

Miscellaneous early writing  
on the  
New Zealand orchids  
Part 1: 1769-1832

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compiled by  
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with translations from the Latin by  
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## Contents

### Part 1

<i>Extracts from</i>	
1769 Solander D.C. <i>Primitiae Florae Novae Zelandiae sive Catalogus Plantarum in Eahei no Mauwe &amp; T'avai Poenamoo</i> . Unpublished manuscript.	1
1776 Forster J.R. and J.G.A. Forster. <i>Characteres Generum Plantarum quas in Itinere ad Insulas Maris Australis Collegerunt, Descripserunt, Delinearunt</i> . White, Cadell and Emsly, London.	6
1786 Forster J.G.A. <i>Florulae Insularum Australium Prodromus</i> . Gottingen, Joann. Christian. Deiterich. (notes on orchid discoveries from <i>The Resolution Journal of Johann Reinhold Forster 1772-1775</i> . Ed Michael Hoare, 1982. Hakluyt Society. 2: p241; 3: p422.)	9
1799 Swartz O. <i>Epidendri generis</i> . <i>Nova Acta Regiae Societatis Scientiarum Upsaliensis</i> 6: p72.	12
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1806 de Labillardiere J.L.H. <i>Novae Hollandiae Plantarum Specimen</i> 2. Paris, Huzard.	18
1807 Salisbury R.A. <i>Corybas aconitiflorus</i> . Aconite-flowered <i>Corybas</i> . <i>Paradisus Londinensis</i> LXXXIII.	21
1807 Persoon C.H. <i>Synopsis Plantarum seu Enchiridium, complectens enumerationem systematicam specierum hucusque cognitarum</i> . Pars II. Parisiis Lutetiorum, Treuttel et Wurtz, etc.	23
1808 Smith J.E. in Rees A. <i>The Cyclopaedia or universal dictionary of arts, sciences and literature</i> . London, Rivington (39 vols)	24
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1824 Lindley J. <i>Spiranthes cernua</i> . Nodding Lady's Tresses. <i>Edwards's Botanical Register</i> 10.	57
1826 Brown R. and K.P.J. Sprengel. (?title). <i>Systema vegetabilium</i> 3.	60
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1832 Richard A. and Lesson A-P. <i>Essai d'une Flore de la Nouvelle-Zelande</i> . Paris.	61

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Edwards's *Botanical Register* 21. 1756. 74
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29. 82
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sketched by F. Mueller. Melbourne, Government Printer. 84
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p432). 94
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Edition. 97
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## Introduction

Thomas Cheeseman wrote in 1906 that the history of botanical discovery in New Zealand fell naturally and conveniently into two periods - the first from 1769 (Cook's first voyage) until 1840, the period of investigation by visitors from abroad; the second from 1840 (to 1906), the period of investigation by naturalists resident in the colony. The history of interest in the New Zealand orchids follows four overlapping phases, based on a similar pattern.

**I. European collectors:** the first phase was that of overseas visitors (mostly European naturalists, beginning with Banks and Solander) who collected here and wrote about their finds; their successors continued collecting here into the late nineteenth century. Joseph Dalton Hooker was the key transitional figure (the "agent for change" in modern management jargon) for the second phase:

**II. New Zealand collectors for European writers:** Hooker had visited briefly, but he succeeded in encouraging local residents to contribute specimens for his descriptions; other European naturalists also benefitted. The period culminated in the publication of Hooker's *Handbook of the NZ flora* in 1864.

**III. New Zealand collectors and writers:** the first publication of the *Transactions* in 1868 signalled the start of this period of description by resident New Zealanders. Thomson, Buchanan, Petrie, Kirk, Carse were bit players, but the enigmatic William Colenso symbolises the change. Colenso had collected for Hooker and others, but he began to write, and to describe new species himself. There followed a century of local effort, the high points for orchidophiles Colenso's papers, Cheeseman's *Manual of the New Zealand flora* in 1906 and Hatch's series on native orchids in the *Transactions* (1949-1963). Hatch was the key figure in the transition to the fourth phase:

**IV. The Australian influence:** Although the early publications on the Australian orchids had always been important in the elucidation of the New Zealand species, it was Hatch's 1946 paper with H.M.R. Rupp ("Relation of the orchid flora of Australia with that of New Zealand....") that heralded a period of cooperation among orchidologists in the two countries that continues today with the work of Molloy, Clements and Jones.

