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Autor

THE

7-9-19

GENERA AND SPECIES

OF

ORCHIDEOUS PLANTS.

BY JOHN LINDLEY, Ph. D. F. R. S. L. S. G. S.

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Professor of Botany in the University of London, and in the Royal Institution of Great Britain.

Part IV. OPHRYDEÆ.



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ORCHIDEÆ.

Tribe IV. OPHRYDEÆ.

ORCHIDEÆ, Tribus OPHRYDEÆ. *Lindl. Orch. Sceletos.*

Pollen in massas cereaceas (pollinia) innumeras cohærens, axi arachnoideâ elasticâ glandulæ stigmatis agglutinatâ colligatas. Anthera terminalis, erecta v. resupinata, omninò persistens: loculis completis.—Herbæ omnes terrestres, foliis succulentis planis, quorum radicalia semper majora sunt, et sensim in vaginas caulis demumque bracteas transeunt. Flores omnium galeati.

ARTIFICIAL ANALYSIS OF THE GENERA.

A. *Antheræ loculi contigui paralleli, basi nullo modo elongati vel divaricati.*

* *Glandulæ cucullo stigmatis inclusæ.*

| | | | |
|---|---|---|------------------|
| Glandula solitaria duo pollinia colligans. | - | - | 174. ACERAS. |
| Glandulæ duæ. | | | |
| Cucullus solitarius. | | | |
| Labellum calcaratum, inappendiculatum, | | | |
| anticum. | - | - | 169. ORCHIS. |
| posticum. | - | - | 173. NIGRITELLA. |
| basi bilamellatum | - | - | 170. ANACAMPTIS. |
| Labellum ecalcaratum | - | - | 200. SERAPIAS. |
| Cuculli duo distincti. (Labellum convexum muticum.) | | | 204. OPHRYS. |

** *Glandulæ nudæ, aut seminudæ.*

| | | | |
|---|---|---|------------------|
| Bases loculorum antheræ truncati. | | | |
| Galea mutica. | - | - | 171. GYMNADENIA. |
| Galea calcarata. | - | - | 199. MONADENIA. |
| Bases loculorum antheræ in cucullum spurium bivalvem dilatati | | | 184. SCOPULARIA. |

B. *Antheræ loculi sejuncti, basi divergentes, sæpè elongati.*

* *Glandulæ cucullis stigmatis inclusæ.*

| | | | |
|---|---|---|------------------|
| Cuculli nudi, | | | |
| univalves, | | | |
| dimidiati. | - | - | 178. HEMIPILIA. |
| completi. | | | |
| Calcar infundibulare. | - | - | 175. HOLOTHRIX. |
| Calcar vesicatum. | - | - | 176. GLOSSASPIS. |
| bivalves. | - | - | 172. PERULARIA. |
| Cuculli lobo antheræ valvularum supertecti. | - | - | 194. BARTHOLINA. |

** *Glandulæ nudæ.*

| | | |
|--|---------|-------------------|
| Sepala omnia saccata. | - - - - | 205. DISPERIS. |
| Sepala lateralia tantum saccata. | - - - - | 180. SACCIDIUM. |
| Sepalum supremum saccatum aut calcaratum. | - - - - | |
| Anthera erecta. | - - - - | 198. DISA. |
| Anthera resupinata v. horizontalis. | - - - - | 197. REPANDRA. |
| Sepala omnia mutica; | | |
| omnia connata. | - - - - | 183. MONOTRIS. |
| lateralia connata. | - - - - | 203. CORYCIUM. |
| lateralia libera. | | |
| Labelli unguis faciei columnæ adnatus. | - - - - | 202. PTERYGODIUM. |
| Labellum liberum: vel margine tantum columnæ adnatum. | | |
| Anthera stipite distincto inserta. | | |
| Labellum posticum bicalcaratum. | - - - - | 196. SATYRIUM. |
| Labellum muticum. | | |
| Antheræ basis a brachiis stigmatis rostello crassissimo interceptus | - - - - | 181. PACHITES. |
| Antheræ basis brachiis stigmatis æqualis | - - - - | 201. PENTHEA. |
| Anthera sessilis. | | |
| Stigma processibus 2 carnosis liberis auctum. | | |
| Rostellum maximum liberum; | | |
| fornicatum. Perianth. galeat. | - - - - | 189. BONATEA. |
| planum. Perianth. campanulat. | - - - - | 190. DIPLOMERIS. |
| Rostellum parvum antheræ agglutinatum. | | |
| Faux calcaris dente corneo canaliculato aucta. | - - - - | 188. ATE. |
| Faux inermis. | | |
| Labellum a columna liberum. | - - - - | 187. HABENARIA. |
| Labellum columnæ adnatum. | - - - - | 191. CYNORCHIS. |
| Stigma muticum, vel processibus suis adnatis. | | |
| Labellum ab anthera petalisque liberum. | | |
| Sepala campanulata. | | |
| Labellum calcaratum. | - - - - | 179. PERISTYLUS. |
| Labellum inerme. | - - - - | 186. HERMINIUM. |
| Sepala lateralia reflexa. | | |
| Labellum calcaratum, | | |
| basi planum, processibus o. | - - - - | 177. PLATANThERA. |
| basi excavatum, processibus adnatis. | - - - - | 182. CÆLOGLOSSUM. |
| abellum inerme. | - - - - | 185. AOPLA. |
| Labellum petalis obliquis connatum, | | |
| calcaratum. | - - - - | 192. TRYPHIA. |
| muticum. | - - - - | 193. ARNOTTIA. |
| Lab. cum anthera petalisque connatum | - - - - | 195. BICORNELLA. |

CLXIX. ORCHIS.

Orchis. *Linn. Sp. Pl. Swartz. in Act. Holm. 1800, p. 205. Brown in Hort. Kew. 5, 188. Richard. Annot. in Orch. Europ.*

Flores galeati. Sepala subæqualia; supremum cum petalis in fornicis speciem connivens; lateralia nunc convergentia nunc reflexa. Petala erecta sepalo subæqualia. Labellum anticum, calcaratum, integrum v. indivisum, cum basi columnæ connatum. Anthera erecta, loculis contiguis parallelis. Glandulæ polliniorum 2, distinctæ, cucullo communi (i. e. plicatura cucullata stigmatis s. rostelli) inclusæ.—Herbæ terrestres, radicibus tuberculiferis, foliis plerisque radicalibus, tactu molli- bus, subsucculentis, sæpè maculatis.

This genus, disembarassed as it now is of a very large number of species, appears to form a truly natural assemblage; and this being the case, I think we may well excuse the minute characters by which it is

defined; the more especially as those characters are easily discoverable on the recent plant by the most unskilful; and it is to be supposed that those who attempt to examine dried specimens have a sufficient degree of skill for such an operation.

Although the character taken from the number of glands to which the pollen masses adhere, is obscure, and often difficult to determine in dried specimens, yet it seems necessary to employ it, in order to exclude the *Satyrium hircinum* of Linnæus, which is evidently a near ally in nature of *Aceras anthropophora*. Dr. Brown, indeed, retained the former species in *Orchis*, and he has been followed by myself in the Synopsis of the British Flora, and by Dr. Hooker in his British Flora. Nevertheless, considering the evident trace of a spur in *Aceras anthropophora*, the shortness of that of *Satyrium hircinum*, the complete accordance of these two species in other respects, and especially the evident unimportance of the spur, when very short, in *Herminium*, I think it most advisable, after a careful examination of all the species I know, to adopt Richard's idea of the genus *Himantoglossum*; a name, however, that I cannot, in common with continental writers, prefer to the more ancient one of *Aceras*; which can hardly be said to be objectionable because some species have spurs, inasmuch as such species form the exception to the general rule.

It is usual to divide the species by the structure of their roots, a character unemployed in a similar manner in any other genus. Independently of the inconvenience of being unable, by such a mode of division, to arrange species, or determine specimens, the roots of which are unknown, there is the additional disadvantage in employing the roots for a principle of division, that very unnatural groups are formed; for example, *O. sambucina* is separated from *O. pallens*, &c. &c.

A better distinction exists in the direction of the sepals, of which either all converge, forming a sort of helmet, whence they may be called *Militares*, or the two lateral sepals diverge, as in *O. mascula* and its allies. By this means the genus is divided into two groups, each of which is so natural, that it may almost be doubted whether they are not distinct genera.

§ 1. MASCULÆ. Sepalis lateralibus reflexis v. patentibus. *Lindl. in Bot. Reg. t. 1701.*

* Labello indiviso; v. tantum lacero; v. obsoletissimè trilobo. Sp. 1—6.

** Labello 3-4-fido. Sp. 7—21.

§ 2. MILITARES. Sepalis conniventibus galeam referentibus. *Lindl. l. c. (HERORCHIS.)*

* Labello indiviso. Sp. 22—24.

** Labello trilobo. Sp. 25—31.

*** Labello 4-fido v. 4-partito; mucrone inter crura media semper interjecto. Sp. 32—end.

§ 1. MASCULÆ. *Sepalis lateralibus reflexis v. patentibus.*

* *Labello indiviso; v. tantum lacero; v. obsoletissimè trilobo.*

I have placed in this section all the species in which the laceration of the margin of the lip, of whatever degree, does not regularly take the form of three distinct and well defined lobes. And I have referred to the next section all those which, like *O. pallens* and *sambucina*, have often a nearly entire lip, but with a manifest tendency to divide into three lobes.

1. ORCHIS salina. *Tourtchaninoff MSS.*

O. foliis lineari-lanceolatis erectis, spicâ laxiflorâ, sepalis angustis obtusis

lateralibus longioribus, labello rhomboideo crenato subtrilobo acuminato pubescente calcare pendulo acuminato brevior, bracteis herbaceis lineari-lanceolatis florum longitudine, tuberculis palmatis.

Hab. in *Sibiria*, in locis subsalsis prope pagum Uburun, *Tourtchaninoff*, (*hab. s. sp. comm. cel. Prescott.*)

Caulis gracilis vix spithamæus. Flores minores quam in *O. latifolia* varietate ulla. Huic affinis est, sed statura exili labello et calcare acuminato diversissima est.

2. *ORCHIS iberica*. *Bieberst. in Willd. Sp. Pl. 4, 25.*

O. foliis ensiformibus erectis in caulem ascendentibus, spicâ laxâ angustâ multiflorâ, sepalis angustè ovatis obtusis patulis, labello subquadrato pubescente emarginato mucronato calcaris penduli filiformis longitudine, bracteis herbaceis lineari-lanceolatis floribus brevioribus, tuberculis elongatis apice bi-tripartitis.

O. angustifolia. *Bieb. Fl. Taur. Cauc. 2, 368.*

Hab. ad rivulos *Caucasi* orientalis subalpini; necnon in *Tauria* meridionali florens Junio, *Bieberstein*; circa Constantinopolim *Domina Liston*. (*hab. s. sp. comm. cel. Hooker.*)

Facies ferè *O. laxifloræ* floribus minoribus, et magis aggregatis.

3. *ORCHIS latifolia*. *Linn. ! Sp. Pl. 1334.*

O. foliis erectis lanceolatis acutis laxè vaginantibus, spicâ cylindræâ multiflorâ, sepalis ovatis acutiusculis, labello rhomboideo vel oblongo crenato nunc leviter trilobo lateribus deflexo lineâ cordiformi notato, calcare pendulo cylindræo v. conico, bracteis herbaceis acuminatis flore sæpiùs longioribus, tuberculis palmatis.

a. vera; floribus majoribus, labello latiore calcari æquali, foliis immaculatis.

O. latifolia. *Willd. Sp. Pl. 4, 28. Fl. Danica, t. 266. De Cand. Fl. Fr. 3, 251. Eng. Bot. t. 2308. Hooker, Fl. Lond. c. ic. Smith, Eng. Fl. 4, 21. Rchb. Fl. Excurs. 126. Plantæ Criticæ, 6, t. 564. Mayrhof. Dissert. p. 24.*

β. indica; floribus majoribus, labello rotundato sublobato calcare ovarium æquante brevior.

O. Hatagirea. *Don. Prodr. Fl. nep. 23. Wallich. Cat. No. 7062.*

γ. cruenta; floribus minoribus, labello acutiore calcare brevior, foliis maculatis.

O. cruenta. *Müll. Fl. Danica, t. 876. Willd. Sp. Pl. 4, 29.*

O. hæmatodes. *Rchb. Fl. Excurs. 126.*

δ. conica; calcare magis conico, bracteis brevioribus, spicâ laxâ pauciflorâ.

O. latifolia. *Sommerfeldt ! in Wahl. Fl. Suec. Supp.*

O. cruenta. *Rchb. ! Fl. Excurs. 127. "Rchb. Bann. t. 1, fig. 1." fide Rchb.*

ε. angustifolia; foliis lineari-lanceolatis.

O. angustifolia. *Lois. Fl. Gall. Rchb. Pl. Crit. 9, t. 848.*

O. divaricata. *Rich. Merat. Fl. Paris ed. 2, p. 94. De Brébiss. Act. Soc. Linn. Calvados, p. 373.*

O. comosa. *Scop. Carn. No. 1120.*

ζ. atropurpurea; calcare apice dilatato, floribus bracteisq. atropurpureis.

O. atropurpurea. *Tausch. Rchb. Fl. Excurs, p. 140.*

Hab. per omnem Europam frigidiorē et Asiam cistropicam in pratis, sylvis dumetisque; *α.* Ins. Fieroe *Lyngbye*; *β.* Gossainthan, Shalma, Choor, Peer Punjal *Royle*; *γ.* Norvegia, Pyrenæis, Mont. Himalayens. *Royle*; *δ.* Nordlandia, *Sommerfeldt*, Lapponia *Carling*, Monte Sarko Hungariæ; *ε.* prope *Fallesiam* et per omnem Germaniam, (*v. v. sp. et hab. s. sp.*)

It is after a most careful examination of specimens that I have determined upon combining the above supposed species. Although they do appear in extreme cases to be distinct, I nevertheless am quite at a loss for any precise character by which they can be defined with anything like certainty.—*O. cruenta* of Flora Danica has smaller flowers than what I have considered the true *O. latifolia*, and its spur is perhaps a trifle longer; but the latter circumstance can, I think, be esteemed but of slight importance in a case where the habit of both is so very similar.—Of the *O. cruenta* of Reichenbach I have seen authentic specimens from Mount Sarko in Hungary, in the Herbarium of Dr. Von Martins; they agree precisely with specimens gathered in Nordland by Sommerfelt, and preserved in Dr. Lehmann's collection, and seem to me a more Alpine or Northern state of *O. latifolia*; indeed, with the exception of the rather shorter bracts, and more conical spur, I can make out nothing like a specific character for it; and I find all that relates to the spur and lip so much subject to variations, between which no limits can be seen, that I am compelled, in this species, to pass them by.—*O. Hatagirea* is, I conceive, the Indian form of the species; it has entirely the habit of the European *O. latifolia*, and, like it, seems to produce a smaller flowered form, which may be compared to *O. cruenta*; its lip is sometimes round, and scarcely lobed, sometimes slightly three-lobed: in Mr. Royle's Herbarium is a suite of specimens completely connecting both those states.

In Smith's Herbarium is a specimen gathered near Tangier by Durand, which is very like this species in a gigantic state; but which has the lip three-lobed, as in *O. maculata*, and is possibly *O. foliosa*.

It is probable that this plant varies in other ways. I have a Russian specimen, which has a rhomboidal crisped lip, with the habit of *O. sambucina*, and which is either this or a new species; and I have a thing from Irkutsk which, without being exactly *O. latifolia*, is not *O. maculata*.

4. ORCHIS majalis. *Rchb. Pl. Crit. VI. 770.*

O. foliis patentibus oblongis acutis laxè vaginantibus, spicâ crassâ oblongâ, sepalis obtusis, labello orbiculato lacero-crenato plano maculâ cordiformi notato calcare cylindraceo conico breviori, bracteis herbaceis ovato-lanceolatis flore longioribus, tuberculis palmatifidis.

O. majalis. Rchb. Fl. Excurs. 126. Mayrhof. Dissert. p. 24.

Hab. in Germania; prope Dornbach *Jacquin* (*hab. s. sp. comm. cel. Jacquin.*)

Differt ab *O. latifolia*: foliis oblongis patentibus plerumque nigro aut rubro maculatis subtus glaucescentibus, caule humiliore, spica crassiore, floribus majoribus saturatius rubris aut purpureis; et præcipue tempore florendi in eodem loco multo præcociore.

I quote Reichenbach's figure upon his own authority; but I must confess it is very unlike the plant I have described, for which I am indebted to Baron Jacquin.

5. ORCHIS sesquipedalis. *Willd. Sp. Pl.* 4, 30.

O. "labello obovato lateribus reflexo emarginato dentato, petalis superioribus acutis conniventibus, cornu cylindraceo germen subæquante, bracteis lanceolatis flore longioribus." *Willd.*

O. latifolia? *Link. MSS.*

Hab. in *Lusitania*, *Link.*

Radix palmata. Caulis sesquipedalis. Folia lato-lanceolata. Spica floribus alternis remotiusculis. Labellum indivisum obovatum lateribus reflexum apice emarginatum, margine acutè dentatum. Cornu fere longitudine germinis cylindraceum crassum. *Willd.*

6. ORCHIS saccata. *Tenore, Append. Prima.* 65.

O. foliis radicalibus ovato-oblongis acutis patentibus caulinis minoribus vaginantibus, spicâ laxiflorâ, sepalis obtusis, labello oblongo obtuso crenato calcare crasso pallido pendulo longiore, bracteis herbaceis florum longitudine.

O. collina. *Banks. MSS. in Herb. Smith.*

O. saccata. *D'Urville in Act. Soc. Linn. Par. 1, 375. Rchb. Fl. Excurs.* 122.

Hab. in *Europa Australi*; in *Colchide*, *D'Urville*; *Sicilia*, *Gussone*, *Lucaniæ* pratis montosis, *Tenore*, prope *Tergestum*, *Rchb.* etiam in *Barbaria*, prope *Algeriam*, *Broussonet* (*hab. s. sp. comm. cell. Tenore, Tineo et Gussone.*)

Folia maculata.

* * Labello 3-4-fido, v. distinctè trilobo.

7. ORCHIS aristata. *Fischer in Litt.*

O. foliis ovato-lanceolatis acutis caule subdiphylo longioribus, spicâ ovatâ densiflorâ, sepalis acuminatissimis, labello ovato acuto levissimè versus apicem trilobo lateribus deflexo, calcare crasso pendulo labello longiore, bracteis herbaceis acuminatis floribus longioribus, tuberculis palmatis.

Hab. in *Unalaschka*, *Fischer* (*hab. s. sp. comm. cel. Fischer.*)

Intermediate, as it were, between *O. latifolia*, from which it differs in its acuminate sepals and in stature, and *O. sambucina*, which is equally distinguished by the same character.

8. ORCHIS sambucina. *Linn. ! Sp. Pl.*

O. foliis obovato-oblongis obtusissimis in caulem ascendentibus, spicâ densâ oblongâ, sepalis obtusiusculis, labelli obsoletè trilobi rotundati lobo intermedio angustiore, calcare pendulo inflato labello duplè longiore ovarium æquante, bracteis foliaceis oblongis acutis floribus longioribus, tuberculis palmatis.

α. floribus ochroleucis.

O. sambucina. *Willd. Sp. Pl.* 4, 50. *Jacq. Fl. Austr. t.* 108. *Rchb. Pl. Crit.* 9, t. 809.

β. floribus purpureis.

O. incarnata. *Linn. Sp. Pl. Willd. p.* 50.

O. Schleicheri. *Sweet Fl. Garden*, 2, 199.

O. sambucina. β. incarnata. *Rchb. Pl. Crit.* 9, t. 810.

O. Traunsteineri. *Saut. Rchb. Fl. Excurs.* ¹⁴⁰/₁₈.

Hab. per omnem *Europam meridionalem et mediam*; etiam in *Jutland*, *Hb. Hornem. Scania, Fries* (*hab. s. sp.*)

9. *ORCHIS pallens*. Linn.

O. foliis obovato-oblongis obtusissimis in caulem ascendentibus, spicâ densâ oblongâ, sepalis ovatis obtusis, labelli rotundati trilobi lobis æqualibus integris, calcare horizontali recurvo inflato labello duplò longiore, bracteis membranaceis lineari-lanceolatis floribus brevioribus, tuberculis indivisis.

O. pallens. Willd. *Sp. Pl.* 4, 27. *Jacq. Fl. Austr.* 1, t. 45. *Rchb. Pl. Crit.* 9, t. 808, *opt. Fl. Excurs.* 122.

O. sulphurea. *Bot. Mag.* t. 2569.

Hab. in Europa media (*hab. s. sp.*)

10. *ORCHIS pseudo-sambucina*. Tenore *Synops. ed. 1, p. 82. Fl. Neap. vol. ii. p. 284, t. 86.*

O. foliis linearibus spathulatis obtusis subundulatis in caulem ascendentibus, spicâ cylindraceâ laxiusculâ, sepalis ovatis obtusis, labelli latioris quam longi trilobi lobis subæqualibus integris, calcare gracili horizontali labello duplò longiore, bracteis foliaceis lanceolatis acutis floribus longioribus, tuberculis palmatis.

O. romana. *Sebast. et Maur. Rom. Pl. Fasc. 2, t. 3. Fl. Rom. Prodr.* 308, t. 9. *Rchb. Fl. Excurs.* 126.

O. bracteata. Tenore, *Fl. Neap. Prodr.* p. 52, non Willd.

Hab. in Italia Australi, Tenore; etiam in Tauria Stephan; et Iberia? Prescott (*hab. s. sp.*)

Differt ab *O. sambucina* calcare graciliore horizontali, et ab *O. pallente* bracteis longis foliaceis tuberculisque. Variat floribus rubris.

11. *ORCHIS provincialis*. Balbis *Misc. t. 2.*

O. foliis lanceolatis omnibus radicalibus, spicâ laxâ, sepalis ovato-oblongis obtusis, labelli latioris quam longi pubescentis trilobi crenulati lobis lateralibus acutis intermedio truncato subemarginato, calcare gracili ascendente apice inflato labello triplo longiore, bracteis membranaceis apice subulatis floribus brevioribus, tuberculis indivisis.

O. provincialis. *De Cand. Synops. Fl. Gall.* p. 169. *Rchb. Fl. Excurs.* p. 122. Tenore, *Syll.* p. 456.

O. Cyrilli. Tenore, *App. Prima.* 64. *Fl. Neap. vol. ii. p. 287, t. 87.*

β. *pauciflora*; floribus majoribus, labello magis pubescente, foliis immaculatis.

O. *pauciflora*. Tenore, *l. c.* *Fl. Neap. vol. ii. p. 288, t. 88. Syll.* p. 456.

Hab. in regno Neapolitano; β. in nemoribus montosis Stabiarum regionis editioribus, et in Lucania, Tenore (*hab. s. sp. comm. cell. Tenore et Tineo, et v. v. c.*)

Differt ab *O. pallente* foliis acutis, labello, et calcare duplo longiore gracili arcuato apice inflato.

I have authentic specimens from Professor Tenore of his *O. pauciflora*, which certainly has, as he states in his *Sylogæ*, a broad, convex, hairy lip; but I cannot think it more than a variety of *O. Cyrilli* from mountainous places.

12. *ORCHIS canariensis*.

O. foliis oblongis acutis in caulem ascendentibus et acuminantibus, spicâ laxiusculâ, sepalis petalisque ovato-oblongis acutis, labelli oblongi medio pubescentis leviter trilobi lobo medio truncato crispulo lateralibus multo

majore, calcare crasso obtuso labello brevioribus, bracteis membranaceis apice subulatis floribus brevioribus; tuberculis indivisis.

Hab. in rupestribus elatioribus Los Organos dictis supra vallem *Oratavæ*, *Webb et Berthelot* (*hab. s. sp. comm. cel. Webb.*)

Facies fere *O. masculæ*, calcare brevi crasso abundè diversa. Flores verosimiliter purpurei.

13. *ORCHIS foliosa*. *Soland. MSS. Lowe, Prim. Fl. Mader. p. 13.*

O. foliis oblongo-lanceolatis acuminatis laxè vaginantibus, spicâ oblongâ multiflorâ, sepalis ovatis acutis, labello latiore quam longo obsolete trilobo plano: laciniis lateralibus emarginatis intermediâ acutâ multò majoribus, calcare pendulo cornuto labello duplo brevioribus, bracteis herbaceis acuminatis flore sæpè longioribus, tuberculis palmatis. *Lindley in Bot. Reg. t. 1701.*

Hab. in sylvis dumetisque *Maderæ, Lowe* (*exam. v. cult. et s. sp. in herb. Henslow.*)

Omnino *O. latifoliam* refert; sed omnibus partibus major est, labello plano manifestè trilobo nec rhomboideo, calcare brevioribus gracilioribus, caule elatioribus.

14. *ORCHIS mascula*. *Linn. ! Sp. Pl.*

O. foliis oblongis obtusis omnibus radicalibus, spicâ laxâ multiflorâ, sepalis oblongis obtusis, labelli trilobi lobis lateralibus divergentibus subintegris intermedio emarginato subæqualibus, calcare horizontali obtuso labello longiore, bracteis apice subulatis floribus brevioribus, tuberculis indivisis.

O. mascula. Eng. Bot. 9, t. 631.

β. labello minus fisso.

O. ovalis. Schm. fide Reichenbachii.

Hab. in pratis per omnem *Europam septentrionalem* vulgatissima, (*v. v. sp.*)

Variat floribus incarnatis albidisque.

15. *ORCHIS parvifolia*. *Chaubard in Amans, Fl. Agen. 369, t. 7.*

O. "foliis lineari-lanceolatis canaliculatis, spicâ densâ, calcare conico obtuso ovario duplo brevioribus, labelli trilobi lobis crenulatis rotundatis intermedio paulò longiore et angustiore, sepalis divaricatis." *Chaub.*

Hab. in pratis humidis *Gallie meridionalis*, *Chaubard.*

Flores purpurei; labellum albidum maculis purpureis punctatum. Tubercula oblonga. Facies *O. masculæ*, qua differt floris forma et foliis canaliculatis. *Chaub.*

16. *ORCHIS brevicornu*. *Viviani, Fl. Ital. Fragm. t. 12, f. 2.*

O. "labio trilobo denticulato, calcare conico obtuso ovario triplò brevioribus, sepalis acutiusculis exterioribus reflexis, foliis lineari-lanceolatis." *Rchb. Fl. Excurs. p. 123.*

Hab. in *Italia*, *Viviani.*

O. masculæ proxima, imprimis calcare brevi distincta, spicâ etiam laxâ. *Rchb.*

Possibly the same as *O. parvifolia*.

17. *ORCHIS stabiana*. Tenore! *Syll. Fl. Nap.* p. 453.

O. foliis lanceolatis omnibus radicalibus, spicâ laxâ multiflorâ, sepalis acuminatis, labelli trilobi lobis lateralibus divergentibus subdentatis intermedio truncato emarginato duplo brevioribus, calcare horizontali obtuso labello longiore, bracteis apice subulatis floribus brevioribus.

Hab. in nemoribus *Stabiarum*, Tenore (*hab. s. sp. comm. cel. Tenore.*)

Folia lætè virentia nec pallida, immaculata. Labelli lobus medius concolor. Flores odori. Tenore.

This looks like *O. speciosa* more than *O. mascula*, but differs entirely in the form of the lip.

18. *ORCHIS patens*. Desf. *Fl. Atl.* 2, p. 318 t. 248. Willd. *Sp. Pl.* 4, 19.

O. foliis omnibus radicalibus angustis spathulatis acutis, spicâ laxiflorâ, sepalis ovatis obtusis, labelli trilobi oblongi plani laciniis lateralibus divergentibus crenatis truncatis abbreviatis intermediâ cuneatâ tridentatâ, calcare crasso obtuso pendulo labello brevioribus, bracteis linearibus apice subulatis membranaceis ovario brevioribus.

Hab. in *Atlantide*, Desfontaines (*exam. s. sp. in Hb. Lehmann.*)

19. *ORCHIS speciosa*. Host. *Fl. Austr.* 2, 527. Mayrh. *Dissert.* 6.

O. foliis oblongis obtusis omnibus radicalibus, spicâ multiflorâ, sepalis acuminatis, labelli subrotundi crenulato-incisi trilobi lobis omnibus approximatis intermedio rotundato integro bifidove, calcare horizontali obtuso labello æquali, bracteis apice subulatis floribus brevioribus, tuberculis indivisis.

O. mascula. Jacq. *Miscell.* 2, 375, t. 180, et verosimiliter Willd. *Sp. Pl.* 4, 18, plurimorumque aliorum. *Rchb. Pl. Crit.* 6, t. 563, mala. *Fl. Excurs.* p. $\frac{140}{18}$.

O. signifera. Vest. in *Hb. Martii*.

Hab. in pratis pascuisque *Austriæ* (*hab. s. sp. comm. cel. Jacquin.*)

Folia, uti et caulis ipse, punctis maculisque atropurpureis apud nos sæpè numerosissimis, rariùs paucis notata. Flores speciosi in spicam longam formosam collecti, ex rubro purpurei, rariùs albi. Labellum subquadridum, rariùs trifidum, punctatum, laciniæ obtusæ modicè reflexæ, media plus minus emarginata, labelli discus villosus. *Mayrhofer*.

My specimens of this plant from Baron von Jacquin have altogether the habit of *O. mascula*; from which, however, they seem to differ essentially in the very taper pointed sepals, and in the form of the lip. It may, however, be doubted whether it is anything more than a variety of *O. mascula*.

20. *ORCHIS laxiflora*. Lam. *Encycl.* 4, 553.

O. foliis lineari-lanceolatis acuminatis in caulem ascendentibus, floribus distantibus, sepalis obtusissimis, labelli subcrenati trilobi lobis lateralibus rotundatis cum intermedio emarginato confluentibus, calcare horizontali labello subæquali, bracteis lanceolatis floribus subæqualibus, tuberculis indivisis.

O. laxiflora. Reichenbach, *Fl. Excurs.* 1, 122.

O. ensifolia. Vill. *Delph.* 2, 29. Willd. *Sp. Pl.* 4, 25.

O. palustris. Jacq. *Ic. Rar.* 1, t. 181. Willd. *Sp. Pl.* 4, 26. *Rchb. Pl. Crit.* 9, t. 831.

O. Tabernæmontani. Gmel. *sec. Rchb.*

O. mediterranea. "Gussone, *Pl. Rar.* p. 235." *sec. Tenore.*

Hab. per omnem *Europam* meridionalem vulgaris; etiam in *Gottlandia*, Fries; et prope *Gorenki*, Prescott (*hab. s. sp.*)

September, 1835.

Species caule folioso, foliis lineari-lanceolatis acuminatis, et spicâ gracili laxâ distinctu facillima. Labelli lobi nunc leviores nunc profundiores; vix autem varietates indicant, occurrunt enim in eodem individuo.

21. ORCHIS maculata. *Linn. ! Sp. Pl.*

O. caule gracili, foliis lineari-oblongis obtusis remotis superioribus sensim diminutis acuminatis, spicâ densâ conicâ v. cylindraceâ, sepalis ovatis acutis, labelli plani subcuneati apice trilobi lobis omnibus acutis: lateralibus subcrenulatis intermedio acuto latioribus, calcare gracili pendulo labelli longitudine, bracteis lineari-lanceolatis acuminatis herbaceis floralibus æqualibus, tuberculis palmatis.

O. maculata. *Willd. Sp. Pl. 4, 31. Fl. Dan. t. 933. Eng. Bot. t. 632. Hooker, Fl. Loud. c. ic. Rchb. Plant. Crit. 6, t. 566. Fl. Excurs. 126. Mayrh. Dissert. 23.*

O. tetragona. *Heuffel in Bot. Zeit. 1833, No. 23, bracteis paulò longioribus.*

Hab. per omnem Europam temperatam et frigidioram; Islandia, Märk in Hb. Hornem. (*hab. s. sp. et v. v. sp.*)

§ 2. MILITARES. *Sepalis conniventibus galeam referentibus. (HERORCHIS.)*

* *Labello indiviso.*

22. ORCHIS rubra. *Jacq. Ic. Rar. 1, t. 183.*

O. scapo basi præcipuè folioso, foliis lineari-lanceolatis acutis arctè vaginatis, sepalis oblongis acutis, labello crenulato unguiculato calcari conico incurvo pendulo æquali.

a. -labello rhombeo acuto.

