is most allied to S. Menziesii, but differs in the much more deeply divided leaves.

5. S. bipinnata; caulescens, foliis longe petiolatis bipinnatis, pinnis remotis, pinnulis anguste-ovovatis basi cuneatis inciso-dentatis dentibus mucronatis, umbella subcomposita, involuci folioliis profunde tridis, laciniis pinnatifide laciniatis, calycis tubo basi nudo versus apicem echinato.

In the divided leaves, this approaches to S. graveolens, but is, in fact, a very different species.


Hab. Green River of the Snake Country. Mr Tolmie.


The fruit of this is rugulose, or very slightly tuberculate, but is much broader than in the other species of the genus.


The specimens are only in young fruit, and the segments of the upper leaves are considerably broader than
in any form we have yet seen, while even the lower ones are broader than in *H. laciniatum*, DC., which we consider a mere variety of this species.


Hab. Snake Country. Mr Tolmie.

2. *F. macrocarpa*; pedalis, puberulo-glaucescens, foliis ternatim compositis, lacinii lato-linearibus decurrentibus basi angustatis apice acutissimis, involucro oligophylo caduco, involucelli vix dimidiati foliolis oblongo-lanceolatis arce reflexis, fructibus ovato-oblongis pedicello longioribus.

Nearly allied to the larger specimens of *F. fanningulacea*, from Carlton House, but the leaves are much less compound, and the ultimate segments longer.

3. *F. caruijola*; acaulis, glabra, virens, foliis latissime vaginatis supra decompositis, lacinii lineari-acuminatis, petiolo perbrevi, scapo folio paullo superante, involucro nullo, involucello magno monophyllo 10-12-partito, lacinii obovatis coloratis venosis erectis umbellam floriferam obvallantibus, fructibus lato-ellipticis.

A very remarkable species, quite free from glaucescence, with extremely large sheathing bases to the leaves, the divisions of which resemble those of *Carum Carui*, and with an involucellum large in proportion to the umbels. The disk of the back of the fruit is much broader than the wing, whereas, in the two preceding species, they are pretty nearly equal.

4. *F. parvifolia*; subcaulescens, glabra, foliis radicalibus petiolum subsequantibus circumscriptione deltoideis tripinnatifidis, lacinii ovatis acuminatis incisis patentibus, caule subnudo foliiis 3-4-plo longiore, involucro oligophylo vel nullo, involucello sub-8-phylo, folioli lanceolato-subulatis erectis, fructibus late elliptico-obovatis.

The leaves are small, not more than an inch and a half long, on slender petioles of the same length. The flowers are bright yellow. The disk of the fruit is scarcely so broad as the wing. We may here notice, that *F. Palmella*, Hook. *Fl. Bor. Am.*, is *Cynoecerus glomeratus*, Nutt.


Hab. Snake Country.

Nuttall (Pl. Rocky Mount. p. 27) refers this to *Eulophus*, but the fruit seems very different. He describes there two species, one glabrous and caulescent; this, although not figured in the *Flor. Bor. Am.*, was considered a mere form of *S. triternatum*; the other of Nuttall seems only to differ from our plant by being puberulous, while the true *S. triternatum* is quite glabrous.

1. *Caucalis microcarpa*; piloso-hispida, foliiis tripinnatifidis, umbella 4-5-radiata, involucri foliiis sessilibus folia caulina simulantibus, umbellae radiis fructiferis 3-4-plo brevioribus, umbellulis 5-7-fidis, involucelli folioliis 3-4 linearibus, fructibus oblongo-ellipticis parvis, aculeis brevibus apice uncinatis.

This has much the appearance of *Anthriscus vulgaris*, but wants the beak to the fruit; it resembles likewise *C. daucoides* and *leptophylla*, but the fruit is much smaller, and the leafy involucre is a peculiar character. Some of the young specimens are only two or three inches high, but one in fruit is upwards of a foot.
ATENIA. Nov. Gen.


1. A. Gairdneri.

Besides our Californian specimens, we have the same, gathered by the late Dr Gairdner, in dry grounds by the Columbia River.

ORD. XXVII. CAPRIFOLIACEÆ. Juss.


3. L. (?) subspicata; fruticosa ramulis folisque junioribus pubescentibus, foliis oppositis breviter petiolatis coriaceis ellipticis integerrimis nitidis subtus pallidioribus, floribus laxe spicatis bracteatis solitariis v. binis oppositis, ovario globoso limbo calycino 5-lobo, corollo bilabiata pubescenti labio superiore 3-inf.-trifido.

Of this remarkable plant, our collection possesses but a solitary specimen, with several spikes, but with few perfect flowers. The branches are woody. Leaves about an inch long, their margins much recurved in a dry state; upper branches terminating in flowering spikes, the leaves passing into opposite remote pairs of bracteas, and having in their axils lesser bracteas, which bear the flowers solitary or in pairs. These are small, not half an inch long. Ovary globoso, crowned with 5 moderately large blunt lobes or teeth. Corolla downy, oblong, bifid or two-lipped, the lips rather unequal, one with 3, the other with 2 oblong lobes. Stamens 5. Anthers large, rather shorter than the corolla. Anthers large, linear-oblong. Style reaching to the top of the stamens, curved. Stigma globose.—The aspect is quite different from any Lonicera with which we are acquainted.

ORD. XXVIII. RUBIACEÆ. Juss.


Hab. Snake Country. Mr Tolmie.

2. G. Californicum; annuum? gracile diffusum ramosum ubique hirsuto-pilosum, caulibus 4-gonis, foliis quaternis patentibus ovatis acutissimis, pedunculis subterminalibus solitariis ternisve 1-3-floris folia superantibus, ovario subgloboso laevi glablo, corollæ (albæ) lacinii acutissimis.

Imperfect specimens of this, collected also in California, by Mr Menzies, have been long known to us. Mr Douglas' possess flowers, but we are still unacquainted with the fruit. The root, also, we have not seen. When held between the eye and the light, the leaves present a distinct reticulated appearance.

ORD. XXIX. VALERIANEÆ. Juss.

ORD. XXX. COMPOSITÆ.


Ic. 1. p. 66. t. 98.


geron Californicum. Dougl. ms.

This species is from the interior, and was sent by Dr Gairdner as collected by Mr Douglas.


Bot. Mag. t. 3382.

2. D. ? occidentalis; elatus, caule glaberrimo angulato superne ramoso, ramis copiosis 

subsimplicibus subcorymbosis monocephalis, foliis linearibus rigidis obtusis pilis brevibus 

simplicibus adpressis utrinque asperis, rameis molto minoribus, involucri hemisphaerici 

squamis numerosis imbricatis pubescentibus interioribus sensim majoribus lanceolatis albidis fusco-lineatis, radii flosculis sub-40 linearibus purpureis discum duplo superantibus, pappo uniseriali, ovario hirsuto.

The structure of the pappus seems rather to resemble that of Erigeron, but the capitula are only in a young state: the habit, however, allies it more to Diplopappus of De Candolle.


Of this we have seen no specimen, nor are we certain that it was collected by Douglas, although, as it is a Californian plant, and named by Professor Lindley, we think this probable.


t. 1577.


Hab. Snake Country. Mr Tolmie.


1. Distasis ? concinna; tota pilis albidis patentissimis canescenti-strigosa, radice 

perenni collo multipinu, caulibus erectis gracilibus angulatis ramosis, foliis linearibus 

basi attenuatis radicalibus sublonge petiolatis, involucrui foliolis subulatis albidis dorso 

viridibus, radii flosculis uniseriatis numerosis anguste linearibus disco duplo longioribus, 

pappo conformi biseriali, serie ext. brevi paleaceo, int. 8-10 setoso.

Hab. Snake River, below the Salmon Falls, Snake Country. Mr Tolmie.

Of the genus of this most beautiful plant we are uncertain. The slender stems scarcely a span high, the copious foliage, peduncles, and involucres, are every where hoary with harsh white spreading hairs. The flowers are about the size of a daisy; the ray bright blue, in the dried plant, and the disk yellow. The outer pappus consists of 5 or 6 lanceolate, short paleæ; the hairs of the inner row are equal in thickness throughout.

The genus Brachyris, as we have already mentioned, in the Companion to the Bot. Mag. II. p. 51, is not different from Guttierrezia of Lagasca, which name ought, by right of priority, to be adopted. This species is surely a var. of B. Euthamia; indeed we are even far from certain if the B. paniculata, Euthamia, Californica, and Texana, are not all forms of the G. linearifolia, Lag.


Of this we have found no specimens in our collection of Mr Douglas' plants, but it seems probable, from the description given by De Candolle, and which seems to have been taken from an immature specimen, that it is the same as Aster Californicus, Less.—We may here remark, that we do not well see how this plant and Erigeron glaucum, Ker, differ; the latter is supposed, by Ker, to have come from South America; afterwards the locality of Buenos Ayres was given by some foreign botanists, we do not know for what reason. We have never received it from Buenos Ayres, and suspect the seeds may have been brought by Mr Menzies from California.


In some of the radical florets we find on each side a long subulate appendage, arising from the base of the ligule.


Hab. Dry plains of the Snake Country. Mr Tolmie.

This species is very nearly allied to A. linearifolius in the capsule and involucres, but the foliage is quite different.


The pappus of P. carthamoides, as well as of the present species and of the following, is certainly in a double series, the outer row similar to the inner, but shorter and more slender. There is therefore reason to fear that the genus must be either distinguished from Aplopappus solely by the homogamous capitula (but there are some Chilian species of Aplopappus without a ray) and tawny rigid patulous pappus, or the two should be united.

2. P. Menziesii; caule suffruticoso, ramis elongatis simplicibus apice corymbosis, foliis lineari-spathulatis apice acute tridentatis punctatis glabris, corymbis compactis paucifloris, involucri obconici squamis imbricatis oblongis acutis apice herbaceis sub-patulis, achenio sericeo.

This, so far as we know, has only been found by Mr Menzies; it approaches closely to those species of Aplopappus placed in the section Aplodiscus by De Candolle. The receptacle is favose and fimbriated. The leaves seem to have been somewhat succulent when growing.

Our specimens, in Douglas' collection, are more slender, less branched, more tomentose, and the floriferous branches much longer than in that we have from Chamisso. The style is unquestionably that of the *Senecionea*, but the habit of the plant that of some of the slender *Asterae*.


This is certainly our *B. viscosa*, from California, and we cannot see how it is to be distinguished from the Chilian plant.


We have no specimen of this in the collection, unless it prove, what we suspect, the same as *B. consanguinea*.


Although, in deference to De Candolle, we admit this as a distinct species, we still hesitate about its being really different from *B. glomeruliflora*. Our var. α, of this work, we would refer to *B. consanguinea*, certainly, and the female of β, to *B. pilularis*, which has the capitula solitary: the male of our var. β. may belong to either.


The var. β. only is in the collection; this has quite the habit of an *Ambrosia*, and perfectly unlike the var. α.


The description given by De Candolle is extremely correct: he has omitted, however, to take notice of a remarkable structure in the ray: the ligula is oblong, very obtuse, cordate at the base, destitute of tube, and therefore sessile on the top of the ovary, embracing the base of the style. The florets of the disk are broadly infundibuliform: the anthers included, as well as the abortive style and capitate stigma; these are apparently quite destitute of an ovary. The achenia (of the ray) possess that remarkable property noticed by De Candolle, which was first observed in the seed of the genus *Gilia*, and of the common Cress, of emitting horizontal filaments, which, after being kept some time in water, unite and form a radiately striated gelatinous mass or limbus, equal in thickness to the seed itself. Mr Joseph Hooker has observed the same peculiarity in one or two species of *Compositae* from Van Diemen's Land.


The florets of the disk have the style abortive; the achenia of the ray are surrounded by a winged margin, and have the pappus coroniform.


De Candolle, l. c. p. 590, names \( H. \) longifolius, of the Flor. Bor. Am., \( H. \) Hookerianus; and again, by some inadvertency, unites it, in the Mantissa, Prod. VII. p. 290, to \( H. \) Californicus. These two are, however, perfectly distinct, and probably belong to different genera. The Californian form of \( H. \) longifolius, Hook., or \( H. \) Hookerianus, DC., may perhaps be distinct from the North West Coast plant, but they agree nearly in the involucre and in the pappus.—We have also another species of Helianthus, with alternate upper leaves, which are petiolate, rhomboidal, ovate, bluntish, and, as well as the stem, scabrous with very short whitish hairs; pappus of one or two ariste; achenia glabrous; the scales of the involucre foliaceous, patulous, and obtuse. This we cannot refer satisfactorily to any described species, but in the imperfect state of the specimen before us we decline offering any further remarks.


De Candolle states this to be only two inches high, but one of our specimens is at least six inches. The stems are diffuse and corymbose branching at the extremity.


This species is certainly shrubbery, at least at the base.

2. B. gracilis; herbacea? albo-tomentosa, foliis linearibus obtusis inferioribus spatulatis omnibus integris integerrimisque planis, ramis elongatis strictis gracilibus iniiiloris, involucris squamis oblongis.

The specimens are about 8 or 10 inches high, and appear to be taken from near the root; the branches spring out from about the same point, near the base of the specimen, and are slender, quite straight and erect, and all of nearly equal height. The flowers retain their bright yellow colour, while in almost all the other species there is a strong disposition to turn green.

Hab. Snake Fort, Snake Country. Mr Tolmie.


Mr Menzies also found this in California.


This we have not seen.


1. Chaenactis stevioides; annua subglabra, caule corymbosim ramoso, foliis pinnatis, pinnis linearibus obtusis nunc pinnatifidis, involucro glandulosopubescente, floribus radii tubulosos-infundibuliformibus disco paullo majoribus, achenis strigosis.

Hab. Snake Country. Mr Tolmie.

This approaches closely to \( C. \) glabriuscula, but is decidedly annual, with apparently white, not yellow flowers, smaller capitula, and the ray-florets not so conspicuously palmatifid. The whole plant is from three to four inches high, while \( C. \) glabriuscula is from eight to sixteen: it is also more glabrous than \( C. \) gla-
354 CALIFORNIA.—SUPPLEMENT.

Composita. The pappus of the floret of the ray, in all the species, is at least a half shorter than the corolla, while that of the disk is almost as long as the corolla. We have some doubts whether this genus ought to be placed next *Palafaxia*, among the *Eupatorieae*, or next *Hymenopappus*, as has been proposed by De Candolle. The branches of the style are long, linear, and acuminated, and we have not perceived any trace of the “short obtuse cone” which De Candolle describes; the branches are hirsute from a little above their separation to the very apex: all this agrees with *Eupatorineae*, but here, if we mistake not, the stigmatic lines run on to the summit.


Hab. Dry plains in the Snake Country. Mr Tolmie.

Very closely allied to *C. Douglasii* or *Hymenopappus Douglasii*, Hook. Flor. Bor. Am. 1. p. 316, which is still retained in the latter genus by De Candolle, although it has the short outer pappus and the widened florets of the ray of *Chamaeactis*. *C. Douglasii* is more glabrous than the present species, has the pinnæ of the leaves larger and less divided, the involucere large and nearly hemispherical, and very densely or almost tomentosely pubescent, the pappus, as well as the hairs of the hirsutely villous achenia, tawny, and the branches of the style straight and much exserted. The first three species have the tube of the corolla glabrous, and the scales of the pappus about five or six; but in *C. achilleefolia* and *C. Douglasii*, the tube is more or less glandular, and the scales of the pappus from eight to twelve.


This is frequently cultivated under the name of *Lasthenia Californica*, but has the involucre of 10 or 12 distinct scales.


We have not seen this plant; perhaps it is a mere variety of the preceding.


A species with quite the habit of *Pectis*.

1. Lasthenia glaberrima. De Cand. Prod. 5. p. 664. (excl. syn.)

This species has a pappus, but *L. Californica*, Lindl., referred here by De Candolle, has none, and is, we conceive, a mere form of the following. Under the name of *L. Californica* we have received both *Burrielia gracilis* and also *Lasth. glaberrima*.


CALIFORNIA.—SUPPLEMENT.

Of this we have received one specimen, from the herbarium of the Hort. Soc. of London, under the name of Lasthenia glabrata. Indeed, Hologymne glabrata, Lasthenia glaberrima, Burrielia gracilis, and the present plant, are so similar in appearance, as to be often confused in herbaria and in gardens. The four may, however, at all times, and under all aspects, be readily distinguished by attending to the involucre and pappus. Burrielia and Lasthenia have a paleaceous pappus—Hologymne and Baeria none;—on the other hand, in Burrielia and Baeria the leaflets of the involucre are distinct from each other, in Lasthenia and Hologymne they are united.


The specimens collected by Mr Douglas, and named by De Candolle H. puberulum, are younger, taller, less branched, and not so dark coloured when dry, as those from Chamisso's and Beechey's collection; but they all appear to us to belong to the same species. De Candolle says the lower leaves are incised, but these we have not seen.


The Californian plant belongs to the var. β. Besides those mentioned by De Candolle, Sclerocarpus exiguus, Sm. in Rees' Cycl. (De Cand. Prod. 5. p. 566), belongs to the present genus. It is a slender species, about four inches high; leaves free from glands, half an inch long and half a line broad; branches filiform, few, leafless, one-flowered, about an inch and a half long, with a few glandular hairs near the apex; involucre of few leaves, covered with glandular hairs; flowers of the ray from four to seven; the ligula small and inconspicuous; the florets of the disk are quite abortive.


Our specimen is shrubby at the base, the leaves linear-lanceolate and quite entire. The first section of this genus is so closely allied to Madaria, both in character and habit, that we can point out no mark by which it may be readily distinguished, except that the achenia are obovate trigonous, the flat face being towards the disk; while in Madaria, the achenia are laterally compressed. The stipes is remarkably curved up against the face of the achenium.

2. H. multicaulis; herbacea multicaulis, caulibus simpliciusculis vel apice corymbose ramosis pilis patentibus mollibus hirsutis, foliis radicalibus lineari-lanceolatis serrulatis plurinerviis glabriusculis, caulinis villosiunculis longe linearibus, inferioribus oppositis serrulatis villosiunculis, superioribus alternis subintegerrimis, capitulis bracteatis 2-3-nis congestis, acheniiis obovatis obtusis stipite rostelliformi inflexo.

We cannot persuade ourselves that this is a mere form of the preceding, to which, however, it is very closely allied, except in habit. The root seems annual, or rather biennial, while H. congesta appears quite woody at the base. To the description given by De Candolle of H. luzulafolia, this certainly approaches; but there is no corymb, and we do not find palea over the whole receptacle.

We have seen no specimen according with the description given of this.

4. H. (Olocarpha) sericea; caule herbaceo erecto cano-tomentoso apice corymboso, foliis lineari-lanceolatis utrinque attenuatis 3-5-nervii subdenticulatis cano-sericeis eglandulosis, involucro ebracteato hispidulo, achenii estipitatis obovatis gibbis muticis, receptaculi paleorum serie exterioire basi gamophyllo.

We cannot refer this satisfactorily to any of De Candolle's species; it may be perhaps his H. luzulefolia, but the stem and leaves can neither be called villous nor hirsute.


This we are not acquainted with.

6. H. (Olocarpha) filipes; caule suffruticoso erecto simplici pilis mollibus hirsuto, foliis integerrimis linearibus uninervii pilis mollibus hirsutulis eglandulosis, inferioribus elongatis acuminatis in axillo fasciculos foventibus, superioribus molto minoribus bracteiformibus nigrô-glandulosis, corymbo laxo, ramis glabris filiformibus rigidulis, capitulis solitariis longe pedicellatis paucifloris, involucro obconico hirsuto ebracteato oligophyllo, receptaculis palearum serie exterioire gamophyllo, achenio oblongo basi attenuato.

The corymb is lax, the primary branches bear a few glanduliferous bracteas or leaves, but the stalk that supports the capitulum is slender, quite naked, and rigid. In habit it is very dissimilar to the other species.


To this we presume a specimen we have from Mr Douglas belongs, but it differs considerably from the definition given by De Candolle. In that before us the stem seems to have been decidedly shrubby, branched only towards the extremity, the branches simple, or sometimes bearing again a couple of branches at the apex; these, as well as the foliage, are slightly hairy; leaves linear, lower ones about an inch and a half long, and decreasing upwards to scarcely half an inch; about half a line broad, quite entire, often bearing fascicles of young leaves in their axils. Capitula sessile, solitary, terminal, or on very short leafy axillary opposite nearly terminal branchlets; involucro bacteate; bracteae and uppermost leaves terminated by a sessile brown shining gland; leaves of the involucro terminated by a large thick cylindrical gland, concave at the apex, the margin serrated, the serratures thick, cylindrical, and resembling callous glands. Achenium obovato, gibbus, without any beak; receptacle covered with paleae, which are curiously and irregularly united together, like honeycomb, at the base.—De Candolle says of his plant, "Priori (H. luzulefolia) prima fronte simillima," whereas ours bears no resemblance to any other of the genus.


De Candolle's description agrees well with our wild specimens from Douglas, but not with the figure in the Bot. Register, which, however, appears to be the plant generally, if not solely, cultivated under this name. Lindley, indeed, says, that the pappus there represented to the florets of the disk, was introduced by an inadvertency of the draughtsman; but seeds sent to the gardens of St Petersburgh and Breslau, produced plants with a pappus. The branches of the style of the florets of the disk present also a different appearance.

1. Calliglossa Douglasii.—Oxyura chrysanthemoides. Bot. Reg. t. 1850 (quoad
This genus differs from *Oxyura* by the achenia of the disk having a pappus and being pubescent; from *Callichroa*, by the form of the achenia, the entirely paleaceous receptacle, and the pappus being unequal in length and rather more paleaceous; from *Hartmannia*, by the paleae of the pappus not being membranous, and the form of the achenia of the ray; and from *Madaraglossa*, by the paleae of the pappus not plumosely ciliated or villous at the base. It is unnecessary to propose a new generic character, as that given by Fischer and Meyer, combined with Schauer's observations, l. c., under *Oxyura* and *Callichroa*, is sufficient.


Very similar in habit to the two preceding; our wild specimens were collected by Mr Douglas, although unnoticed as such by De Candolle.


The paleae to the florets of the disk are about eight in number (not five as in De Candolle's generic character), equal in length, but unequal in breadth, and are irregularly inciso-serrated towards the apex; the terminal tooth or segment being very acute, so that the paleae can scarcely be called obtuse as they are described in De Candolle's Prodromus.


With this we are unacquainted.


This also we have not seen; the want of a pappus seems to remove it from the genus; perhaps it ought to be united to *Oxyura*.


This is a very remarkable plant, more like a species of *Navarretia* among the *Polemoniaceae* than one of the present Order. We can find no trace of it in De Candolle's Prodromus.


The genus *Layia*, which we had suggested for this plant, is the same as *Madaraglossa*, the only difference being that in the latter the paleae of the receptacle are all placed between the ray and the disk, not spread over it. The above species we have not received from Douglas. *Layia* we retain to a leguminose plant described supra, p. 182.

There are certainly no paleae among the florets of the disk. The flowers of this and the preceding are yellow; in the following white.

(L. Douglasii; subdecumbens pilis albidis eglandulosis setosa, foliis inferioribus pinnatifido-dentatis, superioribus integris, pappo disci fulvo, ligulis (albis) trifidis discum subduplo superantibus.

Hab. On the gravelly islands of the river Columbia, between the "Narrows" and "Great Falls."—We have introduced this here in order to complete the account of the genus, it having been, by an oversight, omitted in the Flor. Bor. Am.)


The flowers are white. The upper leaves, peduncles below the capitulum, and involucre, are furnished with a few stipitate black glands among the coarse short bristles, which have been overlooked by De Candolle. There are no paleae on the receptacle, except those which separate the disk from the ray. De Candolle has inadvertently said, that the achenia of the ray are villous; those of the disk are so, but of the ray glabrous. The name Blepharipappus may be retained to B. scaber, Hook. The present has quite a different habit, a paleaceous receptacle apparently abortive, florets to the disk, achenia of the ray as well as of the disk villous and crowned with a pappus composed of about fifteen so densely plumose paleae, that they might almost be termed oblong membranaceous, with a strong midrib, and pectinately divided. The style has two short branches. In the genus Layia (Eriopappus or Madaraglossa,) however, the pappus of the disk consists of 8 or 10 aristeiform paleae, nearly naked at the apex, but plumosely ciliate with long soft hairs at the base, and the branches of the style are long and slender; these last are not included, as De Candolle states, but exerted and recurved.


The flowers in the dried plant appear pale yellow, but may have been white, as in the two preceding. The receptacle of the disk is free from paleae, and the pappus pure white, as in L. glandulosa. The achenia of the ray are glabrous; not so, however, those of the disk, as mentioned by De Candolle. These are covered, in the matured fruit sparingly with adpressed greyish hairs.


2. C. villosa (De Cand. Prod. 5. p. 695): caule stricto pilis albis hirsutulo, foliis inferioribus prope caulis basin approximatis caulinaeque linearibus obtuse mucronatis margine revolutis sparsim setosociliatis floralibus hirto-ciliatis apice glandulam calyciformem pedicellatam gerentibus, ramulis floriferis axillaribus brevissimis monocephalis, involucro pilis albis longis hirto squamis acutis.