These two numbers (11 and 12) of the New Zealand Native Orchid Group's *Historical Series* reprint excerpts from important early work referring to the New Zealand orchids, and sometimes to Australian orchids once thought to be common to both countries. Material reprinted in other numbers has not been repeated. Thus although the span of these two numbers is 1769 to 1923, works that originally appeared between those years by Colenso, Cheeseman, W.H. or J.D. Hooker, or were published in the *Transactions of the New Zealand Institute*, are not reprinted here.

The first writing on New Zealand orchids was the handwritten manuscript of "the immortal Solander" after Cook's first voyage - a typewritten copy had been sent to Kirk, and thence to Cheeseman; it is preserved in the Auckland Institute and Museum library.; a "facsimile copy of the manuscript by the photostat method" was sent to replace Kirk's Wellington copy in 1929, and the first page of a photoreduction of it is reproduced here.

It is in the handwriting of Sigismund Bacstrom, and was prepared from working slips written by Solander himself. It was never published. The translation is by Dan Hatch, as are all translations from the Latin in this number.

Extracts follow from the Forsters' accounts after Cook's second voyage, the writing of the Swede Olaf Swartz, the Frenchmen de Labillardiere, L.C. Richard, Achille Richard, Pierre-Adolphe Lesson and Aubert-Aubert du Petit-Thouars, the Englishmen Sir James Edward Smith, John Lindley and the cheat Richard Salisbury, the South African Christiaan Hendrick Persoon, and the Scot Robert Brown. Allan Cunningham's first New Zealand flora precedes Ferdinand van Mueller, Charles Darwin, Sven Berggren, Etienne Raoul, George Benthams, H.G. Reichenbach, the Australians R.S. Rogers and the Reverend Rupp, Rudolph Schlechter and the New Zealander Harry Carse.

Ian St George,  
Wellington,  
January 1994.

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# GYNANDRIA

## DIANDRIA

cornuta

J.P.H. K. Y.S. in ser. p. 1341

Fig. 2

Hab. in Collibus Novae Zelandiae prope Portum  
Bay. A

Rhizoma e bulbis duobus, oblongis - cylindricis  
resquinnam longis, crispatis. Radices  
albidae, subpellucidae, unius pro planta  
presentes anni, altera pro planta anni fu-  
tura.

Caules tres, simplex, strictus glaber, pedales  
subnudus, basi praeditus folio unico altera-  
re, et superiore squamis duabus bracteatis  
orbibus.

Folia radicalia plura, linearia, acuta, con-  
purg - cornuta, integerrima, glaberrima,  
e glaucis viridia, paulo duplo breviora.

Spica e floribus quatuor, alternis, sessilibus,  
remotiusculis.

Pericarpium oblongo - lanceolatum, acuminatum,  
basi germen vaginantes, illoque paulo  
longioris, unum longe.

Petalum dorsale intum, antrescendum,  
concavum, reticulatum, e flavo viridescens,  
marginibus parum inflexis, flavis, erectum,  
superne antrescendum virgens. Seminum parva

Primitiae Florae Novae Zelandiae sive Catalogus  
Plantarum in Eahei no Mauwe & T'avai Penamoo.  
8 October 1769 - 31 March 1770. Unpublished Manuscript in the British Museum  
(Natural History). (Only a fragment is shown here to illustrate the style)

### Translation and notes by E.D.Hatch

[In 1769 when Solander was writing, the modern orchid terminology - dorsal and lateral sepals, petals and labellum etc. - had not been invented. To him all the segments were petals, and the terms column and nectarium were interchangeable. A "line" is approximately 1/12 inch. Comments in the translations in square brackets are by EDH].