O. rubra. *Willd. Sp. Pl. 4, 24. Rchb. Fl. Excurs. p. 123.*

O. papilionacea. *Bot. Reg. t. 1155, et plurimum auctorum.*

β. labello rotundato, sæpè latiore quam longo.

O. expansa. *Tenore, Sylloge, p. 455.*

? O. papilionacea. *Willd. Sp. Pl. 4, 24, aliorumque.*

O. papilionacea. *Fl. Græc. t. 928.*

Hab. in Europa Australi; a. per omnem Italiam; β. in regno Neapolitano, Tineo, Creta, Zuccarini, Græcia, Sibthorp, Sicilia, Gussone, (*hab. s. sp. et v. v. cult.*)

Statura palmaris ad pedalem et ultra. Folia acuta, sæpè subundulata, circa radicem præcipuè ordinata, vaginis arctis. Bracteæ roseæ floribus ferè æquales. Flores sanguinei, venosi, magni.

Varietas β. nullo modo distinguenda est nisi labello obtuso rotundato et quasi unguiculato; Verè O. papilionaceæ tantum accedit, præsertim exemplaribus creticis, ut dubius omnino hæreo an revera sint species diversæ.

23. ORCHIS papilionacea. *Linn. ! Sp. Pl. 1331.*

O. scapo undique folioso, foliis laxè vaginantibus, sepalis oblongis acutis, labello maximo venis flabelliformibus denticulato calcare gracili recto pendulo longiore.

O. papilionacea. *Desf. Fl. Atl. 2, 316. Rchb. Fl. Excurs. p. 123.*

Hab. in Hispania, Alströmer; Lusitania, Langsdorff; Algeria, Desfontaines; (*v. s. sp. in Hb. Linn. Smith et Bentham.*)

O. rubræ proxima, labello lato rotundato sessili magis regulariter dentato, venis flabelliformibus semper in denticulo desinentibus tantum distinguenda. Caulis nunc 3-uncialis, nunc pedalis.

24. *ORCHIS spectabilis*. Linn. *Sp. Pl.* 1337.

O. foliis binis oblongis obtusis scapi longitudine, bracteis foliaceis floribus longioribus, labello lanceolato calcarì clavato pendulo æquali.

O. spectabilis. Willd. *Sp. Pl.* 4, 36. Pursh. *Fl. Am. Sept.* 2, p. 587. Beck, *Bot. of North and Middle States*, p. 347.

O. humilis. Michaux,

Habenaria spectabilis. Spreng. *Syst.* 3, 689.

Hab. in *America Septentrionali*; sylvis umbrosis a Canada ad Carolinam, Beck, *Goldie*, Pursh. (*hab. s. sp.*)

Species nulli affinis; labellum albidum; sepala viridi-purpurea.

* * *Labello trilobo.*

25. *ORCHIS coriophora*. Linn. *Sp. Pl.* 1332.

O. foliis lineari-lanceolatis acutis sursum evanescentibus, spicâ elongatâ, sepalis in galeam agglutinatis lineari-lanceolatis acuminatis, labello trilobo calcarì conico æquali: laciniis lateralibus deflexis intermediâ lanceolatâ multò brevioribus.

O. coriophora. Bieb. *Fl. Taur. Cauc.* 2, 363, et *verosimiliter auctorum plurium.*

O. cassidea. Bieb. *Fl. Taur. Cauc.* 3, 600.

O. Polliniana. Spreng.

O. fragrans. Pollini. *Rchb. Fl. Excurs.* 124.

Hab. in *Europa Australiore*; et *Tauriæ meridionalis* udis, Bieberstein; montosis Dalmatiæ; Monspelii, *Delile*; Tergesti, *Agardh*, Romæ et Florentiæ, *Strangways*; Calabria et Apulia, Sieber; necnon in *Barbaria*, Desfontaines (*hab. s. sp.*)

Flores sordidè purpurei, fuscæ. Petala tota in cucullum cordato-lanceolatum acutum cohærentia: apiculis tantummodo brevissimis conniventibus liberis. Labelli faux purpureo-punctata. *Bieberst.*

Quite distinct from *O. cimicina*, in its long sepals, which form a compact upper lip, and in the long spur, which is fully equal to the lip in length. It does not dry of the sooty colour of *O. cimicina*; and its flowers are sweet scented. Reichenbach distinguishes three varieties, but they are of no importance. Steven (*Observ. in Pl. Rossicas.* p. 64) seems to consider *O. cassidea* distinct from *O. coriophora*; whence I conclude that by the latter name he means *O. cimicina*, which is, therefore, found in Iberia and Caucasus.

26. *ORCHIS cimicina*. Crantz. *Stirp. Austr.* 6, 498.

O. foliis lineari-lanceolatis acutis sensim decrescentibus, spicâ oblongâ, sepalis in galeam conniventibus ovatis obtusis siccatione fuliginosis, labello trilobo calcarè incurvo duplo longiore: laciniis lateralibus deflexis intermediâ integrâ parùm brevioribus.

O. coriophora. Willd. *Sp. Pl.* 4, 16? *Jacq. Fl. Austr. t.* 122. *Rchb. Plant. Crit. VI.* 773. *Fl. Excurs.* 123. *Mayrhofer, Dissert.* 18.

Hab. in *Gallia et Austria*; etiam in *Iberia et Caucaso* cisalpino, Steven (*hab. s. sp. comm. illustr. Jacquin.*)

Spica brevis, densa, triste ferrugineo-purpurea. Flores non magni fœtorem spargunt verè cimicinum. Sepala sordidè rubentia arcuè connivent. *Mayrh.* Labium rubro-punctatum lobis obliquè truncatis virentibus, calcar roseum. *Rchb.*

Generally confounded with *O. coriophora*, from which Reichenbach has

well distinguished it. I have seen no specimens, except French and Austrian ones, for the latter of which I am indebted to Baron Jacquin. It dries like *O. fusca*. As it appears from the Linnæan Herbarium that the true *O. coriophora* is what is usually called *O. fragrans*, I have restored the name *O. cimicina* to this.

27. *ORCHIS sancta*. Linn. ! *Sp. Pl.* 1330. *Willd. Sp. Pl.* 4, 41.

O. foliis, caule vaginato aphylo, spicâ elongatâ, sepalis in galeam agglutinatis lineari-lanceolatis acuminatis, labello trilobo calcarî conico inflexo longiore : laciniis lateralibus acutè bilobis intermediâ acutâ paulò brevioribus.

Hab. in *Palæstina*, *Linnaeus* (v. s. sp. in herb. Linn.)

O. coriophoræ adeo similis ut meram varietatem dicas ; sed labellum et calcar sunt planè diversa. Folia et tubercula in specimine herbarii Linnæani deficiunt.

OBS. *O. sancta*, *D'Urville* in *Act. Soc. Linn. par.* 1, 376, ad sepes insulæ *Coi* communis, *Maio* florens, toto cælo differt. Nescio cui speciei referenda est.

28. *ORCHIS acuminata*. *Desf. Atl.* 2, 318, t. 247.

O. foliis ovalibus acutis cuspidatis, sepalis acuminatissimis, labello tripartito glaberrimo calcarî pendulo incurvo æquali : laciniis lateralibus truncatis abbreviatis intermediâ subrotundâ crenulatâ, bracteis acuminatis floribus subæqualibus.

O. acuminata. *Willd. Sp. Pl.* 4, 17. *Rchb. Fl. Excurs.* 124. *Bot. Mag.* t. 1932. *Cambess. En. Fl. Balear.* 140.

O. parviflora. *Tenore, Fl. Nap. Prodr.* p. 52.

O. lactea. *Poir. in Lam. Dict.* 4, 594. *Willd. Sp. Pl.* 4, 24, fide *Cambessedis*.

Hab. in *Algeria*, *Desfontaines* ; *Sicilia*, *Tineo* ; insulis *Balearicis*, *Cambessedis* (*hab. s. sp. comm. cel. Tineo*.)

Adest in *Hb. Lehm.* a *Lamarckio* sub nomine *O. lacæræ* ; an *Poiretius* lacteam pro lacera scripsit solitâ incuriâ ?

29. *ORCHIS corsica*. *Viviani*.

O. "bulbis 2, foliis ovato-ellipticis, spicâ contractâ globosâ, petalis omnibus conniventibus ovato-acuminatis : 2 interioribus lateralibus paulò minoribus, labello trifido : lobis lateralibus falcatis dentatis medio apicem versùs rotundato expanso dentato, calcare incurvo obtuso germen duplo superante." *Reich. Pl. Crit. IV.* p. 70.

Hab. in *Corsica*, *Viviani*.

An *Anacamptis* ?

30. *ORCHIS morio*. Linn. ! *Mantiss.* 485.

O. foliis oblongo-linearibus obtusis, sepalis oblongis obtusis lineatis, labello trilobo latiore quam longo sepalis majore calcarî horizontali obtuso subæquali : laciniis lateralibus dentatis intermediâ subemarginatâ majoribus.

O. morio. *Willd. Sp. Pl.* 4, 18. *Eng. Bot.* t. 2059. *Smith, Engl. Flora*, 4, 11. *Rchb. Fl. Excurs.* p. 122. *Mayrhof. Dissert.* 14.

Hab. in *Europæ* pratis vulgatissima (v. v. sp.)

Reichenbach correctly observes that this is often confounded with *O. longicornis* ; especially in herbaria. It is a much larger plant, with a

very broad lip, the lateral segments of which are always wider than the middle one, and deeply notched. The flowers vary from dark purple to pink or white; and, although spotted with crimson on a white ground in the middle of the lip, are by no means so gaily variegated as *O. longicornis*.
 Quid *O. morio*, *Loureir.* 2, 629, in sylvis montosis Cochinchinæ ?

31. *ORCHIS longicornis.* *Desf. Fl. Atl.* 2, 317, t. 246.

O. foliis oblongo-linearibus obtusis, sepalis oblongis obtusis, labello trilobo sepalis æquali calcare horizontali apice inflato brevior: laciniis lateralibus subintegris intermediæ æqualibus v. minoribus.

α. labelli lobis lateralibus integris atropurpureis rotundatis, intermedio albo variegato.

O. longicornis. Bot. Mag. t. 1944. Bot. Reg. t. 202. Rchb. Fl. Excurs. 122.

β. labelli lobis subæqualibus intermedio ovato lateralibus truncatis dentatis.

O. picta. Lois. Fl. Gall. t. 26.

γ. labelli lobis lateralibus obliquè truncatis dentatis acutis intermedio rotundato minoribus.

? *O. morio. Bieb. Fl. Taur. Cauc. 2, 364.*

Hab. in Europæ Australioris et Barbariæ pratis necnon Tauriæ; α. in Sicilia, Gussone, Algeria, Desf., Italia, Tenore; β. in Gallia meridionali, Loiseleur, Helvetia, Schleicher; γ. in Russia meridionali, Prescott (v. v. c. et hab. s. sp.)

The small size of the lip, and the greater width of its middle than lateral lobes, taken together with the inflated apex of its long spur, abundantly distinguish this species. The French and Swiss specimens are paler than those from the south of Europe. In the genuine state of the species, as it occurs in Barbary and the south of Italy, the two lateral lobes of the lip are intensely purple and separated by a well defined line of colour from the middle lip; but in the varieties *β.* and *γ.* the purple is no darker than what is seen in *O. morio*. No two species can well be more distinct than this and *O. morio*, if they are once correctly understood.

*** *Labello 4-fido vel 4-partito.*

32. *ORCHIS sphærica. Bieb. Fl. Taur. Cauc. 2, 362.*

O. foliis omnibus lanceolatis acutis, spicâ subgloboâ, sepalis aristatis, labelli trilobi lobis lateralibus acutiusculis incurvis intermedio quadrato retuso apiculato subæqualibus, calcare labello brevior, bracteis lineari-subulatis herbaceis floribus brevioribus.

Hab. in Iberia media, Steven (hab. s. sp. comm. cel. Prescott.)

Reichenbach combines this with *O. globosa*; but it differs not only in the characters above mentioned, and in its white flowers, but also in its much narrower bracts, more aristate sepals, which never terminate in a blunt appendage, and in its broader and shorter labellum.

33. *ORCHIS globosa. Linn. Sp. Pl. 1332.*

O. folio inferiore oblongo obtuso superioribus lanceolatis acutis, spicâ subgloboâ, sepalis aristatis apice sæpè appendiculatis, labelli trilobi angustis lobis lateralibus truncatis divergentibus intermedio rhomboideo emargi-

nato cuspidato brevioribus, calcare labello brevior, bracteis linearilanceolatis herbaceis floribus brevioribus.

O. globosa. Jacq. *Fl. Austr.* t. 265. Willd. *Sp. Pl.* 4, 14. *Rchb. Pl. Crit.* VI. 767.

Nigritella globosa. *Rchb. Fl. Excurs.* 121. *Mayrhof. Dissert.* 31.

O. Halleri. *Crantz. Stirp. Austr.* 488.

Hab. in *Germania media et Australi*, et *Helvetia*; necnon in *Caucaso*, *Wilhelm* (*hab. s. sp.*)

Caulis in locis demissioribus pedalis et altior, in alpinis vix semipedalis, erectus, teres, foliosus. Bracteæ lanceolatæ virides, germen subæquantes. Flores leviter odori, colore *O. variegatæ*, plerumque resupinati, rariùs recti. Sepala ex purpureo carnea, ovata, longè acuminata, apice incrassata, medium brevius. Petala sepalis breviora, acutiora. Labellum perigonio concolor, punctis purpureis notatum; laciniæ laterales lineares, media latior, longior, emarginata ut plurimum cum denticulo in emarginatura. *Mayrhofer.*—Sepala et apex labelli sæpè in appendicem spatulatam laceram producuntur, quod non vidi in *O. sphaerica*. Labellum punctis minutis acutis crystallinis pruinosis.

I do not perceive upon what ground this species has been referred to *Nigritella*. As limited by Richard, that genus is perfectly natural; but if its character is extended to receive this, it must then be merged in *Orchis*. The truly posterior labellum of *Nigritella* is very different from that of *O. globosa*, which is as often anterior as posterior, and has all the fleshiness of *Orchis*.

34. *ORCHIS conica.* Willd. *Sp. Pl.* 4, 14.

O. "labello tripartito, laciniâ mediâ elongatâ apice dilatâ emarginatâ, petalis conniventibus aristatis, cornu germine brevior, spicâ densâ conicâ, foliis ovatis." Willd.

? *O. globosa.* *Brotero, Fl. Lus.*

Hab. in *Lusitania*, Link.

"Media ferè inter *O. globosam* et *acuminatam.*" W.——. An *O. variegatæ* repellenda?

35. *ORCHIS variegata.* Jacq. *Ic. Rar. t.* 599.

O. foliis oblongo-lanceolatis acutis, spicâ corymbosâ, sepalis acuminatis, labello calcari rectiusculo pendulo æquali: laciniis denticulatis lateralibus obliquè truncatis intermediæ cuneatæ bilobæ subæqualibus, bracteis aristatis ovario longioribus.

O. variegata. *Hall. Helv. no.* 1275, t. 30. Willd. *Sp. Pl.* 4, 21. *De Cand. Fl. Fr.* 3, 248. *Bieb. Fl. Taur. Cauc.* 2, 366. *Bot. Reg. t.* 367. *Rchb. Fl. Excurs.* 124. *Mayrhofer Dissert.* p. 20.

O. tridentata. *Scopol.*

Hab. in *Europa Australi*; Gallia, *De Cand.*; *Germania*, *Rchb.*; *Sicilia*, *Tenore*; necnon in *Tauriæ* et *Caucasi* sylvis *Bieberst.* *Iberiaque*, *Steven* (*hab. s. sp.*)

Variat labelli laciniis lateralibus brevioribus, intermediâque altius fissâ *O. militaris* more; semper dignoscitur spicâ subcorymbosâ, bracteisque longis aristatis. Caulis 6-12 uncias altus. Folia immaculata. Flores violacei. "Petala cum sepalo impari intus linea atropurpurea, sepala lateralia duabus ejusmodi lineis notata. Labellum planum pallidè carneum, punctis crebris saturatè rubris elegantè variegatum. Calcar striatum." *Mayrh.*

36. *ORCHIS taurica*.

O. foliis oblongo-lanceolatis laxè vaginantibus in caulem ascendentibus, spica pyramidalis, sepalis oblongis acutis, labello calcaris rectiusculo subhorizontali æquali: laciniis integris lateralibus acutis apice incurvis intermediâ cuneatâ apice dilatatâ tridentatâ multò brevioribus, bracteis lineari-lanceolatis acuminatis ovario longioribus.

O. pyramidalis. *Bieb. Fl. Taur. Cauc.* 2, 363.

Hab. in *Tauriæ* et *Caucasi* nemorosis, *Bieberstein* (*hab. s. sp. comm. cel. Prescott.*)

O. variegatæ affinis, characteribus supra datis facile distinguenda. Flores purpurei sec. *Bieberst.*

37. *ORCHIS militaris*. *Linn.!* *Sp. Pl.* 1334.

O. foliis oblongo-lanceolatis acutis, spicâ cylindraceâ, sepalis acutis obtusisve, labello medio pubescente calcare pendulo incurvo v. rectiusculo duplò longiore: laciniis lateralibus linearibus intermediâ cruribus divergentibus truncatis pluriveniis, bracteis brevissimis.

α. *vera*; sepalis obtusis, labelli lacinia intermedia lineari biloba: cruribus plus minus oblongis divaricatis.

O. militaris. *De Cand. Fl. Fr.* 3, 248 (α.) *Jacq. Ic. Rar.* 4, t. 598. *Eng. Bot. t.* 2675.

Smith, Eng. Fl. 4, 14. *Rchb. Pl. Crit.* 8, t. 701. *Fl. Excurs.* 125. *Mayrhof. Dissert.* 20.

O. cinerea. *Suter, sec. Rchb.*

O. Rivini. *Gouan, illustr.* 74. *Sweet, Brit. Fl. Gard.* 2, t. 162. *Hall. Helv. t.* 27, *sinistr.*

β. *galeata*; sepalis acutissimis, labelli lacinia intermediâ cuneatâ bilobâ: cruribus brevibus truncatis.

O. *galeata*. *Lam. Dict.* 4, 593. *De Cand. Fl. Fr.* 3, 249. *Rchb. Fl. Excurs.* 125. *Tenore, Sylloge.* p. 454.

O. mimusops. *Thuillier, Fl. par.* 1, p. 458, *ex D. C.*

? O. militaris. *Bieberst. Fl. Cauc.* 2, 365. *Sweet, Brit. Fl. Gard.* 2, t. 163. *Hall. Helv. t.* 28.

γ. *hybrida*; labello tripartito punctato-scabro, laciniis remotis linearibus mucrone intermedio elongato reflexo, calcare recto, *Bönnigh. ex Rchb. Fl. Excurs.* 125 (*Orchis hybrida*.)

Hab. α. per omnem *Europam* mediam et temperatam; etiam in *Grusia*, *Steven*, *montibus altaicis*, *Fischer*; β. in *Germania Australi*, *Gallia*, et *Helvetia*, *Rchb. D. C. Haller*; γ. in *Thuringia* et *Bohemia*, *Rchb.* (*hab. α. et β. s. sp. et v. α. sp.*)

Caulis pedalis et ultra. Folia lucida, immaculata. Spica densa, oblonga, floribus nunquam siccatione fuliginosis. Bracteæ purpureæ. Flores lilacini, rosei, v. albi. Sepala sæpiùs venosa. Labellum medio decolor, apicibus coloratis, punctis quibusdam hispidis cruentis conspersum, per axin pubescens; mucrone longitudine et formæ vario inter crura interjecto.

There can, I think, be little doubt that the synonyms above quoted are rightly referred to this plant; it seems to me quite impossible to depend upon minute differences in the structure of the lip for the discrimination of species, and it is only in such circumstances that it has been pretended to distinguish them. O. *galeata* approaches O. *variegata* in the form of its lip, but it wants the long bracts of the latter species, and has altogether the habit of O. *militaris*. Of O. *hybrida* I have met with no specimen; and I should have suspected it to be rather a form of O. *tephrosanthos*, if *Reichenbach* had not compared it, on the one hand, with O. *fusca*, and on

the other, with *O. militaris*; adding, that the lip is "imprimis nervoso-lineatum."

The Orchis figured in Eng. Bot. t. 1873, referred by Mr. Bicheno to *O. militaris*, by Dr. Hooker to *O. tephrosanthos*, and made a distinct species, *O. Smithii*, by Sweet, does not appear to me to represent any known species.

38. *ORCHIS fusca*. Jacq. *Austr. t.* 176.

O. foliis oblongis versus basin angustatis, spicâ longâ cylindraceâ multiflorâ siccatione fuliginosâ, sepalis ovatis obtusis, labello medio pubescente calcare brevi pendulo incurvo duplo longiore: laciniis lateralibus linearibus intermediâ obcordatâ, bracteis obsoletis.

O. fusca. Hall. *Helv. no.* 1276, t. 31. Willd. *Sp. Pl.* 4, 23. Bieb. *Taur. Cauc.* 2, 366. Hooker, *Fl. Lond. c. ic.* Smith, *Eng. Flora*, 4, 13. Rchb. *Fl. Excurs.* 125. Mayrhofer. *Diss.* 21.

O. moravica. Jacq. *Ic. Rar.* 1, t. 182. Rchb. *l. c.*

O. purpurea. Huds. *Fl. Angl. ed.* 1, p. 334.

O. militaris. De Cand. *Fl. Fr.* 3, 248. Eng. *Bot. t.* 16.

Hab. in Gallia, Germania, Helvetia, Anglia; nec non in Tauria meridionali, Bieb. (*hab. s. sp. et v. v.*)

Omnium Europæ Orchidum maxima et pulcherrima. Scapus pedalis, bipedalis et altior, crassus, firmus, supernè aphyllus. Folia maxima, rigidiuscula, splendentia. Spica omnium speciosissima, conferta, longa, ante anthesin atrofusca. Bracteæ parvæ. Perigonii phylla in galeam conniventia, extus atrofusca, intus pallidiora. Labellum planum, firmum, latum, candidum, punctis hispidis purpureis scabrum: laciniæ laterales divergentes, lineares, longæ, media anticè dilatata, biloba, segmentibus valde divergentibus antice sæpiùs serratis. Mayrhofer.

39. *ORCHIS Comperiana*. Steven, *Obs. in Pl. Ross. in Act. Mosq.* 7, p. 63, t. 12.

O. foliis ovato-lanceolatis, spicâ rariflorâ, sepalis obtusiusculis, labello quadrifido laciniis longissimis setaceis, calcare pendulo ovarii longitudine, bracteis ovario longioribus.

Hab. in nemorosis vallis Laspi, Tauriæ meridionalis, Steven.

Planta speciosissima facie ferè Himantoglossi hircini; an ejusdem generis?

40. *ORCHIS longibracteata*. Bivona, *Cent. Sic.* 1, no. 66, t. 4.

O. foliis oblongis basi angustatis, spicâ longâ multiflorâ, sepalis obtusissimis patulis, labello carnoso basi crispo calcare brevi crasso conico quadruplo longiore; laciniis obtusis crenatis, bracteis florem excedentibus.

a. Sicula; laciniis labelli lateralibus abbreviatis.

O. longibracteata. Bot. *Reg. t.* 357. Rchb. *Fl. Excurs.* 125.

β. Gallica; laciniis labelli lateralibus linearibus elongatis.

O. Robertiana. Lois. *Fl. Gall.* p. 606.

Hab. in Sicilia, Italia, et Gallia meridionali (*hab. s. sp.*)

Species habitu *O. fuscæ*, sed flores duplo majores, viridi-purpurascens labio pallido fusco marginato rubro maculata.

In *O. longibracteata sicula* flores minores sunt quam in *O. Robertiana*; species tamen distinguere vix merentur.

41. ORCHIS undulatifolia. *Bivona, Cent. 2, n. 61, c. ic.*

O. foliis oblongo-lanceolatis undulatis obtusis, spicâ crassâ subcorymbosâ, sepalis acuminatis, labello calcare pendulo incurvo triplo longiore: laciniis omnibus linearibus acuminatis, bracteis brevissimis.

O. undulatifolia. *Flora Græca, tab. 927. Rchb. Fl. Excurs. 124.*

O. tephrosanthos. β . undulatifolia. *Bot. Reg. t. 375.*

O. tephrosanthos. *Desf. Fl. Atl. 2, 318.*

Hab. per omnem *Europam meridionalem*; circa *Constantinopolim*, *Domina Liston*; in *Barbaria*, *Desf. (hab. s. sp.)*

42. ORCHIS longicuris. *Link. in Schrad. Diar. 1799, p. 323. Willd. Sp. Pl. 4, 22. Tenore Sylloge. p. 454.*

Hab. in *Lusitania*, *Link.*; in nemoribus *Lucaniæ*, *Tenore.*

Ab. *O. undulatifolia* differt foliis planis ovatis, floribus purpureis duplo minoribus, labii laciniis angustioribus, spicâ pyramidatâ non globosâ.

Ab. *O. tephrosanthos* labii laciniis rectis lanceolatis acuminatis facillimè dignoscitur. *Tenore, l. c.*

43. ORCHIS tephrosanthos. *Villars, Delph. 2, 32.*

O. foliis oblongo-lanceolatis acutiusculis, spicâ cylindraceâ crassâ, sepalis acuminatis, labello medio hispido calcare pendulo incurvo duplè longiore: laciniis linearibus cruribus intermediæ univeniis, bracteis brevibus obtusis.

a. vera; laciniis filiformibus acutis.

O. tephrosanthos. *Desf. Atl. 2, 319. Willd. Sp. Pl. 4, 21. Rchb. Fl. Excurs. 124. Bieb. Taur. Cauc. 2, 364. Hooker, Bot. Mag. 3426.*

O. simia. *Lam. Dict. 4, 593. De Cand. Fl. Fr. 3, 249.*

O. zoophora. *Thuill. Fl. par. 1, 459.*

O. cercopitheca. *Lam. Dict. 4, 593.*

β . *macrophylla*; cruribus abbreviatis truncatis.

Hab. *a.* in *Gallia*; *Germania*; *Helvetia*; necnon *Caucaso* et *Iberia* prope *Tifin*, *Prescott*; β . *Caucaso*, *Wilhelm. (hab. s. sp.)*

O. *militari* similis, sed minor et cruribus labelli constanter univeniis angustissimis linearibus facilè distinguenda. Flores lætiùs colorati magisque variegati.

44. ORCHIS macra. *Lindl. Synops. ed. 2, p. 260.*

O. foliis lineari-oblongis obtusis, spicâ angustâ pauciflorâ, sepalis acuminatissimis, labello calvo crystallino-verrucoso calcare pendulo rectiusculo duplè longiore: laciniis linearibus acutis cruribus intermediæ univeniis, bracteis brevibus acuminatis.

O. tephrosanthos. *Bicheno in Linn. Trans. XII. 33. Hooker, Fl. Lond. c. ic. Smith, Eng. Fl. 4, 16. Hooker, British Flora, 371.*

Hab. in *Anglia*. (*h. s. sp. comm. cel. Bicheno.*)

Caulis gracilis subpedalis, foliis sæpius versus apicem parum angustatis obtusis. Spica macra, pauciflora. Flores pallidè purpurei, rosei, vel albi sanguineo punctati.

45. ORCHIS punctulata. *Steven in Herb. Hooker.*

O. foliis oblongis obtusis superioribus angustioribus, spicâ cylindraceâ, sepalis acuminatis, labello medio pubescente carnoso calcare incurvo

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apice dilatato triplò longiore: laciniis lateralibus linearibus incurvis intermediâ cuneatâ retusâ cum apiculo, bracteis brevissimis.

Hab. in *Tauria meridionali*, Steven. (exam. s. sp. in herb. Hooker.)

Valde affinis *O. militari*; sed differre videtur calcare minus acuto, spicâ minus densâ. Laciniæ laterales labelli intermediâ breviores, læves nec papillosæ, univeniæ.

46. *ORCHIS intacta*. Link. in Schrad. Diar. 1799, p. 322.

O. spica densiuscula, sepalis conniventibus acutis, labello tripartito laciniis subæqualibus intermediâ lineari apice tridentatâ, calcare brevissimo, bracteis ovario duplò brevioribus.

O. intacta. Willd. Sp. Pl. 4, 21.

Hab. in *Lusitania*, Link.

Accedere dicitur ad *O. tephrosanthos*, inter alia flore multo minore differt.

47. *ORCHIS ustulata*. Linn.! Sp. 1333.

O. foliis ovato-oblongis acutis, spicâ angustâ cylindraceâ densâ obtusâ, sepalis ovatis obtusis, labello calcare brevi uncinato triplo longiore: laciniis punctato-scabris linearibus intermediæ bilobæ cruribus truncatis, bracteis acuminatis ovario longioribus.

O. ustulata. Willd. Sp. Pl. 4, 20. Eng. Bot. t. 18. Hooker, Fl. Lond. c. ic. Eng. Flora, 4, 12. De Cand. Fl. Fr. 3, 247. Rehb. Pl. Crit. 6, t. 569. Fl. Excurs. 124. Mayrhof. Diss. 19.

O. amœna. Crantz. Austr. p. 490.

O. Columnæ. Schmidt. Bohem. no. 58, sec. Rehb.

? *O. imbricata*. Vest. sec. Rehb.

O. parviflora. Willd. Sp. Pl. 4, 27, fide Tenorii, App. Pr. 65.

Himantoglossum parviflorum. Spreng. Syst. 3, 694.

Hab. in *Europa*; *Angliæ*, *Galliæ*, *Germaniæ*, *Helvetiæ* pratis et montibus sæpius in solo cretaceo. (v. v. sp. et h. s. sp.)

Palmaris. Galea purpureo-viridis; labellum cinereum maculatum. Labellum aliquando duplò latius est, laciniis lateralibus biveniis truncatis.

Species dubia.

ORCHIS hyemalis. Ralinesque in Museum of Nat. Sc. of the American Monthly Magazine and Critical Review, New York, 1817, as quoted by himself in Florula Ludoviciana, 168.

Hab. in *Sicilia*.

CLXX. ANACAMPTIS.

Anacamptis. Richard, Orch. Europ. 25.

Omnia *Orchidis*; sed lamellæ 2 ad basin labelli, nunc in unam coalitæ. Labellum semper 3 lobum.

1. *ANACAMPTIS pyramidalis*. Rich. l. c.

A. spicâ densâ pyramidalis, labelli lobis subæqualibus intermedio truncato: lamellis distinctis apice divergentibus.

Orchis pyramidalis. Linn. &c.

Orchis condensatâ. Desf.! Fl. Atl. 2, p. 316. Willd. Sp. Pl. 4, 32.

Orchis brachystachys. D'Urville in Act. Linn. par. 1, 377.

Hab. per omnem *Europam* mediam et australem; etiam in *Atlantide*.
(*v. v. sp.*)

Orchis condensata, a Desf. ipso in herb. Lehmann, nullo modo differt ab *A. pyramidalis*.

2. ANACAMPTIS quadripunctata.

A. "labio trilobo plano lobis æqualibus, medio submarginato subquadripunctato, petalis patentibus ovalibus obtusis, cornu recto filiformi germine longiore, spicâ multiflorâ oblongâ, floribus minutis bracteisq. concoloribus rubris violaceisque." *Tenore*.

Orchis 4-punctata. *Ten. Fl. Neap. Prodr. Pr.* 53. *Fl. Neap.* 2, 291, t. 89. *Syll.* 452.

Hab. in pascuis montosis *Apulia*, *Tenore*; in *Creta*, *Zuccarini*. (*v. s. sp. in herb. Martii.*)

Differt ab *A. Brancifortii* sec. cel. *Tenore* calcare ovario longiore, labelli lobo medio lateralibus æquali, sepalis lateralibus intermedio longioribus.

I have examined a single specimen of this rare plant in the Herbarium of Dr. von Martius, and it certainly agrees with the observations of M. *Tenore*. I, however, doubt very much whether it can be considered more than a variety of *A. Brancifortii*.

