

TWO MEMOIRS
ON THE
FERNS, FLOWERING PLANTS,
AND LAND SHELLS
OF
MADEIRA AND PORTO SANTO.

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Wheat

Offered by his father

September the 25th 1881

Madison



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PRIMITIÆ ET NOVITIÆ
FAUNÆ ET FLORÆ
MADERÆ ET PORTUS SANCTI.

TWO MEMOIRS
ON THE
FERNS, FLOWERING PLANTS, AND
LAND SHELLS
OF
MADEIRA AND PORTO SANTO.

REPRINTED (BY PERMISSION)
FROM THE TRANSACTIONS OF THE CAMBRIDGE PHILOSOPHICAL SOCIETY.

WITH AN APPENDIX.

By R. T. LOWE, M.A.

UNIVERSIDADE DE COIMBRA

JARDIM BOTANICO



LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.

M.DCCC.LI.

0-2

LONDON :
Printed by SAMUEL BENTLEY and Co.,
Bangor House, Shoe Lane.

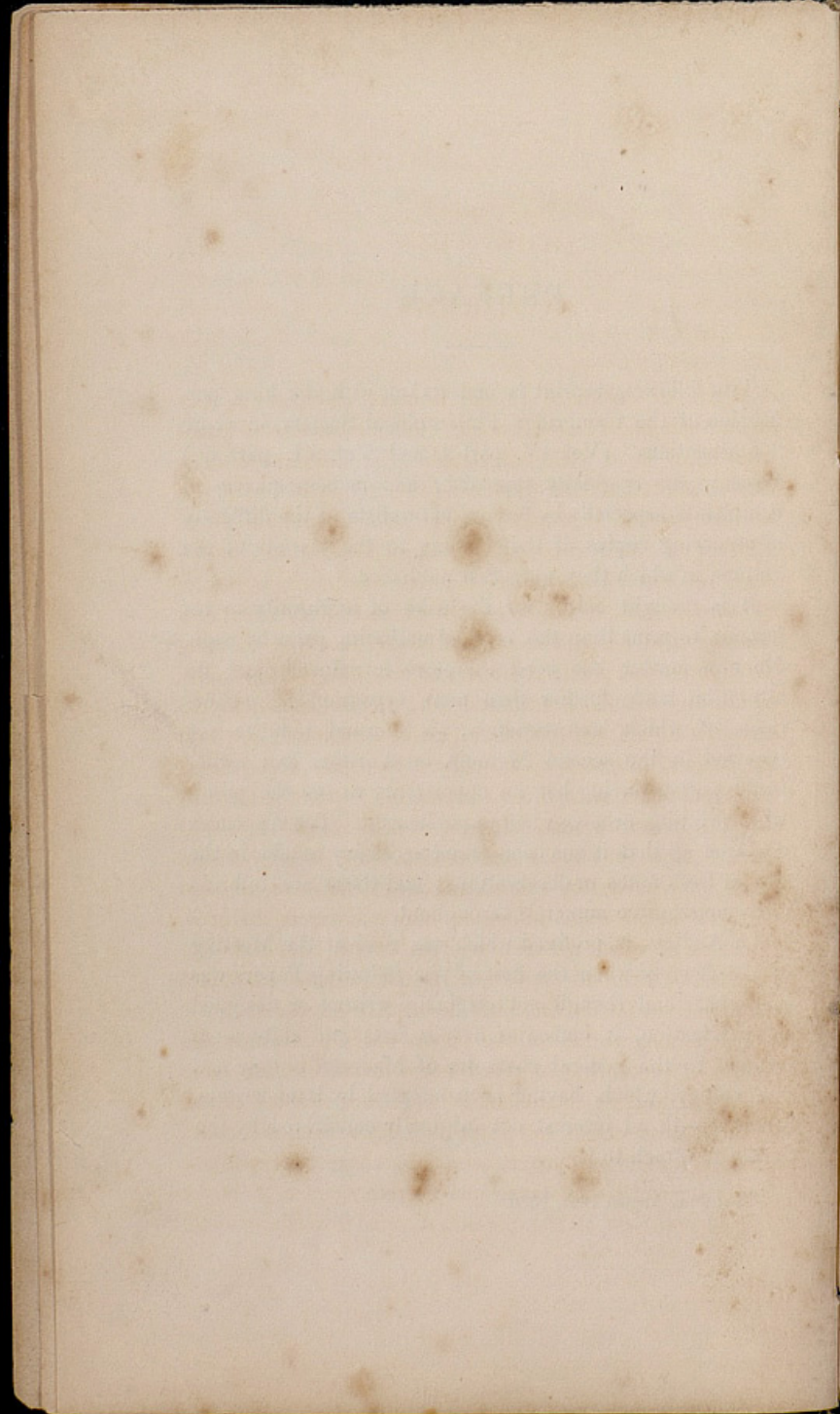
PREFACE.

THE following reprint is undertaken with the kind permission of the Cambridge Philosophical Society, in whose "Transactions" (Vol. IV. part i. and Vol. VI. part iii.) these papers originally appeared; and in consequence of complaints, especially by foreign naturalists, of the difficulty of procuring copies of them, owing to the scarcity of the volume in which they were first published.

It is thought better, for the sake of uniformity in reference, to print from the original verbatim, page by page. No new matter has been therefore introduced, and no alteration made further than mere typographical corrections, of which, unfortunately, an unusual number are required in the second Memoir, or *Novitiæ*, &c., owing to the author having had no opportunity to see the proofs when printing, or a copy before publication. The Appendix contains all that it has been found necessary to add in the way of fresh notes or observations; and these are referred to by consecutive numerals throughout.

An Address is prefixed which was read at the Meeting of the Society when the first of the following Papers was presented; and though not originally written or designed for publication, it embodies a few facts and statements relative to the general character of Maderan Botany and Malacology, which, having been adopted by later writers, invest it with an interest not originally considered by the author to attach to it.

MADERA, August 10th, 1850.



ADDRESS.

WITH all deference to the Linnæan dictum, "in speciebus definiendis scientiæ robur," the minuteness of scientific detail is so little calculated to excite interest on a cursory perusal, that in presenting the accompanying papers to this Society, I propose laying before its members an abstract of their contents, sketching hastily and briefly from the details of which they are composed, a few of those more general inferences for which it is the great aim and object of descriptive natural history to afford the data. To lighten the personal labours of the practical naturalist, by tracing out more accurately, by precise and close descriptive detail, paths already partially explored, and laying down at intervals, as in every new species well-defined, such landmarks as shall aid him in his further researches into less known regions, is indeed no insignificant or useless work. But to collect and record facts with accuracy, which may serve for wider generalizations,—to register particulars from which inferences may one day be deduced, the value of which we are ourselves as yet unable to appreciate, or even to conjecture, is not perhaps an object too ambitious for the humblest descriptive naturalist.

The former portion of the papers which I have now the honour of presenting to this Society for publication, contains the specific characters of such new species of the phænogamous plants and ferns as I have been able, with some degree of certainty, to establish. And this certainty rests upon an acquaintance and correspondence with the leading botanists of the present day in this country, to-

gether with a careful scrutiny of books, and an examination (by the favour of that first of botanists in this or any other country, Mr. Robert Brown,) of the very extensive herbarium formed by the late Sir Joseph Banks, a collection particularly enriched, through the labours of Masson in 1777, with Madera plants. The number of new species now proposed, exclusive of the Ferns, is between fifty and sixty, a number, which, compared with the whole number of phænogamous wild plants observed by me in Madera and Porto Santo, about seven hundred, is certainly considerable. And I may here mention, that the above total amount of the phænogamous indigenous and naturalized plants of these islands exceeds, by nearly one half, the number contained in the lists of any preceding writer. In addition to these, there are four or five new ferns; and one, *Aspidium falcinellum*, Swartz, the native country of which had hitherto remained unknown. The whole number of ferns discovered by me in Madera is forty; a vast proportion, but completely verifying the remark of Mr. Brown, that the maximum proportion of this tribe is to be sought in rocky elevated islands of humid atmosphere.

The general character of the vegetation of Madera is in correspondence with the equivocal geographical position of the island. It is that of a type intermediate between the forms of the south of Europe bordering on the Mediterranean basin (more particularly on the African or southern side), and those of the Canary Islands. Comparing it with the vegetation of more northern Europe, the most striking features are the presence, by naturalization, in the lower or maritime regions, of tropical forms, such as the banana, prickly-pear, date-palm, rose-apple, &c., and the almost utter absence in the higher parts of the island of the Alpine. Comparing it again with the vegetation of more tropical Africa, we have, higher up the country,

forests of laurels, heath, and whortle-berry *Vaccinium padifolium* Sm.) in the place of *Adansonia* and palms; grassy mountains instead of those sandy plains, whose only plants are a few wretched *Zygophylla* or *Mesembryanthema*; brooms and myrtles feathering the hills, or the precipitous sides of the ravines, in exchange for the lonely bushes of tamarisk, *Capparis*, *Acacia*, or *Mimosa* which sprinkle the arid wastes and rocky defiles of the Mauritanian or Arabian deserts; whilst a few shrubby *Euphorbiæ*, *Semperviva*, and *Seda* but scantily represent those vast succulent tribes of *Euphorbiaceæ*, *Crassulaceæ*, and *Asclepiadææ* of more southern Africa. For comparison with the vegetation of the Canaries, I possess the advantage of a liberal share in the collections of that active and enterprising traveller and botanist, P. B. Webb, Esq., who during the last two years has devoted his time to the investigation of the natural history of the Canarian Archipelago.* From these materials I collect the curious and interesting fact, that if Madera has imparted some of her peculiar plants to the Canaries, she has received scarcely one from them. In other words, to some indigenous Maderan plants occurring in the Canary Islands, there is added a multitude of characteristic and peculiar species not found in Madera.

The predominance of the *Compositæ* in reference to the total number of phænogamous plants, is intimated by a glance at the new species contained in this paper of that order compared with those of any other. Of this family, seven or eight species belong to the cognate genera *Crepis*, *Barkhausia*, and *Tolpis*. Indeed it is in Madera that we first, in approaching the tropics, find the shrubby forms of *Compositæ* and *Labiataæ* assuming any decided proportion to the rest of the flora. Of the former family, the tribe of

* The fruits of Mr. Webb's researches have been since made public, in his valuable and important "Phytographia," &c.

Cichoraceæ or *Semiflosculosæ* is that in which the shrubby form chiefly predominates in Madera; whilst at the Cape, it is amongst the *Cinarocephalæ* or *Flosculosæ* that we find the great proportion of shrubby species. Madera, however, possesses several shrubby species both of the latter tribe, and of the *Corymbiferæ* or *Radiatæ*. It produces, however, as might be expected, no plant analogous to that singular group, the climbing *Compositæ* of the New World.

The comparative number of species occurring in each natural order is exhibited in the following series:—*Compositæ* 74; *Leguminosæ* 64; *Gramineæ* 55; *Filices* 40; *Labiatae* 28; *Cruciferae* 28; *Umbelliferae* 19; *Personatae* 15, &c.

Of single genera, *Euphorbia* and *Trifolium* yield the greatest number of species; the former by the shrubby character of two common sorts, indicating such approach to the African form of vegetation as the latter genus shows still more decidedly to the European flora. The preponderance on the whole however, by the number of species in an excess of European genera, such as *Medicago*, *Plantago*, *Galium*, &c., besides the two above mentioned, is decidedly, even in this particular view, much more towards the European than the African form of vegetation; though the balance is maintained in nearly equal tendency between the forms of Europe and of the Canary Islands.

The following succession exhibits the order of the genera containing the greatest number of species;—*Trifolium* 17; *Euphorbia* 13; *Plantago* 9; *Medicago* 8; *Convolvulus* 7; *Galium* 7; *Hypericum* 7; *Gnaphalium* 6; *Geranium* 6; &c.

The greatest number of *individuals* of particular species occurs in *Erica scoparia*, L.; *E. arborea*, L.; *Vaccinium padifolium*, Sm.; *Pteris aquilina*, L.; *Nephrodium fœnicoseii*, Lowe; *Davallia canariensis*, Sw.; *Polypodium vulgare*, L.; *Laurus canariensis*, L.; *Agrostis canina*, L.; *Origanum*

virens, Link.; *Mentha Pulegium*, L.; *Thymus micans*, Sol. (in a single elevated mountain tract); *Sempervivum glutinosum*, Ait. and *S. tabulaeforme*, Haw.; the lovely *Amaryllis Belladonna* L. in the chestnut woods, the Spanish chestnut itself, and common broom (*Genista scoparia*, L.) by naturalization, &c.; the greater number of these being gregarious species of the mountain regions.

Madera also affords some interesting facts connected with botanical geography, with reference to the limit, or approach to the limit, of the range of particular species or groups of plants. Thus it is the farthest point to the south at which we find the common English dog-rose (*Rosa canina*, L.) perfectly indigenous. The disappearance of the Alpine form has been remarked already. Its last trace is indicated by the presence of a few ambiguous or osculant species; viz., *Arabis alpina* and *thaliana*, L.; *Alchemilla arvensis*, L.; *Cardamine hirsuta*, L.; *Draba muralis*, L.; *Teesdalia nudicaulis*, R. Br.; a single species of saxifrage (*S. maderensis*, Don) peculiar to these islands; and a thyme (*T. micans* Sol.). It is also singular that although the Canaries are the extreme southern limit to the genus *Scrophularia* in the *Personatae*, yet both in those islands and in Madera we find several species (a large proportion) peculiar to each; whilst one or two at most are common to both groups.

With respect to the Heaths, which form so peculiarly characteristic a feature in the geographic botany, as well as in the landscape, on the mountains of Madera, the paucity of species is no less remarkable than the abundance of individuals. Two* species only, *Erica arborea*, L., sometimes attaining the vast size of thirty feet in height, with a trunk from two to three feet in diameter, and *E. scoparia*, L., cover, in conjunction with thickets of *Vaccinium padi-*

* A third, being a variety of the European *E. cinerea*, L., has since occurred. It is however rare or local.

folium, Sm., almost the whole face of the upper mountain-regions, at an elevation of from 2500 to 5000 feet.

But few species are recorded in the accompanying papers whose uses in medicine or domestic economy deserve any extended notice. The lower parts of the juicy or succulent stems of the *Ænanthe pteridifolia* are sometimes eaten raw by the country-people in the wilder parts of the island, after the manner of celery. And this instance of innocuousness in a plant referred to a genus, the species of which in general are peculiarly poisonous, might almost tempt one to insist on the peculiarities observable in its fruit, and to form it, with perhaps the *Ænanthe apiifolia* of Brotero, to which it is indeed most closely allied, into a distinct genus. The fasciculated or digitated carrot-shaped roots of *Cirsium latifolium* are extremely palatable when boiled; in taste resembling the Jerusalem artichoke; and might, by cultivation, form not only an agreeable variety at our tables, but yield at times an useful sustenance to the country-people, to whom such use, however, of the plant is quite unknown. But by far the most remarkable and interesting plant in this point of view mentioned in these papers, is the Porto Moniz "Yam," as it has been called; the Norça both of the Portuguese in Madera, and of the Spanish in the Canary Islands. The cultivation and use of this plant,—another edible species in a poisonous genus, being generically allied to, and closely resembling, the common black bryony of our English hedges,—is entirely confined in Madera to a single parish, Porto Moniz, in the north-west corner of the island; and in this remote spot, in which it has established itself in some way very difficult to trace, it forms an appreciable item in the vegetable aliment of the people. The plant is not at the present day, so far as I have been able to ascertain or discover, found wild in Madera; and in even the adjoining

parishes to that in which it now exists, it is either entirely uncultivated or unknown. It has, however, been discovered by Mr. Webb in the Canary Islands: and we may, perhaps, therefore attribute to some chance or accident of civilization, its introduction to this solitary spot in Madera, without infringement of the general position, that if Madera has imparted little, she has received or retained less of Canarian vegetation.

The foregoing remarks apply almost exclusively to Madera alone. The neighbouring isle of Porto Santo approaches still more in the characters of its vegetation to the southern borders of the Mediterranean basin than to Madera itself. But its present condition in this respect, is one of much deterioration; and it is probable, both from the traces that actually remain, as well as from what may be safely collected from the obscure and apocryphal annals on such points of Portuguese physico-topographic literature, that its former original state of vegetation assimilated still more closely, as to truly indigenous plants, than it now at first sight seems to do, with the present condition of Madera.

The remaining portion of the papers submitted to the Society contains an enumeration, with descriptions, of all the Land Mollusca discovered by me in Madera and Porto Santo. Of these no less than sixty belong to the genus *Helix* alone; considered as including, as subgenera, *Bulimus* and *Achatina* of Bruguière and Lamarck, and excluding *Vitrina* and *Clausilia* of Draparnaud:—a vast proportion, whether viewed absolutely with respect to the number of plants or insects in these islands themselves, and to their extent of surface, or relatively in comparison with the numbers indigenous to England, France, or any other country of whose species we can form any accurate estimate.

Of the whole number, seventy-one, forty four (exclusive of many curious and well-marked varieties) are new. In Great Britain are found about forty-five species of *Helix* as above defined, including the *H. cespitum* of Draparnaud; a species not generally known as British, but discovered by me in Iona six years ago; and excluding, for comparison with my sixty species from Madera, the genera *Vitrina* and *Clausilia* of Draparnaud. Whilst the number of Maderan *Helices* so considerably thus exceeds the number of British species, that of the *Clausilia*, viz., three, is only half that of those found in Great Britain. Yet it is probable that the rocky and almost inaccessible wooded ravines of Madera contain more species of this genus, which have hitherto escaped my search.

With this extraordinary excess of number in regard to the terrestrial mollusca in favour of Madera, I may here mention that the common British and universal European *Ancylus fluviatilis*, Drap. is the only fresh-water species I have yet been able to discover.* But the purity, low temperature, and extreme rapidity of the streams or rather torrents in Madera, perhaps sufficiently accounts for this fact. In Britain, exclusive of the fluviatile *Conchifera*, are found about twenty-five species.

The geographic distribution of the Mollusca is a subject hitherto so totally unattempted and unattended to, that absolutely no data exist for anything like an accurate comparison of the Maderan species with those of other countries, France, Sweden, parts of Germany, and Great Britain excepted, whereof alone exist any approximately complete lists of the native species. Did we possess any exact knowledge of the species indigenous to the northern parts of Africa, it may be thought that a chain might be traced, as in the plants, from the Canaries through Madera

* *Limnaea minuta*, Drap. has since occurred.

to that region; and thence by the south of France and Europe generally to Great Britain and the north. It is, however, unfavourable to this hypothesis, and in itself very remarkable, that an extensive collection of *Helices* from the Canaries, contributed by Mr. Webb, teaches that Madera has at least as little connexion in this respect with the Canaries as with the south of Europe, and stands as it were isolated in great measure with respect to both. The Canary Islands have actually more species in common with the south of Europe than Madera has; and Madera has not more than five or six at most in common with the Canaries; three or four of these being moreover species of general diffusion, such as *H. pisana*, Mull., *cellaria*, Mull. *ventrosa*, Fer. (*Bulimus ventricosus*, Drap.),—common to Europe generally, as to the Canaries and Madera. It is also observable, that the more peculiarly Spanish *H. lactea* occurs in tolerable abundance in the Spain-colonized Grand Canaria, and in several other islands of the group, though only about Santa Cruz in Teneriffe; whilst it nowhere exists either in Porto Santo or Madera.

In consequence of this paucity of accurate materials for comparison with other countries, except the Canaries and those above mentioned, and more particularly in the want of any sort of catalogue of the *Helices* of Portugal or even of the environs of Lisbon, I shall confine myself chiefly to a view of the distribution of the species between Porto Santo and Madera, in which islands, though separated only by a space of eight or ten leagues, no less strange anomalies occur than have been already briefly indicated with respect to the Canaries. For instance, of the sixty species of the genus *Helix* as above restricted, being the aggregate amount of species found in both islands, not fewer than thirty-one are found in Porto Santo; and in Madera, which contains at least ten times the superficies, but twenty-nine.

Of these, only four* are common to the two islands! two even of these four, viz., *H. pisana*, Mull., and *H. ventrosa*, Fer., being species of general diffusion, common to the Canaries and the south of Europe also. Again: *H. cel-laria*, Mull., a species of general diffusion, common to Great Britain, all Europe, the Canaries, and even to Madera, does not occur in Porto Santo. A most remarkable instance of confinement to a particular locality, unaccounted for by any peculiarity of soil, is exemplified in *H. subplicata*, Sow., and that most curious species *H. turricula*. The former is now confined to the summit of a rocky islet, called the Ilheo de Baxo, off the south-west extremity of Porto Santo: the latter occurs in tolerable abundance in a particular spot at the top of a similar islet, the Ilheo de Cima, off the south-eastern end. Neither of them is found recent in what may be comparatively called the main-land of Porto Santo, nor in Madera; though *H. subplicata* is found semifossilized in the former.

All the four species common to Madera and Porto Santo occur only in Madera on Ponta Saõ Lourenço, a comparatively low point of land, stretching eight or ten miles out from the south-east end of Madera, and which as well as being the part of Madera nearest to Porto Santo, is more similar in general character of surface, in its plants, and perhaps in geological relations to Porto Santo itself. In the latter island they are pretty generally diffused.

In comparative general characters, the *Helices* of Madera and Porto Santo have as little in common as in identity of species. Those of Madera are, generally speaking, sylvan species, such as are our English *H. hispida* (with all its confusion of synonymy and species), *rufescens*, *arbustorum*, &c. Those of Porto Santo on the contrary, as a body, are characterized by their greater thickness or solidity of sub-

* A fifth, *H. subtilis*, has since occurred.

stance, and by the granulations, or even echinulate asperities with which they are roughened; conditions resulting perhaps from the presence of much calcareous matter in the soil, and greater aridity of surface; but distinctive when the species are compared with those of other countries, and establishing the same degree of isolation in the *Helices* of Porto Santo from those of Madera which prevails between those of Madera and the *Helices* of other countries.

Another general feature observable in the *Helices* peculiar to Porto Santo, and indeed to three out of the four kinds common to it and Madera, is the congregation locally together in vast numbers of individuals in a majority of the species. They live in swarms, as it were, in particular spots. From beneath a single stone a handful may be gathered at once of either a single, or at most, two or three sorts mixed together. In Madera this peculiarity is only observed in two or three kinds, setting aside those species it possesses in common with Porto Santo. This gregarious peculiarity of habit is well known to prevail with several British species; and the abundance in which they occur in certain local districts, has given occasion to the supposition that the superior quality of the mutton in such places is owing in some measure to the sheep devouring accidentally these snails, as they needs must, together with their proper food. It is certain, indeed, that while the herbage itself in Porto Santo is botanically much the same as in Madera, and the breed of sheep, to all appearance, is not different, the Porto Santo mutton is much superior to that of Madera. But a more saline or maritime pasturage, a more calcareous or sandy soil, and perhaps a drier atmosphere, may sufficiently explain this difference without recourse to the above supposed solution.* However, while the grass

* It is most probable, that instead of the one depending upon the other, both the superiority of the sheep, and the abundance of the snails, are the concomitant results of the same common causes.

and stones on the mountains of Porto Santo swarm with various kinds in the manner above described, the vines in the sandy plain about the principal town or village are absolutely covered with the sand-loving *H. pisana*, Mull. They are attached to every bunch of grapes, and almost to every leaf, in clusters. Yet, though sufficiently annoying at the time of vintage, the damage they might be supposed to cause is by no means proportionate to their numbers. It does not appear, however, that the wine of Porto Santo receives any benefit from their necessary mixture with it when the grapes are crushed, like that supposed in the case of the Porto Santo mutton.

The last peculiarity I have to remark with respect especially to these gregarious species is, that their seasons of activity are exactly the reverse of those of the *Helices* of Britain and the north of Europe. While British species hibernate, those of Madera and Porto Santo may be said to æstivate. Whether this, however, be really any peculiarity at all with respect to warm or tropical countries in general, remains to be solved, like most other problems in climatic conchology, by future inquirers. The great want of accurate data in conchological statistics and geography, and it may be said, indeed, the almost entire novelty of the subject, will, I trust, therefore justify a cautious forbearance from all theories and attempts to generalize upon the singular facts and peculiarities above stated in the *Helices* of Madera and Porto Santo. For this, as for all involuntary defects in these papers, I rely, from past experience, on the Society's indulgence; and for the honour of its present notice and attention, offer my sincere and humble thanks.

RYDE, ISLE OF WIGHT,
November 9th, 1830.

I. *Primitiæ Faunæ et Floræ Maderæ et Portus Sancti; sive Species quædam Novæ vel hactenus minus rite cognitæ Animalium et Plantarum in his Insulis degentium breviter descriptæ.*

CURANTE RIC. THO. LOWE, A.M.

COLL. CHR. CANT. ET NUPER AB EADEM UNIVERSITATE BACC. PERIGR.

[Read Nov. 15, 1830.]

SCIENTIÆ naturalis fautoribus haud quodammodo inutile futurum speravi (obstantibus multis quominùs *Prodromum* meum *Faunæ et Floræ Maderensis* jam jamque edere possim), si specierum novarum vel hactenùs minùs cognitaram selecta quædam characteribus brevibus statim exprimere curem: adjectis annotatiunculis quibusdam, supervacaneis autem omnibus excisis, prout brevitati vel maximè consulenti oportet.

Opusculum itaque de quo nunc agitur, quasi *Prodromus* *Prodromi*, characteribus constat specificis rerum sine ordine et omninò ex arbitrio selectarum. Multa etiam nova omissa: plurima incerta alteri diei studioque accuratiori relicta sunt. Hæc præcipue de re Entomologicâ et Ichthyologicâ præmonenda velim: quippe ope in Insectis describendis, quâ prorsus confisus eram, à morte amici C. Heineken, M.D., scrutatoris vel oculatissimi, orbatus sum; itaque rem omnem (in tantâ specierum novarum difficultate, entomologico vel peritissimo rem momenti non levis), radicitùs suscipere insolitus inusitatusque cogor. De Molluscis, quùm omnium terrestrium hactenùs à me reperiatarum catalogum completum exhibere curavi, marinas ferè

omnes in præsens omisi. De plantis Acotyledoneis veris (Cellularibus), de Crustaceis, Zoophytis, &c. idem est prædicandum. Plurima denique dubia vel nondum satis explorata in partibus omnibus consultò omisi.

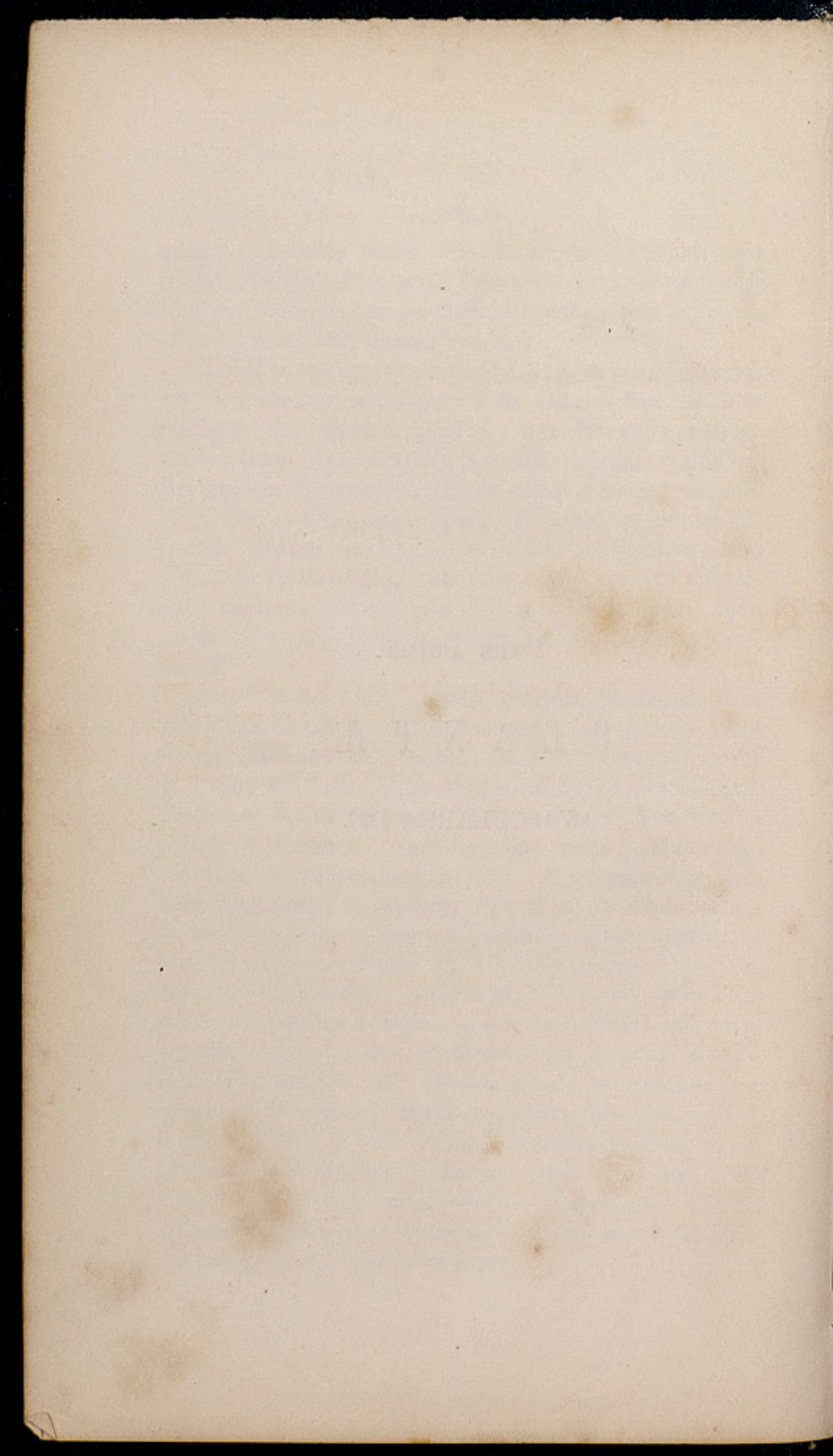
Quòd si in speciebus tam zoologicis quàm botanicis novis ritè definiendis, hæc aliquantulum valeant, fructum inde percipere, haud parvum, spero; ex emendationibus, scilicet, amicis consiliisque omnium scientiæ naturalis fautorum. Rei quidem herbariæ cultoribus maximè precor ut mihi quasi *βοτανοφιλω* potiùs quam *βοτανοσοφω* indulgeant. Omnes denique rogo, quòd si in aliis corrigendis nimis aliquando videar audax, arcissimo tamen veritatis naturæque studio me semper pro viribus eniti credant: omni petulantia mutationisque vanæ proclivitate ab animo longè amotâ.

Amicis tantis tanta debenti, singulos enumerare, sua cuique ascribenti, locus jam non adest: nec tamen omnes silentio prætermittere possum. Cl. Rob. Brown, adjuvante J. I. Bennett arm^o., summâ humanitate ac benevolentia, plantarum Maderensium à Masson aliisque lectarum, in Herbario Banksiano conservatarum, necnon Manuscriptorum ipsius Solandri, copiam fecit. Synonymiam certissimam Helicum à cl. Sowerby, Wood, &c. descriptarum, ex autopsiâ speciminum ipsorum, partim in Museo Britannico repostorum, benevolentia cl. Children, Gray, et G. B. Sowerby ipsius debeo. Amicus M. J. Berkeley characteres plantarum plurium novarum ab ipso in Britannia cultarum, propriis observationibus confirmavit, et iconibus accuratissimis illustravit. Cl. Hooker litteris et amicitia quæ quantaque non debeo! Societati denique huic illustrissimæ, si quid utilitatis si quid commodi scientiæ fautores ex his laboribus (vel minimum) haurire possint, gratias liceat omnium simul cum meis offerre: quippe quæ primùm inceptis nostris eximia liberalitate afflavit, eorum primitias illa jam priùs inde percipere debet.

PARS PRIMA.

P L A N T Æ ;

VASCULARES, D.C.



CLASS II. MONOCOTYLEDONEÆ.

A. CRYPTOGRAMÆ.

ORD. I. FILICES.

GEN. ASPIDIUM, *R. Br.*

1. ASPIDIUM falcinellum, *Sw.*

A. fronde pinnata: foliis falcato-ensiformibus, acuminatis, argutè serrulatis, coriaceis, rigidis, petiolatis, basi sursùm obtusè auriculatis: soris biserialibus, approximatis, distinctis: indusiorum margine stellatim dentato: stipite squamoso rhachique hirsutis.

Aspidium falcinellum, *Sw. Syn. Fil.* pp. 46, 243.

Hab. in cacuminibus montium Maderæ; locis potissimùm umbrosis, frigidis gaudens.

Cum *A. auriculato*, *trapezoide*, *Sw. &c.* species à plurimis confusa. Indusia magna, orbiculata, pulcherrima. Sori conferti, æquidistantes, haud confluentes. Nomen synonymiamque cl. Swartzii hanc speciem olim describentis, pro novo in MSS. imposito, retinendum curavi: monentibus primùm amicis cl. Rob. Brown et J. I. Bennett armig^{is}; quorum indicatione rem totam, ex autopsiâ speciminum in Herbario Banksiano asservatorum, luce clariorem demonstratam habeo. Swartzio *A. falcinelli* sui locus natalis planè latuit: quaproptèr species Swartziana omnibus valdè dubia; nec minùs quàm stirps Maderensis cum aliis quibusdam à plurimis confusa hucusquè visa est.

2. *Aspidium frondosum*, *Prodr. MS.*

A. fronde triangulari, tripinnata, subtùs hirto-paleacea, ramosa, ramis inferioribus adscendentibus; foliolis (terti ordinis) oblongis ovatisque, acutis, inciso-dentatis, basi pinnatifidis, laciniis imis obtusis, denticulatis, imâ exteriore (superiore) majore; superioribus acutis, sub-mucronatis: soris in foliola biserialibus, demùm confluentibus: indusiis confertis, pellucidis, adpressissimis, planis, demùm marginibus reflexis: rhachibus stipiteque basi hirsutissimo pallidis, paleaceo-hirtis.