## GYNANDRIA

## DIANDRIA

(Ms. p1341)

### *cornuta* OPHRYS

[*Orthoceras novae-zeelandiae* - Solander collected the *forma viride*]

**Habitat** - NZ - on hills in the vicinity of Admiralty Bay. [D'Urville Island]

**Root** - of 2 oblong-cylindrical tubers, one and a half inches long, whitish, slightly translucent, as thick as one's little finger. One tuber has produced the present plant, the other will produce next year's plant.

**Leaves** - several, basal on a short stem, linear-acute with a compressed keel, smooth, blue-green.

**Peduncle** - terete, erect, with 2 scale-bracts, one above the other.

**Spike** - 4-flowered. Flowers alternate, sessile, remote, with oblong-lanceolate, acuminate, sheathing bracts rather more than an inch long.

**Dorsal sepal** - ovate, concave, cucullate, yellow-green, the margins yellow with small inflexions; the acute tip trending upwards.

**Lateral sepals** - filiform, concave, straight, erect or often reflexed, exceeding the dorsal sepal by more than an inch; yellow with green bases.

**Petals** - erect, minute, barely one and a half lines long, oblong-lanceolate, acute, hidden by the dorsal sepal; yellow-green.

There are also 2 subulate appendages inserted near the column [column-wings?], arising from the broad bases of, and as long as, the petals.

An obtuse, conical, yellow callus projects outwards from the base of the nectarium.

**The column** - appears to be withered, although the flowers are perfect and our plants vigorous, though gathered in the autumn.

**Ovary** - oblong, sub-clavate, slightly obtuse, 3-angled, bright green.

**Capsule** - obovate, 3-angled, with 3 keeled valves, the midribs thickly keeled.

This plant differs from *OPHRYS* in the swelling [labellar callus] at the base of the nectarium; and the 2 petals surrounding the base of the column.

(Ms. p1342)

### *porrifolia* OPHRYS

[*Microtis unifolia*]

**Habitat** - NZ - in grass on hills in the vicinity of Te Oneroa [Poverty Bay]; Tigadu [Anaura Bay]; Tolaga Bay; Oporagi [Whitianga]; Motu Aro [Motu Arohia, Bay of Islands]; Totaranui [Queen Charlotte's Sound].

**Root** - of oblong, nut-brown tubers on long, flexuose, unbranched internodes as thick as a dove's quill, or sometimes more slender.

**Leaf** - single, tubular, erect, about one and a half feet high, the scape breaking from the middle of the leaf through a long cleft. Peduncle cylindrical-subulate, glabrous, pale-green, as thick as a swan's quill.

**Leaf lamina** - shorter than the scape, erect, terete, smooth, naked.

**Spike** - long, narrow, many-flowered.

**Flowers** - numerous (50-60), pedicellate, very short, green; the pedicels terete, each with a single flower.

**Bracts** - lanceolate, concave, acute, longer than the pedicel but shorter than the ovary, about 3 lines long.

**Calyx** - absent.

**Dorsal sepal** - sub-rotund, concave, acuminate, forming a hood about one and a half lines diameter.

**Lateral sepals** - spreading outwards with a small upturned apex; linear-oblong, narrowly obtuse, about half the height of the dorsal sepal.

**Petals** - as long as the dorsal sepal but very narrow, oblong-lanceolate, acute, revolute.

**Labellum** - oblong, as long as the petals, drooping, green; apex with a deep, slightly 2-lobed sinus, the lobes rotund, their margins undulate and crisped in front. The upper surface [of the labellum] furrowed near the base with an oblong callus, and near the sinus 2 protruding oblong calli.

**Column** - slightly arched above the adpressed petals.

**Ovary** - oblong-turbinate, slightly swollen above, 3-angled, only slightly ribbed, 4 lines long.

**Capsule** - with a single chamber, 3-valved, the angles slightly ribbed.

**Seed** - numerous.

(Ms. p1345)

### *regularis* SERAPIAS

[*Thelymitra longifolia*]

**Habitat** - NZ - in flat grassy areas and beside rotten trunks in the vicinity of Tolaga Bay and Oporagi [Whitianga]; and in Australia beside the Endeavour river. [The Australian plant was possibly *T. aristata* - *T. longifolia* is almost certainly a NZ endemic].