3. ANACAMPTIS Brancifortii.

A. spicâ laxâ elongatâ, labelli lobis omnibus acutis: lamellis in unam hipocrepicam coalitis.

Orchis bipunctata. *Raf. in Journ. Bot.* 4, 272, sec. *Raf. ipsum*. *Bivona!* in *Herb. Smith. Orchis Brancifortii*. *Bivon. Pl. Sic.* 1, t. 1, f. 2. *Tenore, Syll.* p. 452.

Hab. in *Sicilia*, *Bivona*, &c. (*hab. s. sp. comm. cel. Tineo.*)

Planta palmaris. Folia omnia radicalia. Bracteæ oblongæ, cuspidatæ, purpureæ ovario duplò breviores. Flores parvi petalis convergentibus sepalis duplò minoribus.

CLXXI. GYMNADENIA.

Gymnadenia. *R. Brown in Hort. Kew.* 5, 191. *Rich. Orch. Annot.*

Flos Orchidis. Loculi antheræ paralleli, contigui, basi nunquam elongati; rostello minimo complicato. Pollinia glandulis nudis.

It is scarcely possible to find any very precise limits between this genus and *Platanthera*; nor is there any character that can be trusted, except the plicature of the rostellum and the parallel contiguous bases of the anther-cells. Even the stigmatic processes of *Habenaria* and its allies are to be remarked in almost every species of *Gymnadenia*; only in most cases in adhesion with the stigma itself.

1. GYMNADENIA conopsea. *R. Br. in Hort. Kew.* 5, 191.

G. foliis angustis obtusis in caule acuminatis, spicâ densâ cylindraceâ, sepalis lateralibus patentibus, labelli trilobi lobis obtusis integerrimis æqualibus, calcare arcuato filiformi ovario duplò longiore.

Orchis conopsea. *Limn. Sp. Pl. Willd. Sp. Pl.* 4, 32. *Eng. Bot.* t. 10. *Fl. Dan.* t. 224. *Hooker in Fl. Lond. c. ic.*

Satyrium conopseum. *Wahl. Fl. Suec.* 557.

Orchis ornithis. *Jacq. Austr.* II, t. 138. *Willd. Sp. Pl.* 4, 32.

Gymnadenia ornithis. *Richard, Annot. Richb. Fl. Exc. Mayrhofer, Dissert. p. 28.*

β. densiflora; spicâ prælongâ cylindraceâ, lobo intermedio labelli cuneati minore.

Orchis densiflora. *Wahlenb. Vet. Act. Holm. 1806, p. 68.*

Satyrium conopseum, β. Wahl. Fl. Succ. 558.

Hab. in pascuis *Europæ et Asiæ* temperatæ. *β. in locis fertilissimis insularum Gotlandiæ et Oelandiæ* copiosè. (*v. a. v. sp.; v. β. s. sp. in herb. Lehmann.*)

Calcar germine sæpe duplò longius, sed interdum ex. gr. in paludibus *Laponiæ* eodem revera brevius, ut in ejus longitudine vix differentia speciei, multo minus character generis. *Wahl.*

I have no hesitation in considering the *O. ornithis* of Jacquin a mere white-flowered variety; it appears from Mayrhofer that it has never been seen since three specimens were gathered in 1774 on Mount Schneeberg; and it is evident that its real distinction from *G. conopsea* consists in its supposed oval and undivided tubers; but it is more probable that the figure in the *Flora Austriaca* is inaccurate in this respect, than that the species should, if it really exists, have never been rediscovered for more than half a century.

2. GYMNADENIA humilis.

G. foliis lineari-oblongis acutis, spicâ laxâ pauciflorâ, sepalis petalisque ovatis obtusis, labello subrotundo trilobo sepalis æquali: lobis rotundatis medio emarginato, calcare subulato ovario elongato vix æquali, bracteis lineari-subulatis ovario brevioribus, tuberculis indivisis.

Orchis Nicodemi. Tenore, Fl. Neap. Prodr. p. 53. Fl. Neap. 2, p. 290, t. 90. Sylloge, p. 453.

Orchis Hostii. Tratt. ex Richb. Fl. Exc. 123.

Hab. in pascuis siccis *Apuliæ, Tenore; Dalmatia, Richb. (exam. s. sp. in Hb. Lehm.)*

Sic vidi in exemplare a capite *Malessa* in herb. *Lehm.* *Planta humilis est et gracilis facie G. conopsea depauperatæ. Calcar quod sec. cel. Tenorium horizontale est, et cel. Reichb. ovario longius, invenio subulatum dependens ovario longissimo brevius. An planta Reichenbachiana omnino eadem. Descriptionem laudati auctoris subjungo.*

“*Habitus O. masculæ sed humilior; folia breviora, superiora arcuè vaginantia, spicâ laxâ, flores minores teneriores purpurei sepalis obtusis, labio breviora, calcare ovarioque longissimo gracili distinctissima.*” *Richb.*

It is impossible to reconcile the two foregoing accounts of this plant. But I suspect that *Anacamptis 4-punctata* is sometimes called *Orchis Nicodemi*; at least, a specimen of it so labelled is in Smith's Herbarium; and if so, it is not improbable that the plant which *Richb.* had in view was *Anacamptis 4-punctata*.

3. GYMNADENIA comigena. *Richb. Fl. Exc. 121.*

G. “labio trilobo calyce breviora lobis lateralibus divaricatis, calcare ovarium æquante.” Richb.

Hab. in *Thuringia, Richb.*

“*Habitus G. conopsea sed robustior et flores ex omni parte breviores, unde*

spica insigniter condensata; bracteæ longè ultra alabastra productæ, demum ovarium subæquantes."

4. GYMNADENIA ? elata.

G. ? labello obcordato crenato, cornu subulato dependente.

Orchis elata. *Poiret. Itin.* 2, p. 248. *Desf. Atl.* 2, 317. *Willd. Sp. Pl.* 4, 26.

Hab. in *Barbaria*, *Poiret.*

Caulis 2-pedalis et ultra. Spica florum 8-pollicaris. Flores densè conferti violacei. Bracteæ lanceolatæ floribus multo longiores. Labellum emarginatum, denticulatum, obcordatum. Calcar longum, subulatum, pendulum, cauli admodum.

5. GYMNADENIA sibirica. *Tourchaninoff MSS.*

G. foliis angustis obtusis in caule acuminatis, spicâ densâ cylindraceâ, sepalis lateralibus patentibus, labelli trilobi lobis subæqualibus lateralibus rotundatis crispis intermedio integerrimo acutiusculo, calcare arcuato filiformi ovario longiore.

Hab. in *Siberia*, *Tourchaninoff.* (*hab. s. sp. comm. cel. Prescott.*)

Fortè mera *G. conopsea* varietas, diversa tamen labello.

6. GYMNADENIA odoratissima. *Rich. Annot.*

G. foliis angustis acutis in caule acuminatis sæpè gramineis, spicâ densâ cylindraceâ, sepalis lateralibus patentibus, labello oblongo rotundato plano obscurè trilobo, calcare filiformi ovario brevior.

Orchis odoratissima. *Linn. Sp. Pl.* 1335. *Jacq. Fl. Austr. t.* 264. *Willd. Sp. Pl.* 4, 32. *Gymnadenia odoratissima. Rchb. Pl. Crit. VI. t.* 814. *Fl. Exc.* 121. *Mayrhofer, Dissert.* 26.

Satyrium odoratissimum. Wahl. Fl. Suec. 557.

β. spicâ laxiore, bracteis magis foliaceis, floribus paulo majoribus.

O. erubescens. *Zuccarini!*

G. suaveolens. *Rchb. Fl. Exc. p.* 121, *excl. synonym. Villarsii ad Nigritellam fragrantem pertinente.*

γ. labello latiore lobis distinctis rotundatis.

O. iberica. *Prescott in Litt. vir. Bieb.*

Hab. in pascuis apricis subalpinisque *Europæ mediæ Asiæque occidentalis*; β. in alpinis *Germaniæ.* (*h. s. sp.*)

7. GYMNADENIA tridentata.

G. folio solitario radicali oblongo obtuso; caulinis 2-3 multò angustioribus et minoribus, spicâ brevi laxiusculâ, sepalis campanulatis, labello plano truncato obsolete tridentato sepalorum longitudine, calcare filiformi arcuato ovario paulò longiore.

Orchis tridentata. *Willd. Sp. Pl.* 4, 41. *Pursh. Fl.* 2, 587.

Habenaria tridentata. *Hooker, Exot. Fl. t.* 81.

Orchis clavellata. *Michx. Fl. Am. Bor.* 2, 155. *Willd. Sp. Pl.* 4, 10. *Pursh. Fl.* 2, 586. *Nutt. Gen.* 2, 189. *Elliott, Sketch.* 2, 486.

Hab. in *America septentrionali: Georgia et Carolina, Michaux, Elliott; Canada, Goldie.* (*exam. s. sp. in hb. Boott.*)

It appears from the researches of Dr. Boott, that *Orchis clavellata* and *tridentata* ought probably to be reduced to one species. This gentleman has been so obliging as to favour me with the following note upon the subject.

“ I have specimens of *O. clavellata* from Nuttall, marked on his ticket ‘ *O. tridentata*,’ and on reference to his book I find he gives it as a variety of *O. clavellata*, not admitting, therefore, Michaux’s plant ‘ *labello integro*,’ as observed by himself.

“ Elliott quotes *O. tridentata* as a synonym of his *O. clavellata*, and, giving Michaux’s character, as the specific one, says, from his own observation that the *labelum* is ‘ slightly three-toothed at the summit.’

— “ Willdenow merely copies Michaux for *O. clavellata*.

“ I suspect, therefore, that there is an error in Michaux’s description of the plant, viz. that he has overlooked the toothed extremity of the *labelum*, and that his specimen was small, which his ‘ *scapo unifolio*’ leads me to suspect.

“ Eaton, in his Manual, gives *O. tridentata* as a synonym of *O. clavellata*; and I observe in a Catalogue of Plants made in Kentucky by Dr. Short, that he has the *O. tridentata*, a situation near Elliott’s habitat for his *O. clavellata*; viz. ‘ the middle and upper districts of Georgia and Carolina.’

“ All this amounts to a probability of the *tridentata* being the same as Michaux’s plant. If distinct, it would seem no one has met with the true *clavellata* since Michaux, not even Elliott.”

8. *GYMNADENIA cylindrostachya*. Lindl. in Wall. Cat. no. 7056.

G. caule folioso, foliis oblongo-lanceolatis basi angustatis, spicâ densâ cylindraceâ, sepalis lateralibus pendulis, petalis rhomboideis hinc in angulo acuto productis, labello oblongo trilobo: lobis lateralibus acutis intermedio rotundato medio unicalloso, calcare filiformi ovario longiore.

Hab. in India septentrionali (loco incerto) Wallich. (h. s. sp. e mus. Ang. Ind.)

Obs. Calli adsunt duo ad basin labelli. Lobi laterales stigmatis molles et succulentis.

9. *GYMNADENIA violacea*.

G. caule folioso, foliis oblongis acutis parùm decrescentibus, spicâ densâ oblongâ, bracteis foliaceis floribus longioribus, sepalis patulis lateralibus acutis, petalis oblongis obtusis, labello subrotundo tridentato, calcare filiformi pendulo ovario longiore.

Hab. in India septentrionali, agro Mussunensi, Royle. (exam. s. sp. et v. ic. pict. in hb. Royle.)

Folia atroviridia. Flores plumbeo-violacei unicolores. Exemplar unicum vidi.

10. *GYMNADENIA Orchidis*.

G. caule folioso, foliis oblongis erectis acutis, spicâ densâ cylindraceâ, bracteis foliaceis floribus longioribus, sepalis obtusis patulis, petalis oblongis obtusis, labello subcuneato trilobo lobis subæqualibus truncatis denticulatis, calcare filiformi pendulo ovario longiore.

Platanthera Orchidis. Lindl. in Wall. Cat. no. 7039.

Hab. Gossainthan et Kamoon, Wallich. (hab. s. sp. e mus. Angl. Ind.)

11. *GYMNADENIA*? *flexuosa*. Ach. Rich. Orch. Maur. 27.

G. foliis binis radicalibus erectis secundis (?), caule flexuoso bisquamato,

spicâ brevi ovatâ, labelli trilobi lobis obtusis, calcare filiformi labelli longitudine.

Satyrium flexuosum. *Thouars. t. 7.*

Hab. in *Mauritio*, Thouars.

Cum sequente, generis valdè incerti; an *Peristyli* species.

12. GYMNADENIA rosellata. *Ach. Rich. Orch. Maur. 27.*

G. foliis pluribus ovato-oblongis acutis rosulatis, caule vaginato, spicâ angustâ, labelli trilobi lobis obtusis, calcare filiformi ovario brevior.

Satyrium rosellatum. *Thouars. t. 8.*

Habenaria Mascarenensis. *Spreng. syst. 3. 690.*

Hab. in *Borbonia*, Thouars.

Flores minuti. An hujus generis? an *Platanthera*? Secundum Ach. Richard genitalium fabrica eadem ac in *Cynorchidibus* quibusdam.

13. GYMNADENIA cucullata. *Rich. Annot. Reichenb. Pl. crit. v. 1. t. 816.*

G. foliis radicalibus 2 oblongis aut orbiculato-ovatis submembranaceis, caule vaginâ solitariâ acuminatissimâ, spicâ secundâ, sepalis petalisque erectis in galeam cohærentibus, labello tripartito horizontali lobis filiformibus intermedio lineari longiore, calcare ascendente obtuso labello supposito et brevior.

Orchis &c. *Gmetin fl. sib. 1. p. 16. t. 3. f. 2.*

Orchis cucullata. *Linn. sp. pl. 1332. Willd. sp. pl. 4. 13. Ledeb. fl. alt. 4. 170.*

Himantoglossum cucullatum. *Rehb. fl. excurs. 120.*

Hab. in muscosis rupium *Europæ* orientalis et omnis *Siberiæ*. (*hab. s. sp. comm. cel. Prescott.*)

41. GYMNADENIA flava.

G. folio inferiore ensiformi stricto ferè caulis longitudine: caulinis multo minoribus canaliculatis acuminatis supremis minimis, spicâ densissimâ conico-cylindraceâ, labello oblongo acuto margine denticulato calcare pendulo infundibulari apice incurvo subæquali.

Orchis flava. *Nutt. gen. am. 2. 188. Elliott Sketch 2. 485.*

Habenaria Elliottii. *Beck Bot. N. et. M. Amer. 348.*

Orchis integra. *Nutt. gen. Amer. 2. 188.*

Habenaria integra. *Spreng. Beck. l. c.*

Hab. in locis depressis; *Pennsylvania*, Boott; *Carolinæ et Georgia*, Elliott; *New Jersey*, Nuttall; *Alabama*, Drummond; *Florida*, Alden. (*hab. s. sp. comm. cel. Boott, Torrey, &c.*)

I discover no difference worth noting between the two supposed species here united: the lip in *G. integra* is perhaps a trifle more entire than in *G. flava*.

15. GYMNADENIA macrantha.

G. caule folioso, foliis oblongis acutis patentibus, spicâ laxâ, bracteis foliaceis floribus æqualibus, sepalis angustis patentibus acutis, petalis subfalcatis, labello obcordato convexo calcari crasso infundibulari pendulo acuto subæquali.

Hab. in *Sierra Leone*, *Domina Turner*. (*exam. s. sp. in herb. Hooker.*)

Caulis sesquipedalis. Flores maximi, lilacini, distantes; labellum ferè unciam longum. Anthera omnino *Gymnadeniæ*, auriculis duabus ut in *Habenariis*.

16. GYMNADENIA Chusua. *Lindl. in Wall. cat. no. 7058.*

G. caule 1-2-phylo, foliis ovato-lanceolatis acutis, spicâ secundâ 3-5-florâ, bracteis foliaceis acuminatis floribus longioribus, sepalis lateralibus reflexis, labello oblongo convexo 3-lobo lobis subæqualibus lateralibus denticulatis, calcare recto apice incrassato paulo brevior.

Gym. puberula. *Lindl. in Wall. cat. no. 7059.*

Orchis chusua. *Don. prodr. nep.*

Hab. in *Gossain Than, Wallich. (hab. s. sp. e. mus. Angl. Ind.)*

Caulis vix ultra spithamam altus, sæpè brevior. Flores majusculi. Labellum ferè semunciam longum.

17. GYMNADENIA pauciflora.

G. caule 2-phylo bifloro, foliis lineari-lanceolatis distantibus internodiis brevioribus, bracteis ovato-lanceolatis foliaceis floribus subremotis longioribus, sepalis acutis lateralibus reflexis, petalis conniventibus obtusis, labello cuneato quadridentato pubescente calcare subhorizontali rectiusculo brevior.

Orchis pauciflora. *Fisch. Mss.*

Hab. in *Dahuria, Fischer. (hab. s. sp. comm. cel. Fischer.)*

Spithamæa. Folium majus 2 poll. longum. Flores violacei magnitudine G. Chusua. (Tubercula dicuntur globosa minuta, *Fischer.*)

18. GYMNADENIA spathulata.

G. caule nudo folii solitarii spathulati obtusi longitudine, spicâ densâ secundâ 3-4-florâ, bracteis foliaceis obtusis floribus longioribus, sepalis petalisque obtusis, labello oblongo concavo crenulato calcare recto duplo longiore.

Hab. in *India septentrionali, in Kedarkanta, Royle. (hab. s. sp. comm. cel. Royle.)*

§ *Labellum posticum.*

19. GYMNADENIA conica.

G. foliis linearibus acuminatis sensim in squamis acuminatis angustatis, racemo conico, sepalis lateralibus contortis petalisque obtusissimis, labello postico lineari, calcare ascendente filiformi, ovario recto.

Hab. in *Florida, Cozzens. (exam. s. sp. in herb. Torrey.)*

Facies omnino G. nivea, qua differt floribus aureis, labello lineari, sepalis lateralibus minoribus spicâque conicâ. Ovarium etiam pruinâ eget, et processus papillis; auriculæque antheræ formam ovatam habent nec transversam obtusissimam,

20. GYMNADENIA nivea.

G. foliis linearibus acuminatis sensim in squamis acuminatis angustatis, racemo denso cylindraceo, sepalis lateralibus contortis supremo petalisque obtusissimis patentibus duplo majoribus, labello postico ovato, calcare ascendente filiformi, ovario recto.

Habenaria nivea. *Spreng. syst. 3.*

Orchis nivea. *Nutt. gen. Amer. 2, 188. Elliott Bot. Carol. et Georg. 2, 485.*

Hab. in *Florida occidentali Nuttall; Georgia, prope Sunbury Le Comte. (hab. s. sp. comm. cel. Torrey.)*

Sesquipedalis, gracilis, facie exemplaris macilenti *Gymnadeniæ flavæ*

Flores parvi, nivei. Sepala et petala membranacea. Anthera minima; auriculis duabus (st. ster.) magnis latis. Processus carnosi os calcaris tegentes, acuti, intus papilloso. Ovarium pruinosum.

CLXXII. PERULARIA.

Perularia. *Lindl. in Bot. Reg.* 1701.

Sepala lateralia deflexa. Petala carnosae, sepalo supremo libera. Label- lum calcaratum, carnosum, integrum. Anthera recumbens, nana. Polliniorum glandulæ in bursiculis duabus distantibus bivalvibus inclusæ. Rostellum plicatum.—Herba Orchidis.

1. PERULARIA fuscescens.

Orchis fuscescens. *Linn. Sp. Pl.* 1336. *Willd. Sp. Pl.* 4, 35.

Orchis, &c. *Gmel. Fl. Sib.* 1, p. 20, t. 4, f. 2.

Hab. in Sibiria prope fl. *Lenam* et *Ircutum* Gmelin; ad *Baicalem*, *Prescott.* (*hab. s. sp. comm. cel. Prescott.*)

Planta facie *Platantheræ bifoliæ brachyglossæ*. Floris partes omnes carnosæ. Sepalum supremum rotundatum, crenulatum; lateralia pendula oblonga obtusa. Petala erecta, retusa. Labellum carnosissimum medio elevatum et serie unicâ tuberculatum, basi utrinque auriculis duabus acutis divaricatis; hinc quasi hastatum. Calcar pendulum, clavatum labello longius.

CLXXIII. NIGRITELLA.

Nigritella. *Rich. Orch. Europ.* 26. *fig.* 4.

Sepala petala et labellum subconformia, omnia membranacea, hoc posticum indivisum scrotiformi-calcaratum, concavum. Anthera Orchidis, sed glandulæ seminudæ.—Folia graminea. Flores congesti, capitati.

1. NIGRITELLA angustifolia. *Richard. Annot.* 34.

N. foliis linearibus, calcare brevissimo.

α. atropurpurea.

Satyrium nigrum. *Linn. Mant.* 488. *Jacq. Fl. Austr.* t. 368.

Orchis nigra. *Swartz. Act. Holm.* 1800, p. 207. *Willd. Sp. Pl.* 4, 35.

Orchis miniata. *Crantz. Stirp. Austr.* 487.

Habenaria nigra. *R. Br. H. Kew.* 5, 192.

Nigritella angustifolia. *Rchb. fl. crit. VIII. f.* 1009. *Fl. Exc.* 121. *Mayrh. Dissert.* 31. *Lodd. Bot. Cab. t.* 1643.

β. rosea.

Hab. in alpinis *Europæ*; β in *Gallia meridionali*, *Bentham.* (*hab. s. sp.*)

2. NIGRITELLA fragrans. *Rchb. Pl. crit. VIII. f.* 1010. *Fl. Exc.* 121.

N. foliis lineari-lanceolatis, calcare arcuato ovario fusiformi subæquali.

Orchis suaveolens. *Vill. Delph.* 2. t. 1. *De Cand. Flore Française.* 6. 331.

Hab. in alpinis *Delphinatus*, *Villars*, (et *Tyrolensibus*, *Carinthiacisque* *Reichb.*?)

Reichenbach quotes the *Orchis suaveolens* of *Villars* to his *Gymnadenia suaveolens*; but surely there can be no doubt that this was the plant intended by *Villars*.

September, 1835.

CLXXIV. ACERAS.

Aceras. *R. Brown, in Hort. Kew. ed. 2. 5. 191.* Loroglossum. *Rich. Orch. Eur. Annot. 32.* Himantoglossum. *Spreng. Syst. 3. 694.*

Perianthium clausum, æstivatione valvatâ. Petala sepalis multò angustiora. Labellum brevissimè saccato-calcaratum, v. gibbosum, pendulum v. patens, tripartitum. Anthera erecta, bilocularis, loculis parallelis basi approximatis, caudiculis glandulæ solitariæ cucullo unico inclusæ adhærentibus.—Herbæ, radicibus carnosis fasciculatis, lobo uno alterove incrassato. Flores luteo-herbacei, v. obscurè violacei, labello sæpè maculato discolore.

1. ACERAS hircina.

A. foliis oblongis acutis, racemo multifloro, labello longissimo flexuoso spiraliq; 3-partito laciniis lateralibus abbreviatis intermediâ bifidâ, calcare brevissimo obtuso.

Satyrium hircinum. *Linn. Sp. Pl. 1337. Eng. Bot. t. 34.*

Orchis hircina. *Swartz Act. Holm. 1800. p. 207. Willd. Sp. Pl. 4. 28.*

Loroglossum hircinum. *Richard. l. c.*

Himantoglossum hircinum. *Spreng. syst. 3. 694.*

Hab. per omnem *Europam* mediam et temperatam in pratis siccis. (*hab. s. et. v. v. sp.*)

2. ACERAS caprina.

A. "labello tripartito: lineâ baseos mediâ subpubescente, laciniis lateralibus falcato-lanceolatis; mediâ lineari longissimâ apice bifidâ, petalis obtusis conniventibus, nectario scrotiformi." *Bieb.*

Orchis caprina. *Bieb. Fl. Taur. Cauc. 3. 602.*

Himantoglossum caprinum. *Spreng. syst. 3. 694.*

Hab. in *Tauria*, Bieberstein.

3. ACERAS formosa.

A. "radicibus testiculatis, labello trilobo; lateralibus brevibus repando-undulatis medio elongato lineari-spatulato emarginato, petalis conniventibus: interioribus erosis, cornu germine paulo breviorè." *Bieb.*

Orchis formosa. *Steven in Act. Linn. vol. XI. p. 417. t. 39. Bieb. Taur. Cauc. 3. 603.*

O. mutabilis. *Stev. Mem. Mosq.*

Hab. in *Caucaso Orientali*, Steven, Bieberstein.

4. ACERAS anthropophora. *R. Br. in H. K. l. c.*

A. foliis oblongis obtusis plerisque radicalibus, labello 4-partito plano laciniis linearibus lateralibus paulò brevioribus.

α. labello ovario longiore.

Ophrys anthropophora. *Linn. sp. Pl. 1343. Willd. sp. Pl. 4. 63. Eng. Bot. t. 29.*

Loroglossum anthropophorum. *Richard. l. c.*

Himantoglossum anthropophorum. *Spreng l. c.*

β. labello ovario duplò breviorè.

Ophrys anthropomorpha. *Willd. sp. pl. 4. 63.*

Aceras anthropomorpha. *Smith in Recs. Suppl.*

Loroglossum brachyglotte. *Richard. l. c.*

Hab. per omnem *Europam*; β. in *Lusitania*, *Link. (v. v. sp.)*

5. ACERAS angustifolia. *Lindl. in Wall. cat. Ind. no. 7061.*

A. foliis lineari-lanceolatis acuminatis, spicâ rarâ elongatâ secundâ parvi-

florâ, petalis subulatis, labello pendulo lineari sepalis duplò longiore apice trifido : lacinîâ intermediâ breviorè. *Bot. Reg. t. 1525.*

Hab. in *Gossain Than, Wallich.* (*hab. s. sp. e. Museo Anglo-Indico.*)

6. ACERAS secundiflora. *Lindl. in Bot. Reg. t. 1525.*

A. foliis maculatis, spicâ densâ secundâ parviflorâ, petalis subulatis, labello patente oblongo sepalis æquali basi gibboso trilobo : lobo intermedio obovato mucronulato.

Satyrium maculatum. Desf. Fl. Atl. 2. p. 319. sec. Cambessèdes.

Ophrys densiflora. Desf. Coroll. p. 11. t. 16.

Orchis secundiflora. "Bertol. Amœn. Ital. 82." Cambess. enum. Pl. bal. 140.

Himantoglossum secundiflorum. Rchb. Fl. Exc. 120.

Hab. in *Gallia australi, Italia, insulis Balearicis, Corsica, Barbaria, Desf. nec non in Madera, Lowe.* (*v. v. c. et hab. s. sp.*)

CLXXV. HOLOTHRIX.

Holothrix. *Richard Annot. p. 33.*

Sepala conniventia, æqualia. Petala libera, patula, sepalis majora. Label- lum calcaratum, cum columna connatum, lobatum, concavum. An- thera erecta, loculis parallelis; glandulis polliniorum in bursiculis duabus segregatis insertis.—Herbæ parvæ (Capenses); foliis minutis radicalibus; caule esquamato; floribus herbaceis, minutis.

1. HOLOTHRIX parvifolia.

H. caule floribusque hirsutissimis.

Orchis hispidula. Linn. suppl. p. 40.

O. hispida. Thunb. Fl. Capens. 30.

Hab. in *Africa Australi*; in arenosis depressis extra Caput B. Sp. in sum- mitate Taffelberg et rupibus lateris occidentalis ejusdem montis, Thun- berg. (*hab. s. sp. Comm. cel. Bentham.*)

Herba vix 4-pollicaris, lanuginosa. Folia solitaria, subrotunda, minuta, gemina, hispida. Caulis esquamatus. Racemus strictus, floribus her- baceis magnitudine *Herminii Monorchidis*. Bracteæ apice in setas lon- gissimas tubulosas divisæ. Petala torta, sepalis majora. Labellum infundibulare, calcare obconico horizontali, limbo concavo trifido : laci- niis ovatis acutis. Obs. Flores glabri, salvis sepalis.

2. HOLOTHRIX exilis.

H. caule apice floribusque glaberrimo.

Orchidea exilis. Burchell Cat. Geogr. no. 6738-1.

Hab. in *Africa Australi, Burchell.* (*hab. s. sp. comm. cel. Burchell.*)

Planta gracilis 4-unc. alta. Folium 1, radicale, minimum, ovatum, recurvum, subtus pilosum. Caulis filiformis strictus, rigidus, aphyllus, basi pilosus apice glaberrimus. Spica subspiralis, 5-6-flora. Flores minimi pilis aliquot rarissimis sparsis. Sepala membranacea, libera, secunda, obtusa. Petala carnosa, acuminata, obtusa, duplò longiora. Labellum conca- vum, basi membranaceum infundibulare ideoque calcaratum, apice carnosum trilobum; lobo intermedio producto acuminato obtuso.

CLXXVI. GLOSSASPIS.

Glossula. *Lindl. in Bot. Reg.* 862. *Glossaspis. Spreng. Syst.*

Sepala cum petalis conformibus galeata. Labellum tripartitum, calcare brevi inflato. Pollinia glandulis 2, cucullis duobus discretis inclusis. Rostellum maximum plicatum.—Herba foliis Orchidis. Flores parvi, virides, laciniis lateralibus labelli longissimis.

1. *GLOSSASPIS tentaculata. Lindl. l. c. cum ic. sub Glossula.*

Hab. in *China.* (v. v. c.)

CLXXVII. PLATANThERA.

Platanthera. Richard. Orch. Diss. 35.

Perianthium Orchidis. Calcar elongatum filiforme. Anthera loculis basi divergentibus. Glandulæ nudæ. Stigma labio superiore (rostello) plano, antheræ adnato; canalibus bases antheræ retinentibus. Processus carnosus o.—Herbæ habitu et indole Orchidis.

At first sight this genus would seem to be the same as a section of *Habenaria* proposed by Dr. Brown in his *Prodromus*, p. 312, and characterized by having the bases of the anther united lengthwise to the column; and for a long time I so regarded it. But as the bases of the anther are, in all undoubted *Habenarias*, united to the stigmatic canals, this character falls to the ground; and the genus has to depend upon another distinction, to which I can discover no exception; namely, to the absence of the fleshy processes of the lower lip of the stigma. Otherwise, *Platanthera* is the same as *Habenaria*. The species may be very naturally arranged as under.

§ 1. *Labellum indivisum.*

a. *Labellum integrum, nunc basi bidentatum, aut repandum.*

b. *Labellum incisum; nunc tantum crenulatum.*

§ 2. *Labellum tripartitum. LABIENA.*

a. *Labelli lacinie indivisæ.*

b. *Labelli lacinie incisæ æquales.*

c. *Labelli lacinie incisæ; lateralibus multò majoribus.*

§ 1. *Labellum indivisum.*

a. *Labellum integrum; nunc basi bidentatum; aut repandum.* Series specierum ab unifoliis ad foliosas.

1. *PLATANThERA obtusata.*

P. folio solitario obovato, caule sæpiùs aphylo, spicâ laxiusculâ, sepalo supremo latissimo, petalis subtriangularibus acuminatis obtusis, labello acuminato apice recurvo calcaris conici arcuati acuti longitudine.

Orchis obtusata. Pursh. ! Fl. Am. Sept. 2, 588.

Habenaria obtusata. Richardson in Franklin. Journ. p. 761. *Graham in Edinb. Phil. Journ. App.*—*Jun.* 1830.

Hab. in *America et Asia septentrionali*: in sylvis *Novæ Scotiæ* frequens, *Menzies*; *California*, *Douglas*; *America arctica*, *Richardson*; *Labradoria*, *Henn*; *Siberia*, *Prescott*; ora *Americæ occ.* *Demidoff.* (hab. s. sp.)

This species varies with its spur longer or shorter, and its petals more

or less triangular and acute. Its flowers are also occasionally very crowded.

2. *PLATANThERA* tipuloides.

P. folio radicali solitario obtuso basi angustato caulino oblongo acutato superioribus minoribus, spicâ brevi laxâ, bracteis foliaceis linearibus acuminatis floribus duplò longioribus, petalis labelloque carnosis ovatis obtusis subæqualibus, calcare arcuato filiformi ovario longiore.

Orchis tipuloides. Linn. *Suppl.* 401. Willd. *Sp. Pl.* 4, 41.