Polypodium frondosum, *Sol. MSS!*

Hab. in sylvis rupibusque siccis umbrosis Maderæ: sterile haud infrequens; cum fructu rariss.

Frondes nitidæ, lucidæ, fertiles suprâ granulatae s. tuberculatae. Indusia in vivo squamiformia, orbiculata, maxima, membranacea, albida, elegantia. Longit. cum stipite 2—4 pedes; Lat. 9 poll. ad $1\frac{1}{4}$ ferè pedum. Stipes 1—2 pedalis.

3. *Aspidium?* *drepanum*, *Sw.* (1.)

A? fronde lanceolata, acuminata, bipinnata: pinnis acuminatis, curvato-adscendentibus, remotiusculis: foliolis angustis, acuminatis, sub-falcatis, argutè inciso-serrulatis; inferioribus sub-oppositis; infimo superiore valdè elongato, rhachi parallelo; summis confluentibus: soris minutis, confertis, distinctis, biserialibus: rhachibus stipitibusque densè paleaceis.

Aspidium drepanum, *Sw. Syn. Fil.* pp. 54, 255.

Hab. in convallium umbrosis Maderæ; rariss.

Frondes rigidiusculæ, 2—3 pedales; pinnis 5—6 pollices, foliolis 1 pollicem ferè longis. Frondes steriles dissimillimæ, pinnis basi tantùm pinnatis, foliolisque oblongis, multò latioribus, foliaceis.

Indusia non vidi. Ob fructum in omnibus exemplaribus nimis maturum, de genere dubitandum; sc. an species *Polypodiis*, *Nephrodiis*, an *Aspidiis* ritè consocianda. Indusia tamen, ut in *Aspidio caduco*, Hook. et Grev. Ic. t. 171, minutissima, vel citò caduca esse suspicor.

GEN. NEPHRODIUM, *R. Br.*4. *Nephrodium fœniseeii*, *Prodr. MS.*

N. fronde triangulari vel ovata, 3—4 pinnatifida, utrinque glabra: laciniis (tertii 4-tique ordinis) oblongis, obtusis; ultimis incis, mucronato-serratis; omnium inferioribus exterioribus internis oppositis majoribus: soris numerosis distinctis: indusiis primò semiovatis vel reniformibus, demùm orbiculatis, emarginatis: stipite breviusculo, basi sparsim sub-paleaceo, fusco, supernè rhachique pallidis.

a. alatum; fronde 4-pinnatifidâ; pinnis inferioribus (1^{mi} 2^{dique} ordinis) triangularibus vel ovatis, externis interioribus oppositis valdè majoribus: pari infimo pinnarum (1^{mi} ordinis) basi deorsùm ramoso; pinnulâ (2^{di} ordinis) potissimùm 1^{ma} (aliquando etiam 2^{da}) inferiore s. exteriore deorsùm productâ.

Hab. in sylvis *Vaccinii padifolii*, *Sm.*, Maderæ; ubique vulgatissima.

β. productum; fronde tripinnatifidâ, paullò magis elongatâ: pinnis omnibus oblongis; externis internis oppositis vix majoribus: laciniarum ultimarum dentibus sub-aristatis.

Hab. in umbrosis humidioribus Maderæ; rariss.

β. Status potiùs prioris (*α*), è loco obscuriore, defectu luminis, &c. quàm varietas videtur. (2.)

Frons in utrâque varietate nana, 1—1½ pedes (unâ cum stipite) longa, ferè pedalis; 6—8 pollices lata: stipite vix dimidium totius longitudinis æquante. In utrâque odor idem gratissimus, fœnum novum redolens, constans.

Species *Aspidio dilatato* et *spinuloso* *Auct.* certe proxima; et cum illis forsan, in unam speciem (ut ab amiciss. cl. Hookero) consociatis, olim conjungenda. Sed distingui posse credo, figurâ frondis abbreviatâ, deltoideâ; stipite brevior, minùs (sc. basi tantùm) paleaceo; pinnulis angustioribus; odore. His adde frondem magis decompositam: quamvis enim rarè, sc. in *β*, certè minùs quàm in *α*, decom-

posita, in utroque tamen statu saltè sub-tripinnata, et longè frequentius, sc. in α , statu normali, sub-quadrupinnata,* Hæc omnia, cum aliis characteribus suprâ indicatis, millibus exemplaribus stabilita sunt; et in plantâ α , adeò per totam Insulam pervulgata, constantia, nec in tantâ differentiâ loci cœlique (β . enim potiùs monstrosa) variantia inveni.

GEN. ASPLENIUM, *Linn. Spr. &c.*

5. *Asplenium anceps*, *Sol. MSS.*

A. fronde pinnata, lineari-lanceolata; pinnis distinctis, sub-petiolaris, oblongis, obtusis, apice sub-crenatis, basi abruptis inferioribusque sursùm acutè auriculatis: soris biseriatis, obliquis, distinctis: rhachi stipiteque nitidis, fuscis, trigonis, alato-marginatis.

Asplenium anceps, *Sol. MSS!* (3.)

Hab. in Maderâ, vulgaris; *Aspleni Trichomanis* locum tenens.

GEN. GYMNOGRAMMA, *Desv. Hook.*

6. *Gymnogramma Lovei*, *Hook. et Grev.*

G. fronde pinnata, utrinque hirsuta: pinnis oblongis, acuminatis, pinnatifidis; summis confluentibus; laciniis ovalibus oblongisve, obtusissimis, integerrimis: stipite sparsim squamoso rhachique hirsutis.

Gymnogr. Lovei, *Hook. et Grev. Ic. Fil. t. 89*

Gymnogr. Totta, "Schlechtend: (Polypod: tottum, Willd.)" *Spr. Syst. IV. 1, p. 38. No. 6?*

Acrostichum pilosum, *Sol. MSS. et Herb. Banks!*

Hab. in Maderæ umbrosis humidioribus. (4.)

Pinnæ infimæ breviter petiolatæ! mediæ sessiles; summæ confluentes: inferiores remotiores.

* Ob lacinias omnium ordinum supernè confluentes, rectiùs 3—4 pinnatifidæ frondes scribuntur. Tamen ob tenuitatem suam 3—4 pinnatæ apparent.

ORD. II. LYCOPODIEÆ.

GEN. LYCOPODIUM, *Linn. Spr.*7. *Lycopodium suberectum*, *Prodr. MS.*

L. (capsulis axillaribus): caule erecto, dichotomo; basi incurvo, decumbente: ramis fastigiatis: foliis squarrosis, 11—12-fariam imbricatis, lineari-lanceolatis, acuminatis, rigidis, sub-pungentibus; inferioribus reflexis; superioribus erecto-patentibus.

Hab. in salebrosis fissurisque rupium sylvarum Maderæ.

Rami conferti, cespitosi, strictissimi, recti, crassitie digiti minimi, 19 ad 16 pollices alti. Species *L. Selagine* proxima; sed præter alia, longè major. Inter hanc et *L. axillare Roxb.*, et *L. Saururum Lam.* et *Bory*, quodammodò intermedia: à *L. Selagine* tamen habitu potissimum distincta. Characteribus *L. rigido Sw.* potiùs accedit, sed habitu omninò alieno.

B. PHANEROGAMÆ.

ORD. III. GRAMINEÆ.

GEN. AIRA, *Sm.*8. *Aira argentea*, *Prodr. MS.* (5.)

A. cespitosa: paniculæ coarctatæ, apice nutantis, ramis verticillatis, scabris: flosculis calycem æquantibus, basi pilosis: aristâ subdorsali, sc. ad imum ferè valvæ nascente, rectâ, flosculos duplò excedente: foliis conduplicatis, filiformibus, compressis.

Hab. in Maderæ sylvis salebrosis.

GEN. FESTUCA, *Spr.*9. *Festuca Donax*, *Prodr. MS.* (6.)

F. paniculæ largæ, diffusæ, subsecundæ, nutantis ramis elongatis, flexuosis: spiculis 3-floris, lineari-lanceolatis

glomeratis; flosculis glabris, linearibus, muticis: foliis omnibus planis, elongatis, acuminatis; marginibus scabris: culmo vaginisque glabris: ligula exserta, ovata, acuta: radice fibrosa, perenni.

Hab. in Maderæ convallibus.

Gramen giganteum, 3—4-pedale, sylvaticum.

10. *Festuca albida*, *Prodr. MS.*

F. densè cespitosa: paniculæ lanceolatae, elongatae, contractae, erectiusculæ rhachi ramisque pubescentibus: spiculis puberulis bifloris; flosculis calyce longioribus, muticis: foliis conduplicatis, elongatis, scaberrimis, serrulatis: culmo supernè vaginisque pubescentibus; ligula abbreviata: vaginarum oris ciliatis: radice perenni. (7.)

Hab. in Maderæ convallibus.

Sylvatica, bipedalis. Culmorum bases rudes, crassissimi, perennes, glomerato-cespitosi. Folia culmos sub-æquantia, numerosa. Panicula pallida, albida. Spiculæ cum rudimento pedicellato flosculi tertii.

Habitus omninò *Festucæ*.

ORD. IV. CYPERACEÆ.

GEN. CAREX, *Linn., Spr.*

§§ Spicis plurimis; lateralibus androgynis, pedunculatis; terminali masculâ.

11. *Carex myosuroides*, *Prodr. MS.* (8.)

C. spicis ♀ (apice masculis) sub-septenis, remotissimis, solitariis, cylindricis, utrinque attenuatis, densifloris, demùm pendulis, gracilibus, elongatis, simplicibus, inferioribus pedunculatis; pedunculo vaginam duplò excedente: stigmatibus tribus: fructibus lævibus, minimis, triquetro-oblongis, squamas lanceolatas, acuminatas æquantibus; rostro brevissimo, obtuso, integro, sæpiùs incurvo: culmo triquetro, lævi.

Hab. in Maderæ orâ septentrionali: ad margines rivulorum, scaturigines, &c.

12. *Carex elata*, *Prodr. MS.*

C. spicis ♀ (apice ♂) sub-senis, remotissimis solitariis, linearibus, laxifloris, pendulis, gracilibus, elongatis, basi compositis, ramosis, omnibus inclusè pedunculatis sc. vaginâ pedunculum sub-excedente : stigmatibus tribus : fructibus costatis, obovato-triuetris, rostratis, squamas oblongo-ovatas, aristatas sub-æquantibus ; rostro tenui, recto, bifido, lævi : culmo triquetro, lævi.

Hab. in Maderæ convallibus umbrosis ; sylvatica.

ORD. V. ASPARAGEÆ.

GEN. ASPARAGUS, *Linn., Spr.*13. *Asparagus scoparius*, *Prodr. MS.*

A. caule frutescente, inermi, erecto, virgato ramisque patentibus, teretibus, lævibus : foliis fasciculatis, erecto-patentibus, teretibus, setaceis, lævibus, sub-mucronatis, sub-pungentibus : pedunculis densè fasciculatis, foliis sub-brevioribus.

Hab. in rupibus Maderæ.

14. *Asparagus scaber*, *Prodr. MS.*

A. caule frutescente, inermi (9) : ramis patentissimis, subdeflexis : foliis fasciculatis, rigidis, pungentibus, patentissimis, sæpe deflexis, ramulisque inæqualitèr angulatis, scabris : floribus fasciculatis ; pedunculis foliorum dimidium æquantibus.

Hab. in Maderæ rupibus.

GEN. RUSCUS, *Linn., Spr.*15. *Ruscus Hypophyllum*, *Linn.* (10.)

a. latifolius ; foliis ovalibus, latioribus, 7-nerviis, distichis.

R. Hypophyllum, *Bot. Mag. t.* 2049.

Hab. in Maderæ convallibus umbrosis.

- ✓ β. *lanceolatus*; foliis lanceolatis, angustioribus, numerosis, 5-nerviis; inferioribus verticillatis; caule elatiore.

Hab. in convallibus umbrosis Maderæ.

Species forsan. Caules 2—3-pedales, superne foliosi. Folia 9—16, inferiora 5—6 pollices longa, 2—2½ lata; superiora disticha. Verticillus imus 3—6-folius. Cetera ferè ut in α.

ORD. VI. SMILACEÆ.

GEN. SMILAX, *Linn., Spr.*

- ✓ 16. *Smilax pendulina*, *Prodr. MS.*

S. caule fruticoso, scandente, sub-aculeato, tereti: aculeis caulinis raris, sparsis, abbreviatis, deflexis: foliis inermibus, coriaceis, rigidis, undulatis, 7—9-nerviis, venoso-reticulatis, latè cordatis, acuminatis; petiolis compressis, supra canaliculatis, basi 2-cirriiferis: racemis flexuosis, geniculatis, longissimis, filiformibus, pendulis, terminalibus, paniculatis, ramosis; floribus ad genicula fasciculatis: baccis subglobo-bosis, "rubris."

Smilax latifolia, *Sol. MSS. et Herb. Banks! non R. Br.*

Hab. in rupibus Maderæ.

Flores albi, racemis elegantissimis dispositi; feminei masculis paullò majores. Baccas ritè maturas non vidi; rubras incolæ ferunt.

ORD. VII. DIOSCOREÆ, *R. Br.*

GEN. TAMNUS, *Tourn., Juss.*

TAMUS, *Linn.*

- ✓ 17. *Tamnus edulis*, *Prodr. MS.*

Lusitanicè, "*Norça*."

Anglicè, "*Porto Moniz Yam*."

T. foliis cordato-acuminatis, 9-nerviis: stipulis subnullis: racemis elongatis: floribus sub-remotis; petalis ovalibus; stigmatibus simplicibus.

Dioscorea sativa, *Bowdich. Exc. in Mad. p.* 115.

Hab. in Maderâ.

Radix magna, extrinsecùs pallidè brunnea, intùs alba, flavescens; sapore miti, edulis. Flores diœci, purpurascens, luridi. Baccaè diametro $\frac{3}{4}$ poll. ellipticæ, "rubræ." (11.) In parochiâ "Porto Moniz" dictâ, Caurum versus, solâ colitur: incolæ plantam indigenam credunt: ipse nunquam nisi planè cultam aut ex cultu ortam vidi. In Canariis, monente amico P. B. Webb, arm., procul dubio indigena; unde forsàn in Maderam introducta est.

Radix in aquâ multas horas (X ad XII.) bulliente, tandem coctilis.

ORD. VIII. ORCHIDÆ.

GEN. ORCHIS, *R. Br.*

18. *Orchis foliosa*, *Sol. MSS.*

O. tuberibus palmatis: labello trilobo, subplano, expanso, latiore quàm longo; lobo medio lateralibus rotundatis crenulatis angustiore, obtuso, integro: sepalis obtusiusculis; exterioribus erectis; duobus interioribus reflexis (12): germine cornu descendens, tenue, æquale, obtusum superante: bracteis foliaceis, flores æquantibus: caule solido, elato.

Orchis foliosa, *Sol. MSS. Masson, et Herb. Banks!*

Hab. in umbrosis convallium sylvisque Maderæ.

Ab *Orchide longibracteata* *Bivon (Bot. Reg. t.* 357): quâcum à nonnullis confusa, omninò distincta. Flores magni, purpurei, inodori. Caulis 2-pedalis.

GEN. GOODYERA, *R. Br.*

19. *Goodyera macrophylla*, *Prodr. MS.* — *Transs. Cam. Phil. Soc., Vol. IV. Part 1. Tab. I. ff.* 1—12.

G. perianthii campanulati labello glabro cochleari-calceolato; sepalis tribus exterioribus pubescentibus: columnâ anticè acuminata: massis pollinis lineari-clavatis: spicâ pubescente: floribus secundis, bracteas superantibus: foliis ovalibus, reticulato-nervosis: caule repente.

Hab. gregaria in declivibus sylvarum Maderæ humidis, umbrosis. Rariss.

Caules repentes; demùm erecti, pedales; supernè cum bracteis, germinibus, sepalisque tribus exterioribus pallidè ferrugineo-pubescentes. Folia sat magna sc. semipedalia, 3 poll. lata. Spica secundiflora, primùm pyramidata. Flores conferti, inodori, albidii, sub-cernui, $\frac{3}{8}$ poll. longi.

CLASS. III. DICOTYLEDONEÆ.

ORD. I. AMENTACEÆ.

GEN. SALIX, *Linn.*, *Spr.*

* *Amenta præcocia.*

20. *Salix canariensis*, *Sm.*

S. arborescens, ramis glaucis, pruinosis, petiolisque tomentosis: foliis lanceolatis, elongatis, utrinque attenuatis, sub-integerrimis; suprâ glabriusculis, lucidis; subtùs glaucocaneis, sub-tomentosis: stipulis minutis, adpressis, ovatis, crenatis: squamis ovato-oblongis, obtusiusculis, sub-spathulatis, sericeo-villosis: germinibus magnis, pedicellatis, ovato-lanceolatis, acuminatis, styloque abbreviato glabris: stigmatè utroque demùm bifido.

Hab. in rupibus madidis Maderæ: etiam Nivariæ, P. B. Webb, arm.

Arbor ferè 20 pedes alta evadit. Ramuli crassi, sæpe colorati. Gemmæ magnæ. Amenta ♂ cylindrica, abbreviata, 2-andra; ♀ elongata, graciliora. Ex characteribus videtur *S. pomeranicæ Willd.* affinis.

GEN. QUERCUS, *Linn.*21. *Quercus mitis*, *Herb. Banks.* (13.)

Q. foliis ovatis, subcordatis, obtusis, integrisculis, sinuato-denticulatis, dentibus remotis, obsolete; subtùs, petiolis, ramulisque incano-tomentosis.

Quercus mitis, *Herb. Banks!*

Hab. in "Madera, Donne 1776:" *Herb. Banks.*

Ramuli (in specimine Banksiano) sub-umbellati; juniores tomento brevissimo, cinereo obducti. Petioli sub-semipollicares. Folia $1\frac{1}{2}$ —2 poll. longa; $1\frac{1}{4}$ — $1\frac{1}{2}$ lata; alterna, ovata, obtusissima, basi sub-cordata, integriscula sc: marginibus sub-sinuolatis, nervisque lateralibus in denticulos remotos, obsolete excurrentibus; coriacea, venosa, venis subtùs prominentibus; suprà lucida, glaberrima; subtùs cum petiolis tomento brevissimo densè velutina; in junioribus albo-incano, demùm sub-ferrugineo. Flores masculi sessiles, glomerati, in spicis abbreviatis sc: vix uncialibus, axillaribus, inferioribus congesti: Feminei pauciores, spicati, vel solitarii pedicellati, superiores sc: in axillis foliorum terminalium versus apices ramulorum supra masculos nascentes. Rhachis spicarum calycesque tomentosi vel lanuginosi.

Fructus in specimine deest.

ORD. II. URTICEÆ.

GEN. URTICA, *Linn., Spr.*22. *Urtica elevata*, *Prodr. MS.*

U. macrofolia Poir.

U. caule suffruticoso, lignoso, foliisque oppositis, longè petiolatis, cordato-ovatis, grossè dentatis, lucidis, glabris: petiolis filiformibus sparsim setosis: spicis axillaribus, pedunculatis, filiformibus, simplicibus, interruptis, paucifloris, laxis, folio multùm brevioribus.

Urtica elevata, *Herb. Banks!*

Hab. in rupibus convallium Maderæ.

Rami tenues, diffusi, debiles. Folia sat magna, ad apices ramorum sub-conferta. Habitus omninò generis. Planta inermis (haud urens sc. pungens).

GEN. PARIETARIA, *Linn., Spr.*

23. *Parietaria gracilis, Prodr. MS.*

P. lucida, pubescens: caulibus ramisque gracilibus, erectis: foliis rhombeo-ovatis, obtusis, 3-nerviis, petiolatis. petiolis filiformibus, folia æquantibus: glomerulis axillariibus; floribus pedunculatis, sub-cymosis, 1—2—3 bracteatis; bracteis (sæpiùs 3) angustis, lanceolatis, calyce 4-fido brevioribus, post anthesin glanduloso-pubescentibus, inæqualibus, 1—2 dilatatis, foliaceis, calycem superantibus. (14.)

Hab. in Madera; rariss.

ORD. III. LAURINEÆ.

GEN. LAURUS, *Spr.*

24. *Laurus Barbusana, Prodr. MS.*

L. foliis perennantibus, lanceolato-oblongis, utrinque attenuatis, coriaceis, rigidis; suprâ nitidissimis; infra axillis venarum nudis (eglandulosis): pedunculis ad ramulorum apices congestis, paniculatis, sub-racemosis, pedicellis sub-elongatis, laxis: floribus hermaphroditis; calycibus sexfidis.

Hab. in Maderæ sylvis.

Arbor magna. Folia sæpe cymbiformia. Antheræ biloculares. Drupa $\frac{3}{4}$ pollicis longa, $\frac{1}{2}$ lata; non calyculata.

ORD. IV. CHENOPODIEÆ.

GEN. ATRIPLEX, *Linn., Spr.*

25. *Atriplex parvifolia, Prodr. MS.*

A. suffruticosa, procumbens, farinoso-incana: foliis confertis, alternis, ellipticis vel oblongis, repandis, sub-sinuato-erosis vel integris: valvis hastatis, integerrimis, dorso muriculato-tuberculatis.

Atriplex portulacoides (angustifolia) *Herb. Banks!*

Atriplex portulacoides var. *angustifolia*, *Sol. MSS!*

Hab. in Insulâ Portûs S^{ti}. In Canariis, P. B. Webb, armig.

Species videtur; Cum *A. portulacoides* verâ sæpe forsan confusa. Cf. *A. portulacoides* *Desf. Fl. Atl. II. p. 392.* An huc quoque spectat *A. verrucifera* $\beta.$ *angustifolia* *Bieberst?*

ORD. V. NYCTAGINEÆ.

GEN. MIRABILIS, *Linn., Spr.*

26. *Mirabilis divaricata*, *Prodr. MSS.*

M. floribus congestis, terminalibus, sub-pedunculatis: corollâ calycem sextuplò superante; tubo longissimo, pubescente; limbo plicato (laciniis emarginatis) tubi quartam partem æquante: foliis sub-cordatis, petiolatis; suprâ, petiolis, lineâque caulina utrinque exarata sub-pubescentibus: ramis dichotomis, nodosis, cauleque erectis: pericarpio rugoso, glabro (atro).

Mirabilis hybrida, *Lepell?* sed folia in plantâ Maderensi (quamvis lucida) minimè glabra, &c.

Hab. in hortis et ruderalis Maderæ. Circa urbem Funchalensem nunc quasi indigena.

Valde ramosa, 3—5-pedalis; ramis divaricatis, demum corymbosis vel convexo-fastigiatis. In *M. Jalapâ* verâ caules multo humiliores, minus ramosi; pericarpia minora, ferrugineo-pubescentia, minus rugosa, egranulata.

ORD. VI. PLANTAGINEÆ.

GEN. PLANTAGO, *Linn., Spr.*

27. *Plantago leiopetala*, *Prodr. MS.*

P. caulescens: caule abbreviato, basi frutescente: foliis confertis, lanceolatis, utrinque attenuatis, nervosis, glabriusculis, nitidis, integerrimis: pedunculis folia superantibus,

angulatis, glabris: spicis abbreviatis, oblongis ovatisve obtusis, nudis: laciniis calycinis latis, scariosis, carinatis, corollisque glabris.

Hab. in cacuminibus Ins^æ. Portûs S^{ti}.

Plantagini lanceolatæ proxima; culturâ non mutatur.

ORD. VII. PLUMBAGINÆÆ.

GEN. STATICE, *Spr.*

28. *Statice pyramidata*, *Prodr. MS.* (15.)

S. cespitosa, glauca: scapo erecto, ramoso, aphylo: foliis radicalibus, parvis, obovato-oblongis, acutis, mucronulatis, in petiolum attenuatis, enerviis: paniculæ pyramidatæ ramis patentissimis, recurvis: floribus conglomerato-imbriatis; laciniis calycinis obtusiusculis.

Hab. in rupibus maritimis Ins^æ. Portûs S^{ti}.

Flores pallidè cærulei, parvi, glomerulis congesti. *S. auriculæfoliæ* et *oleæfoliæ* affinis. A *S. spathulatâ* *Desf.* differt foliis acutis; scapo magis ramoso; ramulis gracilibus, sub-deflexis; floribus glomerulatis, minoribus, &c.

ORD. VIII. LABIATÆ.

GEN. SALVIA, *Linn.*, *Spr.*

29. *Salvia collina*, *Prodr. MS.* (16.)

S. caule herbaceo, viscoso-piloso: calyce 5-dentato, $\frac{3}{5}$: foliis pinnatifidis, incisis, vel sub-sinuatis, dentatis, venosis, glabris, læviusculis: bracteis sub-rotundis, latis, cordatis, abbreviatis, acutis, inconspicuis, calycis dimidium æquantibus, integerrimis: verticillis 6-floris: corollis calycem duplò superantibus: galeâ falcatâ, compressâ: lobo medio labii inferioris cucullato; lobis lateralibus reflexis, parvis, abbreviatis, rotundatis, obtusis.

Salvia verbenacoides, *Brot?* (polymorpha, *Hoffm.*)

Hab. in collibus pascuisque altis Maderæ.

Salvia pratensi et *Verbenacæ* (potissimum priori) affinitas summa; sat verò distincta. A *Salvia bicolori* Desf. differt caule humiliore; foliis glabris; bracteis abbreviatis, latis, acutis; lobis lateralibus labii inf^o. rotundatis, &c.

GEN. THYMUS, *Linn.*

30. *Thymus micans*, *Sol. MSS.* (17.)

T. pedunculis ad apices ramulorum congestis, sub-racemosis, axillaribus, oppositis, solitariis, unifloris: calycis $\frac{1}{2}$ labio superiore lato obsolete tridentato, marginibus recurvis; inferiore dentibus duobus sub-erectis, lanceolatis, acutis, contiguis, æqualibus profundè inciso: bracteis linearibus folisque lineari-spathulatis, obtusis, basi attenuatis, pilisque raris, longis, patentissimis, remotis, pectinato-ciliatis: caulibus hispidis, prostratis, cespitosis, basi fruticulosis.

Thymus micans, *Herb. Banks.* et *Sol. MSS!*

Hab. copiosissimè, cespitem efficiens, per totum campum illum excelsum (5000 ad 6000 pedes altum) "Paul da Serra" dictum, Maderæ.

GEN. SATUREJA, *Linn.*

31. *Satureja thymoides*, *Sol. MSS.* (18.)

S. pedunculis axillaribus, multifloris, umbellatis: bracteis setaceis, fasciculatis: dentibus calycinis dimidium tubæ sub-æquantibus: foliis oblongo-lanceolatis, acutis, utrinque attenuatis, margine revolutis, sub-puberulis, subtùs sub-incanis: ramulis junioribus sub-pubescentibus; caule fruticuloso, erecto.

Satureja thymoides, *Sol. MSS.* et *Herb. Banks!*

An *Thymus therebinthaceus*, *Willd. Enum. Pl. Hort. Berol. p. 624?*

Hab. in Maderâ et Portu S^o. vulgaris.

Fruticulus elegans. Folia sub-micantia, odorata. Flores sub-conspicui, purpurascenti-rosei. Stamina tubo corollæ

breviora, inclusa, Calyces striati, sub-pubescentes; fauce villis clausâ; dentibus setaceis, sub-æqualibus, duobus inf. aliquando sub-longioribus. Folia latitudine, &c. variabilia; ideoque *T. therebinthaceus* Willd. (si ex descriptione judicare licet), vix nisi genere discrepans, idem videtur.

ORD. IX. PERSONATÆ.

GEN. EUPHRASIA, Linn., Spr.

32. *Euphrasia Holliana*, Prodr. MS. (19.)

E. laciniis calycinis, foliisque lanceolato-oblongis, obtusis; inferioribus grossè dentatis; summis sub-integris: corollâ (luteâ) calycem duplò excedente; staminibus corollam sub-æquantibus: caule ramoso.

Bartsia viscosa, var. foliis linearibus obtusis, &c. *Herb. Banks!*

Hab. in sylvis Maderæ.

Corollæ conspicuæ, sat magnæ: labium inferius 3-lobum, lobis rotundatis, obtusissimis, denticulatis; superius simplex. Folia et habitus quodammodò *Euphrasiæ Odontitis*.

Ob antheras distinctissimè aristatas, vera *Euphrasiæ* species: quinetiam toto habitu, caule ramoso, &c. à *Bartsia viscosâ* differt. Ab *Euphrasiâ luteâ*, cui affinitate propior, dignoscitur caule ramisque robustis, nec filiformibus; foliis multò latioribus majoribusque, inferioribus grossè vel incisedentatis: floribus multò majoribus, &c.

Nomen dedi in honorem amici *Fr. Holl.* botanosophi Germanici, indefessi plantarum Maderensium indagatoris.

GEN. SCROFULARIA, Linn., Spr.

33. *Scrofularia racemosa*, Prodr. MS.

S. foliis sub-cordato-oblongis, acutis, sub-duplicato-serratis, utrinque cauleque acutangulo glabris, basi inæqualibus: inferioribus appendiculatis: thyrsi elongati aphylli

ramis racemosis; racemis elongatis, flexuosis, patentibus, laxis, ramis pedicellisque sparsim sub-glandulosis: calycis glabriusculi laciniis obtusis: corollæ labii inferioris lobo intermedio revoluto, vix prominulo, minuto; superioris, rudimento staminis 5^{ti}. squamæformi, plano, rotundato.

Scrofularia auriculata. Linn., Spr. &c. ?

α. *longifolia*; glaberrima, foliis acuminatis, elongatis, simpliciter serrato-crenatis.

β. *puberula*; foliis radicalibus et junioribus subtus petiolisque puberulis.

Hab. α. et β. ad rivulos et in rupibus madidis convallium Maderæ.

Scrof. sulphurea Mill. Dict.; et *S. Balbisii* Wild. (ex Spr.), saltèm ex descriptionibus, æquè plantæ nostræ α. pertinere possent. *S. auriculata* vera (cui prior forsàn synonyma), foliis "obtusis subtus hirsutis" Spr. ("tomentosis" Linn.) "lobo terminali cordato aut ovato" Desf. differre videtur. *S. auriculatam* Brot. Fl. Lusit. I. p. 201, vero, ob folia "subtus glabra," ab α. nostrâ alienam ægrè putarem, nisi quòd à nonnullis ad *S. trifoliatam* Linn. relatum video. In re tam dubiâ, plantam Maderensem pro tempore distinctam servandam putavi.

34. *Scrofularia hirta*, Prodr. MS.

S. foliis cordato-oblongis, acutiusculis, basi sub-æqualibus, excisis, argutè duplicato-inciso-serratis, utrinque petiolis cauleque acutangulo villosis; petiolis latis, sub-alatis, ex-appendiculatis, hirtis; thyrsi aphylli ramis trichotomoracemosis; racemis elongatis, pedunculisque glanduloso-pubescentibus; calycis glaberrimi laciniis obtusissimis; corollæ labii inferioris lobo intermedio revoluto, vix prominulo, minuto: superioris, rudimento staminis 5^{ti}. papillæformi, minutissimo, brevi; genitalibus exsertis.

Hab. in Maderæ umbrosis humidis obscuris. Rariss.

ORD. X. CONVULVULÆ.

GEN. CONVULVULUS ?

35. *Convolvulus* ? *solanifolius*, *Prodr. MS.* (20.)

C? caule volubili, fruticoso: foliis cordatis, ovato-oblongis, acutis, integerrimis, petiolatis; junioribus, ramulis, petiolisque pubescentibus; pedunculis axillaribus, solitariis, petiolo longioribus, apice sub-trifloris, pedicellisque elongatis, nudis: calycibus ovalibus, obtusiusculis;

Hab. in Maderæ rupibus. Rariss.

Corollam nondum vidi.

ORD. XI. SAPOTEÆ.

GEN. SIDEROXYLON, *Spr.*36. *Sideroxylon Mermulana*, *Prodr. MS.* "*Mermulana*,"
incolarum.

S. inerme: foliis obovatis, obtusis, spathulatis, integerrimis, coriaceis, nervosis, lucidis, utrinque glaberrimis: pedunculis unifloris, ad axillas aggregatis, brevibus, calycibusque velutinis.

Sideroxylon Mermulano, *Herb. Banks!*

Hab. in rupibus, præsertim maritimis, Maderæ.

Frutex, vel sub-arboreum. Flores parvi, pallidè carnei. Fructus ruber, edulis. (21.)

Nomen "*Mermulana*" in Canariis plantæ distinctissimæ, sed quoad habitum simillimæ, sc. *Myrsinei canariensi*, impositum scribit amicus P. B. Webb, arm.

ORD. XII. COMPOSITÆ.

* CICHORACEÆ.

GEN. SONCHUS, *Linn., Spr.*37. *Sonchus ustulatus*, *Prodr. MS.*

S. glaberrimus: caulibus simplicibus, brevissimis, herbaceis, basi sub-lignosis: foliis radiatim confertis, decursivè runcinato-pinnatis, sub-carnosis, rigidis, subtus præsertim

inter venas pulchrè glaucescentibus; foliolis acutis, angulatis, sub-integerrimis vel dentibus sparsis, raris, minutis, callosis: scapi terminalis, aphylli, pauciflori, ramis raris, divaricatis, solidis, pedunculisque 1-floris, suprâ incrassatis, paniculatis, nudis; squamis anthodii purpureo-nigricantibus, adpressissimis, latis.

S. hyoserifolius, (Hornem.) *Spr?*

a. angustifolia; foliolis angustis, confertis, acuminatis, margine posteriore sub-integerrimo.

•*Sonchus dentatus*, *Herb. Banks?*

β. latifolia: foliolis majoribus, latioribus distantibus, angulatis, utrinque denticulatis: foliis suprâ vix glaucescentibus, profundiùs incisus.

“*Sonchus squarrosus β*” (lineâ atramenti per medium verborum *squarrosus β* ductâ, et “*fruticosus*” suprâ scripto) “et MSS. differt paniculâ dichotomâ — planta minor. Madera Fr. Masson” *Herb. Banks!*

Hab. in rupibus maritimis aridis Maderæ.

β (vix var.) est status potiùs è solo vel humidiorè vel magis umbroso ortus.