**Root** - of 2 or 3 oblong tubers, one larger than the others, often one and a half inches long; internodes filiform, moderately thick, unbranched.

**Scape** - erect, terete, glabrous, a foot or rarely one and a half feet high.

**Stem bracts** - ovate, acute, sheathing at the base, less than 3 inches long, usually solitary in the middle of the scape, occasionally a second bract near the spike.

**Leaf** - basal with a cylindrical sheath, solitary, flat with small ridges, and nerves on the under side, linear-oblong, acuminate, glabrous, as long as the height of the scape.

**Spike** - oblong, few (6-10) flowered.

**Floral bracts** - concave, oblong-lanceolate, acute, a little shorter than the ovary.

**Corolla** - regular, petals [tepals] 6, sub-equal, oblong, acute; persistent when withered. The 3 interior tepals [2 petals and the labellum] a little shorter than the sepals.

**Flower colour** - variable. In NZ the tepals are usually white, with the outsides of the sepals either green or red. In Australia all the tepals are red or a pale purple.

**Column** - a single structure in the centre of the flower, erect, cucullate, hollowed-out, yellow above, [the front of the midlobe?]. A little below the apex on either side a narrow lobe is exerted, terminating in a white shaggy tuft.

**Anther** - large, ovate, 2-chambered.

**Style** - absent [or rather included in the column].

**Stigma** - suppressed, adnate to the column.

**Ovary** - oblong, inferior, obconical, slightly 3-angled.

**Capsule** - oblong-clavate, 3-angled, the ribs flattened, 1-chambered, 3-valved.

**Seeds** - very numerous, dust-like.

There are strong reasons for placing this plant in a separate genus - the regular, spreading, 6-tepalled corolla etc.

[Forster, having studied Solander's Ms, took this option up with *Thelymitra*].

(Ms. p1346)

**tetrapetala ARETHUSA**

[*Pterostylis banksii*]

**Habitat** - shady places in the vicinity of Oपुरagi [Whitianga] - this differs from the Australian plant [*P. revoluta*] in having several stem leaves, often a span long.

(Ms. p1348)

**adversum EPIDENDRUM**

[*Drymoanthus adversus*]

**Habitat** - NZ - parasitic [epiphytic] on trees in the vicinity of Oपुरagi [Whitianga]; Totaranui [Queen Charlotte's Sound].

**Plants** - completely glabrous, growing on the bark of the upper branches of trees.

**Roots** - protruding from the axils of the previous year's leaves, very long, as thick as a thread, flexuose, unbranched, grey-green, without root-hairs.

**Stem** - short, straight, barely 3 inches long.

**Leaves** - close together, alternate though appearing opposite, subsessile, oblong-lanceolate, sub-falcate, acute, entire, flat, fleshy, leathery, somewhat rigid, 3 to 4 inches long, deep green, without visible veins or nerves.

**Obs.** - the nerves are present but completely imbedded in the substance of the leaves which persist after withering.

**Spikes** - arising from the axils of the leaves, sub-sessile, a half or a third of the length of the leaves and frequently hidden among them.

**Flowers** - 10-16, sessile, distant.

**Floral bracts** - broad, short, - only reaching the base of the ovary, ovate, concave, acute.

**Petioles** - filiform-terete, purplish.

**Capsules** - cylindrical, 3-angled, 1 inch long, as thick as a fowl's quill.

**Flowers** - not seen by us.

[Here Solander wanders off into a detailed comparison of his plant with species previously described by Reede (HA van Reede tot Draakanstein. *Hortus Malabaricus* (12 vols). Amsterdam, 1678-93. 12: p9. t4); and Rumphius (Rumph GE. *Herbarium Amboinense*. Amsterdam, 1741-50. 6: p104. t46. f1); but since he had not seen the flowers of *D. adversus*, the exercise seems pointless].