Hab. in *Kamtchatka*, Fischer. (*hab. s. sp. comm. cel. Prescott.*)

Linnæus petala hujus speciei labello annexit, et monstrum, nulli cognitum, effecit. Extat in ejus herbario, et procul dubio est planta a cel. Fischero sub nomine *O. gracilis* divulgata.

3. *PLATANThERA* elegans.

P. foliis binis oblongo-lanceolatis, caule squamis parvis ramentaceis, spicâ longâ densâ cylindraceâ, bracteis lineari-subulatis florum longitudine, sepalis campanulatis acuminatis obtusis, petalis labelloque carnosis ovato linearibus obtusis subæqualibus, calcare filiformi arcuato ovario longiore.

Hab. in *America boreali occidentali*, Douglas. (*hab. s. sp. comm. Soc. Hort.*)

Tubercula indivisa. Caulis sesquipedalis. Flores parvi. Glandulæ poliniorum maximæ.

4. *PLATANThERA* bifolia. Reichb. *Fl. Excurs. Germ.* 120. *Pl. Criticæ, IX.* 1143. Mayrhofer, *Orch. Austr.* p. 30.

P. foliis radicalibus binis obovatis caulinis paucissimis depauperatis, spicâ laxâ multiflorâ, sepalis lateralibus reflexis, labello lineari obtuso petalis duplò longiore calcare filiformi apice incrassato duplò brevior, antheræ lobis approximatis parallelis.

Orchis bifolia. Linn. *Sp. Pl.* Bieb. *Fl. Taur. Cauc.* 2, 362.

Orchis alba. Lamarck.

Habenaria bifolia. R. Br. in *Hort. Kew.* 5, 193.

Satyrium bifolium. Wahl. *Fl. Suec.* 558.

Platanthera solstitialis. a Bughn. ex Rehb.

β. *anthera emarginata; labello admodum brevior.*

Pl. brachyglossa. Rehb. *Pl. Critic. IX.* 1144. *Fl. Excurs. Germ.* ¹⁴⁰/₁₇.

Hab. per omnem *Europam*; a *Suecia*, Wahlenberg, et *Anglia*, ad *Florentiam*, *Strangways.* (v. v. et s. sp.)

Flores odorati; nunc inodori. Sequentes multò gracilior, et minùs virescens in floribus.

5. *PLATANThERA* chlorantha. Rehb. *Pl. Criticæ, IX.* 1145. *Fl. Excurs. Germ.* 120 & ¹⁴⁰/₁₇.

P. foliis radicalibus binis oblongis acutiusculis caulinis squamæformibus, spicâ densâ multiflorâ, sepalis lateralibus reflexis, labello angusto ovato-lanceolato obtuso petalis duplò longiore calcare filiformi apice incrassato duplò brevior, antheræ lobis divaricatis distantibus.

Orchis bifolia. Fl. Dan. 235. Eng. Bot. t. 22.

Orchis virescens. Gaud. Fl. Helv. 5. 497.

P. bifolia. Richard. *Orch. Eur. Annot.* 35. Lodd. *Bot. Cab.* 1653.

P. bifolia, β. Mayrhof. p. 30.

Hab. in *Europa*; a *Scotia*, *Bentham*, ad *Viennam*, *Mayrhofer*. (*hab. s. sp. et v. v. sp.*)

Communis in *Anglia*. In partibus *Europæ australioribus* deest, teste *cel. Strangways*, qui nullibi in *Italia* invenit, ubi *Pl. bifolia* ubique divulgatur.

6. PLATANThERA Hookeri.

P. foliis radicalibus binis orbiculatis planis, caule nudo, spicâ strictâ multiflorâ, sepalis lateralibus reflexis, labello lineari-lanceolato acuminato glabro sepalis parùm longiore, calcare filiformi arcuato ovarii longitudine, antheræ lobis basi adnatis.

Habenaria Hookeri. *Torrey's MSS. Gray in Ann. Lyc. N. York, 1834, v. 3.*

Habenaria orbiculata. *Hooker, Exot. Fl. t. 145. Loddiges, Bot. Cab. t. 1523?*

Hab. in *America septentrionali*: a *Canada*, *Goldie*, ad *Virginiam*, *Hooker*. (*hab. s. sp.*)

Known at first sight from the following by the flowers being sessile instead of stalked, by its much shorter lip and spur, and by the form of its anther; besides which, the whole plant of *P. Hookeri* is smaller.

7. PLATANThERA orbiculata.

P. foliis radicalibus binis orbiculatis planis, caule subaphyllo, racemo laxo multifloro, sepalis lateralibus reflexis, labello lineari spathulato basi pubescente sepalis ferè triplò longiore, calcare arcuato compresso ovario duplò longiore, antheræ lobis basi elongatis liberis.

Orchis orbiculata. *Pursh, Fl. Am. Sept. 2, 588.*

Habenaria orbiculata. *Torrey, Compend. p. 318.*

Habenaria macrophylla. *Hooker! in Edinb. Phil. Jour. vol. vi. 331. Beck Bot. of N. and M. St. N. Amer. 349.*

Hab. in *Canada*; in sylvis opacatis prope *Montreal*, *Goldie*. (*hab. s. sp.*)

I am indebted to *Dr. Torrey* for the adjustment of the synonyms of this and the preceding species.

8. PLATANThERA Menziesii.

P. foliis radicalibus binis subrotundo-oblongis erectis, caule subbisquamato, racemo laxo paucifloro, sepalis obtusissimis, petalis truncatis labello lineari obtuso brevioribus, calcare pendulo obtuso apice inflexo ovario subæquali.

Hab. in ora occidentali *Americæ septentrionalis*. (*hab. s. sp. comm. cel. Menzies.*)

9. PLATANThERA Schischmareffiana.

P. foliis radicalibus binis obovato-lanceolatis canaliculatis, spicâ subsecundâ multiflorâ, bracteis oblongis obtusis ovarii longitudine, sepalis oblongis obtusis, petalis labelloque carnosus ovatis obtusis, calcare arcuato gracili labelli longitudine.

Habenaria Schischmareffiana. *Chamisso in Linnæa, 3. 29.*

? *Spiranthes unalaschcensis. Spreng. syst. 3. 708.*

Hab. in *Unalaschka*, *Chamisso*. (*hab. s. sp. comm. cel. Fischer.*)

Planta facie *Herminii Monorchis*.

10. PLATANThERA Königii.

P. caule folioso, foliis inferioribus oblongo-lanceolatis obtusis emarginatisque superioribus linearibus spicæ ferè æqualibus, spicâ densâ cylindra-

ceâ, bracteis herbaceis floribus æqualibus, labello subrhombico-lineari obtuso calcare inflexo obtuso longiore.

α. petalis ovatis acutis.

Orchis Königii. *Retz. Fl. Scand.* 1087. *Willd. Sp. Pl.* 4, 39. *Fl. Dan.* t. 333.

β. petalis cordatis acuminatis.

O. dolichorhiza. *Fisch. ! MSS.*

Hab. in circulo arctico; α. Islandia, *Mærck, Giseke*; β. Unalaska, *Langsdorff.* (*hab. s. sp. comm. cell. Lehmann et Fischer.*)

11. PLATANThERA herbiola.

P. caule folioso, foliis inferioribus oblongis acutis superioribus lanceolatis acuminatis, spicâ densâ cylindraceâ, bracteis herbaceis acuminatis floribus longioribus, labello lineari-lanceolato basi bidentato medio unituberculato calcare clavato duplò brevior.

Habenaria herbiola. *R. Br. in Hort. Kew.* 5, 193. *Beck. Bot. N. and M. Amer.* 347.

Orchis herbiola. *Pursh. Fl. Am. Sept.* 2, 743.

Orchis fuscens. *Id.* 2, 587. *Lodd. Bot. Cab. Elliott, Bot. Carol.* 2, 488.

Orchis bidentata. *Elliott, l. c.*

? Orchis scutellata. *Nuttall in Amer. Phil. Trans. N. S.* 5, p. 161.

Hab. in America septentrionali: Massachusetts, *Torrey*; paludibus et pratis montanis, *Beck, Pursh*; Georgia et Carolina, *Elliott.* (*hab. s. sp. comm. cel. Torrey.*)

O. scutellata of Nuttall seems to differ in nothing except its lip being emarginate.

12. PLATANThERA hyperborea.

P. caule folioso, foliis lanceolatis strictissimis acutis, spicâ laxiusculâ subsecundâ, bracteis lineari-lanceolatis acutis flore longioribus, sepalis deflexis, petalis labelloque linearibus obtusis subæqualibus calcaris obtusi penduli longitudine, radicibus longissimis carnosis.

Orchis hyperborea. *Linn. Mant.* 121. *Willd. Sp. Pl.* 4, 37. *Retz. Obs. Bot.* 4, 30, t. 3.

Habenaria hyperborea. *R. Br. in Hort. Kew.* 5, 193. *Richardson in Franklin.*

Hab. in circulo arctico: Grönlandia, *Hb. Lehmann*; Islandia, *König.*; America arctica, *Richardson.* (*hab. s. sp. comm. cel. Hooker.*)

13. PLATANThERA convallariæfolia.

P. caule folioso, foliis oblongo-lanceolatis sensim decrescentibus, spicâ laxiusculâ elongatâ, bracteis lineari-lanceolatis herbaceis floribus longioribus, petalis falcatis truncatis, labello lineari obtuso calcaris longitudine.

Orchis convallariæfolia. *Fisch. MSS.*

Hab. in Kamtchatka, *Fischer.* (*hab. s. sp. comm. cel. Prescott.*)

14. PLATANThERA dilatata. *Lindl. Beck. Bot. N. and M. Amer.* 347.

P. caule folioso, foliis lanceolatis gramineisve, spicâ elongatâ cylindraceâ densâ laxâque, bracteis lineari-lanceolatis acuminatis floribus æqualibus longioribusque, sepalis ovatis obtusis, petalis minoribus conformibus membranaceis, labello rhomboideo lineari-lanceolato obtuso calcaris obtusi longitudine.

Orchis dilatata. *Pursh. Fl. Am. Sept.* 2, 588.

Habenaria dilatata. *Hooker, Exot. Fl.* t. 95.

Orchis agastachys. *Fischer, MSS.*

Habenaria borealis. *Chamisso in Linn.* 3, 28.

Hab. in *America septentrionali*. Canada, *Goldie, Torrey*; Labradoria, *Henn*; ora occidentali, *Douglas*; Unalaska, *Langsdorff*. (*hab. s. sp.*)

Variat floribus albis suaveolentibus, et virentibus ferè inodoris. *Chamisso*.

In my specimens of *P. dilatata*, from Dr. Torrey, the flowers are rather smaller, and the spike much more lax; but I see no further difference. In *Habenaria borealis* the lip is scarcely so rhomboidal, and rather longer than the very obtuse spur.

15. *PLATANThERA huronensis*.

P. caule folioso, foliis inferioribus oblongis superioribus gramineis, spicâ laxâ tenui, bracteis acuminatis florum longitudine v. longioribus, labello ovato-lanceolato calcaris incurvi compressi longitudine.

Orchis huronensis. Nuttall, Gen. Amer. 2, 189.

Habenaria huronensis. Spreng. Syst. Beck. Bot. N. and M. Amer. 348.

Hab. in *America septentrionali*; locis humidis in insulis lacuum Huron et Michigan, *Nuttall*; prope Albany, *Torrey*. (*exam. s. sp. in hb. Hooker.*)

P. dilatata et *septentrionali* proxima, sed flores ferè minores quam in *P. herbiola*. Character essentialis in foliis inferioribus latis florumque magnitudine constat. Caulis in unico exemplare quod examinavi ferè 2-pedalis fuit.

16. *PLATANThERA leucostachys*.

P. caule folioso, foliis oblongo-lanceolatis obtusis, spicâ longissimâ densâ, bracteis florum longitudine, sepalis ovatis obtusis, petalis membranaceis linearibus emarginatis, labello rhomboideo lineari-lanceolato calcare filiformi arcuato duplò brevior, antheræ lobis parallelis rostello maximo plicato.

Hab. in ora occidentali *Americæ septentrionalis*, *Douglas*. (*hab. s. sp. comm. Soc. Hort.*)

Rostellum ferè *Gymnadeniæ* sed magnum et prominens. Flores verosimiliter albi.

17. *PLATANThERA gracilis*.

P. caule folioso, foliis linearibus acuminatis obtusis debilibus patentibus, spicâ laxâ elongatâ floribus inferioribus remotis, bracteis angustis acuminatis florum longioribus, petalis obliquis acuminatis obtusis, labello lineari obtuso calcaris apice inflati obtusissimi longitudine.

Hab. in ora occidentali *Americæ septentrionalis*, *Menzies*; Observatory inlet *Herb. Hooker*. (*hab. s. sp. comm. cel. Menzies.*)

Caulis debiles, $1\frac{1}{2}$ 2-pedales. Folia 3-poll. longa, parùm acuminata, nullo modo acuta.

18. *PLATANThERA stricta*.

P. caule folioso stricto, foliis ovato-lanceolatis internodiis duplò longioribus, spicâ laxâ elongatâ, bracteis lineari-lanceolatis floribus longioribus, sepalo dorsali latiore, petalis ovatis acuminatis obtusis, labello lineari obtuso calcare apice inflato obtusissimo duplò longiore.

Hab. in *America boreali-occidentali*, *Douglas*. (*hab. s. sp. comm. Hort. Soc. Lond.*)

Priore differt habitu stricto, foliis brevioribus ($2\frac{1}{2}$ -poll.) latioribus et magis acuminatis, demum calcare duplò brevior.

19. *PLATANThERA* *graminea*.

P. caule folioso, foliis strictis inferioribus lineari-lanceolatis obtusiusculis superioribus acuminatis, spicâ laxiusculâ, bracteis acuminatis floribus brevioribus, petalis obliquis apice truncatis tridentatis labello rhombeo lanceolato undulato venoso æqualibus calcare clavato arcuato duplò brevioribus.

Hab. in ora occidentali Americæ septentrionalis, *Menzies*. (*hab. s. sp. comm. cel. Menzies.*)

Glandulæ maximæ polliniis æquales.

20. *PLATANThERA* *arcuata*.

P. caule folioso, foliis oblongis acutis, racemo laxo multifloro, bracteis foliaceis acuminatis floribus longioribus, sepalis secundis, labello lineari sepalis longiore, petalis linearibus liberis, calcare falcato ovario duplò longiore.

Hab. in India septentrionali: Mussooree, *Royle*. (*exam. s. sp. in hb. Royle.*)

Caudicula polliniorum cornea crassa; glandulâ maximâ membranacâ.

21. *PLATANThERA* *latilabris*.

P. caule folioso, foliis ovato-oblongis acutissimis, spicâ longâ laxiusculâ, bracteis ovatis floribus brevioribus, sepalis ovatis acutis ciliatis, petalis conformibus glabris carnosis labello carnosio lanceolato brevioribus, calcare clavato labello duplò longiore, ovario rostrato.

P. acuminata. *Wall. cat. no. 7040 pars.*

Hab. in India septentrionali, *Wallich*. (*hab. s. sp. e. mus. Angl. Ind.*)

22. *PLATANThERA* *acuminata*. *Lindl. in Wall. Cat. no. 7040.*

P. caule folioso, foliis ovato-oblongis acutissimis, spicâ longâ laxiusculâ, bracteis ovatis floribus brevioribus, sepalis oblongis obtusis ciliatis, petalis ovatis acuminatis carnosis glabris labello lineari carnosio æquilongis et duplò latioribus, calcare arcuato, labello multo longiore, ovario rostrato.

α. foliis acuminatis, petalis labelloque luteis, calcare albo.

β. foliis apice rotundatis, acutis, floribus omnino herbaceis, calcare viridi.

Hab. in India septentrionali: Napalia et Kamaon, *Wallich*, occidentem versus *Royle*, (*hab. s. sp. e. Museo Angl. Ind. et v. ic. pict. comm. cel. Royle.*)

This varies considerably in the length of the spur.

23. *PLATANThERA* *clavigera*.

P. caule folioso, foliis ovato-oblongis acuminatis, spicâ elongatâ laxiusculâ, bracteis acuminatis florum longitudine, sepalis petalisq; ovatis obtusis glabris, labello lineari acuto basi bidentato tuberculo uno in medio, calcare clavato obtusissimo labello longiore.

Hab. in India Septentrionali; Simla, *Comitissa Dalhousie*. (*exam. s. sp. in herb. Hook.*)

This appears to vary a good deal in the size of the flowers. They are smaller than in *P. dilatata*.

September, 1835.

24. *PLATANThERA* ? japonica.

P. "labello lineari subulato integerrimo, petalis obtusis, cornu germinis triplo longiore, caule folioso, foliis lanceolatis patentibus." W.

Orchis japonica. Thunb. *fl. Jap.* 26. *ic. pl. Jap.* t. 3. Willd. *sp. pl.* 4. 11.

Hab. in *Japonia* Thunberg.

25. *PLATANThERA* angustata.

P. "labelli limbo lineari, calcare attenuato."

Mecosa angustata. Blume *Bijdr.* p. 404, t. 1.

Hab. in *Java*, in montanis Salak et Burangrang, Blume.

26. *PLATANThERA* Blumii.

P. "labelli limbo ovato-oblongo, calcare clavato."

Mecosa dilatata. Blume *l. c.*

Hab. in *Java*, in altis montis Gede et Pangurangu, Blume.

27. *PLATANThERA* aphylla.

P. "racemo secundo, floribus campanulatis albis, nectario filiformi, foliis nullis." Forsk.

Orchis aphylla. Forskahl.

Habenaria aphylla. Brown *Prodr.* 1. 312. Spreng. *system.* 6. 690.

Hab. in *Arabia* ad *Uahfdt* et *Kurma*, Forskahl. (*v. s. sp. in herb. Lehm.*)

Exemplar quod vidi in *Hb. Lehm.* ferè defloratum fuit. Aphyllum inveni, vix spithamæum, caule squamis plurimis oblongis cuspidatis vestito. Racemus secundus, 4 p. longus. Flores *Goodyeræ elatæ* formâ et magnitudine. Sepala et petala defuère. Calcar filiforme, incurvum, apice inflexum. Antheræ lobi basi inflexi dilatati, incurvi, aucti, more omnino insolito. Rostellum planum.

28. *PLATANThERA* obcordata. Lindl. in *Wall. Cat.* no. 7050.

P. caule humili densè folioso, foliis ovato-oblongis acutis, spicâ densâ foliosâ, petalis sepalisque galeatis lateralibus patentibus labello, obcordato apiculato calcare longiore.

Orchis obcordata. Don. *prodr. nep.* 23.

Hab. in *Napalia* et *Kamaon*, Wallich. (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Caulis uncialis ad palmarem. Flores purpurei.

29. *PLATANThERA* decipiens.

P. caule folioso, foliis oblongis vix vaginantibus inferioribus obtusis supremis acutis, spicâ multiflorâ laxiusculâ, bracteis foliaceis inferioribus flore duplò longioribus, sepalis petalisque angustè ovatis acutiusculis, labello cuneato tridentato calcare curvo conico duplo longiore.

α. labelli dentibus lateralibus denticulatis majoribus.

β. labelli dentibus lateralibus integerrimis minoribus.

Hab. α in *Sibiria*, Prescott; β in *Kamtchatka*? *Id.* (*hab. s. sp. comm. cel. Prescott.*)

Planta facie *Peristylis bracteati*, spithamea ad pedalem.

b. *Labellum incisum, nunc tantum crenulatum.*

30. *PLATANThERA cristata.*

P. caule folioso, folio inferiore longo lanceolato cæteris minoribus acuminatis, spicâ oblongâ densâ multiflorâ, bracteis acuminatissimis florum longitudine, sepalo supremo ovato lateralibus deflexis rotundatis, petalis rotundatis crenatis, labello ovato margine lacero calcari clavato obliquè truncato subæquali.

Orchis cristata. *Mich. Amer. bor.* 2. 156. *Willd. sp. pl.* 4. 9. *Pursh.* 2. 585. *Elliott, Sketch,* 2. 483.

Habenaria cristata. *R. Br. in Hort. Kew.* 5. 194. *Lodd. Bot. Cab. t.* 1651. *Beck. Bot. M. and N. Amer.* 348.

Hab. in locis udis ad margines paludum, cum *P. blephariglottis* et *ciliaris* intermixta, in *America septentrionali*: Carolina, *Elliott*; Pennsylvania, *Pursh*; Alabama, *Drummond.* (*hab. s. sp.*)

Flores lutei. *Gymnadeniæ luteæ* simillima.

31. *PLATANThERA holopetala.*

P. caule folioso, foliis ovato-lanceolatis acutis, spicâ laxâ multiflorâ, bracteis lineari-lanceolatis ovarii longitudine, sepalis suborbiculatis obtusis supremo galeato, petalis linearibus acuminatis obtusis integerrimis, labello lanceolato margine lacero calcare filiformi duplè brevioris, ovario rostrato.

Habenaria blephariglottis. *Hooker! Exot. Fl. t.* 87, nec aliorum.

Hab. in *Canada, Goldie.* (*hab. s. sp. comm. cel. Hooker.*)

Flores albid.

I conceive that this plant is unknown to American botanists; for they all agree in the difficulty of distinguishing *P. blephariglottis* from *ciliaris*; which would not be the case if they knew this species, in which the petals are entire.

32. *PLATANThERA blephariglottis.*

P. caule folioso, foliis inferioribus lanceolatis canaliculatis sensim decrescentibus, spicâ oblongâ multiflorâ densâ, bracteis foliaceis linearibus acuminatis floribus brevioribus, sepalis rotundato-oblongis lateralibus reflexis, petalis spathulatis dentatis, labello oblongo plano fimbriato medio papilloso calcare recto pendulo triplè brevioris, ovario longissimè rostrato.

Orchis blephariglottis. *Willd. Sp. Pl.* 4, 9.

Habenaria blephariglottis. *Beck. Bot. N. and M. Amer.* 348?

Hab. in *America septentrionali*: Pennsylvania, *Muhlenberg*; Canada, *Schweinitz.* (*hab. s. sp. comm. cel. Bentham.*)

Flores albid.

This plant is well defined by Willdenow; but it appears to be little known to the writers on North American botany, who apparently mistake for it what I conceive is a white variety of *Pl. ciliaris*. In many respects it is very like that species; but its flowers are smaller, the raceme is much more compact, the lip is flat, ovate-oblong, with short and nearly simple ciliæ, and the anther is at least as tall as it is broad, while that of *P. ciliaris* is always, as far as I have seen, very much depressed, so as to be greatly broader than tall.

33. *PLATANThERA ciliaris*.

P. caule folioso, foliis inferioribus ovato-lanceolatis supremis minimis, spicâ oblongâ densâ multiflorâ, bracteis acuminatis ovario brevioribus, sepalis reflexis ovato-subrotundis obtusis, petalis linearibus reflexis apice incis, labello oblongo margine capillaceo multifido calcare arcuato duplò breviorè, ovario colorato longissimè rostrato.

a. floribus aureis.

Orchis ciliaris. Linn. *Sp. Mich. Amer.* 2, 156. *Andrews, Bot. Rep.* 1, t. 42. *Willd. Sp. Pl.* 4, 8. *Pursh.* 2, 585. *Elliott, Sketch.* 2, 483. *Bot. Mag.* t. 1668.

Habenaria ciliaris. R. Brown in *Hort. Kew.* 5, 194.

β. floribus niveis.

Orchis blephariglottis. *Elliott, Sketch.* 2, 483, et verosimiliter pl. auct. Amer.

Hab. in *America septentrionali*; a Canada ad Carolinam. (v. v. c. et hab. s. sp.)

Variat statura, et magnitudine florum; maximi sunt in exemplaribus varietatis aureæ a Drummondio in Alabama lectis, minimi in Canadensibus var. niveæ pertinentibus.

§ 2. Labellum tripartitum. LABIENA.

a. *Labelli lacinia indivisa*.

34. *PLATANThERA rotundifolia*.

P. folio solitario radicali subrotundo-ovato plano, caule nudo, spicâ pauciflorâ laxiusculâ, bracteis obtusis ovario brevioribus, sepalis petalisque obtusis, labello trilobo lobis lateralibus subfalcatis intermedio obcordato apiculato, calcare acuto labelli longitudine.

Orchis rotundifolia. *Pursh. Fl. Am. sept.* 2.

Habenaria rotundifolia. *Richardson in Franklin's Journey*, p. 761.

Hab. in *America septentrionali*; Rocky mountains, Drummond; Hudson's Bay, Pursh.; prope Anticosti, Goldie. (hab. s. sp. comm. cel. Hooker.)

35. *PLATANThERA*? *graminea*.

P. caule folioso, foliis gramineis, spicâ brevi pauciflorâ, bracteis ovatis ovario brevioribus, labello trilobo lobo intermedio elongato calcare longiore.

Habenaria graminea. *Spreng. Syst.* 3, 690.

Satyrium gramineum. *Thouars, Orch. Afr.* t. 6.

Hab. in *Madagascaria*, Thouars.

Flores purpurei.

36. *PLATANThERA cubitalis*.

P. caule folioso, foliis lineari-lanceolatis acutissimis, spicâ laxâ foliosâ, bracteis cucullatis cuspidatis acuminatissimis floribus longioribus, sepalis ovatis obtusis, petalis subulatis, labello tripartito laciniiis lateralibus retrorsum falcatis calcare clavato pendulo triplò breviorè.

Orchis cubitalis. Linn. *Sp. Pl.* 1333. *Fl. Zeyl.* 320. *Willd. Sp. Pl.* 4, 17.

Habenaria cubitalis. R. Br. *Prodr.*

Hab. in *Zeylona*, Hermann; in pratis apricis ad latera collium altiorum prope Maturata, florens Novembre, Macrae. (hab. s. sp. et ic. pict.)

Sepala viridia, labello purpureo.

37. *PLATANThERA longibracteata*. Lindl. in Wall. Cat. no. 7048.

P. caule folioso, foliis oblongo-lanceolatis, bracteis longissimis foliaceis acuminatissimis, labelli tripartiti laciniis linearibus lateralibus abbreviatis, calcare obtuso abbreviato.

Hab. in regno *Burmano*, ad ripas fluminis *Irawaddy* ad *Sundya*, *Wallich*. (hab. s. sp. e *Mus. Angl. Ind.*)

Forte *Habenaria*; sed processus nullos detegi in alabastro solitario quem examinare potui. An *Peristylus*?

38. *PLATANThERA brachyphylla*.

P. foliis duobus radicalibus carnosis reniformi-orbiculatis, scapo squamis acuminatissimis vestito, bracteis ovatis cucullatis acuminatissimis florum longitudine, sepalis ovato-subrotundis supremo obtuso lateralibus acutis pendulis, petalis minoribus ovatis, labello altè tridentato sepalis brevior calcare clavato triplò brevior, ovario rostrato.

Hab. in *peninsula Indiæ orientalis*, *Wight*. (hab. s. sp. comm. cel. *Wight*.)

39. *PLATANThERA flava*.

P. "labello trifido integerrimo; laciniâ mediâ majore, cornu filiformi longitudine germinis, spicâ elongatâ congestâ, bracteis flore longioribus." *Pursh*. sub *Orchide*.

Orchis flava. *Linn. Sp. Pl.* 1336. *Willd. Sp. Pl.* 4, 33, nec aliorum.

Habenaria flava. *R. Br. Prodr.*

Hab. in *Virginia*, *Clayton*.

Pursh examined this in the Herbarium of *Gronovius*, and he seems to be the only modern botanist who has seen it. I have adopted his character, not having consulted the specimen myself.

b. *Labelli laciniæ incisæ æquales*.40. *PLATANThERA incisâ*.

P. caule folioso, foliis obovato-oblongis sursùm decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis floribus longioribus, sepalis oblongis lateralibus deflexis, petalis erectis oblongis denticulatis, labelli unguiculati subrotundi laciniis cuneatis inciso-denticulatis intermediâ majore calcare duplò brevior.

Orchis incisâ. *Willd. Sp. Pl.* 4, 40. *Pursh*, 2, 589.

Habenaria incisâ. *Spreng. Syst. veg.* 3. *Beck. Bot. N. and M. Amer.* 349.

Hab. in *America septentrionali*: in pratis a *Noveboraco* ad *Virginiam*, *Pursh*. (hab. s. sp. comm. cel. *Beck*, &c.)

Flores purpurei.

41. *PLATANThERA fimbriatâ*.

P. caule folioso, foliis oblongis sursùm decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis supremis floribus subæqualibus, sepalis oblongis obtusis lateralibus deflexis, petalis erectis oblongis obtusis incisâ, labelli unguiculati subrotundi laciniis cuneatis inciso-dentatis intermediâ majore calcare duplò brevior.

Orchis fimbriatâ. *Hort. Kew. ed. 1, 3, 297*. *Willd. Sp. Pl.* 4, 39. *Pursh*, 2, 588.

Habenaria fimbriatâ. *R. Br. in Hort. Kew.* 5, 193. *Beck. Bot. N. and M. Amer.* 349.

Hab. in *America septentrionali*: a Canada ad Pennsylvaniam, in pratis et paludibus montanis, *Pursh. (hab. s. sp.)*

Flores purpurei.

42. *PLATANThERA* *crispa*.

P. caule folioso, foliis angustè lanceolatis acuminatis sursùm decrescentibus, racemo cylindraceo denso multifloro, bracteis linearibus acuminatis floribus brevioribus, sepalis subrotundis patentissimis, petalis conformibus inciso-crispis, labelli unguiculati subrotundi laciniis cuneatis inciso-crispis intermediâ majore, calcare triplò breviorè, angulis ovarii crispis.

Hab. in *America septentrionali*, *Frazer. (hab. s. sp.)*

Flores haud majores quam in *P. cristata*; facies quasi hybrida inter illam et *P. incisam*. Distinctissima.

43. *PLATANThERA* *fissa*.

P. caule folioso, foliis ovato-lanceolatis acuminatis, spicâ oblongâ multiflorâ, bracteis acuminatis ovario brevioribus, sepalis subrotundo-ovatis obtusis, petalis obovatis denticulatis, labello 3-partito laciniis truncatis apice denticulatis lateralibus brevioribus intermedio bilobo, calcare filiformi duplò longiore.

Orchis *fissa*. *Pluk. Amalth. t. 434, f. 6, bona. Willd. Sp. Pl. 4, 71. Pursh, 2, 589.*

Habenaria *fissa*. *R. Br. Prodr. Beck. Bot. N. and M. Amer. 349.*

Orchis *incisa*. *Nutt. Gen. 2, 189, nec aliorum.*

Hab. in *America septentrionali*; in pratis montanis a Pennsylvania ad Virginiam, *Pursh. (hab. s. sp. a Frazer.)*

Flores magni purpurei. Labellum sessile.

44. *PLATANThERA* *grandiflora*.

P. characteribus omnibus *P. fimbriatæ* sed floribus duplò majoribus, labelli laciniis lateralibus altiùs incisus intermediâ latiore, bracteis inferioribus haud floribus longioribus.

Orchis *grandiflora*. *Bigelow.*

Habenaria *grandiflora*. *Torrey in Beck. Bot. N. and M. Amer. 349.*

Hab. in pratis *Americæ septentrionalis*: Massachussets, *Bigelow, Beck. (hab. s. sp. comm. cel. Boott.)*

This is probably a mere variety of *P. fimbriata*.

45. *PLATANThERA* *leucophæa*.

P. foliis angustis ovato-lanceolatis sensim angustatis, spicâ laxâ multiflorâ, bracteis ovato-lanceolatis acuminatis floribus æqualibus, petalis obovatis inciso-crenatis, labello 3-partito unguiculato: laciniis multifidis acuminatis: ungue bilamellato, calcare filiformi longissimo apice clavato compresso acuto.

Orchis *leucophæa*. *Nuttall in Am. Phil. Trans. vol. 5, n. s. p. 161.*

Hab. in *America septentrionali*, agro *Arkansarum*, pratis humidis prope *Kiamesha*, Junio florens, *Nuttall. (exam. s. sp. in herb. Torrey.)*

Inter *Pl. fissam* et *psychodem*, utramque magnitudine florum duplò superans candidorum. Folia præterea angustiora, spicaque multo laxior speciem diversam satis indicant.

46. *PLATANThERA* *psychodes*.