De Candolle's specimens do not seem to have been so perfect as those before us, which has induced us to give a new specific character.


The tube of the ray has a small toothed appendage on the opposite side from the ligule, so that the florets may almost be called bilabiate. The involucre is of one piece, and divided scarcely down to the middle.


The florets of the ray are destitute of the appendage found in the first species, and the involucre is divided to near the base.


This was originally found by Lewis on the banks of the Kooskooske River, one of the tributaries of the Columbia; but it extends to North California on the south, and to Unalaschka on the north. T. pauciflorum, Rich., has villous leaves, and appears, from the character given, more allied to Pyrethrum discoideum. We are still in doubt about the proper genus to which our plant ought to be referred; the florets are four-angled, slightly bialate, and usually 4-toothed; the last character approaches it to Tanacetum, in which the same structure is frequently found; in many particulars it agrees with the Cotula, from all which it differs by the conical receptacle. It thus forms a link between several genera. The receptacle, on a more recent examination, is not paleaceous, unless the inner scales of the involucre can be so called.

1. Artemisia vulgaris. Linn.


Hab. Snake Country. Mr Tolmie.


We do not see how Mr Douglas' plant, which is quite the same as that we have already noticed in this work, can be satisfactorily distinguished from G. decurrens.

2. G. ? filaginoides; totum albido-lanatum, caule erecto apice subramoso, foliis lineariibus basi attenuatis apice nigro-mucronatis, capitulis ovato-conicis in glomerulos ad dichotomias aut apices ramorum sitos aggregatis, involucri squamis obtusiisculis exterioribus ovatis lanuginosis interioribus ovato-lanceolatis scariosis dorso linea villosa notatis, receptaculo conico papillis cylindricis retusiis onusto, achenis teretiusculis glandulosopuberulis.
This has quite the appearance of a *Filago*, but the structure of the capitulum is that of *Gnaphalium* in every particular, except as regards the receptacle, which is here conical and densely covered with large cylindrical papillae that are concave at the apex. The filiform female florets form about two rows, within which are the bisexual ones.


This we have not seen.


The flowers are reddish, the ligulate florets appear to be in several rows and gradually to pass into the tubular ones.


With this we are unacquainted.

**TETRADYMIA. De Cand.**

**LAGOTHAMNUS. Nutt. ms.**


We do not know where Douglas and Nuttall collected their specimens; De Candolle says they are from the Columbia River, but they came to us with plants from California.

2. *T. spinosa*; fruticosa, foliis primariis (seu rameis) tomentosis subteretibus recurvis rigidis spinoso-mucronatis senioribus glabrescentibus omnino spiniformibus, axillaribus fasciculatis carnosulis glabris obtusiusculis, involucro 5-(nunc 4-)phyllo 8-floro.

*Hab.* Snake Country. *Mr Tolmie.*


Between the above three supposed species, as defined by De Candolle, we can perceive no difference. *C. Melitensis* is said to have capitula solitary and tomentose, and the cauline leaves toothed; in *C. apula* the capitula are usually aggregated and glabrous, and the cauline leaves quite entire; while *C. Patibilicensis* has the leaves of the latter and involucres of the former. But from a comparison of specimens, from Europe, the Cape of Good Hope, the Canary Isles, Monte Video, Chili, and California, these characters vary on the same specimen; and we have no doubt whatever that the species has migrated with grain from the south of Europe. De Candolle refers Douglas’ plant to his *C. Melitensis*, although the cauline leaves (in our specimen) are quite entire.

1. Calais Douglasii (De Cand.); scaposa glabriuscula, foliis lineari-lanceolatis remote pinnatifidis, segmentibus linearibus brevibus, pappi paleis 5 basi dilatatis adpressae villosis sensim in aristam longam acuminatis, acheniis disci adpressae villosis radiis ad costas scabris.—De Cand. Prod. 7. p. 85.

De Candolle refers to this genus the Hymenomena of Hooker Flor. Bor. Am. The two species, however, which are there described, differ from De Candolle's character, by having the paleæ of the pappus at least twice as numerous, the dilated part at the base not scariose, much smaller and nearly inconspicuous, while the bristle into which it passes is more slender, much longer, and pure white; the involucrum, moreover, is decidedly imbricated, like that of Scorzonera or Troximon, and the achenia short, glabrous, and not attenuated at the apex.


C. Lindleyi seems merely a cultivated form of this species. In the native specimens the leaves are either quite entire or almost pinnati-partite. The pappus is so different from that of C. Douglasii, that we should scarcely have referred the two plants to the same genus; or if they be considered congeners, the character might be so modified as to admit also the two species of the Flor. Bor. Am.


In addition to the description we have already given in this work, we may state that the achenia are fusiform, deeply striated with ten furrows, the ribs obtuse and not winged; the filiform stipes of the pappus is nearly twice the length of the achenium, and dilated at the apex into a small disk. The achenia and pappus of the outer and inner florets are precisely alike. Having published our former notice before we were acquainted with Lessing's Synopsis of the genera of this order, we placed this in Borkhausia; but now that that genus has been separated into others, the Californian plant must unquestionably be removed to the same as the Chilian species. We may here state, that under the name of M. Chilensis, we, in the Comp. to the Bot. Mag., I. p. 31, and II. p. 42, intended to include all the Chilian species of DC., nor are we yet certain that they are really distinct; but, with reference to Fischer and Meyer, as well as De Candolle, our specimens from Valparaiso (Mathews, No. 306, and Cuming, No. 745), as also from Falkland Island, belong to M. pterocarpus, and that from Viña de la Mar, near Valparaiso, marked "Bridges, No. 500," is M. lavigatus. As to Bridges' No. 501, the achenia are too young to show whether the costae ought to be considered alate or not. In several achenia in Mathews, No. 306, we have observed some of the costa quite obtuse and corky, while others were alate.


1. Sonchus? Californicus; herbaceus glaber, caule elato fistuloso simpliciter ramoso striato, ramis longiusculis monocephalis, foliis lanceolato-linearibus attenuatis denticulatis, rameis integerrimis, involucro hemisphericio, squamis interioribus subequalibus erectis subbiserialibus, exterioribus minoribus squarrosopatulis, pedunculo apice squamato.
This belongs to the Lactuceæ, but the true genus is very uncertain, as we have only seen the immature achenia; these are oblong-cylindrical, striated, and truncated at the apex, without any beak; pappus soft and pure white; hairs linear, apparently in a single series, closely denticulated or almost plumose at the base; flowers purple; capitula, when young, campanulate, afterwards expanding and somewhat hemispherical, never dilated at the base.

**ORD. XXXI. LOBELIACEÆ.** Juss.


1. Lobelia carnosula; nana gloruberra ramosissima diffusa basi subrepens, caulibus exsiccatone alato-marginatis, foliis linearibus integerrimis acutis, pedunculis axillaribus fructiferis patenti-recursis, pedicello folium superantibus, laciniis calycinis linearibus ovarium corollæque tum æquantibus, capsula oblongo-obovata.


A small tufted plant, with pale blue flowers, evidently growing in very wet muddy places, bearing flowers numerous in proportion to its size, of which the peduncles become more elongated, patent, and at length recurved, as the fruit advances towards maturity. It is somewhat allied to *L. alata*, Labill., but is much smaller.

**ORD. XXXII. ERICEÆ.** Juss.


The tube of the corolla is scarcely so long as the segments, pubescent, but apparently not at all viscid; stamens much exserted; calyx small, segments oblong, and, together with the pedicels, covered with glandular hairs; ovary and lower part of the style villous. Leaves oblong-ovate, nearly glabrous, deciduous.

—The forms of the pentandrous species have been so much multiplied of late years in our gardens, that we scarcely know to what to refer our native specimens, and among others the present is attended with considerable difficulty; we have, however, in the mean time, referred it to *R. calendulaceum*.


**ORD. XXXIII. VACCINEÆ.** De Cand.


Both varieties are in this collection.

**ORD. XXXIV. JASMINÆ.** Juss.

1. Fraxinus (Ornus) dipetala; foliis 3-jugis, foliolis ovalibus obtusis acute serratis glabris basi cuneatis, inferioribus in petiolulum longiusculum attenuatis superioribus duobus sessilibus, suprema longe petiolulato, pæniculis multifiolis longitudine fere foliorum ac infra folio ortis, pætalis 2 obovato-oblóngis obtusis unguiculatis. (Tab. LXXXVII.)
Convolvulaceæ.]

CALIFORNIA.—SUPPLEMENT. 363

This appears to be allied to *F. Schiedianus*, Schlect. in Linn. 6. p. 391, a Mexican plant, but the petals of that species have not yet been observed. In our plant, the anthers are remarkably large, rather longer than the petals, and the filaments are so very short as to be enclosed within the calyx.

Tab. LXXXVII.  *Fig. 1. 2. Flowers; fig. 2. Stamen; fig. 3. Pistil:—magnified.*

**Ord. XXXV. ASCLEPIADEÆ.** R. Brown.


Our plant agrees well with Cavanilles’ figure, but the flowers have a faint tinge of purple, and are by no means white. The structure of the inflorescence is precisely that of *A. incarnata*; and Douglas found both growing together on the banks of the Walla-wallah. But in this the leaves are always narrow and in fours, while in *A. incarnata* they are opposite and much broader.

2. *A. vestita*; tota arachnoideo-tomentosa, foliis oppositis oblongo-lanceolatis inferioribus acutis superioribus longe acuminatis, umbellis in axillis superioribus breviusculis pedunculatis, corolla calyce pedunculisque albo-lanatis, columna perbrevi, coronæ foliolis erectis late ovatis obtusissimis supra medium biauriculatis cornu subulatum incurvum longe adnatum superantibus.

**Ord. XXXVI. GENTIANAE.** Juss.


2. *E. Muhlenbergii* (Griseb.); caule inferne simplici, foliis ovato-oblongis obtusiusculis, cymis laxis semel-ter-dichotomis, floribus lateralibus a foliis summis remotiusculis, alari pedicellato, corollæ tubo sub-anthesi calycem paullo excedente, lobis oblongo-lanceolatis acutiusculis.

*E. Centaurium*, Beck, from Oswego, is perfectly distinct from this species, and appears to be the true *E. Centaurium*.

**Ord. XXXVII. CONVOLVULACEÆ.** Juss.

1. Calystegia *Soldanella*. Br.—Convolvulus. L.

2. *C. subacaulis*; annua humillima pubescenti-sericea, caule perbrevi, foliis longe petiolaribus ovato-hastatis obtusis cum mucronulo, pedunculis unifloris axillaribus petiolo duplo brevieribus, sepalis late ovalibus mucronatis bracteas ovales superantibus, corolla campanulato-infundibuliformi.

Flowers in the dry state pale sulphur-coloured, large, and, together with the peduncle, about the height of the foliage.
1. Cuscuta Californica; pedunculis unifloris solitariis, sub flore dilatato-infundibuliformi, calycis lobis acutis corolla multo brevioribus, corollae tenui-membranaceae tubo brevi, lacinii lanceolato-subulatis elongatis, squamis nullis, staminibus quinque fauci corollae insertis lacinii dimidio brevioribus, stylis duobus, stigmatibus capitatis.

ORD. XXXVIII. HYDROLEACEÆ.

1. Wigandia? Californica; fruticosa gummifera, foliis elliptico-lanceolatis in petiolum brevem attenuatis coriaceis integerrimis supra glabris subtus reticulatis in areolis albo-canescentibus, staminibus inclusis. (Tab. LXXXVIII.)

Different as the present plant appears, at first sight, from the Wigandia Caracasana figured in the Bot. Register, tab. 1966, yet the inflorescence and the structure of the flowers are so similar, that without mature fruit we dare not venture to separate it. It is quite shrubby, the glabrous stem exuding a gum-resin. Leaves 3-4 inches or more long, alternate, coriaceous, elliptical-lanceolate, tapering gradually into a short petiole, quite entire, above glabrous, rather indistinctly reticulated with depressed veins; below strongly reticulated with prominent veins, which are rendered more conspicuous by the areoles being filled with very short whitish down. In two or three of the upper leaves, and at the apex of the branch, the small flowers, (scarce more than half an inch long) are collected into dense capitate cincinnate racemes. Corolla infundibuliform, thrice as long as the deeply divided linear-oblanceolate calyx-segments. Stamens included. Filaments unequal, inserted below the middle of the tube, and then decurrent to the base of the tube; the decurrent portion alone slightly hairy. Anthers of two oval cells, not mucronate. Ovary ovate, slightly hairy, with no evident hypogynous disk, 1-celled, with two opposite parietal placentae (½), resembling two T's, to the free edges of which several ovules are attached, exactly as in W. Caracasana (see Dr. Lindley's excellent figure above quoted.) Styles 2, nearly as long as the filaments. Stigmas capitate, depressed at the top.

Tab. LXXXVIII. Wigandia? Californica. Fig. 1, 2. Flowers; fig. 3. Corolla laid open; fig. 4. Pistil; fig. 5. Section of the ovary:—magnified.

ORD. XXXIX. POLEMONIDÆ. Juss.


Hab. Pine Creek, Snake Country. Mr Tolmie.


Hab. a. Near the Blue Mountains; b. Grand Rond—both in the Snake Country. Mr Tolmie.

HUGELIA. Benth.


2. H. elongata (Benth.); ramis elongatis divaricatis vel procumbentibus tomentosis, foliis brevibus simplicibus vel utrinque segmentis 1-2 auctis omnibus albo-tomentosis vel demum vix glabratris, corollae (intense caeruleae) tubo exserto, staminibus corollam superantibus. Benth. l. c.


4. H. lutea (Benth.); erecta, foliis inferioribus elongatis simplicibus glabratis, superioribus abbreviatis pinnatifidis albo-lanatis, corymbis parvis, corollae (luteae) tubo incluso, staminibus corollam aequantibus. Benth. l. c.

LINANTHUS. Benth.

1. L. dichotomus. Benth. l. c.

LEPTOSIPHON. Benth.

1. L. grandiflorus (Benth.); subsimplex, foliis 7-11-fidis, laciniiis subulatis strictis margine revolutis, corollæ tubo limbo vix duplo longiore, filamentis brevissimis. Benth. l. c.

Corolla blue; the orifice of the tube yellow or purple.


Corolla smaller and more intensely coloured than the preceding.

3. L. luteus (Benth.); foliis 5-7-fidis, laciniiis oblongo-linearibus, corollæ tubo limbo sub-4-plo longiore, staminibus limbo corollæ sub-3-plo brevioribus, stylo corollam vix aequante. Benth. l. c.

Corolla yellow, deeper coloured in the throat.

4. L. parviflorus (Benth.); foliis 5-7-fidis, laciniiis oblongo-linearibus, corollæ tubo
limbo 4-plo longiore, staminibus limbo corollae vix dimidio brevioribus, stylo subexerto. Benth. l. c.

Corolla pale yellow, the throat deep yellow.


FENZLIA. Benth. (non Endl.)


Fenzlia of Mr Bentham was published in 1833; that of Endlicher (Atakta, p. 19. t. 17 et 18) in 1834; so that our plant has the priority of name. It is but fair, however, to observe, that Endlicher considers it only a species of Gilia (Atakta, t. 29), and has bestowed the name of Fenzlia on a genus of New Holland plants, which, with Olinia and Myrrhinium (Schott), form a small group intermediate between Memecyla and Myrtacea.

GILIA. Cav. Benth. l. c.


Sect. 1. DACTYLOPHYLLEM. Folii inferiora opposita, omnia sessilia palmatisecta. Flores solitarii vel pedunculati. Corolla tubus brevissimus, limbus patens.

1. G. liniflora (Benth.): folii inferioribus oppositis omnibus sessilibus palmatisectis, corollis calyce triplo longioribus. Benth. l. c.


Flowers only half the size of the preceding.

Sect. 2. IPOMOPSIS. Folii altera, pinnatisecta, vel pinnatifida. Flores solitarii vel subglomerati. Corolla tubus elongatus longe exsertus.


—Ipomopsis elegans. Lindl. in Bot. Reg. t. 1281 (non Sm.).

Hab. Bannock Defile between Snake and Bear Rivers. Mr Tolmie.

4. G. tenuiflora (Benth.): caule erecto elato superne viscoso subnudo paniculato, foliiis

5. *G. arenaria* (Benth.); caule humili viscoso subnudo, foliis pinnatifidis, lobis ovatis, floribus subglomeratis, corollis (cæruleis) calyce triplo longioribus. *Benth. l. c.*

This we have not received.


Tube of the corolla yellow, throat deep purple, limb pale bluish-purple.


In the wild plant the flowers are densely capitate, nearly sessile, and the calyx almost woolly; but when cultivated, the former are fascicled and on long pedicels, while the latter are merely pubescent. It therefore becomes a matter of great difficulty to distinguish the present from the two preceding species; and if the relative length of the calyx and corolla, and of the corolla and stamens, prove not constant, we fear that all must be reduced as varieties to *G. laciniata* of Ruiz and Pavon.

**Navarretia. Ruiz et Pav.—Egochloa. Benth. l. c.**


1. *N. intertexta* (Hook.); erecta ramosa, foliis glabris pinnatisectis, segmentis linearisubulatis acutissimis incisis divaricatis subspinosis, calycis sublanati dentibus plerumque

2. *N. cotulaefolia;* erecta stricta, foliis glabris bipinnatisectis, segmentis lineari-subsulatis acutissimis foliorum superiorum floraliumque spinosis, bracteis villosulis, dentibus calycinis subintegris, corollis calyceis aequantibus, staminibus exsertis.—Ægochloa cotulaefolia. *Benth. l. c.*


5. *N. atractyloides;* viscosissima, foliis pinnatifidis rachi dilatata, lobis subulatis divaricatis spinosis, floralibus ovatis imbricatis spinoso-dentatis flores amplectentibus, dentibus calycinis subulatis integris.—Ægochloa atractyloides. *Benth. l. c.*

**COLLOMIA. Nutt. Benth. l. c.**


1. *C. gilioides (Benth.);* foliis pinnatisectis, segmentis linearibus integris, calycibus profunde 5-fidis, staminibus tubo corollæ inclusis, capsule loculis monospermis. *Benth. l. c.*

2. *C. glutinosa (Benth.);* procumbens, foliis subpinnatisectis, segmentis oblongo-linearibus integris vel subincisis, calycibus sub 5-partitis, staminibus corolla longioribus, capsule loculis monospermis. *Benth. l. c.*


Hab. Green River (one of the head waters of the Rio Colorado), Snake Country. *Mr Tolmie.*

4. *C. nudicaulis;* simplex gracilis glaberrima, caule basi bifoliato, foliis minutis squamæformibus (cotyledonum vestigiis?) citissime marcescentibus, floribus subcapitatis, foliis
floralibus e basi lata anguste linearibus obtusis involucratis, corollae limbi laciniiis patenti-
bus obovatis apiculatis tubo gracili duplo brevioribus.

Hab. Green River, Snake Country. Mr Tolmie.

5. C. gracilis (Benth.); glanduloso-pubescentis, caule valde ramoso, foliis lineari-

LEPTODACTYLON. Hook. et Arn.


1. L. Californicum; foliis patentibus, floribus subcapitatis, corollae tubo calycem sub-aequante, stigmatibus stylo duplo longioribus. (Tab. LXXXIX.)

The corolla is large. Another species of this genus is Phlox Hookeri, Dougl. in Hook. Flor. Bor. Am. 2. p. 73, t. 159, which may be distinguished as follows: foliis erectis, floribus subsolitariis, corollas tubo calycem superante, stigmatibus styli sequantibus.

Tab. LXXXIX. Leptodactylon Californicum. Fig. 1. Flower-bud and flower; fig. 2. Corolla; fig. 3. Stamens; fig. 4. 4. Pistil; fig. 5. Capsule enclosed in the calyx; fig. 6. Capsule bursting open, and showing the central receptacle with attached sides; fig. 7. Seed; fig. 8. Portion of the receptacle from which the seeds have been removed; fig. 9. Leaf:—magnified.

ORD. XL. BORAGINEÆ. Juss.


Our specimens are more leafy and not so much advanced as those from Columbia; but they appear to be the same species. M. versicolor, of the Flor. Bor. Am., with small flowers, seems to be M. verna of Nutt., and has its calyx oblique; the larger-flowered specimens are perhaps referrible to M. flaccida.

2. M. muricata; caule erecto stricto foliisque linearibus obtusis ubique piloso-hispidis, racemis densis bi-trifidis terminalibus ebracteatis, calycibus hispidis, nucibus ovatis obtusiusculis dense muriculatis.

From six inches to a foot high, erect, straight, rather stout, throwing out numerous lateral leafy branches, which, in our specimens, are short, from not being sufficiently developed. Flowers white; limb flat; segments as long as the tube. The hairs on the calyx and raceme are yellowish-white.


The flowers are white; the limb flat and broad; the segments about the length of the tube. The achenia are wrinkled, but not always black, and not in the slightest degree hispid or muricated.

The flowers here are on pretty long pedicels, while the Columbia plant has them shortly pedicellate; the latter presents, besides, a different aspect, and may be called M. Scouleri; it appears very closely allied to M. Californica, Fisch. et Meyer, but the corolla is longer than the calyx.


Hab. Green River, Snake Country. Mr Tolmie.


Hab. Pine Creek, near Green River, one of the tributaries of the Colorado, Snake Country. Mr Tolmie.

1. Lithospermum? circumscissum; annuum nanum diffusum ramosum, totum pilis albis rigidis hispidum ad apicem usque foliosum, foliis anguste linearibus, floribus axillari-bus, calyce 5-fido basi membranaceo fructifero transversim circumscisso deciduo, corollæ tubo calycem æquante ad faucem nudo, nucibus ovatis acutis nitidissimis lævibus doro convexis intus subcarinatis.

Hab. Snake Fort, Snake Country. Mr Tolmie.

The flowers are very minute, and white with a yellow eye; the calyx is 5-angled; the segments are about as long as the tube, and in fruit are patulous or somewhat recurved; the base of the tube is membranaceous between the ribs or angles, and separates transversely with five teeth. The nuts do not appear to be at all perforated at the base, and are inserted into the bottom of the calyx.

1. Amsinckia vernicosa; corolla fauce nuda glabra, limbo tubo triplo breviore, staminibus ad faucem insertis, antheris exsertis, nucibus ovato-oblongis acutis acute triquetris dorso planis lævibus nitidissimis.

This approaches closely to A. angustifolia, Lehm. (Fisch. et Mey. Ind. Sem. Hort. Petrop. Secundus, p. 26), but that we believe to be a Chilian species, transmitted by Bertero, and therefore probably the same with Cuming's No. 512, and Bridges' No. 311. In the Chilian plant, the flowers are almost entirely the same as in A. vernicosa, but the nuts are ovate, keeled and transversely wrinkled on the back, and all over minutely muricated, the points on the keel and wrinkles being much larger than the others; or this Mathews' No. 193 is perhaps a mere variety, but the leaves are much broader, and, when dry, of a blackish colour. Lithospermum lycopoides, Lehm. in Hook. Flor. Bor. Am. 2. p. 89, is the same with Amsinckia lycopoides, Lehm. Del. Sem. H. Hamb. 1831.


We do not possess the fruit of this species, but in habit it accords with Amsinckia, and in specific character with A. spectabilis, F. and M. It certainly is an extremely handsome plant, with large yellow flowers; the corollas much exserted, and the calyx thickly clothed with white and golden-coloured hairs. Leaves 2-3 inches long.

The genus Amsinckia is not, so far as we know, as yet further characterized, than by having four cotyle-
dons. It was noticed by Lindley in his first edition of the *Introduction to the Natural System*, and called there *Benthamia*; as however no reasons were assigned for reducing the genus of Richard of that name, Lehman supposed it to be an oversight, and altered it to *Amsinchia*. Since then, Dr Lindley has bestowed the name *Benthamia* on an East Indian plant. This confusion is to be regretted; and now that Richard's genus has been ascertained to be *Peristylus* of Blume, it was better that *Amsinchia* should bear the appellation originally given to it.


2. *C. penicillatum*; annuum diffusum multicaule basi ramosum ubique pilis adpressis canescens, foliis remotis anguste linearibus, floribus solitariis in omnibus axillis brevissime pedicellatis, fructus nucibus lineari-oblongis patentissimis per paria subparallelo-approximatis disco planis marginibus membranaceis inflexis nudis apice ciliatis.

This ought, perhaps, to be removed from the genus: it is so extremely allied to *C. lateriflorum*, Lam., or *C. lineare*, Ruiz et Pav. (Mathews, No. 332, Bridges, No. 253, and Cuming, No. 721), that it can only be distinguished by a close examination of the nuts, which, in the Chilian plant, are pectinately toothed all round the margin. Lehman places this last in *Rinderia*, an arrangement to which we can scarcely assent. Another plant of the same group is *C pilosum*, Ruiz et Pav. (Mathews, No. 989, and Cuming, No. 1070).