(Ms. p1349)

**mucronatum EPIDENDRUM**

[*Earina mucronata*]

**Habitat** - NZ - parasitic [epiphytic] on trees in the vicinity of Oपुरagi [Whitianga].

**Plant** - completely glabrous, growing on the trunks of trees, the creeping roots filiform-terete, fibrous, spongy, moderately thick, seldom branching, exerted from the sheaths of the rhizome bracts.

**Stems** - numerous, ascending about a foot, distinct from the roots, somewhat woody, entire, 2-edged [flattened?], spotted with black, clothed with the sheathing leaves.

**Leaves** - all cauline, alternate, straight, erect, lanceo-subulate, acuminate, entire, flat, very smooth, sheathing at the base, the lamina often extending 5 inches above the spike; nerves very thin, more or less straight, compact, the internodes about a fifth of the length of the leaves.

**Obs.** - This description of the roots creeping on the bark of the stem and branches of trees will seem incredible.

**Spike** - sub-paniculate, terminal, flexuose, with a few (5) small flowers.

**Floral bracts** - ovate, acute, sheathing the base of the ovary.

**Petals** - 5, spreading, oblong, 2 lines long, pale yellow; the 3 sepals tapering towards the apex, the 2 petals slightly acute, tapering towards the base.

**Labellum** - long, pale yellow, with a dull yellow callus a little above the middle, 3-lobed. Lateral lobes sub-rotund, narrowly inflected. Midlobe very broad, smooth, 2-lobed; the lobules sub-rotund, the sinus toothed at the back.

**Column** - half the length of the petals, terete, white, slightly swollen at the base with a hollow near the apex of the anther.

**Filament** - single, thread-like, inserted near the little furrows at the interior angle of the column.

**Anther** - 2-celled, the lobes oblong, tapering towards the base.

(Ms. p1349)

**pendulum EPIDENDRUM**

[*Dendrobium cunninghamii*]

**Habitat** - NZ - parasitic [epiphytic] on trees in the vicinity of Oपुरagi [Whitianga]; Totaranui [Queen Charlotte's Sound].

**Root** - creeping, extruding from the nodes, thick, fibrous.

**Stems** - in the form of a shrub, pendulous, 2 or 3 feet long, terete, partly compressed above, very smooth, as thick as a dove's quill; nodes black, internodes an inch, rarely an inch and a half long, dull yellow.

**Branches** - alternate, sub-distichous, spreading, flaccid; the internodes sub-divided, gradually becoming shorter, hidden in the sheaths of the leaves.

**Leaves** - on all the branches, alternate, distichous, linear-lanceolate, entire, glabrous, acute, compact, recurved,

spreading or often oblique, sessile and sheathing at the base, closely clothing the branches; one and a half or rarely 2 inches long.

**Peduncles** - arising from the axils of the nodes, solitary, each provided with 2 or 3 smaller leaves.

**Flowers** - 2-3, pedicels glabrous, as long as the peduncles.

**Corolla** - 5 petalled [3 sepals and 2 petals], the dorsal sepal above, the 2 lateral sepals joined at the base and strongly spurred, [all 5] sub-equal, oblong-lanceolate, acute, completely white; Labellum 3-lobed, the lateral lobes sub-erect, lanceolate, entire; the midlobe dilated, sub-rotund, entire with a small acuminate tip, white with a dark red central patch, and towards the base an ornate callus of membranous, longitudinal, yellow furrows.

**Column** - short.

**Ovary** - inferior, clavate, a little shorter than the petals.

(Ms. p1350) -

**pygmaeum EPIDENDRUM**

[*Bulbophyllum pygmaeum*]

**Habitat** - NZ - parasitic [epiphytic] on trees, in the vicinity of Oपुरagi [Whitianga].

**Root** [rhizome] - creeping on the trunks of trees, on rocks and on dead plants. Filiform, terete, commonly as thick as a thread, smooth, much branched. Rootlets exerted from below the bulbs, long, white, filiform, more or less branched.