P. caule folioso, foliis inferioribus oblongis obtusis supremis angustissimis

acuminatis, racemo laxo multifloro, bracteis foliaceis floribus longioribus, sepalis retusis lateralibus deflexis, petalis emarginatis, labello unguiculato tripartito laciniis cuneatis capillaceo-multifidis subæqualibus, calcare ovario duplò brevior.

a. laciniis omnibus labelli multifidis.

Orchis psychodes. *Linn. Sp. Pl.* 1336. *Willd. Sp. Pl.* 4, 39. *Pursh*, 2, 3.

Orchis lacera. *Mich. Fl. Am. Bor.* 2, 156. *Pursh*, 2, 586. *Elliott, Sketch.* 2, 484. *Sweet Fl. Gard. ser.* 2, t. 73.

Habenaria psychodes. *Spreng. Syst.* 3. *Beck. Bot. N. and M. Amer.* 349.

Habenaria lacera. *R. Br. Prodr.*

β. laciniâ intermediâ labelli indivisâ.

Hab. in *America septentrionali*; *a.* a Canada ad Carolinam; *β.* ———.
(*hab. a. s. sp. comm. cel. Boott et Beck*; *β. s. sp. Frazero lectum.*)

Flores albi virescentes.

c. Labelli laciniæ incisæ; lateralibus multò majoribus.

47. PLATANATHERA candida. *Lindl. in Wall. Cat. no.* 7035.

P. caule folioso subbifloro, foliis ovato-oblongis acutis supremis cucullatis, sepalis ovatis acutis, petalis linearibus nanis, labello cuneato-rhomboideo tripartito: laciniis lateralibus latis integris intermediâ lineari, calcare clavato labello duplò longiore.

Habenaria triflora. *Don. Prodr.* 25.

Hab. in *Napalia et Kamaon, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

48. PLATANATHERA uniflora.

P. "labello maximo suborbiculato, perianthii foliolis ovalibus obtusis, calcaribus ovario ferè duplò longioribus." *Don. Prodr.* 25.

Habenaria uniflora. *Don. Prodr.* 25.

Hab. in *Napalia, Don.*

49. PLATANATHERA Susannæ.

P. caule folioso subtrifloro, foliis ovato-oblongis acutis supremis cucullatis acuminatis, sepalis ovatis obtusis lateralibus obliquis dorsali rhomboideo, petalis linearibus acutis, labelli tripartiti laciniis lateralibus truncatis multifido-laceris intermediâ lineari, calcare duplò longiore.

Flos Susannæ. *Rumph. Amb.* 5, t. 99, f. 2.

Orchis Susannæ. *Linn. Sp. Pl.* 1330. *Willd. Sp. Pl.* 4, 8. *Lour. Fl. Cochinch.* 2, 638.

Habenaria Susannæ. *R. Br. Prodr. Blume, Bijdr.* 1, 402.

Platanthera gigantea. *Lindl. in Wall. Cat. no.* 7052.

Orchis gigantea. *Smith, Exot. Bot.* t. 100.

Habenaria gigantea. *Don. Prodr.* 24. *Hooker, Bot. Mag.* 3374.

Hab. in *India orientali*: Amboyna, *Rumph.*; Java, prope Kuripan locis paludosis, *Blume*; prope Canton, Loureiro; *Napalia, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

I can discover nothing like a distinction between the two species here combined. It is evident that *Blume's* plant is the same as the species in *Nepal* and *China*.

50. PLATANATHERA robusta. *Lindl. in Wall. Cat. no.* 7036.

P. caule folioso 4-5-floro, foliis oblongis acutis supremis lanceolatis cucullatis, sepalis ovatis acutis, petalis lineari-ovatis nanis, labelli tripartiti

laciniis lateralibus cuneatis truncatis incisiss intermediâ lineari longiore, calcare longissimo.

Hab. in regno *Burmano*; Prome, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

51. *PLATANThERA* dentata.

P. "labello tripartito, laciniis lateralibus oblongis dentatis, intermediâ lineari obtusâ integrâ, cornu germine duplò longiore."

Orchis dentata. *Swartz in Act. Holm.* 1800, p. 207. *Willd. Sp. Pl.* 4, 42.

Hab. in *China*, *Swartz*.

52. *PLATANThERA* radiata.

P. foliis ensiformibus suberectis, caule subbifloro, bracteis acuminatis ovario duplò brevioribus, labello tripartito plano: laciniis lateralibus dilatatis ciliato-dentatis intermediâ lanceolatâ, calcare filiformi acuto ovario æquali.

Orchis *Susannæ*. *Thunb. Jap.* 25.

O. radiata. *Thunb. in Act. Linn. Lond.* 2, 326. *Ic. Pl. Jap. t. 2. Willd. Sp. Pl.* 4, 8.

Hab. in *Japonia*, *Thunb.*

CLXXVIII. HEMIPILIA.

Perianthium *Orchidis*. Calcar elongatum. Columna cum basi labelli subconnata. Anthera subhorizontalis; basibus divergentibus adnatis. Glandulæ apicibus canalium (cucellis dimidiatis) inflexis tectæ. Rostellum fornicatum, liberum, ultra lobos antheræ projiciens. Processus carnosus o.——Folium solitarium. Racemus secundus, multiflorus. Radices tuberculosæ.

This genus differs from *Platanthera* in having the glands of the pollen masses concealed by the inflexed points of the stigmatic canals, which thus form an imperfect pouch, and in the enlarged projecting upper lip of the stigma or rostellum. *Gymnadenia* *Chusua* approaches it in structure, but the cells of the anther of that species are parallel and contiguous.

1. *HEMIPILIA* cordifolia.

Platanthera cordifolia. *Lindl. in Wall. Cat. no.* 7049.

Hab. in *India septentrionali*; Gossain Than, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis semipedalis, folio unico radicali, cordato, oblongo, acuto, amplexicauli; cæterum ferè nudus. Racemus secundus. Bractæ ovatæ, acutæ, ovario duplò breviores. Flores magnitudine *Orchidis maculatae*. Sepala ovata, patentia, obtusiuscula. Petala paulò minora, c. galea non agglutinata. Labellum cum basi columnæ connatum, oblongum, trilobum; lobis subæqualibus rotundatis intermedio productiore. Calcar cylindraceum, obtusum, horizontale, ovario duplò brevius.

CLXXIX. PERISTYLUS.

Peristylus. *Blume, Bijdr.* 1, 404.—*Benthamia. Ach. Rich. Orch. Maurit.*

Omnia *Platantheræ*; sed calyx semper campanulatus et calcar brevissimum sæpiùs scrotiforme.

Although this genus is separated on apparently very slight grounds from *Platanthera* and *Herminium*, yet it collects a natural group of species, and must, I think, be adopted. See observations under *Herminium*, to which I formerly referred all the species.

1. PERISTYLUS Chorisianus.

P. foliis binis lato-ovatis acutis, spicâ pauciflorâ laxiusculâ, bracteis ovatis acuminatis floribus longioribus, sepalis ovatis obtusis membranaceis patentibus, petalis carnosis subrotundo-ovatis conniventibus, labello ovato canaliculato obtuso apice cucullato, calcare brevissimo subtereti.

Habenaria Chorisiana. *Chamisso in Linnæa*, 3, 31.

Hab. in *Unalashka*, *Chamisso. (exam. s. sp. in herb. Hooker.)*

Caulis vix palmaris. Calcar scrotiforme sec. cl. *Chamisso.*

2. PERISTYLUS islandicus.

P. caule diphylo, bracteis foliaceis: inferioribus spicâ 4-5-florâ longioribus, sepalis ovato-lanceolatis, petalis triplò angustioribus, labello lanceolato indiviso, calcare scrotiformi subdidymo.

Hab. in *Islandia. (exam. s. sp. in herb. Lehmann.)*

Tota planta vix 4 poll. alta. Folia oblonga, complicata. Flores campanulati, *Herminio Monorchi* duplò majores.

3. PERISTYLUS obsoletus.

P. "labello oblongo lanceolato indiviso, petalis erectis, cornu obtuso scrotiformi, germinibus pedicellatis, scapo nudo, bracteis brevissimis squamæformibus." *W.*

Orchis obsoleta. *Willd. Sp. Pl.* 4, 34.

Habenaria obsoleta. *Spreng. Syst. veg.* 3. *Beck. Bot. M. and N. North Amer.* p. 348.

Hab. in *America septentrionali* in locis umbrosis; a *Noveboraco* ad *Virginiam*, *Beck*; *Pennsylvania*, *Muhlenberg.*

4. PERISTYLUS latifolius.

P. caule basi folioso, foliis 2-3 ovali-oblongis acutis basi amplexicaulibus, spicâ longissimâ cylindraceâ, labello concavo obsoletè trilobo acuminato petalis conformi, calcare apice inflato.

Satyrium latifolium. Thouars, Orch. Afr. t. 10.

Benthamia latifolia. Ach. Rich. Orch. Maur. t. 7, no. 2.

Habenaria chlorantha. *Spreng. Syst.*

Herminium latifolium. Lindl. in Bot. Reg. 1499.

Hab. in *Borbonia*, *Thouars*; *Mauritio*, *Bouton. (hab. s. sp. comm. cel. Bouton.)*

5. PERISTYLUS Commersonianus.

P. "foliis tribus ad basin caulis rosellatis ovali-acutis nervosis; caule gracili; spicâ longâ; floribus minutis; labello subtriangulâri, basi subcanaliculato, calcare brevissimo recurvo."

October, 1835.

Gymnadenia Commersoniana. *Ach. Rich. Orch. Maurit.* 27, t. 4.

Hab. in sylvis *Borboniæ*, Commerson.

6. *PERISTYLUS citrinus.*

P. foliis 2 caulinis ovato-lanceolatis acuminatis superioribus multo minoribus subulato-acuminatis subtus glandulosis, floribus glandulosis, labello cuneato angulis rotundatis, calcare minimo tereti.

Habenaria citrina. *Thouars, Orch. Afr. t. 16.* *Ach. Rich. l. c. p. 21, t. 3.*

Hab. in *Borbonia*, Thouars.

7. *PERISTYLUS densiflorus.*

P. "bulbis ovalibus indivisis; foliis radicalibus lanceolatis petiolatis; superioribus caulinis spathæformibus; spicâ densâ, calcare scrotiformi." *Brot.*

Satyrium densiflorum. *Brot. Fl. Lusit.* 1, 22.

Hab. in *Lusitania*, Brotero.

8. *PERISTYLUS cordatus.*

P. caule diphylo, foliis cordatis acutis, spicâ secundâ, sepalis petalisq. ovato-lanceolatis acutis subæqualibus, labello trilobo basi saccato, squamis antheræ lateralibus elongatis clavatis.

Satyrium diphyllum. *Link. in Schrad. Diar.* 1799, p. 323.

Orchis cordata. *Willd. Sp. Pl.* 4, 28.

Habenaria cordata. *R. Br. Prodr.* 312. *Spreng. Syst.* 3, 691. *Hooker in Bot. Misc.* 1, 270, t. 55. *Bot. Mag.* 3164.

Herminium cordatum. *Lindl. in Bot. Reg. t.* 1499.

Hab. in *Africâ boreali-septentrionali*, et *Europa australi-occidentali*: *Lusitania*, *Link.*; *Tangier*, *Salzmann*; *Maderd*, *Lowe*; ad truncos arborum putrescentium in sylvâ *Las Mercedes Teneriffæ*, *Webb* et *Berthelot.* (*v. v. c. et hab. s. sp.*)

9. *PERISTYLUS fallax.*

P. folio subsolitario caulino erecto lineari-lanceolato nunc caule longiore, spicâ subsecundâ, sepalis ovatis acutis, petalis subulato-linearibus, labello hastato-trilobo-lacinii subæqualibus acutis, calcare brevi conico.

Herminium fallax. *Lindl. in Wall. Cat. no.* 7412.

Hab. in *Napalia*, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

10. *PERISTYLUS virescens.*

P. "labello lanceolato crenato, petalis conniventibus, cornu obtuso scrotiformi, bracteis flore longioribus." *W.*

Orchis virescens. *Muhl. in Willd. Sp. Pl.* 4, 37.

Hab. in *Pennsylvania*, *Muhlenberg.*

Unknown to North American botanists. Is it not some state of *Peristylus viridis*, or *bracteata*?

11. *PERISTYLUS bracteatus.*

P. caule folioso, foliis oblongis obtusis vel retusis sursum angustatis et acutioribus, spicâ laxâ, bracteis foliaceis acuminatis floribus duplò triplòque longioribus, petalis linearibus erectis, labello lineari truncato subcuneato angulis apice nunc productioribus calcare inflato brevi.

Orchis bracteata. Willd. *Sp. Pl.* 4, 34. *Salisb. Paradis.* t. 110.

Habenaria bracteata. R. Br. in *H. Kew.* 5, 192. *Sweet Fl. Gard. O. S.* 1, 62. *Pursh.* 2, 587. *Exot. Fl.* 3, t. 175.

β. ? angulis ovarii alatis crispis.

Hab. in *America septentrionali* frequens; etiam in *Siberia* ad Georiefsk, Prescott; β. in *Siberia*, Id. (*hab. s. sp.*)

I doubt whether this plant is really distinct from *P. viridis*; at least, I can find no mark of distinction beyond the length of the bracts. The lip has either two or three terminal teeth. My Siberian specimens are identical with those from North America.

12. *PERISTYLUS viridis*. Lindl. *Synops. Brit. Fl.* 2d edit. p. 261.

P. caule folioso, foliis oblongis inferioribus obtusissimis, spicâ densâ obtusâ, bracteis foliaceis floribus longioribus, petalis linearibus erectis, labello lineari abruptè tridentato dente intermedio minore, calcare brevi inflato.

Satyrium viride. Linn. *Sp. Pl.* 1337. *Eng. Bot.* t. 94.

Orchis viridis. Swartz. *Act. Holm.* 1800, p. 207. Willd. *Sp. Pl.* 4, 33.

Habenaria viridis. Brown in *Hort. Kew.* 5, 192. Hooker, *Fl. Lond. c. ic.*

Gymnadenia viridis. Rich. *Annot.*

Platanthera viridis. Lindl. *Synops.* 261.

Himantoglossum viride. Rehb. *Fl. Excurs.* p. 119.

Hab. in alpinis turfosis omnis *Europæ* et *Asiæ* occidentalis; etiam in agro Alabama *Americæ septentrionalis*, Drummond. (*hab. s. sp.*)

13. *PERISTYLUS albidus*. Lindl. l. c.

P. caule folioso, foliis inferioribus oblongis obtusis supremis acutis canaliculatis, spicâ cylindraceâ multiflorâ, bracteis acutis florum longitudine, petalis ovato-subrotundis, labello trifido laciniis subæqualibus acutis, calcare brevi tereti obtuso.

Satyrium albidum. Linn. *Sp. Pl.* 1338. *Eng. Bot.* t. 505.

Orchis albida. Swartz. *Act. Holm.* 1800, p. 207. Willd. *Sp. Pl.* 4, 38. *Fl. Danica*, t. 115.

Orchis alpina. Crantz. *Stirp. Austr.* 486.

Habenaria albida. Brown in *H. Kew.* 5, 193. Hooker, *Fl. Lond. c. ic.*

Gymnadenia albida. Rich. *Annot.* p. .

Platanthera albida. Lindl. *Synops.* 261.

Hab. in alpinis *Europæ*. (*hab. s. sp.*)

14. *PERISTYLUS Hamiltonianus*.

P. foliis (pluribus) lanceolatis acuminatis spicâ densâ cylindraceâ longioribus, bracteis setaceo-acuminatis floribus multò longioribus, sepalis petalisq. obtusis conformibus æqualibus, labello rotundato tridentato, calcare orbiculari.

Herminium Hamiltonianum. Lindl. in *Wall. Cat.* no. 7069.

Hab. in collibus Morang, *Indiæ orientalis*, Hamilton. (*hab. s. sp. e Museo Anglo-Indico.*)

15. *PERISTYLUS goodyeroides*.

P. caule basi laxè vaginato medio folioso, foliis ovato-oblongis acutis abruptè in squamis acuminatissimis transeuntibus, spicâ longâ cylindraceâ, sepalis petalisque ovatis acutis subæqualibus, labello tripartito laciniis ovatis acutis, calcare rotundo inflato.

Habenaria goodyeroides. Don. *Prodr. Nep.* 25.

Herminium goodyeroides. Lindl. in *Wall. Cat.* no. 7066.

β. floribus minoribus, spicis foliisq. brevioribus.

Habenaria affinis. *Don. l. c.*

Hab. in *Napalia*, *Wallich.* (*hab. s. sp. e Museo Anglo-Indico; β. comm. cel. Lambert.*)

Caulis altitudine variat a palmari ad sesquipedalem.

Flores ochroleuci.

16. *PERISTYLUS* plantaginea.

P. foliis (3) erectis oblongo-lanceolatis acutis spicæ ferè æqualibus, sepalis linearilanceolatis acuminatis, petalis conformibus duplè angustioribus, labello rotundato obtusè tridentato, calcare sphæroideo.

Herminium plantagineum. *Lindl. in Bot. Reg. 1499.*

Hab. in *Zeylona*, *Macrae.* (*hab. s. sp.*)

17. *PERISTYLUS* constricta.

P. caule basi laxè vaginato medio folioso, foliis pluribus oblongo-lanceolatis scapo brevioribus abruptè in squamis acuminatis transeuntibus, sepalis linearilanceolatis acuminatis, petalis conformibus duplè angustioribus, labello trifido: laciniis acuminatis lateralibus angustioribus et longioribus, calcare vesicato.

Platanthera constricta. *Lindl. in Wall. Cat. no. 7043.*

Herminium constrictum. *Bot. Reg. l. c.*

Hab. in *Napalia*, *Wallich.* (*hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.*)

18. *PERISTYLUS* gracilis. *Blume, Bijdr. 2, 404.*

P. "foliis linearilanceolatis acuminatis, labelli limbo 3-partito, laciniis lateralibus angustissimis, media lanceolata, calcare subclavato."

Hab. in *Java*; in sylvis montium Seribu Provinciæ Buitenzorg, *Blume.*

19. *PERISTYLUS* grandis. *Blume, l. c. t. 30.*

P. "foliis lato-oblongis acuminatis, labelli limbo semitrifido, calcare obtuso."

Hab. in *Java*; in sylvis humidis montis Salak, *Blume.*

20. *PERISTYLUS* aristatus.

P. caule gracili basi nudo vaginato medio folioso, foliis ovato-lanceolatis petiolatis membranaceis abruptè in squamulis quibusdam (2) distantibus transeuntibus, spicâ rarâ pauciflorâ, sepalis ovatis acutis, petalis subulatis majoribus, labello tripartito laciniis lateralibus setaceis flexuosis intermediâ rectâ carnosâ subulatâ longioribus, calcare ovali inflato antice costato.

Hab. in *Zeylona*, in lucis prope Peradeniam, *Macrae.* (*hab. s. sp. et ic. pict.*)

Caulis gracilis pedalis et ultra. Flores minimi herbacei.

? 21. *PERISTYLUS* atlanticus.

P. foliis lanceolatis maculatis, spicâ densâ brevi obtusâ, sepalis acutis, labello trilobo lobis linearibus angustissimis intermedio longiore et latiore, calcare abbreviato obtuso.

Orchis atlantica. *Willd. Sp. Pl. 4, 42.*

Satyrium atlanticum. *Desf. Fl. Atl. 2, 319.*

Hab. in *Atlantide*, Desfontaines.

Caulis semipedalis. An *P. albido* affinis? An potius *Acerati* amandandus?

CLXXX. SACCIDIUM.

Sepala conniventia, lateralia labello supposita et saccata. Petala carnosia spathulata duplò longiora. Labellum posticum magnum convolutum apice carnosum et divisum brevi-calcaratum. Anthera reclinata, loculis basi distantibus adnatis. Pollinia parva, glandulà vix a caudiculà crassâ distinguendâ.——Folia Caulis pilosissimus. Spica longa, cylindracea, densissima. Flores parvi.

The saccate lateral sepals and whole habit separate this from *Peristylus* and *Platanthera*; to say nothing of the very curious lip.

1. SACCIDIUM pilosum.

Orchidea pilosa. *Burch. Cat. Geogr. no. 7483.*

Hab. ad *Caput Bonæ Spei*, *Burchell. (exam. s. sp. in herb. Burchell.)*

Folia nulla adsunt in unico exemplari quod coram habeo. Caulis subpedalis pennæ columbinæ crassitudine, purpurascens, pilis longis divaricatis vestitus. Spica 8 poll. longa, densissima. Bracteæ ovatæ acuminatæ pilosæ ovario breviores. Flores glabri, 4 lineas longi. Sepala æqualia ovata acuta, lateralia acutè saccata. Petala spathulata, obtusa, scabriuscula, sepalis duplò longiora. Labellum magnum, convolutum, petalorum longitudine, cuneatum, tridentatum; dentibus carnosis æqualibus trilobis intermediâ nunc integrâ. Calcar breve incurvum subconicum.

CLXXXI. PACHITES.

Sepala patentia, impare paulo majori. Petala et labellum posticum ecalcaratum conformia. Anthera stipitata, resupinata, loculis basi ferè adnatis non elongatis divergentibus; glandulis nudis. Stigma brachiis duobus canaliculatis a fronte et rostello subquadrato crassissimo inter brachia et antheram interposito.——Herba rigida, foliis radicalibus gramineis, spicâ crassâ rigidâ, floribus parvis.

A very curious plant, with a rostellum so thick and large as completely to cut off the anther from the stigmatic processes or arms, which project forward like two horns. The anther is like that of *Repandra*.

1. PACHITES appressa.

Orchidea appressa. *Burch. Cat. Geogr. no. 7356.*

Hab. ad *Caput Bonæ Spei*, *Burchell. (exam. s. sp. in herb. Burchell.)*

Planta sesquipedalis, rigida, crassa, exsiccatione ferruginea. Radices videntur fibrosæ. Folia radicalia 4 uncias longa, linearia, carnosia, basi valdè membranacea et dilatata. Spica ferè pedalis, densissima, cylindracea, floribus arctè appressis. Bracteæ longè acuminatæ, appressæ,

floribus longiores. Sepala 3-4 lineas longa, ovata, concava, acuta, impare lateralibus latiore. Petala ovato-oblonga acuta; labellum ejusdem formæ sed angustius; omnia patula.

CLXXXII. CÆLOGLOSSUM.

Cæloglossum. *Lindl. in Bot. Reg. 1701.*

Sepala conniventia, æqualia, libera. Petala conformia, ungui labelli adnata. Labellum carnosum, unguiculatum, calcaratum, tripartitum, disco sæpius tuberculatum; ungue valde carnosus, concavo, ascendente, margine nunc eroso et glanduloso, sæpius (an semper) processus 2, carnosos, clavatos, ex ore calcaris ortos, parallelos, adnatos gerente. Anthera parva, cavitate unguis brevior, lobis basi ascendentibus, rostello tridentato brevi adnatis. Glandulæ nudæ.——Herbæ, (Indicæ,) radicibus testiculatis, caule folioso aut vaginato. Flores omnium minuti.

1. CÆLOGLOSSUM lacertiferum.

C. foliis radicalibus 2-3 oblongo-lanceolatis cæteris squamæformibus acutis appressis, spicâ gracili rarâ, bracteis acuminatis ovarii longitudine, labello lineari medio callo magno elevato apice trilobo lobis linearibus acuminatis intermedio longiore, calcare ovato inflato obliquo acuto.

Gymnadenia? tenuiflora. *Lindl. Wall. Cat. no. 7055.*

Hab. in *Tavoy, Wallich. (hab. s. sp. e Mus. Angl. Ind.)*

2. CÆLOGLOSSUM acuminatum.

C. foliis pluribus radicalibus oblongo-lanceolatis cæteris acuminatis squamæformibus, spicâ rarâ multiflorâ, bracteis acuminatis florum longitudine, labello tripartito basi bicalloso laciniis setaceis divaricatis intermediâ breviori, ungue marginato crispo, calcare ovato inflato apiculato.

Hab. in *Napalia, Wallich. (hab. s. sp. e Mus. Angl. Ind.)*

This plant has been sent from India by Dr. Wallich under the name of *Goodyera glabrata*.

3. CÆLOGLOSSUM brevifolium.

C. foliis radicalibus parvis ovato-lanceolatis cæteris minutis acuminatis squamæformibus, spicâ rarâ gracili, bracteis acuminatis ovarii longitudine, labello tripartito laciniis lateralibus linearibus obtusis intermediâ ovatâ breviori, calcare clavato pendulo labello longiore.

Habenaria micrantha. Wall. MSS.

Hab. in *Napalia, Wallich. (hab. s. sp. e Mus. Angl. Ind.)*

Is it possible that *Habenaria gracilis*, Colebrooke MSS. and Hooker, Exot. Fl. t. 135, is this plant? If not, I am acquainted with no Indian species to which the drawing can be referred.

4. CÆLOGLOSSUM densum.

C. caule folioso, foliis lanceolatis acuminatis sensim decrescentibus, spicâ oblongâ densâ, bracteis acuminatis floribus æqualibus, labello tripartito laciniis lateralibus setaceis intermediâ lineari breviori: unguis margine incrassato undulato, calcare pendulo labello duplò longiore.

Gymnadenia? *tenuis*. *Lindl. in Wall. Cat. no. 7057.*

Hab. in montibus *Sylhet, Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

5. *CÆLOGLOSSUM secundum.*

C. caule folioso, foliis oblongo-lanceolatis acuminatis planis, spicâ densâ secundâ, bracteis ovato-lanceolatis setaceo-acuminatis foliaceis floribus longioribus, labello tripartito laciniis lateralibus filiformibus intermedio lineari triplò breviorè, ungue lineari margine eroso, calcare scrotiformi apiculato.

Gymnadenia secunda. *Lindl. in Wall. Cat. no. 7054.*

Hab. verosimiliter in montibus *Mysorensibus.* (*hab. s. sp. e Mus. Angl. Ind.*)

The specimens of this plant were distributed by Dr. Wallich without any locality being assigned to them. Being from Heyne's Herbarium they could not have been from the North of India, but were probably from the Ghauts or from Ceylon.

CLXXXIII. MONOTRIS.

Monotris. *Lindl. in Bot. Reg. 1701.*

Sepala membranacea, posticè connata, lateralibus anticè distinctis, labello petalisque duplò minora. Petala carnea, acuminata. Labellum liberum, apice carnosum, trifidum, cucullatum, basi cornutum. Anthera libera, erecta, loculis basi divergentibus: valvulis exterioribus dilatatis, incurvis, glandulam tegentibus.——Radices testiculatæ. Folium minimum radicale. Caulis retrorsum hispidus. Flores parvi secundi. Bracteæ et sepalorum margines hispida.

1. *MONOTRIS secunda.*

Orchidea hispida. *Burch. Cat. Geogr. no. 6369.*

Hab. ad *Caput Bonæ Spei, Burchell.* (*exam. s. sp. in hb. Burchell.*)

Planta facie *Holotrichis parvifoliae.* Folium unum solitarium minimum ovatum hispidum. Caulis aphyllus retrorsum hispidus. Bracteæ cucullatæ, strigoso-hispidæ, floribus duplò breviores. Calyx tridentatus ciliatus. Petala ovata, acuminata, carnea, calyce duplò longiora. Labellum petalis parallelum, basi infundibulare, apice carnosum trilobum, lobis lateralibus unidentatis intermedio paulò brevioribus.

CLXXXIV. SCOPULARIA.

Scopularia. *Lindl. in Bot. Reg. 1701.*

Calyx membranaceus, connivens, sepalis lateralibus minoribus. Petala membranacea, lacero-multifida, circa labellum convoluta. Labellum erectum, convolutum, membranaceum, calcaratum, apice lacero-multifidum. Anthera libera, erecta; loculis approximatis, parallelis, basi dilatatis ascendentibus cucullum magnum inæquilateralem glandulas tegentem formantibus. Glandulæ polliniorum sub basi dilatata loculorum antheræ absconditæ, cucullo nullo (quantum videre potui) inclusæ.

— Radices testiculatæ. Folia radicalia membranacea. Caulis aphyllus. Spica elongata subsecunda.

1. SCOPULARIA Burchelli.

Orchidea pectinata. Burch. Cat. Geogr. no. 6709.

Hab. ad *Caput Bonæ Spei*, Burchell. (exam. s. sp. in herb. Burchell.)

Radices testiculatæ, lanatæ. Folia radicalia verosimiliter 2, membranacea, suborbiculata? Caulis pilosus 8 poll. altus, omnino nudus nisi squamulis quibusdam distantibus juxta fastigium. Spica $5\frac{1}{2}$ poll. longa, multiflora. Bracteæ ovatæ, acutæ, glabræ, ovario multo breviores. Flores parvi. Sepala ovata acuta, impar majus et longius. Petala cuneata, membranacea, calyce longiora, apice capillaceo-multifida. Labellum cum petalis convolutum, trilobum; lobis lateralis bifidis acutis intermedio rotundato margine capillaceo-multifido.

CLXXXV. AOPLA.

Aopla. Lindl. in Bot. Reg. 1701.

Calyx bilabiatus. Sepala lateralia deflexa, supremum erectum cum petalis agglutinatis galeam formans. Labellum lineare, ecalcaratum. Anthera brevis, erecta, lobis brevibus ascendentibus, rostello decurvo elongato. Glandulæ nudæ.—Herba (Indica) radicibus testiculatis. Folium solitarium, radicale. Spica laxa secunda. Flores herbacei.

1. AOPLA reniformis.

Herminium reniforme. Lindl. in Wall. Cat. no. 7067.

Hab. in *Napalia*, Wallich. (hab. s. sp. e Museo Anglo-Indico, et v. ic. pict.)

Folium solitarium suborbiculatum cordatum. Sepalum supremum petalaq. conniventia: inferiora subparallela porrecta; labellum lineare esaccatum.

CLXXXVI. HERMINIUM.

Herminium. R. Brown in Hort. Kew. ed. 2.—*Chamorchis.* Rich. Annot. p. 35.

Sepala membranacea, subæqualia, conniventia. Petala magis carnosâ, labello subconformia. Labellum carnosum, sæpius vix petalis longius, rhomboideum, integrum, vel tridentatum; basi nunc planiusculum, sæpiùs saccatum v. gibbosum. Columna utrinque squamâ (antherâ sterili) instructa. Anthera erecta, minuta, loculis basi divergentibus. Rostellum planum. Pollinia glandulis nudis.—Herbæ, radicibus testiculatis. Flores parvi, sæpius herbacei, nunc albi.

As limited by Dr. Brown, this genus was confined to *H. monorchis*, and was characterized by the naked glands of the pollen masses, and the spurless labellum. Richard adopted Dr. Brown's views, but added the flat rostellum to its character. But, the labellum of *H. monorchis* being distinctly saccate, the genus might be considered to represent a group of species in which, as in *Aceras*, a short spur may be expected to occur: and in reality, upon studying the exotic Ophrydeæ, it is impossible not to

observe that there is a number of plants resembling *H. monorchis* in habit, but differing in having a short and, usually, inflated spur. In some respects it might be advisable to combine all these plants under one generic name; and I formerly thought of adopting this plan; but upon a more mature consideration of the numerous unpublished species with which I have since become acquainted, I have been obliged to abandon the opinion. This point settled, the next question naturally was, are they to be placed in *Platanthera*; with which they may easily be made to combine technically. There is, however, a certain peculiarity of appearance in the calcarate *Herminia* which is unfavourable to their combination with *Platanthera*; and, upon the whole, I have at last made up my mind that the best course to take is to adopt Blume's genus *Peristylus* for all the plants that would be *Herminia* if they had not a spur, confining the latter genus to the absolutely spurless species.

Chamorchis of Richard has undoubtedly a folded rostellum; but at the same time the plicature exists in so very inconsiderable a degree, and the plant agrees so nearly with true *Herminia* in habit, that I am not willing to consider it distinct.

1. *HERMINIUM monorchis*. *R. Brown in Hort. Kew. l. c.*

H. foliis radicalibus binis ovato-oblongis, labello petalisque tridentatis, spicâ longâ cylindraceâ pedunculatâ.

Ophrys monorchis. *Linn. Sp. Pl. 1342. Willd. Sp. Pl. 4, 61. E. Bot. t. 71.*

Orchis monorchis. *Crantz. Austr. 478.*

Satyrion monorchis. *Pers.*

Arachnites monorchis. *Hoffm. sec. Rchb. Fl. Exc. 119.*

Herminium monorchis. *Rich. Annot. Hooker in Fl. Lond. c. ic.*

Hab. in pratis sæpiùs subalpinis Europæ et Asiæ occidentalis. (v. v. sp.)