**ORD. XLI. HYDROPHYLLEÆ. R. Brown. Benth. in Linn. Soc. Trans. 17. p. 272.**

**HYDROPHYLLUM. Linn. Benth. l. c.**


The Californian specimens have quite a different appearance from those gathered at Fort Vancouver; both are canescent on the under side of the leaves, from the presence of adpressed white rather soft hairs; but these are much more numerous in the Californian form than in the other. The hairs on the branches and petioles are whitish and somewhat soft to the touch. In *H. macrophyllum* (Nutt. Indig. Pl. Un. St. p. 111), which Mr Bentham seems to think may be the same, the hairs on the stem, branches, and petioles, are longer and much more harsh; the under side of the leaves is only sprinkled with a few bristly hairs, and these exist chiefly on the nerves and veins; the flowers are either capitate (as in a specimen from Drummond found in the Alleghanies) or they form a corymbose compact cyme (as in the specimens from Dr Short), with the pedicels thick and stout, and shorter than the calyx; divisions of the calyx attenuated from a broad ovate base. Nuttall’s species approaches, in some respects, to *H. Virginicum*, but that has a loose dichotomous inflorescence, with slender pedicels that are often longer than the calyx; the calyx-segments narrow-linear; and the stem is much more free from hairs, often nearly quite glabrous.

**ELLISIA. Linn.—Benth. l. c.**

maximae, dorso libere, ovarium impletes, 2-ovulato.—Folia pinnatim dissecta, inferiора opposita. Pedunculi inferiores oppositifoliis, superiores in racemo laxo unilaterali simplici dispositi.

1. E. membranacea (Benth.); glaberrima, petiolis exappendiculatis, foliis pinnatifidis segmentis integerrimis, calycibus vix auctis. Benth. l. c. p. 274.

Mr Bentham describes the lobes of the leaves as broadly lanceolate, but in all our specimens they are broadly linear and obtuse.


NEMOPHILA. Barton. Benth. l. c.


Hab. California. Mr Menzies.

2. N. pedunculata (Dougl.); foliis pinnatifidis, lobis paucis latis subintegerrimis, calycis sinus brevissime appendiculatis, corollis calyceum vix superantibus, placentis 6-ovulatis. Benth. l. c.

In the Columbia plant, the leaves are almost as broad as in N. parviflora; in that from California they are narrower, the lobes shorter, more distant from each other, and quite entire. The calycine appendages are so very minute as not to be detected without careful examination.

3. N. aurita (Lindl.); petiolis basi auriculato-dilatatis, calycis sinusum appendiculis elongatis, corollis calyce duplo longioribus, placentis 2-ovulatis. Benth. l. c.


Our first variety has the flowers considerably smaller than β., as small indeed as in N. atomaria, Fisch. et Meyer, Ind. Sem. Hort. Petr. 2. p. 43 (Lindl. in Bot. Reg. t. 1940), but the flowers of the latter are white, and strongly marked with numerous dull lead-blue specks, and therein seems to lie the principal difference between the two species. Dr Lindley states that in N. atomaria the peduncles are hairy, and in N. insignis glabrous; but in our specimens of the latter, the peduncles vary from almost glabrous to perfectly hairy. We fear that the two species ought to be united. N. phacelioides, of the Bot. Reg. t. 740, appears to us a large cultivated form of the true N. phacelioides of Barton.
**EUTOCA. R. Br.**


2. *E. brachyloba* (Benth.); erecta scabro-pubescens, foliis elongatis pinnatifidis, lobis ovatis obtusis subincisis, placentis 6-8-ovulatis. *Benth. l. c.*


Hab. Pine Creek, Snake Country. Mr Tolmie.


Hab. Snake Fort, Snake Country. Mr Tolmie.
This is a very remarkable species, having bright yellow flowers. The seeds are deeply wrinkled on the back. It differs from *Eutoca* by the persistent but marcescent corolla; and from *Emmenanthe* by its habit and absence of scales to the corolla.

11. *E.? aretioides*; nana diffusa hispido-pilosa trichotome ramosa, radice multicipiti annua, foliis petiolatis spathulato-lanceolatis basi longe attenuatis integerrimis, ramulis ultimis brevibus congestis, floribus sessilibus terminalibus et in dichotomiis, calycis profunde 5-partiti laciniiis anguste linearibus hispidibus tubo corollae infundibuliformis (purpureae) duplo brevioribus, ovario multiovulato.—var. *β. perpusilla*; caule subnullo pauci-floro.

**Hab. a.** Between Burnt and Malheur Rivers.—*β.* Burnt River, Snake Country. *Mr Tolmie.*

This beautiful species will probably yet be separated from *Eutoca*, to which it bears no external resemblance; but we have placed it here as agreeing almost entirely with Bentham’s character of the genus.

**PHACELIA. Juss. Benth. l. c.**


We have an allied species, or perhaps a mere variety, from Dr Gillies, under the name of *P. Brunoniana*, collected on El Cerro del Diamante and Andes of Mendoza, and it only differs by being more covered with glutinous hairs, and having a nearly simple stem.


A closely allied species has been sent us by Mr Darwin, who found it at Bahia Blanca, on the coast of Patagonia (No. 202), but the hairs on its stem are all glutinous.

**EMMENANTHE. Benth. l. c.**

Corolla persistens. Ovarium oblongo-compressum, glanduloso-pubescens: placentis linearius, dorso adnatis
Scrophularineæ.]  CALIFORNIA.—SUPPLEMENT.  375


The genus Emmenanthus, supra, p. 217, was named and described long before the present one of Mr. Bentham, but as it was not published till after his was, it must receive a new appellation.

Ord. XLII.  SOLANEÆ.  Juss.

1. Nicotiana rustica.  Linn.


Of this plant we have two forms, the one three times the size of the other in all its parts, more succulent and tomentose.  The lesser one has wiry branches, with the angles on them more conspicuous from the tomentum being nearly absent.

Ord. XLIII.  SCROPHULARINEÆ.

1. Linaria Canadensis.  Spr.—Antirrhinum Canadense.  Linn.


1. Maurandia (?) stricta; erecta ramosa annua glabra basi solummodo pubescens, foliis infinis parvis ovatis petiolatis, reliquis lanceolatis linearibusque sessilibus omnibus integerrimis, pedunculis solitariis axillariis unifloris elongatis recurvis apice sursim curvatis.

A foot to a foot and a half high, slender, branched, annual; the lower leaves small (½ an inch long), ovate, petiolate, gradually becoming more and more remote, upwards on the stem lanceolate or the superior ones linear, all entire.  Peduncle from the axils of the narrow upper leaves, 2-4 inches long, at first reflexed, then towards the apex bent upwards.  Flower scarcely an inch long.  Calyx gibbous below, of 5 deep lanceolate segments, curved up a little, nearly equal.  Cor. ovate-oblong, also curved upwards, the limb 2-lipped.  Capsule globose, terminated by a moderately long tapering style, and that by a capitate stigma.  Cells 2.  Seeds attached to each side of a central dissepiment.

A singular looking plant, which, from the withered state of the flowers, we are unable satisfactorily to refer to any known genus.  The general form of the blossoms, however, the long curiously curved peduncle, destitute of bracteas, the shape of the calyx, of the capsule, and style, are quite those of Maurandia, but the stems are not scandent, and the leaves (except those near the root) are very narrow, lanceolate or linear.

CALIFORNIA.—SUPPLEMENT.


Hab. Between Bruneau and Onyhee Rivers, Snake Country. Mr Tolmie.—California. Mr Douglas.


The plant before us may prove a distinct species; it is not prostrate, has apparently an annual root, and a few short ascending simple stems; we incline, however, to think that the specimens being in a younger state may cause these differences. Bentham has remarked, in the *Bot. Reg.*, under t. 1882, that this and some others from the West Coast of America, will probably form a new genus.


With this we are wholly unacquainted, except from Mr Lindley’s figure and description; we fear that it was sent from Columbia, and that it is a mere variety of *P. glandulosus.* *Doug.*


The leaves, as in almost all the species, are broader below; but since these pass, by insensible gradations, into the linear ones at the top of the stem, we scarcely think the specific name appropriate.

5. *P. laricifolius*; perennis cespitosus humilis glaucescens glaberrimus, foliis angustissime linearibus obtusiusculis integerrimis nitidis ad caulium basin dense congestis superioribus remotiusculis, racemis foliosis, pedicellis folio florali brevioribus supra basin bibracteolatis, sepalis ovatis acuminatis margine membranaceis, corolla glaberrima superne ventricosa labio inferiore ad faucem piloso, stamine sterili piloso, antheræ loculis divaricatis glaberrimis.

Hab. Snake Fort, Snake Country. Mr Tolmie.

_Hab._ Common throughout the Blue Mountains, Snake Country. *Mr Tolmie._


1. *Herpestes* (Matourea) *pilosa* (Benth.); erecta viscosa mollissime piloso-lanata, foliis sessilibus oblongis subintegerrimis, pedunculis folio brevioribus solitariis ebracteatis, sepalo externo late ovato, (corollis labio superiore subintegro, capsula acuminatae valvulis integris)._—*Benth. in Comp. Bot. Mag. 2. p. 57._

The capsule is oblong and acuminated, splitting at the apex into two quite entire valves, the margins of which do not appear to be at all inflexed.


Mr Douglas' specimen has the peduncle slender and rather longer than the calyx, in which respect it differs from *Diplacus latifolius*, Nutt. l. c.; but as the *M. glutinosus* of our gardens (*M. aurantiacu* of the Bot. Mag. t. 354), varies much in this respect, it is probable that Nuttall's plant is a mere form of our present one.

3. *M. brevipes* (Benth.); pubescens, caule erecto viscoso, foliis oblongo-lanceolatis linearibusve subdentatis basi angustatis subsessilibus vel superioribus amplexicaulis, floribus brevi-pedunculatis, calycibus ovatis plicatis hinc fissis, dentibus lanceolatis inaequalibus. *Benth. l. c._


Mr Bentham says that (all?) the leaves are cordato-amplexicaul, but our specimens we can only distinguish from *M. guttatus* by their being pubescent towards the extremity, and somewhat viscos, with the calyx less inflated and not contracted at the mouth.


We have not received this from Douglas, but Mr Bentham mentions it as having been found by him in California.


A beautiful dwarf species, the length of the flower in $\ell$ (1½ to 2 inches), in almost every instance, exceeding that of the stem. The corolla is attenuated below into a long and slender almost colourless tube, the upper part deep purple. Upper lip much larger and longer than the lower one. Style almost the length of the corolla. Stigma bilamellate. Stamens didynamous, each part cruciately approximated and cohering. The capsule agrees in the form with *Diplacus*, Nutt., but is not woody as in that subgenus; although the dehiscence and placenta resemble it more than a true *Mimulus*.


Hab. Between Henry’s and Smith’s Rivers, Snake Country. Mr Tolmie.


In this the lower lip is 3-dentate at the apex; it is also 3-lobed, each lobe being saccate or forming a little inflated bag. On account of this structure, it ought perhaps to be placed in the genus *Triphysa* of Fischer and Meyer, but the lower lip is only lobed, not tripartite as described, perhaps inadvertently, by these botanists.


This we have not seen.
4. *O. erianthus* (Benth.); basi pubescens apice tomentosus ramosissimus, foliis apice multifidis laciniiis lineari-setaceis disvaricatis, calycibus tomentosis dentibus lanceolatis acutissimis viridibus, corollae (luteae) tubo longe exserto tomentoso, antheris galea brevioribus. *Benth. l. c.*

The upper lip of the corolla is purple and subulate; the lower exhibits the same structure we have observed in *O. gracilis*, but it is wider, the lateral lobes being more divercicated.

5. *O. densiflorus* (Benth.); glabriusculus ramosissimus, foliis apice trifidis laciniiis linearibus, spicis densis imbricatis (flavescentibus), laciniiis calycinis lineari-subulatis subcoloratis corollae pubescentis tubum æquantibus, staminibus galea brevioribus. *Benth. l. c.*

The lower lip of the corolla has three subulate processes or teeth at the apex; it is 3-lobed, the lobes concave and slightly saccate, thus intermediate between the structure of *Triphysa* and the true *Orthocarpi*.


Lower lip sharply 3-toothed at the apex, the lateral lobes slightly concave, the middle one saccate near the apex.

7. *O. Tolmiei*; puberulus, caule stricto (sæpius e basi) ramoso, foliis lineari-acuminatis integris, floribus breviter spicatis, bracteis divaricato-trifidis corollam superantibus laciniiis linearibus, dentibus calycinis lanceolatis acuminatis tubo membranaceo subduplo brevioribus viridibus, corolla (lutea) glabra, tubo longe exserto, labio superiore apice uncinato inferiorem trilobum erectum adpressum paullo superante.


This is so closely allied to *O. strictus* that we at first proposed to unite it as a variety. The leaves, however, are always entire and narrower, the spikes shorter, the whole plant smaller and rather puberulous than hispid, the calyx-lobes longer, and the upper lip of the corolla narrower and hooked at the apex, and slightly longer than the lower. Like it, the flowers are yellow, the tube of the calyx membranaceous, and the lower lip erect and close pressed to the upper, as in *Melampyrum*.

8. *O. lithospermoides* (Benth.); erectus durus ramosus basi pubescens apice hispidus, foliis trinervis apice inferioribus integris superioribus 3-5-fidis laciniiis lanceolatis, spicis densis flavescentibus hispidis, dentibus calycinis lanceolato-linearibus flavescentibus hispidis tubo corollæ glabriuscolo brevioribus. *Benth. l. c.*

The lower lip of the corolla has precisely the structure of that of *O. erianthus*.

9. *O. castillejoides* (Benth.); humilis pilosiusculus, foliis oblongis superioribus cuneatis breviter trifidis, floribus laxe spicatis, calycibus tubulosis dentibus brevibus viridibus, corollæ (purpurascens) tubo breviter exserto. *Benth. l. c.*

This we have not seen.

Our specimen, for we have seen but one from Mr Douglas, has smaller and brighter red flowers than in that we have obtained from Nuttall himself, but in almost all other respects they seem to agree.


HAB. Bruneau, Snake Country. Mr Tolmie.

The height of our plant is, according to Mr Tolmie, one to three feet. The leaves are divided as in C. coccinea, but the calycine segments are ovate-oblong, almost like those of C. septentrionalis. It is hispid, as the original C. hispida, but the calycine lobes are shorter, not oblong-linear, as in C. pallida. The flowers and bracteas appear to have been red.


This Californian plant may perhaps be very different. The lobes of the calyx are broader and shorter than in North American specimens; the bracteas and calyx, although pale, have a tinge of red, and may have been deep red when fresh; the leaves on the young branches are linear and obtuse; those on the stem, at the origin of the branches, trifid to about the middle, their segments linear and obtuse; bracteas (at least the lower ones) cuneate and trifid; flowers subsessile. The habit is somewhat that of C. lithospermoides.


The upper lip of the corolla is shortly exserted beyond the calyx.


Our original form of this plant has the leaves approximated, the axils bearing tufts of similar leaves, so that the whole merited well the name we gave. But in Douglas' collection are specimens of two other varieties or forms, which assume a considerably different appearance. The first of these has the leaves twice the length of Beechey's specimens, and their secondary leaves in the axils are very small and few. The second has the primary leaves still larger, less tomentose, and sometimes trifid to beyond the middle; the secondary leaves are copious, as in Beechey's plant; the spike is partly in fruit, and much more elongated and lax than in the other specimens. In Beechey's and the last mentioned form, the stems seem decidedly woody, in the other one somewhat herbaceous; so that we have no doubt but the above different appearances arise from the plants having been in different stages of growth, and from the specimens having been taken, in the one case, from the old branches, in the other from the young shoots.


1. Pedicularis (Edentula) densiflora (Benth.): erecta elata glabra, foliis amplis profunde pinnatifidis pinnatisectisve segmentis ovato-oblongis pinnatifidis, lacininis oblongis

There is also a variety of this, if not a distinct species, in the collection, which differs by the whole plant not being more than six inches high, while *P. densiflora* is at least a foot and a half; the leaves are proportionately smaller; the stem is hirsutely pubescent, not glabrous.


Hab. Swamp at Green River, one of the head-waters of the Rio Colorado. *Mr. Tolmie.*

### Ord. XLIV. Labiatae. Juss.


### Audibertia. Benth.


2. *A. humilis*; suffruticosa, foliis ad basin caulis approximatis petiolo oblongo-lan-
ceolatis obtusis crenulatis basi longe angustatis rugosis canescentibus, floralibus bracteis-

3. A. stachyoides; suffruticosa, ramis rigidis foliosis, foliis breviter petiolatis oblongo-


MONARDELLA. Benth.


POGOGYNE.

_Calyx_ sub 15-nervius, campanulatus, striatus, dentibus rectis lanceolatis, 2 inferioribus 3 superiores duplo superantibus, fauce intus nuda. _Corolla_ tubo exserto recto intus nudo, bilabiata, labio superiore erecto subplano integro, inferiore patente trifido, lobis planis integris. _Stamina_ 4, didynamia, inferioribus longioribus, adscendentia, apice approximata. _Antherae_ biloculares, loculis parallelis distinctis muticis. _Stylus_ villosus, apice bifidus, lobis subulatis æqualibus apice stigmatiferis.—Herbæ. Verticillastri ad apices ramorum dense spicati, foliis floralibus, bracteis, calycibusque pilis longis albidiis ciliatis. Benth.


ORD. XLV. VERBENACEÆ. Juss.


Although a less diffuse specimen than that which we characterized in Captain Beechey's collection, the two are precisely the same species.

ORD. XLVI. PRIMULACEÆ. Vent.

1. Anagallis arvensis. L.

This is the common red-flowered variety.


a. Grand Rond in the Snake Country. Tolmie.—γ. Douglas.—In the Flor. Bor. Am. the character of var. γ. was made to depend on the much greater breadth of the leaves, as well as upon the different colour.
of the staminal tube; in our present individual the leaves do not materially differ, nor do we find any other difference from a, except that the bracteas of the involucre are larger and almost foliaceous.

1. Glaux maritima? L.

A singular state of this plant, as it appears to us, without flowers, with small imperfect leaves, and with the stem singularly inflated at the joints, is in Mr Douglas’ collection.

**ORD. XLVII. PLANTAGINEÆ. Juss.**


**ORD. XLVIII. NYCTAGINEÆ. Juss.**


Found in California first by Mr Menzies.


**ORD. XLIX. POLYGONEÆ. Juss.**

**ERIOGONUM. Mich.**


§ Fasciculata. Benth.


§ § Latifolia. Benth.


Ab E. latifolio diversum videtur foliorum forma, involucris minoribus fere glabris et bracteolis brevioribus vix plumosis. Pedunculi rarissime simplices seepius apice umbellati.


Habitus ut in speciebus affinis valde variabilis, sed (praeter foliorum forma) involucris albo-lanatis et bracteolis longis rufo-plumosis facile recognoscendum, pedunculi etiam seepius breviores simplices et capitula majora. Exemplaria Escholtziana non diversa videntur a Menziesianis.


Ab E. latifolio differt imprimis pedunculo elatiore ramosiore glaucescente nee ad ramificationes lanato, ramis crassioribus rigidioribus, capitulis minoribus lana fere omnino destitutis. Bracteola; breviter plumosa.


Pedunculi scapiformes, complures, basi sublanati, erecti, 6-8 pollicares. Rami tenues virgati. Involucra tenuia, cylindrica, sessilia, dentibus brevibus obtusis subaequalibus. Perianthia breviter exserta, laciniae extiores per anthesin patulae, obovatae, interiores erectae dimidio anguste

§ § § Stipulata. Folia caulina nuda ramorum floratium stipulata. Benth.

8. E. angulosum (Benth.); ramis floriferis erectis dichotomis vel verticillatim ramosis
foliosis, folii inferioribus alternis petiolatis exstipulatis, ramorum floralium oppositis verticillativos basi stipulatis, omnibus oblongo-linearibus subtus vel utrinque lanuginosis demum ramisque glabratis, involucris numerosis parvis pedicellatis hemisphaericis glabriusculis.  

_Benth. l. c. p. 406. tab. 18, f. 1._

**CHORIZANTHE. R. Br.**

_Involucrum tubulosum, triangulare, uniflorum, sexdentatum, dentibus nunc inaequalibus, 3 (angulorum) longioribus extimo longissimo, nunc subaequalibus. Perianthium involucro inclusum vel vix exsertum. Benth._

1. _C. staticoides (Benth.); annua, foliis radicalibus spatulatis hirsutis, caulibus subnudis erectis 2-3-choforme ramosis, cymis laxe corymboso-paniculatis, involucris glabriusculis, dentibus inaequalibus subulato-cristatis. Benth. l. c. p. 418._


2. _C. Douglasii (Benth.); annua, caule erecto 2-3-choforme ramoso, foliis radicalibus petiolatis spatulatis, caulinis oblongo-linearibus ramisque subericeo-pilosis, cymis multifloris in capitulo terminali paniculato condensatis, involucris pilosis, dentibus patentibus, basi membranaceo-dilatatis apice inaequaliter subulato-aristatis. Benth. l. c. p. 419._

_Herba semipedalis. Capitula florum magnitudine pisi majoris. Bracteae subulate dentesque involucri purpurascenentes. Perianthium subsessile; laciniae omnes aequales, oblongo-cuneate, apice truncatae mucronulatae._

3. _C. membranacea (Benth.); annua, caule erecto subdichotome ramoso, foliis linearibus ramisque laxe lanatis, cymis multifloris in capitulis terminalibus subpaniculatis condensatis, involucris tomentosis infundibuliformibus, limbo membranaceo-dilatato, dentibus aequilibus breviter subulato-aristatis. Benth. l. c. p. 419. tab. 17, f. 11._

_Herba subpedalis. Lana caulis et foliorum nivea, tenuis, subdecidia. Capitula florum globosa, fructifera ipsis Scabiosarum nonnullarum similia. Pedicelli perianthio aquiloni._

4. _C. pungens (Benth.); subherbacea, ramis elongatis diffusis subdichotomis, foliis petiolatis spatulatis ramisque pilosis, cymis multifloris laxe capitatis, capitulis irregulariter paniculatis, involucris pubescentibus, dentibus inaequalibus bracteisque longe subulato-aristatis. Benth. l. c. p. 419. tab. 19, f. 2._


**MUCRONEA. Benth.**

_Involucrum tubulosum, compressum, uniflorum, bidentatum. Perianthium involucro inclusum. Benth._

1. _M. Californica. Benth. l. c. p. 419. tab. 20._

PTEROSTEGIA. F. et M.

P. drymarioïdes. F. et M. ind. sem. hort. Petrop. 1835; Am. Sc. nat. N. S. 5. p. 304. (Tab. XC.)

In our specimens the involucrum is only 2-lobed, not 2-leaved, and we have not observed more than three stamens in a flower; many of the female flowers want stamens entirely.

Tab. XC. Fig. 1. Portion of the flowering stem; fig. 2. Floral bractea; fig. 3. The same laid open; fig. 4. Flower; fig. 5. Stamen; fig. 6. Pistil; fig. 7. Fructiferous bractea; fig. 8. Achenium within the persistent perianth:—magnified.

ORD. L. CHENOPODIEÆ. De Cand.


1. Roubieva anthelmintica? Var. foliis hastatis. This differs considerably from the more usual state of the plant (Chenopod. anthelminticum L., and Ambrina anthelmintica, Spach, hist. nat. des veg. 5. p. 298) on account of the decidedly hastate and almost triangular leaves: the flowers, too, are in a simple terminal elongated interrupted spike. The genus Roubieva of Moquin Tendon, distinguished from Chenopodium by its vertical seed, and from Agathophyllum by the keeled segments of its perianth, which form a pentagonal covering to the nut, was constituted for one or two South American species, but ought to include the present plant and a few others indicated by Spach under his Ambrina, which does not differ.

GRAYIA. Nov. Gen.

Hab. Interior of California, Nov. 1826; Mr Douglas. Snake country; Mr Tolmie.

Our first knowledge of this very singular and interesting plant, was derived from extremely young and imperfect specimens collected by Mr Douglas during his first journey in North West America, and noticed in the *Flora Boreali-Americana* as a doubtful species of *Chenopodium*. Our specimens with female flowers and fruit, from the Snake country, have an aspect so extremely different from those just alluded to, partly from the more fully developed foliage, and partly from the very different structure of the perianth, that it was not till after a most careful comparison of the two plants, that we could satisfy ourselves of their belonging to one and the same species. The habit and foliage resemble considerably some Cape *Polygala*, a resemblance still further strengthened by the shape and colour, frequently tinged with red, of the fructiferous perianth. The leaves when young are thick and fleshy, obovate-cuneate, and covered with minute mealy scales as in several species of *Atriplex*; and it is from this circumstance very probable that the plant grows in salt marshes. When the leaves are older they elongate, and the mealliness disappears.

We have dedicated this genus to Dr Asa Gray, Professor of Botany in the newly established university of the State of Michigan, U.S., the distinguished author of the revision of North American *Rhynchosporae* and *Melantherae*, and coadjunctor with Dr Torrey in the *Flora of North America*. It is true that already two other genera have been named after our excellent friend, the one *Grayia* of Arnott, in Wight's Catalogue of plants of the Peninsula of India, No. 2033; but as Dr Arnott has reason to think that Dr Gray would prefer his name to be connected with the American plant, the Eastern one will be described under another designation; the other is the *Asagraea officinalis* of Dr Lindley, in the Bot. Reg. (1839) t. 33: but no sooner had Dr Gray seen this figure than he felt almost certain that the plant belonged to his genus *Schenocaulon*, an opinion, he informs us, he has since verified by an examination of Scheide's specimen, the authority for the species.*

ORD. LI. SANTALACEÆ. Brown.