**Obs.** - Please allow me to draw attention to this rather remarkable bulb-bearing plant, with its creeping stems.

**Bulbs** [pseudo-bulbs] - leaf-bearing, sub-globose, often flattened from above, one and a half lines in diameter, about the size of a small pea, slightly wrinkled, polished-glabrous.

Leaf - solitary, on a very short petiole, sub-horizontal, ovate or ovate-oblong, frequently slightly obtuse, entire, flat, leathery, with very small spots, and if seen through the microscope, the upper

side with very short scattered hairs, the underside naked.

Flowers - not seen by us.

Affinities - with *Epidendrum emarginatum* Ms.

## J.R & J.G.A. Forster

### *Characteres Generum Plantarum quas in Itinere ad Insulas Maris Australis Collegerunt, Descripserunt, Delinearunt.*

White, Cadell and Emsly, London. 1776.

#### *Longifolia.* I. THELYMITRA.

Vox composita e vocabulis græcis *θηλυς foemineus* et *μιτρα mitra* vel *tegmen capitis*; quoniam partes fructificationis femineâ sunt veluti tectæ mitra.

#### EXPLICATIO TAB. XLIX.

- FIG. *a.* Flos.  
*b.* Nectarium.  
*c.* idem auctum.  
*d.* idem a latere visum.  
*e.* } Stamina pistillo adnata.  
*f.* }  
*g.* Capsula dissecta.  
*h.* eadem longitudinaliter dissecta.

## 49. THELYMITRA.





CAL. *Spathæ* lanceolatæ, acutæ, univalves, unifloræ.

COR. *Petala* sex ovato-lanceolata, patentia, concava, tria exteriora majora.

*Nectarium* monophyllum, bilabiatum; Lab. *superius* truncatum brevissimum. *L. inferius* erectum, trifidum, lacinia media cucullata, lateralibus tenuibus barba radiante in apice.

STAM. *Filamenta* duo pistillo infidentia minima. *Antheræ* ovatæ; (juniores) tectæ duplicaturâ Labii inferioris nectarii.

PIST. *Germen* inferum. Stylus ovatus, brevis in centra nectarii basi cavitate mellifera instructus. *Stigma* obtusum.

PER. *Capsula* clavato-turbinata, tricarinata, trivalvis, unilocularis.

SEM. plurima, scobiformia, receptaculis longitudinaliter parieti adnatis, adhærentia.

#### Translation and notes by E.D.Hatch

pp 97/8. t49

#### *longifolia* 1. THELYMITRA

**Name** - from the Greek - a woman's mitra or head covering, since the female parts of the flower are hidden by the mitra.

**Floral bract** - lanceolate, acute, with a single flower.

**Petals** - 6, [3 sepals, 3 petals], ovate-lanceolate, spreading, concave, the 3 sepals larger.

**Column** - a single structure, 2-lobed, the upper lobe truncate, very short, the lower lobe erect, 3-fid with jagged edges. Midlobe cucullate. Lateral lobes

with spreading tufts of thin hairs at the tips.

**Stamens** - 2, mounted on short filaments. Anthers ovate, hidden by the 2 lateral lobes of the column.

**Ovary** - inferior, stigma in the centre of the column, ovate, obtuse, short, with a nectar-filled hollow at the base.

**Seed** - very numerous, dust-like, adhering longitudinally to the wall of the ovary.

## J.G.A. Forster

### *Florulae Insularum Australium Prodrromus etc.*

Gottingen, Joann. Christian. Deiterich. 1786

## G Y N A N D R I A.

### DIANDRIA.

#### OPHRYS.

310. *O?* *squamata*, bulbis fasciculatis, scapo elongato aphylo spicato, foliis radicalibus imbricatis oblongis acutis carinatis, nectarii labio trifido barbato deflexo. F.  
Nova Caledonia.

311. *O. unifolia*, bulbo ovato, scapo tereti vaginato, folio tereti fistuloso reflexo, in medio proemittendo scapo perforato. F.  
Nova Zeelandia.