2. *HERMINIUM alpinum*. *Lindl. in Bot. Reg. 1499.*

H. foliis linearibus gramineis, labello ovato repandò petalis acutis duplò majore, spicâ pauciflorâ foliis breviorè.

Ophrys alpina. *Linn. Sp. Pl. Jacq. Vind. t. 9.*

Orchis graminea. *Crantz. Fl. Austr.*

Chamorchis alpina. *Rich. Orch. Europ. 35.*

Hab. in alpihus Europæ. (hab. s. sp.)

3. *HERMINIUM gramineum*. *Lindl. in Wall. Cat. no. 7413.*

H. folio radicali lanceolato canaliculato, labello integerrimo concavo acuminato petalis duplò breviorè, spicâ secundâ elongatâ.

Neottia monophylla. *Don. Prodr.*

Hab. in Napalia, Wallich. (hab. s. sp. e Mus. Angl. Ind.)

4. *HERMINIUM congestum*. *Lindl. in Wall. Cat. no. 7068.*

H. foliis erectis oblongis apice latioribus spicæ densæ subæqualibus, bracteis squamæformibus ovario brevioribus, sepalis ovatis obtusis, petalis ovalibus subæqualibus, labello ovato integro convexo basi gibboso et marginato. Bot. Reg. 1499.

Hab. in Napalia, Wallich. (hab. s. sp. e Museo Anglo-Indico.)

CLXXXVII. HABENARIA.

Habenaria. *Willd. Sp. Pl.* 4, 44.

Perianthium Orchidis. Calcar elongatum. Columna libera reclinata. Anthera basibus loculorum solutis divergentibus canalibus stigmaticis adhærentibus. Glandulæ nudæ. Rostellum planum, antheræ adnatum. Processus carnosus 2 stigmatici, ultra antheram projectantes, sæpius ori calcaris adnati, formâ varii.—Habitus Orchidis.

As now limited, this extensive genus comprehends all the species of Ophrydeæ with a small rostellum, naked glands, and a long spur, provided they have two fleshy processes of the stigma projecting from the back of the mouth of the spur. I formerly intended to define the genus in another manner; but a very careful re-examination of every species to which I have access convinces me that these are the surest characters we can depend upon.

A. EROSTRES; ovariis pedunculatis subcylindraceis, aut fusiformibus, nunquam rostratis.—*Pteræque Americanae.*

§ 1. Petala 2-3-fida.

* Sepalum supremum petalis angustius.

** Sepalum supremum petalis majus.

a. Petalorum lacinia latitudine subæquales.

b. Petalorum lacinia anterior angustior et elongata.

c. Petalorum lacinia anterior nana.

§ 2. Petala indivisa. HENIDIA.

a. Labellum simplex, vel laciniiis lateralibus minimis.

b. Labellum trifidum, laciniiis filiformibus indivisis.

c. Labellum trifidum, laciniiis lateralibus dilatatis v. fissis.

B. ROSTRATÆ; ovariis sessilibus apice angustatis sæpius longè rostratis.—*Omnes Indicae.*

A. EROSTRES.

§ 1. Petala 2-3-fida.

* *Sepalum supremum petalis angustius.*

1. HABENARIA rotundifolia.

H. folio solitario radicali subrotundo-cordato plano obtuso, racemo 3-floro: floribus longè pedunculatis, petalis latissimis ovatis acutis: lacinia anteriore subulatâ, labelli tripartiti laciniiis subæqualibus intermediâ latiore, calcare incurvo clavato obtuso labello paulo longiore.

Habenaria? grandiflora. *Lindl. in Wall. Cat. no.* 7032.

Hab. in *India orientali.* (*hab. s. sp. ex herb. Anglo-Ind.*)

Semipedalis. Flores mediocres, quapropter nomen *grandifloræ* rejeci. Sepala explanata, subæqualia, ovata, acuta. Omnes partes glabræ.

** *Sepalum supremum petalis majus.*

a. Petalorum lacinia latitudine subæquales.

2. HABENARIA abortiens.

H. foliis lanceolatis erectis, racemo elongato multiflora: bracteis foliosis florum ferè longitudine, sepalo supremo nano, petalis minimis lacinia anteriore latiore bifidâ, labelli tripartiti lacinia intermediâ lineari obtusâ lateralibus dimidio brevioribus subulatis, calcare clavato acuminato labello longiore, basibus antheræ elongatis.

Hab. in *Peruvia, Hænke.* (*exam. s. sp. in herb. Martii.*)

Radices tomentosæ, tuberculo in exemplo nullo. Caulis bipedalis densè

foliosus. Sepala maxima, reflexa, falcata. Processus carnosi lanceolati, decurvi. Anthera omninò horizontalis.

3. HABENARIA digitata.

H. foliis ovato-oblongis undulatis acutis, racemo laxo elongato multifloro, bracteis lanceolatis ovarii longitudine, petalis bipartitis; laciniis linearibus anticis cum basi labelli connatis, labelli tripartiti laciniis subæqualibus linearibus acutis calcare clavato acuto brevioribus.

Bonatea punduana. *Lindl. in Wall. Cat. no. 7063.*

Bonatea herbacea. *Wallich.*

Hab. in *India orientali* supra montes Punduanas, *Wallich. (hab. s. sp. e Museo Anglo-Ind. et v. ic. pict.)*

Caulis 1-2-pedalis, foliosus. Flores parvi, herbacei, laciniis subulatis basi albis. Sepalum supremum suborbiculatum. Processus carnosi oblongi et bases antheræ longo intervallo distantes. Ut *Bonatea* lacinias habet anteriores petalorum cum labello connatas; sed stigma est *Habenariæ* nec prioris generis.

4. HABENARIA secunda.

H. racemo denso subsecundo multifloro, bracteis lanceolatis acuminatis florum ferè longitudine, petalis bipartitis: laciniis anterioribus falcatis paulò angustioribus et longioribus, labelli tripartiti laciniis linearibus obtusis subæqualibus, calcare pendulo crasso clavato.

Hab. in *Brazilia* prope Rio Janeiro. (*hab. s. sp.*)

Apicem racemi tantùm possideo. Sepala subæqualia, supremum latissimum complicatum subcordatum, lateralia explanata. Antheræ partes putridæ haud examinatu idoneæ sunt.

5. HABENARIA pentadactyla.

H. foliis angustè lanceolatis carinatis, racemo laxo multifloro, bracteis foliaceis acuminatis ovarii arcuati longitudine, petalis bipartitis a galea plana liberis: laciniis posterioribus membranaceis conniventibus anterioribus linearibus carnosissimis longioribus, labelli tripartiti carnosius sepalis brevioris laciniis linearibus æqualibus, calcare clavato apice ventricoso ovarii longitudine.

Hab. in *Bonaria* in paludosis, *Tweedy. (hab. s. sp. comm. cel. Hooker.)*

Caulis spithamæus, dimidiâ ferè omni superiore floridâ. Folia $2\frac{1}{2}$ poll. longa. Sepala patentissima; superiore subrotundo breviora.

6. HABENARIA macrostachya.

H. foliis obovato-lanceolatis in petiolo angustatis, racemo laxo multifloro, bracteis lineari-lanceolatis acuminatis ovario subæqualibus, petalis bipartitis: laciniis setaceis longissimis divaricatis æqualibus, labelli tripartiti laciniis subæqualibus setaceis, calcare cylindræo pendulo acuto, sepalis acuminatis.

Hab. in umbrosis *Zeylonæ*, florens Octobre, *Macrae. (hab. s. sp. et v. ic. pict.)*

Caulis sesquipedalis et ultra, basi squamatus; tuberculo oblongo integro. Folia atroviridia costa rubescente. Flores herbacei. Sepala æqualia, explanata, non reflexa. Petala et labellum rubro maculata. Processus carnosi lineares, paralleli, obtusi.

7. HABENARIA Salaccensis. *Blume, Bijdr. t. 13.*

H. "labello tripartito; laciniis linearibus media longiore, calcare filiformi ovarium subæquante, sepalis interioribus perianthii basi bipartitis."

Hab. in *Java*; in umbrosis montis Salak, Blume.

H. macrostachya valdè affinis videtur, sed petalorum laciniæ anteriores sunt nanæ.

8. HABENARIA arachnoides. *Thouars, Orch. Afr. t. 18.*

H. foliis angustè lanceolatis acutis, racemo laxo multifloro, bracteis ovatis squamiformibus, petalis bipartitis: laciniis linearibus anterioribus longioribus, labelli tripartiti laciniis lateralibus intermediâ duplè brevioribus, calcare filiformi apice inflato obtuso, sepalis lateralibus triangularibus supremo majoribus.

Hab. in *Madagascaria*, Thouars.

Flores flavescentes.

9. HABENARIA bractescens.

H. foliis densis lanceolatis erectis, racemo paucifloro, bracteis foliaceis cucullatis acutis ovario brevioribus, petalis bipartitis: laciniis subæqualibus sinu lato rotundato divisis anteriore carnosâ lineari obtusâ posteriori membranaceæ æquali, labelli tripartiti laciniis carnosis filiformi-lanceolatis æqualibus lateralibus ascendentibus, sepalis subæqualibus patulis supremo galeato, calcare pendulo apice compresso ovario longiore.

Hab. in paludibus *Bonariæ, Tweedy. (hab. s. sp. comm. cel. Hooker.)*

Subpedalis densè foliosus. Folia verosimiliter mollia, 3 poll. longa. Sepala $\frac{1}{4}$ unciam longa. Processus carnosus antheræ maximi, longissimi, spatulati, apice rotundati.

b. Petalorum lacinia anterior angustior et elongata.

10. HABENARIA macroceras. *Spreng. Syst. veg. 3, 692. Hooker, Bot. Mag. t. 2947.*

H. foliis oblongis obtusis, racemo laxo paucifloro, bracteis foliaceis ovarii longitudine, petalis bipartitis: laciniâ anteriore filiformi recurvâ duplè longiore, labelli tripartiti laciniis lateralibus filiformibus recurvis intermediâ breviori lineari emarginatâ, calcare arcuato subclavato ovario triplè longiore, sepalis lateralibus reflexis.

Orchis Habenaria. *Linn. Sp. Pl. 1331. Swartz! Obs. 319, t. 9.*

Habenaria macroceratitis. *Willd. Sp. Pl. 4, 44.*

Hab. in graminosis depressis subalpinis *Jamaicæ. (hab. s. sp. comm. cel. Hooker.)*

Calcare longo curvato nec recto, foliis latis oblongis subundulatis, et spicâ pauciflorâ primâ fronte distinguenda est.

11. HABENARIA longicauda. *Hooker in Bot. Mag. t. 2957.*

H. foliis angustis ovato-lanceolatis acuminatis, racemo laxo paucifloro, bracteis foliaceis ovario brevioribus, petalis bipartitis: laciniâ anteriore filiformi parum longiore, labelli tripartiti laciniis lateralibus filiformibus recurvis intermediâ breviori acutâ, calcare recto pendulo filiformi longissimo, sepalis lateralibus reflexis, processibus carnosis acutis.

Hab. in *Demerara, Parker.* (*hab. s. sp. comm. cel. Hooker.*)

Lacinia posterior petalorum anteriore latior; nec æqualis ut in ic. cel. *Hookeri.*

12. *HABENARIA Gourlieana.* *Gillies MSS.*

H. foliis angustis ovato-lanceolatis acuminatis, racemo laxo paucifloro, bracteis foliaceis ovario brevioribus, petalis bipartitis: lacinia anteriore filiformi longissima, labelli tripartiti laciniis lateralibus filiformibus recurvis intermedia brevior acuta, calcare recto pendulo filiformi ovario duplò longiore, sepalis lateralibus erectis, processibus carnosus obtusis.

Hab. in provinciâ *Mendoza* ubi in locis paludosis semel tantum detegit *div. Gillies.* (*hab. s. sp.*)

Priori simillima, et fortè mera varietas. Flores paulò minores, calcar brevius, et laciniae anteriores petalorum longissimae.

13. *HABENARIA bicornis.*

H. foliis angusto-lanceolatis acuminatis, racemo denso stricto ferè corymboso, bracteis ovario recto cylindraceo duplò brevioribus, petalis bipartitis a galeâ planâ liberis: lacinia anteriore subæquali falcatis cornutâ, labelli tripartiti carnosus laciniis spatulatis subæqualibus sepalorum longitudine, calcare longissimo inflexo apice compresso.

Hab. in *Cuba, Pöppig.* (*exam. s. sp. in hb. Hooker.*)

Caulis $1\frac{1}{2}$ -ped. laxè foliosus. Ovarium $1\frac{1}{2}$ poll. longum. Calcar multò longius. Sep. lat. 4 l. longa, supremo subrotundo obtuso duplò majora. Anthera brevissima, horizontalis, basibus solutis brevissimis ascendentibus. Processus carnosus semioblongi, convexi, paralleli, papilloso.

14. *HABENARIA maculosa.*

H. foliis ovato-lanceolatis undulatis acutis coriaceis basi amplexicaulibus, racemo denso multifloro, bracteis foliaceis ovario brevioribus, petalis bipartitis: lacinia anteriore setacea, labelli tripartiti laciniis linearibus acuminatis subæqualibus, calcare filiformi compresso ascendente ovario paulò longiore, sepalis lateralibus pendulis.

α. lacinia anteriore petalo longiore.

β. lacinia anteriore petalo multo brevior.

Hab. in insulis *Caribæis*; *Jamaica, Macfadgen, Sⁱ. Vincentii, Guilding, Tortola, Schomburgk, Barbadoes, Hb. Vahl.*; β. *Peruvia, Mathews, 1884.* (*hab. s. sp.*)

Radix fibrosa repens. Caulis pedalis ad 2-pedalem, maculis parvis purpureo-fuscis conspersus, præsertim versus basim. Verosimiliter cum *H. brachycerate* confusa; petalis bipartitis et caule maculoso diversissima est.—Anthera parva, basibus solutis longis linearibus. Processus carnosus falcatis, glabri.

15. *HABENARIA Michauxii.* *Nutt. Gen. Amer. 2, 189. Elliott, Bot. S. Carol. 2, 489.*

H. foliis ovali-lanceolatis, racemo longo multifloro, bracteis acuminatis, petalis bipartitis: laciniis anterioribus setaceis quam sepalum longioribus, labelli tripartiti laciniis lateralibus setaceis intermedia longioribus, calcare ovario duplò longiore.

Orchis quinqueseta. *Mich. Fl. boreali-Am. 5, 155. Pursh, Fl. Am. sept. 2, 586.*

Hab. in *Carolina*; rarissima in pinetis siccis prope Beaufort, Elliott; florens Aug.-Oct.

Bipedalis, densè foliosus. Flores albi.

16. *HABENARIA repens*. *Nutt. Gen. Amer.* 2, 190. *Elliott, Bot. S. Car.* 2, 489.

H. caule basi radicante folioso, foliis angustis lanceolatis erectis, racemo longo densifloro, bracteis acutis, petalis bipartitis: laciniis anterioribus setaceis erectis galeæ æqualibus, labelli tripartiti laciniis subæqualibus lateralibus angustioribus ascendentibus, calcare ovario æquali.

Hab. in palustribus prope Savannah in *Carolina australi* frequens, Elliott; prope Augustam, *Wray*. (*hab. s. sp. comm. cel. Hooker.*)

Præcedenti valdè affinis. Folia minùs conferta, setæ petalorum breves, et calcare ovario minùs longum, necnon ut videtur caulis a basi sua in luto radices longas emittens hanc satis distinguunt.

17. *HABENARIA maxillaris*. *Lindl. in Hooker's Journal Bot.* vol. 1.

H. foliis lineari-oblongis acutis, racemo denso multifloro, bracteis foliaceis ovario longioribus, petalis bipartitis: laciniis æqualibus anteriore lineari acuminata, labelli tripartiti laciniis lateralibus paulò angustioribus et brevioribus, calcare filiformi subclavato, sepalis explanatis æquilongis.

Platanthera foliosa. *Ad. Bronga. Voy. de la Coquille*, p. 194, t. 38, B.

Hab. in *Peruvia Cuming*, D'Urville. (*hab. s. sp.*)

Anthera basibus solutis æqualis; processibus carnosus latis rectis falcatis maxillaribus.

18. *HABENARIA paucifolia*.

H. foliis 2-3 ovato-ensiformibus acuminatis, caule superne squamato, racemo 2-3-floro, bracteis foliaceis ovario duplò brevioribus, petalis bipartitis: laciniis subæquilongis anterioribus filiformibus reflexis, labello tripartito sepalis lateralibus pendulis æquali: laciniâ intermediâ lateralibus latiore et breviori, calcare pendulo curvato ovario breviori.

Hab. in *Chile australi* ad ripas lacus "de Ranco" provincia Valdivia, *Bridges*, (no. 610.) (*hab. s. sp.*)

Radix fibrosus, tuberculo parvo oblongo indiviso. Caulis 6-8 poll. Flores mediocres.

19. *HABENARIA lancifolia*. *Ach. Rich. Orch. Maurit.* p. 20, t. 1.

H. foliis lineari-lanceolatis acuminatis, racemo paucifloro laxo, bracteis apice setaceis ovario duplò brevioribus, petalis bipartitis: laciniâ anteriore setaceâ duplò longiore, labelli linearis trifidi laciniis lateralibus divergentibus angustioribus et paulò brevioribus, calcare recto clavato obtusissimo ovarii longitudine.

Hab. in *Mauritio*, Commerson.

Caulis vix pedalis.

20. *HABENARIA vesiculosa*. *Ach. Rich. Orch. Maurit.* p. 20, t. 2.

H. foliis oblongo-lanceolatis in petiolum angustatis, racemo multifloro, bracteis apice setaceis ovario brevioribus, petalis bipartitis: laciniâ anteriori filiformi paulò longiore, labelli linearis trifidi laciniis lateralibus divergentibus intermediâ angustioribus et subæqualibus, calcare apice inflato ovarii longitudine.

Hab. in *Mauritio*, Neraud.

Flores virescentes.

21. *HABENARIA truncata*.

H. foliis ovato-lanceolatis canaliculatis acuminatis, racemo denso cylindraceo, bracteis foliaceis floribus longioribus, petalis bipartitis: laciniis anterioribus setaceis deflexis cum basi labelli connatis, labelli tripartiti porrecti laciniis linearibus acutis subæquilongis intermediâ latiore, calcare clavato pendulo truncato ovario duplò brevior.

Hab. in *Madagascaria*. (exam. s. sp. in hb. Hook.)

Planta siccata nigra est. Caulis flexuosus, pedalis, foliis supremis infimis longioribus, sed magis acuminatis et canaliculatis. Labellum est quasi quinquefidum.

22. *HABENARIA crassicornis*.

H. foliis ovato-oblongis acuminatis, racemo multifloro, bracteis foliaceis acuminatis ovarii longitudine, petalis bipartitis: laciniis lateralibus setaceis ascendentibus, labelli tripartiti laciniis linearibus acutis intermediâ paulò brevior, sepalis lateralibus explanatis acutissimis, calcare recurvo compresso valdè clavato.

Hab. in *Mexico*, de *Karwinski*. (exam. s. sp. in hb. Reg. Monac.)

Vix pedalis. Folia sensim in bracteis decrescentia. Flores mediocres. Sepalum supr. cum pet. galeatum. Processus carnosus magni convexi glabri.

23. *HABENARIA flexuosa*.

H. foliis oblongo-lanceolatis acutis, floribus distantibus, bracteis foliaceis acuminatis cucullatis ovarii longitudine, petalis bipartitis: laciniis anterioribus filiformibus rectis reflexis galea brevioribus, labelli tripartiti laciniis filiformibus æqualibus, sepalis lateralibus pendulis supremo æqualibus, calcare filiformi compresso recto pendulo ovario duplò longiore.

Hab. in *Mexico*, ad S. Pedro, Oxaca, de *Karwinski*. (exam. s. sp. in hb. Mart.)

Caulis subflexuosus, 9 poll. altus, foliis sensim in bracteis decrescentibus.

24. *HABENARIA clypeata*.

H. foliis parvis ovatis cuspidatis sensim decrescentibus, racemo multifloro, bracteis foliaceis cucullatis acuminatis ovario brevioribus, petalis bipartitis: laciniis anterioribus linearibus horizontalibus posticis cum sepalo supremo rotundato galeam orbiculatam planam efficientibus, labelli penduli tripartiti laciniâ intermediâ lineari-lanceolatâ lateralibus linearibus paulò longiore, calcare compresso ovarii longitudine.

Hab. in *Mexico*, de *Karwinski*. (exam. s. sp. in hb. Reg. Monac.)

Caulis pedalis. Racemus oblongus, multiflorus. Galea orbiculata plana facie omninò peculiari hanc speciem induit.

25. *HABENARIA entomantha*.

H. foliis parvis ovatis acutis superioribus squamiformibus setaceo-acuminatis, racemo multifloro, bracteis ovatis acuminatissimis ovario duplò brevioribus, petalis bipartitis: laciniis anterioribus longissimis setaceis, labelli

tripartiti laciniâ intermediâ rectâ lineari lateralibus longissimis setaceis, sepalis acuminatis lateralibus pendulis, calcare pendulo compresso ovario longiore.

Orchis entomantha. *Llave, Orch. Mexic.* 2, 8.

Hab. in *Mexico, de Karwinski*; prope Vallisoletum, Llave. (*exam. s. sp. in hb. Reg. Monac.*)

Flores lactei. Caulis pedalis supernè defoliatus. Anguli tres ovarii membranaceo-alati. Anthera parva, basibus solutis brevibus. Processus carnosi breves rotundati hispidi.

26. HABENARIA mystacina.

H. foliis vaginantibus linearibus setaceo-acuminatis, racemo multifloro, bracteis foliaceis acuminatis ovarii longitudine, petalis bipartitis: laciniis anterioribus lineari-lanceolatis erectis galea longioribus barbatis posticis glabris, labelli 3-partiti laciniâ intermediâ lineari obtusâ basi lateralibusque longioribus acuminatis barbata, sepalis lateralibus pendulis, calcare pendulo compresso ovarii longitudine.

Hab. in *Brazilia*; in campis inter Tejuco et radices montis Itambé, provinciæ Minarum; etiam in summo Itambé, *Martius. (exam. s. sp. in hb. Mart.)*

Caules stricti, subaphylli, 2-pedales. Flores parvi, albi. Pili petalorum et labelli articulati, subramentacei. Anthera brevis, basibus solutis elongatis; processus carnosi longi, apice uncinati, glabri.

27. HABENARIA nuda.

H. foliis linearibus acuminatis vaginantibus, racemo laxo multifloro, bracteis cucullatis setaceo-acuminatis ovario brevioribus, petalis semi-ovatis: laciniis anterioribus setaceis ascendentibus, sepalo supremo subrotundo emarginato cuspidato longioribus, labelli tripartiti laciniis lateralibus setaceo-filiformibus intermediâ lineari truncatâ longioribus calcaris longitudine.

Hab. in *Brazilia*; in provincia Minarum, *Martius. (exam. s. sp. in hb. Mart.)*

Pedalis et ultrâ. Folia angustissima, inferius sæpè falcatum recurvum.

28. HABENARIA setacea.

H. foliis linearibus apice setaceis, racemo laxo 5-7-floro, bracteis lineari-lanceolatis setaceo-acuminatis ovario longioribus, ovario arcuato, petalis bipartitis: laciniis anterioribus setaceis ascendentibus galeâ acuminatâ longioribus, labelli tripartiti laciniis setaceis æqualibus, calcare ovarii longitudine, sepalis lateralibus acuminatis.

Hab. in *Brazilia*; in graminosis ad radicem montis Itambé, provincia Minarum, *Martius. (exam. s. sp. in hb. Mart.)*

Spithamæa, ferè defoliata. Anthera parva subrotunda, basibus solutis brevibus. Processus carnosi breves dolabriformes.

29. HABENARIA gracilis.

H. foliis radicalibus subbinis lanceolatis erectis, caule vaginato, racemo stricto, bracteis lanceolatis acuminatis ovario longioribus, petalis bipartitis: laciniis anterioribus filiformibus galeæ longitudine, labelli tripartiti laciniis filiformibus subæqualibus, calcare arcuato ascendente compresso ovario longiore, sepalis ovatis obtusis lateralibus pendulis.

Hab. in *Brazilia*; provincia Minarum, *Martius*. (*exam. s. sp. in hb. Mart.*)

Pedalis et paulò major, habitu ob caulem distanter vaginatum gracilissime. Flores densi, ob ovarium rectiusculum nec more solito arcuatum. Anthera parva subrotunda, basibus solutis brevibus. Processus carnosus breves obtusi.

30. *HABENARIA* aranifera.

H. foliis paucis lanceolatis erectis, racemo elongato denso, bracteis ovato-lanceolatis ovarii hexagoni longitudine, petalis bipartitis: laciniis a galea liberis projicientibus lateralibus e lata basi setaceis, labelli tripartiti laciniis linearibus æqualibus sepalorum longitudine, sepalis ovatis subæqualibus, calcare filiformi crassiusculo ovarii longitudine.

Hab. in *Bonaria* in paludosis, *Tweedie*. (*hab. s. sp. comm. cel. Hooker.*)

Caulis pedalis. Folia $2\frac{1}{2}$ -poll. longa. Petala bipartita porrecta, cum laciniis setaceis flexuosis et labello tripartito insectum simulant cujus caput est anthera parva rotunda.

31. *HABENARIA* imbricata.

H. foliis lineari-oblongis obtusis cum mucrone sensim in squamis acuminatis caulis decrescentibus, racemo denso multifloro, bracteis foliaceis imbricatis floribus æqualibus, petalis bipartitis: laciniis lateralibus setaceis posteriorum ovarium acutarum longitudine, labelli tripartiti laciniâ intermediâ lineari-lanceolatâ obtusâ lateralibus setaceis arcuatis subæquali, sepalis margine serrulatis, calcare pendulo clavato ovario longiore inter bracteas latente.

Hab. in *Brazilia*; *Martius*. (*exam. s. sp. in hb. Mart.*)

Pedalis. Folia majora vix 2 poll. long. excedunt. Flores solito minores, siccatione pallidi nec nigricantes. Margo sepalorum est pruinoso-serrulatus. Anthera parva subrotunda. Processus carnosus crassus cuneatus.

32. *HABENARIA* ichneumonea.

H. "labello tripartito: laciniis linearibus, calcare lineari incurvato apice ovato, calyce 7-phylo, foliolis lateralibus exterioribus majoribus reflexis."

Orchis ichneumonea. *Swartz in Pers. Syn. 2, 506.*

Hab. in *Sierra Leone*, *Afzelius*.

33. *HABENARIA* membranacea.

H. "labello 3-partito: laciniis lateralibus lanceolato-linearibus, apice longissimo capillaceo, media lineari, calcare subulato germine brevioribus incurvo, calyce septemphylo."

Orchis membranacea. *Swartz in Pers. Syn. 2, 506.*

Hab. in *Sierra Leone*, *Afzelius*.

34. *HABENARIA* trifida. *Humb. et Kunth. n. g. et sp. pl. 1, 330. Synops. 1, 323.*

H. "caule paucifloro, foliis lanceolato-oblongis, foliolis calycinis tribus interioribus trifidis."

Hab. in locis temperatis opacatis Regni *Novo Granatensis*, inter villam San Miguel et convallem Guachicon, prope Almager, alt 810 hexap. Floret Novembri. *Humboldt*.

Caulis sesquipedalis. Folia acuta, carinata, sesquipoll. Sepala subæqua-

lia, ovata, albovirescentia, 5 lin. longa. Petala alba, sepalis paulò longiora: laciniis linearibus obtusis, inferiore a superioribus approximatis divergente. Labellum album, laciniis linearibus approximatis. Calcar bipollicare, pendulum, apice emarginatum et bituberculatum; ex *Kunth*.

c. Petalorum lacinia anterior nana.

35. *HABENARIA montevidensis*.

H. foliis lanceolatis canaliculatis acuminatis, racemo oblongo densissimo, bracteis acuminatis florum longitudine, petalis carnosis bipartitis: laciniis anterioribus nanis acutis, labelli carnosii tripartiti laciniis æqualibus intermediâ latiore, calcare oblongo recto inflato labello longiore, sepalis patulis.

Hab. in *Montevideo*; *Commerson, Tweedy*. (exam. s. sp. in hb. *Vahl. et Hook.*)

Caulis 4-5 poll. altus. Folia superiora vaginantia, acuminatissima. Flores herbacei.

36. *HABENARIA brevidens*.

H. foliis inferioribus ovalibus acutis superioribus cucullatim vaginantibus, racemo denso stricto multifloro, bracteis acuminatis ovarii longitudine, petalis carnosis antice unidentatis, labelli carnosii tripartiti laciniâ intermediâ lineari-ensiformi obtusiusculâ lateralibus subfalcatis æquilatis duplò longiore, calcare clavato pendulo ovarii longitudine.

Hab. in *Brazilia*; provincia Minarum, *Martius*. (exam. s. sp. hb. *Mart.*)

Caulis subpedalis. Folia radicalia ferè 2 poll. longa. Sepalum supr. subrotundum mucronatum; lateralibus pendula acuta. Antheræ steriles subrotundæ denticulatæ. Processus carnosii lineares falcati obtusi.

37. *HABENARIA parviflora*.

H. foliis lineari-lanceolatis erectis canaliculatis, racemo cylindraco multifloro, bracteis acuminatis flore longioribus, petalorum laciniâ anteriore falcatâ posteriore duplò brevior, labelli tripartiti laciniis deflexis subæquilongis lateralibus angustioribus, calcare filiformi pendulo ovarii brevior.

Hab. in *Brazilia*, frequens; prope Bahiam, *Salzmann*; in monte Corcovado ad Rio Janeiro, *Martius, Princeps Neovidensis, &c.* (hab. s. sp. comm. cel. *Prescott.*)

Caulis strictus 1-2-pedalis, foliis strictis angustis sursum decrescentibus vestitus. Spica 4-6 poll. longa, siccatione nigricans. Flores albivirides. Anthera subrotunda, basibus solutis brevissimis. Processus carnosii cuneati truncati.

38. *HABENARIA angustifolia*. *Humb. et Kunth. n. g. pl. 1, 330. Synops. 1, 323.*

H. "caule paucifloro, foliis lanceolatis, foliolis calycinis interioribus bifidis, labello trifido."

Hab. in humidis uliginosis *Guyana*, inter El Trapiche de Farreras et urbem S. Thomas del Angostura. Floret Junio. *Humboldt.*

Caulis pedalis. Folia acuminata, carinata, tripollicaria, 6 l. lata. Petalorum lacinia superior oblonga, inferior triplicè brevior. Labelli laciniæ lineares. Calcar pollicare; ex *Kunth*.

39. *HABENARIA latifolia*. *Humb. et Kunth. n. g. et sp. pl.* 1, 331. *Synops.* 1, 323.

H. "foliis ovato-oblongis; floribus spicatis; foliolis calycinis interioribus lateralibus bifidis; labello trifido."

Hab. in declivitate orientali *Andium Novo-Granatensium*, prope Santa Anna et Mariquita, alt. 400 hexap. Floret Junio. *Humboldt.*

Caulis $1\frac{1}{2}$ -ped. Folia acuta, bipoll. 9-10 l. lata. Spica 2-3 poll. Bracteæ floribus paulò breviores. Sepala 3 l. longa ovato-oblonga, obtusa. Petalorum lacinia inferior superiore obtusà triplò brevior. Labelli lacinia lineares divergentes. Calcar pendulum, 9 l. longum; ex *Kunth.*

40. *HABENARIA leptoceras*. *Hooker in Bot. Mag. t.* 2726.

H. foliis lanceolatis undulatis planis basi angustatis, racemo longo laxiusculo, bracteis foliaceis ovarii longitudine, petalorum lacinia anteriore acutà ascendente posteriore duplò brevior, labelli tripartiti lacinia intermedia lineari-acuminatà apice dilatatà lateralibus falcatis triplò longiore, calcare filiformi compresso pendulo ovario longiore, sepalo supremo compresso cuspidato cucullato, basibus solutis antheræ longissimis.