De *Soncho hyoseridifolio* huc ritè referendo, suspensus hæreo. Characteres ferè iidem; nisi quòd illa inter “*fruticosos*” numeratur, cùm nostra planta certissimè “*herbaceis*” releganda est. An descriptio cl. Sprengelii à specimine manco (sc. sine radice desiccato), in herbario servato (quale est forsàn *Sonchus dentatus Herb. Banks.*), factitata; ideoque erronea? Nam in tali, caulis casu forsàn quodam lignosus evadere posset: specimine tùm speciem ramuli fruticis cujusdam ramosæ omninò præbente.

S. dentatus Herb. Banks. in omnibus nisi caule lignoso cum varietate *a.* nostrâ convenire videtur. Sed, cùm præter hoc, alia exstant specimina in *Herb. Banks.*, ad *β.* nostram certissimè pertinentia, quæ à cl. Solandro ad alteram (quamvis revera distinctissimam et longè alienam) speciem (*S. squarrosus*) referuntur, ideoque à *S.* suo *dentato* planè distinguuntur, impensiùs suspicandum est hunc *S. dentatum* à

nostrâ plantâ alienum esse, et forsân *S. hyoseridifolii* (Hornem.) Spr. veri synonymam. In re tam incertâ, difficultatem minùs nomine planè novo quàm veteri incerto augeri putavi.

GEN. TOLPIS, Gaert.

38. *Tolpis crinita*, Prodr. MS.—Transs. Cam. Phil. Soc. Vol. IV. Part 1. Tab. II. ff. 1—3.

T. caule ramoso: ramis virgatis: foliis radicalibus humifusis, solo adpressis, plerumque sinuato-pinnatifidis, sub-canescentibus: caulinis angustis, lanceolato-linearibus: bracteis setaceis, abbreviatis, ad apices pedunculorum infernè nudorum congestis: seminibus (omnibus, radii sc. conformibus) sub-quadrissetis.

Crepis crinita, Sol. MSS. et Herb. Banks!

Crepis incrassata, Herb. Banks. "Insulæ Azores Fayal Mess^{rs}. Forster"!

Hab. in Maderæ collibus apricis.

GEN. CREPIS, Spr.

39. *Crepis pectinata*, Prodr. MS. (22.)

C. caule frutescente, ramoso, foliato; ramis diffusis, virgatis: foliis flaccidis, tenuissimè et profundè divisis, pectinato-pinnatifidis; laciniis distantibus, elongatis, linearifiliformibus, suprâ glabris, subtùs sub-farinosis: pedunculis proliferis, supernè incrassatis, squamosis, squamisque minutis, erectis, anthodioque farinoso-albescentibus.

Crepis tenuifolia, Sol. MSS. et Herb. Banks! non Willd.

Hieracium fruticosum foliis tenuissimè coronopi modo divisis. Sloan. Cat. 123.—Hist. Jam. p. 19. t. 5. f. 1, 2. (Icon. mala; Descr. opt.)

Hab. in rupibus apricis Maderæ ubique.

Affinitate et habitu *Crepidi succulentæ* Hort. Kew. (*C. coronopifoliae* Desf.) proxima; cujus speciei, præ ceteris polymorphæ (in Maderâ vix minùs vulgaris), varietatem esse meram alia forsân dies docebit. In illâ tamen, quamvis

folia aliquando profundius pinnatifida quàm in statu normali, nunquam ut in *C. pectinatâ* nostrâ ferè filiformia et tenuitèr divisa, laciniis elongatis linearibus (ferè ut in *Coreopside tinctoriâ Hort.*) videntur.

OBS. *C. succulenta Ait.* et *C. pectinata nob.* genus *Tolpidem* cum *Crepide* artissimè conjungunt.

40. *Crepis macrorrhiza, Prodr. MS. (23.)*

C. glaberrima: radice perenni, crassâ, carnosâ: caulibus solidis, foliatis, simplicibus, supernè paniculatis: foliis omnibus indivisis, oblongis, dentatis, sessilibus, nitidis, sub-carnoso-coriaceis: panicula largâ, multiflorâ; pedunculis supernè sub-incrassatis, squamosis; anthodiis sub-farinoso-pubescentibus.

Crepis macrorrhiza, Herb. Banks: et Sol. MSS! Hook. in Bot. Mag. t. 2988!

Hab. in Maderæ rupibus.

41. *Crepis? andryaloides, Prodr. MS. (24.)*

C? glanduloso-hispida: radice carnosa, bienni: caule sub-fistuloso, foliato, simplici, supernè laxè paniculato, hispido: foliis omnibus indivisis, oblongis, acuminatis, undulatis, remotè runcinato-dentatis, sub-sinuatis, sessilibus, hispidis: floribus laxè paniculatis, remotis: pedunculis nudis, gracilibus, divaricatis, laxis, anthodiisque cylindricis, glanduloso-hirsutissimis: involucre erecto, persistente.

Hab. in convallibus Maderæ.

Semina matura non vidi; pappus in immaturo reverà sessilis: sed cum in veris quibusdam *Borkhausiæ* speciebus pappus in semine immaturo omninò sessilem vel subsessilem videre licet, in nostrâ forsàn plantâ pappus seminis maturi stipitatus evadit.

GEN. BARKHAUSIA, *Böhm. Spr.*

42. *Barkhausia laciniata, Prodr. MS. (25.)*

B. radice annuâ: caule erecto, stricto, ramoso, paniculato, sub-puberulo, nitido: foliis laciniato-pinnatifidis, vel

runcinato-dentatis, sinuatis, glabris; radicalibus plerumque integriusculis, oblongis: caulinis lineari-lanceolatis, semi-amplexicaulibus, basi auriculatis, sub-sagittatis, dentato-laciniatis: floribus corymboso-paniculatis: anthodii squamis dorso infernè nigrescenti-glanduloso-hispidis, interstitiis sub-farinoso-puberulis: squamis involucri laxis, farinoso-puberulis.

✓ *a. pinnatifida*; foliis profundius divisis.

Crepis biennis, *Herb. Banks!* quoad specimina in Maderâ a Masson lecta.

“Crepis Dioscoridis” (lineâ per verbum *Dioscoridis* ductâ) “L. var. corolla undique lutea. Madeira Fr. Masson 1777.” *Herb. Banks!*

✓ *β. integrifolia*; foliis integriusculis.

“Crepis Dioscoridis” (lineâ per verbum *Dioscoridis* ductâ) “L. var. foliis margine nudis, Madeira Fr. Masson 1777.” *Herb. Banks!*

Hab. in Maderâ; in vinetis, locis cultis, frequens.

✓ 43. *Barkhausia divaricata*, *Prodr. MS.* (26.)

B. radice crassâ, fusiformi, bienni (perenni?) (27): caulibus ramosis, paniculatis, solidis, infernè glabris, supernè pedunculisque divaricatis, patentibus, hispido-glandulosis: foliis rigidis, glaberrimis, undulatis; radicalibus sinuato-runcinatis, caulinis basi semi-amplexicaulibus, dilatatis, ovato-acuminatis, integriusculis: floribus sparsis, paniculatis: anthodiis post anthesin ovatis, basi ventricosis; squamis basi hispido-glandulosis, supernè squamisque laxiusculis involucri glabris.

✓ *a. robusta*; caulibus erectis, virgatis, pedibus, multifloris, foliosis: foliis sæpe runcinato-pinnatifidis. (28.)

Hab. in Promontorio S^{ti}. Laurentii Maderæ.

✓ *β. pumila*; caulibus sæpe diffusis, glabriusculis, paucifloris, plerumque nudis: foliis radicalibus indivisis, integriusculis vel runcinato-sinuato-dentatis, sub-carnosis: anthodiis hispidioribus.

Hab. in Portu S^{to}.—Status potiùs, ex solo aridiore, quàm varietas præcedentis.

44. *Barkhausia hieracioides*, *Prodr. MS.* (29.)

B. radice annua? : caule erecto, ramoso, paniculato, foliarum costâ centrali, pedunculis, anthodiisque setoso-hispidis vel sub-muricato-spinellosis : foliis glabris, indivisis, denticulatis, denticulis raris, sparsis, minutis, subulatis ; radicalibus lanceolato-oblongis, acutis, basi attenuatis ; caulinis ovato-acuminatis, basi dilatato-auriculatis, semi-amplexicaulibus : floribus corymbosis ; flosculorum ligulis elongatis, laxis, patentissimis, sub-pendulis.

a. integrifolia ; foliis integriusculis, sub-sinuolatis.

β. pinnatifida ; foliis sub-pinnato-runcinatis.

Hab. in Maderæ orâ Septentrionali.

45. *Barkhausia dubia*, *Prodr. MS.* (30.)

B. radice bienni : caule erecto, stricto, è basi ramoso, ramisque foliatis, costaque centrali foliarum subtùs hispidis : foliis lucidis, glabris, indivisis, marginibus undulatis, sinuato-runcinatis et denticulatis, denticulis intermediis plurimis, inæqualibus, subulatis vel ciliato-setaceis ; radicalibus elongatis, oblongo-lanceolatis, acutis, basi attenuatis ; caulinis basi cordato-æqualibus, amplexicaulibus, oblongis, acuminatis ; summis linearibus, sub-integerrimis, setaceo-ciliatis : floribus sub-corymbosis ; ramulis supernè, pedunculis, anthodiisque densè glanduloso-pubescentibus, sub-incanis, farinaceo-puberulis : pappo sub-stipitato. (31.)

Hab. in convallibus Maderæ.

Præcedenti proxima ; differt autem habitu distinctissimo, ramis supernè, pedunculis, anthodiisque densè glanduloso-pubescentibus, sub-incanis, farinaceo-tomentosis ; floribus minoribus in corymbos laterales collectis, flosculorum ligulâ nec elongatâ nec pendulâ, pappo sub-stipitato (32) (quo ad *Crepides* veras accedit), foliarum margine inæqualiter sed conspicuè et in omni parte runcinato-sinuatis, caulinis basi æqualibus, cordatis (non dilatato-auriculatis).

46. *Barkhausia comata*, *Prodr. MS.* (33.)

B. radice fusiformi, carnoso : caule erecto, è basi ramoso, foliato, hirto-setoso : foliis indivisis, denticulatis ; radicalibus

glabris; caulinis summis ciliato-crinitis; floribus corymbosis; anthodiis hirsutissimis, comatis; squamis crinitis.

Crepis comata, *Herb. Banks. et Sol. MSS!*

"Hab. in Maderæ sylvis; Fr. Masson 1777." *Sol.*

Pappus distinctissimè stipitatus.

GEN. THRINCIA, *Roth, Spr.*

✓47. *Thrinicia nudicaulis*, *Prodr. MS.* (34.)

T. foliis hispidis, sub-dentato-sinuatis: pappo disci stipitato.

Leontodon nudicaule, *Herb. Banks!*

Hab. in apricis Maderæ ubique; vulgatissima.

Flosculorum tubulus ad apicem pilosus; ligulorum lacinia eglandulosæ. Pappus radii paleaceus; disci plumosus. Semina sursùm attenuata, acuminata, in rostrum gracile, elongatum producta; unde pappus stipitatus.

Thrinicia hirta *Hook. Brit. Fl.* (*Apargia hirta* *Sm. Eng. Fl.*, *Hedynois hirta* *EjUSD.* in *Engl. Bot.*) pappo disci sessili, potissimùm differt. Eodem caractere, necnon genere, sc. pappo radii paleaceo, ab *Apargiâ hispida* omninò distincta.

* * CINAROCEPHALÆ.

GEN. CIRSIUM, *Tourn. Spr., &c.*

(*CNICUS, Aliorum*).

✓48 *Cirsium latifolium*, *Prodr. MS.* (35.)

C. inerme: foliis sessilibus, basi auriculatis, amplexicaulibus, omnibus elliptico-oblongis, latis, obtusis, indivisis, latè sinuato-crenatis, setoso-spinelloso-ciliatis, supra lucidis, nudis, subtus cauleque lanato-tomentosis, floccosis: pedunculis longissimis, floccosis, unifloris: anthodiis sub-lanatis: squamis lanato-ciliatis, mucronatis, adpressis, inferioribus ovatis, acutis; superioribus oblongis, obtusiusculis.

Carduus latifolius, *Herb. Banks!*

Hab. in Maderæ convallibus.

Species pulchra, distinctissima, *C. heterophyllo* affinis.

Caulis 2—3-pedalis. Folia ampla, subtùs sæpe nivea.
Flores purpurei.

* * * CORYMBIFERÆ.

GEN. GNAPHALIUM, *Linn., Spr. &c.*

49. *Gnaphalium melanophthalmum*, *Prodr. MS.* (36.)

G. fruticosum: foliis sparsis, sessilibus, lanceolatis, acuminatis, basi attenuatis, ramisque niveo-tomentosis, canescentibus: paniculis terminalibus, congestis, corymbosis; squamis anthodii nivei, globosi, laxi, ovatis; inferioribus obtusis, rotundatis; superioribus, acutiusculis.

Gnaphalium rupestre, *Herb. Banks!*

OBS. *Gnaph. rupestre*, *Rafin*: jam adest. *Steud. Nom. Bot.*

Hab. in rupibus convallium Maderæ.

Flores nivei, odori; disco post anthesin nigro.

ORD. XIII. RUBIACEÆ.

GEN. GALIUM, *Linn., Spr.*

50. *Galium productum*, *Prodr. MS.* (37.)

G. glabrum: foliis octonis, lanceolato-linearibus, acutis, cuspidatis, reflexis, sub-integerrimis, denticulis marginalibus raris, obsoletis, antrorsùm spectantibus, utrinque lævibus, suprâ cauleque parùm ramoso lucidis: panicularum laterali-um terminaliumque ramis divaricatis, abbreviatis: corollæ laciniis obtusiusculis, mucronatis: fructibus lævibus, glabris: caule 4-angulari, debili, diffuso, elongato, simpliciusculo, lævi, basi suffruticoso.

Hab. in Maderæ saxosis, sepibus, rupibus &c. frequens.

ORD. XIV. UMBELLIFERÆ.

GEN. CENANTHE, Spr.

51. *Cenanthe pteridifolia*, Prodr. MS.

S. radicibus tuberosis, fusiformibus, fasciculatis; caule erecto, infernè tereti, lævi, ramis angulatis, striatis: foliis omnibus tripinnatis; pinnis pinnulisque omnibus remotis, oppositis, patentissimis, distichis; foliolis ultimis ovatis lanceolatisque, acutis, inciso-dentatis pinnatifidisque, basi cuneatis: umbellis oppositifoliis: radiis inæqualibus; bracteis paucis, subnullis, bracteolisque linearibus: fructu suberoso.

C. apiifolia, Brot?

Hab. in rupibus madidissimis convallium Maderæ.

Radices repentes; tuberibus fusiformibus, fasciculato-filipendulis, crassitie digiti. *Caules* elati, fistulosi, esculenti. *Folia* maxima, elegantia, læteverentia, foliolis exiguis, tenuibus, concinnis. *Umbellæ* mediocres, sat parvæ; floribus albidis, aspectu eorum *Ænanthes crocatae*. *Calyx* persistens. *Petala* mucrone elongato, inflexo. "*Floral Receptacle*," Sm. nullum. *Stylopodia* ("*Bases of Styles*," Sm.) tumida, globosa. *Styli* persistentes, post anthesin elongati, fructum maturum æquantes. Fructus ovato-oblongus, lateralitèr (sc. suturâ) compressus, præsuberosus. *Mericarpia*,* striis 7 dorsalibus, lævibus, sub-æqualibus, tribus vix majoribus; interstitiis angustis, planis, æquis; sutura utrinque spatio tumidulo, latiusculo, lævi, spongioso vel suberoso. *Albumen* sive *Perispermium* teretiunculum, intùs (plano-convexum), *Vittæ* 6, rectæ, æquales; 4-dorsales, æquidistantes; jugis tribus dorsalibus sub-majoribus, alter-

* Hæc forsân melius ita describenda: *mericarpia* jugis 5, tribus dorsalibus filiformibus, sub-prominulis; duobus lateralibus marginantibus dilatatis, spongiosis, spatium latum, convexum, tumidulum, suberosum utrinque formantibus; *valleculis* 1-vittatis, 1-striatis; striis filiformibus, distinctis, juga subæquantibus, sc. vix minùs prominulis; hinc *mericarpia* 7-striata apparent. *Carpophorum* evanidum, sub-nullum.

nantes, sc. 4 intermediis oppositæ: reliquæ duæ juncturam respicientes, approximatae. Totius plantæ succus aquosus. An Genus?

ORD. XV. CAPRIFOLIACEÆ.

GEN. SAMBUCUS, *Linn., Spr.*

52. *Sambucus nigra*, *Linn., Sm., &c.*

a. communis; foliis ovatis.

Sambucus nigra, *Auct.*

Hab. in Europâ; Angliâ, &c.

β. *lanceolata*: foliis lanceolatis vel ellipticis, elongatis. (38.)

Sambucus lanceolata, *Herb. Banks.*

Hab. in Maderæ sylvis: in hortis etiam ab incolis colitur.

Præter foliola magis elongata, omnia ut in *a*; ideoque vix species censenda.

ORD. XVI. CRASSULACEÆ.

GEN. SEDUM, D.C.

53. *Sedum fusiforme*, *Prodr. MS.*—*Trans. Cam. Phil. Soc.*
Vol. IV. Part 1. Tab. 3. ff. 1, 2.

S. caule fruticuloso, ramoso; ramulis confertis, erectis, tortuosis, glabris, infernè nudis: foliis omnibus sparsis laxis sub-patentibus, carnosis, crassis, fusiformibus, sub-teretibus, suprâ planiusculis, acutiusculis, utrinque attenuatis, glaberrimis, glaucis: cymis terminalibus, corymboso-fastigiatis, paucifloris: petalis 5, lanceolatis, obtusiusculis, patulis: squamis nectariferis brevibus, lunatis.

Hab. in Maderæ rupibus excelsis aridis maritimis.

Ramosissima, cespitosa, humilis. Flores flavi.

S. altissimo proxima; habitu prorsus *S. nudi*, cui maximè affinis.

54. *Sedum farinosum*, *Prodr. MS.*

S. candicans: caulibus herbaceis, prostratis (repentibus?), elongatis, infernè nudis, sub-simplicibus; foliis ad apices

confertis, 4-fariis, caulibusque albo-farinosis, teretibus, supra sub-planulatis, obtusissimis; cymis terminalibus, 3-partitis: petalis 5, ovato-lanceolatis, acutis; squamis nectariferis carpellis rostratis, acutis.

Hab. in rupibus umbrosis Maderæ, ad altitudinem 4000 ad 5500 ferè pedum.

Petala alba, nervo extrà rubro. (39.)

ORD. XVII. LYTHRARIÆ.

GEN. LYTHRUM, D.C.

55. *Lythrum junceum*, Sol. MSS.

L. floribus axillaribus, hexapetalis, dodecandris: filamentis 6 brevissimis; 6 longioribus, tubo brevioribus; antheris sub-inclisis: calycis angulati dentibus alternis minoribus: foliis alternis, confertis, lanceolato-linearibus, sub-glauciscentibus: caulibus acutè 4-angularibus, debilibus, humifusis, elongatis; deorsùm nudis, suffrutescentibus.

Lythrum junceum, Sol. MSS! et Herb. Banks. quoad specimina Maderensia!

—— acutangulum, *Lagasca*, (L. Græfferi var? D.C.)?

Hab. in Maderæ humidis, frequens.

Caules graciles, demùm prælongi, simpliciusculi, infernè nudi, frutescentes. Folia parva, sub-conferta. Flores hexapetali, magnitudine mediocri, lætè purpurei.

ORD. XVIII. ROSACÆ.

GEN. RUBUS, Linn., D.C.

56. *Rubus grandifolius*, Prodr. MS.

R. caulibus fruticosis, angulatis, aculeatis, glabris, procumbentibus, sterilibus, elongatis; aculeis sparsis, compressis, recurvis, numerosis: foliis quinatis (rarè ternatis), sub-pedatis; foliolis ovato-oblongis, acuminatis, grossè

duplicato-serratis, utrinque glaberrimis, nudis, longè petiolulatis; petiolis petiolulisque sparsim aculeatis: paniculæ elongatæ, terminalis, ramis pedunculis calycibusque densè purpureo-glandulosis: laciniis calycinis reflexis, inermibus, petalis multò brevioribus.

Rubus pedatus *Herb. Banks! et Sol. MSS!* non *Smith.*

Hab. in rupibus Maderæ.

Folia lucida, utrinque viridia, magna. Flores albi, conspicui, magni. Fructus sat magni, atri.

ORD. XIX. LEGUMINOSÆ.

GEN. VICIA, *Tourn. D.C.*

57. *Vicia albicans, Prodr. MS.*

V. annua, villosa, sub-canescens: caulibus tetragonis: cirris valde ramosis: foliolis oblongis, mucronatis, numerosis, oppositis et alternis: stipulis semi-sagittatis, inciso-dentatis: pedunculis sub-bifloris, folio multum brevioribus; floribus secundis, laxis, sub-remotis: dentibus calycinis duobus superioribus minimis, obsoletis; inferioribus ovato-subulatis, medio longiore; omnibus tubo brevioribus et cum toto calyce colorato pilosis: stylis capitatis, infra capitulum globosum undique, subtus verò præsertim, barbatis: leguminibus oblongis, latiusculis, brevibus, sub-compressis, albidohirsutissimis, pendulis, sub-tetraspermis; seminibus globosis, viridi-fuscis, nigro-maculatis, glabris.

Hab. in rupestribus aridis apricis Maderæ.

Flores magnitudine mediocri, paullò sc. majores quàm in *V. Craccá*, rosei vel purpurei, apice purpureo-nigro, vexillo striato. *V. atropurpureæ*, *Desf.*; *trychocalyci*, *Moris.*; *Broterianæ*, *Ser.* in *D.C. Prodr.* (*V. villosa*, *Brot.* non *Roth.*) affinis. Radice annuâ à *V. perenni*, *D.C.*; *argenteâ*, *Lapeyr.*; *variegatâ*, *Willd.*; *alpestri*, *Stev.*; *cinereâ*, *Bieb.*, necnon aliis notis distincta.

58. *Vicia micrantha, Prodr. MS.*

V. annua, gracilis, glabriuscula: caulibus filiformibus: cirris ramosis: foliolis angusto-lanceolatis vel lineari-

oblongis, remotiusculis, obtusiusculis, sub-puberulis: stipulis parvis, angustissimis, semi-sagittatis, superioribus simplicibus: pedunculis sub-bifloris, folio multum brevioribus: calyce leguminibusque latis, oblongis, compressis, 3—6-spermis, villosis.

Vicia gracilis, *Sol. MSS. et Herb. Banks!* non *Loisl.*

Hab. in Maderâ; *Sol. et Mass.* (40.)

Foliola sub-octoparia. Flores perparvi, purpurascens.

GEN. ONONIS, *Linn., D.C.*

59. *Ononis dentata*, *Sol. MSS.*—*Trans. Cam. Phil. Soc.* Vol. IV. Part I. Tab. IV.

O. herbacea, annua, erecta, pilosa: foliis (omnibus) (41.) trifoliolatis; foliolis obovatis, serratis: stipulis ovatis, dentatis: floribus sparsis, solitariis, axillaribus, pedunculatis, folio longioribus, cernuis: pedunculis muticis: corollâ calycem superante: laciniis calycinis 4 supremis anticè dilatatis, foliaceis (3—) dentatis; infimâ simplici lineari-acuminatâ, integerrimâ; leguminibus calyce longioribus. (42.)

Ononis dentata, *Sol. MSS!* et *Herb. Banks.* quoad specimina 3 in Insulis Canariis A.D. 1778 à cl. Masson lecta!

Hab. in Portu S^o. "Insulæ Canariæ, Fr. Masson 1778," *Herb. Banks:* In apricis Nivariæ, P. B. Webb, arm.

Flores conspicui; in plantis ab amico Rev^o. M. J. Berkeley in Angliâ cultis (à seminibus quæ in Insulâ Portûs S^{ti} mense Maii, A.D. 1828, ipse legi) vexillo roseo-purpureo, alis et carinâ pallidioribus; in aliis (desiccatis) ab amico P. B. Webb, arm., in Nivariâ lectis, pallidè flavi, carinâ purpureâ.

GEN. ASTRAGALUS, *D.C.*

SERIES II. OCHROLEUCI.

§ 7. Bucerates, *D.C. Prodr.*

60. *Astragalus canescens*, *Sol. MSS.*

A. villosopubescens, adscendens: caulibus diffusis, adscendentibus; foliolis multijugis, ovalibus vel oblongo-

ellipticis, retusiusculis, suprâ glabris, infrâ hirtis, canescentibus: pedunculis elongatis, folio multum longioribus: racemis multifloris: pedicellis fructiferis deflexis: leguminibus falcatis, compressis, dorso canaliculatis, apice acutis, pubescentibus, pendulis; sulci dorsalis lati, profundi marginibus acutis.

Astragalus canescens, *Sol. MSS. et Herb. Banks!*

Hab. in Insulâ Portu S^o. etiam Canariis ab amico P. B. Webb, arm., lectus.

Flores pallidè flavi, virescentes. *A. hamoso* proxima; nec forsàn verè distincta.

ORD. XX. HYPERICINEÆ.

GEN. HYPERICUM, D.C.

61. *Hypericum angustifolium*, *Prodr. MS.* (43.)

H. glabrum: caulibus simplicibus erectis, strictis, virgatis, ancipitibus, suffrutescentibus: foliis epunctatis, erectis, lineari-oblongis, obtusissimis vel retusis, amplexicaulibus, margine revolutis: paniculâ terminali, corymbosâ: sepalis ovatis, æqualibus, dentato-glandulosis petalisque nigropunctatis: floribus trigynis

Hab. in Maderæ campo præcelso (5000—6000 ped. alt.) "Paul da Serra" dicto.

Caules plures, ferè pedales, tenues.

ORD. XXI. MALVACEÆ.

GEN. SIDA, Cav., D.C.

SECT. MALVINDA, Med., D.C.

** *Oblongifolia*; nempe pedicellis elongatis, distinctiùs articulatis, foliis oblongis, ovatisve. *D.C. Prodr.*

62. *Sida maderensis*, *Prodr. MS.* (44.)

S. fruticulosa: foliis lanceolatis oblongisve, acutis, serratis, glabris, subtùs pallidis, sub-glaucis, breviter petiolatis: axillis inermibus: pedicellis axillaribus, unifloris, inæqualibus, folio brevioribus: carpellis 10—12, uni-rostratis.

Malvinda unicornis folio rhomboide perennis, *Dillen. Hort. Elth. p. 216, t. 172. f. 212* (descr. et fig. opt.)

Hab. secùs vias in locis incultis &c. Maderæ; in regione totâ inferiore vulgatiss.

Pedicellis nunquam "folii longitudine" et carpellis pluribus, semper uni-rostratis, à *S. canariensi* differt. Flores parvi, ochracei. Fruticulus.

ORD. XXII. VIOLARIEÆ.

GEN. VIOLA, *Tourn., D.C.*

Sect. I. *Nomimum, Ging.*—

§ 2.—*, *D.C. Prodr. I. p. 295.*

63. *Viola maderensis, Prodr. MS.*

V. caulescens, stolonifera; caulibus brevibus, erectis, suffrutescentibus, glabris: foliis profundè cordatis, rotundato-ovatis, sub-pubescentibus; petiolis elongatis pedunculisque pube deflexâ hirsutis; stipulis glabris, acuminatis, glandulis ciliato-serrulatis: sepalis oblongis, acutis: petalis lateralibus vix sub-barbatis: calcare sub-compresso, saccato, plerumque obtusissimo (rardè acuminato): stigmatis rostro uncinato, deorsùm (sc. ad flexuram) immarginato, nudo, complanato (nec convexiusculo), styloque compresso, simplici, glabro: capsulis pubescentibus, hexagonis, globosis, abbreviatis: seminibus albidis, pallidè flavescentibus obovatis.

Hab. in Maderæ sylvis, ubique vulgatissima.

Flores odoratissimi, violacei, sub-pallidiores quàm in *V. odoratâ*.

ORD. XXIII. CRUCIFERÆ.

GEN. SINAPIDENDRON, *nob.: Prodr. MS.*

SINAPIS, *Sect. ? 5^{ta} Disaccium, D.C.*

SINAPIS, *Brown, in Hort. Kew., Hook.*

HESPERIS, *Spr.*

Calyx clausus, demùm erecto-patens; basi sub-bisaccatus. *Stylus* distinctus. *Stigma* capitatum. *Siliqua* linearis,

teretiuscula, sub-torulosa, flexuosa, rostrata, basi tetragona; septo sub-spongioso. *Semina* uniseriata, oblonga. *Cotyledones* incumbentes, sub-conduplicatæ.

Suffrutices Maderenses. Folia sub-carnosa, rigida, simplicia. Flores flavi, inodori. Siliquæ graciles, elongatæ, pedicellatæ. Genus habitu, calyce, siliquis, seminibusque à Sinapi distinctum.

SPECIES.

64. *Sinapidendron frutescens*, *Prodr. MS.*

Sinapis frutescens, *Ait. Hort. Kew.* IV., p. 127. n°. 11.—*Herb. Banks!* *D.C. Prodr.* I. p. 220. n°. 34.—*Hook. Misc. Bot.* I. p. 119, t. 28!

Hesperis diffusa, *Spr. Syst.* II. p. 900. n°. 18.

Hab. in rupibus Maderæ.

65. *Sinapidendron salicifolium*, *Prodr. MS.* (45.)

S. "caule frutescente; foliis lineari-lanceolatis, integerrimis." *Sol. MSS.*

Brassica frutescens, *Sol. MSS. et Herb. Banks!*

"Hab. in Maderâ inter rupes maritimas prope vicum Camara de Lobos. 5. *Fr. Masson.*" *Sol. MSS.*

Species videtur à *S. frutescente* distincta. *Folia* succulenta, conferta, integerrima, sub-obtusa, 2—3 poll. longa, $\frac{1}{4}$ poll. lata. *Calyx* semipatens. *Siliquæ* 1—1 $\frac{1}{2}$ poll. (absque rostro) longæ, lineares, flexuosæ, graciles, 4-angulares, longitudinalitèr sub-striatæ; rostro $\frac{1}{3}$ — $\frac{1}{4}$ poll. longo, capitato, subulato, sub-compresso coronatæ.

Habitus omnino *S. frutescentis*. Plantam vivam nondum vidi: descriptio à specimine Banksiano composita est.

66. *Sinapidendron rupestre*, *Prodr. MS.*

S. caule basi frutescente petiolis, foliisque crassiusculis, strigoso-hispidis; superioribus elongatis, oblongo-linearibus, integerrimis; inferioribus ovato-oblongis, sinuato-dentatis, basi sub-lyratis, petiolatis: siliquis glabris; rostro ancipiti, brevi.

- α. *chaetocalyx*; pedicellis, calycibus maculatis, germinibusque hispidis.
 Hab. in rupibus convallium Maderæ.
- β. *gymnocalyx*; siliquis sub-abbreviatis, pedicellis, calycibus sub-immaculatis, germinibusque glabris: foliis lucidis; inferioribus rotundatis obtusis, setis raris scabris.
 Hab. in rupe quâdam excelsâ maritimâ, ad locum oræ Septentrionalis Maderæ "Entroza" dictum: semel tantum legi.
 In α, Calyx purpureo-nigro maculatus. Flores majusculi; petalorum limbo citrino; ungue purpureo.
 β. An species? sed habitu eodem gaudet; nec in ceteris characteribus, floribus, &c. præter suprâ indicata, differt.

ORD. XXIV. RANUNCULACEÆ, D.C.

GEN. RANUNCULUS, C. Bauh., D.C.

§§ II. *Ranunculastrum*, D.C.

- 67.
- Ranunculus grandifolius*
- , Prodr. MS. (46.)

R. foliis amplissimis, lucidis, cauleque hirsutiusculis; radicalibus petiolatis, orbiculato-reniformibus, latis, sub-quinquelobis, dentatis; lobis abbreviatis, rotundatis: caule elato, ramoso, corymboso; ramis divaricatis, sub-patentibus: corymbo vasto, amplo: calyce patentissimo.

Hab. in rupibus humidis umbrosis Maderæ; præsertim Convallis Frigidæ (*Ribeiro Frio* dictæ).

Characteribus difficillimè, habitu sc. staturâ, toto cælo ab affinibus *R. cretico* et *R. cortusæfolio* dignoscitur. Plantam in horto cultam nec solo, nec cælo aridiore mutatam inveni. Folia radicalia sub-indivisa, diametro ferè pedali. *Caulis* 2—3-pedalis. *Flores* conspicui, flavi, magni; *petalis* sc. 1 poll. longis.

MOLLUSCA.

CLASS: GASTEROPODA.

ORD. PULMONEA.

1. *Familia, Limacidæ.*I. GENUS, ARION, *Fer.*

1. *ARION empiricorum, Fer.* (App^x. B. n^o. 47.)
a. Varietatis *a.* *Fer.* sub-varietates duæ; altera olivacea
 vel fusco-lutescens; altera pallidior, cæruleo-cine-
 rascens.
δ. *Fer.*
 Hab. in Maderâ.

II. GENUS, LIMAX, *Fer.*

2. *Limax antiquorum, Fer.*
a. *Fer.* sub-varietates. (48.)
η. *Fer.?* (49.)
 Hab. in Maderâ.
3. *Limax variegatus, β. Fer.*
 Hab. in Maderâ.
4. *Limax agrestis, Fer.*
ε. *Fer.*
η. *Fer.*
 Hab. in Maderâ.

III. GENUS, TESTACELLUS, *Cuv.*

- 5.
- Testacellus haliotideus*
- ,
- Drap., Sow., Fer.*

Hab. in Maderâ. (50.)

- 6.
- Testacellus Maugei*
- ,
- Fer., Sow.*

Hab. in Maderâ. (51.)

2. *Familia, Helicidæ.*IV. GENUS, VITRINA, *Drap.*HELICOLIMAX, *Fer.*

- 7.
- Vitrina Lamarckii*
- , nob. in
- Zool. Journ.*
- Tab. 5. ff. 1, a, b. (52.)