Hab. Snake country below the American falls. Mr Tolmie.

* Inserted there by mistake under Plumbaginaceæ.
† "Of *Schenocaulon* I now know four species. The genus is extremely well marked and distinct, though the character requires some emendation, since it was drawn from a single species, and that without the fruit. There is first the original species, *S. gracile*;—then this of Lindley—thirdly, a plant in Drummond's Texan collection; in the herbarium of Vienna I had named this *S. aletroides*, but as that name is not very appropriate, it may be rather called *S. Drummondii*: I have not seen the base of the stem, but it probably is bulbous like the others.—The fourth species (*S. caricifolium*) is *Veratrum caricifolium* Schlecht. in Ind. Sem. Halens. of which he has given me a specimen in fine fruit; he possesses young plants raised from the seed also: the foliage, &c., is exactly the same as in the original species, but the spike is shorter and thicker." *Gray in litt.*

We have received from G. U. Skinner, Esq., of Guatemala specimens precisely according with Scheide and Lindley's plant, from Guatemala, as the Sabadilla of commerce of that country: but this must not be confounded with the *Veratrum Sabadilla* of Descourtilz Flor. des Antilles, III. t. 195, and of Turpin in the plates to the Dict. des Sc. Nat., which it is to be feared has nothing to do with the true Sabadilla.
ORD. LII. LAURINEÆ. Juss.


ORD. LIII. EUPHORBIACEÆ. Juss.


Hab. Snake country. Mr Tolmie.

HENDECANDRA. Esch.—Astrogyne. Bent.


That this is the genus and species described by Eschscholtz we entertain no doubt, especially as we have received specimens so named from Chamisso. In the 5th volume of the Linnaea, p. 86, Chamisso and Schlechtendahl reduce it to Croton, and consider it no way different from C. gracilis of Kunth, from Mexico. Again, Mr Bentham, in his account of Hartweg's Mexican plants, No. 83, makes of Croton gracilis his Astrogyne crotonoides, and expresses his doubts if Mr Douglas' Californian specimens belong to the same, or form an allied species. An attentive comparison of Hartweg's specimens, and of Douglas' with Chamisso's, leave however no doubt on our minds that they all belong to the same genus, but that the Mexican species is different from the Californian. The name Hendecandra is certainly not appropriate, but we are unwilling to change it for one so much more recent, and founded on another species. Eschscholtz does not seem correct as to the number or situation of the stamens, and Mr Bentham has omitted to notice the hypogynous disc: the styles are often more divided than is stated by either. Croton gracilis of Kunth or Astrogyne crotonoides, Bent. may be thus distinguished:—H. crotonoides: foliis breviter petiolatis, racemis masculis elongatis folia fere duplo superantibus.

Tab. XCI. A. Male Plant.—Fig. 1. Flower; fig. 2. Stamens and glands; fig. 3. Stamen. B. Female Plant. fig. 4. Advanced flower; fig. 5. Capsule, with 1 lobe removed; fig. 6. Lobe separated from the capsule; fig. 7. The same cut open to show the position of the seed; fig. 8. seed:—magnified.
ORD. LIV. GARRYACEÆ. Lindl.

GARRYA. Lindl.


First found by Mr Menzies in California.

ORD. LV. SAURUREÆ.

ANEMOPSIS. (Anemia.* Nutt.)


This has likewise been found at Zacatecas in Mexico, by Hartweg, and is No. 4 of his collection. We regret that our specimens will not, without the destruction of them, enable us to exhibit a representation of the base of the germ or young fruit, which is incorporated with the spadix. In their structure the fructification and inflorescence have a very close affinity with Houttuynia, (see Hook. in Bot. Mag. p. 2731):—the chief difference being that our plant has 6 (not 3) stamens.

Tab. XCII. Fig. 1. A floral bractea; fig. 2. A flower, the bractea being removed; fig. 3. Portion of the pistil which is free, not united with the spadix; the epigynous stamens being removed:—magnified.

While this part of the work was in the press, we were gratified by the arrival of an interesting collection of plants made on the Pacific coasts of America, by Dr Sinclair, surgeon of H.M. surveying ship, the Sulphur, dispatched to those seas under the command of Captain F. W. Beechey, and upon that officer's return, on account of ill health, of Captain Belcher. Some of the Californian plants, as in the present instance, will be here introduced, and a portion from a more interesting field will form another Supplement, and conclude this work. We gladly acknowledge Dr Sinclair's invaluable exertions in the cause of Botany by dedicating a new species of Pine (see p. 392) to him.

ORD. LVI. PLATANEÆ. Lest.


ORD. LVII. MYRICEÆ. Rich.

1. Myrica Californica (Ch. et Schl.) ramis angulatis, foliis angustae lanceolatis acutis
basi in petiolum brevem attenuatis adultis præsertim serratis glaucescentibus coriaceis punctis minutis resinosis adpersis margine reflexo obsolete nervosis, amenis axillaribus solitariis, fructibus tuberculatis nudis.—Ch. et Schl. in Linn. VI. p. 535; Hook. Flor. Bor. Am. II. p. 260.—M. Xalapensis, supra p. 160; (an H.B.K.?)

**ORD. LVIII. CUPULIFERÆ. Rich.**


3. Q. *Douglasii*; foliis membranaceis oblongo-ovalibus basi acutis petioliis sineulo-pinnatifidis siccitate haud nigrescentibus, supra glabris subtus puberulis, lobis brevibus acutiusculis, petiolis ramulisque junioribus dense fulvo-pubescentibus, fructibus sessiliibus solitariis binisve, cupula hemisphaericæ dense squamosa squamis ovatis convexis in appendicem submembranaceam fulvam appressam linearem obtusam productis pubescentibus, glande ovata cupulam triplo superante obtusa cum umbone conico.—Hook. Ic. Pl. ined.

The leaves and whole appearance of this plant closely resemble *Q. sessiliflora*, but the scales of the cupule are different. In this respect also, as well as in the shape and colour of the leaves when dry, it differs from *Q. Garryana*. We have branches with nascent foliage which we suspect to be the young state of this plant; in these the leaves are covered with down on both sides, the lobes are tipped with a short soft mucro.


This remarkable plant has very much the appearance of a *Castanea*, the fruit in the only specimen we possess being situated at the base of a male somewhat fascicled catkin of the former year, while the numerous male catkins of the present year present no appearance whatever of female flowers. The leaves are from two and a half to three inches long, and nearly three-quarters of an inch in breadth.
ORD. LIX. CONIFERÆ. Juss.


Of this we have seen no flowers nor fruit, and the leaves are nearly twice the length of those figured in Mr Lambert’s work, shining on the upper side as in Podocarpus, and glaucous underneath. The tips of the branches exhibit buds formed of imbricated membranaceous concave shining scales, which resemble the scales at the base of the galbule in Lambert’s description and figure quoted. Our plant is obviously what Douglas alludes to in his Journal (Comp. Bot. Mag. vol. II. p. 150.) in the following words:—“But the great beauty of the Californian vegetation is a species of Taxodium, which gives the mountains a most peculiar, I was almost going to say awful, appearance,—something which plainly tells that we are not in Europe. I have never seen the Taxodium Noothatense of Née, except some specimens in the Lambertian herbarium, and have no work to refer to; but from recollection, I should say that the present species is distinct from it. I have repeatedly measured specimens of this tree 270 feet long, and 32 feet round at three feet above the ground. Some few I saw upwards of 300 feet high, but none in which the thickness was greater than those I have instanced.”

1. Pinus Sinclairii; foliis ternis acicularibus elongatis gracilibus supra canaliculatis dorso convexis margine asperis, strobilis basi obliquis pedalibus oblongis, squamis elongatis cuneatis, apicibus crassis elevato-tetragonis centro tuberculo spinuloso uncinato instructis.

(Tab. XCIII.)

This covers the hills from Monterrey to Carmelo and to Punta Pinos. (Dr Sinclair of H. M. S. Sulphur.) It is probably the same as was observed by Mr Collie, and supposed by him to be Pinus rigida, Mill. (vide supra, p. 160.) The ternate or occasionally binate leaves are from three to four inches long, rigid and sharp. The solitary cone we possess is in an old state, the seeds having fallen out, and the scales spreading; it is twelve inches long, and five at its greatest breadth near the base. The scales are from two to three inches long, three-quarters of an inch broad, cuneate, hard and coriaceous, the apex much thickened, and forming a short four-sided pyramid with a short reflexed sharp rigid point. As a species it approaches, in the form of cone and scales, to P. Montezuma, Lam. Pin. t. 22:—but the leaves are quite different. It may possibly be the Pinus Californiana “Lois. in the N. Duhamel, 5, p. 243,” and Loud. Arboret. Brit. p. 2265:—but all the description we can find of that tree, is simply that its leaves are in twos or threes, and that the cones are longer than the leaves. To this Loudon adduces as a synonym the P. Montereyensis, Godfroy and Hort. Society’s Gard. of which, however, almost nothing is known.

Tab. XCIII. The base and apex only of the cone are here represented, the whole being much too large for the plate. Fig. 1. Scale from the cone:—nat. size.


California; Beechy. Dr Coulter.

We omitted this in our former account of the Californian plants, as we were acquainted only with a single cone, but feel no doubt in referring it as above; Dr Coulter found it along the sea-shore at Monterrey; and
we possess the same collected at Tepic by Dr Sinclair of Her Majesty's Ship Sulphur. On comparing this with the *P. patula* of Scheide and Deppe, as figured in Lambert's *Pinus*, t. 19, (it is probably also the *P. patula* of Chamisso and Schlechtendahl in the 6th volume of the *Linnaea*, p. 354) many points of resemblance appear so much so, that we doubt of their being specifically distinct.

As the *Pines* form one of the most interesting features in the Botany of California, and as our Herbarium is but poor in specimens of this family, we shall give a list of all the species hitherto known, chiefly compiled from Loudon's excellent *Arboretum et Fruticetum Britannicum*.


   **Hab.** Upper California. *Douglas*.


   **Hab.** Mountains of San Lucia, California, at an elevation of from 3-4000 feet above the level of the sea. *Dr. Coulter*.

   Mr Loudon and others are disposed to consider this merely a variety of the preceding.


   **Hab.** California. *Douglas*.

   An accurate specific character and full description of this species are still desiderata.

4. *P. Sinclairii*. *Hook. et Arn. supra, et Tab. nostr. XCIII.*

   **Hab.** Hills above Monterrey, &c. *Mr Sinclair. Messrs. Lay and Collie.*

5. *P. Californica. Lois.—Loud. l. c. p. 2268.*

   **Hab.** Monterrey. *Colladon.*—A very dubious species.


   **Hab.** San Louis Obispo, California, at the height of 3000 feet. *Dr Coulter*.


   **Hab.** Sea-shore, Monterrey. *Dr Coulter. Douglas.*

Hab. Sea-shore, Monterey. Dr Coulter. May this not be a variety of the preceding?


Hab. Mountains of San Lucia, near the mission of San Antonio. Dr Coulter, (see Loudon, l. c. p. 2251); intermixed with *P. Coulteri*.


Hab. California? Spokane River (*Douglas*) according to Mr Loudon:—but the Spokane River is not in California. The species, judging from the figure, too closely resembles *P. Lambertiana*.


Hab. I can scarcely doubt but this exists in California, since Mr Douglas describes it as common timber in N. W. America, and he has himself recorded it as growing as far south as lat. 43°.—Dr Lindley I find, in the Penny Cyclopaedia, refers Lambert’s *Pinus* (*Abies*) *taxifolia*, t. 47, to this species, which I was led to consider a var. of *Pinus* (*Abies*) *Canadensis*.


Hab. California? *Douglas*. This Pine is not taken up by Lambert, nor by Lindley, and Mr Loudon seems to consider it scarcely distinct from *P. grandis*. No particular habitat is given for it.


Hab. Mountains of northern California. *Douglas*.


Ord. LX. ORCHIDEÆ. Juss.


Ord. LXI. IRIDEÆ. Juss.


Hab. Walamet River; Tolmie.


Hab. Between Burnt and Malheur Rivers, Snake Country; Tolmie.

1. Iris Douglasiana; imberbis, rhizomate diamet. circiter $\frac{3}{2}$ unc., foliis angustis $\frac{1}{4}$ unc. latis acutis caule solido dodrantali trifloro parum longioribus, spathæ valvis ultrabiancibus acutis pedunculos longe superantibus, germine attenuato oblongo angulato, tubo subunciali (circiter $\frac{1}{4}$ unc. libero) limbo circiter sesquiunciali, sepalis angustis subacutis, petals apice denticulatis. Herb. mst.—var. 1. bacteata; caule superne bracteato (ut in I. tenace) spatha 3-valvi, pedunculis brevioribus, limbo breviore (saturatiore?) —var. 2. nuda; caule superne nudo, spathe 4-valvi, pedunculis longioribus, limbo longiore (pallidiore?) Herb. Mst.

2. I. longipetala; imberbis, foliis angustis (sub $\frac{1}{4}$ unc. latis) erectis acutis caulem solidum bracteatum aliquantulum superantibus, spatha 2-3-flora valvis acutis (circiter $3\frac{1}{2}$ uncialibus) germen oblongum superantibus, pedunculis sesquiuncialibus tubo brevi ($\frac{1}{6}$ unc. libero vix $\frac{1}{6}$ solido), petals sepalisque angustis longitudinali subequalibus (circiter $2\frac{1}{2}$ unc.) cristas styli duplo fere superantibus, perianthii colore dubio (fulvo? vel flavescente? vel albicante?) venis caeruleis. Herb. Mst.

3. I. Beecheyana; rhizomate crasso (diamet. semunc. vel ultra), foliis angustis ($\frac{1}{2}$ unc. latis) erectis acutis subpedalibus (8-12-unc.), spatha foliacea, caule unifloro pedunculum brevem includente, germine attenuato oblongo angulato sulcato tubo tenui subunciali ($\frac{7}{2}$ unc. solido) limbo circiter (vix) biunciali (pallide caeruleo?) Herb. mst.—I. sibirica. Hook. et Arn. supra, p. 160.

For the following observations on N. American *Irides* we are indebted to the Honourable and Rev. Wm. Herbert of Spofforth:—“I believe that no bearded *Iris* has yet been discovered in America, the only exception being the alleged pubescence of the base of the petals (not sepals) in *I. hexagona*; Walt. Fl. Car. a plant erroneously confounded by Michaux with *I. Virginica*. L.—(germine sub-trigono apiculato, caule 1-2 furcato, furca superiore semper subæquali. *mst.*)—whereas *hexagona*, of which there are several varieties from Texas, New Orleans, and other parts of the southern states (germine hexagono, caule indiviso, floribus inferioribus axillariis. *mst.*) has not the forked stalk which distinguishes all the numerous varieties of the former. *I. lacustris* is reported to have bearded sepals, but I suspect it will be found to have rather crests, like *I. cristata*, of which it has precisely the aspect, a fact which I shall not have an opportunity of verifying before the spring. I also doubt the truth of any American *Iris* having a fistulous stalk, that remarkable feature being confined to the numerous varieties of *I. Sibirica*. I believe that Pursh’s statement, that the Missourian *Iris* of Lewis has fistulous stalks, simply implies that, whereas that plant has been erroneously named *Sibirica, Sibirica* is fistulous, but I place no confidence in the fact as to Lewis’s specimen. It is possible that *I. Tolmiana*, (mihi)* which in a dry state has much the aspect of *I. Sibirica v. sanguinea*, may be Lewis’s plant,† *I. Sibirica v. sanguinea*, has been separated by Continental botanists under the name *hamatophylla*, with an allegation that its scape is solid, a statement which is quite incorrect. It is certainly a variety of *Sibirica*, having not only the fistulous stalk, but every other important feature of that plant, especially the two gibbous teeth near the base of each sepal, which, though not recorded, are, I believe, peculiar to that species, and rarely, if ever, obsolete. *I. Beecheyana* has been confounded by the collector with *I. humilis*, a plant of the Ukraine, found especially near Elizabethrod; as *I. Ruthenica* has, on the other hand, been confounded with it in Russia, from whence *Ruthenica* has been sent with the wrong name to the British nurserymen. *I. Tolmiana* may be at once distinguished from *humilis* by its strong thick rootstalk. The plant most nearly allied to *humilis* is *I. Cretica, mihi*, found in Crete, and also near Napoli di Romapia, foliis subseptemcuniculibus vix lineam latis acutis basi ampliatis marginibus ciriaco-crispis; 3½ uncias solido ½ unc. ampliato libero, limbo biunciali. I apprehend it has never been observed that the true character of the genus *Iris* is a short ventricose or somewhat funnel-shaped tube free from the style, and a solid subcylindrical base which in some species is little more than a point of union, and in others is prolonged many inches. This solid part of the tube is in some species of the same texture as the thick parts of the limb, in others of the coriaceous texture of the germin from which it has in that case no decided point of separation outwardly discernible. These important circumstances in the structure appear to have been neglected by botanists. The true stigma of *Iris* is transverse below the crests of the style, and its form is very different in different species: another most important feature which has been neglected, but it cannot be ascertained in dry specimens. In the numerous native specimens I had seen of *I. tenax*, whether from Newfoundland or the N. W. of America, the spathe is one-valved, the second valve being placed like a bracte an inch below, on the stalk. A similar disturbance of the spathe takes place in *I. Douglassiana v. bracteata.*” W. Herbert.


† Prope fluvium Walamet in Fl. Columbiam ex parte meridionali tendentem legit *Tolmie*.

† I rather refer his to a race of *Iris* extending from the hills of Kentucky to Canada, *I. Caurina* (mihi) folio ½-3 unc. latis vel ultra, caule bracteato simplici vel ramulo axillari, germine oblongo, tubo brevi ampio parte solida brevissima.
ORD. LXII. TULIPACEÆ. DC.

1. Fritillaria mutica (Lindl.): cauli basi longe nudo apice racemoso multifloro, foliis inferioribus verticillatis a lata basi longe angustatis ecirrhosis, floribus secundis tessellatis nutantibus basi obtusis bracteis triplo brevioribus, pedunculis brevissimis recurvis. Lindl. in Bot. Reg. sub t. 1663.

This "has very much the aspect of F. verticillata, but the leaves are not cirrhose, and the flowers are greenish-purple, spotted like F. Meleagris, growing in long racemes." Lindl.—In our specimens the pedicels can scarcely be called "very short," being often three quarters of an inch long, and the leaves are lanceolate linear and acuminate, but not with a broad base. The style is, in this and in both the following, trifid, as in the genuine species of Fritillaria.

2. F. liliacea (Lindl.): caule stricto apice racemoso basi folioso foliis oblongo-lanceolatis inferioribus verticillatis superioribus alternis, floribus secundis concoloribus cernuis basi angustatis, pedunculis erectis bracteis longioribus, capsula oblonga apice rotundata basi mutica. Lindl. l. c.

"Closely allied to F. alba of Nutt., from which it differs in its broader leaves, and differently shaped capsule. It is a most remarkable plant, with the habit of a lily: its flowers are apparently pale yellow, narrow at the base, and not unlike those of Lilium pudicum." Lindl.—Of this we possess two forms: one with the flowers scarcely narrowed at the base, and about as obtuse there as in F. mutica, while the pedicels are considerably longer than the bracteas: the other, as Lindley says, has flowers very similar to Lilium pudicum, being remarkably narrowed at the base, but the pedicels are in every instance much shorter than the bracteas, while the accompanying specimens in fruit resemble the first variety. All have the pedicels erect, except immediately under the flower, where they are recurved.

3. F. biflora (Lindl.): cauli basi nudo apice bifloro, foliis verticillatis alternis oblongo-lanceolatis versus apicem caulibus deficientibus, floribus pendulis subcyllindraceis concoloribus, pedunculis bracteis brevioribus. Lindl. l. c.

This "resembles F. tulipifolia in habit, but differs in its two-flowered stem, and numerous leaves which are either alternate or verticillate." Lindl.—Our specimens, in habit as well as in the colour of the flowers, approach so closely to F. Kamtschatcensis, that they are scarcely to be distinguished but by the leaves of the perianth being quite destitute of the curious crested veins, almost peculiar to that species, and which are represented at Tab. 193. A. of the Flor. Bor. Am."


Hab. B. Blue Mountains, Snake Country; Tolmie.

Dr. Lindley distinguishes the var. B., his E. giganteum, from the type of the species, by the irregularly branched scape, the leaves of the perianth reflexed only from the middle, and the stigma 3-lobed, not 3-partite: but there is no difference whatever in the two last points, and as to the first, these are insensible gradations from a single to a several flowered scape.
CALOCHORTUS. Ph.


1. C. venustus (Benth.); caule paucifolio subtriflоро, sepalis erectis, petalis praeter fasciculum pilorum glabris basi rubris et versus apicem macula rubra notatis. Benth. in Hort. Soc. Trans. N. S. I. p. 412. t. 15. f. 3.

Sepals straight. Petals cuneate-subrotund, crispid at the margin, white, yellowish at the base, and then furnished with a cuneate blood-red canal which is yellow at the apex; above this, and on the expanded portion of the petal is a large round blood-red stain. It is a very beautiful species.


Petals of an uniform lilac colour. It is closely allied to C. venustus, from which, however, it differs not only in the colour of its petals, but in its flowers being somewhat smaller, and its sepals rolled back from the point; the arrangement of the hairs upon its petals is also very different. In C. venustus there is, just above the base of the petals, an oblong tuft of rather loose hairs, which gradually scatter themselves over the petal for a short distance round the tuft; but in C. splendens the tuft is smaller, and composed of very short firm hairs, collected into a compact oblong mass, almost resembling a wart, and separated by a smooth interval from the scattered hairs of the petal, which are long and numerous.


The flowers are rather smaller than in the two preceding species, and of a deep yellow, greenish about the middle and at the base, and covered near the middle with red dots.

4. C. uniflorus; caule humili versus basin 1-3-phyllo subuniflоро, pedunculo elongato gracili folia superante, sepalis apice patulis, petalis cuneatis apice rotundatis denticulatis basi dense barbatis e basi ad medium sparse pilosis superne glabris. (Tab. XCIV.)

This is most allied to C. elegans, but has very differently shaped sepals and petals, and the stem has scarcely any tendency to produce more than a single flower. We omit here C. elegans, macrocarpus, and nitidus, said to be from California, for, according to the stations given by Douglas, none of them were found in that country: descriptions of them are given in the Flor. Bor. Am. II. p. 183. With regard to the variety of C. elegans noticed in the Flor. Bor. Am. I. p. 183, as found by Mr Tolmie on the banks of the Walamet river, we are now satisfied it is perfectly distinct from either a. or b. of Douglas, and that it forms a new species, which may be called C. Tolmiae; it is closely allied to C. nitidus, (Dougl. in Hort. Soc. Trans. VII. t. 9.) but the flowers are rather smaller, not in an umbel, but in a racemose panicle, and the cuneate-obovate petals are densely bearded to the very apex, much more so than in any other known species of the genus.

Fig. 1. Petal: magnified.
Calochortus uniflorus.
Cyclobothra. Succet.


Flowers yellow, the sepals greenish and striated with green.


Flowers white. Sepals of a yellowish-green. The flowers do not appear to us to be oblong, but when expanded to be broadly ovate, nearly as in C. pulchella.

3. C. paniculata (Lindl.); floribus solitariis, pedunculis bracteis subaequalibus floribus oblongis; petalis angustis obtusissimis subciliatis dimidia superiore calvis fovea leviter excavata sepalis ovato-lanceolatis acuminatis duplo longioribus. Lindl. in Bot. Reg. sub t. 1662.

Præcedenti affinis; caule, panicula, floribus solitariis, pedunculis bracteis longioribus, alabastris angustis cæterisque satis distincta. Flores albi. Lindl. l. c.—Of this we know nothing, unless it prove to be a mere form of C. alba, with which it appears to us to agree in almost every important character, as well as in the white flowers.


2. A. acuminatum (Hook.); foliis linearibus brevibus paucis radicalibus, scapo humili terete, umbella pluriflora patente, sepalis roseis subovalibus acuminatissimis basi gibbosis interioribus minute serrulatis apicibus recurvis, staminibus conformibus perianthio duplo fere brevioribus, ovario 3-lobo, stigmati brevi trifido.—Hook. Flor. Bor. Am. II. p. 184. t. 196.

Hab. Blue Mountains, Snake Country, abundant; Mr Tolmie.

3. A. Douglasii (Hook.); bulbo late ovato, foliis binis lanceolato-falcatis striatis basi longe angusteque attenuatis radicalibus, umbella multiflora patente, sepalis (roseis) ovati
Asphodelea.  

Asphodelea.  


4. A. falcifolium; humili, foliis binis lanceolatis recurvo-falcatis striatis basi attenuatis, umbella densa multiflora patente, sepalis (roseis) lanceolatis acuminatis undulatis carinatis apice recurvis omnibus margine undique minute glanduloso-serrulatis stamina conformia longe superantibus, ovario trilobo, stylo integro.  