Hab. in *Brazilia*; prope Rio Janeiro, *Forbes. (hab. s. sp. ex hb. Hort. Soc.)*

Caulis 1- $1\frac{1}{2}$ -pedalis, foliis undulatis erectis densè vestitus. Flores virides, labello lutescente, calcare albo. Sepala lateralia concava. Bases soluti antheræ processibus carnosius obtusis multo longiores, facillimè a canalibus glanduliferis separabiles.

§ 2. Petala indivisa.

a. Labellum simplex, v. laciniiis lateralibus minimis.

41. *HABENARIA brachyceras*. *Spreng. Syst.* 3.

H. foliis angusto-lanceolatis acuminatis patentibus, racemo laxiusculo multifloro, petalis ovatis acuminatis infra galeam obtusam invicem trajicientibus, labello filiformi subclavato integerrimo, calcare apice compresso ascendente ovario 3-ptero brevior.

Orchis monorhiza. *Swartz! Prodr.* 118. *Fl. Ind. Occ.* 3, 1391.

Habenaria brachyceratit. *Willd. Sp. Pl.* 4, 44.

Hab. in depressis montium *Jamaicæ*, *Swartz. (hab. s. sp. comm. cel. Hooker.)*

Caulis $1\frac{1}{2}$ -2-pedalis erectus, foliosus. Folia summa tantum decrescentia. Processus carnosius oblongi obtusi paralleli ultra antheram longè producti. Alæ ovarii latæ, membranacæ.

I know no plant which will answer to Swartz's description of *O. monorhiza* in the *Flora Indiæ Occidentalis*. West Indian botanists often take *Habenaria maculosa* for it; but that species has two parted petals. Others consider this to be his plant, but it has a simple lip; yet in Vahl's Herbarium is a specimen of this from Swartz himself marked *O. monorhiza*. In all probability he confounded the two, for both are common Jamaica plants; they are, however, essentially different, as may be seen by comparing the descriptions.

42. *HABENARIA obtusa*.

H. foliis oblongo-lanceolatis canaliculatis erectis, racemo laxo multifloro,

bracteis foliaceis latis cucullatis floribus longioribus, sepalo supremo rotundato lateralibus obtusis reflexis, labello lineari obtuso ascendente, calcare pendulo clavato compresso ovario duplò longiore.

Hab. in *Brazilia*; in radice montis Itacolumi ad Villa Rica, provincia Minarum, *Martius*. (*exam. s. sp. in hb. Mart.*)

Caulis strictus, foliosus, bipedalis, foliis haud plusquam 3-pollicaribus. "Sepala supremum supra albidum; lateralia reflexa viridia. Petala alba, obliquè lanceolata; lab. lineare viride. Calcar striatum, compressum." *Martius*. Bases antheræ longissimi ascendentes. Processus carnosus glandulosi, cuneati.

43. HABENARIA floribunda.

H., racemo laxo longissimo, bracteis membranaceis acuminatis obtusis ovario æqualibus, petalis dimidiato-oblongis truncatis antice carnosus, labello lineari acutiusculo, calcare pendulo ovarii longitudine.

Hab. in *Peruvia*, *Hænke*. (*exam. s. sp. in hb. Mart.*)

Racemus ultrapedalis, verosimiliter subspiralis. Flores cum ovario simul sumpti unciam longi. Antheræ bases longè soluti. Processus carnosus truncati glabri.

44. HABENARIA quadrata.

H. foliis oblongo-lanceolatis acuminatis mollibus, racemo longissimo laxo, bracteis membranaceis acuminatis ovario æqualibus, petalis quadratis cuspidatis antice carnosus medio venosis, labello lineari sepalis lateralibus æquali, calcare pendulo filiformi compresso ovario longiore.

Hab. in *Brazilia*; in ripa fl. Madeira, provincia fl. Nigri, *Martius*. (*exam. s. sp. in hb. Mart.*)

"Radix fasciculata et bulbis 2 ovatis se propagans. Caulis sesquipedalis et altior acutè angulatus. Sepala virescentia, supremum hemisphærico-concavum galeatum erectum, lateralibus obliquè oblongis reflexis medio concavis. Petala albovirescentia. Labellum lineare, obtusum, flavovirens, deflexum." *Mart. MSS.*—*H. floribunda* simillima, sed flores minores et petala formæ diversæ.

45. HABENARIA hexaptera.

H. foliis ovato-lanceolatis, racemo longo laxo multifloro, bracteis ovario æqualibus, petalis lineari-oblongis obtusissimis, labello lineari acuto sepalis lateralibus acutis æquali, calcare falcato compresso ovarii longitudine, sepalo supremo subrotundo serrulato, ovario hexaptero alis crispis.

Hab. in *Brazilia*; provincia Minarum, *Martius*. (*exam. s. sp. in hb. Mart.*)

Caulis sesquipedalis et altior. Folia majora $2\frac{1}{2}$ -poll. longa. Racemus semipedalis. Processus carnosus circa faucem calcaris ferrum equinum referentes cruribus acutis. Anthera subrotunda, basibus solutis processibus brevioribus.

46. HABENARIA petalodes.

H. foliis oblongo-lanceolatis acutis, racemo longo laxo multifloro, bracteis foliaceis acuminatis ovario brevioribus, petalis cuneatis sepalo supremo rotundato cuspidato longioribus patentibus, labello lineari apice dilatato basi bidentato, calcare compresso clavato acuminato pendulo ovario longiore.

Hab. in *Brazilia*; in Sierra do Itacolumi provincia Minarum, *Martius*.
(*exam. s. sp. in hb. Mart.*)

Caulis 2-3-pedalis, foliosus. Sepala lateralia reflexa, semioblonga, acuta.
Anthera latissima; basibus solutis elongatis. Processus carnosus fungosi
truncati, sejuncti.

47. HABENARIA parvidens.

H. foliis ovato-lanceolatis acuminatis canaliculatis, racemo laxo multifloro,
bracteis acuminatis foliaceis floribus æqualibus, sepalo dorsali ovato
obtusum cum apiculo lateralibus reflexis acuminatis, petalis subfalcatis
sepalorum longitudine, labello filiformi sepalorum longitudine basi
utrinque laciniâ brevi lineari, calcare filiformi arcuato labello paulo
longiore.

Hab. in *Peruvia*, Mathews, (1885.) (*hab. s. sp.*)

Caulis sesquipedalis. Bases antheræ parùm elongati; processus carnosus
breves acinaciformes. Alabastri semunciam longi.

48. HABENARIA? purpurea. *Thouars. Orch. Afr. t. 17.*

H. foliis angustis ensiformibus acutis radicalibus, caule squamato, racemo
laxo paucifloro, bracteis brevibus concavis squamæformibus, labello
cuneato cuspidato, calcare incurvo obtuso labello brevior.

Hab. in *Madagascaria*, Thouars.

Flores purpurei. — An *Peristylis* sp.

49. HABENARIA linifolia. *Presl. Reliq. Hænk. 1, 91.*

H. "scapo paucifloro, foliis lineari-lanceolatis, sepalis integris, labello
lineari-oblongo integerrimo basi angulato, bracteis ovario brevioribus."

Hab. in *Peruvia*, ad Huanoco, Hænke.

Scapus septempollicaris. Spica bipollicaris, laxa, vix 18-flora. Calcar
ovariorum longitudine.

b. Labellum trifidum, laciniis filiformibus indivisis.

50. HABENARIA elongata. *R. Brown, Prodr. Fl. Nov. Holl. 313.*

H. foliis oblongis acutis sensim evanescentibus, racemo laxo multifloro,
bracteis ovatis angustis acuminatissimis ovario quadruplò brevioribus,
labello tripartito: laciniis filiformibus lateralibus divaricatis intermediâ
duplò brevioribus, sepalo supremo retuso, calcare filiformi ascendente
ovariorum longitudine.

Hab. in *Nova Hollandia tropica*, Brown. (*hab. s. sp. comm. cel. R. Brown.*)

Caulis sesquipedalis. Sepala lateralia ovata, obtusa. Petala semiovata.

51. HABENARIA reflexa. *Blume, Bijdr.*

H. "labello tripartito: laciniis linearibus, media elongata recurva, sepalis
exterioribus lateralibus latioribus reflexis, calcare clavato arcuato ovario
brevior."

Hab. in *Java*; in calcareis prope Kuripan, Blume.

52. HABENARIA arenaria.

H. foliis binis radicalibus oblongo-ovatis acutis, scapo vaginato, racemo
laxo multifloro, bracteis membranaceis acuminatis pedicellis ovariorum

longioribus, labelli tripartiti laciniis filiformibus lateralibus recurvis brevioribus, calcare pendulo filiformi ovario longiore.

Orchid. arenaria. *Burch. Hb.* 5654.

Hab. ad *Caput B. Spei*, *Burchell.* (*hab. s. sp. comm. cel. Burchell.*)

Caulis 1-1½-pedalis. Ovaria abruptè pedicellata. Sepala lateralia pendula.

53. HABENARIA filicornis.

H. caule gracillimo bifolio, foliis strictissimis vaginantibus oblongo-linearibus obtusis, racemo laxo multifloro, bracteis subulatis pedicellorum longitudine, labelli tripartiti laciniis filiformibus obtusis intermediâ ascendente lateralibus deflexis duplè longiore, calcare filiformi compresso ovarii longitudine.

Orchis filicornis. *Thonning! in Schumach. Beskriv. af Guineisk. Plant.* 2, 171.

Hab. in *Guinea*, *Thonning.* (*exam. s. sp. in hb. Hornem.*)

Caulis 1-1½-pedalis. Foliorum lamina caule parallela obtusa. Flores minuti, ichneumonis facie. Petala falcata cum sepalo supr. refracto in galea agglutinata. Sepala lateralia majora retrorsum falcata. Anthera acuminata; basibus solutis brevibus erectis. Processus carnosii acuti decurvi.

54. HABENARIA procera.

H. "labello tripartito: laciniis ascendentibus lateralibus linearibus divaricatis mediâ subulatâ porrectâ canaliculatâ, calcare lineari obtuso germine longiore, foliolis cal. lateralibus exterioribus deltoideis."

Orchis procera. *Swartz in Pers. Syn.* 1, 506.

Hab. in *Sierra Leone*, *Afzelius.*

55. HABENARIA tridactylites.

H. foliis 2 radicalibus oblongo-lanceolatis petiolatis, racemo laxo paucifloro, bracteis membranaceis acuminatis ovario duplè brevioribus, labelli tripartiti laciniis filiformibus intermediâ paulè longioribus, calcare filiformi clavato pendulo ovarii longitudine.

Orchis tridactylites. *Webb et Berth. Fl. Can. ined.*

Hab. ad rupes, et in cæspitosis ins. *Canariensium* frequens, *Webb et Berthellot.* (*hab. s. sp. comm. cell. W. et B.*)

Caulis spithamæus v. minor, foliis radicalibus paulè altior. Sepalum supremum lato-ovatum acutum cum petalis angustis falcatis galeam planiusculum efformans. Sepala lateralia linearia obtusiuscula. Anthera lata, lobis parùm solutis divaricatis; processus carnosii oblongi distantes.

56. HABENARIA graminea.

H. foliis radicalibus linearibus acuminatis scapo filiformi stricto multò brevioribus, racemo laxo paucifloro, bracteis squamiformibus acutis vix pedicello ovarii longioribus, labelli tripartiti sepalorum longitudine laciniis filiformibus subæqualibus, calcare compresso clavato ovarii longitudine.

Platanthera linifolia. *Lindl. in Wall. Cat. no.* 7041.

Hab. in montibus *Silhet*, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 3-7 poll. altus, gracillimus, strictus. Folia $1\frac{1}{2}$ -2 poll. longa. Flores parvi distantes. Sepalum suprem. c. pet. galeatum; lateralia deflexa, acuta. Anth. subrotunda, basibus solutis ascendentibus brevibus. Processus carnosi reniformes fauci calcaris adnati.

57. *HABENARIA viridiflora*. R. Br. Prodr. in annot.

H. foliis radicalibus pluribus angustis acutis recurvis, racemo laxo multifloro, bracteis subulatis pedicellorum longitudine, petalis ovatis sepalis majoribus conformibus, labelli tripartiti sepalis paulò longioris horizontalis laciniis filiformibus intermediâ longiore, calcare filiformi pendulo ovarii longitudine.

Orchis viridiflora. Swartz, Act. Holm. 1800, p. 206. Willd. Sp. Pl. 4, 13.

Hab. in peninsula *Indiæ orientalis*, Wight. (hab. s. sp. comm. cel. Wight.)

Caulis 6-8 poll. altus basi tantum foliatus supernè squamosus. Bases antheræ distantes, porrecti, nec ascendentes. Processus carnosi lineares obtusiusculi.

58. *HABENARIA lucida*. Wall. MSS.

H. foliis obovato-lanceolatis acutis planis, racemo elongato laxo multifloro, bracteis ovatis acutis ovario duplò brevioribus, labelli tripartiti laciniis lateralibus linearibus obtusis divaricatis ascendentibus sepalis longioribus intermediâ ovatâ setaceo-acuminatâ, calcare filiformi apice compresso ovario longiore.

Platanthera lucida. Lindl. in Wall. Cat. no. 7047.

Hab. in regno *Burmano*; Rangoon, Wallich. (hab. s. sp. e Mus. Angl. Ind.)

Caulis sesquipedalis, apice distanter squamatus. Flores minores, distantes. Sepala lateralia reflexa, acuta, supremum erectum obtusum cum petalis galeatum. Processus carnosi parvi oblongi subreniformes.

59. *HABENARIA furcifera*.

H. foliis oblongis planis acutis basi angustatis, racemo angusto elongato multifloro, bracteis membranaceis acuminatis ciliatis ovarii longitudine, labello trifido laciniis linearibus furcatis lateralibus intermedio breviori suppositis, petalis retusis galeâ brevioribus, calcare compresso ovario longiore apice involuto.

Hab. in *Mussooree*, Royle. (hab. s. sp. comm. cel. Royle.)

Sesquipedalis, facie *Aceratis anthropophoræ*. Folia radicalia 5 poll. longa. Axis racemi lævis. Sepala subæqualia, lateralia deflexa. Antheræ steriles maximæ orbiculatæ, bases rectos breves loculorum antheræ fertilis subrotundæ tegentes. Processus carnosi breves oblongi.

60. *HABENARIA stenopetala*.

H. foliis obovato-lanceolatis acuminatis planis, racemo denso multifloro, bracteis membranaceis acuminatis ovario longioribus, labello lineari trifido laciniis acuminatis lateralibus nanis, petalis setaceo-linearibus a galeâ liberis, sepalis setaceo-acuminatis, calcare recto filiformi ovarii longitudine.

Hab. in *India septentrionali*, Cashmeram versus, Royle. (hab. s. sp. comm. cel. Royle, et v. ic. pict.)

Caulis foliosus, basi nudus, sesquipedalis vel altior. Flores albi, sepalis

apice virescentibus, labello flavescente. Tuberculum radices magnum, oblongum, indivisum.

61. HABENARIA Heyneana.

H. foliis angustis ovalibus acutis, racemo secundo paucifloro laxo, bracteis foliaceis cucullatis subventricosis acuminatis flore longioribus, labelli tripartiti laciniis subæqualibus sepalorum longitudine intermediâ angustè ovali lateralibus filiformibus incurvis, petalis sepalisq. subæqualibus conniventibus, calcare pendulo filiformi ovario brevior.

Platanthera Heyneana. *Lindl. in Wall. Cat. no. 7044.*

Hab. in peninsula *Indiæ orientalis*, Heyne. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis vix spithamæus. Folia perfecta 2-3, suberecta, subitò in bracteis mutata. Sepalum supr. fornicatum, cætera ovata obtusiuscula. Anthera basibus distantibus parum solutis. Processus carnosus longissimi, cum basi labelli connati, linguæformes, divergentes.

62. HABENARIA Rumphii.

H. foliis angustis canaliculatis acutis erectis, racemo oblongo denso multifloro, bracteis floribus longioribus squamisq. caulis setaceo-acuminatis, labelli tripartiti laciniis filiformibus lateralibus brevissimis, calcare clavato labelli longitudine.

Platanthera Rumphii. *Ad. Brongn. Voy. de la Coquille, p. 194, t. 38, A.*

Orchis amboinica minor. *Rumph. Amb. p. 118, t. 54, f. 2.*

Hab. in *Amboyna*, Rumphius, D'Urville.

63. HABENARIA Promensis. *Lindl. in Wall. Cat. no. 7033.*

H. foliis angustè oblongis acutis canaliculatis patentissimis in squamis acuminatissimis mutatis, racemo oblongo denso multifloro, bracteis acuminatissimis ovario longioribus, labelli tripartiti laciniis filiformibus subæqualibus sepalis longioribus, sepalo supremo petalisq. falcatis fornicatis: lateralibus acutis patentibus, calcare pendulo clavato ovarii longitudine.

Hab. in montibus Promensibus *Indiæ orientalis*, Wallich. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis spithamæus. Folia majora 2-5 distantia. Anthera brevissima; basibus vix solutis. Processus carnosus lineares basi labelli adnati.

64. HABENARIA marginata. *Colebr. in Hook. Exot. Fl. t. 136.*

H. foliis radicalibus planis approximatis patentissimis cordatis oblongis albomarginatis, racemo oblongo denso multifloro, bracteis acuminatis ovarii longitudine, labelli tripartiti penduli laciniis sepalis longioribus lateralibus linearibus acuminatis intermediâ lanceolatâ obtusâ brevior, sepalo supremo petalisq. semiovatis fornicatis: lateralibus ovato-lanceolatis patentibus, calcare pendulo clavato apice ventricoso ovarii longitudine.

Hab. in *India orientali*; Bengalia, Kamaon, Wallich. (*hab. s. sp. e Mus. Angl. Ind.*)

Tubercula oblonga, indivisa; radices filiformes paucae breves carnosae. Caulis vix semipedalis squamis 2 acuminatis vaginatus. Folia obtusa aut acuta. Sepala viridia. Petala et labellum lutea. Bases antheræ distantes brevi spatio soluti. Processus carnosus falcatis fimbriati.

65. *HABENARIA latifolia*.

H. foliis radicalibus pluribus aggregatis patentibus ovato-oblongis acutis, caule distanter vaginato, racemo laxo multifloro, bracteis membranaceis linearibus acuminatissimis ovario brevioribus, labelli laciniâ mediâ sepalis longiore lineari-oblongâ obtusâ lateralibus setaceis nanis ascendentibus, sepalo supremo petalisque falcatis fornicatis lateralibus duplò brevioribus, calcare filiformi pendulo sursùm compresso dilatato ovario longiore.

Hab. in *Zeylona, Macrae*. (*hab. s. sp.*)

Folia 6 poll. longa, $2\frac{1}{2}$ lata. Scapus pedalis. Flores magni speciosi. Anthera basibus longis ascendentibus subulatis solutis. Processus carnosus lineares apice fimbriati.

66. *HABENARIA* ? *præalta*.

H. caule folioso, foliis ensiformibus canaliculatis strictis, racemo longissimo cylindræo, bracteis cucullatis ovarii longitudine, labello tripartito laciniis linearibus æqualibus, calcare clavato ovarii longitudine.

Satyrium præaltum. *Thouars, Orch. Afr. t. 11.*

Hab. in *Borbonia, Thouars*,

Flores virescentes.

c. Labellum trifidum, laciniis lateralibus dilatatis v. fissis.

67. *HABENARIA pectinata*. *Don. Prodr. p. 24.*

H. foliis oblongo-lanceolatis acuminatis, racemo elongato multifloro, bracteis foliaceis acutis florum longitudine, labelli tripartiti ferè duplò sepalis longioris laciniis lateralibus basi simplicibus sursùm capillaceo-multifidis segmentis setaceis subsimplicibus intermediâ lineari acuminatâ, sepalis lateralibus deflexis supremo petalisque anticè repandis pubescentibus in galea agglutinatis, calcare pendulo filiformi apice clavato labello duplò longiore.

Orchis pectinata. *Smith, Exot. Bot. t. 99.*

Hab. in *India septentrionali orientem versus*; *Napalia, et Kamaon, Hamilton, Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 2-pedalis v. minor, foliis ad summum vestitus. Sepala 7 l. longa. Processus carnosus corniformes, pubescentes, reflexi, basibus solutis antheræ longiores. Galea pallidè viridis; sep. lat atroviridia; labellum album.

68. *HABENARIA ensifolia*.

H. foliis ensiformibus caulem vestientibus, racemo laxo brevi multifloro, bracteis foliaceis acuminatis florum longitudine, labelli tripartiti sepalis paulò longioris laciniis lateralibus capillaceo-multifidis segmentis filiformibus obtusis sæpiùs furcatis, intermediâ lineari-acuminatâ, sepalis petalisque lanceolatis liberis glabris secundis, calcare pendulo clavato labelli longitudine.

H. intermediæ pars. *Wall. Cat. no. 7030.*

Hab. in *Gossain Than, Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 1-1 $\frac{1}{2}$ -pedalis, foliis erectis ad summum vestitus. Sepala 10 l. longa, acuta, omnia ascendentia. Petala sepalo supremo supposita, sed nullo modo agglutinata aut anticè repanda.

October, 1835.

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In the distribution of Dr. Wallich's Herbarium I confounded this with *H. intermedia*, from which the characters now assigned to that species abundantly distinguish it.

69. *HABENARIA intermedia*. Don. Prodr. Nep. 24.

H. caule 1-5-floro, foliis ovato-oblongis acuminatis distantibus patentibus, bracteis foliaceis planis patentibus ovario brevioribus, labelli tripartiti laciniis lateralibus ab ipsâ basi capillaceo-multifidis segmentis longissimis setaceis indivisis intermediâ lineari acuminatâ, sepalo supremo petalisque glabris anticè planis in galeâ agglutinatis lateralibus falcatis ascendentibus, calcare ascendente infracto filiformi labello vix longiore.

Hab. in *Napalia*, orientem versus, Hamilton, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis spithamæus ad pedalem, paucifolius. Sepala pollicaria. Petala sepalo supremo agglutinata, margine anteriore haud repando. Flores in *H. pectinata* magni, in *H. ensifolia* adhuc majores, in *H. intermedia* sunt maximi.

70. *HABENARIA pubescens*.

H. foliis pluribus radicalibus oblongis acutis planis, racemo elongato cylindraceo multifloro axi pubescente, bracteis acuminatis pubescentibus ovario longioribus, labelli tripartiti laciniâ intermediâ lineari carnosâ lateralibus longioribus apice dilatatis fissis, calcare arcuato compresso ovarii longitudine.

Hab. in *India septentrionali* ad Sabathoo, *Royle*. (*exam. s. sp. in hb. Royle.*)

Caulis sesquipedalis, robustus, pubescens. Folia sexpollicaria. Bases antheræ a canalibus stigmaticis liberi. Processus carnosii parvi tuberculiformes.

71. *HABENARIA cephalotes*.

H. foliis oblongis acuminatis canaliculatis, racemo oblongo denso multifloro, bracteis cucullatis acuminatis ovario longioribus, labelli trilobi pubescentis laciniâ intermediâ lineari acutâ lateralibus rotundatis multifido-ciliatis longiore, sepalo supremo petalisque conniventibus galeatis pubescentibus sepalis lateralibus intus tomentosus duplè minoribus, calcare pendulo apice clavato labello longiore.

Hab. in peninsula *Indiæ orientalis*, *Wight*. (*hab. s. sp. comm. cel. Wight.*)

Spithamæa. Folia inferiora 2½-pollicaria, sensim decrescientia. Anthera glabra, processibus carnosis rectis basibus loculorum solutis porrectis paulò longioribus. Petala obliquè triangularia, margine scabro. Sepalum supr. 3-costatum, intus glabrum, lat. 1-costata.

72. *HABENARIA longicornis*. Lindl. in *Wall. Cat. no. 7027*.

H. foliis lanceolatis canaliculatis recurvis, racemo laxo paucifloro, bracteis membranaceis acuminatissimis ovario arcuato brevioribus, labelli tripartiti laciniâ intermediâ lineari lateralibus falcatis crenatis obtusis brevioribus, sepalis lateralibus triangularibus supremo erecto a petalis horizontalibus incurvis libero, calcare clavato compresso ovario longiore.

Hab. in *India orientali*, *Heyne*. (*hab. s. sp. e Mus. Angl. Ind.*)

Vix 5 poll. altus. Folia radicalia 5, subitò in squamis acuminatissimis

mutata. Sepala patula, nulla reflexa. Calcar $1\frac{1}{2}$ p. longum. Bases soluti antheræ elongati. Processus carnosi recurvi.

73. HABENARIA ochroleuca. *R. Brown, Prodr.* 313.

H. foliis brevissimis appressis ovato-lanceolatis acutis, racemo raro paucifloro, bracteis acuminatis ovario duplò brevioribus, labelli trifidi laciniâ intermediâ compressâ filiformi lateralibus lanceolatis divaricatis paulò brevioribus, sepalo supremo petalisque duplò minoribus subquadratis: lateralibus patentibus majoribus cum laciniis labelli lateralibus parallelis, calcare pendulo apice clavato ovarium subæquante.

Hab. in *Nova Hollandia tropica*, *R. Brown. (hab. s. sp. comm. cel. R. Br.)*

Caulis tenuis, 10 poll. altus, foliis tam parvis ut potius squamatum quam foliatum diceret. Flores parvi. Bases soluti antheræ breves porrecti; processus carnosi lineares divergentes basi labelli accreti.

B. ROSTRATÆ.

74. HABENARIA plantaginea.

H. foliis radicalibus oblongis aut obl.-lanceolatis acutis obtusisve, spicâ laxâ secundâ, bracteis membranaceis acutis ovario duplò brevioribus, labelli trifidi subrotundi laciniâ intermediâ lineari acutâ lateralibus latissimis denticulatis subæquali, sepalis subæqualibus ascendentibus, calcare arcuato filiformi pendulo ovario rostrato longiore.

Orchis platyphyllos. Roxb. Fl. Ind. 3, 451.

Gymnadenia plantaginea. Lindl. in Wall. Cat. no. 7053.

Hab. in peninsula *Indiæ orientalis*: in angustiis inter Tenevelly et Travancore, *Wallich*; Monghir, *Hamilton. (hab. s. sp. e Mus. Angl. Ind.)*

Caulis aphyllus squamis acutis vaginatus, spithamæus ad pedalem. Sepala ovata acuta, labello triplò minora. Processus carnosi oblongi, paralleli, agglutinati. Ovarium brevius rostratum quam in priore.

75. HABENARIA platyphylla. *Spreng. Syst.* 3, .

H. foliis radicalibus orbiculatis acutis horizontalibus, spicâ densâ multiflorâ, bracteis setaceo-acuminatis ovario duplò brevioribus, labelli tridentati laciniâ intermediâ lineari acutâ lateralibus denticulatis nanis, sepalis æqualibus, calcare longissimo filiformi apice incrassato.

Orchis plantaginea. Roxb. Corom. 1, p. 32, t. 37. *Flora Indica*, 3, 450.

Orchis platyphyllos. Willd. Sp. Pl. 4, 10.

Orchis Roxburghi. Pers. Syn. 2, 503.

Hab. in peninsula *Indiæ orientalis*; montibus Circar, Roxburgh; dumetis et sylvestribus montium Vandalore, *Wight, Wallich. (hab. s. sp. e Mus. Angl. Ind.)*

Caulis $1-1\frac{1}{2}$ -pedalis squamis acuminatissimis vestitus. Flores albi, fragrantés. Sepala ovata, lateralia reflexa. Petala linearia. Ovarium rostratum. Antheræ bases soluti porrecti.

76. HABENARIA crinifera.

H. foliis radicalibus oblongo-lanceolatis, spicâ densâ multiflorâ, bracteis acuminatis ovario triplò brevioribus, labello unguiculato basi appendiculato quadripartito laciniis acuminatissimis sepalis 4-plò longioribus, sepalo supremo petalisq. galeatis, calcare ascendente clavato compresso labelli longitudine.

Hab. in *Zeylona*; in umbrosis ad ripas fluviorum intra sylvas, *Macrae*, florens Septembri. (*hab. s. sp. et ic. pict.*)

Caulis sesquipedalis. Flores majusculi, sepalis pallidè viridibus, labello albo. Sepalum supremum in labellum pronum lineis tribus purpureis in dorso. Laciniaè labelli nunc denticulatae nunc integerrimae. Bases antherae longissimi soluti. Appendix e fauce calcaris cochleariformis, brevis.

77. *HABENARIA trichosantha*. *Wall. Cat. no. 7028.*

H. foliis ovato-oblongis acuminatis subamplexicaulibus, spicâ brevi densâ, bracteis ciliatis acuminatis ovarii longitudine, labelli tripartiti laciniis lateralibus capillaceo-multifidis intermedia lineari-lanceolata, sepalis lateralibus reflexis supremo erecto a petalis libero, calcare compresso ovario longiore.

Hab. in regno *Burmano*, in monte Taong Dong, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis 1-1½-pedalis, parcè foliatus. Folia 2½ poll. longa.

78. *HABENARIA geniculata*. *Don. Prodr. Fl. Nep. 25.*

H. foliis oblongo-lanceolatis planis, spicâ cylindraceâ multiflorâ, bracteis setaceo-acuminatis ovarii longitudine, labelli subrotundi trilobi lobis lateralibus dentatis planis intermedio lineari acuto, petalis sepalo supremo galeato duplè brevioribus, calcare basi infundibulari sursùm cylindraceo clavato obtuso.

Platanthera geniculata. *Lindl. in Wall. Cat. no. 7042.*

Hab. in *Napalia*, et regno *Burmano*: Gossain Than, montibus Prome et Taong Dong, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Planta statura et facie *O. masculæ*. Bases soluti antherae ascendentes. Processus carnosus lineares, longissimi, porrecti. Sepala lateralia supremo duplè majora. Ovarium brevè rostratum.

79. *HABENARIA longifolia*. *Hamilt. MSS.*

H. foliis angustis acuminatis canaliculatis erectis, spicâ laxâ multiflorâ, bracteis foliaceis acuminatis ovario longioribus, labello subrotundo plano trilobo: lobis lateralibus semioblongis integris intermedio lineari acuto, sepalo supremo cum petalis aequalibus in galea agglutinatis, calcare filiformi ovario longiore.

Gymnadenia longifolia. *Lindl. in Wall. Cat. no. 7060.*

Hab. in *India septentrionali*; Nathpur, *Hamilton*, Mussooree et portu Kheree, *Royle*. (*hab. s. sp. e Mus. Angl. Ind.*)

Caulis sesquipedalis foliosus. Flores albi. Labellum sepalis 3-plè majus, magis minusve divisum. Rostellum liberum, subulatum, compressum, antherae ferè æquale, loculis subparallelis. Calcar viride. Ovarium sessile apice angustatum, vix rostratum. Capsulam haud vidi. Processus carnosus apice dilatati uncinati.

80. *HABENARIA stenopetala*.

H. foliis oblongo-lanceolatis acuminatis patentibus, vaginis caulis laxis acuminatissimis, spicâ pauciflorâ subcorymbosâ, bracteis acuminatissimis floribus longioribus, labello basi appendiculato lineari-oblongo carnoso trilobo: lobis acuminatis lateralibus nanis intermedio sepalorum longi-

tudine, petalis setaceo-linearibus, calcare filiformi obtuso ovarii longitudine.

Hab. in *Zeylona*, in umbrosis, florens Decembri, *Macrae*. (*hab. s. sp. et ic. pict.*)

Spithamæa, basi tantum foliata. Flores nivei. Sepalum supremum convexum, non galeatum, lateralibus subæquale. Calcar basi infundibulare. Appendix labelli parvus, convexus, pubescens. Bases antheræ longissimi porrecti. Processus carnosii parvi, ori calcaris adnati.

81. *HABENARIA commelinifolia*. *Wall. MSS.*

H. foliis oblongo-lanceolatis planis, spicâ laxâ multiflorâ, bracteis foliaceis acuminatis ciliatis ovario longè rostrato subæqualibus, labello trifido laciniis lateralibus setaceis divaricatis intermediâ lineari acuminatâ longiore, petalis oblongis et sepalo supremo cucullato galeatis lateralibus reflexis triangularibus rotundatis, calcare filiformi clavato ovario duplè longiore.