Helicolimax Lamarckii, *Fer.*Hab. in Maderâ et Portu S^{to}.V. GENUS, HELIX, *Fer.* (excluso Sub-genere
Cochlodina, i.e. *Clausilia*).OBS. Methodum cl. Ferussaci hinc usque ad finem
Cochlodontium sequor.§§. *Inclusæ.*†. *Volutatæ, Helicoides.*

I. Sub-genus, HELICOGENA.

- 1.
- Columellatæ*
- ; columella solida torta; globosæ. (53.)

- 8.
- Helix furva*
- ,
- Prodr. MS.*
- Tab. 5. f. 2.

H. testa imperforata, sub-globosa, tenui, fusco 1-fasciata; epidermide umbrino: anfractibus obsoletè rugulosis, primo carinato, ceteris planiusculis: suturâ distinctâ: spira depressiuscula, obtusa: peristomate simplici, acuto.Axis 5 lin. Diam. $9\frac{1}{2}$. Anfr. 6.

α. fasciâ continuâ.

β. fasciâ interruptâ.

Hab. in Maderæ sylvis; rarior.

- 9.
- Helix erubescens*
- ,
- Prodr. MS.*

H. testa imperforata, globosa, tenui, rubescente: anfrac-

tibus striolis rugisve valdè obliquis, sub-undulatis vel anastomosantibus corrugatis; primo vix sub-carinato; ceteris convexiusculis, æquis: spira elevato-obtusa: peristomate acuto, sub-reflexo, intus sub-incrassato, carneo.

Axis 4 lin. Diam. 7. Anfr. 5.

a. testâ fasciis maculisve fuscis ornatâ.—Tab. 5. f. 3.

β. testâ immaculatâ, unicolore.

Hab. in Maderæ sylvaticis.

10. *Helix sub-plicata*, *Sow.*—Tab. 5. f. 4.

Sow. in Zool. Journ. I. p. 56. n°. I. t. iii. f. 1! (testa decorticata, semi-fossilis.)

Hab. in insulâ quâdam parvâ, juxta Portum Sanctum, "Ilheo de Baxo" dictâ.

2. *Imperforata* (Depressæ); testa depressa umbilicata; umbilico omninò tecto. *Fer.*

11. *Helix undata*, *Prodr. MS.*—Tab. 5. f. 5.

H. testa juniore umbilicata, adulta imperforata, sub-globoso-depressa, unicolore, fusco-nigrescente: anfractibus corrugatis vel undato-rugosis, nitidiusculis; ultimo depresso, suprâ planiusculo; ceteris convexiusculis, sutura distincta: spira brevi, obtusa, sub-depressa: peristomate simpliciusculo, sub-incrassato, vix reflexo, pallido.

Axis $\frac{1}{2}$ poll. Diam. 1. Anfr. 6.

Helix corrugata, *Sol. MSS.*; *nec Gmel. nec Dillw.*

Helix scabra, *Wood's Suppl. t. viii. f. 62!* *nec Chemn., nec Lam. Feruss. &c.*

Hab. in Maderæ sylvis, graminosis montanis, &c., vulgaris.

12. *Helix phlebophora*, *Prodr. MS.*—Tab. 5. f. 6.

H. testa juniore umbilicata, hispida (54.); adulta imperforata, sub-globosa, fusco bifasciata: anfractibus sub-tumidis, striis crebris, æqualibus, transversis, obliquis, sub-flexuosis sculptis; ultimo ad angulum peristomatis inferiorem depressiusculo, ventricosos, prominente: spira conoidea, sub-exserta, obtusa;

sutura distincta, ab angulo peristomatis primò valde obliqua : apertura rotunda ; peristomate continuo, simpliciusculo, paullùm incrassato : collumella expansa, plana, rosea.

Axis 4—4½ lin. Diam. 8. Anfr. 5½.

Helix nivosa, *Sow. in Zool. Journ. I. p. 56, n°. 3. t. iii. f. 3!*

Helix exalbida, *Wood, Suppl. t. viii. f. 81!*

Hab. in insulâ Portûs S^{ti}; ubique vulgarissima.

Nomen alterum imponendum est ob priora (à testis quibusdam decorticatis, ut videtur, orta) speciei prorsus abhorrentia, ideoque difficultatem indagatoribus vel diligentissimis haud levem parantia. Nomen itaque novum, quodammodo aptius, è duobus incommodis minus esse malum videtur: tales enim mutationes pessimæ auctoritatis, nec nisi gravissimis argumentis probari possunt. In dilemmate verò tali, quis inter nominis veteris planè falsi et erronei adoptionem, et aptioris quamvis recentioris usum hæeret?

II. Subgenus, HELICODON. (*Helicodonta*, *Fer.*)

I. *Personata*.

Peristoma sinuatum et incrassatum, vel reflexum atque dentatum, dentibus, laminis, plicisve tortuosis anfractus penultimi partis convexæ sæpe coarctatum.

13. *Helix arcta*, *Prodr. MS.—Tab. 5. f. 7.*

H. testa rotundata, depressa, utrinque planiuscula, carinata, umbilico minimo perforata, solida, crassa, glabra: anfractibus striis crebris, æqualibus, transverso-obliquis crassiusculis rudibusve sculptis: spira convexo-depressa; sutura distincta, sub-imprensa: apertura transversa, ovali, dente lamellata intûs ad ventrem* coarctata; peristomate albo, reflexo, continuo, æquali.

Axis 1—1½ lin. Diam. 2—2½. Anfr. 4—4½.

Hab. in Maderæ collibus aridis maritimis.

* *Venter*, pars convexa anfractus penultimi, aperturam (in *Helicibus*) coarctans.

14. *Helix fausta*, *Prodr. MS.*—Tab. 5. f. 8.

H. testa rotundata, carinata, sub-globoso-depressa, suprâ* convexiore, pilis brevissimis undique scobinato-hispida, læviuscula: spira elevatiuscula, depresso-conoidea: anfractibus planiusculis, obsoletissimè transversè striatis; sutura distincta, impressa: apertura transversa, intùs angustata, exteriùs dilatata, dente lamellata intùs ad ventrem coarctata: peristomate extrâ expanso, sub-reflexo, acuto; columellam versus albo, incrassato, sub-sinuato sc. obsoletè bidentato, reflexo, umbilicum penitùs obtegente.

Axis $1\frac{3}{4}$ lin. Diam. 3. Anfr. $5\frac{1}{2}$.

Hab. in sylvis convallis "Boa Ventura" (*i.e.* Boni Successùs) dictæ, in Maderæ orâ septentrionali.

Helici personatæ cl: *Draparnaudi* maximè quidem affinis, sed distinctissima.

15. *Helix arridens*, *Prodr. MS.*—Tab. 5. f. 9.

H. testa carinata, umbilico parvo perforata, rotundata, depressa, utrinque sub-planulata, tenui, hispida, læviuscula: spira convexo-depressa; anfractibus planiusculis, obsoletissimè transversè striatis; sutura sub-distincta: umbilico spirali,† rotundo: apertura edentula, transversa, intùs angustata et in umbilicum quasi cum rictu paullùm producta; peristomate interrupto, extrâ simpliciusculo, sub-reflexo; angulum versus internum incrassato, sub-sinuato, albo, reflexo, et umbilicum partim laminâ expansâ obtegente.

Axis $1\frac{1}{2}$ lin. Diam. 3. Anfr. $4\frac{1}{2}$ —5.

Hab. in Maderâ.

Characteribus fortè artificiosis cum *Helicellis Hygromanibus* consocianda; sed affinitas summa cum priore reliquisque

* *Suprà* latus quo umbilicus situs est; *infra* quo spira, respicit.

† Umbilicus *spiralis* dicitur ubi plus minus anfractùs penultimi, antepenultimi, pluriumve intùs conspiciuntur. Huic opponitur umbilicus *cylindricus*.

Helicodontibus naturalis, his adnumerare docet. *Helici edentula* cl: *Draparnaudi* proxima; caret autem impressionibus externis plicarum; caret quidem omninò plicis ipsis ullis: ideoque ab *Helice fausta* nostrâ et *H. personatâ* *Drap*¹; aliisque hujusce sectionis cognatis, nullo modo intervallo longo separanda est.

III. Subgenus, HELICIGONA.

1. *Carocolle*. Umbilicus tectus.

16. *Helix* *Webbiana*, *Prodr. MS.*—Tab. 5. ff. 10.

H. testa adulta imperforata, tenui, nitida, sub-lampadi-formi, depressa, carinata, utrinque convexa, corneo-fuscescente; suprâ ad umbilicum virescente, convexiore, obliquè tenuiter striata, carinam versus utrinque sub-impressam, obtusam, suturamve granulis minutis scabra: spira convexo-depressa, obtusissima; sutura distincta; anfractibus planulatis, ultimo maximo: apertura transversa, sub-ovali, amplissima, patula, extrâ carina angulata; peristomate interrupto, tenui, acuto; extrâ valde expanso, patulo; ad columellam sub-incrassato, sub-reflexo.

Axis 3 lin. Diam. 9. Anfr. 3—3½.

Hab. in montibus insulæ Portûs S^u.

Amico P. B. Webb, Arm^o., Naturæ indagatori impigro ac peritissimo, speciem pulcherrimam atque rarissimam dico.

2. *Vortices*. Umbilicus apertus.

17. *Helix* *Bulveriana*, *Prodr. MS.*—Tab. 5. ff. 11.

H. testa rotundato-depressa, hemisphærica, rotata, suprâ planulata, acutissimè carinata, tenui, nitidiuscula, tota minutissimè et confertim granulata, fusco-castanea, suprâ fasciata: spira convexo-depressa, plus minus elevata, obtusissima; sutura obsoleta; anfractibus planis, æquis, quasi attritis vel confluentibus, ultimi carinâ acutissimâ, tenui, suprâ sulco exarata, limbata; umbilico patulo, spirali, profundo: apertura rotundato-lunata: peristomate interrupto, ad umbilicum incrassato, reflexo.

Axis 3—2½ lin. Diam. 7—8. Anfr. 8—7.

Helix Bulverii, Wood, *Suppl. t. viii. f. 82!*

Hab. in montibus Insulæ Portûs S^{ti}.

18. *Helix tectiformis*, Sow.—Tab. 5. f. 12.

Sow. in Zool. Journ. p. 57. n^o. 6. t. iii. f. 6!

Hab. in insulâ quâdam parvulâ “Ilheo de Baxo” dictâ juxta insulam Portûs S^{ti}.

19. *Helix subtilis*, Prodr. MS.—Tab. 5. f. 13.

H. testa orbiculari, utrinque depresso-planulata, tenui, unicolore, pallidè fusco, acutè carinata; spira depressa, sub-planulata; sutura distincta; anfractibus planulatis, striis transversis, obliquis, tenuibus, plus minus distinctis, æquidistantibus, interstitiisque striolis subtilissimis, crebris, decussatis: umbilico patulo, magno: apertura transversa, depressa, obliquè lunata; peristomate interrupto, sub-simplici, sub-reflexo.

Axis 1 lin. Diam. 3—4. Anfr. 5.

An *Helix lenticula*, Feruss. *Tabl. Syst. n^o. 154?*

Hab. in Maderæ maritimis. (55.)

20. *Helix actinophora*, Prodr. MS.—Tab. 5. f. 14.

H. testa orbiculata, depressa, suprâ convexiore sub-turgida, tenui, unicolore, fusco-rufescente, acutè carinata: spira convexiusculo-depressa, sub-planulata: sutura distincta; anfractibus planatis, striis creberrimis, tenuissimis, transversis undulatim laminosis, quibusdam ad carinam suturamve in laminas breves, membranaceas, lacinulasve acutas, radiantes productas, notatis: umbilico spirali, parvo: apertura transversa, rotundato-ovali, sub-lunata; peristomate interrupto, acuto, patulo, reflexo.

Axis 2 lin. Diam. 4. Anfr. 5.

Hab. in Maderæ sylvaticis.

IV. Subgenus, HELICELLA.

Lomastomæ; peristoma reflexum.

21. *Helix pulchella*, Mull.

Hab. in Maderâ.

22. *Helix Porto-sanctana*, Sow.

a. vulgaris.—Tab. 5. f. 15.

Sow. in *Zool. Journ.* I. p. 57. n°. 5. t. iii. ff. 5!

Hab. copiosissimè in Portu S^o.

β? *gigantea*.—Tab. 5. f. 16. (56.)

Hab. in Portu S^o.

An var. *β*. species potiùs? quamvis enim ab *a*. vix nisi magnitudine duplò ferè majore differt, status intermedios nunquam vidi. Var. *a*. viva ubique copiosissima; *β*. rarissima nondum nisi statu semi-fossili, decorticato occurrit.

Aplostomæ; peristoma simplex.

* Verticilli.

23. *Helix pusilla*, Prodr. MS.—Tab. 5. f. 17.

H. testa rotundato-depressa, ecarinata, tenui, rufescente: spira convexiuscula; sutura distincta, impressa; anfractibus rotundatis, striis transversis, annularibus, elevatis, submembranaceis, tenuibus, remotis, æqualibus, plicatis; interstitiis striolis aliis exilissimis tenuissimisque creberrimis spiralibus sc. transversas decussantibus, sculptis: umbilico patulo, spirali, profundo: apertura rotunda, vix lunata sc. circuli segmento perparvo dempto; peristomate simplici (tenui, acuto).

Axis $\frac{1}{2}$ lin. Diam. 1. Anfr. 4.

Hab. in Maderæ sylvis.

Obs. *Helici pygmææ* cl: *Drap.* quoad staturam et habitum maximè affinis; species autem revera distinctissima.

** Hyalinae.

24. *Helix bifrons*, Prodr. MS.—Tab. 5. f. 18.

H. testa rotundato-depressa, umbilicata, sub-carinata, tenui, nitida, concolore, corneo-virescente; suprà læviuscula, obsoletè striata; infernè striis valde distinctis sculpta: spira convexo-depressa; sutura distincta, impressa; anfractu ultimo infra carinam, ceterisque anfractibus, striis costisve transversis, æqualibus, crebris sulcatis: umbilico parvo,

cylindrico, sub-spirali, profundo: apertura lunata; peristomate simplici, tenui, acuto, intùs albo marginato.

Axis $2\frac{1}{2}$ —3 lin. Diam. 6—7. Anfr. 7—8.

Hab. in Maderæ sylvis.

25. *Helix cellaria*, *Mull.*

Helix lucida, *Mont.*

Helix nitens, *Drap.*

Hab. in Maderâ.

26. *Helix crystallina*, *Mull.*

Hab. in Maderâ.

Heliomanes; peristoma marginatum ("bordé").

* Testa depressa vel globulosa.

27. *Helix pauperecula*, *Prodr. MS.*—Tab. 5. f. 19.

H. testa rotundata, planata, suprâ convexiore, umbilicata, sub-carinata, solidiuscula, rudi, ferè unicolore, anfractu ultimo supra carinam obsoletè fusco unifasciata: spira planata; sutura impressa; anfractibus rugosis, eroso-scribiculatis, minutissimè elegantissimèque granulatis; ultimo ad aperturam constricto: umbilico largo, patulo, spirali, profundo: apertura rotundata, coarctata; peristomate continuo, elevato-disjuncto, annulari, sub-patulo, acuto; labro intùs 1-dentato.

Axis 1 lin. Diam. 2— $2\frac{1}{2}$. Anfr. $3\frac{1}{2}$ —4.

Hab. in Maderæ et Portùs S^u. maritimis.

28. *Helix obtecta*, *Prodr. MS.*—Tab. 5. ff. 20, a, b.

H. testa rotundata, depressa, infernè planata, suprâ convexa, umbilicata, carinata, solidiuscula, rudi, albida, limo vel terra obducta: spiræ planulatæ anfractibus primis concavis, ceteris prominentibus turgidis; sutura distincta, valde impressa; anfractu ultimo ventricoso, carina distincta, utrinque sub-exarata vel sulco obsoletissimo expressa; omnibus rugosis, eroso-scribiculatis, minutissimè elegan-

tissimèque granulatis : umbilico mediocri, sub-spirali : apertura rotundata ; peristomate continuo, sub-disjuncto, tenui, acuto, sub-expanso, intùs incrassato.

Axis 2 lin. Diam. 5. Anfr. $4\frac{1}{2}$ —5.

Hab. in montibus collibusque aridis Portùs S^u. rarior ; copiosior in insulâ " Ilheo de Baxo " dictâ.

Præcedentis forsan status, vel varietas tantùm major. (57.)
29. *Helix dealbata*, *Prodr. MS.*

H. testa rotundato-depressa, utrinque convexa, umbilicata, carinata, solidiuscula, albida : spira convexo-depressa, sub-conoidea ; sutura sub-distincta ; anfractibus sub-planulatis, transversè rugoso-striatis, plerumque minutè granulatis ; ultimo obtusè carinato : umbilico parvo, patulo, sub-spirali, minimè profundo ; apertura rotunda, ochracea ; peristomate continuo, reflexo.

Axis 2 lin. Diam. 4— $4\frac{1}{2}$, altera transversa 3— $3\frac{1}{2}$. Anfr. 6.

a. granulata ; testa granulata.—Tab. 5. f. 21.

Hab. in montibus Portùs S^u.

β. lævis ; testa egranulata, lævi, nitida.

Hab. in insulâ " Ilheo de Baxo " dictâ. Status *a*, solo calcareo ortus. (58.)

30. *Helix maderensis*, *Wood.*—Tab. 5. f. 22.

H. testa rotundato-depressa, utrinque planulata, umbilicata, carinata, solidiuscula ; suprâ læviuscula, fusco 1-fasciata ; infernè striata : spira convexiuscula, sub-planulata ; sutura distincta ; anfractibus planatis, infrâ transversè striatis, ultimi ad aperturam granulati carina acuta, striis suprâ carinam obsoletis : umbilico lato, patulo, spirali : apertura rotunda ; peristomate continuo, circinato, annulari sub-disjuncto, crassiusculo, sub-expanso.

Axis $1\frac{1}{2}$ lin., rariss. 2 ; Diam. 3, rariss. 4. Anfr. 6—7.

Helix maderensis, *Wood, Suppl. t. viii. f. 84!*

Hab. in Maderâ ; vulgatissima.

31. *Helix compar*, *Prodr. MS.*—Tab. 5. f. 23.

H. testa rotundato-depressa, utrinque planulata, umbilicata, sub-carinata, solidiuscula, fusco bifasciata, utrinque

plicato-costata: spira convexiuscula, sub-planulata; sutura distincta, impressa; anfractibus convexiusculis, plicis vel striis transversis, elevatis, acutis, distinctis, crebris, æquidistantibus æqualibusque costatis; interstitiis lævibus; ultimi carina obtusa; umbilico lato, patulo, spirali, profundo: apertura rotundato-ovali; peristomate continuo, circinato, sub-disjuncto, crassiusculo, reflexo.

Axis $1\frac{1}{2}$ lin. Diam. $3\frac{1}{4}$. Anfr. 6.

Hab. in Maderæ collibus maritimis; rariss.

32. *Helix leptosticta*, *Prodr. MS.*—Tab. 5. f. 24.

H. testa rotundato-depressa, umbilicata, sub-carinata, nitidiuscula, tenui, pallidè cornea, obsoletè fasciata: spira convexo-depressa; sutura distincta; anfractibus convexis, sub-striatis, minutè et elegantissimè reticulato-granulatis; ultimi carina obtusa: umbilico patulo, spirali: apertura rotundato-ovali; peristomate continuo, simpliciusculo, sub-incrassato, sub-reflexo.

Axis $1\frac{1}{2}$ lin. Diam. 3. Anfr. 5— $5\frac{1}{2}$.

Hab. in Maderæ collibus maritimis.

33. *Helix lentiginosa*, *Prodr. MS.*—Tab. 5. f. 25.

H. testa rotundato-depressa, suprà sub-planulata, umbilicata, sub-carinata, tenui, maculata et sub-fasciata: spira convexo-depressa; sutura distincta; anfractibus convexiusculis, striato-scobinatis vel squamuloso-cancellatis, striis sc. interruptis squamiformibus, lunatis, quincuncialibus sculptis: umbilico mediocri, sub-patulo, spirali; apertura transversè ovali, sub-lunata; peristomate interrupto, reflexo.

Axis $1\frac{1}{2}$ lin. Diam. $2\frac{1}{2}$ —3. Anfr. 5.

Hab. in Maderæ rupibus maritimis.

Helici arridenti nob: affinis.

34. *Helix calva*, *Prodr. MS.*—Tab. 5. f. 26.

H. testa rotundato-globulosa, sub-depressa, imperforata, vix sub-carinata, nitidiuscula, sub-tenui, sub-pellucida, obsoletissimè 2-fasciata: spira convexa, elevatiuscula; sutura

distincta; anfractibus planiusculis, transversè costulato-striatis, striolisque spiralibus obsoletissimis, subtilissimis exilissimisque, æquis notatis; ultimo ferè ecarinato, ad aperturam ochraceo, suprâ nitido, lævi: umbilico clauso: apertura transversa, multò latiore quàm alta, sub-lunata, intùs angustata, extorsùm ampliore; peristomate longè interrupto, incrassato, sub-reflexo.

Axis $2-2\frac{1}{4}$ lin. Diam. $3\frac{1}{2}-4$. Anfr. $6\frac{1}{2}-7$.

Hab. in Madere sylvis.

Helici edentulæ Drap^{di}. aliquatenùs formâ affinis; sed vix HELICODONTIBUS releganda.

HELICELLIS *Hyalinis* (59.) affinitate naturali, et præ ceteris *H. bifronti* nostræ accedit; peristomate verò marginato, striisque subtilissimis tenuissimisque spiralibus prorsùs aliena. 35. *Helix abjecta*, Prodr. MS.—Tab. 6. f. 1.

H. testa parvula, rotundato-pyramidata, conoidea, carinata, umbilicata, crassa, solida, rudiusecula, utrinque scabra vel granulosa, rugosa, supra carinam fusco pallidè unifasciata: spira convexa, conoidea; sutura distincta; anfractibus compactis, convexiusculis, transversè rugosis et granulatis: ultimi carina sub-acuta, ad suturam approximata: umbilico parvo, spirali, profundo: apertura rotundata; peristomate continuo, reflexo.

Axis $1\frac{3}{4}-2$ lin. Diam. $3-3\frac{1}{2}$. Anfr. $6\frac{1}{2}-7$.

Hab. in insulâ Portùs S^u., unâ cum *H. compacta* degens; vulgatissima.

Inter *H. compactam* et *H. echinulatam* nostram quasi intermedia; ab utrâque satis distincta: priori verò quàm maximè affinis.

36. *Helix compacta*, Prodr. MS.—Tab. 6. f. 2.

H. testa parvula, rotundato-globulosa, sub-conoidea, perforata, sub-carinata, crassa, solida, rudiusecula; infrâ scabra, rugosa; suprâ læviore, nitidiusecula, pallidiore, fusco obsoletè 1-fasciata: spira convexa, elevatiusecula; sutura distincta; anfractibus compactis, planiusculis, transverse striatis et granulatis; ultimo sub-carinato, supra angulum læviuseculo

sc. egranulato, umbilicum coarctante: umbilico minimo, sub-spirali, rimæformi: apertura rotundato-lunata; peristomate interrupto (labris approximatis, aliquando sub-continuis), sub-reflexo.

Axis 2 lin. Diam. 3. Anfr. 6—6½.

Sowerb. in Zool. Journ. I. t. iii. f. 8!

Hab. in insula Portûs S^u. gregaria, ubique copiosissima: in Maderâ ad Promontorium S^u. Laurentii ("Ponta Saõ Lourenço") solùm.

37. *Helix consors*, *Prodr. MS.*—Tab. 6. f. 3.

H. testa rotundato-depressa, perforata, vix sub-carinata, crassiuscula, solida, rudijscula: infrâ præsertim scabra, rugosa; suprâ læviore; utrinque pallido fuscoque variata, ad aperturam ochracea: spira convexo-depressa; sutura sub-indistincta; anfractibus planatis, transversè striatis et granulatis; ultimo sub-carinato, umbilicum coarctante, granulis supra angulum obsoletis: umbilico minimo, sub-spirali, rimæformi: apertura rotundato-lunata; peristomate distinctè interrupto, sub-reflexo.

Axis 2½—3 lin. Diam. 4½—5. Anfr. 6—6½.

Hab. in insulâ Portûs S^u. cum præcedente; rarior.

Præcedenti vel maximè affinis; characteres itaque extricatu difficillimæ: sed forma magis depressa numerusque anfractuum isdem, quamvis testa ferè duplè major, speciem esse distinctam suadent; obstante nullâ differentiâ loci, soli, cibi, nec aliâ quâpiam hujusmodi causâ quæ talem mutationem efficere posset.

38. *Helix depauperata*, *Prodr. MS.*—Tab. 6. f. 4.

H. testa rotundato-depressa, umbilicata, ecarinata, tenuiuscula, suprâ convexa, unicolore, sordida, minutissimè et elegantissimè confertim reticulato-granulata: spira convexo-depressa; sutura distincta, sub-imprensa; anfractibus convexis, sub-tumidulis, transversè sub-striatis; ultimo sub-rotundato: umbilico mediocri, aperto, spirali, profundo:

apertura rotundata; peristomate sub-continuo, simpliciusculo, tenui, intùs sub-marginato.

Axis 2—2½ lin. Diam. 4—4½. Anfr. 5—5½.

Hab. in montibus insulæ Portûs S^u.

39. *Helix lurida*, *Prodr. MS.*—Tab. 6. f. 5.

H. testa sub-globosa, depressiuscula, suprâ convexa, umbilicata, ecarinata, tenuiuscula, fusco sub-fasciata, nitidiuscula: spira convexo-depressa; sutura distincta; anfractibus convexis, minutissimè et obsoletissimè confertim reticulato-granulatis; ultimo rotundato, juxta suturam granulato, supernè lævi sc. egranulato: umbilico parvo, cylindrico, profundo, aperto: apertura lunata, sub-ovali; peristomate simplici.

Axis 3 lin. Diam. 5. Anfr. 5½—6.

Hab. in montibus insulæ Portûs S^u. (60.)

Sequenti proxima.

40. *Helix nitidiuscula*, *Sow.*—Tab. 6. f. 6.

Sow. in Zool. Journ. I. p. 57. n^o. 4. t. iii. f. 4!

Hab. in Maderâ et Portu S^o; ubique vulgatissima. (61.)

41. *Helix punctulata*, *Prodr. MS.*—Tab. 6. ff. 7, 8.

a. setulosa; testa sub-tenui, sub-inflata, scabra, spinelloso-hispida.

Axis ½ poll. Diam. ¾. Anfr. 5.—Tab. 6. f. 7.

Helix punctulata, *Sow. in Zool. Journ.* I. p. 56. n^o. 2. t. iii. f. 2!

β. solida; testa solida, glabriuscula, pallida.

Axis ¾ poll. Diam. ½. Anfr. 5.—Tab. 6. f. 8.

Hab. in Portu S^o.

An satis ab *H. nitidiusculâ* *Sow.* distincta? (62.)

42. *Helix pisana*, *Mull.*

H. rhodostoma *Drap.*, *cingenda* *Mont.*, &c.

Hab. in Maderæ promontorio "P^{ta}. Saô Lourenço" dicto.
In Portu S^{to}. vinetarum calamitas.

43. *Helix lauta*, *Prodr. MS.*—Tab. 6. f. 9.

H. testa sub-globosa, suprâ convexa, umbilicata, ecarinata, tenuiuscula, (alba, fasciis angustis, interruptis, fuscis, obsoletis ornata), nitidiuscula: spira convexo-depressa, sub-elevata; sutura distincta; anfractibus convexis, striis confertissimis, æqualibus, concinnis, transversis sculptis; ultimo rotundato: umbilico parvo, cylindrico, profundo, aperto: apertura lunata, sub-rotunda; peristomate acuto, intûs annulo distincto, elevato, margini approximato.

Axis $\frac{1}{4}$ poll. Diam. $\frac{7}{16}$. Anfr. 5.

Hab. in Portu S^{to}. (63.)

Specimen unicum decorticatum tantûm habeo, a Rev^o. Dom^o. Bulwer repertum, quod mihi cl. G. B. Sowerby humanissimè communicavit. *H. luridæ* nostræ, necnon *H. striatæ* *Drap.* (*caperatæ* *Mont.*) et forsâ aliis quibusdam proxima: sed ab omnibus distincta videtur.

44. *Helix striata*, *Drap^d.*? (64.)

Hab. in Madera; rariss.

Differt umbilico et numero anfractuum, pro magnitudine majore. Quum autem testas perpaucas easque nondum adultas adhuc repertas habeo, distinguere vix audeo.

45. *Helix rotula*, *Prodr. MS.*—Tab. 6. f. 10.

H. testa rotundata, conoidea-depressa, suprâ sub-planulata, sub-perforata, carinata, scabra, nitidiuscula, fasciata: spira conoidea, obtusissima; sutura obsoleta; anfractibus planis, transversè striatis et granulatis; ultimo acutè carinato, carina ad peristoma obsoleta: apertura lunata, extrorsum dilatata; peristomate intûs incrassato, acuto, sub-expanso; ad angulum internum reflexo, calloso, perforationem obtegente.

Axis 3 lin. Diam. 6. Anfr. 8.

Hab. in montibus Portûs S^{ti}.

46. *Helix polymorpha*, *Prodr. MS.*—Tab. 6. ff. 11—16.

H. testa rotundato-depressiuscula, umbilicata, carinata, crassiuscula, solida, fusco fasciata et maculata: spira conoideo-depressa, aliquando ferè planata, granulata; anfractibus planiusculis; primorum saltem sutura obsoleta; ultimi carina plùs minùs acuta: umbilico patulo, spirali, largiusculo: apertura lunato-rotundata; peristomate sub-reflexo.

a. irrasa; testa depresso-conoidea, sub-globulosa, utrinque granulato-scaberrima, limo vel terra obducta: spira convexo-elevatiuscula, conoidea; anfractibus convexis; sutura distincta; carina obtusa: peristomate sub-interrupto.

Axis 3 lin. Diam. 5. Anfr. 8.

Albida, fasciis fuscis distinctis, superiore lato, continuo, distinctissimo; infrà sc. spira sub-maculata, variegata.

f. 11, l. c.

Hab. in solo rubro "Tufa" geologicis dicto, ad promontorium S^a. Laurentii Maderæ.

β. depressiuscula; testa rotundato-depressiuscula, obsoletè utrinque granulata, suprà præsertim nitidiuscula, læviuscula sc. granulis raris, obsoletis: spira convexo-depressiuscula; anfractibus convexiusculis; sutura distincta; carina obtusa: peristomate interrupto.

Axis 2½ lin. Diam. 5—5½. Anfr. 7.

Supra albida, fasciis fuscis, superiore lato, continuo, distincto, ceteris interruptis vel obsoletis; infrà sc. spira albido fuscoque maculata, variegata.

f. 12, l. c.

Hab. in solo *Tufa* dicto in collibus maritimis prope urbem Funchalensem Maderæ. (65.)

γ. arenicola; testa rotundata, supra sub-planulata, utrinque granulata; suprà præsertim nitida, granulis obsoletioribus:

spira convexo-depressiuscula, plùs minùs elevata; anfractibus convexiusculis; sutura distincta; carina sub-obtusa; peristomate sub-continuo.

Axis 2—2½ lin. Diam. 4½—5. Anfr. 7.

Sub-var. 1. Suprà fusco fasciata; fascia superiore distincta, sub-continua, angusta; ceteris interruptis.

f. 13, l. c.

2. Inornata sc. non fasciata, variegata.

Albida, nitida, spira fusco maculata, variegata. Colores quodammodo lætiores quàm in ceteris; albo præsertim clariore.

Status *a*, e solo calcareo ortus.

Hab. in arenosis calcareis promontorii S^u. Laurentii Maderæ. (66.)

δ. *attrita*; testa rotundato-depressa, rotata; infrà planulata; suprà convexa, nitidiuscula; utrinque confertim granulata: spira convexo-planata; anfractibus planis, quasi attritis; sutura obsoletissima; carina acutissima: umbilici margine (præsertim in junioribus) abrupto, declivi: peristomate ferè interrupto.

Axis 2 lin. Diam. 4½—5½. (67.) Anfr. 7.

Sub-var. 1. Suprà pallida, fusco fasciata; fascia superiore angusta; plerumque unica.

f. 14, l. c.

Helix tectiformis, Wood, *Suppl. t. viii. f. 83!*

2. Tota fusca, sub-unicolor, præter spatium vel fasciam latam pallidam circa umbilicum.

3. Tota variegata, nec fasciata.

Sub-varietas quæque colore magis fusco quàm in ceteris (68.) gaudet: in 1^{ma} sordidè albido vel pallidè ochraceo fuscoque variegata et maculata; anfractûs ultimi pars semper in omnibus juxta peristoma ochracea, immaculata.

Hab. in collibus montibusve Portûs S^u. (69.)

ε. *calcigena*; testa rotundato-depressa; suprà planulata, lævi, nitida, ad aperturam tantùm sub-granulata: spira convexo-depressa, plùs minùs elevata, granulata; anfractibus planatis; ultimi sutura impressa, ceterorum obsoleta; carina sub-acuta: peristomate sub-interrupto.

Axis 2—2½ lin. Diam. 5—5¾. Anfr. 7½.

Sub-var. 1. Suprà tota alba; spira albida fusco variegata. f. 15, l. c.

2. Suprà fasciata; spira albida fusco variegata.

Status δ. vel ζ., solo calcareo ortus.

Hab. in solo calcareo insulæ cujusdam, "Baxo" dictæ, juxta Portum S^{tam}. (70.)

ζ. *pulvinata*; testa rotundato-conoidea, utrinque confertim granulata: spira elevata, conica, anfractui ultimo quasi superimposita; anfractibus (præter primos) convexiusculis, ultimo tumidulo; sutura distincta, impressa; carina sub-obtusa: peristomate continuo.

Axis 2½—3 lin. Diam. 5. Anfr. 7½.

Sub-var. 1. Suprà tota alba spira sub-maculata.

2. Suprà fusco fasciata; spira maculata.

f. 16, l. c.

Colores in utroque statu (sc. sub-varietate) quàm in ceteris varietatibus longè pallidiores. Testa quidem in omnibus pallida, albida, apice spiræ fusco.

Hab. in montibus collibusve Portus S^u.; cum δ. *attrita* nostrâ degens. (71.)