This was collected by Douglas in California, probably at no great distance from the coast. It is closely allied to A. Douglasii, but differs from that species by its more humble stature, shorter and much more falcate leaves, more compact umbel, much larger flowers, narrower and thinner sepals, which are, moreover, undulated and serrulate with minute glands and almost twice as long as the stamens.

HESPEROSCORDON. Lindl.  

HESPEROSCORDON. Lindl.  

1. H. lacteum (Lindl.) umbella multiflora laxa, floribus exterioribus pedicello 2-4-plo brevioribus, perianthii laciniiis stellatis, ovario subglobose.  

This differs from H. Lewisii. Hook. Flor. Bor. Am. II. p. 185. t. 198, by the umbel being much fewer flowered and lax, the pedicels conspicuously longer than the flowers, and slender, and the perianth not campanulate.  

CALIPRORA. Lindl.  

CALIPRORA. Lindl.  


The seed-coat is very unlike that of Allium or indeed any of the Asphodelea as limited by Brown, and rather resembles in that respect the Tulipaceae: but we have not seen it perfectly mature.  

Lindley, from whom the remainder of the above character is taken, takes no notice of it.
TRITELEIA. **Hook.**


1. **T. laxa** (*Benth.)*; foliis lineariis glaucis scapo longioribus, involucro pedicellis duplo breviore, pedicellis laxiusculis perianthio basi angustato æqualibus; ovario longe stipitato, filamentis 6 decurrentibus basi cristatis, umbella multiflora.—*Benth. in Hort. Soc. Trans. N. S. I. p. 413. t. 15. f. 2. Lindl. in Bot. Reg. t. 1685.*

This is readily distinguished from *T. grandiflora* by the attenuated base of its perianth, and the curved stalk to its ovarium, two or three times longer than the ovarium itself, and half the length of the perianth; in *T. grandiflora* the perianth is wide at the base, almost indeed campanulate, and the stalk of the ovarium is not half so long as the ovarium, and many times shorter than the perianth. Although there be little difference in the width of the flowers, the length of the perianth of *T. laxa* is twice that of *T. grandiflora.*


The flowers of this species are of a pale blue, not purple colour as in the two others: each sepal is marked along the back with a purple line.

BRODIÆ. **Sm.**


*Hab.* California; *Douglas.* Dry plains of the Wallamet river; *Tolmie.*

2. **B. congesta** (*Sm.)*; floribus subcapitatis, bracteis pedicellis superantibus, squamis perianthii lanceolatís acutis bifidis.—*Sm. in Lin. Soc. Trans. X. p. 3. t. 1.*

ORD. LXIV. ASPARAGÆÆ. **Juss.**

ORD. LXV. MELANTHACEÆ. Br.


Both varieties are in Mr Douglas' collection from California.


The var. β. only is in Mr Douglas' collection, and what is remarkable, no form of this species appears to have been elsewhere observed on the west side of the Rocky Mountains. The stem is from eight to fifteen inches high, the leaves three or four inches long, and 2½ or 3½ broad, spotted like those of the plant from the United States. The flowers are from 2½ to 3 inches long, and purple, as figured in the Botanical Magazine.

ORD. LXVI. JUNCI. Juss.

1. Luzula campestris, var. congesta.—Hook. Flor. Bor. Am. II. p. 188.

1. Juncus Menziesii (Brown); caule erecto tereti folioso, foliis lineari-acuminatis supra canaliculatis, capitulis terminalibus globosis 1-3 bractea exteriori plerumque foliacea et capitula superantibus, sepalis ovatis vel oblongis capsulam obovatam nitidam muticam æquantibus dorso viridibus enerviis margine castaneo membranaceo versus acervum involuto. —α, Menziesii; sepalis lato-ovatis obtusis. Brown,—Hook. Flor. Bor. Am. II. p. 192.—β; Californicus; sepalis oblongis acuminatis, foliis angustioribus.

We have only the second variety from California. In the Flor. Bor. Am. this was principally distinguished from J. castaneus by the broad sepals of α, and the capsule as long as the perianth. In J. castaneus, however, the sepals are only about half the length of the capsule, and are entirely brown, membranous and 3-nerved.

ORD. LXVII. FLUVIALES. Rich.

1. Zannichellia palustris, Linn.

ORD. LXVIII. GRAMINEÆ. Juss.

1. Beckmannia erucaformis, Host.


The specimens are very young.
LOPHOCHLÆNA. Nees.


Tab. XCV. Fig. 1. Flower; fig. 2. two different views of the inner or superior valve:—magnified.

1. Bromus carinatus; annuus, caule erecto, foliis linearibus pilosis vaginis deflexo-pilosis, racemo composito ramis 1-3-nis oligostachyis, spiculis sessilibus lanceolatis valde compressis, glumis lanceolatis acutissimis muticis 3-5-nervis carinatis, flosculis patulis, glumella exteriore pubescente lanceolata ex apice bifido longe setigera carinata obscura 7-striata, interiore bicornata ad carinas ciliata, caryopsis hinc canaliculata.

Perhaps this ought to be referred to the Genus Ceratochloa, but the straight seta, or awn, is almost as long as the floret, and, with the exception of the compressed spikelet, the character is entirely that of Bromus.


This has certainly not exactly the habit of a Poa, to which we had been disposed to refer it; and the flowers are fewer in number than usually occur in that Genus. In appearance it approaches slightly to Eragrostis Koenigii, and E. interrupta, but it unquestionably is not a species of Eragrostis. The glumes are membranaceous, but the florets are of a firm texture, greenish and tinged with purple, their margins white and membranaceous. We have only seen the upper portion of the plant, although the specimens are about two feet in length; the panicle is from 9 inches to a foot long. We adopt the Genus to which we find that Trinius, and since, Nees von Esenbeck, have referred it.

1. Poa serotina, Gaud.—Poa fertilis, Host, Gram. 3. t. 14.

Our plant resembles that of Gaud in the spikelet, but it is more rigid, and the inflorescence is an interrupted, contracted, narrow, linear, erect panicle, the lower branches of which are shorter than the internodes.

1. Stipa avenacea, L.

We can see no difference between the *Uniola spicata* of Linn. and Torrey's Flora, and the *U. stricta* of the latter author. As in *Brizopyrum* the panicle is unisexual.


This is remarkable for its erect foliage, longer than the culms, and the short compact panicles somewhat resembling those of *Phalaris Canariensis*. *Nees v. Esenbeck* considers it a *Poa*, and allied to *P. tricolor*, *conformis*, *curvula*, *abbreviata*. Br. &c.


**POLYANTHERIX. Nees.**

(Trib. Triticeæ. Locus inter *Elymum et Ægilopem*.)


**Ord. LXIX. EQUISETACEÆ. DC.**


_Hab._ San Francisco. _Dr Sinclair._


_Hab._ San Francisco. _Dr Sinclair._

**Ord. LXX. LYCOPODIACEÆ. Juss.**

Nothing has surprised us more than finding that a species of a Genus, hitherto considered as exclusively inhabiting the Polynesian islands, should be detected in the northern continent of the New World. The collection contains several specimens; and though it is barely possible that these may have been accidentally mixed up with the herbarium; yet seeing that every other plant is unquestionably Californian, or from the immediately adjacent territories, and that Mr Douglas had no intercourse with New Holland, where alone the species has hitherto been found, we are bound to believe it a Californian plant, and to introduce it as such. The specimens are very perfect, and some of them in fructification.

ORD. LXXI. FILICES. Juss.


San Francisco. Dr Sinclair.—Presl refers this to his genus Marginaria, whose essential character is to have the upper veinlets uniting with the nearest opposite ones, so as to form hexagonal areolae, in which is situated the sorus at the extremity of a lower veinlet. But in this plant the veinlets are sometimes entirely free, and when the union does take place, it is only near the margin.

2. P. (Eupolypodium) intermedium; fronde lato-lanceolata membranacea pellucida fere ad rachin pinnatifida, laciniiis oblongis obtusis æquilatis serratis glabris, venulis distinctis liberis rarissime sub margine anastomosantibus, soris ovalibus solitariis.

San Francisco. Dr Sinclair.—Allied to the preceding P. Californicum, and to P. vulgare; from the former it differs in the almost entirely free veinlets, from the latter in its oblong or oval sori, and from both in the pellucid, not opaque frond, and in the laciniae becoming smaller at the base. Although this must be referred to the true Polypodium of Presl, yet the veinlets do occasionally unite so as to form an elongated and somewhat hexagonal areola in which a veinlet, terminated by a sorus, is included.


San Francisco. Dr Sinclair.

1. Aspidium (Polystichum) munitum, Kaulf.—Hook. et Arn. supra, p. 162.

San Francisco. Dr Sinclair. Douglas.

2. A. (Lastræa) patens, L.—Sw.—Willd.—Polypodium nymphale. Schkuhr, Fil. t. 34.

San Francisco. Dr Sinclair.


San Francisco. Dr Sinclair. Douglas.


1. Pteris lanuginosa; frondis tripartitæ ramis bipinnatis, pinnulis subtus piloso-lanu-
ginosis lineari-lanceolatis inferioribus pinnatifidis, laciniis obtusis, stipite muricato, rachi-

San Francisco. Dr Sinclair.—Very nearly allied to *Pt. aquilina* and *Pt. caudata*.

2. P. (Allosorus, *Presl.*) *andromedaefolia*; frondibus bipinnatis, pinnis patentibus, pin-

California. Chamisso. Douglas.—"Caudex repens, ramosus, erassitie *penna columbinæ*, paleis ferru-
gineis dense tectus, radiculis filiformibus tomentosis fibrillosus instructus. *Frondes* 4-6 pollicares (fere ad
pedalem). *Pinnæ* remotæ, patentes, *inferiores* bipinnatæ, *superiores* pinnæ, pinnulis inferioribus trifolio-
latis; *foliola* blinearia, ovata, obtusa, petiolata, supra nervosa, margine revoluta, caduca. *Stipes* 2-4-polli-
carís, teres, erassitie chordæ mediocris, paleis sparsi obsitus. *Raches partiales* tenuissimæ, fragiles. *Indu-
sium breve.*" *Kaulfuss.* — A very distinct and well-marked species.

**ORD. LXXII. MUSCI. Juss.**


San Francisco. Dr Sinclair.

1. Pterogonium *julaceum*, *Hedw."

San Francisco. Dr Sinclair.

**ORD. LXXXIII. LICHENES. Ach.**

1. Borrera *leucomela*, *Ach.*

San Francisco. Dr Sinclair.

1. Ramalina *homalea*, *Ach.*— *Hook. et Arn. supra*, p. 163.

1. Usnea *barbata*, *Ach.*

San Francisco. Dr Sinclair.

**ORD. LXXXIV. ALGÆ.* Juss.**

**TRIBE 1. FUCOIDEÆ.**


San Francisco. Dr Sinclair.

* By the Honourable W. H. Harvey.
San Francisco. Dr Sinclair.

1. Cystoseira *Douglasii* (Harv.); caule tenui lævi alternatim ramoso, ramis decompositis pinnato-dichotomis, axillis rotundatis, vesiculis ellipticis concatenatis in ramulis immersis.

Stem slender, \( \frac{1}{2} \) a line to a line in diameter, compressed, smooth, 12 inches long or more, furnished with alternate, much divided branches, at distances of an inch or upwards; the branches pinnated, the lower pinnae simple or forked, the upper multifid in a sub-dichotomous manner; all the axes rounded and the ramuli erect, apices attenuated. Vesicles as large as vetch-seed, 4-12 or more together, forming a moniliform chain, imbedded in the most of the ramuli. Receptacles and root unknown. Hab. Monterey. *Douglas*.

Monterey. *Douglas*.

**TRIBE 2. LAMINARIEÆ.**

San Francisco. Dr Sinclair.—The lamina of the frond is remarkably narrow.

San Francisco. Dr Sinclair.

San Francisco. Dr Sinclair.

San Francisco. Dr Sinclair.—The specimen very imperfect.

**TRIBE 3. FLORIDEÆ.**

Monterey. *Douglas*.


A very remarkable variety, perhaps a distinct species. The veins are stronger and more prominent than in Cape specimens, and the capsules confined to the margin or borne on small, roundish, marginal processes or leaflets. The granuliferous specimens present no remarkable characters. Hab. San Francisco. Dr Sinclair.

San Francisco. Dr Sinclair.


STENOGRAMMA. Harv.—(Gen. Nov.)

Frons membranacea, rubra, plana, enervis. Fructificatio: 1.—? 2. receptacula linearia, nerviformia, in frondem sessilia, granulis minutissimis repleta.

1. S. Californicum, Harv.

Root unknown. Stem minute, cylindrical, gradually expanding into a broadly cuneate, dichotomously cleft, flat, membranaceous frond about six inches long; the segments cuneate, about half an inch broad, obtuse at the apices; the axils rounded. Margin entire, bearing here and there linear-oblong or slightly lanceolate leaflets (which perhaps in older specimens become dichotomously cleft?) Fruit, so far as known, consists in linear, dark-red, elevated receptacles, not half a line in breadth, and from half an inch to upwards of an inch in length, extending longitudinally through the centre of the terminal segments, or of the marginal leaflets, and resembling a very strong prominent rib. These receptacles are completely filled with a dense mass of minute granules, their coat or periphery is opaque and resembles that of the frond. Colour a full red; substance membranaceous; reticulation minute.

Hab. San Francisco, Dr Sinclair.—A single specimen only of this very remarkable plant exists in the herbarium, and on it I have ventured to establish a new genus. In habit it so closely resembles Phyllophora rubens, that it might easily be passed over as that plant. But the fructification is not only totally different from that of Phyllophora, but resembles nothing with which I am acquainted among the Algae, while it bears a striking resemblance to the lichelle of the genus Opegrapha, among Lichenes. From the minute size of the sporules contained in the mass with which the receptacles are full, I am induced to consider these curious bodies as secondary fructification, the primary being probably sphaerical capsules. The affinities of the genus are with Phyllophora.


Monterrey, Douglas.


Monterrey, Douglas.

2. C. affinis (Harv.); fronde plana dichotoma, segmentis cuneatis, margine subinflexo, capsulis sphaericeis sparsis.

1-2 inches high, dark purple, densely tufted. It is allied to C. crispus, but differs in the sphaerical capsules abundantly scattered over the frond and prominent on both surfaces, and in having the margin somewhat inflexed; by which latter character it approaches C. canalicularus, but in that species the capsules are marginal.


San Francisco, Dr Sinclair. Monterey, Douglas. Two varieties exist in the herbarium.
2. G. lanceolatum, Harv. supra, p. 164.

Monterrey, Douglas.

1. Gigartina canaliculata (Harv.); fronde erecta compressa canaliculata basi simplici, apice creberrime bipinnata, pinnulis patentibus subulatis vel multifidis, ramulis aculeiformibus, capsulis inter aculeos sessilibus.—Gelidium corniculatum, Harv. supra, p. 164. (not of Grev.)

Root accompanied by creeping fibres. Stem erect, 2-3 inches high, a line broad, compressed, channelled on one side, linear, simple or once or twice forked, and bare of ramuli for three-fourths of its length; thence upwards it is pinnated, or in old specimens bipinnated, the pinnæ and pinnulae alternate, horizontal, subulate, very acute; the pinnulae in some specimens simple, in others cleft at the apex into 3-5 or more divergating spine-like ramuli. Capsules minute, depressed in the centre, of the same substance and colour as the frond, seated on the multifid pinnules. Substance cartilaginous. Colour a dull purple, paler in the ramuli, becoming much darker in drying.—In a young state this species bears a striking resemblance to Turner's figure of Fucus corniculatus, t. 182, and at p. 164 of the present work I have noticed it as such. But more perfect specimens, since received, prove that it is perfectly distinct from that and every other described species. The channelled stem, naked for its greater length, and the dense head of multifid spine-like ramuli sufficiently mark the species.

San Francisco, Mr Douglas.

2. G. muricata (Harv.); pusilla, fronde filiformi cartilaginea subdichotoma spinulis minutissimis acutis muricata, apicibus divaricatis acutis, capsulis sphæricis sessilibus.

An inch high, densely tufted, cylindrical, irregularly divided in a subdichotomous manner, the upper divisions patent, the whole frond rough with minute thorns. Capsules large, spherical, solitary on the ramuli. Colour a deep purple.

San Francisco, Dr Sinclair.

**Tribe 4. GASTROCARPEÆ.**

1. Iridæa papillata, Grev.—Sphærococcus papillatus, Ag. p. 222.—Harv. supra, p. 165.

San Francisco, Dr Sinclair. Monterey, Douglas.

2. I. Radula, Grev.—Fucus bracteatus, Turn. Hist. t. 25.

San Francisco, Dr Sinclair. Monterey, Douglas.

3. I. stiriata, Grev.—Fucus stiriatus, Turn. Hist. t. 16.

**Tribe 5. ULVACEÆ.**

1. Porphyra vulgaris, Ag.

San Francisco, Dr Sinclair.


Parasitical on Stenogramma Californicum, on which plant I also perceived a specimen of that curious minute genus of Zoophytes, Actinocyclis.
MEXICO.—SUPPLEMENT.

The plants noticed in the following Supplement were gathered by Dr Sinclair, Surgeon of H. M. surveying Ship, Sulphur, and transmitted to us at the request of Captain Beechey. They were collected at San Blas, or between San Blas and Tepic, in about lat. N. 23°, in December, 1837; at Acapulco, N. lat. 17°, in January, 1838; or at Realejo, N. lat. 12° 45', in February, 1838. This latter place indeed belongs to Guatemala; but the Flora of that country, judging from what little we know of it, is so similar to that of Mexico, that we have no hesitation in including all under the general head of Mexican Plants.

ORD. I. RANUNCULACEÆ. Juss.

1. Clematis Acapulcensis; florisibus paniculatis dioicis, foliis triternatim sectis, foliolis subcordato-ovatis acuminatis integerrimis 5-nerviis membranaceis glabris, acheniis lato-ovatis rostratis sericeis, cauda elongata valde barbato-plumosa.

Hab. Acapulco.

ORD. II. MENISPERMACEÆ. Juss.

1. Cocculus oblongifolius (DC.); foliis oblongis trinerviis utrinque obtusis mucronatis glabris, pedunculis folio brevioribus supremis subracemosis, masculis 4-10 floris, floribus subcorymbosis brevipedicellatis, femineis unifloris.—De Cand. Prod. 1. p. 99.

Hab. Acapulco.

ORD. III. PAPAVERACEÆ. Juss.

1. Argemone Mexicana, L.

Hab. San Blas to Tepic.

ORD. IV. CISTACEÆ. DC.


Hab. San Blas to Tepic.

ORD. V. POLYGALEÆ. Juss.


Hab. Acapulco.

This solitary specimen appears suffruticose; Kunth describes his as herbaceous; but the species appears the same.
Ord. VI. Lineae. DC.

1. Linum Schiedeanum (Schl. et Cham.); glabrum gracile adscendens suffrutosum, foliis quaternis verticillatis vel superioribus oppositis, obovato- vel lineari-lanceolatis basi attenuatis, floribus cymosis, bracteas sepalisque glandulosoc-ciliatis, floribus flavis.—Ch. et Schl. in Linnaea, V. p. 234.

Hab. San Blas to Tepic.

Ord. VII. Malvaceae. Juss.

1. Pavonia Mexicana, H.B.K.?

Hab. Acapulco.

Of our plant there is but one specimen, which has a decidedly shrubby stem, and the leaves are cordato-ovate, and acuminate, in which two points it differs widely from Kunth’s description. It can scarcely be his P. mollis.

1. Gossypium Barbadense, L.?

Hab. San Blas to Tepic.

None of the described varieties of Cotton agree precisely with the one before us. The stem is almost glabrous, purplish, woody and dotted with black points; leaves glabrous, dotted, cordato-ovate, entire or three-lobed, the lobes broadly ovate and acuminate; middle nerve with a gland a little above the base, leaves of the involucel laciniate, glabrous. The fruit, seeds and wool, we have not seen.

1. Anoda hastata, Cav.—Schlecht. in Linnaea, XI. p. 214.—Sida centrotecta, Spr.

Hab. Tepic to San Blas; and Acapulco.

2. A. lanceolata; foliis oblongo-lanceolatis acuminatis crenatis nunc ad medium utrinque unidentatis subtus velutinis supra scabridis, pedunculis folium aequantibus calycceque scabro-velutinis, sepalis floriiferis ovatis obtusis fructiferis in acumen obtusiusculum margine involutum attenuatis, corolla (flava?) 9 lin. longa calyceum triplo superante, fructu e carpidiis sub-10 brevissime mucronatis composito.

Hab. Tepic to San Blas.

1. Sida rhomboidea, Roxb.—L. obliqua, Flor. Mex. ined.?

Hab. Tepic to San Blas.

This differs principally from S. rhombifolia by the carpels being awnless or at most two-toothed, and certainly not birostrate.

2. S. carpinifolia, L.—var. carpellis bidentatis haud birostratis.

Hab. Tepic to San Blas.

We may here remark that S. carpinoides DC., referred by some as a variety to S. carpinifolia, is Malva tricuspidata, Ait.
3. *S. dumosa, Sw.*
Hab. Realejo.
This agrees well with a specimen from Jamaica.

1. Bastardia *crispa, St. Hil.*—Sida *crispa, L.*—Abutilon *crispum, G. Don.*
Hab. Acapulco.

2. *B. viscosa, Kunth.*—Sida *viscosa, L.*
Hab. Acapulco.

**Ord. VIII. BYTTNERIACEÆ. Kunth.**

1. Waltheria *Americana, L.*
Hab. Acapulco.

1. Riedleia *nodiflora, DC.*—var. *angustifolia.*
Hab. Acapulco.

2. *R. serrata, Vent.*—var. *angustifolia, Schlecht. in Linnaea, X. p. 375*
Hab. Acapulco.

**Ord. IX. MALPIGHIACEÆ. Juss.**

1. Tetrapteris *Acapulcensis, H.B.K.*
Hab. Acapulco.

Hab. Acapulco.

Hab. Realejo.

Hab. Acapulco.

**Ord. X. SAPINDACEÆ. Juss.**

1. Cardiospermum *microcarpum, H.B.K.?*
Hab. San Blas to Tepic.
We have only seen one capsule, and that is in an imperfect state and burst open; it appears glabrous.
1. Urvillea *Berteriana*, *DC*.

Hab. Realejo.

Our specimen agrees tolerably well with the imperfect description given by De Candolle; but his plant is from St Martha. We possess however a plant from St Vincent, which may be the same, but it is scarcely specifically distinct. The leaves are much longer than in *U. ulmacea*, and irregularly and coarsely toothed.

1. *Serjania racemosa*, *Schum*.

Hab. Realejo.

1. *Paullinia Curassavica*, *L*.

Hab. Realejo.

**Ord. XI. MELIACEÆ. Juss.**

1. Swietenia *Mahogoni*, *L*.

Hab. Realejo.

**Ord. XII. OXALIDEÆ. DC.**


Hab. Acapulco.

**Ord. XIII. TEREBINTHACEÆ. Juss.**

1. Rhus *terebinthifolia*, *Schlecht.*—*Hook. et Arn. supra*, p. 284.

Hab. San Blas and Tepic.

2. *R. macrophylla*; foliis pinnatis subsexjugis cum impari, foliolis ellipticus sinuatis basi apicique obtusissimis supra glabriusculis subtus puberulis, paniculis terminalibus folio duplo triplo brevioribus gracilibus, floribus glomeratis sessilibus, calycibus pubescentibus.

Hab. Acapulco.—Remarkable for the large size of the leaves, 1\(\frac{1}{2}\) to 2 feet long, with leaflets 4 to 6 inches in length; these latter are exactly elliptical, bluntly and broadly serrated at the margin, upon very short petiolules, marked with very straight nearly transverse nerves and these again connected by reticulated nervelets. To the eye they appear glabrous, but beneath under the microscope, are seen to be downy, especially on the nerves and on the younger leaflets. The branches of the panicle and the calyces are likewise downy.

**Ord. XIV. LEGUMINOSÆ. Rich.**


Hab. San Blas to Tepic.

*Hab.* β. and γ. San Blas to Tepic.—Our plants so far accord with the description of Schlechtendal of his *C. bupleurifolia*, that we have little hesitation in considering them the same. What we take for the type of the species, as characterized by the learned author, has been lately figured in the *Icones Plantarum* above quoted, from a specimen from Xalapa. In a subsequent volume of the *Linnaea*, Schlechtendal observes (v. 12. p. 279.) ‘‘haec nova species valde nobis est suspecta, serius enim accepta exemplaria, praestitum prope Chiconquiao lecta, foliiis angustatis stipulisque minus prosilientibus, tantopere ab illa *sagittalis* accedunt ut difficile et artificialiter quasi, magnitudine, colore intensiore paginae superioris, et glauco inferioris possint distinguiri.’’ Our specimens certainly approach the forms now noticed, and even in our small collection we distinguish two varieties, as above mentioned.

3. *C. Tepicana*; annua parva dichotoma adpresso-pubescent, foliis sublonge petiolatis, trifoliolatis, foliolis obovato-cuneatis obtusissimis, stipulis minutis subulatis patentibus, pedunculo folio opposito et eo vix longiore 1-3-floro, carina vexillum superante, leguminibus oblique ellipticis puberulis.