Orchis commelinifolia. *Roxb. Fl. Ind. 3, 451.*

Platanthera commelinifolia. *Lindl. in Wall. Cat. no. 7037.*

Hab. in peninsula *Indiæ orientalis*; Bengalia, Roxburgh, regno Burmano, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.*)

Caulis sesquipedalis. Vaginæ supremæ setaceo-acuminatæ. Flores albi, inodori. Bases soluti antheræ longissimi. Labelli lobus medius valdè convexus.

82. *HABENARIA rostrata*. *Wall. MSS.*

H. foliis oblongo-lanceolatis radicalibus, spicâ oblongâ densâ, bracteis acuminatissimis ciliatis ovarii longitudine, labello tripartito sepalis duplè longiore laciniis filiformibus acuminatis, sepalo supremo galeato lateralibus latis apice falcatis, calcare clavato ovario brevior.

Platanthera rostrata. *Lindl. in Wall. Cat. no. 7051.*

Hab. in regno *Burmano*, *Wallich*. (*hab. s. sp. e Mus. Angl. Ind.*)

Pedalis. Spica crassa, multiflora. Bases antheræ recurvi. Processus carnosii breves oblongi.

83. *HABENARIA linguella*.

H. foliis oblongo-lanceolatis erectis, squamis supremis setaceo-acuminatis, spicâ subrotundâ multiflorâ, bracteis acuminatissimis ciliatis ovario arcuato rostrato æqualibus v. brevioribus, labelli tripartiti laciniis filiformibus intermediâ deflexâ lateralibus brevissimis, sepalo supremo petalisque ovatis convexis liberis galeam efficientibus: lateralibus pendulis contiguus, calcare filiformi compresso-clavato ovario longiore.

Hab. in *China*, Dom. *Millett*; *Zeylona*, *Macrae*. (*hab. s. sp. et v. in hb. Hooker.*)

Caulis pedalis et ultra. Spica facie *H. rostratæ* a qua vix differt nisi labello. Flores aurei ex *Macrae*.

84. *HABENARIA acuífera*. *Wall. MSS.*

H. foliis omnibus radicalibus angustè lanceolatis erectis, squamis caulis setaceo-acuminatis, spicâ subrotundâ densâ, bracteis acuminatis ovario brevioribus, labello lineari tripartito: laciniis lateralibus subulatis nanis,

sepalo supremo plano : lateralibus duplò majoribus, calcare cylindraceo apice obtuso inflexo ovario brevius.

Platanthera acuífera. *Lindl. in Wall. Cat. no. 7045.*

Hab. in regno *Burmano*; *Tavoy, Wallich. (hab. s. sp. e Mus. Angl. Ind.)*

Spithamæa. Spica brevis. Bases antheræ liberi elongati. Processus carnosí parvi, os calcaris ambientes. Anth. steriles ovatæ, elongatæ. Sepala lateralía labelli longitudine.

85. *HABENARIA densa.* *Wall. MSS.*

H. caule folioso, foliis oblongis acuminatis, spicâ longissimâ cylindraceâ densâ, bracteis acuminatis ovarii longitudine, labello lineari obtuso indiviso, petalis sepalisque conformibus ovatis acutis conniventibus, calcare clavato ventricoso ovario brevior.

Platanthera densa. *Lindl. in Wall. Cat. no. 7046.*

Hab. in *Napalia, Wallich. (hab. s. sp. e Mus. Angl. Ind.)*

Caulis 2-pedalis et ultra. Folia 5 poll. longa. Spica ferè sesquipedalis. Flores parvi. Capsulæ ovatæ, brevirostratæ, hexagonæ, angulis tribus costatis. Processus carnosí oblongi obtusi divergentes.

Species facie propriâ. Perianthium campanulatum cum *Habenaria* malè quadrat; sed notam nullam inveni ad genus novum conficiendum idoneam.

Species dubia; fortè diversi generis.

HABENARIA Sigillum. *Thouars. Orch. Afr. t. 20.*

Hab. in *Borbonia, Thouars.*

Folia in medio tantum caulis bipedalis, oblonga, acuminata, nervosa. Racemus laxus multiflorus. Bracteæ brevissimæ, squamiformes. Flores albi. Sepala ovata, patula, subæqualia. Petala posticè emarginata, sepalis paulò minora. Labellum 5-fidum: laciniis linearibus basilaribus nanis, intermediis latioribus subfalcatis, intermediâ e latâ basi projiciente. Calcar filiforme, ovarii longitudine. Ad ic. *Thouarsii.*

CLXXXVIII. ATE.

Perianthium Orchidis. Anthera basibus divergentibus attenuatis canalibus stigmaticis adnatis. Glandulæ nudæ. Processus carnosí liberi, laminâ corneâ, spatulatâ, deflexâ, canaliculatâ interpositâ. Antheræ steriles a lata basi angustatæ, fertis ferè longitudine, apice incrassatæ.—
Herba radice tuberculosâ, caule folioso, floribus herbaceis galeatis.

This very distinct genus differs from *Habenaria* in having a curious, horny, channelled, recurved tooth, arising from the anterior edge of the orifice of the spur, and curved down upon the lip: its use is unknown to me. On account of its situation it cannot be considered analogous to the little appendage we find at the base of the lip of *H. crinifera* and *stenopetala*; whatever it may be, it is an organ so very highly developed, that, considering the great length of the sterile stamens, and the peculiar habit of this plant, I think we must admit it as a good generic character.

1. *ATE virens.*

Habenaria barbata. *Wight in Wall. Cat. no. 7034.*

Hab. in peninsula *Indiæ orientalis* prope Dindigul, in montibus alt. 4000 ped. *Wight. (hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.)*

Pedalis. Folia ovata, acuminata, omnem caulem occupantia, subito in bracteis mutata. Racemus secundus, laxis, 4-6-florus, bracteis foliaceis ovario longioribus. Flores virides, galeati. Sepala 8 l. longa, ovata, acuminata, glabra, lateralia reflexa; supremum cum petalis galeam formans. Petala pubescentia sepalo duplò latiora, bifida, laciniis acuminatis anteriore breviora. Labellum pendulum, pubescens, trifidum, sepalis longius, lobis linearibus acuminatis æqualibus. Calcar filiforme, ovarii longitudine, obtusum.

CLXXXIX. BONATEA.

Bonatea. *Willd. Sp. Pl. 4, 43. Lindl. Illustr. of Orchideous Plants by Bauer, GENERA, tt. 12, 13.*

Perianthium et Anthera *Habenariæ*. Stigma labio superiore (rostello) libero, elongato, cucullato v. complicato. Processus carnosus 2, stigmatici, nunc longissimi, nunc abbreviati.—*Habitus Orchidis.*

Obs. *Bonatea* est *Habenaria* stigmatate evolutissimo.

a. *Petala bipartita.*

1. *BONATEA speciosa.* *Willd. Sp. Pl. 4, 43. Bot. Mag. t. 2926.*

B. caule folioso, foliis oblongis subundulatis laxè vaginantibus, racemo multifloro compacto, bracteis membranaceis cucullatis acuminatis ovarii longitudine, floribus galeatis, petalis bipartitis lineari-lanceolatis galeæ longitudine, laciniis anterioribus labello adnatis, labello tripartito laciniis linearibus acuminatis convexis undulatis apice revolutis, rostello ciliato, processibus carnosis spatulatis canaliculatis obtusis sepalorum longitudine, calcare filiformi pendulo labello æquali.

Orchis speciosa. *Linn. Suppl. Syst. Nat. p. 401. Thunb. Fl. Cap. 1, 27.*

Hab. prope rivulos plures ad *Caput B. Spei, Thunberg. (v. v. c. et hab. s. sp. comm. cel. Burchell.)*

2. *BONATEA cirrhata.*

B. caule folioso, foliis oblongo-lanceolatis subundulatis planis, racemo paucifloro, bracteis foliaceis acuminatis ovarii longè pedunculati longitudine, floribus galeatis, petalis bipartitis: laciniis setaceis liberis posteriore brevi anteriore longissimâ flexuosâ, labello tripartito laciniis capillaceis lateralibus brevioribus, rostello subulato glabro antherâ breviore, processibus carnosis capitatis galeæ longitudine, calcare longissimo compresso convoluto.

Hab. in *Madagascaria, Lyall. (exam. s. sp. in hb. Hooker.)*

Caulis sesquipedalis. Sepala lateralia triangularia, 9 l. longa. Petala cirrhata $2\frac{1}{2}$ poll. longa.

3. *BONATEA incarnata.*

B. caule folioso, foliis ensiformibus canaliculatis erectis, racemo denso

cylindraceo, bracteis membranaceis acuminatis ovario longioribus, sepalis omnibus reflexis supremo duplò minore, petalis bipartitis: laciniâ posteriore membranaceâ subulatâ reflexâ anteriore carnosâ linearilanceolatâ antrorsum arcuatâ, labello tripartito laciniis linearibus acutis sepalorum lateralium longitudine, rostello subulato anthera brevioribus, processibus carnosis capitatis antherâ brevioribus, calcare falcato ovario longè pedunculato æquali.

Habenaria incarnata. *Lyall, MSS.*

Hab. in *Madagascar*, *Lyall.* (exam. s. sp. in hb. *Hooker.*)

Caulis bipedalis. Folia 6-8 poll. longa. Racemus semipedalis. Flores inter minores. Petala duo cornua bovina simulant. Antheræ steriles sunt emarginatæ.

4. BONATEA Bilabrella.

B. caule gracili basi folioso, foliis linearilanceolatis abruptè in vaginis laxis acuminatis transeuntibus, racemo laxo oblongo multifloro, bracteis membranaceis acuminatis pedicellis vix æqualibus, sepalis reflexis supremo linearilanceolato canaliculato lateralibus dimidiato-oblongis apice valdè obliquis, petalis carnosis pubescentibus bipartitis: laciniis anterioribus ovatis obtusis posticis erectis recurvis linearibus duplò longioribus cum sepalo quasi labium superius formantibus, labello tripartito laciniis lateralibus angustissimè lanceolatis intermediâ filiformi brevioribus, rostello cornuto antheræ longitudine, processibus carnosis capitatis antherâ longioribus, calcare falcato basi infundibulari.

Bilabrella falcicornis. *Bot. Reg.* 1701.

Orchidea falcicornis. *Burch. Cat. Geogr. no.* 5178.

Hab. ad *Caput Bonæ Spei*, *Burchell.* (exam. s. sp. in herb. *Burchell.*)

5. BONATEA pratensis.

B. caule basi tantum folioso, foliis angustis ensiformibus erectis, racemo subcorymbose paucifloro, bracteis acuminatis ovario triplò brevioribus, floribus galeatis, petalis bipartitis: laciniis anterioribus linearibus falcatis quam posteriores lanceolatæ falcatæ brevioribus, labello tripartito sepalis lateralibus æquali: laciniis æquilongis lateralibus linearibus subfalcatis obtusis intermediâ linearilanceolatâ, rostello obtuso cucullato anthera longiore, processibus carnosis crassis truncatis nanis, calcare recto clavato ovarii longitudine.

Orchis pratensis. *Salzmann.*

Hab. in *Brazilia*; *Bahia*, *Salzmann, Don*; *Rio Belmonte*, ad rivulum prope *Francoso*, *Princeps Neovidensis.* (hab. s. sp.)

Subpedalis. Folia 3-4 poll. longa. Flores verosimiliter lutescentes.

6. BONATEA flexuosa.

B. caule valdè flexuoso, foliis coriaceis lanceolatis acuminatis canaliculatis, racemo laxo paucifloro, bracteis foliaceis cucullatis ovario longipedunculato longioribus, floribus galeatis, petalis carnosis bipartitis: laciniis anterioribus linearibus reflexis, labello carnosio tripartito: laciniis convexis linearibus obtusis intermediâ longiore ascendente, rostello truncato antherâ longiore, processibus carnosis planis rotundatis inflexis, calcare pendulo recto clavato bractearum longitudine.

Hab. in *Brazilia*, provinciâ *Minarum*, *Martius.* (exam. s. sp. in hb. *Mart.*)

Planta facie omnino Iridaceæ cujusdam spathaceæ. Caulis $1\frac{1}{2}$ -2-pedalis. Sepala lateralia reflexa 6 l. longa. Glandulæ antheræ maximæ luteæ.

7. BONATEA pauciflora.

B. caule folioso 1-2-floro, foliis oblongo-lanceolatis acutis canaliculatis, bracteis foliaceis cucullatis pedunculis brevioribus, floribus galeatis longipedunculatis, petalis carnosis bipartitis: laciniis lateralibus brevioribus reflexis linearibus acutis, labello carnosio 3-partito sepalis brevioribus: laciniis deflexis linearibus acutis subæqualibus, rostello complicato acuto recurvo antherâ longiore, processibus carnosis crassis nanis truncatis, calcare clavato pedunculi longitudine.

Orchis longicornu. *Salzmann.*

Hab. in *Brazilia*; *Bahia*, *Salzmann.* (*hab. s. sp.*)

Caulis palmaris ad $1\frac{1}{2}$ -pedalem, gracilis. Calcar 3-pollicare. Pedunculi arcuati, longissimi. Antheræ steriles magnæ lineares apice crenatæ.

b. *Petala indivisa.*

8. BONATEA foliosa.

B. caule densè folioso, foliis brevibus oblongis acutis erectis in bracteis sensim decrescentibus, racemo denso multifloro, bracteis foliaceis cucullatis succulentis ovario duplè brevioribus, floribus galeatis, petalis oblongis obtusis sepalis duplè majoribus, labello lineari obtuso basi bidentato, rostello complicato ovarii longitudine, processibus carnosis brevibus obovatis canaliculatis, calcare recto pendulo clavato apice ventricoso ovario brevioribus.

Orchis foliosa. *Swartz, Act. Holm.* 1800, p. 206. *Willd. Sp. Pl.* 4, 11.

Hab. ad *Caput B. Spei*, *Swartz, Burchell.* (*hab. s. sp. comm. cel. Burchell.*)

Caulis vix pedalis foliis brevibus basi laxè vaginantibus imbricatis densè tectus. Labellum 7 l. longum, sepalis lat. deflexis æquale.

9. BONATEA gracilis.

B. caule gracili subbifloro basi tantum folioso, foliis oblongis acutis, floribus longipedunculatis galeatis, bracteis vaginantibus pedunculis brevioribus, labello obovato tripartito laciniis indivisis intermedia lineari lateralibus dilatatis falcatis brevioribus, rostello complicato crenulato antheræ longitudine, processibus carnosis teretibus obtusis petalorum longitudine, calcare longissimo apice clavato compresso.

Hab. in *Indiæ orientalis* peninsula, *Wallich.* (*hab. s. sp. e Mus. Angl. Ind.*)

Folia 3 poll. longa. Caulis pedalis. Sepalum supremum ovatum obtusum a petalis conformibus angustioribus liberum; lateralia majora reflexa falcata. Labellum unciam longum. Bases antheræ flexuosæ cornutæ. Calcar 5 poll. longum.

10. BONATEA micrantha.

B. foliis oblongis succulentis, caule gracili supernè aphylo distanter squamato, racemo laxo elongato multifloro, bracteis linearibus acutis pedunculis longioribus, floribus galeatis longè pedunculatis, labello tripartito sepalis æquali carnosio: laciniis linearibus acutis subæqualibus, rostello subulato, processibus carnosis reniformibus, calcare compresso recto apice uncinato.

Hab. ad *Caput B. Spei.* (*hab. s. sp. comm. cel. Hooker.*)

Subpedalis, gracilis. Flores minimi generis. Racemi $2\frac{1}{2}$ -6 poll. longi. Rostello subulato et processibus parvis transitum efficit inter *Bonatea* et *Habenariam*.

CXC. DIPLOMERIS.

Diplomeris. *Don. Prodr. Nep. 26.*—*Diplochilus. Lindl. in Bot. Reg. 1499.*—*Paragnathis. Spreng. Syst. 3, 694.*

Perianthium campanulatum calcaratum; sepalis quam petala et labellum indivisum minoribus. Anthera horizontalis basibus loculorum elongatis liberis distantibus. Glandulæ nudæ. Stigma labio superiore (rostello) maximo membranaceo dilatato plano; processibus duobus carnosiss collateralibus porrectis nunc cohærentibus labium inferius simulantibus.—Herbæ humiles paucifoliæ, caulibus nudis v. unisquamatis, bracteis cucullatis subsolitariis. Radices tuberculiferæ.

A *Bonatea* differt stigmatibus bilabiatis et perianthio campanulato; *Habenaria* rostello maximo perianthioque.

1. DIPLOMERIS pulchella. *Don. l. c.*

D. caule 2-3-phyllo subbifloro, foliis ensiformibus glabris, calcar recto.

Paragnathis pulchella. Spreng. l. c.

Diplochilus longifolium. Lindl. in Wall. Cat. no. 7064. Bot. Reg. 1499.

Hab. in montibus *Silhet, Wallich. (hab. s. sp. e Mus. Angl. Ind. et v. ic. pict.)*

Caulis 4-5 poll. altus, squamâ solitariâ canaliculatâ acutâ in medio. Bracteæ ovatae, cucullatae, acutae. Flores nivei. Sepala 7 l. longa, ovato-lanceolata acuta. Petala longiora, duplè majora, ovato-oblonga. Labellum obcordatum, mucrone interjecto, planum. Calcar $1\frac{1}{2}$ poll. longum rectum compressum. Anthera horizontalis, v. ferè resupinata. Stigmatibus labium superius obovatum, planum, integrum, membranaceum, ultra antheram longè prominens; inferius e processibus duobus carnosiss collateralibus ascendentibus sejunctis constans.

2. DIPLOMERIS hirsuta.

D. caule monophyllo unifloro, folio oblongo hirsuto, calcar incurvo.

Diplochilus hirsutum. Lindl. in Wall. Cat. no. 7065. Bot. Reg. 1499.

Hab. in *Gossain Than, Wallich. (hab. s. sp. e Mus. Angl. Ind.)*

Tota planta vix 3 poll. alta. Caulis erectus nudus. Bractea magna, cucullata, ciliata. Petala 8 l. longa. Labellum obcordatum mucrone nullo interjecto. Rostellum emarginatum. Processus carnosii paralleli, ascendentes, plani, canalium stigmaticorum longitudine, in labium inferius cohærentes.

CXCI. CYNORCHIS.

Cynosorchis. Thouars, Orch. Afr.—*Gymnadeniæ sp. Ach. Richard, Orch. Maur.*

Sepala æqualia conniventia. Petala sub sepalo superiore agglutinata. Labellum columna connatum, calcaratum, sæpiùs 4-partitum, sepalis

multò majus, et texturæ diversissimæ. Columna nana. Anthera horizontalis v. resupinata, loculis distantibus elongatis. Rostellum planum, dilatatum, tripartitum. Pollinia glandulis nudis. Stigma lobis duobus carnosis rostelli lobis lateralibus suppositis.—Herbæ, Africæ australis et insularum Mascarensium; radicibus testiculatis. Flores nunquam herbacei. Caules sæpiùs squama vaginante in medio.

The lip connate with the column, the great dilated trifid rostellum, the horizontal or resupinate anther, are the principal characters of this genus. The lip, moreover, is usually 4-lobed; but *C. squamosa* is an exception.

1. CYNORCHIS uniflora.

C. foliis binis ensiformibus acuminatis erectis caulis uniflori longitudine, bracteâ vaginante cuspidatâ pedunculi longitudine, sepalis obtusissimis, labelli 4-lobi lobis oblongis rotundato-truncatis lateralibus majoribus, calcare clavato ovarii longitudine.

Hab. in *Madagascar*, *Lyall.* (v. s. sp. in herb. *Hooker.*)

Radicis tuberculum oblongum lanatum. Caulis spithamæus et parum ultra. Labellum ferè $1\frac{1}{2}$ p. longum, calcari æquale.

2. CYNORCHIS purpurascens. *Thouars*, t. 15.

C. foliis radicalibus erectis longis lanceolatis acuminatis, caule medio unisquamato, floribus nunc corymbosis nunc racemosis, bracteis acuminatis, labelli 4-lobi lobis subæqualibus rotundato-truncatis, calcare filiformi ovarii longitudine.

Gymnadenia purpurascens. *Ach. Rich. Orch. Maur.* 29, t. 6, f. 1.

Orchis purpurascens. *Spreng. Syst.* 3, 687.

Hab. in *Mauritio* et *Borbonia*, *Thouars*, *Madagascaria*, *Lyall.* (ex. s. sp. in herb. *Hooker.*)

Tubercula radices oblonga, lanata. Caulis $1-1\frac{1}{2}$ -pedalis. Folia 8-9 poll. longa. Flores purpurascens. Labellum 1 poll. longum. Rostellum membranaceo-dilatatum altè 3-fidum, lobis lateralibus subulatis, intermedio lato lineari truncato. Icon *Richardi* omnino erronea est.

3. CYNORCHIS Boryana.

C. caule monophyllo squamâ unicâ acuminatâ laxè vaginante in medio, folio ovato-lanceolato acuminato, labelli trilobi lobis truncatis æqualibus, calcare inflato brevissimo incurvo.

Gymnadenia Boryana. *Ach. Rich. Orch. Maur.* 28, t. 5.

Hab. in *Mauritio*, monte *du Pouce* dicto, *Bory.*

Tubercula radices ovalia. Caulis 8-10 poll. Bracteæ breves, acuminatæ. Flores purpurascens distantes, labello verticali, 8 lineas longi. Rostellum ex icone *Richardi* bilobum, maximum, lobis parallelis truncatis; an rectè visum? Ovarium pilis quibusdam glandulosis conspersum.

4. CYNORCHIS flexuosa.

C. folio solitario oblongo 5-sulcato, caule flexuoso medio vaginato, spicâ laxâ flexuosâ, bracteis acuminatis, labelli trilobi lobo medio cuneato emarginato lateralibus abbreviatis truncatis, calcare filiformi labelli longitudine.

Hab. in *Madagascar*, *Lyall.* (ex. s. sp. in herb. *Hooker.*)

Radicis tubercula subrotunda. Caulis spithamæus, valdè flexuosus. Labellum 8 lin. longum. Rostellum maximum, trifidum, lobis acuminatis intermedio majore. Petala linearia subfalcata.

5. CYNORCHIS fastigiata.

C. foliis binis radicalibus oblongo-lanceolatis acuminatis horizontalibus, caule unisquamato, racemo corymboso, labello quadrifido: laciniis æqualibus truncatis, calcare longissimo filiformi.

Cynosorchis fastigiata. *Thouars, t. 13.*

Orchis mauritiana. *Sieber, Fl. Maurit. no. 169, non Lamarchii.*

Gymnadenia fastigiata. *Ach. Rich. Orch. Maur. 25.*

Orchis fastigiata. *Spreng. Syst. 3, 687.*

Hab. in locis humidis insulæ *Mauritii*, *Thouars, Sieber, Bojer. (hab. s. sp. comm. cel. Prescott.)*

Rostelli lobi æquales, acuti, paralleli. Flores lutei.

This was referred to *O. mauritiana* by Reichenbach in the distribution of Sieber's plants. Whatever that plant may be, it certainly is not this.

6. CYNORCHIS triphylla.

C. foliis 2-3 radicalibus lineari-lanceolatis 3-costatis horizontalibus, caule unisquamato paucifloro corymboso, labello quadrifido: laciniis æqualibus truncatis, calcare longissimo filiformi.

Cynosorchis triphylla. *Thouars, t. 14.*

Gymnadenia triphylla. *Ach. Rich. Orch. Maur. 26.*

Orchis triphylla. *Spreng. Syst. 3, 687.*

Hab. in insula *Mauritii*, *Thouars.*

An mera varietas *C. fastigiata*?

7. CYNORCHIS squamosa.

C. foliis 1-2 radicalibus oblongo-lanceolatis acutis, caule squamis paucis acutis vaginato, racemo brevi oblongo, labello postico cuneato truncato basi bidentato, calcare gracili tereti labelli longitudine.

Orchis squamosa. *Poir. Enc. Meth. 4, 601. Willd. 3, 42.*

? Amphorchis calcarata. *Thouars, Orch. t. 4.*

Gymnadenia squamata. *Ach. Rich. Orch. Maur. p. 24, t. 6, f. 2.*

Habenaria Amphorchis. *Spreng. Syst. 3, 689.*

Hab. in insula *Mauritio et Borbonia*, *Thouars, Commerson. (v. s. sp. in herb. Lehm.)*

Caulis 6-8 poll. altus, gracilis. Flores purpurascens, inter minimos generis. Rostelli laciniæ verosimiliter lineares, obtusæ, æquales.

An hujus generis?

Orchis mauritiana. *Lam. Encycl. 4, 562. Willd. Sp. Pl. 3, 42.*

Hab. in *Mauritio*, *Poiret.*

“Caulis flexuosus. Folia erecta, lanceolata, acuta, multinervata. Flores solitarii, pedunculati, pedunculis longitudine internodiorum alternis. Bracteæ brevissimæ, obtusæ, basi vaginatæ. Petala superiora erecta lanceolata, acuta; bina lateralia linearia expansa. Cornu longissimum, filiforme, bis flexuosum. Germen longum, erectum, cornu multò brevius.”

I have seen no specimen which answers even tolerably to this description. Sprengel refers it as a synonym to *Cynorchis triphylla*, and Reichenbach to *C. fastigiata*; with both of which its characters are totally at variance.

CXCII. TRYPHIA.

Tryphia. *Lindl. in Bot. Reg.* 1701.

Sepala conniventia, æqualia, herbacea. Petala linearia, membranacea, sepalis longiora, faciei baseos labelli adnata eoque similia. Labellum membranaceum, altè partitum cum columna connatum. Anthera erecta, nana; lobis divergentibus. Rostellum ovatum, planum. Glandulæ polliniorum nudæ. — Herba, Africæ australis, foliis membranaceis radicalibus, floribus secundis. Radices testiculatæ.

1. TRYPHIA secunda.

Orchis secunda. *Thunb. Prodr. Capens.* 4. *Flora Capensis*, 31.

Hab. ad Caput B. Spei, Thunberg, prope sinum Algoa, *Forbes.* (*hab. s. sp. e Mus. Hort. Soc.*)

Tubercula radices sphærica; radiculæ lanatæ. Folia radicalia bina, ovalia, acuta. Caulis palmaris, nudus. Racemi secundi, 2 p. longi. Petala linearia, obtusa. Labellum laciniis lateralibus petalis æqualibus et conformibus, intermediâ cuneatâ tridentatâ. Calcar breve obconicum apice uncinatum.

CXCIII. ARNOTTIA.

Arnottia. *Ach. Rich. Orch. Maur.* p. 33.

Flores resupinati. Sepala inæqualia, lateralibus majoribus alæformibus patulis, impari minore erecto. Petala angustiora ascendentia. Label- lum posticum, ealcaratum petalis basi coalitum et conforme. Anthera resupinata loculis subparallelis basi divergentibus, glandulis nudis. — Herba terrestris radice tuberculiferâ, caule monophyllo, floribus spicatis. *Char. &c. Ach. Rich.*

1. ARNOTTIA mauritiana. *Ach. Rich. l. c. t. 7, f. 1.*

? *Amphorchis inermis.* *Thouars, Orch. Afr. t. 5.*

Hab. in Borbonia, Commerson, Thouars.

Folium radicale ovali-oblongum, 2-3 poll. long. 1 poll. lat. Caulis spithamæus. Spica densa, globosa; flores purpurascens.

Probably the *Amphorchis inermis* of Thouars is a different species from this. As the other *Amphorchis* appears to be a *Cynorchis*, it is as well to suppress the former name altogether, in favour of M. Achille Richard's *Arnottia*.

CXCIV. BARTHOLINA.

Bartholina. *R. Br. H. Kew.* 5, 194.

Perianthium ringens. Calyx basi tubulosus, secundus, laciniis æqualibus.

Petala sepalis parallela, falcata, infernè labello subconnata. Labellum calcaratum, explanatum, patens, 3-lobum : lobo medio multifido laterali-bus trilobis : laciniis omnibus filiformibus. Anthera erecta, elongata, lobis parallelis cucullatis : cuculli distincti, basibus valvularum inflexis absconditi. Pollinia parva, caudiculis longissimis canaliculatis, glandulis intra cucullos inclusis.—Herba pusilla, uniflora, unifolia, hirsuta, radicibus tuberculiformibus.

1. BARTHOLINA pectinata. *R. Brown, l. c.*

Bartholina Burmanniana. *Ker in Brande's Journal, 4, 204, t. 5, fig. 2.*

Orchis pectinata. *Willd. Sp. Pl. 4, 11. Thumb. Fl. Cap. 28.*

Orchis Burmanniana. *Linn. Sp. Pl. 1334. Swartz in Web. et Mohr Archiv. 1, 55, t. 3.*

Arethusa ciliaris. *Linn. Suppl. 405.*

Hab. ad *Caput Bonæ Spei*, propè urbem etc. in montium lateribus, Thunberg. (v. v. c.)

Folium reniforme, lobulis baseos imbricatis, pilosum ut omnes partes virides. Caulis vix palmaris, erectus, fuscus, teres, uniflorus. Bractea unica, ovata, cucullata, ovarium tegens. Calyx basi tubulosus, viridis, laciniis secundis, erectis, parallelis, lanceolato-linearibus. Petala falcata, acuminata, alba, violaceo colore tincta, supra antheram curva, basi cum labello levissimè connata, glabra. Labellum unciam latum, medio viride, basi calcare brevi conico pubescente cavo præditum, laminâ explanatâ, circumscriptione orbiculari, trilobum ; laciniis lateralibus trilobis, intermediâ multifidâ, omnibus violaceis filiformibus. Anthera erecta, loculis elongatis, basi contiguus : suturis ob torsionem valvularum basi approximatis ; cucullis distinctis, sub basibus valvularum exteriorum antheræ absconditis. Pollinia parva, aurantiaca ; caudiculis longissimis fulvis linearibus canaliculatis ; glandulis parvis in cucullis suis latentibus.—Obs. foramen, v. areola transparens muco repleta in cucullo utroque adest sub glandulis. Stigma areola madida, oblonga, ad basin columnæ, ubi calcar ab ovario separatur.

CXCV. BICORNELLA.

Bicornella. *Lindl. in Bot. Reg. 1701.*

Sepala inæqualia ; lateralia majora, labello extus obliquè adnata. Petala sepalo supremo in galeam convexam agglutinata. Labellum calcaratum, indivisum, angustum, canaliculatum, columnæ nanæ adnatum. Anthera ferè horizontalis, lobis ascendentibus, basi elongatis, lobis lateralibus rostellis adnatis, extus appendice linguæformi (stamine sterili) auctis. Rostelli lobus medius ovatus, planus, abbreviatus. Pollinia minima ; retinaculo longo lineari basi antheræ elongatâ tecto.—Herbæ (Mascarenenses) caule folioso v. subfolioso. Flores parvi, spicati.

1. BICORNELLA gracilis.

B. caule squamis acuminatis vaginato, foliis brevibus ensiformibus, petalis sepalo æqualibus, ovario scabro, antheræ lobis labello semiliberis : appendicibus spatulatis obtusis.

Hab. in *Madagascar*, *Lyll.* (hab. s. sp. comm. cel. *Hooker.*)

Flores majores quam in sequente, et minus approximati. Statura et

facies eadem. Folia caulina nulla nisi vaginæ foliantes. Rostelli lobus medius nanus, laterales elongati apice dolabriformes, à labello liberi. Appendices antheræ lineares loborum rostelli longitudine. Calcar apice incrassatum. Labellum lineari-lanceolatum, vix undulatum.

2. BICORNELLA longifolia.

B. caule folioso foliis lineari-ensiformibus erectis vix longiore, petalis sepalo minoribus, ovario glabro, antheræ lobis labello connatis: appendicibus ovatis obtusis.

Hab. in *Madagascar*, Herb. Lehmann. (*exam. s. sp. in Hb. Lehm.*)

Orchide laxiflora haud absimilis sed flores parvi et magis approximati. Caulis $1\frac{1}{2}$ -pedalis. Folia graminea sensim in bracteas acuminatas evanescentibus. Rostelli lobus medius ovatus lateralibus æqualis, iisque connatus. Appendices antheræ breves, carnosæ, oblongi. Calcar filiforme. Labellum lineari-lanceolatum, acuminatum, crispum.

The remaining genera of Ophrydeæ will be given in the next part.