Varietates δ. et ζ. (forsan etiam ε.) primo aspectu distinctissimæ, tot forsan species constituendæ quibusdam videantur. Adeò tamen, mediante ε., sunt conjunctæ, ut tres illæ δ., ε., ζ. nec a seipsis nec ab α., β., γ., quibus ordine inverso analogæ sunt, separari debent. Sed in re tam dubiâ, non is sum qui cuilibet meas varietates pro speciebus habenti, increparem.

* * Testa trochoidea, carinata.

47. *Helix cheiranthicola*, *Prodr. MS.*—Tab. 6. f. 17.

H. testa pyramidata, conoidea, umbilicata, carinata, solidiuscula, tota scabra, plerumque fasciata: spira elevata, pyramidata, obtusa; sutura distinctissima, impressa; anfractibus convexis, tumidis, distinctis, confertim granulatis; ultimi carina obtusa: umbilico mediocri, patulo, spirali profundo: apertura rotundata; peristomate continuo, subdisjuncto sc. circinato, incrassato, sub-reflexo.

Axis 3 lin. Diam. 4. Anfr. 8.

Sub-var. 1. *zonata*; supra fasciata: spira fascia unica, lata, juxta suturam: carina albida.

f. 17, l. c.

2. *maculata*; suprâ fasciata: spira maculata vel variegata, nec fasciata.

3. *albida*; tota albida, nec fasciata: spira submaculata.

Hab. in arbusculis *Cheiranthi tenuifolii* Herit: in monte Portûs S^u. quodam "Pico branco" dicto: et in insulâ "Ilheo de Baxo" dicto, sed rarissima.

Varietati ζ. *pulvinatæ Helicis polymorphæ* nimis forsân affinis: sed formâ et anfractibus tumidis et sutura impressa dignoscitur.

48. *Helix oxytropis*, *Prodr. MS.*—Tab. 6. f. 18.

H. testa depresso-conoidea, suprâ planulata, perforata, carinata, tota scabra, fusca, sub-fasciata: spira depresso-conica; sutura distincta: anfractibus planiusculis; ultimi carina acuta, distinctissima, suprâ marginata sc. exarata vel sulco expressa; omnibus distinctissimè confertim granulatis, asperis: umbilico minimo, sub-spirali, aperto: apertura rotundata; peristomate continuo, circinato, disjuncto, reflexo.

Axis $2\frac{1}{4}$ lin. Diam. 4. Anfr. $6\frac{1}{2}$.

Hab. in collibus maritimis Portûs S^u.

49. *Helix echinulata*, *Prodr. MS.*—Tab. 6. f. 19.

H. testa parvula, conoidea, sub-pyramidata, depressiuscula, suprâ planulata, perforata, carinata, tota scaberrima, fusca,

suprà fasciata: spira pyramidata elevata; sutura distincta, impressa; anfractibus convexis; ultimi carina acuta, distincta, suprà marginata sc. sulco expressa vel exarata; omnibus granulis distinctissimis, confertis, asperrimis scobinatis et quasi echinulatis: umbilico parvo, sub-spirali, aperto; apertura rotundata; peristomate continuo, circinato, disjuncto, reflexo.

Axis 2 lin. Diam. $2\frac{1}{2}$. Anfr. 6.

Hab. in monte "Pico branco" dicto insulæ Portûs S^u.

Species elegantissima.

50. *Helix duplicata*, *Prodr. MS.*—Tab. 6. f. 20.

Helix bicarinata, *Sow. in Zool. Journ. I. p. 58. n^o. 7. t. iii. f. 7!* *Wood, Suppl. t. viii. f. 85!* non *Feruss.*

Monstrosa; anfractu ultimo disjuncto; sutura profunda, excavata.

Hab. in insulâ Portûs S^u.

Nomen ægrè, et quasi coactus, mutavi; ob *Helicem C. bicarinatam* cl: *Ferrussaci, Tabl. Syst. n^o. 350.*

51. *Helix turricula*, *Prodr. MS.*—Tab. 6. f. 21.

H. testa turrita, pyramidata, sub-cylindrica, bicarinata, perforata, tota minutè et confertissimè granulata, fusca, ferè unicolore, vel suprà obsoletè fasciata: spira valde elevata, obtusissima; sutura distincta; anfractibus bicarinatis, carinis æqualibus, prominentibus, distinctis, sulco divisis: apertura rotunda; peristomate continuo, circinato, disjuncto, tenui, reflexo.

Axis 4. lin. Diam. 3. Anfr. 8— $8\frac{1}{2}$.

Hab. in insulâ quâdam "Ilheo de Cima" dictâ, juxta insulam Portum S^{tum}.

Species notabilior, elegans.

52. *Helix bicolor*, *Prodr. MS.*—Tab. 6. f. 22.

H. testa globuloso-conoidea, sub-imperforata, læviuscula, nitida, vix sub-carinata, fasciis albis fuscisque læte-coloribus ornata: spira elevatiuscula, obtusissima; sutura distincta;

anfractibus sub-planulatis, transversè striatis: apertura extrorsum ampliore; peristomate longè interrupto, tenui, simpliciusculo, intus ad angulum incrassato, reflexo, perforationem minimam ferè obtegente.

Axis 2 lin. Diam. 3. Anfr. 7.

Hab. in summo cacumine montis "Pico de Facho" dicto Portus S^t.

Species nitidissima, coloribus distinctissimis sc. fasciis lætè coloratis gaudens. Ob affinitatem *Helici maritimæ* Drap., cel: Ferussaco obsecutus, huc relegavi: sed ambæ potiùs priori sectioni post *Helicem variabilem* Drap. (*H. virgatam*, Mont.) inserendæ sunt. (72.)

† Evolutatæ, *Cochloides*.

* Apertura ferè edentula.

1. *Columella solida*.

—————, planata et ad basin truncata.

5. Sub-genus, *Cochlicopa*.

Styloides; *testa turrita, apertura brevi, &c.*

53. *Helix C. acicula*, Fer.

Buccinum Acicula, Mull. — *Bucc. terrestre*, Mont. — *Bulimus Acicula*, Brug. et Drap. — *Achatina Acicula*, Lam^k et Nills.

Hab. in Maderâ.

54. *Helix C. tornatellina*, Prodr. MS.—Tab. 6. f. 23.

H. testa obovato-oblonga vel obconico-cylindrica, lævi, nitida, corneo-rufescente (castanea): spira breviuscula, obtusa, duas partes ex quinque totius longitudinis æquante; anfractibus planis; sutura obsoleta: apertura longitudinali, coarctata, posticè valde angustata; labro anticè producto, porrecto, sub-inflexo, posticè sub-sinuato: columella prominula, abruptè et obliquè truncata, torta; plica in ventrem longitudinali, sub-obsoleta, callosa, labro adversa, ad partem posticam angustatam aperturæ, hanc coarctante.

Long. 4—5 lin. Diam. 2—2 $\frac{1}{4}$. Anfr. 7.

$$\frac{\text{Spira}}{\text{Apertura}}, \frac{2}{3} - \frac{3}{3}.$$

Hab. in Maderâ.

Hæc et 3 forsân sequentes *Helici folliculo* affines.

55. *Helix C. melampoides*, *Prodr. MS.*—Tab. 6. f. 24.

H. testa obovato-oblonga,
 : spira breviuscula, obtusissima, partes duas ferè ex quinque totius longitudinis æquante; anfractibus planis, ultimo sub-ventricoso; sutura obsoleta; apertura longitudinali, anticè effusa, sub-patula, omninò edentula (73.); labro recto, æquali: columella obsoleta, obliquè truncata.

Long. 5 $\frac{1}{4}$ lin. Diam. 2 $\frac{1}{4}$. Anfr. 6.

$$\frac{\text{Spira}}{\text{Apertura}}, \frac{4}{7}.$$

Hab. in insulâ quâdam, Portum Sanctum ab oriente spectante, "Ilheo de Cima" dictâ. *v. m.*

Priori nimis affinis, et forsân varietas tantùm; at major, aliquantulum ferè ventricosior, apertura semper edentula (74.), anticè magis effusa, posticè minus angustata, columella obsoletiore, et labro recto, æquali, nec sinuato, nec anticè producto. Testa decorticata, crassa, solida, opaca; sed hæc etiam in priore (*H. tornatellina*), post mortem animalis obtinent: vivam nondum vidi.

56. *Helix C. triticea*, *Prodr. MS.*—Tab. 6. ff. 25, 26.

H. testa obovato-cylindrica, sub-gracili, sub-conica, nitida, lævi: spira acutiuscula, dimidium testæ æquante; anfractibus planis; sutura obsoletiuscula: apertura obovata, biplacata; plica altera transversa, inter columellam et angulum labri in medio posita, altera magis interna minore in columellam; duabus aliquando obsoletis (75.); columella anticè lata, sub-expansa, plana, vix truncata, in labrum simplex rectum æquale attenuata.

Long. 3 lin. Diam. $1\frac{1}{2}$. Anfr. 6.

a. biplicata; apertura 2-plicata.—f. 25, l. c.

β. edentula; plicis obsoletis.—f. 26, l. c. (76.)

Hab. in Portu S^{to}.

57. *Helix C. ovuliformis*, *Prodr. MS.*—Tab. 6. f. 27.

H. testa angusto-elliptica, sub-pupæformi, diametro utrinque æquali, abbreviata, nitida, lævi: spira obtusissima, dimidium testæ æquante; anfractibus convexiusculis, subtumidis; sutura distincta: apertura obovata, angusta, biplicata; plica altera transversa, abrupta, prominente, inter columellam et angulum labri in medio posita; altera ad columellam, magis obsoleta, obliqua: columella expansa, tenui, torta, obliquè truncata.

Long. 2 lin. Diam. 1. Anfr. 4.

Hab. in cacumine montis "Pico de Facho" in insulâ Portûs S^{ti}.

58. *Helix C. gracilis*, *Prodr. MS.*—Tab. 6. f. 28.

H. testa elongato-obovata, gracili, tenui, vitrea, nitida, lævi (imperforata): spira sub-attenuata, obtusa, dimidium testæ excedente; anfractibus planiusculis; sutura obsoletiuscula: apertura obovata, edentula: columella lata, expansa, vix truncata, in labrum tenue, sub-marginatum attenuata.

Long. 2 lin. Diam. 1. Anfr. 5.

Hab. in monte "Pico Branco" insulæ Portûs S^{ti}.

Facies *Helicis* (*Cochlicellæ*) *Clavuli Fer.* (*H. Goodalli*, *Mill. Annals of Philos.*); sed magis turrata; anfractu ultimo cum penultimo majore; sutura obsoletiuscula, non distincta, impressa; testa lævissima, imperforata, nec striata, nec sub-perforata. Inter *Helicem triticeam* et *Helicis lubricæ* varietatem nostram quodammodo media, ab utraque distincta.

59. *Helix C. lubrica*, *Mull.*—Tab. 6. f. 29.

Var. testa aperturaque angustiore, minùs ventricosa, magis elongata.

Hab. in Maderâ. (77.)

2. *Testa perforata vel umbilicata* &c.; *peristomate simplici*.
 α. Anfractibus æqualibus, ultimo ceteris omnibus brevior.

6. Sub-genus, *Cochlicella*.

60. *Helix C. ventrosa*, *Fer.*
Bulimus ventricosus, *Drap.*
 Hab. in Maderâ et Portu S^{to}.
 61. *Helix C. decollata*, *Linn.*
Bulimus decollatus, *Drap.*

* * Apertura ferè dentata vel laminata.

1. *Ecanaliculata*; *peristomate plerumque non continuo*.

7. Sub-genus *Cochlodon*. (*Cochlodonta Fer.*)

1. *Testa cylindrica*.

62. *Helix C. anconostoma*, *Prodr. MS.*—Tab. 6. f. 30.

H. testa cylindrica, pupæformi, læviuscula, nitida, corneorufescente: spira obtusa; anfractibus convexis, rotundatis, æquis, striis transversis, obliquis, obsoletis, indistinctis; sutura distincta, impressa: apertura 1-dentata, elliptica, sub-angustata, longiore quàm lata, sub-trigona, anticè angulata: columella recta, suprâ cubito vel flexurâ abrupto, acuto, cum labro tenui, reflexo conjuncta: dente lamellato in ventrem juxta labrum obsoletiusculo, a labro distincto.

- α. *gyrata*; testa elongata: aperturæ cubito distinctissimo f. 30. l. c. (78.)

Long. $1\frac{3}{4}$ lin. Diam. 1. Anfr. 7.

- β. *curta*; testa abbreviata: aperturæ cubito obsoletiore. (79.)

Long. $1\frac{1}{4}$ lin. Diam. $\frac{3}{4}$. Anfr. 6.

Hab. in Maderâ.

Helici C. umbilicata, *Fer.* (*Pupa umbilicata*, *Drap.*, *Lam^k.*, *Turbo muscorum*, *Mont.* t. xxii. f. 3.) proxima, præsertim per varietatem (rariorem) β. *curtam*; sed distincta videtur. In *Icone* cl: *Montagui* suprâ indicatâ, testa *Britannica* ejusque characteres a nostrâ *Maderensi* optimè distinguuntur.

63. *Helix C. cheilogona*, *Prodr. MS.*—Tab. 6. f. 31.

H. testa sub-ovata, cornea, lævi, vel obsoletè striata. apertura 3-plicata, coarctata, anticè prominula; plica unica in columellam; duabus parallelis in ventrem positis; intermedio minore: labro expanso, intùs marginato, sinuato-angulato: umbilico magno, patulo, profundo.

Long. $1\frac{3}{4}$ lin. Diam. 1. Anfr. 6.

Hab. in Maderâ.

64. *Helix C. sphinctostoma*, *Prodr. MS.*—Tab. 6. f. 32.

H. testa cylindrica, fusca: anfractibus planis transversè sub-striatis: apertura 4-6-plicata; plicis duabus in columellam, postica obsoleta; duabus in ventrem, quarum anterior plicæ anteriori columellari æqualis, posterior magna, complicata, cum dente ad angulum inferiorem labri posito in unum conjuncta: labro reflexo, posticè sub-angulato vel sinuato, ad angulum intùs dentato, anticè 1-2-plicata: umbilico patulo, profundo.

Long. 2 lin. Diam. 1. Anfr. 7.

Hab. in Maderâ.

Testa plùs minùs striata.

65. *Helix C. monticola*, *Prodr. MS.*—Tab. 6. f. 33.

H. testa cylindrica, castanea, pallido fasciata: anfractibus convexis, tumidis, striis elevatis, æquidistantibus, transversis sculptis; sutura impressa: apertura sub-sexdentata; columella 2-plicata, plica posteriore obsoletissima; plicis duabus approximatis, parallelis, in ventrem, quarum anterior minor; posterior magna, cum labro continua: labro sub-reflexo, æquali, 3-plicato; plica intermedia majore; anteriore et posteriore minutis.

Long. $1\frac{1}{2}$ lin. Diam. vix 1. Anfr. 6.

Hab. in summo cacumine montis "Pico de Facho" insulæ Portús S^u.

OBS. Priori (*H. sphinctostomati*) quoad plicas affinis; sed distincta.

66. *Helix C. calathiscus*, *Prodr. MS.*—Tab. 6. f. 34.

H. testa cylindrica, ovoidea, abbreviata, castanea, pallido fasciata: anfractibus convexis, sub-tumidis, costulis æquidistantibus, transversis, crebris, sculptis; sutura impressa: apertura sub-septemplicata; columella 1-plicata; plicis duabus in ventrem, quarum anterior valde interna, minuta, dentiformis; altera posterior magna, cum labro continua: labro expanso, sub-sinuato; callo intùs margini parallelo, posticè in dentem duplicem desinente, anticè dente minuto, simplici, obsoleto et plica unica intermedia, magna, instructo.

Long. $1\frac{3}{4}$ lin. Diam. 1. Anfr. 7.

Hab. in summo cacumine montis "Pico de Facho" Portûs S^u.

67. *Helix C. cassida*, *Prodr. MS.*—Tab. 6. f. 35.

H. testa ovata, ventricosa, abbreviata, sub-imperforata: anfractibus planis, striis elevatis, crebris, æquidistantibus, transversis; sutura sub-indistincta: apertura 7-8-plicata; columella biplicata, plica posteriore minore; plicis duabus sub-æqualibus, parallelis in ventrem positis, exteriore paullò majore, cum labro continua, sinum efficiente: labro expanso, 5-plicato; plica anteriore minore, aliquando obsoleta; tribus intermediis lateralibus, approximatis, superiore magna, duabus inferioribus minoribus, quarum infima sub-dentiformis; quinta infima minima, ad angulum labri posita: perforatione minima.

Long. 2 lin. Diam. $1\frac{1}{2}$. Anfr. 7-8.

Hab. in Maderæ convallibus, in rupibus aridis umbrosis.

Recens semel tantum lecta; necdum vivam vidi. Ad locum "Cançal" dictum, inter alias plurimas *Helicis* species* paullò frequentior, sed statu semifossili.

* Testæ illæ, hïc et in Portu S^{to}., statu *semi-fossili*, in arenâ calcareâ, inter concreta ramiformia (minimè "Lignites"), repertæ, omnes terrestres, plurimæ (forsan omnes) etiam hodiè in Maderâ vel Portu S^{to}. vivunt; nec ullam quidem speciem marinam cum illis commixtam vidi. "*Delphinula sulcata*, Lam^k." Bowd. *Exc. p.* 140. f. 33. a, b, est *Helicis* species, (*Helix Delphinula* nob.) valde elegans, *Helici tectiformi* Sow. affinis. A *Delphinulâ* prorsùs aliena. (*Vide* Appx. D.).

VI. GENUS, CLAUSILIA, *Drap*^d.*Helicis* sub-genus *Cochlodina*, Fer.68. *Clausilia crispa*, *Prodr. MS.*—Tab. 6. f. 36.

C. testa turrata, sub-ventricosa: anfractibus convexiusculis, striis transversis, creberrimis, minutissimè flexuosis sculptis, interstitiis elegantissimè decussatim punctulato-striatis, quasi cancellatis; sutura distincta, impressa: apertura oblonga, biplicata; plicis columellaribus, approximatis, divaricatis, sub-posticis, postica prominente sc. extrorsum ad marginem peristomatis producta eique continua, sinum ad angulum posticum aperturae formante: peristomate simplici, acuto, sub-expanso: costis dorsalibus rimaque umbilicali obsoletis.

Long. 7 lin. Diam. 2. Anfr. 2.

Hab. in rupibus (80.) sylvarum Maderæ.

Peristomate nec elevato neque disjuncto sc. columellari obsoleto, necnon costis duabus dorsalibus rimaque umbilicali sub-nullis, quin et quodammodo forma et magnitudine ad *Clausiliam bidentem* *Drap.* (*Turbinem laminatum* *Mont.*) magis quàm ad aliam quampiam speciem accedit.

69. *Clausilia deltostoma*, *Prodr. MS.*—Tab. 6. f. 37, 38.

C. testa turrata, gracili, obtusa: anfractibus planiusculis, striis rectiusculis, crebris, elevatis sculptis: apertura obliquè obovato-rotundata, deltoidea, effusa, posticè angustata, sub-biplicata; plica antica columellari, interna, obliqua, duplici; postica simplici, prominente sc. extrorsum ad marginem peristomatis producta eique continua, sinum ad angulum posticum aperturae efficiente: peristomate continuo, expanso, reflexo, disjuncto.

Long. 5—5½ lin. Diam. 1½. Anfr. 10—11.

α. anfractibus convexiusculis; sutura distincta.—f. 37. l. c.

Hab. in Portu S^{to}.

β. anfractibus planatis; sutura sub-obsoleta.—f. 38. l. c.

Hab. in Maderâ.

Clausilia labiatæ Sow. (*C. bicanaliculatæ* sec. Fer.) nimis affinis; sed triplò minor; gracilior; anfractibus, etiam in β ., minùs planis; sutura minùs obsoleta; plica posteriore aperturæ prominente, margini labri continua, nec interna; peristomate minùs incrassato, nec labroso. Variantur etiam et α . et β . collo aperturæ magis minùsve producto. *Clausilia retusa* (*Bulimus retusus*, Oliv.) etiam forma et habitu magis affinis; sed striolis exilissimis aliarum interstitia decussantibus differt.

70. *Clausilia exigua*, Prodr. MS.—Tab. 6. f. 39.

C. testa parvula, turrata, gracili, obtusâ: anfractibus planiusculis, omnibus transversè creberrimè striatis: apertura obliquè obovata, biplicata; plica antica valde interna; postica prominente, margini peristomatis producta, continua, sinumque cum labro efficiente; ambabus columellaribus, simplicibus: peristomate continuo, reflexo, posticè sub-sinuato.

Long. 3—3½ lin. Diam. 1. Anfr. 8.

Hab. in Maderâ.

Clausilia parvulæ Leach, ut videtur, affinis.

3. Familia, Cyclostomatidæ.

VII. GENUS, CYCLOSTOMA, Lam^k.

71. *Cyclostoma lucidum*, Prodr. MS.—Tab. 6. f. 40.

C. testa globoso-conoidea, nitida, læviuscula, sub-imperforata: anfractibus convexis, transversè sub-striatis; sutura impressa.

Axis 2 lin. Diam. 2½. Anfr. 5.

Hab. in Maderæ humidis sylvaticis.

Testa, quoad formam, *Valvatam piscinalem* referens, fusca, olivaceo-cornea, lucida.

XXVII. *Novitiæ Floræ Maderensis: or, Notes
and Gleanings of Maderan Botany.*
By the Rev. R. T. LOWE, M.A.

[Read May 28, 1838.]

FILICES.

1. *ACROSTICHUM paleaceum*, Hook. et Grev. Icon. Fil. t. 235.

Identical, I apprehend, with *A. squamosum* of Swartz. Although his character of "frondes 1—2-pedales" certainly exceeds the average of Maderan specimens, I have lately seen some fully 18 inches long, without the stipes: and I am informed by my friend J. I. Bennett, Esq., that in "the Banksian Herbarium are barren fronds of 15 or 16 inches in length, in addition to the stipes (as by Swartz described) of 3 or 4; and some of them, which are abruptly mutilated, would, I think, justify the describing them as "1—2-pedales." In every other particular Swartz's description perfectly agrees; and was, I have little doubt, drawn up from the Maderan plant.

2. *Polypodium drepanum*, nob.

Aspidium drepanum Sw. (*Aspidium? drepanum*, nob. Primit. p. 6. No. 3.), proves, as I have already stated in the Botanical Miscellany (New Series, I. p. 26.) to be a genuine *Polypodium*; not having the slightest trace of an indusium in any stage of growth. The following description of the fructification is derived both from abundant wild specimens, and from others cultivated in my garden, and watched carefully for several years.

Indusia nulla. Sori nudi, globosi, valde convexi, tumidi, distinctissimi, subconferti, biseriati, purpureo-nigri, capsulis nitidissimis; demum (sporis effusis) pallide ferruginei, minuti, punctiformes. *Polypodii* species vera.

3. *Asplenium productum*, nob.

A. fronde deltoidea, apice caudata s. longe acuminata, glaberrima, lucida, quadripinnatifida: pinnis primariis productis acuminatis; ultimis oblongo-cuneatis, apice inciso-dentatis: soris confertis, mox confluentibus: stipite fusco, lævi, basi hirsutiusculo.

Aspl. acutum, Höll's List of Mad. Plants in Hook. Bot. Misc. New Series, I. p. 15; haud Bory!

Aspl. Adiantum nigrum var. nob. Ibid. p. 24; haud Linn.

Hab. in Madera, ab altitudine 1000 ad 3000 pedum ubique vulgatissimum.

This very common fern, the *Asplenium Adiantum nigrum* of most former lists of Maderan plants, I would now admit to be sufficiently distinct from the European species properly so called; the characters above enumerated proving permanent and uniform. With Höll and others I had long imagined it identical with *Aspl. acutum* Bory: but to my surprise, a specimen so ticketed, and obligingly communicated to me by its author the Baron himself, is a very different plant indeed: being undistinguishable from large narrow-leaved fruit-bearing Maderan specimens of my *Asplen. canariense* W.

Asplen. productum is distinguished from the true *Aspl. Adiantum nigrum* L. by its more compound, finely divided frond; the contour of which, as my friend Mr. Arnott has well observed, is triangular or deltoid; while in the European plant, the shape is rather that of a rectangle or oblong, terminated by a triangle; the sides being parallel for some length from the base. But the chief character of the Maderan plant is found in the caudate or produced extremities of the primary divisions. The apex of the frond especially is gracefully attenuated.

With *Asplen. canariense* W. as understood at least by me (*Asplen. acutum* Bory!), *Aspl. productum* has very little indeed in common.

4. *Nephrodium fœnisecii* β . *productum*, Primit. p. 7.

A plant certainly bordering very closely upon the true *Aspidium spinulosum* W. and Sm. in Eng. Flora; but which, on account of the less degree of parallelism in the sides of the ultimate divisions, the smaller punctiform sori, and above all the fragrant scent, I still think best referred to *Nephrodium fœnisecii*. However this, rather than *Aspi-*

divum elongatum Sw., as formerly supposed (See Hook. Bot. Misc. New Series, I. pp. 25, 26.), may very possibly be *Aspidium spinulosum* of Herr Höll's List.

5. *Nephrodium affine*, nob. in Bot. Misc., New Series, I. 25.

N. fronde subtus hirsutiuscula, bipinnatifida; pinnis inferioribus brevioribus: pinnulis approximatis oblongis, subintegris; apice truncato-rotundatis, minutissime erosodenticulatis; basi tota adnatis: incisuris deorsum acuminatis, sursum latioribus: pinnulis superioribus confluentibus: soris biseriatis distinctis: stipite rhachibusque densissime paleaceis.

Hab. rarior in Maderæ umbrosis, ab alt. 1500 ad 3500 pedum.

Fronde two or three feet long, disposed in a coronet or circle; beneath with scattered hairs, of a chaffy nature, at the margins and on the nerves of the pinnules. Stipes and rhachis throughout most densely chaffy; the chaffs or scales remarkably large as well as copious. Lower two to six pair of pinnæ smaller and shorter than the middle ones; the lowest very much so. Pinnules closer together than in *N. Filix mas*: all of them, even the uppermost rounded (not merely obtuse) at the apex; the lowest even truncate. In *N. Filix mas* the uppermost are acute, and the lower sometimes scarcely obtuse. The sides of all in *N. affine* are nearly entire, or with distant, scarcely perceptible, shallow teeth upwards; not in the least incised, or with any tendency to a higher degree of decomposition, like those of *N. Filix mas*, or of *N. elongatum*; their rounded apex irregularly notched with very minute shallow teeth, quite different from the obvious serrated teeth of *N. Filix mas*, and without a lens, scarcely perceptible; the pinnules appearing entire. *Incisures* (i.e. the spaces between the pinnules) acute at the bottom, i.e. towards the nerve, and widening upwards or rather outwards; evidently not reaching to the nerve or midrib, as they appear to do in *N. Filix mas*, though really they do not. Hence the base of all the pinnules is in no degree incised on either side, as in *N. elongatum*; but the pinnules are adnate by the entire breadth of their base: neither is their lower side arcuato-decurrent as in *N. Filix mas*; but the base is truncate and the opposite sides or margins of each pinnule are parallel to each other down to its very bottom, where they are both

at right angles to the rhachis: whilst in *N. Filix mas*, the lower or inner margin, *i.e.* that towards the main rhachis, quits its condition of parallelism with its opposite upper or outer one towards the base, and forms a curve downwards towards the pinnule next below it; which is what I have called arcuato-decurrent. Thus the incisure in *N. Filix mas* is either irregular, or abrupt, open, and broad at the base; not regularly acuminate; so that the spaces between the pinnules being larger, or at least not regularly narrower downwards, these last appear more remote and distinct than in *N. affine*. In fact the incisures (not at all the pinnules) of *N. affine* rather resemble those of *Nephrodium* (*Aspidium* Auct.) *Oreopteris* than of *N. Filix mas*. The pinnules of the lower pinnae, instead of having any tendency by incision to a farther degree of decomposition, as they have both in *N. Filix mas* and *N. elongatum*, are quite simple, and even more entire than the upper ones. Sori precisely similar in their arrangement and indusia to those of *N. Filix mas*.

I possess specimens of *N. affine* from various localities, differing in exposure, shadiness, and elevation; but all agree in the foregoing characters. By these, this fern approaches nearer to *N. elongatum* than to any other Maderan species: the true European *N. Filix mas* being the connecting link; from which it is curious to observe, these two Maderan ferns reciprocally recede in opposite directions: *N. elongatum* having the serratures much more aristate, and the stipes and rhachis, especially the latter, less chaffy than the European *N. Filix mas*; while *N. affine* has the serratures much less developed, but the stipes and rhachis much more copiously chaffy than the same.

The specimens of *N. Filix mas*, which I have particularly examined for comparison with *N. affine*, are British only: but my friend Mr. J. Bennett has also compared specimens in the Banksian Herbarium, and noticed the same differences. Indeed his observations, exactly corresponding with my own, here made before and apart, have led me with considerable confidence to the conclusions and results here stated.

I subjoin, for facility of comparison, the specific characters of *N. Filix mas* and *elongatum*; eliminated however solely in reference to the three present species.

Nephrodium Filix mas.

N. fronde glabra, bipinnata: pinnis inferioribus brevioribus: pinnulis subremotis, oblongis, obtusis, serratis, adnatis, basi inferiore arcuato-decurrentibus; inferioribus serrato-incisis; superioribus confluentibus: soris biseriatis distinctis: stipite paleaceo; rhachibus sparsim paleaceo-hirtis.

Aspidium filix mas, Auct; Linn. Sm. Hook. &c. From English specimens, gathered at Dale Abbey, in Derbyshire.

Main rhachis sparingly hairy rather than chaffy, and the nerves and margins of the pinnules beneath are not at all hairy. Pinnules subremote; so that the incisures are truncate or oblique at the base, or as wide at the bottom as at the top in the lower pinnules.

6. *Nephrodium elongatum.*

N. fronde rigida, glaberrima, bipinnata: pinnulis oblongis, spinuloso-serratis; superioribus apice rotundatis, confluentibus; inferioribus sublanceolatis, acutiusculis, crenato-incisis, distinctis, subpetiolatis s. basi utrinque incisis; incisuris triangulari-decurrentibus: soris biseriatis, confertis, subimbricatis nervo approximatis; indusiis glanduloso-scabris: stipite elongato rhachibusque pallidis, paleaceis; paleis rhachidum raris, sparsis, distinctis, squamiformibus.

N. elongatum, Hook. et Grev. Icon. Fil. t. 234.

Aspidium elongatum, Sw., &c.

Hab. in Madera ab alt. 1500 ad 5000 ped. vulgaris.

Fronde not growing in a circle, of a much lighter and brighter green than in the two preceding species, and of a rigid brittle texture: with a greater tendency to a farther degree of decomposition than even *N. Filix mas*. Pinnæ, in full-sized specimens of 3 or 4 feet long, more remote and distinct; the lower ones not shorter than the rest, but rather the contrary. Upper pinnules close together: so that their edges often touch or even overlap each other, concealing the incisure; except at the base, where, by the incisure being produced downwards into the substance of the pinnule next below, and similarly, though in a less degree and sometimes not at all, into the pinnule next above, there is formed in all a kind of triangular hole, or

open space, quite different from anything in the two preceding species; though of the two, most like *N. Filix mas*. Hence the incisures, not the pinnules, are decurrent: the lower base of the pinnules, as well as the upper in a less degree, being notched by the incisure, and their margins being parallel at the base.

7. *Cheilanthes maderensis*, nob. in Bot. Misc. New Series, I. 26.

C. fronde oblongo-lanceolata vel ovata, bipinnata, glabra: pinnulis (s. laciniis secundi ordinis) oblongis, obtusissimis, adnatis, decurrentibus, sinuatis; inferioribus basi pinnatilobatis; superioribus confluentibus; omnibus vel omnino vel superne indivisis, foliiformibus, crenatis; lobis fructiferis rotundatis: indusiis interruptis, incis; lobis rotundatis vel truncatis, margine integro: stipite rhachibusque paleaceo-hirtis.

Hab. in fissuris rupium prope urbem Funchalensem Maderæ; etiam in muris ipsius urbis.

Species cum aliis quibusdam diu confusa, revera distincta videtur. A *Ch. suaveolente* Sw. (*Polypod. fragrans* Desf. Fl. Atl. ii. 248, t. 257) prima facie differt fronde multo minus tenuiter divisa, nec leptophylla; divisionibus sc. magis foliaceis, confluentibus nec distinctis; pinnulis oblongis, sinuatis crenatisve, multo majoribus, foliiformibus, omnino vel superne saltem indivisis; summis confluentibus; omnibus basi tota adnatis decurrentibusque, nec puncto tantum centrali baseos s. petiolulo rhachi affixis: soris indusiisque incis, interruptis, nec continuis ut in figura 1^{ma}. iconis jam citatæ delineantur. A *Ch. odora* Sw., planta sc. Helvetica et Pedemontana (*Adiantum pusillum* All.), iisdem characteribus, necnon fronde bipinnata nec tripinnata, indusiisque margine integris, nec "laceris, subciliatis" Sw., satis superque distincta videtur: huic vero speciei procul dubio, monente amico J. I. Bennett, affinitate proxima. A *Ch. fragrante* Sw., stirpe Indiæ Orientalis, cui cl. Swartzius olim dubio animo conjunxit, "*forsan speciem diversam*" tamen monens, magis ac magis recedit: quum ne alia dicam, illa pinnulis "*oppositis, ovatis, subpetiolatis, lacinulis 2—3-partitis,*" tenuibus; earum "*segmentis subacutis, apice soriferis*" (monosoris); "*soris minutissimis;*" indusiisque dentiformibus distinctissima est. In stirpe Maderensi pinnulæ haud raro alternæ; in tribus supra indicatis potius oppositæ videntur. (App^x. C. n^o. 81.)

PHANEROGAMÆ.

GRAMINEÆ.

8. *Phragmites congesta*, nob.

P. panicula lanceolata, stricta, contracta, densa, subsecunda; spiculis 4—6-floris, glumis multo longioribus: culmis basi decumbentibus, ramosis; foliis planis mox convolutis, strictis, cuspidatis, glaucis.