We cannot refer this small and inelegant *Crotalaria* to any described species. We possess indeed what appears to us to be the same from the island of St Vincent. It approaches the *C. dichotoma* of Graham in Bot. Mag. t. 2714, but that is a fruticosae species with lanceolate acute leaflets, and much larger flowers: still the two plants belong to the same natural group of this extensive genus.


*Hab.* Acapulco.—Fruit elliptico-cylindrical, obtuse, with a rather deep furrow on the upper suture, very indistinctly puberulous.

5. *C. Acapulcensis*; fruticosa dichotoma, ramis teretibus junioribus angulatis pubescentibus, foliis petiolatis trifoliolatis, foliolis anguste lanceolatis intermedio subduplo longiori, stipulis minutis erectis subulatis deciduis, racemis multifloris oppositifoliis folio multo longioribus, vexillo carinam margine ciliatam superante, legumine cylindraceo.

*Hab.* Acapulco.—Our specimens are a foot or more long, and appear to be only small branches of the plant. The leaves, except in a very young state, are destitute of pubescence: the middle leaflets 1\(\frac{1}{2}\) or 2 inches long, about twice the length of the lateral ones, all of them narrow, lanceolate, and very acute. The racemes are much longer than the leaves and elongate in fruit very remarkably, so that in that state they are
a span or more long. Fruit 1½ to 2 inches long, cylindrical, hard, slightly downy, containing 20 or more shining brown compressed seeds. Flowers yellow, as large as those of C. verrucosa.


Hab. Acapulco.—Our plant agrees well with the figure in Bot. Reg., of which the specimen was collated with an authentic Linnaean one. The leaves, however, differ considerably from those figured by Cavanilles, and probably the plant itself is very variable. The carina has the lower edge fringed with white down. We have what we consider the same species from St Vincent, but there the hairs on the underside of the leaves are tawny, giving a golden, instead of a hoary hue to that part of the plant. The C. bracteata of Roxb., a native of the East Indies, is very similar to this: but the leaflets are larger, quite glabrous on both sides, and the petioles are shorter.


Hab. Realejo.—Branches long, slender, much curved. Legumes closely reflexed, an inch and more long, remarkably slender, coming to a very acute point. A second species of the genus is in this collection, but too imperfect for description, it approaches the one just noticed; but the pods, if they be in a perfect state, are not half the length of those of I. lespedezoides. It is from Acapulco.


Hab. Realejo.—A very handsome climbing and twining plant, with large ternate leaves: the middle leaflet rhomboidal, on a rather long petiole; the lateral ones on very short petiolules, half rhomboidal, soft and downy, the underside densely clothed with velvety tomentum, whitish, but with a slight golden tinge: all of them very obtuse. Peduncles axillary, bearing long racemes, about equal in length with the leaves. Flowers crowded and in clusters, so as to form an interrupted raceme, patent or reflexed. Calyx clothed with tawny hairs, subtended by small bracteas covered with white hairs. Mr Bentham observes that this is a widely diffused and apparently a common plant: “besides the numerous specimens gathered by Pohl, Martius, Salzmann, and others in various parts of Brazil, it is found in the isle of St Vincent’s, and in central America. It is Cuming’s n. 1097 from Panama.”


Hab. Between San Blas and Tepic.—This has much the habit of G. glabella, Mich.;—but it differs in its hairiness, in its much larger very acute leaflets, considerably smaller flowers and different inflorescence. The flowers are scarcely half an inch in length. Immature legumes about an inch long, clothed with tawny velvety hairs. De Candolle’s description of his G. tuberosa is very brief and unsatisfactory; yet, as far as it goes, it corresponds with our plant, and is also a native of Mexico.

Hab. Acapulco.—This is n. 1170 of Mr Cuming's Panama collections, and n. 173 of the Guiana Herbarium of Mr Schomburgk, who observes that in the dry Savannahs of the Rio Rupunnoony it is called "Yarro conalli," and is used for poisoning the fish called "Yarro," which will not eat the "Hiarry" (Strychnos toxicaria, Schomb.) Benth.—I have often received specimens from St Vincent, to which island I suspect it was introduced from Guiana by Mr Anderson. The leaves vary in the size of the leaflets, and in the form of their point, sometimes acute, sometimes obtuse or retuse, and sometimes deeply emarginate. We think from Schlechtendal's description there can be no hesitation in referring his T. Schiedeana to this place.


Hab. Realejo.


Hab. Realejo and Acapulco.—A common plant in the tropical parts of South America, and in the West Indies, and a very handsome one in a recent state; but its beautiful white and rose-coloured flowers turn quite black in drying. Dr Macfadyen says they are called fee-fee in Jamaica, from the noise made by the negro children in blowing through the flowers.


Hab. San Blas to Tepic.—From our former Mexican collection we were only acquainted with the fruit of this plant; in the present we have flowering specimens. The blossoms are clothed with tawny silky hairs; upper lip very large, broadly obovate, lower lip very small and narrow. Corolla rose-colour.

1. Dalea gracilis, Hook. et Arn. supra, p. 287.

Hab. San Blas to Tepic.

2. D. elata; herbacea, glabra, caule erecto tereti ramosissimo glabro, ramis elongatis strictis, foliolis 4-6-jugis ellipticis subtus glaucis nigro-punctatisque, spicis (fructiferis) densis multifloris elongatis cylindraceis flexuosis, bracteis lanceolatis acuminatis longitudine calycis, calyce glabro nitido 10-striato interstitiis resinoso-glandulosis dentibus subulatis longe plumoso-sericeis, legumine apice truncato.

Hab. Acapulco.—Our specimens of this handsome Dalea are 2-3 feet long, and yet seem to be but small portions of the entire plant. The leaflets are small, obtuse, or only mucronate, destitute of dots above. The specimens are all in fruit; and in that state the spikes are 3-5 inches in length, and more than ½ an inch broad; at first sight, apparently, everywhere clothed with long, silky hairs; but on close inspection it will be found that these hairs are partially situated. There are a few at the base of the calyx, but the exterior surface of the calyx is not only glabrous, but glossy as if varnished; the ovate tube has ten elevated ribs, and between the ribs are linear, elevated, resinous dots; the subulate teeth of the calyx (about equal in length with the tube) are clothed at the margin with long, dense, silky hairs, so that, the flowers being imbricated, the hairs seem to clothe the whole spike. The legume is shorter than the tube of the corolla, which it entirely
fills, one-seeded, subglobose, but with the top coming to a sharp truncated edge. The bracteas are membranaceous and exhibit no glands. The plant seems to be entirely herbaceous; and, as far as can be perceived from the withered remains of its flowers, these are white or cream-coloured.


Hab. Tepic.—The single specimen is in an imperfect state; but, so far as we can judge, it seems scarcely to differ from our D. elegans from the El Cerro del Morro in the province of San Luis, S. America. The flowers are, however, smaller, but of the same colour; and less injured specimens would, in all probability, present important distinguishing characters.

1. Astragalus (§ Ciceroidae) ervoides; puberulus, caule gracili elongato ramoso, foliolis 15-17 remotis lineari-oblongis obtusis, stipulis lanceolatis parvis, pedunculis axillaribus folio longioribus racemosis, racemis 10-12-floris, calyce brevi-ovato oblique obtuse 5-dentato dentibus brevibus subasqualibus (pedicellisque) nigris, corolla (flava) calycem subduplo superante, leguminibus linearibus deflexis curvatis acutis glabris.

Hab. San Bias to Tepic.—Our portions of this plant measure less than a foot, slender, they are branched and straggling, herbaceous. Leaflets about half an inch long. Flowers of the same length, soon reflexed. The short cup-shaped calyx, with its obliquely 5-toothed mouth, has a few dark-coloured short hairs scattered over the surface, yet so as scarcely to affect the greenish colour; but the short teeth and the pedicels are quite black.


Hab. Realejo.—A tall growing plant, with rather large, lanceolate leaflets, acuminate at both extremities. Flowers collected into large, dense capitula which are clothed with long spreading fulvous hairs. The same species is common in Brazil and Peru, as well as in Guiana.

1. Desmodium heterophyllum; erectum hirsutum, foliis simplicibus late ovatis obtusis supremis trifoliolatis, foliolis ovatis intermedio duplo triplove majore, stipulis bracteisque acuminatis rigidis striatis.

Hab. Realejo.—There is no fruit on the solitary specimen, nor any perfect flowers; but the foliage is unlike any with which we are acquainted. The leaves are in general simple, 2 or more inches long, on slender petioles about an inch long, with a pair of small stipules near the summit; the uppermost leaves are much smaller and trifoliolate.

2. D. incanum, Sw. (sub Hedys.) Macfad. Jam. I. p. 265.—β. supinum.—D. supinum, Sw. DC.

Hab. β. Realejo.—This is a common plant in Jamaica, and I possess the same from Mr Cuming (his n. 1023); and Dr Macfadyen has clearly shown that D. supinum is only a variety of D. incanum, produced by weakness.


Hab. San Blas and Tepic.

4. D. podocarpum; elatum herbaceum, caule ramisque angulatis, foliolis (3) ovatis sub-
acuminatis, stipulis subulatis recurvis, paniculis in ramos terminalibus, pedicellis (saepe) aggregatis elongatis gracillimis, floribus parvis, legumine 3-4 spermo spiraliter torto longissime gracillimeque stipitato, stylo longo rostrato. (Tab. XCVI.)

Hab. Acapulco.—A tall-growing plant (3-4 or more feet high), with rather large membranaceous leaves (the larger leaflets 2-3 inches long), glabrous in almost every part, except the petiolules and the lower margin of the leaflets which are ciliated. Panicle terminal, elongated, slender, with numerous, straight, diverging, capillary, very straight pedicels, an inch long. Corolla very deciduous, and the ovary soon becomes twisted and lengthened upon a much elongated and slender stalk, sometimes almost equal in length to the pedicel of the calyx, giving the fruit a very remarkable appearance. The style also is long. Seed twisted!

Desmodium podocarpum. Fig. 1. Flower; fig. 2. Pistil, and figs. 3. 3. more advanced fruits; fig. 4. Seed: —magnified.


Hab. Acapulco,


Hab. Acapulco.

1. Cajanus flavus? DC.—Cytisus Cajan, L.

Hab. Realejo.—In the dried state, at least, we cannot distinguish the difference between C. flavus and C. bicolor.


Tab. LIX.

Hab. San Blas to Tepic.


Hab. San Blas.—Bracteas setaceous, much longer than the flowers, by which it is readily distinguished from L. polyphyllus.


Hab. Acapulco.—Probably a cultivated plant. We cannot find that it accords with any of the species described by De Candolle; but precisely agrees with the specimens we have received from Dr M’Fadyen as the Sugar-Bean of the West Indies, and described by him in the work just quoted under the name of P. saccharatus. The stem is twining, more or less hairy, the hairs deflexed. Leaflets nearly glabrous or hairy on the nerves, especially beneath, the intermediate one deltoideo-ovate, acuminate, on a rather long petiolule; the lateral ones half-deltoid. Peduncles a good deal longer than the leaves, bearing several flowers, 2 or 3 together, pedicelled or sessile. Flowers small, greenish-white; the carina spirally twisted. Pod about 2 inches long, acinaciform, tipped with the rather long, straight, rigid, persistent style. There are 2 small, ovate, striated bracteoles at the base of the calyx. An imperfect specimen of the same plant was in Captain Beechey’s collection from Talisco.

1. Mimosa floribunda, Willd.—De Cand.—Schlecht. in Linnaea, 5. p. 692.
Hab. Tepic.—The same plant exists in Andrieux's collection of the Mexican Plants, from San Felipe. (n. 402.)


Hab. Acapulco.

1. Inga anomala, Kunth, Mim. p. 70. t. 22. De Cand. Prod. 2. p. 442.—Acacia grandi-flora, Willd.

Hab. Tepic.—We have the same species from the neighbourhood of Mexico, gathered by our late consul there, Mr Mackenzie. It is a splendid plant, and De Candolle suggests that, together with Inga Houstoni which has the same copious long bright red stamens, it might form a distinct Genus.

2. I. ? patens ; caule petiolisque aculeis brevibus uncinatis sparsis, foliis bipinnatis, pinnis sex trijugis, foliolis ovatis ovalibusve oppositis brevissime petiolatis glabris terminalibus plerumque majoribus, spicis elongatis densifloris pedunculatis axillaribus terminalibusque subpaniculatis, staminibus sub 20 corollam 4-petalam vix duplo superantibus.

Hab. Realejo.—This seems to be a tall growing plant, with woody branches, glabrous everywhere except the young shoots. Leaves copious, patent, and, as well as the branches (especially the younger ones), furnished with numerous, scattered, small, curved prickles. The main rachis bears 3 pairs of distantly placed pinnae, each pinna bare of leaflets below, having on its upper half, 3 pair of rather closely set leaflets, the largest of them less than an inch long; these vary somewhat in shape, being ovate, oval, or obovate, upon very short petiolules, of a texture between membranaceous and coriaceous, paler-coloured beneath. In the axils of the upper leaves and upon the extremity of the branches where the leaves gradually disappear (thus forming a sort of panicle) the spikes are situated, 3-4 inches long, shortly pedunculated, and growing singly or 2 or 3 together. The flowers and stamens seem to be yellow.

3. I. ? Guatemalaensis ; piloso-sericea, caule petiolisque aculeis validis rectis fulvis, foliis bipinnatis, pinnis 6-8 tri-sexjugis, foliolis oblongo-ellipticis subsessilibus mucronatis, rachi spinula terminata, spicis densifloris terminalibus subpaniculatis, staminibus sub-20 floribus 4-plo longioribus.

Hab. Realejo.—Apparently a low shrub, with woody branches which are angular, especially the younger ones, and these clothed with short silky, rather tawny hairs and beset as well as the petioles and rachi which bears the spikes, with stout, straight, fulvous, scattered prickles, the largest of them almost a quarter of an inch long. Leaves numerous. Pinnae and pinnules rather distantly set, the latter one-half to three-fourths of an inch long, more or less silky especially beneath, as are the younger ones. Spikes 2-4 inches long, with longer stamens than the preceding species. Calyx and corolla (of 5 small erect petals) silky. We have seen no fruit of this or the foregoing species.

1. Poinciana pulcherrima, L.—DC.

Hab. Realejo.

2. P. insignis, Kunth, Mim. t. 44.—De Cand. Prod. 2. p. 484.

Hab. Acapulco.—These specimens entirely agree with the figure above quoted of Professor Kunth. The
general aspect of the plant is different from that of the preceding species; the colour of the flowers is deeper and redder, the claws of the petals are shorter and the stamens also.


HAB. Realejo.—A barren specimen of this, "the Nicaragua wood," is in the Herbarium. It has quite the structure of foliage of Hæmatoxylon, and in the Dictionnaire des Sciences Naturelles, the "Bois de Nicaragua" is referred to the Hæmatoxylon Campechianum. But our specimen has many points of difference from the true H. Campecheanum. The branches are much stouter, the ultimate ones indeed cylindrical; but, lower down, where the thickness is equal to that of the little finger, the branches become compressed and as it were deformed and more or less bluntly angular. The outer bark is much darker coloured, covered with little raised points, so as to render the surface everywhere quite rough not only to the touch but to the eye. The leaves are larger, always even in the young branches growing in clusters. With these differences before us, we dare not venture to consider the tree as identical with the "Logwood," nor do we know whether in commerce the two woods be considered the same.


HAB. Acapulco.


HAB. Tepic.


HAB. Realejo and Acapulco.

4. C. (§?) punctulata; pubescenti-glandulosa, ramis herbaceis elongatis, foliis remotis foliolis bijugis ovato-lanceolatis breviter petiolulatis mucronatis sub tus fusco-punctatis, glandula petiolari nulla, stipulis subulatis reflexis, corymbis paucifloris, calycibus hispidis.

HAB. Tepic.—There is only one specimen of this plant, with imperfect flowers; but its foliage is very peculiar. The petiole is about 2 inches long, bearing at the upper extremity two pairs of ovato-lanceolate acute and mucronated leaflets, each about three quarters of an inch long, marked with brown (resinous?) dots on the underside; these leaves are very remote. The whole plant is clothed with a glandular pubescence. The flowers are moderately large, deep orange colour.


HAB. Acapulco.


HAB. Acapulco.

*Hab.* β. San Blas and Tepic.

**ORD. XV. COMBRETACEÆ. Br.**


*Hab.* Realejo. This seems to have a wide range along the coast of the Pacific, from Acapulco to Realejo.—We think we are right in referring this plant to *C. farinosum*, but there are some points of difference which we observe in our specimens, which are in much finer condition in the present Mexican collection than in the previous one. It is a very splendid species; the stems and branches long and very woody. Petiole three quarters of an inch long. Leaves opposite, broadly elliptical rather than obovate, moderately acute at each extremity, between membranaceous and coriaceous, quite entire, indistinctly squamuloso-farinose above, decidedly so beneath, though not very evident to the naked eye: seen under the magnifier the little scales or farina appear white and round. Racemes as frequently lateral as terminal, 4-6 inches and more long, the rachis firm and woody. Peduncle short. Flowers very numerous, crowded, deflexed and pointing to one side. Pedicel (or rather pedicelliform ovary) the third of an inch long, tetragonal, mealy; free portion of the calyx cup-shaped, tapering at the base, mealy, 4-lobed, lobes acute. Petals 4, alternating with the lobes of the calyx, and situated at the hairy mouth of the calyx, very minute, squamiform. Stamens 8, much protruded, four times as long as the calyx. Filaments deep crimson, arising from the mouth of the calyx. Anthers orange-colour, oval-oblong. Capsules about three quarters of an inch long, roundish-rhomboidal, with 4 broad, membranaceous wings: the surface is almost destitute of the mealliness which clothed the ovary.

Schiede says the *Combretum farinosum* is called "Peyna," signifying a comb, by the Spaniards of Actopan, probably because of the closely placed flowers of the raceme.

**ORD. XVI. ONAGRARIEÆ. Juss.**


*Hab.* Between San Blas and Tepic.—Although we believe this to be the *J. peploides*, H.B.K., we are yet of opinion that it is also the *J. Swartziana*, DC. and the *J. repens*, Linn.; which latter, though considered by De Candolle to be exclusively a native of the East Indies and adjacent islands, yet we possess specimens from Chile which can in no way be distinguished from it.

2. *J. hirta* (Vahl.); frutescens erecta hirsuta, foliis brevissime petiolatis lanceolatis

**Hab.** San Blas to Tepic.—We possess the same plant from various parts of S. America, but are by no means certain of our correctness in referring it to the *J. hirta* of Vahl. The leaves vary much in different specimens, from ovato-lanceolate to oblong-lanceolate, the hairiness is chiefly confined to the upper part of the plant. The pods are about an inch and a half long, when ripe, destitute of the calyx-segments.

1. **Semeiandra grandiflora**, *Hook. et Arn. supra*, p. 291. **Tab. LIX.**—*β. subhirsuta*.

**Hab.** Between San Blas and Tepic.—Dr Sinclair’s specimens differ in no respect from those gathered during Captain Beechey’s former voyage, except in being more pubescent, especially in the younger parts of the plant, and upon the flowers, and in there being rather longish spreading hairs mixed with the down upon the calyx and pedicels.

1. **Diplandra lopezioides**, *Hook. et Arn. supra*, p. 292. **Tab. LX.**

**Hab.** Between San Blas and Tepic.


**Hab.** Between San Blas and Tepic.—A very graceful plant. The leaves gradually pass upwards among the branches into small bracteas. The hairs with which almost every part of the plant is clothed, except the pedicels and flowers, are rather long and seated upon a small bulb; those of the stem and petioles and midrib beneath are more harsh and rigid than the rest, reflexed and very close pressed. Pedicels extremely slender, subtended by a minute bractea.—The figure of Jacquin above quoted is an excellent representation of a flowering branch.

**ORD. XVII. LYTHRARIEÆ.** *Juss.*


**Hab.** San Blas and Tepic.


**Hab.** San Blas and Tepic.—We had considered this to be a new species: but Mr Bentham has referred specimens of the same plant in Hartweg’s Mexican collections (n. 25) to the *C. Llavea*, of La Llave and De Candolle, which latter author has thus characterized it: “caulisibus pluribus hispidulis, ramis ascendentibus, foliis subsessilibus ovato-lanceolatis striosis, pedicellis interfoliaceis erectis, petalis 2 obovatis magnis, caéteris abortivis, stam. 11.”—Our character will be seen (supra, p. 289).—Our specimens in the present collection are a foot and a half to two feet long, extremely rough with the copious rigid hairs or bristles, with which every
part of the plant is clothed. The specimens gathered by Dr Sinclair are rather more glaucous than our former ones, and the large calyx does not in general exhibit so deep a tinge of purple, though that circumstance is very variable.—Our var. β. has some of the leaves of the stem three inches long, but the upper ones are much reduced in size, and so imbricated as to give the appearance of a dense bracteated spike to the flowers.


Hab. San Blas to Tepic.—Copious specimens of this fine species are in the present collection, exhibiting all the peculiarities we have mentioned in our specific character. It is a tall growing species. Leaves 2-3 inches long, exceedingly rough to the touch. The flowering branches often run out to a great length, (10 inches or a foot) and bear small, distant, but opposite, narrow-lanceolate, bracteiform leaves.


Hab. San Blas and Tepic.—The C. bracteata of Lagasca is a Mexican species, of which the brief description given by De Candolle tolerably accords with our plant. The stems and branches are woody and the bark readily peels off in large flakes. The leaves are little more than half an inch long.

ORD. XVIII. MELASTOMACEÆ. Juss.


Hab. San Blas to Tepic.—Better specimens than we formerly possessed of this plant, enable us to give, in the following words, its more obvious characters:—fruticosa, ramis tetragonis glabriusculis, foliis ovatis oblique penninervis brevi-petioliatis integerrimis pubescenti-setosis, floribus in ramis pluribus brevibus corymbosis paniculam formantibus, calyce 4-fido tubo ovato laevi setis copiosis apice glandulosis tecto lobis lanceolato-acuminatis glabris, staminibus 8, 4 majoribus basi longissime bicornis, 4 basi paululum constrictis appendiculis nullis, capsula glaberrima basi calyci adhaerente.—This plant has a woody stem, in our present specimen a foot and more long, with opposite square branches. Leaves, the largest of them, scarcely an inch long, on very short petioles, ovate, acute, or rather obtuse, entire, obliquely and constantly penninerved, the nerves all springing from the midrib and directed upwards, above and at the margin sparingly setose with short hairs, beneath paler coloured and the hairs chiefly confined to the costa and nerves. The upper branches are short, and bear leafy corymbs of few, rather small-sized flowers; the collected flowering branches thus forming a leafy corymbose panicle. Calyx 4-cleft, the tube ovate, slightly contracted at the mouth, even (not ribbed), clothed with spreading setae, which are terminated with a viscid gland; lobes of the calyx lanceolate, acuminate, spreading, destitute of setae. Petals 4, obovato-rotund, ciliated. Stamens 8, 4 larger of which the anthers are linear-oblong, furnished at the base with 2 long horns or fleshy setae; the 4 smaller ones are destitute of those horns, and are only slightly constricted at the base so as there to form a sort of tubercle. Ovary broadly ovate, quite glabrous, the lower half incorporated with the base of the tube of the calyx, the rest free; style filiform or slightly clavate. The whole plant has a blackish hue when dry.

1. Chaetogastra? ferruginea; tota setis nitidis ferrugineis appressis tecta, ramis obtuse tetragonis, foliis oblongo-lanceolatis petiolatis integerrimis 3-5-nervis, panicula terminali foliosa subcorymbosa, calyce 5-fido, tubo ovato 5-costato, lobis subulato-lanceolatis deciduis, staminibus 10, 4 majoribus omnibus antheris uniporosis basi tuberculo horizontali subelongato, ovario setoso basi calyce adhaerente.
HAB. Realejo.—Stems stout and woody, almost terete, the branches obtusely 4-sided, clothed, as are the leaves, calyx and ovary, with erect, close-pressed, pale, rusty coloured shining setae, giving a silky appearance to the eye. Leaves 2 inches or 2½ inches long, on rather short petioles, oblong-lanceolate, entire, acute, marked with from 3-5 strong, parallel nerves. Flowers corymbose on small terminal branches, which collectively form a corymbose panicle. Flowers crowded, and rather small. Calyx 5-cleft; the tube ovate, marked with ten slightly elevated lines, and, as well as the lanceolate-subulate erect lobes, clothed with appressed, rigid hairs; the lobes are eventually deciduous. Petals 5, oblongo-obovate, ciliated. Stamens 10, 4 large and 4 small; but the anthers all uniform, linear, opening by a single conspicuous pore at the extremity, and furnished at the base with a projecting horizontal tubercle. Ovary ovate, the lower half adherent with the base of the calyx, the upper half free, and covered with erect, close-pressed bristles; style clavate, glabrous. The fruit is a capsule included within the truncated calyx.

ORD. XIX. CUCURBITACEÆ. Juss.


HAB. Acapulco.—From the former Mexican collection we attempted to draw up a character of this plant with the aid of only very imperfect specimens. Those from Dr Sinclair have both flower and fruit. The male flowers are green and about as large as those of our Bryonia dioica. Filaments 3. Anthers combined and flexuose. The berries are rather larger than those of the common Bryony, filled with white mealy pulp, and flat seeds.