Hab. in Maderæ ora maritima rariss.

Obs. *P. communi* Trin. (*Arundini Phragmitæ* L.) proxima, et forsân varietas tantum. Culmi basi ramosi, frutescentes, nudi, tenacissimi, late procumbentes; apice foliosi, ascendentes 2—4-pedales: foliorum margine subserrulato; vaginis apice, nodisque plerumque barbatis. Gluma inferior brevis, acuta, superior inferiore duplo longior, remota, acuminata. Paleæ inferiores florum inferiorum productæ, flores superiores longitudine subæquantes; omnes lanceolatae, acuminatae, glabrae. Rhachis supra florem inferiorem longissime sericeo-pilosa. Palea superior brevis, oblonga, plana, binervis, subciliata. Panicula erecta, arctissime glomerata, congesta, densissima, multiflora, 3—6-pollicaris longa, 1—2-lata, pallida, flavescens; demum albo-sericea. Radices repentes.

9. *Deschampsia argentea*, nob. (*Aira argentea* nob. olim Prim. in Trans. Cam. Phil. Soc. iv. I. p. 9. No. 8.) Species distinctissima, *D. cespitosæ* Beauv. (*Airæ cespitosæ* L.) proxima. *Deschampsicæ* Beauv. species legitima. Pedicelli, floresque basi dense pilosi. Palea inferior apice 3—4-dentata.10. *Avena marginata*, nob.

A. glaberrima, lævis: panicula simpliciuscula, coarctata, subsecunda; spiculis 4—5-floris, glumis sublongioribus; rhachi pedicelloque floris alterius superioris abortientis villosis; floribus omnino glabris s. nudis, scabriusculis; palea inferiore apice quadriseta; s. bifida, laciniis bifidis in setulas productis; dorsi medio arista geniculata: foliis distichis, brevissimis, obtusis, carinatis, marginatis, rigidis, glaucis; ligula lanceolata, producta; radice fibrosa, subcespitosa, perenni.

In rupibus Maderæ excelsis nuperrime invenit am. Car. Lemann, M.D.

Culmi bipedales et ultra, 2—3 ex uno cespite, vaginisque rhachique ramisque primordialibus paniculae omnino laevibus, glabris. Pedicelli floresque scabriusculi. Panicula 4—5-pollicaris, suberecta, apice subnutante, subpauciflora. Spiculae nitentes, semipollicares. Glumae carinatae, trinerves; nervis prominentibus. Flos summus spicularum minor, masculus, neuter, abortiensve, et ad pedicellum villosum reductus. Palea inferior nervosa, sulcato-striata; apice bifida; laciniis bifidis in setulas albidas hispidiusculas productis: arista dorsali, fusca, subsemipollicari, *i. e.* flore duplo longiore, infra medium tortili. Folia radicalia plano-carinata, arescentia conduplicata, laevia, margine elevato, conspicuo, discolore, serrulato-scabro, deorsum saepe undulato-plicata, s. corrugata; apice mirandum in modum obtusa, 2—3-pollicaria: caulina superiora vix semipollicaria. Vaginarum ora omnino nuda. Ligula elongato-triangularis, acuminata, arcte amplexicaulis, integerrima. (82.)

11. *Cynosurus brizoides*, nob.

C. panicula lanceolata, gracili, coarctata: spiculis neutris amentaceis, distinctis; bracteis setaceis, aristisque confertis, rigidis, scabris.

Hab. in graminosis convallium Maderae rarior. (83.)

Gramen annuum, exile, subinconspicuum. Culmi plures ex eadem radice, tenues, 1—2-pedales. Folia flaccida, brevissima. Panicula parva, secunda, subpollicaris, simpliciuscula, aequalis; fructifera arcte contracta, saepe violaceo-purpurasces; spiculis neutris spiculas *Festucæ*, *Poaë*, aut *Brizæ* referentibus. Bractea aristaeque rectae, floribus multo longiores.

12. *Festuca jubata*, nob.

F. cespitosa: culmo superne paniculaeque lanceolatae, abbreviatae, subcoarctatae, subsecundae, rhachi ramulisque pedicellis puberulis, haud scabris: spiculis lanceolatis, 3—5-floris, glabris; flosculis aristatis, sursum aristisque scabris: foliis culmos superantibus subsetaceis, subcanaliculatis, vaginisque striatis, glabris; ligula brevissima, abrupta: radice perenni.

Hab. rariss. in rupibus convallium Maderae, cum *Deschampsia argentea* nob., cui habitu simillima, nascens. Primus invenit Car. Lemann M.D.

F. geniculata Willd. (*Bromo geniculato* L., *Festucæ stipoides* Desf.) proxima. Differt radice perenni; culmis haud geniculatis, dense cespitosis; pedunculis subsimplicibus, &c.

Culmi pedales, tenues, teretes, erecti, glabri, paullo infra paniculam contractam puberuli, foliis breviores, haud geniculati, nodis demum fuscis. Folia numerosa, conferta, elongata, omnia subsetacea, tenuia, gracilia, rigidiuscula, glabra, striata; superiora sursum subplanata, subcanaliculata. Glumæ inæquales, læves: altera spiculæ subæquans, altera brevior. Flores glabri; basi tantum læves, sursum aristisque scabri; arista flore longior. Pedicelli simpliciusculi, sc. sursum vix subdilata, cuneati, ancipites; haud vero magis quam in multis aliis. (84.)

13. *Festuca Donax*, nob. Prim. in Trans. Cam. Phil. Soc. iv. I. p. 9. No. 9.

(Character auctus, emendatus).

F. paniculæ glabræ, largæ, laxæ, diffusæ, subsecundæ, nutantis ramis elongatis, flexuosis: spiculis trifloris, linearilanceolatis, compressis, glomeratis; flosculis muticis linearibus, angulatis, scabris; glumis subæqualibus, spiculam æquantibus: paleis apice membranaceis, obtusis, abruptis, subbifidis, nervis prominentibus; exteriore quinquenervi, nervis æquidistantibus; interiore binervi, dorso canaliculata: foliis omnibus planis, elongatis, acuminatis, striatis, marginibus serrulato-scabris; culmis vaginisque lævibus, glabris; ligula exserta, ovata: radice fibrosa, perenni.

The nearest ally of the species is *F. sylvatica* Vill. (*F. calamaria* Sm.)

14. *Festuca albida*, nob. Prim. in Cam. Trans. iv. I. p. 10. No. 10.

a. *longifolia*; foliis culmum æquantibus.

β. *brevifolia*; foliis culmo multum brevioribus. In rupibus nuper invenit C. Lemann, M.D. (85.)

CYPERACEÆ.

15. *Carex sagittifera*, nob.

C. spica solitaria, androgyna (♀, superne ♂), subpauciflora: stigmatibus duobus: fructibus oblongis, utrinque attenuatis s. fusiformibus, planatis, glabris, nitidis, reflexis, squama acuta, oblonga, persistente longioribus: culmo subtereti, superne subcompresso, hinc subcanaliculato: foliis angustissimis, elongatis, superne canaliculatis, inferne carinatis; carina marginibusque serrulato-scabris.

Hab. in sylvis Convallium Maderæ, in declivibus prope rivulos rarior.

Dense cespitosa. Folia numerosa, conferta, culmos subæquantia s. excedentia, fere (pro latitudine) setacea s. filiformia. Fructus nitidissimi, magni, subremoti, squamisque fuscis, deflexis; inde sagittarum quasi cuspides plures, filo consertas, spica refert.

Cum *C. decipiente* Gay et La Perouse, monente am. Fr. Boott, M.D., conferenda. *C. pulicari* L. proxima sed abunde distincta. (86.)

JUNCEÆ.

16. *Luzula elegans*, nob.

L. foliis lanceolatis, pilosis: corymbi erecti, supradecompositi ramis capillaribus, mox divaricatis, deflexis: pedunculis unifloris: bracteis sepalisque setaceo-acuminatis, capsula obtusa, mucronata longioribus: seminibus simplicibus, exappendiculatis.

Hab. in rupibus convallium Maderæ murisque rarior.

4—10-pollicaris; corymbo fructifero elongato, oblongo-angustato, semipedali; ramis ramulisque inferioribus elongatis, plerisque divaricato-refractis, tenuissimis, hinc inde pilosis. Flores solitarii, rufo-castanei, lucidi.

AMENTACEÆ.

17. *Quercus mitis*, Herb. Banks.

Since the publication of this, as a species, in the Cambridge Transactions (Vol. iv. I. p. 15. No. 21.), from the specimen preserved in the Banksian Herbarium, I am quite satisfied, from observation of two growing trees, evidently identical with the above, that it is nothing but a slight variety of *Q. Suber* L., with broader, more entire leaves than usual; such as might be expected in trees, growing like these, in cool, shady situations, at a considerable elevation. Both these trees are the inmates of gardens: and it is quite certain that Madera possesses no indigenous species of *Quercus* whatever.

URTICACEÆ.

18. *Parietaria gracilis*, nob. Prim. in Trans. Camb. Phil. Soc. iv. I. p. 16. No. 23.
(Character emendatus).

P. lucida, pubescens, ramosa: caule ramisque gracilibus, erectis: foliis rhombéo-ovatis, rotundatis, abbreviatis, obtusis, trinerviis, petiolatis; petiolis filiformibus, folia æquantibus: glomerulis axillaribus; floribus pedicellatis; pedicellis glomeratis, aliquando subcymosis, apice tribracteatis: bracteis (*involucris foliolis* Auct.) unifloris, lanceolato-linearibus, obtusis, calyce (quadrifido, glabro) brevioribus, glanduloso-pubescentibus; post anthesin inæqualibus, una duabusve dilatatis, foliaceis, calycem superantibus, adpressis.

Hab. in Maderæ rupestribus declivibus umbrosis rariss.

EUPHORBIACEÆ.

19. *Euphorbia refracta*, nob.

E. annua, ramosa, pilosiuscula: ramis pubescentibus humifusis prostratisve, suffrutescentibus, geniculatis, flexuosis, refractis, alternis, apice dichotomis, ad genicula nodosis: foliis oppositis, oblique-oblongis, subrhomboideis, inæquilateralibus, argute serratis, hinc deorsum integerrimis, basi illinc auritis, semicordatis, subsexnerviis, brevissime petiolatis, utrinque pilosis: floribus pedicellatis, in dichotomia ramulorum solitariis, ad apices aggregatis; bracteis bracteolisque foliis conformibus, angustioribus: glandulis quatuor albidis, exappendiculatis, transverse ovalibus: capsulis triquetris, lævibus, glabris: seminibus minutis, nigrescentibus, subtetrahedris, ovalibus, punctato-rugulosis s. corrugatis.

Hab. in Maderæ regione inferiore et intermedia a mare usque ad 1800 ped. rarior.

CHENOPODEÆ.

20. *Sueda laxifolia*, nob.

S. fruticosa, glabra: ramis patulis, decumbentibus, laxis: foliis laxis, patentibus, linearibus, obtusiusculis, subcarnosis; supra depresso-planatis: floribus sessilibus, axillaribus, subsolitariis: stigmatibus trifido, ante anthesin exserto; calycibus post anthesin clausis.

α. tenuifolia; foliis tenuibus; ramis debilibus, elongatis.

β. crassifolia; foliis carnosissimis, glaucescentibus; ramis validioribus.

Hab. in rupibus locisque saxosis maritimis Mad. et Portus S^{ti}; a vulgatiss.; ab incolis "*Barilla*" dicta.

Calyx simplex, *Suæda* Mert. veræ. (87.)

21. *Suæda tomentosa*, nob.

S. fruticosa, ramis fragilibus, superne folisque carnosis, subteretibus, obtusiusculis, fasciculatis, incano-tomentosis.

Hab. in collibus maritimis Promontorii P^{ti} Saõ Lourenço dicti Maderæ rariss: etiam in Portu S^{to}. — In insulis Canariensibus invenit cl. P. B. Webb, arm. In Herbario Banksiano sunt exempla, a cl. Masson olim in "Insula Desertas prope Madeiram" et "Promont. S. Lourenço" sine floribus fructuve lecta, monente amico J. I. Bennett. Hieme (Dec. Jan.) floret. Calyx simplex; nec spinescens, nec membranaceo-dilatatus. (88.)

POLYGONEÆ.

22. *Rumex maderensis*, nob.

R. paniculis amplis, aphyllis, multifloris: floribus hermaproditis: valvis nudis, integerrimis, orbiculatis, reticulato-membranaceis: verticillis paucifloris: foliis hastatis, acutis, succulentis: caule frutescente.

a. *glauca*.

β. *virescens*.

Hab. in rupibus Maderæ ubique, vulgatiss.

Suffrutescens, 1—2-pedalis. Flores mense Junii rupes maritimas excelsiores colore pulchre lateritio ornantes. A. *R. scutato* L. distinctam primus admonuit cl. Lemann.

PLUMBAGINEÆ.

23. *Armeria maderensis*, nob.

A. caule suffruticoso, simpliciusculo, humili, parum ramoso, ramisque brevissimis, subcespitosus: foliis fasciculatis, gramineis, latiusculis, lanceolato-linearibus, acuminatis, planiusculis, lævibus, lucidis, glabris, quinquenerviis, integerrimis: scapis teretibus, lævibus, glabris, foliis 3—4-plove longioribus: floribus pedicellatis, fastigiato-capitulatis; capitulis oblongis, truncatis, pedunculatis, umbellatis, brac-

teolatis; umbella laxiuscula, bracteata: bracteis lanceolatis; exterioribus acuminatis patentibus recurvisque; interioribus pellucido-membranaceo-marginatis: bracteolis magnis oblongo-ovalibus, latis, imbricatis, albo-membranaceis, obtusissimis, apice eroso-dentatis crenatisve, glabris; exteriore basi tantum pubescente: bracteis bracteolisque floribus brevioribus: pedunculis teretibus, scapique vagina striata, granulatis, glabris; pedicellis teretibus, glabris: calycis laciniis brevissimis, latis, acutis; costis pilosis: petalis re-tusis, submarginatis: stylis (5) basi pilosis: ovario glabro.

Hab. in cacuminibus rupibusque præruptis montium excelsiorum Maderæ.

Armeria plantagineæ vel potius *A. scorzoneraefoliæ* Willd. Enum. et *Staticei plantagineæ* All. Fl. Pedem. et Lam. et D. C. Fl. Française videtur proxima. Sed in genere tot nubibus offuscato, confusionem minus nomine novo quam falso augetur.

Leaves bright, shining, rather dark green; not at all glaucous. Scapes from one to two feet high. Flowers rather large, deep rose-colour.

LABIATÆ.

24. *Sideritis candicans*, Ait. (89.)

α. *longifolia*. (*S. candicans*, Auct.) (90.)

β. *crassifolia*; foliis incrassatis, subcoriaceo-tomentosis, rotundato-ovatis, abbreviatis, obtusissimis: labio superiore plerumque integro. (91.)

Hab. in rupibus apricis maritimis Maderæ et Insularum Desertarum.

25. *Prasium medium*, nob.

P. hirsuto-pubescentis: foliis ovato-oblongis, ovalibusque, acutis, basi in petiolum attenuatis, crenato-dentatis, dentibus calycis ovatis, acutis, mucronatis: corolla filamentis styloque glabris.

Hab. in Maderæ rupibus maritimis.

P. majus L. preserves all its characters in Maderæ; and the present plant appears a genuine species, though in some sort intermediate between *P. majus* and *minus*; having the mucronate calyxes of the former, and hairiness of the latter. In the shape of the leaves it seems to differ from both. (92.)

26. *Melissa rotundifolia*, Sol. MSS. Herb. Banks! et Von Buch.

M. hirsuto-pubescentis: cymis subsimplicibus, laxis, paucifloris, folia ovato-rotundata, subserrata, superantibus: caule debili, ascendente, erectiusculo, hirsuto; basi lignoso, frutescente.

Thymus Calaminthoides, Reichb. (in Höll's List) Hook. Bot. Misc. 2d Series I. pp. 19, 38.

Planta 1—2-pedalis, perennis, suffruticulosa. Folia parva, subsemipollicaria, obsolete et remote serrata sive crenata. Cymi vix decompositi, 2—5-flores, floribusque plerumque folia excedentibus; pedunculis folii fere longitudine. Bracteae minimae, lineares. Flores conspicui, majusculi, pallide purpurei, rarissime albi, pubescentes. Calycis subcylindrici, corolla fere triplo brevioris, fauce pilis inclusis, haud prominentibus, clauso; dentibus ciliato-hirtis; tribus superioribus ovatis, acutis; duobus inferioribus longioribus, lineari-acuminatis, porrectis, elongatis. Semina ovoidea vel globosa, saepe triquetra, laevia, obsolete et minutissime punctulata.

Odor totius plantae gravis, acris, subingratus, quodammodo *Menthae Pulegii* L.

Cymi foliis longiores, ut in *Thymo Nepeta* L.; subsimplices, pauciflores, ut in *T. Calamintha* L. cui certe proxima. Pro mera varietate me diu habentem, summa tandem vincit cl. Solandri auctoritas. Characteres sane plantae, per totam Insulam pervulgatissimae, nunquam variantes inveni. (93.)

SOLANEÆ.

27. *Nycterium triphyllum*, nob.

N. herbaceum, inerme, viscoso-pubescentis: ramis angulatis petiolisque pedicellisque subtomentosis: foliis utrinque molliter viscoso-pubescentibus, quibusdam simplicibus, plerisque ternato-pinnatifidis; foliolis cordatis vel oblongo-ovatis, repando-dentatis, integriusculis: racemis sparsis, folio multum brevioribus, corymbosis; pedicellis secundis, nutantibus: bacca calyce dilatato-foliaeaeo tecta.

Hab. in Madera rariss: In parte Septentrionali prope *S. Vicente* secus vias invenit Car. Lemann M. D.: in orientali prope *Portella* serius detexit Lippold. Ex insulis Canariensibus, in Herbario Lemanniano, siccum quoque vidi.

Flores colore et magnitudine *S. tuberosi* L. Anthera rima longitudinali dehiscentia; 2—3 imis longe productis, cornutis. Bacca cerasi magnitudine, aurantiaca, globosa.

CONVOLVULACEÆ.

28. *Convolvulus solanifolius*, Prim. in Trans. Cam. Phil. Soc. supra iv. I. p. 22. No. 35.

In the first place, the discovery of the flowers of this rarest of Maderan plants, authorizes the removal of the mark of doubt before affixed to the generic name. They are white, and truly those of a *Convolvulus*. Hence therefore, no change of the specific name would be necessary on account of *Ipomœa solanifolia* L. But, though unfortunately I am unable to decide the matter by reference to the *Botanical Register*, t. 133, I have very little doubt the plant will prove identical with *Convolvulus Massoni* Dietrich (*C. suffruticosus* Ait., non Desf.) (94.)

JASMINACEÆ.

29. *Olea Europœa*, L. var.

Maderensis: foliis lineari-oblongis, angustis, mucronatis, integerrimis, utrinque subconcoloribus s. inferne nudiusculis: drupis subglobosis, purpurascensibus, demum nigris.

Hab. in rupibus apricis Maderæ, præsertim maritimis.

Specimen in Herbario Banksiano, a cl. Masson olim lectum, sub nomine *O. Europœa* a cl. R. Brown in "Von Buch's Catalogue," *O. glabellæ* Herb. Banks. (*O. exasperatæ* Jacq. Hort. Schoenbr. iii. t. 1.) "valde simile" dicitur. Panicula vero terminali, ramisque tuberculatis hæc satis differre videtur.

Drupes about the size and shape of a small marble, half an inch in diameter, of a deep shining black, by no means constantly "crowned with the persistent style." Skin and flesh very thin and dry, rather bitter to the taste. Stone very large.

In drying, the plant gives out abundantly a whitish, powdery, granulated, sweetish substance (Manna?); resembling fine powder-sugar.

CAMPANULACEÆ.

✓ 30. *Prismatocarpus scaber*, nob.

P. scabro-pubescentis: caule erecto, stricto, simplici, vel imo basi rarius ramoso; foliis radicalibus petiolatis, ovato-spathulatis oblongisve; superioribus sessilibus, lanceolatis; omnibus margine undulato-crenatis; summis integrisculis: floribus sessilibus, solitariis, per totum caulem axillaribus; sepalis linearibus, patentibus, corollam subæquantibus.

Hab. in Maderæ declivibus saxosis, rupestribus. Primus detexit amicus et plantarum indagator oculatissimus ac indefessus Car. Lemann, M. D.

Herba annua, subpedalis. Corolla, præsertim terminalis majuscula, subconspicua, violaceo-cærulea. (95.)

COMPOSITÆ.

✓ 31. *Senecio incrassatus*, nob.

S. herbaceus, erectus, glaberrimus, nitidus: foliis auriculato-amplexicaulibus, carnosis, profunde sinuato-pinnatifidis; lobis integrisculis, æqualibus, remotis, obtusissimis: caule ramisque acutissime angulatis: floribus arcte corymbosis; pedicellis abbreviatis, sursum valde incrassatis, multibracteatis; bracteis adpressis, basi tumidis carnosis, apice marcidis, nigris; radio patente 7—8-ligulato: seminibus pubescentibus.

S. crassifolius W. var. D. C. in litt. 1834.

Hab. in collibus apricis aridis maritimis Maderæ rarior.

Herba annua, subspithamæa, ramosa, corymbo amplo, conspicuo, multifloro: sed magnitudine pro situ, aquæ copia, &c. valde varians; sc. caule sæpe 2—3-pollicari tantum, simplici, uni-pauci-floro. Flores aurei, conspicui, sat magni, diametro semipollicari, radio marcescente modo revoluto. (96.)

✓ 33. *Helichrysum ? obconicum*, D. C.

In the Botanical Miscellany, 2d Series, Vol. i. p. 35, I have very erroneously spoken of the common Maderan plant called by Höll and Reichenbach *Antennaria leucophylla*, and abounding on the rocky sea-cliffs and islets of

these shores, as if it were *Gnaphalium crassifolium* L. Neither must it be confounded, I am advised by the Chevalier De Candolle, with the European (Majorca) plant, *Gn. crassifolium* Lam.: nor yet with a third species similarly named, *Gn. crassifolium* Willd. Its real affinity, the Professor writes, is with a fourth plant, which has also been confounded with *Gn. crassifolium* L., viz. *Gn. ovatum* Desf.; and with this, he is disposed to unite it into a genus, or at least a group, co-ordinate with the other Gnaphalian sections or subgenera. That it is no true *Antennaria* either in characters or habit is most certain. Speaking strictly, it is perhaps intermediate between *Helichrysum* and *Gnaphalium*: though I could be well content to refer it simply to the former genus. (97.)

33. *Chrysanthemum dissectum*, nob.

C. fruticosum, glaberrimum: foliis profunde pinnatifidis; pinnis remotis, parallelis, æqualibus, linearibus, rectis, argute inciso-dentatis; laciniis omnibus acutis: floribus subsolitariis, vix corymbosis s. corymbo irregulari, paucifloro.

C. grandiflorum (W.) Spr. Syst. iii. 584. No. 6?

Hab. in rupe quadam excelsa maritima Maderæ, Cabo Giram dicta.

Species habitu seminibusque *C. pinnatifidi* L. in Maderæ ubique obvii, sed distinctissima, floribusque minoribus.

34. *Calendula maderensis*, nob.

C. biennis subperennansve, basi suffrutescens, ramosa, viscosa: foliis semiamplexicaulibus, obovato-oblongis, repando-dentatis; junioribus ramulisque tomentosis: seminibus arcte inflexis, muricatis; exterioribus cymboideis, late triquetralatis; alis duabus dorsalibus expansis, inciso-dentatis.

C. maritima, nob. Bot. Misc. New Series, I. p. 36; haud Gussone.

C. amplexifolia, Reichb. in Höll's List?

Hab. in littore, rupibusque maritimis oræ præsertim septentrionalis Maderæ.

Flores majusculi, crocei, ligulis paucioribus, longioribus quam in *C. officinali* L. aut *arvensi* L.

Nomen mutavi ob *C. maritimam*, Gussone. (98.)

35. *Andryala robusta*, nob.

A. foliis crassissime molliterque incano-tomentosis, subintegerrimis; caulinis abbreviatis, lanceolato-ovatis: caule robusto, stricto, paniculæque ramis pedicellisque abbreviatis, anthodiisque magnis, hemisphæricis vel globoso-capitatis, densissime fulvo-glandulosis, villosis.

A. varia β . nob. MSS. olim.

Hab. in rupibus maritimis, præsertim oræ septentrionalis Maderæ et Insularum Desertarum: necnon in cacuminibus montium Insulæ Portûs S^{ti}.

De *Andryalis* Maderensibus, ad unam speciem (*A. variam* nob.) olim redactis, diu vacillantem, formas tres insigniores (*A. variæ* α , β , γ . nob. olim) pro totidem speciebus melius habendas, observationes protractiores tandem suaserunt. Harum forma typica est *A. varia* α . nob. olim: cujus duæ adsunt varietates, $\alphafoliis integriusculis; planta ubique obvia, vulgatissima, montana: et β) *foliis plus minus sinuato-pinnatifidis*; indigena, montana, rarior; culta in Europæ hortis subfrequentior (*A. cheiranthifolia* Herit.): hæc ad *A. crithmifoliam* Ait. (*A. variam* γ . nob. olim), illâ ad *A. robustam* nob. (*A. variam* β . nob. olim), utraque maritima, secedente.$

36. *Carduus?* *squarrosus*, D. C. in litt^s.

C. foliis decurrentibus, obovato-oblongis, indivisis, grosse serratis, spinellosis, subtus albo-tomentosis; floribus aggregato-glomeratis: anthodii squamis inermibus, scariosis, squarrosis, apice reflexis: pappo clavulato.

Hab. rariss. in Convallibus interioribus Maderæ.

Planta elatior, conspicua, floribus albis; a *C. clavulato* Link, planta Canariensi affinitate proxima, foliis indivisis, nec semipinnatifidis, squamisque anthodii squarroso-reflexis nec erectis, monente cl. De Candolle, distincta.

Plantas e seminibus a me ipso olim a Madera A.D. 1829, ad amicum Rev. M. J. Berkeley Angliam missis, in horto Barclayano ortas cl. et am. Alph. De Candolle fil. vidit: ex quibus desiccatis, species characteribus plantæ indigenæ prorsus congruentibus a patre illustri in litteris stabilita est. (99.)

C. clavulatus Link verus (100.) in Madera nullibi obvenit.

37. *Cynara horrida*, Ait.

C. caule brevi, simplici, unifloro (101.), incano, foliato: foliis pinnatifidis, ferocissime spinosis, subtus incanis: caulibus haud decurrentibus; pinnis distinctis, subremotis, angustis, longe acuminatis s. apice caudatis, inciso-laceris, spinis baseos pinnarum laciniarumque bi-pluri-aggregatis, basi connatis: anthodii squamis erectis, angusto-lanceolatis vel ensiformibus, acuminato-spinosis, rectis.

C. horrida (Ait.), Spr. Syst. iii. 369. No. 3. (102.)

Hab. in collibus apricis graminosis Portus S^{ti} sat frequens, A.D. 1828: in Maderæ Promontorio Ponta S. Lourenço dicto solo rariss. nuperrime (A.D. 1837) invenit Lippold.

Radix magna, crassa, perennis, cum capitulis apud accolas Portus S^{ti} edulis. Caulis subpedalis, strictus, firmus, erectus, rotundus. Capitulum sat magnum, sphæroideum, diametro fere bipollicari. Flosculi "cærulei" (Lippold); desiccati in ipso exemplo Lippoldiano purpurei; a me nunquam rite expansi visi, sed albi ab incolis Portus S^{ti} dicti.

Folia elegantissima; sed spinis rigidis, tenuissimis, acutissimis, numerosissimis pallide flavescentibus fulvisve horridissima tactu: radicalibus rosaceo-confertis, subpedalibus.

RUBIACEÆ.

38. *Galium productum*, nob. Prim. p. 29. No. 50.

An a *G. cinereo* All., Sm., D. C. satis distincta? Confer etiam *G. erectum* Huds., Sm., D. C.

39. *Galium geminiflorum*, nob.

G. pumilum: caulibus tetragonis gracilibus, lævibus, simpliciusculis, diffuso-erectis, dichotomis, subinermibus vel sparsim aculeolatis, aculeis subdeflexis: foliis 4—6-verticillatis, ovato-lanceolatis, cuspidatis, superne margineque aculeatis, aculeis antrorsum spectantibus: pedunculis geminatis, axillaribus, simplicibus, rarissime bifidis, unifloris, abbreviatis, s. folia vix superantibus: fructibus densissime uncinato-setosis hispidis.

Hab. in summis cacuminibus Insulæ Portus S^{ti} tantum.

Planta rarissima, parva, inconspicua, tenera, mox evanesens; *G. setaceo* Lam., Desf., D. C. (*G. capillari* Cav.) affinis.

UMBELLIFERÆ.

40. *Daucus neglectus*, nob.

D. caule superne aspero: foliis bi-tri-pinnatisectis, hirsutiusculis: foliolis (segmentis) omnibus ovatis, incis; laciniis (segmentis ultimis) lanceolatis, acutis, cuspidatis: bracteis bipinnatifidis, umbella brevioribus; bracteolis pinnatifidis, umbellulas æquantibus: umbellæ amplæ radiis valde inæqualibus; umbellularum floribus externis radiantibus: fructus ovalis aculeis ejus latitudinem æquantibus, ad basin distinctis, apice glochidiatis.

α. *asperocaulon*: hispidus; caule toto aspero, inferne præsertim retrorsum strigoso: foliis hirsutis.

β. *leiocaulon*: glabriusculus; caule fere nudo.

Hab. in saxosis apricis rupestribus regionis inferioris Maderæ.

Obs. *Dauco hispido* Desf. Fl. Atl. 1. 243. t. 63, præsertim foliorum habitu affinis. Laciniis vero foliorum acutis, imo cuspidatis, nec "obtusis;" bracteis (involucri foliolis) bipinnatifidis, umbellæ amplæ radiis exterioribus longe productis, floribusque albidis, anisopetalis s. exteriorum petalis extimis magnis, dilatatis, nec omnibus "minutis, subæqualibus, pallide flavis," mericarpiisque duplo majoribus, ovalibus, planiusculis nec "semiteretibus," satis differre videtur. Foliolis (segmentis) foliorum omnium conformibus a *D. maximo* Desf. distincta. (103.)

Planta annua; caule 1—2-pedali, erecto, parum ramoso. Flos umbellæ centralis magnus, carnosus, atropurpureus, abortivus. Umbellæ multiradiatæ; radiis defloratis incurvis.

41. *Melanoselinum decipiens* (Hoffm.), D. C.

Hab. in convallibus umbrosis oræ septentrionalis Maderæ, ad altitudinem 2—3000 pedum.

The native country of this fine umbelliferous plant was unknown, till I discovered it, in the Autumn of the year 1829, growing plentifully high up the main, or central branch, of the Ribeira de Saõ Jorge; both among the rocks and stones, forming the bed of the ravine, and up the steep shady banks on each side. It has since occurred in others of the shady ravines of the North.

42. *Bupleurum salicifolium*, Sol. MSS.

B. fruticosum, erectum, ramosum; ramis lævigatis, elongatis, gracilibus, inferne nudis: foliis angustis, linearilanceolatis, acuminatis, utrinque attenuatis, planis, coriaceis, pallide glaucis, obliquis, sessilibus, integerrimis, multinerviis: umbellis 5—10-radiatis; bracteis 4—5, reflexis, brevibus, lanceolatis; bracteolis 4—5 conformibus, umbellula multo brevioribus.

B. salicifolium, Sol. MSS. et Herb. Banks. (auct. J. I. Bennett.)

Hab. in rupibus convallium Maderæ.

A *B. gibraltario* foliis multi- (nec uni-) nerviis prima fronte differt. *B. plantagineum* Desf., cui vero species nostra propior, foliis pro longitudine multo latioribus, obtusiusculis cum mucrone (nec acuminatis) concavis (nec planis), bracteis adpressis (nec, ut in nostra æque ac in *B. gibraltario*, reflexis) a *B. salicifolio* nob. satis superque distinctum videtur.

Frutex elegantior; ramis in rupibus declivibus sæpe pendentibus.

43. *Bunium brevifolium*, nob.

B. (Conopodium D. C.) glabrum: radice subglobosa: caule simplici, striato, tereti, glauco: foliis petiolatis, rigidis, deltoideis, abbreviatis, omnibus 2—3-pinnatisectis; laciniis planis, tenuibus, remotis, pectinatis, oppositis; ultimis brevissimis, linearilanceolatis, acutis, integerrimis; vaginis amplis, elongatis, striatis, cum petiolo erecto-patentibus: bracteis bracteolisque nullis: stylopodiis tumidis, planatis; stylis rectis, invicem adpressis, demum subdivergentibus.

Hab. in regionibus excelsioribus graminosis montium Maderæ; jam rarissima, ob puerorum et porcorum prædationes.

A pube Maderensi monticola sc. in monte "*Pico Grande*" dicto degente, cui tubera escam gratissimam præbent, "*Norsa*" dicitur. Planta vero longe aliena, sc. *Tamnus edulis* nob., (104.) ab incolis Portús Caurum versus (Porto Moniz) etiam "*Norsa*" dicitur.

PARONYCHIEÆ.

44. *Herniaria flavescens*, nob.

H. annua, herbacea, hirsuta, humifusa, flavescens: ramis ramulisque distichis, horizontalibus, cespitosis: foliis oblongo-lanceolatis, ciliatis: glomerulis frequentissimis, axillaribus, multifloris.

Hab. in collibus maritimis Maderæ rariss: Portûs Stî frequentior.

Radix tenuis, subtenax, tortuosa, parum ramosa, annua. Caules humifusi, ramis ramulisque flabelliformibus s. concinne et creberrime distichis, horizontalibus, undique terræ arcissime per totam longitudinem adpressis; cespitem diametro 3—6-pollicari densum, pallide viridi-flavescentem, hirsutum formantibus.

ROSACEÆ.

45. *Poterium megacarpum*, nob.

P. herbaceum: caulibus angulosis, deorsum hirsutis: rhachi foliorum foliolisque subtus hirtiusculis: foliolis inciso-dentatis; inferioribus subtundis; superioribus ovalibus oblongisve: capitulorum solitariorum floribus omnibus hermaphroditis; inferioribus subabortientibus: filamentis abbreviatis: fructibus maximis, rugosis.

Hab. in collibus apricis graminosis saxosisque præsertim maritimis regionis inferioris Maderæ.

Habitus *P. Sanguisorbæ* L.: sed humilior, subpedalis, totaque insipida, inodora. Capitula longe pedunculata. Filamenta brevia, albida, s. pallide flavescentia, nec purpurascens. Stigmata brevia, parva, læte coccinea. Sepala plerumque 4, lata, ovalia, magna, glabra, persistentia. Fructus quam in *P. Sanguisorba* L. duplo triplove major; pericarpio fungoso, laminoso-scrobiculato.

LEGUMINOSÆ.

46. *Vicia conspicua*, nob.

V. tenuis, gracilis; caulibus foliisque cirrosis tenellis, glabriusculis: foliolis subdenis (8—12), angustis, oblongis, mucronatis; foliorum inferiorum spathulatis vel obcordatis; summorum linearibus: stipulis inconspicuis, angustis, semi-sagittatis, paucidentatis; laciniis acuminatis, subtus ustulato-notatis: floribus subsessilibus, conspicuis, calyce 3—4-plo longioribus; inferioribus solitariis, summis 3—4-nis, plerisque (intermediis) binis: laciniis calycinis duobus superioribus longioribus, angusto-acuminatis, tubo subæqualibus: leguminibus subcylindricis, vix compressis, rectis, angustis, puberulis, 9—12-spermis: seminibus parvis, sub-globosis, vix compressiusculis, fuscis, atro marmoratis, glabris.

Hab. ubique vulgatiss. inter vineta, segetes, graminosaque montana Maderæ.

Constantly distinct, and easily distinguished by its large and handsome flowers, delicate smooth foliage, fine narrow leaflets, and graceful habit, from *V. sativa* L., which preserves all its characters and much coarser habit in Madera. Neither is it to be confounded with *V. angustifolia* "Roth. and Willd." (*V. sativa* β Sm. in E. Fl.); nor again with *V. Bobartii* Forst. (*V. angustifolia* Sm. in E. Fl. non Roth. et Willd.) It differs from the former in the much narrower leaflets of the upper, and inversely heart-shaped ones of the lower leaves: but more strikingly, in the much larger and conspicuous bright rich purple (approaching to crimson) flowers. In both these points it comes much nearer *V. Bobartii*: but still the flowers are larger; and those only which open first, at the beginning of the season, are solitary: later, they are two or three, and even sometimes quite the uppermost are four together: the leaflets are more numerous and smoother; and the whole plant is larger, with the stems from one or two to three feet long.

47. *Vicia capreolata*, nob.

V. subpubescens, ramis gracilibus, elongatis, filiformibus: foliis cirrosis; foliolis 5—11, lineari-oblongis, remotis: stipulis parvis, lineari-oblongis, angustis, semi-sagittatis, simplicibusve, acuminatis, vel apice bifidis, coloratis, marcescentibus: pedunculis submultifloris; floriferis folio æquantibus; fructiferis duplo longioribus: calyce puberulo $\frac{2}{3}$, dentibus duobus superioribus inter se arcuato-incurvis; tribus inferioribus longioribus, acuminatis: floribus secundis, subdenis: leguminibus oblongis, subfalcatis, glaberrimis, obsolete reticulatis, 4—5-spermis: seminibus 3—4, subtetrahedris, oblongis, subcompressis, glabris, nigrescentibus; funiculo magno hiloque longo.

Hab. in rupibus umbrosis convallium Maderæ. Florentem primus detexit cl. Car. Lemann, M. D.

Flores eorum *V. Craccæ* L. fere magnitudine, ochroleuci. Videtur *V. ochroleucæ* Ten. affinis. An *V. parviflora* Cav., Brouss?

48. *Biserrula Pelecinus* L.

a. pubescens.—B. Pelecinus L. D. C. Prodr. ii. 307.

β. *glabra*, nob.

Hab. ambæ varietates in apricis maritimis incultis Maderæ et Portûs S^{ti}, una nascentes: sed β. nostra, quamvis prima fronte valde distincta, nullo modo nisi glabritie differt; an vero species?

49. *Lotus pisifolius*, nob.

L. herbaceus, glaucus, glaber: caule flexuoso ramisque divaricatis, crassis, fistulosis, firmis, erectis vel subdeclinatis: foliis obovatis stipulisque subcordatis maximis: capitulis multifloris, longe pedunculatis; calycibus campanulatis; laciniis ciliato-pilosis, æstivatione stellatis: leguminibus..... seminibus.....

Hab. in humidis graminosis Montis excelâ Pico Grande dicti: semel tantum lecta.

An varietas luxurians monstrosa *L. majoris* Sm. e solo pinguiore orta? Sed habitu, colore, magnitudine toto cœlo differt. Foliola stipulæque 1—2-pollicaria; juniora ad margines pilis raris sparsa. Pedunculi 4—6-pollicares. Capituli 12—15-flores, basi folio ternato bracteati. Alabastra floresque ut in *L. majore* Sm. Tota planta eximie glauca 2—3-pedalis, ramis flabellatim expansis, suberecta. (105.)

50. *Lotus macranthus*, nob.

L. subcinereo-glaucescens, sericeo-pubescentis: radice annua aut bienni; caule basi lignoso, frutescente: ramis diffuso-prostratis, patulisve: stipulis sessilibus, transverse ovalibus; foliolisque rotundato-obovatis minimis: floribus solitariis, versicoloribus, breviter pedicellatis: leguminibus lomentaceis, cylindricis, longissimis, rectis, glaberrimis, polyspermis: seminibus 30—40 minutis, orbicularibus, compressis, lævibus, glabris, fuscis.

Hab. in apricis maritimis Maderæ et Portûs S^{ti} rarior.

Habitus *L. glauci* Ait; sed minus incana. Pubescentia totius plantæ brevissima, inconspicua, arctissime adpressa. Flores maximi, pollicares, cernui, pallide citrino-virescentes, mox fusco-purpurei; carinæ apice semper atro-purpureo. Legumina rectissima, subbipollicaria. Species notabilior, distinctissima.

51. *Lotus divaricatus*, Sol. MSS.

L. annuus, pilosus, subcespitosus: caulibus prostratis, intricatis, numerosis, elongatis, flexuosis, ramosis, pallidis: foliis obovato-cuneatis stipulisque ovatis subcordatis acutis: capitulis trifloris: leguminibus turgidis, crassis, brevibus.

L. divaricatus, Sol. MSS. et Herb. Banks.

Hab. in cultis graminosisque montanis Maderæ sat frequens.

A. Loto diffuso, Sol., in Madera æque vulgari, capitulis normaliter tri- nec bi-floris, floribus aurantiacis, nec citrinis neque flavis, leguminibusque multo brevioribus, pinguibus, crassis, statim dignoscitur. (106.)

52. *Medicago pulchella*, nob.

M. subsericeo-pubescentis, cinerascens: caulibus patulis prostratisve gracilibus: foliolis obcordatis vel obovatis, basi cuneatis, integris, sursum subdentatis, apiceque argute tridentato: stipulis integriusculis, ovato-lanceolatis, inferioribus acuminatis: pedunculis sub-bifloris, abbreviatis: leguminibus cochleatis, villosulis, parvis, inermibus, globosis; cyclis 3—4, angustissimis; margine simplici, angusto, lineari, utrinque costis prominentibus, oblique deflexo-arcuatis, grosse dentato; seminibus compressis, reniformibus, flavis.

Hab. in collibus apricis saxosisque maritimis Maderæ et Portûs S^{ti} rarior. (107.)

53. *Ononis micrantha*, nob.

O. herbacea, annua, prostrata procumbensve foliosa, glanduloso-pubescentis: foliis (præter summa) trifoliolatis; foliolis ovalibus, argute serratis: stipulis amplis, foliaceis, oblongo-ovatis, mucronatis, subserrulatis integrisve: floribus (purpureis) inconspicuis, sparsis, axillaribus, subsessilibus, solitariis, folio brevioribus: calycibus amplis, foliaceis, post anthesin dilatatis; laciniis æquis, acuminatis, integris, corollam subæquantibus, unicastis: legumine erecto, turgido, ovali, brevi sc. laciniis calycinis brevioribus, dispermo: seminibus rufo nigroque marmoratis, compresso-rotundatis, minutissime granulato-scabris s. verruculatis.

"*O. arthropodia* Br. Fl. Lus. 2. 94," Herb. Banks. quoad exemplar unicum Gibraltarium, a cl. Broussonet lectum aut communicatum!—haud Broteri in Fl. Lus. 1. c.

An *O. parviflora*, Brot. Fl. Lus. 2. p. 96?

Hab. in collibus apricis maritimis Maderæ et Portus S^{ti}.

Ab O. *villosissima* Desf. Fl. Atl. 2. p. 147. T. 192. vix nisi floribus sessilibus, sparsis, nec confertis, nec racemosis, stipulis calycibusque magnis, hirsutieque parciore differt.

54. *Ononis dentata* Sol. (Prim. p. 34. No. 59. t. 4.)

α. *tridentata*: laciniis calycinis 4 superioribus apice plerumque tridentatis.

O. *dentata* Sol. MSS. nob. 1. c.

Hab. in Portu S^{to} et Insulis Desertis.

β. *simplex*: laciniis calycinis simplicibus, conformibus, acuminatis.

Hab. in Promontorio Maderæ *Ponta Saõ Lourenço* dicto, Dr. C. Lemann; et in Insulis Desertis cum α mixta, Dr. Lippold.

Quoad cetera, plantæ omnino conveniunt: quoad imo calycis lacinias, status intermedii, sc. lacinia uni-bi-dentata facile adsunt.

HYPERICINEÆ.

55. *Hypericum nubigenum*, nob. in Bot. Misc. 2d Series, I. p. 43.

H. glabrum: caulibus simplicibus, erectis, strictis, ancipitibus, basi suffrutescentibus: foliis epunctatis, erectis, lineari-oblongis, obtusissimis vel retusis, amplexicaulibus, margine revolutis: panicula terminali, corymbosa: sepalis ovatis, æqualibus, dentato-glandulosis petalisque nigro-punctatis: floribus trigynis: antheris epunctatis s. eglandulosis.

H. angustifolium, Primit. p. 35. No. 61; haud Lam.

Hab. in Maderæ editioribus.

H. angustifolium Lam. jam adest: ideoque nomen mutetur. (108.)

MALVACEÆ.

56. *Sida maderensis*, nob. Prim. p. 35. No. 62.

Sida canariensis W. mera varietas statusve videtur: qualis *Sida carpinifolia* L. est verosimiliter *Sida carpinoides*, D. C.

CARYOPHYLLÆ.

57. *Cerastium vagans*, nob.

C. viscoso-pubescentis, perenne: caulibus diffusis, deorsum suffrutescentibus, apice ascendentibus, paniculisque pedi-

cellisque calycibusque dense fulvo-glandulosis: foliis angustis, sublanceolatis, acuminatis: petalis bifidis, sepalis subduplo longioribus, conspicuis: capsulis ovatis, calyce sublongioribus.

-*a. fulva*; dense fulvo-tomentosa.

β. subnuda; glabriuscula; foliis inferioribus glabris.

Hab. rarior sparsimque in rupibus siccis excelsioribus Maderæ.

Habitus quodammodo *Stellariæ*. Pedicelli semper erecti. Capsulæ fructiferæ calyce tectæ, abbreviatæ, obovatæ vel ovales.

58. *Arenaria serpyllifolia* L.

γ. depauperata; viscida, glanduloso-pubescentis.

Hab. in Portu Sancto: etiam in cacuminibus summis Maderæ. (109.)

59. *Silene filiformis*, nob.

S. annua, pubescens: caule erecto: ramis divaricatis, filiformibus, gracilibus, strictis; internodiis sæpe viscidis: foliis angusto-lanceolatis, acutis; infimis obtusiusculis; summis raris linearibus: floribus solitariis, inconspicuis pedunculatis; pedunculis glabriusculis; calycibus oblongis; petalis linearibus, capsulisque cylindricis, sepala subæquantibus: anthophoro capsulæ dimidium vix æquante.

S. inaperta, Hort. Kew. quoad saltem stirpem Maderensem: haud Linn.

Hab. in sterilibus apricis, alveisque siccis convallium Maderæ.

Flores inaperti: petala viridi-fusca. *S. inapertæ* L. proxima; sat vero distincta. (110.)

60. *Silene ignobilis*, nob.

S. annua, glabriuscula, dichotome ramosa, erecta: foliis inferioribus subciliolatis, spathulatis, superioribus lanceolatis: floribus solitariis, inconspicuis, pedunculatis; calycibus oblongis, haud inflatis, mox ventricosiusculis basi que coarctatis, reticulatis; petalis inconspicuis, calycem vix superantibus: capsulis ventricosus, doliiformibus, calycem æquantibus; anthophoro brevissimo.

Hab. inter segetes Maderæ rariss.

Viridis, vix glaucescens. Variat plus minus velutino-pubescentis; plerumque fere glabra. Petala apice purpurascencia.

61. *Silene inflata*, Sm., D. C., &c.

Var. *intricata* nob.; vix glaucescens; caulibus ramosissimis, dense intricatis, elongatis, pendulis, basi suffrutescentibus.

Hab. in rupibus excelsis declivibus Convallium Maderæ.

FRANKENIACEÆ.

62. *Frankenia cespitosa*, nob.

F. caulibus fruticulosus, ramosissimis, densissime cespitosis, humilibus, humifusis, calycibusque basi velutino-pubescentibus: foliis sessilibus, basi connatis, linearibus, glabris, margine revolutis, basi breviter et parce ciliolatis: floribus in capitula terminalia congestis, subeymosis, foliis multo longioribus.

Hab. in collibus maritimis sterilibus aridisque Promontorii Ponta S. Lourenço Maderæ; etiam Portus S^{ti}.

F. ericifolia C. Sm., necnon *F. corymbosa* Desf. nimis forsitan affinis.

VIOLARIEÆ.

63. *Viola paradoxa*, nob.

V. suffruticosa, e basi ramosa; ramis subproductis, elongatis, simpliciusculis; inferne nudis, stipulisque simplicibus linearibus integris minutis sæpe obsoletis, petiolisque elongatis marginatis ternato-fasciculatis, foliisque rotundato-spathulatis crenatis basi abruptis cordatisve, glaberrimis: foliis summis cuneato-elongatis, in petiolum attenuatis, apice subtridentatis, petiolisque caulibusque subpuberulis: sepalis oblongis integris (111.), bracteisque pedicelloque pubescentibus: calcare obtuso, calyce longiore; nectario(112.) capsula obsolete hexagona, glabra; seminibus pallide flavescentibus, paucis (15—20), ovatis.

Hab. rariss. in summis cacuminibus montium excelsiorum Maderæ, in fissuris rupium. Invenit cl. Car. Lemann, M.D.

Obs. Cum *V. calcarata* L. conferenda. Flos aureo-flavus. Stylus ab apice ad basin attenuatus. Stigma urceolatum, utrinque fasciculato-pilosum, ore magno, expanso-dilatato, inferne in labellum producto. Folia ad apices ramorum steriliū conferta. Pedunculi solitarii, axillares, subpollicares. Capsulæ abbreviatæ, obtusæ. Semina, præter colorem, fere ut in *V. tricolore* L.

CRUCIFERÆ.

64. *Sinapidendron salicifolium*, Prim. p. 37. No. 65.

Syn. *Sinapis angustifolia*, D. C. Prodr. i. 220.

Hab. in rupe quadam excelsa maritima, "*Cabo Giram*" dicta, prope vicum *Camera de lobos* Maderæ, nuperrime ab amico Rev^o. M. Tucker, botanophilo vel oculatissimo, detecta. Species genuina videtur.

65. *Matthiola maderensis*, nob.

M. biennis: caule herbaceo, erecto, elato, ramoso: foliis oblongis, integerrimis, incano-tomentosis; radicalibus densissime rosaceo-confertis: siliquis compressis, glanduloso-muricatis.

Hab. in rupibus maritimis Maderæ et Portus S^{ci}. ubique vulg.

Flores pallide violacei, vespere præsertim odori, rarissime albi. Species intermedia, habitu foliisque *M. incanæ* R. Br.; siliquis, 3—5 poll. longis, *M. sinuatæ*, ejusd.

MADERA, October, 1837.

SUPPLEMENTUM.

CHARACEÆ.

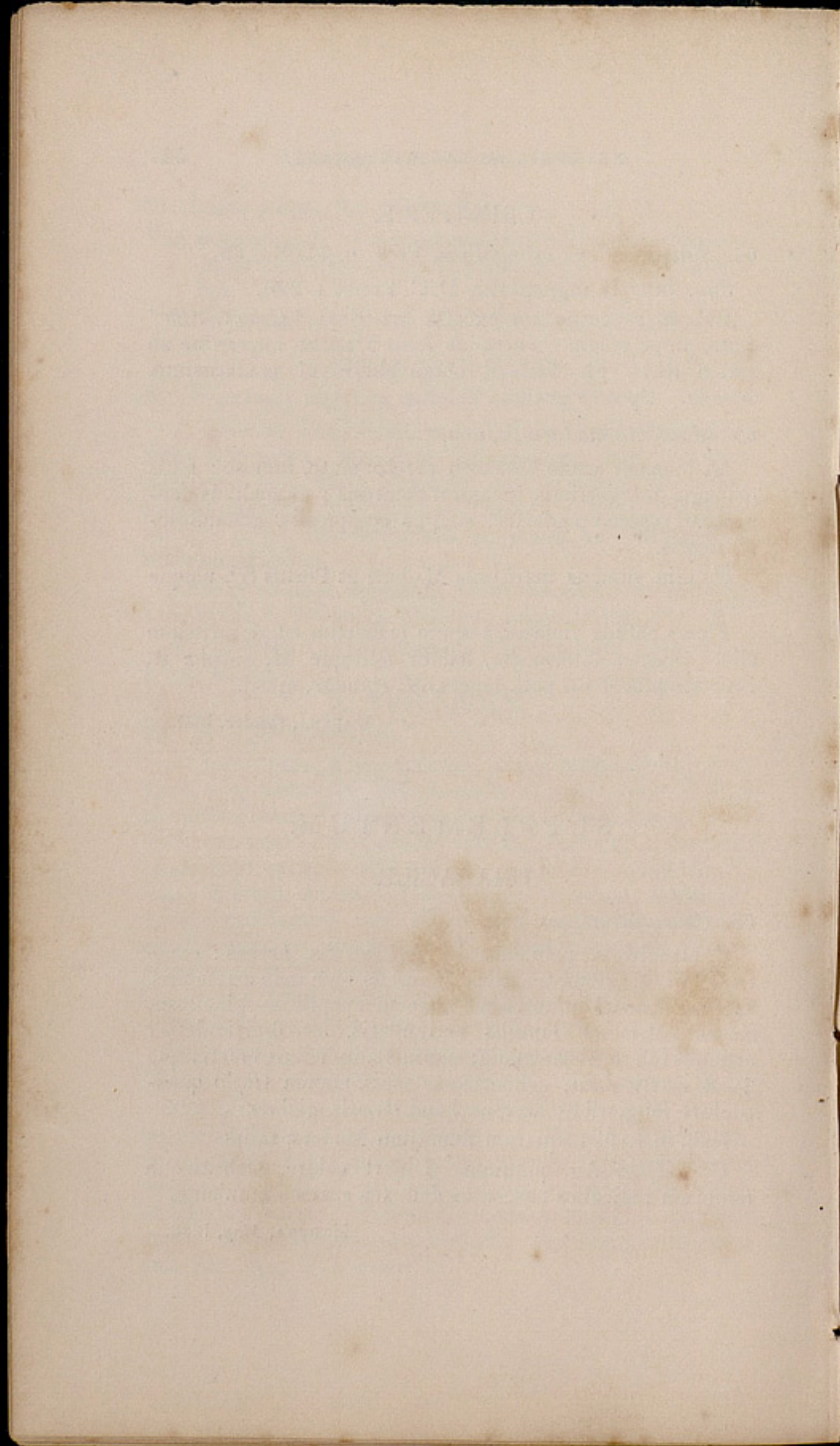
66. *Chara atrovirens*, nob.

C. atrovirens, pellucida, lucida, gracilis, fœtens: caule ramisque tenacibus, tenuibus, flexilibus, hinc inde articulatis, superne sparsim minutissime retrorsum papilloso-spinellosis, contorto-striatis: ramulis verticillatis, 5—6-articulatis; articulis inferioribus striatis; summis simplicibus, bracteisque 2—4 inarticulatis, cylindrico-setaceis, nucula triplo quadruplove longioribus, lævibus, haud striatis, glabris.

Hab. in rivulis aquarum fluentium Maderæ rariss.

C. vulgari Ag. proxima. Differt colore, scabritieque ramorum radiceles nascentes deflexos sparsos æmulante.

MADERA, May, 1838.



APPENDIX A.

(PRIMITIÆ, &c. Pars 1ma, PLANTÆ.)

- (1.) See Novitiæ, p. 523 or 1.
- (2.) See Novitiæ, p. 524 or 2.
- (3.) Hook. and Grev. Icon. Fil. t. 195.
- (4.) Also found in Jamaica. See Magaz. Nat. Hist. (New Ser.) vol. ii. p. 457.
- (5.) A true *Deschampsia*, Beauv. See Novitiæ, p. 529 or 7.
- (6.) See Novitiæ, p. 531 or 9.
- (7.) See Novitiæ, p. 531 or 9, for varieties; though the var. β there mentioned is scarcely more than a depauperated state of the plant, grown on a rock, without sufficiency of soil or moisture.
- (8.) Nearly allied to *C. pendula*, Huds. (*C. maxima*, Scop.): differing chiefly in the more numerous (6—8) longer (6—8 inches) female spikes all tipped with male flowers, the upper being crowded and sessile or subsessile, and in the very short obtuse entire often incurved beak of the triquetrolageniform very dark brown ripe-fruit. The scales of the female spikes are ovato-lanceolate, acuminate; not "ovate, mucronate" Babingt. as in *C. pendula*. In their earlier stages the spikes are all erect, and only become drooping as the fruit advances to maturity. The terminal male spike is linear-acuminate. Cf. Seubert, Fl. Azor. p. 23, n°. 139.
- (9.) Insert here, scandente, elato:
The stems in this very elegant plant are weak and climb-

ing; whilst in the fine-leaved *A. scoparius*, they are stout, stiff, straight, erect, and woody; like old stems of the Raspberry (*Rubus idæus*, L.). Both species are of the greatest rarity. The flowers of *A. scaber* are white, and deliciously fragrant like those of the Lily of the valley (*Convallaria majalis*, L.) The berries are pale yellow or greenish yellow when ripe. They are rather sparingly produced, though the flowers are most abundant. This gracefully climbing plant forms a beautiful arch or arbour when properly trained in a garden; and its elegantly festooned and feathery branches are used in decking the churches at Christmas. It flowers in November; but the fruit is not ripe till the following autumn. The flowers of *A. scoparius* are rather smaller, but otherwise similar to those of *A. scaber*; the ripe fruit is of a dull olive or bronzed brown colour.

(10.) This, or at least the var. *a*, appears to be the true *R. Hypophyllum*, L.; differing from *R. Hypoglossum*, L., in the small dry chaff-like (instead of well-developed leaf-like) "hypophyllous" floral bract or bracts. The figure in the *Botan. Mag.* t. 2049, well represents the Maderan plant; in which the flowers are produced on short pedicels, each issuing in long succession from a tuft of dry scarious small acuminate bracts on the middle of the *upper* side of the leaves. These leaves become by a twist in the petiole almost uniformly resupinate, giving the flowers and fruit the appearance of being hypophyllous, which they really are not.

(11.) For *ellipticæ*, "*rubræ*"—read, *ovales, rubræ*. The berries in this plant, as well as in the preceding (*Smilax pendulina*), I have observed frequently since the original publication of this memoir. They are of a fine scarlet or coral red.

(12.) For "*sepalis obtusiusculis; exterioribus erectis; duobus interioribus reflexis:*" read, "*sepalis obtusiusculis*

erectis." The two interior sepals are only accidentally or by no means constantly reflexed. Also the side lobes of the labellum are rather to be called subcrenulate than crenulate.

(13.) See Novitiæ, p. 532 or 10.

(14.) See Novitiæ, p. 532 or 10.

(15.) Referred by Boissier in D.C. Prodr. XII. p. 646 to *S. ovalifolia*, Poir.

(16.) Identical with *S. clandestina*, L. Spec.; and intermediate between *S. Verbenaca*, L. and *S. controversa*, Ten. (*S. clandestina*, L. Herb.) It is also *S. verbenacoides* of Brotero, or *S. polymorpha*, Hoffm. et Link. See Bentham in D.C. Prodr. XII. 294.

(17.) *T. angustifolius*, Pers. Benth. in D.C. Prodr. XII. 201. Cf. autem Seub. Fl. Azor. p. 37, sub *T. micante*, de *T. angustifolio*.

(18.) *Micromeria varia*, Benth. in D.C. Prodr. XII. 215. The synonym of *Thymus therebinthaceus*, Willd. belongs to a different species, *Micr. Teneriffæ*, Benth.

(19.) *Odontites Holliana*, Benth. in D.C. Prodr. X. 550.

(20.) See Novitiæ, p. 537 or 15.

(21.) When fully ripe, the fruit, a dryish berry-like drupe, is violet-black, with the flesh bright sap-green and rather copiously milky. It is sweetish, but not agreeable to the taste.

(22.) *Tolpis pectinata*, D.C. Prodr. VII. 87.

(23.) *Tolpis macrorrhiza*, D.C. Prodr. VII. 87.

(24.) D.C. Prodr. VII. 164.

(25.) D.C. Prodr. VII. 154.

(26.) D.C. Prodr. VII. 157.

(27.) "(perenni?)" dele. Radix revera (I.)—(II.)

(28.) Add, anthodii squamis inferioribus glabris.

(29.) D.C. Prodr. VII. 157. *B. dubiæ* forma.

(30.) D.C. Prodr. VII. 157.

- (31.) "pappo substipitato" dele.
 (32.) "pappo substipitato" cum parenthesi sequente dele.
 (33.) D.C. Prodr. VII. 157.
 (34.) D.C. Prodr. VII. 100.
 (35.) D.C. Prodr. VI. 653.
 (36.) *Helichrysum melanophthalmum*, D.C. Prodr. VI. 177. See also Novitiæ, p. 16 or 538.
 (37.) See Novitiæ, p. 541 or 19.
 (38.) This Maderan Elder seems entitled to rank as a species between *S. canadensis*, L. and *S. nigra*, L.; differing from the former in its arboreous stem, and more numerous always smooth leaflets; and from the latter in its narrower much more elongated or acuminate leaflets, and nearly or quite scentless flowers. The ripe fruit is always pale green. *Char. Spec. S. MADERENSIS*; subarborea, foliis quinato-sectis glabris, segmentis oblongo-lanceolatis acuminatis elongatis serratis, corymbis 3-v. 5-partitis, floribus inodoris, baccis viridi-pallescentibus.

Hab. in sylvis Convallium Maderæ.

(39.) Add—Squamæ nectariferæ transverse latæ truncatæ, vix subretusæ. Caules vere repentes.

(40.) This species must be expunged. The name *V. micrantha* was originally intended by me to designate a Maderan plant preserved in the Banksian Herbarium, and marked "2. Madeira, 1777, Fr. Masson," which had been by Dr. Solander appended to (though not perhaps, as it would appear by the note "Obs. 2 species," absolutely and entirely confounded with) another plant on the same sheet of paper, marked "1. Madeira, 1768, J. B. and D. S." (Sir J. Banks and Dr. Solander), and which Dr. Solander has described in his MSS—taking, however, as it would appear from the words "Legumina oblonga, compressa, 3—6-sperma, pilosa," his description of the pods from the other specimen, n°. 2,—under the name of *Vicia gracilis*.

This plant (n^o. 1.), the perhaps originally sole, or at least principal type of *V. gracilis* Sol. MSS., is merely, as the late lamented Dr. Charles Lemann some years ago remarked in a letter to me, a smooth-podded state or variety of *Ervum hirsutum*, L. :* a common weed in Madera. *Vicia gracilis* Sol. MSS. was therefore incorrectly cited by me as a synonym to *V. micrantha* : though it had been perhaps in some measure, or at least for some time, confounded with it also by Dr. Solander himself.

The other plant appended to this on the same sheet, viz. n^o. 2, and which, with its shaggy villose pods, was the proper type of my *V. micrantha*, it has lately struck me might be merely a smoother-leaved state than usual of my *Vicia albicans*, Prim. p. 33, n^o. 58 (*V. atropurpurea*, Desf. γ , *biflora*, Webb). No other plant assuredly at all approaching *V. micrantha* has been discovered by myself, Lemann, or other recent botanists, either in Madera, or in any of the other circumjacent Islands. And a re-examination of the original types, kindly instituted expressly for this end by my friend, Mr. J. J. Bennett, in the Banksian Herbarium, has almost established the certainty of the above conjecture ; warranting the reference of *V. micrantha* to *V. albicans* with little less precision than that of *V. gracilis*, Sol. to *Ervum hirsutum*, L.

(41.) For (omnibus) read—(præter summa).

(42.) See Novitiæ, p. 548 or 26.

(43.) See Novitiæ, p. 548 or 26.

(44.) See Novitiæ, p. 548 or 26.

(45.) See Novitiæ, p. 551 or 29.

(46.) *R. creticus*, L.—*R. cortusæfolius*, Willd., planta Canariensis, in insula Nivaria (Tenerife) a cl. Webb lecta et

* "This is the more singular," remarks Mr. Bennett, "as Dr. Solander collected *Ervum hirsutum* in its ordinary state in Madeira, and referred it to its true name."—Benn. in litt.

descripta, a Maderensi differt "planta tota strigoso"-(nec sericeo-) "pilosa, pilis basi dilatatis bulbosis pellucidis" (nec subopacis) . . . "foliis radicalibus atroviridibus sparsim nigro-maculatis, caulis petiolorumque pilis patentibus, . . . vaginis utrinque glabris, . . . coccis in capitulum cylindraceum 6 poll. (lin.?) longum digestis . . . utrinque hispidis, mucrone nunc rectiusculo nunc subincurvo" (nec omnino incurvo). Planta maderensis a meipso quidem olim primo inventu pro *R. cretico*, L. habita, cum exemplaribus Cretensibus a cl. Siebero in monte Ida lectis, et in Herbario Hookeriano Kewensi servatis, a cl. Car. Lemanno collata, illis omnino congruere comperta est. Planta Azorica (*R. cortusae-folius*, Willd. β , Seub. Fl. Azor. 42 n^o. 305), necnon Kewensis (*R. cortusae-folius* (Willd.) Hook. in Bot. Mag. t. 4625), omissis synonymis plerisque, spica "ovata" vel "ovali" brevi, nostra Maderensis videtur. Plantam Maderensem in rupibus irriguis umbrosis convalium omnium ubique per insulam divulgatam, ipse haud semel ad Hortum Kewensem misi.

APPENDIX B.

(PRIMITIÆ, &c. MOLLUSCA.)

(47.) Both the varieties *a* and δ , here enumerated, belong rather to var. *i* of Ferussac.

(48.) This proves to be undoubtedly, *L. gagates*, Drap. var. *a nigra*, Fer.

(49.) This is *L. antiquorum*, var. η . Fer. (*L. cinereus*, β . Drap.)

(50.) Rariss. Animal clear yellow.

(51.) More common than *T. haliotidea*, but still rare. Animal, dark olive-brown.

(52.) The left hand figure (a) only of these figures represents *V. Lamarckii*; the right hand figure (b), is *V. Behnii*, Syn. Diagn. p. 1. n^o. 1.

(53.) The group of Ferussac to which the following three species may be more properly referred is that of his "*Acavæ*; testa globosa vel subtrochoidea, umbilicata; umbilico omnino tecto."

(54.) *Hispidæ*—dele.

(55.) Also in Porto S^{to}, 1849, T. Vernon Wollaston, Esq. It is doubtless identical with *H. lenticula*, Fer.

(56.) This is *H. Lowei*, Fer. It really seems properly distinct from *H. Porto-sanctana*, Sow.

(57.) Certainly a most distinct species.

(58.) This is rather a variety of *H. fictilis*, Syn. Diagn. p. 9. n^o. 37.

(59.) *Hygromanibus* potius.

(60.) This is doubtless the true original *H. nitidiuscula* of Sowerby, as figured from Porto Santo specimens in the *Zoological Journal*; with which the following Maderan shell (*H. vulgata*) remained long confounded.

(61.) The shell here figured (t. 6, f. 6.) is the very common, and in Madera universally distributed, *H. vulgata* of my *Synopsis Diagnostica*, p. 5, n^o. 12. It is found in the Dezertas: but the exact Maderan form has never yet occurred in Porto Santo, although *H. lurida* (*H. nitidiuscula*, Sow.) is undoubtedly its proper Porto-sanctana analogue or representative. The reference in the text to Sowerby in *Zool. Journ.* &c. should be transferred to *H. lurida*; and the habitat "Portu S^{to}." expunged.

(62.) A true variety of *H. punctulata*, and certainly

abundantly distinct, whether from what is here meant by *H. nitidiuscula*, Sow. viz. *H. vulgata*, or from the true *H. nitidiuscula*, Sow. viz. *H. lurida*.