HAB. Acapulco.—The fruit here is more perfect than in our former specimens, and is ovoid.

RYTIDOSTYLIS.† Nov. Gen.


* This word is by mistake printed stricto in the specific character of the same plant, supra, p. 292.
† From ῥυτίς, ῥυτής, wrinkle, and οὖστος, a style or column, in allusion to the wrinkled surface both of the style in the female flower, and of the column of stamens in the male flower.
1. **Rytidostylis gracilis**. (Tab. XCVII. A.)

**Hab.** Realejo.—We do not find any genus of *Cucurbitaceae* to correspond with the present plant, of which, however, we unfortunately possess no fruit. The stems are very slender, almost filiform, glabrous. Leaves thin and membranaceous, an inch and a half long and about as broad, roundish-cordate, with a deep sinus, the margins angulato-dentate, mucronulate, both surfaces scabrous with minute elevated points. Petiole short, not in general much longer than the sinus. Cirri lateral. Flowers axillary: male several (4-6) in a pedunculated corymb; female solitary, upon a very short peduncle from the base of the peduncle of the male corymb. Male flowers smaller and slenderer than the female, but the structure of the floral coverings is the same in both; in the male flowers, however, the petals have not the thickened tubercular base we find in the females. The column formed by the filaments of the stamens is nearly as long as the tube of the calyx; there is no ovary nor the rudiment of one. The female flower has no trace of stamens; but the style has the same remarkably wrinkled appearance which we find on the staminal column of the male flowers. Stigma large, smooth, with a depression at the top.

Tab. XCVII. **A. Rytidostylis gracilis**.—**Fig.** 1. Unexpanded male flower; **fig.** 2. Male flower laid open to show the stamens; **fig.** 3. Female flower; **fig.** 4. The same, from which the floral coverings are removed:—magnified.

**Ord. XX. PAPAYACEÆ. Agardh.**


**Hab.** Realejo.—The foliage and flowers exactly correspond with the well known Papaw Tree, and with the specimen figured in the Botanical Magazine. The following is a totally different species.

2. *C. peltata*; foliis peltatis orbiculari-cordatis profunde 5-fidis, lobis latissime obovatis acutis dentatis subitus glaucis, floribus (masculis) glomeratis in paniculam dispositis, filamentis monadelphis alternis brevioribus. (Tab. XCVIII.)

**Hab.** Realejo.—This is a most distinct species of Papaw from any yet described. The leaves are from 6-10 inches long (and about the same in breadth), deeply 5-lobed, peltate; the petiole, a foot or more long, and as thick as a swan's quill, is inserted beneath at a great distance from the margin; the general outline or circumscription is roundish-cordate; the lobes are very broadly obovate coming suddenly to an acute point, toothed at the margins; the sinuses more or less acute or obtuse; the under side is glaucous. The panicles are of male flowers only, nearly a foot long; the branches distant, but very irregularly placed, and having the flowers clustered or conglommerated. Calyx exceedingly minute, 5-toothed. Corolla an inch or an inch and a half long, hypocrateriform; the tube slender; the limb 5-parted, spreading. Stamens 10, inserted at the mouth of the corolla, evidently monadelphous, the base of the filaments being united into a short annulus: these filaments are alternately longer, all of them fringed with spreading hairs, the shorter ones (so short as at first sight to give the appearance of sessile anthers) have the largest anthers:—all of them, however, are of the same shape, oblong, and opening interiorly by two longitudinal fissures near the middle of the two cells; they are fixed to the top of the filament by the middle of the back. The female flowers and fruit are unknown to us.

Tab. XCVIII. **Carica peltata**.—**Fig.** 1. Flower; **fig.** 2. Portion of the stamens:—magnified.

3 H


Hab. Between San Blas and Tepic.—St Hilaire has endeavoured to show an affinity between this plant and the Onagrarìæ. But it is surely more nearly allied to Cucurbitaceæ and Loaseæ. Professor Lindley places it in this latter Order without any mark of doubt, though it differs from it in the definite stamens and solitary pendent seed. There is an excellent figure of the entire plant in Jacquin's "Icones Plantarum Rariores" above quoted. The flowers and fruit are nowhere accurately figured. The calyx is coloured, large, funnel-shaped, pubescenti-sacrous, divided half-way down into five broadly lancetale erecto-patent acute segments; at the base (which is incorporated with the ovary) are five, projecting, obtuse, decurrent teeth, alternating with the segments of the calyx; these teeth may perhaps be considered coadunate bracteas. At first sight they may readily be mistaken for the calyx, and the real calyx for a corolla, and it is no doubt the presence of these which gave rise to the remark in De Candolle's Prodromus, quoted from Fl. Mexic. ins.; "Fructus junior costatus." On laying open the proper calyx, five linear-spathulate petals are seen, alternating with the lobes of the calyx, and shorter than those lobes, situated at the mouth of the tube. Stamens 5, alternating with the petals, and inserted on the same line with them. Filaments as long as the petals, hairy. Anthers oblong, 2-celled, opening anteriorly by two fissures. Ovary adherent to the base of the calyx, 1-celled, 1-ovuled. Style filiform, rather longer than the stamens, glabrous: Stigma capitate, small. Fruit a small indehiscent capsule, crowned by the withered remains of the flower, 1-celled, with one pendent seed occupying the entire cavity of the cell, globose. Albumen none. Embryo globose, of two hemispherical cotyledons. Radicle superior, tuberculiform.

Tab. XCVII. B. Gronovia scandens.—Fig. 1. Flower; fig. 2. The same laid open to show the petals, stamens, and style; fig. 3. Fruit, with the withered, but persistent floral coverings; fig. 4. Fruit laid open, showing the solitary pendent seed; fig. 5. Embryo,—magnified.

Ord. XXII. Turneraéæ. H. B. K.

1. Turnera cuneiformis, Juss.—De Cand. Prod. 2, p. 346.—T. obtusifolia, Sm. in Rees' Cycl.

Hab. Realejo.—T. cuneiformis is described only as an inhabitant of Brazil. Our specimens precisely accord with an unnamed Brazilian species in our Herbarium, gathered at Bahia by Saltzmann; and also with cultivated specimens from the garden of Gottingen under the name of T. cuneiformis.


1. Loranthus Schiedeanus; glaber hexandrus grandiflorus, antheris versatilibus, corymbo terminali e cymis semel terque trichotomis, ramis subalato-tetragonis ad nodos dilatatis, foliis (pseudo- oppositos) breviter petiolatis ovato-lanceolatis lanceolatis oblique falcatis apice (magis minusve) attenuatis penninervis subtriplinervisque, floribus pedicellatis, bractea cupuliformi truncata germine breviore, calycis margine integerrimo
β. foliis minus acuminatis, floribus brevioribus.

Hab. β. Between San Blas and Tepic.—We possess specimens of what we consider the type of this species from Xalapa (the original station of Schiede) gathered by M. Galeotti. The present has less acuminate frequently 5-(as well as 3-) nerved leaves, and shorter flowers. In other respects the two plants appear to be the same. The same species is in Andrieux Pl. Mexic. Exsicc. n. 342, from between Chalco and Gonmacatapec.

ORD. XXIV. RUBIACEÆ. Juss.


Hab. Between San Blas and Tepic.—This is probably a very general plant throughout Mexico, and we suspect a very sportive one. Kunth remarks that his B. angustifolia and B. hirtella are probably not different from it; and we are almost of opinion that through the medium of B. splendens, Graham in Bot. Mag. t. 3781, it may be traced even into B. Jacquinii, H.B.K. (the Ixora Americana, Jacq., Houstonia coccinea, Andr.)


Hab. Between San Blas and Tepic.—This is the same plant with n. 99 of Mr Hartweg’s Mexican collections, and has been considered by Mr Bentham to be the B. obovata of H.B.K.—but that plant is described as having a glabrous, 4-sided, square stem, and “folia quaterna obovato-oblonga, acuminato-mucronata, basi angustata, reticulato-venosa, utrinque glabriacula;” characters which do not tally with our plant. Our B. scabra, is remarkable for the harsh rigid pubescence which more or less abundantly clothes every part of the plant, and which is particularly copious on the young branches and foliage and on the calyces. Leaves 2-3 inches long. The stipules are formed by a broad membrane, uniting the bases of the petioles and bearing a strong subulate or rather setaceous tooth, and one or two lesser and filamentous ones, which are soon deciduous. Corymb many-flowered, terminal, trichotomously divided, at the setting on of the branches bearing 3 small linear-lanceolate leaves and similar stipules to those of the stem, but having less rigid teeth or sete. The calycine teeth are particularly long, subulate and flexuous; the corolla an inch and a half long, scarlet (?), the tube slender, widening upwards, the limb of 4 broadly ovate spreading segments.*

* In Mr Andrieux’s Mexican collections are three plants which seem to be referrible to this genus Bouvardia, and which may be thus characterized.

1. Bouvardia Tolucana; suffrutfcosa, ramis erectis trichotomis foliisque ternis lineari-lanceolatis sessilibus pubescenti-scorbrio, stipulis latis membranaceis subbisetigeris, corymbis terminalibus trichotomis, dentibus calycinis brevibus subulatis, corollæ pubescentibus limbi lacinii late ovatis brevibus suberectis.

Hab. Toluca. Andrieux, Pl. Mexic. Exsicc. n. 332. Nom. vernæ. Trompetillo.—The lower part of the stem is shrubby, the rest herbaceous. The leaves are scarcely an inch long, quite sessile. Flowers an inch in length. Corolla clothed with a rather harsh white down, the limb very short.
1. Hamelia *patens*, Jacq.— *Hook. et Arn. supra*, p. 295, (var. *glabra*.)—\( *\beta* *folii* *subtus molliter pubescentibus*. 

**Hab.** San Blas.—Our former specimens were quite glabrous, the present are downy and even velvety on the underside of the leaves.


**Hab.** Tehuantepec and Tepic.—In this widely dispersed species of *Spermacoce* we think we have observed characters which will almost invalidate those of the Genus *Bigelovia* (*Borreria*, Meyer, not Acharius.)—The essential distinguishing mark of the Genus *Bigelovia*, is to have the "Capsula matula ab apice septicida dehiscens dissepimento libero nullo." (De Cand.) Such is really the case, generally speaking, with the fruit of the plant now before us, as shown by *A. Richard*, *Rub. t*. 14, fig. 2, 3, and in our Tab. XCIX. B. fig. 3 and 4. Hence, as it appears to us, our plant would be a *Bigelovia*. Schlechtendal’s character of *Bigelovia* in the *Linnaea* (3, p. 310.) is also quite characteristic of this kind of fruit:—"Capsula calyce coronata, bilocularis, bivalvis, septicida dehiscens, dissepimento, praeter inflexos valvularum margines, nullo; loculis monospermis intus demum hiatibus."—But in other fruits on the same specimen we find a different mode of dehiscence. Not infrequently one* or both valves separate from the flat inner superficies of the valves or

2. Bouvardia *xylostoides*; fruticosa, humilis? *folii* ternis late ovatis obtusus breviter petiolo molliter pubescentibus subitus pubescenti-sericeis, stipulis late ovatis membranaceis pubescentibus bi-trisetigeris, floribus subcapitatis, capitulis 3-6-floris sessilibus, calycis tubo tomentoso, limbi laciniiis elongatis spatulatis foliaceis, corolla tomentoso-sericea, limbi laciniiis brevis pubescentibus.

**Hab.** On slightly elevated mountains about Mitlam, Province of Oaxaca. *Andrieux*, *Pl. Mexic. exsicc*. n. 333.—A small, apparently humble shrub, with a good deal the general aspect of some of the North American species of *Xylostemon*. Leaves, including the petioles, three-fourths of an inch long, soft and downy, silky beneath. The teeth of the calyx are long, spatulate and leafy. The corolla clothed with dense, white, silky tomentum; the limb of 4 short broadly ovate, spreading segments. The heads of few flowers seem to be quite sessile.


**Hab.** Between Tehuantepec and Voca del Monte, Province of Oaxaca. *Andrieux*, *Pl. Mexic. exsicc*. n. 334.—A doubtful species of *Bouvardia*. The stems are woody, tortuous; the older parts of the branches marked with the scars of fallen leaves and stipules; younger branches very downy, almost woolly. Leaves opposite 2-3 inches long, penninerved, moderately hairy above, woolly and much paler coloured beneath, where in the young leaves it is pure white. Flowers densely crowded, so that the corymb appears rather to be capitula; the segments of the calyx elongated, almost leafy. The corollas about an inch long, canescent with white wooly down.

*And then the character is that of *Spermacoce*, if we understand it rightly, "Capsula calyce limbo sepe obliterato coronata, bilocularis, coccis monospermis ab apice bipartibilibus, altero septo adnato clauso, altero septo rupto aperto." *De Cand.*—Or, according to Schlechtendal, "Capsula calyce coronata, bilocularis, bivalvis, dissepimento parallelo; loculi monospermâ, alter septifragae dehiscens, alter dissepimento adnato clausus."—*Schlecht. in Linnaea*, 3. p. 355.
MEXICO.—SUPPLEMENT.

carpels, shown at figs. 3 and 4, and then the disseminum is clearly seen to be double (fig. 7.) and of quite a distinct substance (not herbaceous, but between membranous and coriaceous) from the valve: and these, singly or two together, may often be seen among the clusters of fruit, resembling white, oval chaffy scales. In other words, the disseminums sometimes fall away with the respective cells or carpels and sometimes remain attached to the receptacle after these latter have separated. This receptacle is a small spongy conical body (fig. 4.) whose apex reaches to the point of attachment of the seed. The valves are almost hemispherical; one frequently bears three teeth of the calyx, and the other two. The cavity is entirely filled by the seed, which is nearly hemispherical, transversely wrinkled, anteriorly marked with a deep longitudinal furrow, and, near the base of that furrow, with a scar where the seed was attached to the disseminum. Among the capsules are numerous setae.

The habit of Bigelovia, it must be confessed, is completely that of Spermacoce, as is that of Diodia likewise; and we cannot but agree with Achille Richard in his observations on the Genus Spermacoce, Mém. sur la Famille des Rubiacées, p. 150. "Un examen attentif d’un très grand nombre d’espèces nous a convaincu de la nécessité de réunir en un seul les trois genres, Spermacoce, Diodia et Borreria (Bigelovia); c’est toujours un même type d’organisation, non seulement dans toutes les parties de la fleur, mais encore pour le fruit d’après lequel on a fondé la distinction de ces trois genres. En effet que les deux coques restent parfaitement closes comme dans les Diodia, ou bien qu’elles offrent une fente longitudinal comme dans les Borreria, ou enfin que la cloison reste complètement adhérente à l’une des coques, tandis qu’elle manque dans l’autre coque comme dans les véritables espèces de Spermacoce; nous ne voyons là, nous le répétons, qu’un même type d’organisation, d’autant plus que très-souvent ces caractères ne sont pas si nettement dessinés qu’il soit facile de rapporter une espèce à telle ou telle de ces trois modifications. Nous pensons donc qu’au lieu d’en former des types de genres, elles peuvent simplement être employées pour établir des subdivisions ou sections dans le genre Spermacoce, qui est fort nombreux en espèces."

Tab. XCIX. B.—Fig. 1, 2. Capsules; fig. 3, 3. Valves or carpels separated from the receptacle (fig. 4.); fig. 5, 5. Valves separated from the disseminum, which latter remain attached to the receptacle (fig. 6.); fig. 7. Back view of a seed; (at fig. 5. The inner face of the seed is seen):—magnified.


Hab. San Blas to Tepic.

Caulis pedalis ad sesquidepalem, tereti-obscurc tetragonal, glaber vel subpuberulus, basi suffruticosus, diffusus, ramosus, ramis brevibus. Folia opposita, (internodiis elongatis, præsertim in caule ubi 4-6 uncas longis) lanceolata, rigidiuscula, 2-3 uncas longa, 3-4 lineas lata, utrinque acuminata, vix petioluta, subtrinervia, vel potius nervis pannicis costa parallelis scabriuscula, ad marginem et ad nervos subus scabra, pagina inferior subpubescentia. Stipulae late, membranaceæ, pubescentes, margine denticulatae et spinulis vel setis rigidis tribus appressis ferentes; seta intermedia longiore validiore. Flores parvi numerosi, glomerato-verticillati, in axillis et in stipulis foliorum supremorum siti, vel terminales capitati, capitulo subtetrphyllio, inter flores setoso; setæ numerosæ. Flores brevissime pedicellati. Calycis tubus globosus, subdylmus, obscurc costatus glaber, supern setoso-scaber, limbus 4-dentatus, dentibus subulatis, quorum duabus oppositâ duplo longioribus latioribus—busque, tubum 4-plo superanous, minoribus albidis, omnibus rigidis erectis, marginibus setoso-scabris, diaphanis. Corolla infundibuliformis, dentibus calycinis longior, extus pubescens, tubo gracili, limbo 4-lobo, lobis ovatis

This plant, as well as the other individuals of the genus, have so much the habit of Spermacoeae, that, without a careful examination of the fruit, the distinction is not evident. But there a remarkable difference is observable, which has given rise to the generic name. The capsule is a pyxidium, separating into two portions, not indeed exactly transversely, but with an angle somewhat resembling that of a V inverted, and the upper half, shaped like a mitre, falls away, frequently carrying the seeds along with it, which are detached from the dissepiment that remains in the lower half (fig. 4, 5.) The seeds are extremely curious, and judging from the figure in the Linnaea, very different from those of M. Humboldtianum, one of the species on which the Genus was founded.—Stems and branches dark-coloured.

Tab. XCIX. A. Mitracarpum Schizangium.—Fig. 1. Flower; fig. 2. Fruit; fig. 3, 4. Capsule with the two portions separated; fig. 5. Front (or inner) view of a seed; fig. 6. Back view of ditto; fig. 7. Side view of ditto:—magnified.

2. M. pallidum; herbaceum erectum, ramis elongatis flexuosis, foliis ovato-lanceolatis acutiusculis basi in petiolum attenuatis utrinque scabro-puberulis, stipulis hirsutis spinoso-setigeris, floribus axillaribus verticillatis et terminalibus capitatis 4-phyllis, filamentis exsertis, seminibus—?

Hab. Realejo.—This, although very nearly allied to the preceding, is certainly a distinct species; it is herbaceous, with an annual root. The stem is erect, and, as well as the elongated branches, of a singularly pale colour, and glossy; they are rounded, with 4 but little elevated lines, thus indistinctly quadrangular, very slightly downy. The leaves are broader, softer, and more decidedly petiolated, equally long in general, but the uppermost ones, those forming a sort of: involucre beneath the terminal head of flowers, are shorter. The stems are one foot and a half to two feet long. The specimens have no fruit.

1. Crusea parviflora; elata herbacea, ramis elongatis gracilibus divaricatis, foliis ovato-lanceolatis tenuibus in petiolum attenuatis hirsutulis, umbellis capitatis terminalibus tetraphyllis, pedicellis calycis lobis basi sericeo-villosissimis, ovario didymo lobis disjunctis, calycis tubo supra ovarium maxime constricto. (Tab. XCIX. C.)

Hab. Acapulco.

Caulis herbaceus, erectus, tetragonous, gracilis, glaber, nitidus, bi-tripedalis et ultra, ramosus. Rami oppositi non raro subverticillati, divaricato-patentes, filiformes, internodiis elongatis. Folia opposita, brevipediolata, 1-2 uncias longa, ovato-lanceolata, tenui-membranacea, acuta vel acuminata, glabra vel villosula, subtus palliudria, penninervia, nervis oblique subparallelis. Stipulae late membranaceae, glabriuscule, setis inaequalibus appressis rigidis marginatae. Flores parvi, umbellato-capitati, capitulis hemisphaericis semicircum latis, involucratis, involucro tetraphyllo, foliolis sessilibus ovato-lanceolatis, 3-5-nervis, duobus oppositis tripllo minoribus, majoribus unciam longis: intra flores setis vel paleis plurimis angustis villosis. Pedicelli pilis longis sericeis hirsutissimis. Calycis tubus glaber, ob formam ovarii inferne didymus, superne insigniter constrictus, dein in limbo 4-lobium profunde 4-partitum dilatatus. Limbus basi membranaceus, hirsutissimus, albus; laciniiis elongatis, lineari-spathulatis, herbaceis, acutis, ciliatis,

This is a tall growing plant, with slender glossy stems, spreading filiform branches, and thin membranaceous leaves. Flowers so small, and in so perfect an involucre as to look, at first sight, like those of some *Composita*: this involucre, at the base, by the union of the base of the leaves through the medium of the stipules, is cup-shaped. The flowers themselves are extremely curious, white or yellowish. Each one is pedicellate: the pedicels very hairy, or rather silky, and mixed with very narrow silky paleae or membranous setae. The ovary, though of course adherent with the tube of the calyx, has its two rounded lobes so separated by the axis, or continuation of the pedicel, that these lobes have the appearance of two globose glands, placed one on each side of the pedicel below its apex; for above the ovary the calyx-tube becomes suddenly contracted, so as to resemble a pedicel to the free portion or limb of the calyx; this latter is large (in proportion to the size of the flower), deeply cut into five, erecto-patent, spathulate, but acute, herbaceous segments, slightly fringed at the margin, whilst the white and membranous base is clothed with long, spreading, silky hairs, like the pedicel. Coccules but little altered from the lobes of the ovary, rather larger, and darker coloured, punctate; they are indehiscent, fall off and leave the axis or flattened upper portion of the pedicel, which is fenestrated (*fig. 3*), or perforated with an oblong fissure, within which, at the base, is the placenta or receptacle of the seeds. The pericarp is rather thin, but succulent, and adheres pretty closely to the seed which is black and wrinkled, its inner face marked with a deep oblong furrow.

Tab. XCIX. C. Crusea parviflora.—*Fig. 1.* Flower; *fig. 2.* Fruit, crowned with the persistent calyx; *fig. 3.* Calyx, after the coccules have fallen away, to show the perforated axis and the placenta or receptacle of the seeds; *fig. 4.* Back view, and *fig. 5.* front view of a coccule; *fig. 6.* Seed:—magnified.

2. *Crusea subalata;* robusta, caulibus elongatis diffusus ramisque acute tetragonis angulis inferne alatis, foliis ovatis ovato-lanceolatisve petiolatis rigidiusculis pubescenti-tomentosis, ovario bilobo, corollae laciniiis concavis, stigmate clavato integro.

Hab. Between San Blas and Tepic.—Stems two feet and more long, spreading, acutely 4-angled, the angles winged below. Branches elongated, downy, stipules a broad short downy membrane with 2-4 rigid setae. Leaves an inch or an inch and a half long, of a harsh and firm texture compared with the preceding species, penninerved, the nerves few and nearly parallel with the midrib. Flowers pedicellate, but so dense as to form a very compact globose capitulum within the four-leaved involucre. Pedicels short, hairy. Ovary glabrous, globose, but scarcely 2-lobed. The contraction of the tube of the calyx above the ovary is very slight. Calyx-limb much resembling that of the last species, but silky on the whole outer surface. Corolla with much longer and very concave, almost boat-shaped segments, velvety on the outside. Filaments very long and much inserted. Style shorter than the stamens. Stigma clavate or capitate, quite entire.—We find no description of this, or of the foregoing species, both of which undoubtedly belong to the *Genus* Crusea.

Ord. XXV. VALERIANÆ. Juss.

1. *Astrephia Mexicana;* glabra, foliis bi-tripinnatifidis laciniiis lineari-subacuminatis, paniculæ terminalis ramulis gracilibus dichotome corymbosis, ramis ultimis spicatis
floriferis, bracteis distichis, floribus fructibusque secundis, corolla basi subgibba, calycis limbo obsolete integro.—Valeriana ceratophylla, Hook. et Arn. supra, p. 296. not H.B.K.

HAB. San Blas and Tepic.—Notwithstanding the great similarity between this plant and the Valeriana ceratophylla of H.B.K. Nov. Gen. Am. 3. t. 276. (so great indeed, that we had in a former part of this work hastily considered it the same), it is in reality a totally different thing, not even referrible to the Genus Valeriana at all. It is a true Astrephia, having no pappose calycine limb, but a very indistinct entire border, a mere slightly elevated rim. The flowers at first appear to be capitate at the extremity of the little ramuli of the corymb: but as the fructification advances, these ramuli are elongated into slender spikes, with closely placed, almost imbricated, distichous, fringed, ovato-lanceolate bracteas, within which the ovary is situated. Corolla very narrow at the base, and there a little oblique, but scarcely gibbous. Stamens 2, almost entirely included. Style much inserted. Stigmas 3. Limb of the calyx obsolete, unaltered in fruit. Fruit glabrous, ovato-triquetrous, with two elevated lines in front, indicating two abortive cells. The more advanced fruit is, however, only 1-celled, very deciduous, leaving the rachis pectinated, as it were, with the closely-placed distichous scales or bracteas.

ORD. XXVI. COMPOSITÆ.

TRIB. I. VERNONIACEÆ.