(63.) The close and continued researches of Mr. Wollaston, myself, and others, have alike failed in discovering this shell in Porto S^{to}. The example figured (decoloratum potius quam "decorticatum") was given to me by Mr. G. B. Sowerby, as having been found in Porto Santo by the Reverend J. Bulwer. It seems, however, now more probable that this original unique specimen had become accidentally intermixed with Mr. Bulwer's Maderan collections, than that the species, or anything at all allied to it, should have escaped entirely the observation of all subsequent explorers in these islands for the last seven or eight and twenty years; and *H. lauta* ought most probably to be expunged altogether from the present catalogue. It appears further questionable, on a careful comparative re-examination of the single original example, whether it be really more than a regularly striated form or variety of the polymorphous *H. virgata*, Mont. (*H. variabilis*, Drap.); approaching in its distinct close-set hairlike striæ to *H. caperata*, Mont. (*H. striata*, Drap.), but differing in its smaller umbilicus, more turbinate globose shape (without trace of keel), and more elevated spire. A shell is mentioned by Rossmässler, under the head "*H. striata*, Drap.," which may possibly prove identical with *H. lauta*; although this latter species is certainly much more nearly allied to *H. virgata* (*variabilis*, Drap.) than to *H. striata*. Rossmässler's words are as follows:—"Ich erwähne noch zuletzt einer von Jan in 3 völlig übereinstimmenden Exemplaren erhaltenen Form: ganz von der Gestalt unserer Fig. 356a. (*H. variabilis*), doch nur 4¹¹¹ breit, stark rippenstreifig, mit dem 3, 4, und 5, flekkig aufgelösten Bändern, auffallend engerem Nabel und fast weisser Lippe.

Sie wäre ohne die sehr markirten Rippenstreifen vollkommen eine kleine *H. variabilis*. Aus Oberitalien." (The "Schnecke aus Madeira," welche vielleicht hieher als Varietät gehört," of his next paragraph, is probably *H. armillata*, Lowe). Rossm. Icon. V. und VI. p. 29.

H. lauta differs from *H. Terverii* (Mich.) Rossm. ff. 354 d., 565, 566, in its much narrower umbilicus, more globose shape, and smaller size. It stands, indeed, in much the same relation to *H. virgata*, Mont. (*variabilis*, Drap.) as that in which *H. Terverii* stands to *H. cespitum*, Drap. It possibly may prove identical with *H. simulata*, Fer.; but seems very distinct from *H. submaritima* (Desm.) Rossm. IX. und X. p. 8. f. 575; Pf. Mon. I. 159.

(64.) This is *H. armillata*, Syn. Diagn. p. 4, n°. 9 (*H. Lowei*, Pot. et Mich. nec. Fer.).

(65.) Species propria, *H. lincta*, Syn. Diagn. p. 7, n°. 27.

(66.) *H. lincta*, var. β . nob.

(67.) For Diam. $4\frac{1}{2}$ — $5\frac{1}{2}$ —read, Diam. $4\frac{1}{2}$ —5.

(68.) Scilicet varr. γ , ϵ , ζ .

(69.) Species propria, *H. attrita*, Syn. Diagn. p. 7, n°. 23.

(70.) *H. papilio*, Syn. Diagn. p. 7, n°. 28.

(71.) *H. pulvinata*, Syn. Diagn. p. 6, n°. 22.

(72.) *H. Michaudi*, Desh. e "Teneriffa," duplo major, "diam. usque 5—6 lin." (nec mill.), forsan diversa. Lineas pro millemetris errore sive lapsu calami scriptas suspicari licet; sed speciem nostram e "Teneriffa," nunquam recepi, nec inter Helices Canarienses a cl. Webb enumeratam video.

(73.) omnino edentula—*dele*.

(74.) aliquantum fere ventricosior semper edentula—*dele*.

(75.) duabus aliquando obsoletis—*dele*.

(76.) Species propria, *Achatina oryza*, Syn. Diagn. p. 10, n°. 45.

- (77.) Species propria, *Bulimus maderensis*, Syn. Diagn. p. 10, n^o. 42, a testa Mulleriana Europæa sat diversa.
 (78.) Figura dextra.
 (79.) Figura sinistra.
 (80.) For "rupibus"—read, truncis Laurorum.

 APPENDIX C.

 (NOVITÆ FLORÆ MADERENSIS.)

(81.) Stirpem Gibraltariam, cum Maderensi prorsus congruentem, abundantem invenit am. deflendus Car. Lemann. Eandem ex Europa australi sub nomine *Cheilanthis suaveolentis*, Sw. se recepisse scripsit.

(82.) *Avena albinervis*, Boiss. sec. Car. Lemann. in litt. Dec. 30, 1842.

(83.) This may be merely a state of *C. elegans*, Desf. with a contracted and simple or less luxuriantly branched panicle.

(84.) Cf. *Festuca glauca*, var. *longearistata*, Seubert Flora Azor. p. 20, n^o. 120.—"*F. jubatam*?" (ob staturam juniorem subdubium) in collect. Azorica Watsoniana se vidisse scripsit am. Car. Lemann.

(85.) This is merely a starved state of *a*, growing on a dry exposed rock, wanting shade and moisture.

(86.) Cf. *Carex Guthnickiana* (Gay), Seub. Fl. Azor. p. 20, n^o. 129.—Eadem videtur, præter "squamas obtusissimas," "femineis obtusis."

(87.) *Suedæ fruticosæ*, Forsk. status, D.C. XIII. 2. p. 157.

(88.) *Chenolea lanata*, D.C. XIII. 2, p. 129.

(89.) The true *Sideritis candicans*, Ait. proves to be a Tenerife plant, not found in Madera.

(90.) This is *S. Massoniana*, Benth. D.C. XII. 437; not, therefore, *S. candicans*, Auct. It is the common mountain species in Madera, universal on rocks in ravines above 2000 feet.

(91.) This approaches *S. canariensis* (L.) Benth. D.C. XII 438: but is, I believe, only a maritime state or form of the excessively polymorphous common mountain *S. Massoniana*. In Madera it occurs chiefly on the bare rocky peaks of Ponta São Lourenço, beyond the village of Caniçal at the bottom of the bay called L'Abra.

(92.) D.C. XII. p. 557.

(93.) *Calamintha officinalis*, β . *villosissima*, Benth. in D.C. Prodr, XII. 228. Seub. Fl. Azor. p. 37, n^o. 252.

(94.) Undoubtedly *C. suffruticosus* of the Hort. Kew. and Botanical Register (not of Desfontaines).

(95.) *Specularia falcata*. β . *scabra*, D.C. VII. 490.

(96.) *Senecio crassifolius* (Willd.) β . *Loweii*, D.C. VI. 344.

(97.) *Helichrysum obconicum*, D.C. VI. 181.

(98.) *Calendula maderensis*, D.C. VI. 454.

(99.) *Clavena squarrosa*, D.C. VI. 633.

(100.) *Clavena canariensis*, D.C. VI. 633.

(101.) Subunifloro would be more correct, the plant having been once found by me in a luxuriant state with a branched 8- or 9-flowered stem. The recent flowers are of a deep lavender-blue (as correctly reported formerly by Dr. Lippold), and very fragrant, like those of the common garden Scabious or Sweet Sultan.

(102.) D.C. VI. 620.

(103.) Cf. *D. polygamus*, Gouan, D.C. IV. 212, et Seub. Fl. Azor. 42, n^o. 299.

(104.) Vide supra, Primit. p. 12.

(105.) Further observations on plants growing in the same spot have satisfied me, that this was only a peculiarly luxuriant state, or monstrous form, of *L. major*, Sm.

(106.) *Lotus hispidus* (Desf.) D.C. II. 212, eadem videtur.

(107.) *Medicago minima*, Lam. var. sec. cl. Benth. (Car. Lemann in litt^s.)

(108.) This, judging from the descriptions, differs from *H. linearifolium* (Vahl.) D.C. Prodr. I. 552, or *linariifolium* (Vahl.) Babingt. Man. of Brit. Bot. 58, in its two-edged stems, its mostly equal ovate, or at least ovato-lanceolate sepals, and styles nearly twice the length of, or decidedly longer than, the ovarian capsules. It may still prove identical, however, with *H. linarifolium*, Lam.

(109.) *Arenaria serpyllifolia*, β . *glutinosa*, Koch. Syn. I. 128, eadem videtur.

(110.) *Silene filiformis* (Otth.) D.C. jam adest. Planta vero Maderensis, a *S. inaperta*, L. vix distinguenda, pro varietate habenda.

(111.) Adde—ciliatis.

(112.) For "calcare obtuso, calyce longiore; nectario" read—calcare obtuso, sepalis petalisque brevioribus, appendicibus calycis longiore; nectario staminibus plus duplo brevioribus.—Species ad Sect. *Melanium*, D.C. referenda.

APPENDIX D.

CATALOGUS TESTARUM TERRESTRIVM SEMIFOSSILIVM in arena calcarea inter concreta ramiformia arenoso-calcarea

prope vicum Caniçal in Promontorio S^{ti} Laurentii Maderæ repertarum: adjectis homologis analogisve recentibus, in Madera hodie jam viventibus.

| SEMI-FOSSILES. | | RECENTES (in Madera). | |
|-------------------------------|-------|-------------------------|-------|
| Vitrina Behnii, Lowe | . rr | Vitrina Behnii, Lowe | . cc |
| Helix membranacea, Lowe | . rrr | Helix membranacea, Lowe | . cc |
| „ furva, Lowe | . r | „ furva, Lowe | . r |
| „ erubescens, Lowe | . c | „ erubescens, Lowe | . c |
| „ undata, Lowe | . cc | „ undata, Lowe | . ccc |
| „ Bowdichiana, Fer.* | | | |
| (<i>H. punctulata</i> , Sow. | | | |
| var.) | . ccc | | |
| „ canicalensis, Lowe † | | „ vulgata, Lowe | . ccc |
| (<i>H. vulgata</i> var.) | . ccc | „ squalida, Lowe | . rrr |
| „ squalida, Lowe | . c | „ paupercula, Lowe (ad | |
| „ paupercula, Lowe | . rr | ipsum locum) | . cc |
| | | „ bifrons, Lowe | . cc |
| „ bifrons, Lowe | . cc | „ calathus, Lowe | . rr |
| „ calathus, Lowe | . rr | | |
| „ calva, Lowe (var. fere | | „ calva, Lowe | . r |
| major) | . cc | „ compacta, Lowe (ad | |
| „ compacta, Lowe | . c | ipsum locum) | . cc |
| | | | |
| „ „ var. β, major | . rr | | |
| „ sphærule, Lowe | . r | | |
| „ senilis, Lowe ‡ | . r | | |
| „ Delphinula, Lowe § | . ccc | | |
| „ tiarella, Webb § | . ccc | | |

* *H. punctulata*, Sow. (in Madera nusquam, in Portu S^{to}. ubique vulgarissime venti) analoga, vel potius homologa; vix enim speciem propriam esse concedo.

† Variat, prout *H. vulgata* recens, spira plus minus elevata, plerumque subturrita, sæpe vero depressa. Species nimirum et recens et fossilis æque polymorpha. Transitus et magnitudine et characteribus inter duas formas etiam in testis ipsis semifossilibus fere infiniti. *H. vulgata* recens jam jamque ad ipsum locum fere inter fossilia vivit.

‡ Hab. viva in Insula Deserta Majore.

§ Nec in Portu S^{to} neque in Insulis Desertis vel recens semifossilisve occurrit!

| SEMI-FOSSILES. | | RECENTES (in Madera). | |
|--------------------------------|-------|--|-------|
| Helix lenticula, Fer.* | . rrr | Helix lenticula, Fer. (<i>H. sub-</i> <i>tilis</i> , Lowe) | . c |
| „ actinophora, Lowe | . c | „ actinophora, Lowe | . r |
| „ fausta, var. α , Lowe | . r | „ fausta, var. α , Lowe | . rr |
| „ „ „ β , minor | . r | | |
| „ „ „ γ , minima | . r | | |
| „ obserata, Lowe | . r | „ obserata, Lowe | . rrr |
| Achatina tornatellina, Lowe | . c | Achatina tornatellina, Lowe | . c |
| „ truncata, Lowe | . rr | | |
| Pupa linearis, Lowe | . rr | | |
| „ laurinea, Lowe | . rr | Pupa laurinea, Lowe | . c |
| „ fusca, Lowe | . r | „ fusca, Lowe | . r |
| „ millegrana, Lowe | . r | „ millegrana, Lowe | . r |
| „ cassida, Lowe | . c | „ cassida, Lowe | . rrr |
| „ abbreviata, Lowe | . rrr | | |
| „ gibba, Lowe | . rrr | „ gibba, Lowe | . rrr |
| „ lamellosa, Lowe | . rrr | „ lamellosa, Lowe | . rrr |
| „ saxicola, Lowe | . rrr | „ saxicola, Lowe | . r |
| Clausilia crispa, Lowe | . rr | Clausilia crispa, Lowe | . cc |
| Cyclostoma lucidum, Lowe | . cc | Cyclostoma lucidum, Lowe | . ccc |
| „ Lyonnetianum, Lowe | . r | „ Lyonnetianum, Lowe | . r |

Species et varietates in Madera hucusque vivæ haud re-
pertæ ad decem† ex quinque et triginta sunt; i.e. $\frac{1}{34}$. Harum
tamen duæ, *H. Bowdichiana*, Fer., forma nempe minore
degenerata (*H. punctulata*, Sow.) in Portu S^{to}, necnon
H. senilis (Syn. Diagn.) in Insula Deserta Majore, hodie
existunt: aliæque, præsertim *H. sphaerula*, *H. fausta* β et
 γ , *Achatina truncata*, *Pupa linearis*, et *P. abbreviata*, facile
jam vivæ latere possunt. Unicam quidem speciem, eamque
insigniolem, *H. Delphinulam*, prorsus deperditam autumare

* An vere fossilis subdubium.

† Excluis, prout ab homologis recentibus vix distinguendis,
H. canicalensis=*H. vulgata*.

„ calva, var. fere major=*H. calva*.

„ compacta, var. β , major=*H. compacta*.

ausim. Etiam *H. tiarella*, Webb (Syn. Moll. Can. n°. 18), statu semifossili in Madera (nec alibi) omnium fere vulgatissima, viva nondum obvenit. Species quidem minus recte inter Helices Canarienses recentes annumerari videtur. Exemplaria in Museis collectionibusve omnia potius semifossilia credo Canicalensi-Maderensia: quo, ni fallor, mecum A.D. 1828, cl. et amiciss. auctor ipse legit. Species affinis (*H. coronula*, Syn. Diagn.) in Insula Deserta Australiore hodie provenit: altera (*H. juliformis*, Syn. Diagn.) in Portu S^{to}.

Species recentes hic enumeratæ pleræque hodie sylvicolæ vel in regionibus editioribus montium degentes: paucioribus ($\frac{1}{3}$ fere) submaritimis. Notandum etiam quod *H. pisanam*, Mull., hodie inter ipsa fossilia (nec alibi in Madera!) abundantissime viventem, vere et procul dubio semifossilem nunquam inveni. Idem fere de *H. polymorpha*, α et γ , Prim. p. 54, affirmare ausim. De *H. lenticula*, Fer (*H. subtili*, Prim. 45) suspensus hæreo. Exemplar unicum mihi, alterum cl. Albers etiam obtigit. Meum vero (pullum) vere fossile vix affirmare queo. Recens in ipso loco sparsim occurrit.

Arenam calcaream Canicalensem plane marinam plures annos sedulo scrutanti, exempla v. fragmenta vix ultra decem vere fossilia testarum vere marinarum (Ptenobranchiatorum),* iisdem atque ex speciebus parvulis littora-

* Harum sequentia distinguere credo:

Littorina littorea, L. apicis fragmentum 1.

Rissoa costata, Adams (*R. exigua* Mich.) exemplar 1.

” ” specierum aliarum diversarum indeterminabilium, fragm. 2.

Cerithium reticulatum, Da Costa, fragm. 3 v. 4.

Pleurotoma Bertrandi (v. *Vauquelini*), Payr. fragm. 1 v. 2.

Emarginula reticulata, Sow. (*Patella fissura* L.) ex. 1.

Lobatula (Flem.) species, ex. 1.

Lima (squamosa Lam?), fragm. 1.

ACEPHALORUM CONCHIF. testis validis fragm. comminuta plurima.

Echini lividi, Lam. spinarum fragm. quædam pauca.

libus validioribus diffractis fere constantibus, inter tot myriadas vel potius coacervationes testarum fragilium terrestrium (Pneumonatorum) optime conservatarum, sese mihi obtulerunt. *Ianthinæ communis*, Lam. exempla duo, plane recentia ac pulchre colorata, vento vel casu quodam (forsan a pueris) nuperrime e littore propinqua plane transvecta, ad superficiem arenæ jacentia, ad altitudinem 100 fere pedum supra mare inter concreta fossilesque semel legi. *Patellarum* itidem *Trochorumque* quoque edulium exuviæ recentes, a plebe pastorali relictæ, huc illuc obviæ. Testarum autem terrestrium Helicidarum verè fossilium status ac positio omnino deportationem diluviale[m] fere tranquillam (non dico semper lentam) denotant. Situm diruptum æstuarii convallis pristinæ vastæ, in mare jampridem submersæ, hæc, ut fere omnia, susurrant.

“Coralliorum,” s. “Alcyonidarum,” æque ac “Lignatium,” s. Dicotyledonearum, ne minima quidem vestigia mihi sese obtulerunt. Rami s. trunci fossiles dicti, sylvæ sive terrestres Dicotyledonearum, sive marinæ Zoophytorum, speciem pseudomorpham præbentes, mera *Concreta* inorganica arenaceo-calcareæ, percolatione et agglutinatione adscite factitata, videntur; qualia in similibus locis similiter sitis, e.g., in Africa Australiore Capensi, teste cl. Abel, in Novæ Hollandiæ oris, testibus cl. Vancouver, Peron, Flinders, Darwin, &c., necnon præsertim in insula finitima Portûs S^{ti}, accretione hodierna formantur. In depositis vero similibus Portûs S^{ti}, aliæ quædam testarum terrestrium species propriæ occurrunt, quibusdam omnino extinctis. Omnium catalogum mox edere spero.

Inter reliquia testacea et concreta ramos vel ossa* simu-

* Ab incolis itaque Maderensibus quasi ludibrio “canélas;” sc. *tibias cruris*, verbi usu vernacule corrupto, vulgo dicta. Verbum proprie *corticis cinnamomi bacillos tubulosve*, sensu nempe concretis illis haud minus apto, significat.

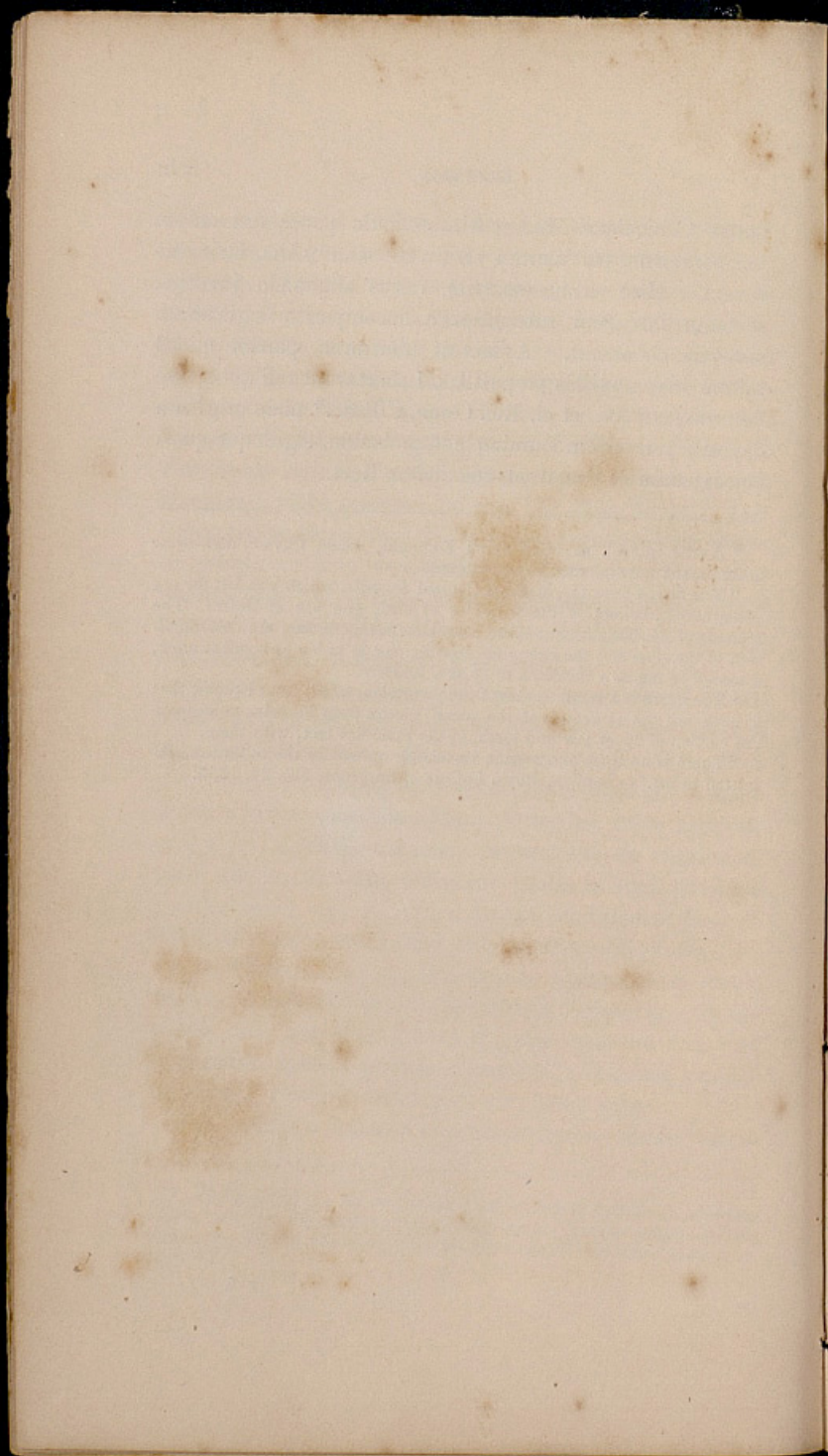
lantia Canicalensi-Maderensia, ossicula pauca animalium vertebratorum parvulorum vera, vere semifossilia, rarissime inveni. Hæc sæpius sparsim, rarius aliquando junctim, skeleton integrum subcontusum decomposito-fragillimum sistentia, occurrunt. Avium ut plurimum, partim quoad saltem duas maxillas perpusillas, Lacertarum reliquias esse determinavit am. et cl. Ric. Owen, F.R.S. :* unde originem depositi terrestrem omnino comprobata, sigilloque quasi consignatam et firmatam, concludere licet.

* Verba ipsa cl. ac eruditissimi Zoosopi, sedem Cuvieri dignissime tenentis, sua benevolentia fretus, subjungo.

“The fossils from the Madeira Caniçal deposits, which you left for my examination, belong to three species of bird, and one of lizard. The remains of the birds do not afford characters for more than the determination of the *class* and the *size of the species*: one is as big as a gull or crow, a second as big as a thrush, a third as a sparrow.

“The lizard is a small species of the pleurodont family; and I regret that I have not the skeletons of the actual species from Madeira to compare the portion of upper jaw and teeth, in the little flat box, with them.

“There is no trace of a marine vertebrate animal in the collection submitted to me.”—London, Royal College of Surgeons, Feb. 24, 1853.



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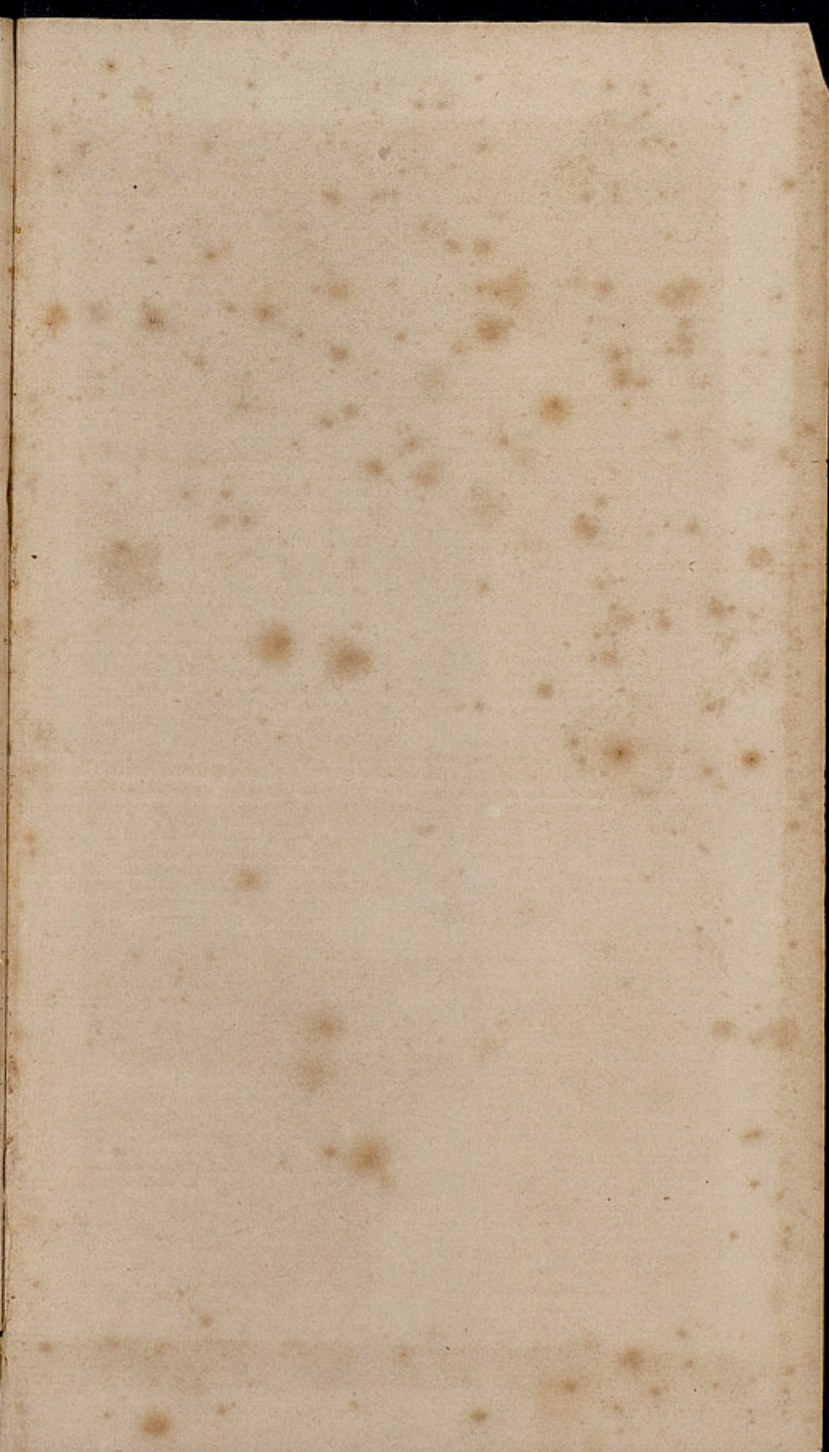
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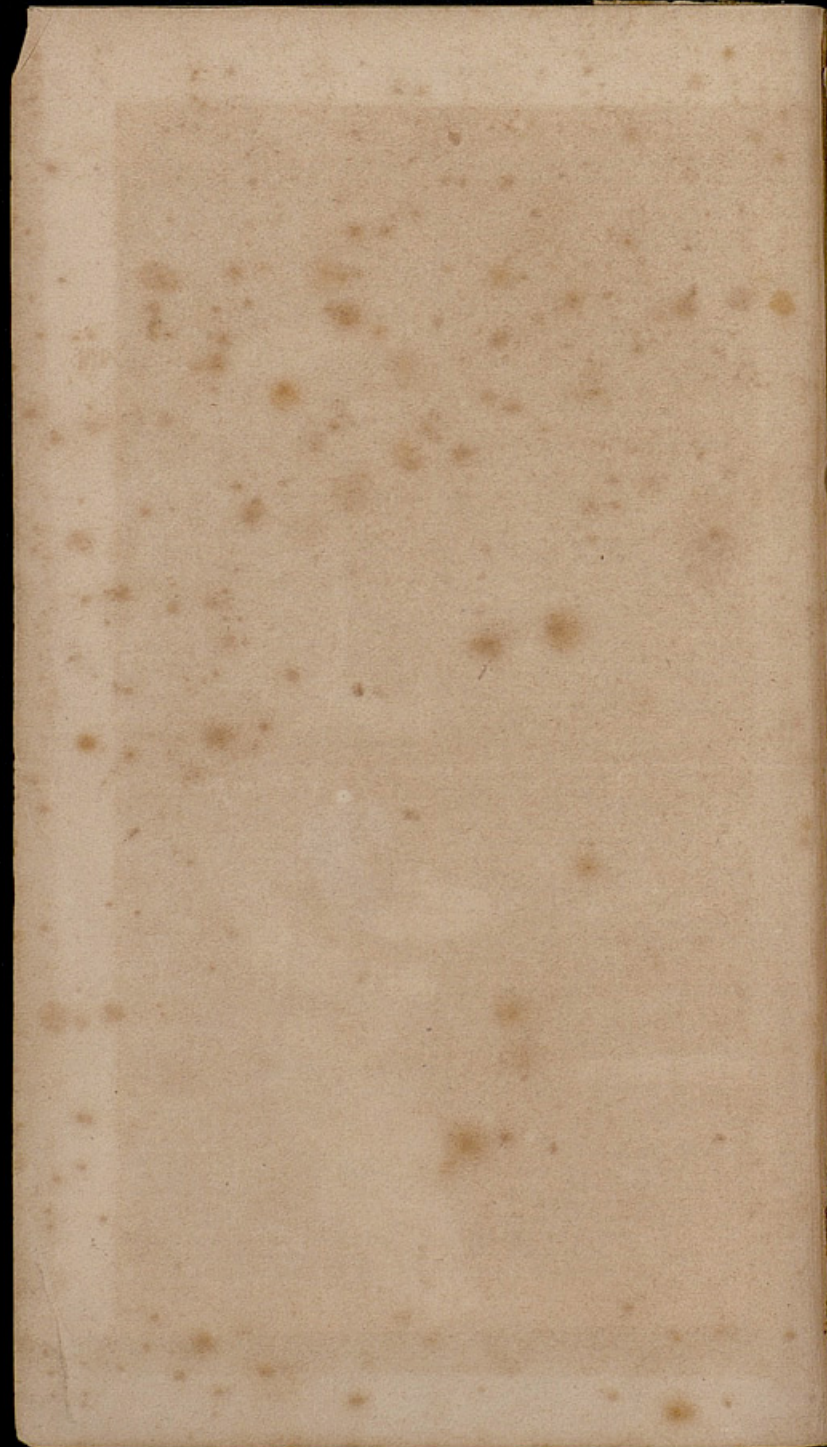
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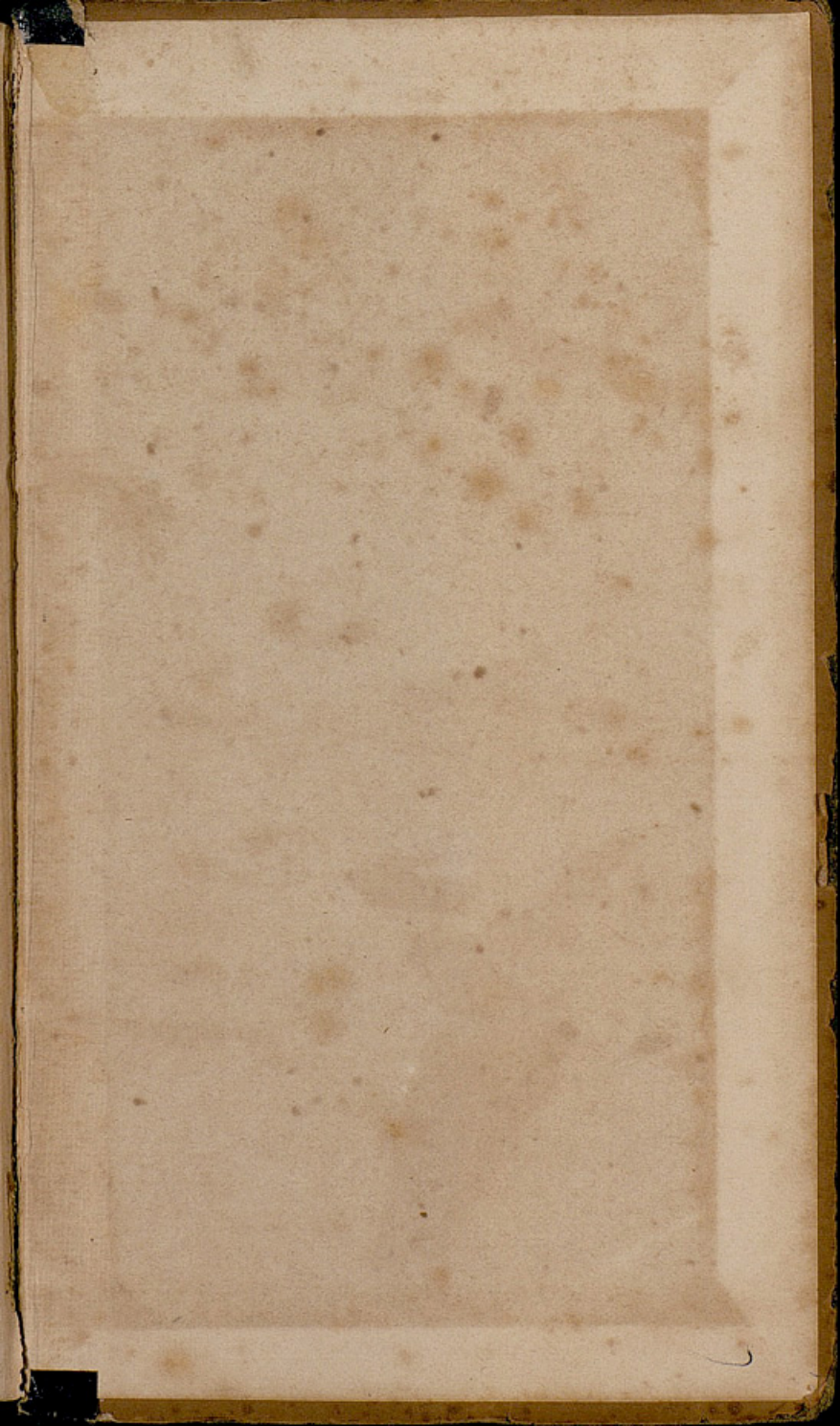
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