HAB. Realejo.—De Candolle’s character of this plant is drawn up from a Mexican specimen in Hænke’s Herb., and consequently we believe that it is from the Pacific side of Mexico, and the character quite accords with our Realejo specimens. The stem and branches are decidedly woody and striated, upwards clothed with rusty down. Leaves 4-6 inches long, broadly lanceolate, penninerved and reticulated, of a harsh texture, wrinkled when dry. Petiole half an inch long. Panicle large, many-flowered, terminal, the branches leafy at the base; the ultimate ones slightly recurved, bearing the capitula sessile on the upper side. Scales of the involucræ green with a white border.


HAB. Realejo.—Our specimens have larger capitula than usual, and from 4 to 6-8 collected in each bractea; but it is a species liable to much variation, according to De Candolle.


HAB. Between San Blas and Tepic.—Our specimens, only portions of the plant, are a foot to a foot and a half long, leaves 4-6 inches long, opposite, and, by means of the short semi-amplexicaul petioles, even
united, so that the stem may almost be said to be perfoliate.—Cultivated in our gardens, this fine plant, according to Mr Sweet, attains a height of 10 or 12 feet.


**Hab.** Between San Blas and Tepic.—A very distinct and well marked species with lanceolate leaves, much attenuated at the base, and densely villous small capitula.

**SINCLAIRIA.** nov. Gen.


1. Sinclairia *discolor.*

**Hab.** Realejo.—We think this fine plant, which is very different from any thing we are acquainted with, may be placed among the *Vernoniaceæ*, near *Hectoria* and *Andromachia.*—The flowers are about an inch in diameter. Leaves 4 or 5 inches long, and almost as much broad; beneath, quite white (but neither tomentose nor farinose), beautifully marked with the dark brown nerves.


**Hab.** Between San Blas and Tepic.

1. Cælestina *petiolata* (n. sp. Sect. Ageratoïdes); foliis glaberrimis late ovatis obtusiusculis grosse obtuse serratis basi in petiolum longum attenuatis, corolla glaberrima, pappo cupulæformi dentato dente unico corollæ tubum fere æquante.


1. Phania? *dissecta* (n. sp.); caule gracili elongato repetitum dichotomo pubescente, foliis bi-tripinnati-sectis, pinnis primariis remotis laciniiis parvis ovato-lanceolatis incisis, pedunculis monocephalii elongatis gracilibus terminalibus et ex dichotomiis ramorum,

* In order to save room, as the present is the last fasciculus to which the work can extend, we are obliged to omit the notice of several interesting and some entirely new plants in this collection, but especially of such as were found in Mexico during the previous voyage of Captain Beechey.
capitulis multifloris, involucris squamis striatis nitidis imbricatis exterioribus lanceolato-interioribus longioribus angustissimo-linearibus, corollis perangustis lobis brevissimis obtusis, pappo æquali et setis tenuibus fuscis 12-14 corollae longitudinem æquante.

Hab. Acapulco.—Whether of the genus Phania of De Candolle or not, it is doubtless a congener with our Phania? urenifolia, supra, p. 297. The habit is quite the same, and the involucre and corolla: the leaves however and the pappus are extremely different.

1. Stevia elliptica (n. sp.); pubescenti-glandulosa superne præcipue, foliis oppositis ellipticis seu ovato-ellipticis serratis trinerviis basi brevii-attenuatis sessilibus, capitulis glomeratis corymbose-paniculatis, pappi setis 3-4 asperis longitudine corollae.

Hab. Between San Blas and Tepic.—A tall growing shrubby plant with a good deal the appearance of Stevia trachelioïdes, DC. and Hook. Bot. Mag. t. 3856:—but the pappus is extremely different, having no paleae and only from 3 to 4 long scabrous setæ. It has not enough of setæ to range with De Candolle’s Div. Multiaristatae.

2. Hebeclinium Tepicanum (n. sp.); fructicosum, glabrum, foliis membranaceis ovato-lanceolatis acuminatis petiolatis pellucido-punctatis serratis, panicula terminali thyrsoida, capitulis parvis subquinquefloris, involucri imbricati squamis ellipticis obtusis striatis, achenis obovatis angulatis, pappi setis sub-20 corollae longitudine apicibus clavellatis plumosis.

Hab. Between San Blas and Tepic.—The general aspect of this plant is very similar to that of the well known H. macrophyllum, but the branches are woody to the very apices, as in Mr Bentham’s H. macrocephalum. The leaves are nearly a span long, copiously pellucido-punctate, the involucres and the size of the capitula are as in the former mentioned species.

1. Erigeron velutipes (n. sp.); annuum parvum pubescens, caule erecto superne paniculato basi pilis albis patentibus dense vestito, foliis acutis inferioribus spathulatis caulinae oppositis lanceolatis summis linearisubulatisve bracteiformibus, involucris squamis linearibus pubescenti-hirsutis, ligulis sub-12 disco duplo longioribus, pappi simplicis seriei setis 3-5 scabridis longitudine fere tubi basi dilatato-paleaceis.

Hab. Between San Blas and Tepic.—This may be placed near E. scaposum, DC. n. 27, but the stem is always branched or panicled even in the smallest specimens, and the base of the stem and attenuated bases of the lower leaves are densely clothed with long white hairs.

1. Chrysopsis? scabra (n. sp.); annua gracilis erecta superne paniculata, foliis integerrimis acutissimis radicalibus spathulatis caulinae oppositis lanceolatis summis linearibus subulatissve bracteiformibus, involucris squamis linearibus pubescenti-hirsutis, ligulis sub-12 disco duplo longioribus, pappi simplicis seriei setis 3-5 scabridis longitudine fere tubi basi dilatato-paleaceis.

Hab. Between San Blas and Tepic.—An annual, herbaceous plant, 1 foot to 1½ foot high; the leaves, except those of the panicle, are opposite (!) and the pappus certainly is not double; so that though it has the
habit of a _Chrysopsis_ it will no doubt be found to belong to some other genus when more perfect specimens can be examined.

1. _Wedelia strigosa_ (n. sp.); caule erecto suffruticoso, ramis elongatis striatis pubescenti-hirsutis, foliis brevissime petiolatis ovatis serratis longe angusteque acuminatis trinerviis supra undique subtus ad nervos strigoso-hispidis setis tuberculo albo impositis, pedunculis terminalibus vel e dichotomiis ramorum folio longioribus monocephalis, involucri squamis ovato-ligulatis exterioribus subfoliaceis hirsutis interioribus subscariosis ciliatis, achenio glabro calyculo fimbriato dentibus 2 longioribus.

_Hab._ Acapulco.—This does not accord with _W. Acapulcensis_ of H.B.K., nor with any other described species.

2. _W. cordata_ (n. sp.); piloso-scabra herbacea, foliis longe petiolatis cordatis (superioribus ovato-cordatis) acuminatis membranaceis serratis trinerviis, pedunculis terminalibus gracilibus tricephalis diphyllysis, involucri squamis lanceolatis acutis pubescenti-hirtis, achenis . . . . ?

_Hab._ Realejo.—Apparently a tall growing herbaceous plant, scabrous to the touch, and, when the leaves are magnified, the hairs are seen to be short but situated on a small white tubercle as in the preceding species, from which in other respects it is totally different. The achenia are too young to allow us to describe their form accurately.

3. _W. populifolia_ (n. sp.); herbacea elata erecta pubescenti-sacabra, foliis lato-cordatis longe petiolatis serratis tenui-acuminatis trinerviis, paniculis foliosis, capitulis saxe subverticillatis, pedunculis pedicellisque pilosis, involucri squamis ovatis acutis striatis versus apicem præcipue hirsutis, achenis . . . . ?

_Hab._ Realejo.—Here, also, the flowers are too young to exhibit the exact structure of the achenium and pappus: but the species is very different from the preceding ones. The capitula are numerous and frequently subverticillate.

4. _W. subflexuosa_ (n. sp.); herbacea, glabra, vel sub lente minute piloso-hispida, ramis elongatis subflexuosis, foliis ovatis acuminatis membranaceis serratis trinerviis basi in petiolum perbrevem attenuatis, paniculis terminalibus et e dichotomiis ramorum polyccephalis subaphyllis, involucri squamis ovatis acutis striatis pubescenti-hirsutis, achenis obovatis, pappo calyculo fimbriato dentibus subequalibus.

_Hab._ Realejo.—Readily known from the preceding ones by the different leaves, the long flexuose branches, and the closely imbricated rather small scales of the involucre.

1. _Tithonia angustifolia_ (n. sp.); caule fruticoso incano, foliis plerisque oppositis lineari-oblongis obtusis coriaceis asperis obscure serratis trinerviis brevissime petiolatis subitus reticulatis albo-canescenites, pedunculo terminali brevissimo monoecephalo cylindraceo, involucri squamis pluriserialibus lato-oblongis striatis obtusis incanis margine albo-ciliatis, achenis interioribus biaristatis.—_T. pachycephala_. Hook. et Arn. supra, p. 299. (non De Cand.)
HAB. Between San Blas and Tepic.—Better specimens in Dr Sinclair’s collection, than we before possessed, have satisfied us that we were wrong in referring this to De Candolle’s *Tithonia pachycephala*. It is quite a different and a frutescent species.


HAB. Acapulco and Realejo.


HAB. Between San Blas and Tepic.


HAB. Between San Blas and Tepic.

2. *L. macrocephala* (n. sp.); foliis rigidis subsessilibus ellipticis acutissimis serratis asperis trinerviis supra pilis brevibus basi bulbosis subitus elevatim reticulatis, pedunculis axillaribus terminalibusque solitariis monoecephalis, involucri squamis magnis laxis ext. ovato-subrotundis interioribus ellipticis apice scariosis infra apicem constrictis, acheniis centralibus aristas 2 elongatis.

HAB. Between San Blas and Tepic.—A solitary specimen of this is in the collection. Leaves 3-4 inches long, harsh and rigid, with very short inconspicuous hairs. Capitula 5 or 6 times as large as in *L. umbellata*. Our *Verbesina? ceanothifolia*, supra, p. 299, is undoubtedly a congener with this.


HAB. Between San Blas and Tepic.


HAB. Between San Blas and Tepic,


HAB. Between San Blas and Tepic.—A fine handsome species, allied to *C. cordifolia*, but quite distinct in its entirely sessile leaves.

2. *C. cirsiifolia* (n. sp. Sect. Eucacalia); erecta, glabra, caule herbaceo superne subaphylo, foliis inferioribus lanceolatis pinnatifidis laciniiis patentibus lineari-oblongis acutis l-dentatis in petiolum longum basi insigniter dilatatum attenuatis superioribus fere ad
petiolum dilatatum reductis, corymbis amplis paniculatis, pedicellis bracteatis bracteis subulatis, capitulis multifloris, involucris campanulatis squamis sub 10 oblongis acutis striatis interioribus latioribus late scariosis.

_Hab._ Between San Blas and Tepic.—A tall handsome plant with copious rather large flowers, but smaller than in the preceding species.


_Hab._ Between San Blas and Tepic.—The heads of flowers in our dried specimens are erect: but in other respects the species quite agrees with the description of the plant to which we have referred it.


_Hab._ Between San Blas and Tepic.—Our _Trixis latifolia_ (supra, p. 300) is the _Acourtia formosa_, Don, and _De Cand._ Prod. 7. p. 66, and is also in the present collection. The genus _Acourtia_, however, scarcely seems to differ from _Trixis_.

**Ord. XXVII. LOBELIACEÆ.** _Juss._


_Hab._ Realejo.—A very variable species, with the habit of _Tupa_ or _Siphocampylus_, to which latter genus Don refers it without hesitation. In our present specimens the leaves are crowded, broadly lanceolate, acuminate, wrinkled, more or less downy, especially the upper ones. The flowers do not extend much beyond the length of the leaves. Our _L. lanceolata_ and _angulato-dentata_ (supra, p. 301.) and _L. ovalifolia_ (supra, p. 299), belong to the same group with the present, and may possibly be forms of the same species: but if so it is the most variable with which we are acquainted.

**Ord. XXVIII. ERICEÆ.** _Juss._


_Hab._ β. Realejo.—The pedicels are scarcely so long as _De Candolle_ describes them to be in this variety; but the plant is quite the same as _Andrieux’s Pl. Mex._ n. 264, to which _De Candolle_ refers.

**Ord. XXIX. APOCINEÆ.** _Br._

1. _Vinca rosea._ _L._

_Hab._ Between San Blas and Tepic. No doubt an introduced plant.

Hab. Acapulco.

ORD. XXX. ASCLEPIADEÆ. Br.

1. Asclepias Curassavica. L.—var. foliis angustioribus.

Hab. Realejo.


Hab. Realejo.—The structure of the flowers in the solitary specimen agrees with A. incarnata, especially in the narrow exerted horns of the nectary, but the staminal crown is, in the dried specimen, deep yellow, and the leaves are larger (5 inches long by 2 broad) and upon longer petioles than in authentic specimens of A. incarnata.


Hab. Realejo.—A very fine and distinct species. The root is woody and tuberous. Drummond's Asclepias from Texas (2d Coll. n. 219), is, if not the same, a nearly allied species.

1. Sarcostemma bilobum (n. sp.); glabrum, caule herbaceo scandente, foliis longe petiolatis cordato-ovatis tenuissime acuminatis basi profunde bilobis sinu angusto lobis rotundatis, umbellae multiflorae pedunculo foliis longiore, pedicellis elongatis.

Hab. Acapulco.—An undoubted Sarcostemma, with leaves 1½ to 2 inches long, having so deep a fissure or narrow sinus at the base as to extend one-third the length of the leaf. Segments of the corolla at length reflexed. Outer corona, a fleshy, elevated, entire ring; inner of 5 fleshy, ovato-triangular, very conspicuous leaflets.

ORD. XXXI. GENTIANÆ. Juss.

1. Erythraea macrantha (n. sp.); caule diffuso acute tetragono ramoso angulis sublatis, ramis alternis, foliis linearibus acutis trinerviis floribus terminalibus solitariis, calyce pentagono ultra ½ fissio, laciniiis subulatis tubum corollæ æquantibus, corollæ tenui-membranaceæ subpellucidæ laciniiis ovato-lanceolatis patentibus, capitulo tubum duplo triplo superante, antheris spiraliter tortis, stigmatæ.—β. major; foliis anguste linearibus uninerviis.—Erythraea Mexicana (?) Hook. et Arn. supra, p. 302. (the var. from Tepic.)
MEXICO.—SUPPLEMENT.

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Hab. B. Between San Blas and Tepic.—Well preserved specimens of this plant have satisfied us that we have confounded two very distinct species of *Erythrea* at our p. 302 above quoted. The Talisco plant is, we believe, *E. Texensis*, Grisebach, Gent. p. 139. (*E. Mexicana*—Griseb. in Herb. Hook.) in an old state. The other is a broad leaved state of our *E. macrantha*. Dr Sinclair's perfect specimens have the flowers so large that we did not hesitate, at first, in considering them as belonging to a large flowered species of *Chironia*, particularly near some of the slender varieties of *C. linoides*; and the generic differences between the two, it must be acknowledged, are very slight. In our plant there is no perceptible connectivum between the cells of the anthers, which is the main character of Grisebach's *Erythreae*;—and the tube of the corolla is as short in our present species as in any *Chironia*.


Hab. Between San Blas and Tepic.—This has the shortest spurs to the corolla of any species we are acquainted with.

Ord. XXXII. BIGNONIACEÆ. *Juss.*

1. *Bignonia? obovata* (n. sp.); fruticosa v. arborea, foliis oppositis simplicibus obovatis brevissime petiolatis membranaceis integerrimis basi acutis apice brevi-acuminatis paralleliim nervosis supra glabris subtus pallidoribus reticulatis ad nervos pubescenti-hirsutis, racemo terminali paucifloro, pedicellis brevibus, calyce oblongo-tubuloso e foliolis quinque exterioribus sensim minoribus 2 int. unitis apice bilobo, corollae tubo calyce ter longiore sursum dilatato limbo 5-lobo lobis amplis rotundatis patentibus.

Hab. Realejo.—I can find no description of this fine species, which may perhaps be referred to *Spa-thodea*. The leaves are 4-6 inches long, membranaceous, penninerved, the nerves obliquely transverse, numerous, parallel. The flowers 2-3 inches long: corolla apparently yellow. There is no specimen of fruit; but Dr Sinclair has put up with the specimens the dissepiment of a capsule which is 5½ inches long, oblongo-elliptical, chartaceous, much thickened at the margins on both sides: seeds numerous, obcordate, with an exceedingly broad, delicate, membranaceous wing, marked with radiating nerves.


Hab. Realejo.—The specimens entirely agree with Humboldt and Kunth's figure.

Ord. XXXIII. HYDROLEACEÆ. *Br.*

1. *Wigandia scorpioides* (Choisy in Mem. Soc. Phys. Gen. 6. p. 117); elata, herbacea, pubescens, foliis ovatis (inferioribus cordatis?) ellipticisve acutis dentatis subitus albo-

*Wigandia scorpioides* seems to have been only described by Choisy from an unpublished drawing of Sesse and Moçino, but there can be no question of this being the same plant. Our specimens are 2 feet long, and yet do not exhibit the lower leaves. The stem is thicker than a goose quill, obtusely angular, downy, not in the least hairy. Leaves on our specimens alternate, 3-5 inches long, nearly elliptical, on a rather short petiole, acute, irregularly toothed, of a thickish texture, above minutely reticulated with veins, wrinkled and slightly downy, beneath thickly clothed with white tomentum. The upper branches form a large panicle of securd large spikes, 4-6 inches long, revolute at their apices. Calyx large, cut to the middle in 5 rather long, subulate (in the dry state curved) segments, covered with dense hairy tomentum. Corolla half an inch or more across; in its structure, and that of the stamens and pistil, exhibiting the same appearances as *W. urens*. Branches of the styles, after the falling away of the corolla, much protruded beyond the segments of the calyx.

We may here observe that Choisy has described the Mexican *Wigandia urens* of Kunth and us (supra, p. 303), as a distinct species, with the following name and character:


The original *Wigandia urens* is a native of Peru, whence we possess fine specimens from Mr Cuming, Mr Mathews, and Mr M'Lean.

**Ord. XXXIV. CONVOLVULACEÆ.** *Juss.*


*Hab.* Between San Blas and Tepic.


*Hab.* Realejo.—This plant varies much in the foliage, the leaves being sometimes entire, sometimes 5-, and in our specimens, more generally 3-lobed.

There are several other *Convolvulaceæ* in this collection, but they are too difficult to be determined with our present materials, nor have we space for the descriptions.

**Ord. XXXV. POLEMONIACEÆ.** *Juss.*


*Hab.* Mexico. *Bates et Grisebach, in Herb. nostr.*—This species is well distinguished by the narrow, harsh, rigid, nearly solitary flowers at the apices of the short branches, the obovate, diaphanous, white bracteas, with deep purple, reticulated veins. I am not aware that this is found on the Pacific side of S. America. Our specimens from Mr Bates and Dr Grisebach are we believe from near the city of Mexico.

_Hab._ Between San Blas and Tepic.—Here the bracteas are linear-lanceolate, mucronate, close pressed, 1-nerved, opaque, glanduloso-pubescent on the back; and the usually solitary (rarely didymous) flowers are arranged alternately, but pretty close on the short branches so as to form a spike. It is an erect growing species.


_Hab._ Near the city of Mexico. Bates, in *Herb. nostr._—Allied to the preceding, but apparently a much taller plant (our specimen, only the portion of a plant, is 1½ foot long), and the flowers are constantly glomerated at the apices of short branches which are about 1⁄2 an inch long.


_Hab._ Realejo.—At p. 303 of this work we had expressed a doubt if *H. Cervantesii* was really distinct from *H. glandulosa*. If the present plant be the real *H. Cervantesii*, it is undoubtedly distinct. It is a procumbent, small, straggling, somewhat dichotomous species; the younger branches only clothed with short, glandular down; flowers glomerated, terminal, but more generally sessile in the axil of the cauline leaves. Bracteas opaque, slightly downy, scarcely glandular, lanceolate, but rather broader upward, mucronate and mucronato-serrate, 1-nerved, obscurely reticulated. The leaves are ovate, broader than Humboldt describes them to be.


_Hab._ Realejo and Acapulco.—A most distinct and well marked species 1½ to 2 feet high, glabrous in every part. The bracteas, 2⁄4 of an inch long and as much broad, are extremely beautiful, and extend for the whole length of the smaller branches, the upper imbricated ones only being floriferous.


_Hab._ Between San Blas and Tepic.—Of this very remarkable plant our specimens are from 6 inches to a foot in length. Leaves 2 inches long, in remote, constantly opposite pairs; within from 4 to 6 inches of the apex of the branch they suddenly become bright green, cordiform, alternate bracteae, an inch long, the upper crowded and broader, all of them with so deep and narrow a sinus at the base, that the two lobes embrace the stem which thus appears perfoliate.
Ord. XXXVI. BORAGINÆ. Juss.


_Hab._ Between San Blas and Tepic.—This exactly agrees with authentic specimens of _C. tomentosa_ from tropical Brazil in our Herbarium. The species is at once distinguished from _G. Gerascanthus_, nobis (supra, p. 304,) which we believe to be the true plant of Jacquin, by the larger, more acute leaves, less tapering at the base, clothed beneath with stellated pubescence, by the smaller flowers and shorter calyx, in proportion to its size.

2. _C. (Varronia) multispicata_. Cham. et Schlecht. in Linnae, 4. p. 490.

_Hab._ Between San Blas and Tepic.—This differs in no respect from our authentic specimen from the Berlin Herbarium, except in the leaves being of a thinner and more membranaceous character.

Ord. XXXVII. ACANTHACEÆ. Juss.


_Hab._ Acapulco.

Ord. XXXVIII. VERBENACEÆ. Juss.


_Hab._ Realejo.


_Hab._ Realejo.—This seems to agree with the _L. geminata_, H.B.K. except that the leaves are more generally obtuse than acute.—It is also nearly allied to _L. microphylla_, Cham. et Schlecht.; but there the leaves are smaller, more harsh and wrinkled, and the scales of the capitula are acuminated.

Ord. XXXIX. LABIATÆ. Juss.

1. _Hyptis (Polydesmia) rhytidea_ (Benth. Pl. Hartweg. p. 21.); fruticosa, ramis glanduloso-pubescentibus, foliis breviter petiolatis oblongo-lanceolatis serratis rigidis supra scaberrimis subtus puberulis, floralibus parvis subovatis acutissimis, capitulis paucifloris densis subsessilibus, in racemum terminalem interruptum subramosum dispositis, bracteis paucis oblongo-linearibus subulatisve calyce plerumque brevioribus, calycibus pubescentibus subviscosis, fructiferis acutis obliquis rigidis, dentibus lanceolato-subulatis subspinescentibus, corolla calyce parum longiore leviter pubescente. _Benth._
Hab. Between San Blas and Tepic.—This is the same plant with Hartweg’s n. 170 from Bolanos, and of which Mr. Bentham says, “Species distinctissima, habitu quodammodo H. rubicundam refert, inter Polydesmia et Minthidio media.”

**Ord. XL. LENTIBULARIEÆ. Rich.**

1. *Pinguicula lilacina* (Cham. et Schlecht. in Linnaea, v. 5. p. 94.); foliis rotundato-ovatis obtusis siccitate hyalino-membranaceis utrinque nigro-punctulatis supra pilosisculus, pedunculis puberulis, calcare cylindrico obtuso, corollae totius quartam partem æquante.

Hab. Between San Blas and Tepic.—Flowers lilac-colour. Leaves very large, broad, and peculiarly thin and semi-transparent.

**Ord. XLI. NYCTAGINEÆ. Juss.**

1. *Mirabilis Jalapa. L.*

Hab. Realejo.

**Ord. XLII. EUPHORBIACEÆ. Juss.**

1. *Jatropha urens. L.*

Hab. Realejo.


Hab. Realejo.

**Ord. XLIII. PIPERACEÆ. Kth.**


Hab. Realejo.—Leaves 4-5 inches long. Stem almost black, with small light brown spots.

**Ord. XLIV. CONIFERÆ. Juss.**


Hab. San Juan mountain, near Tepic.—The cone of this was noticed by us at p. 392; and if we are cor-
rect in referring the species to Mr Don's *P. radiata*, the leaves are constantly quinate, a foot long, slender, slightly scabrous at the margin: the sheaths 2 inches long, brown. The leaves were unknown to Mr Don. *P. patula* of Cham. and Schlecht. has the leaves only ternate or sometimes quaternate. Good specimens, foliage and fruit of Mexican Pines are much to be desired.

**Ord. XLV. CUPULIFERÆ. Rich.**

1. *Quercus aristata* (n. sp.); foliis coriaceis brevissime petiolatis oblongis obtusis integerrimis apice aristato-cuspidatis basi cordatis glabris subtus juxta nervum pubescentibus, junioribus ramulisque pubescenti-tomentosis.

_Hab._ Between San Blas and Tepic.—We regret there are no glands of this oak, of which we can find no description, nor any fertile flowers. The leaves are 4-5 inches long, terminated by a very evident but brittle awn, 2 or 3 lines in length, generally broken on the older leaves.

**Ord. XLVI. PISTIACEÆ. Rich.**

1. *P. Stratiotes. L._

_Hab._ Between San Blas and Tepic.
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