#### SERAPIAS.

312. *S. regularis*, bulbis ovatis fibrosis, foliis vaginantibus ensiformibus carinatis, scapo erecto spicato, corollis hexapetalis. F.  
*Thelymitra longifolia*. FORST. *Charact. gen.* 49.  
Suafu b. SOLANDRI huc reduxi.  
Nova Zeelandia.

#### EPIDENDRUM.

313. *E. tuberosum?* foliis lato-lanceolatis nervosis membranaceis, bulbo innatis, scapo vaginato, nectario cymbiformi bifido. M. S.V. p. 819. n. 25.  
Nova Caledonia.

314. *E. trifide*, foliis teretibus cylindricis inanibus, vaginis fistulosis, pedunculis oppositifoliis corymbosis vaginam perforantibus, nectarii labio integro spatulato cordiformi. F.  
Ibidem.
315. *E. crispatum*, foliis caulinis teretibus filiformibus subincurvis inanibus sessilibus: racemo simplicissimo, nectarii labio lacinia media revoluta, undulato crenata. F.  
Societatis insulae.
316. *E. equitans*, foliis equitantibus ensiformi-compressis carinatis, acuminatis, scapo nudo, racemo spicato nutante filiformi. F.  
Ibidem.
317. *E. Myosirus*, foliis basi vaginantibus oblique divaricatis linearibus obtusis canaliculatis, scapo nudo, racemo spicato nutante filiformi. F.  
Ibidem.
318. *E. biflorum*, foliis distichis, lineari lanceolatis acutis, pedunculis bifloris foliariis vaginas foliorum perforantibus, nectarii labio trifido acuminato. F.  
Ibidem.
319. *E. autumnale*, foliis caulinis lanceolatis nervosis confertis vaginantibus, pedunculis terminalibus squamatis paniculatis, nectarii labio erecto retuso. F.  
Nova Zeelandia.
320. *E. fasciata*, foliis radicanibus parasiticis fasciculatis linearibus undulatis, scapis pluribus racemosis, nectarii labio calceiformi calcarato. F.  
Societatis insulae.
321. *E. umbellatum*, stolonibus repentibus, foliis ovatis carnosissimis petiolatis, petiolis infixi apophyllibus

## Translation and notes by E.D.Hatch

p59 n311

***Ophrys unifolia***[*Microtis unifolia*]

Tuber ovate, scape terete, sheathing. Leaf single, terete, hollow throughout, emerging from a split in the middle of the scape, the leaf-lamina reflexed. Forster. NZ.

p59 n312

***Serapias regularis***[*Thelymitra longifolia*]

Tubers ovate. Leaf keeled, with a fibrous sheath, the erect scape bearing a spike. Corolla 6-petalled. Forster. NZ. Name taken from the MS of the late Dr Solander.

p60 n319

***Epidendrum autumnale***[*Earina autumnalis*]

Leaves sheathing the stem, lanceolate, densely nerved; Peduncules paniculate, terminal, with scale bracts; Lip of the nectary erect with rounded apex. Forster. NZ.

## O. Swartz

## Epidendri generis.

*Nova Acta Regiae Societatis Scientiarum Upsaliensis*  
6: 1799

## 3. CYMBIDIUM.

*Char. Gen. Petala 5, erecta l. patentia.*

*Labellum basi concavum l. planiusculum, ecorne; lamina patula.*

*Semina præcedentis.*

*Obs.* Genus labello a columna libero plerumque concavo ab *Epidendro* diversum.

Nomen a *Κύμβα* *Cymba*.

A: *Parasitica.*

\*) *petalis erectiusculis.*

*C. coccineum*, sub-caulescens, foliis terminalibus aliisque radicalibus bulbo innatis, subensiformibus obtusis; scapis filiformibus axillaribus unifloris.

*Epidendrum coccineum.* LINN. JACQ. am. t. 135. PLUM. ic. 180. 1.

*C. tripterum*, acaule, foliis bulbo innatis radicalibus vaginatis multifloris; germine trialato.

*Epidendrum tripterum.* SMITH Icon. pict. t. 14.

*C. vestitum*, caule dichotomo, vaginis undique imbricato, apice axillisque bulbiferis, bulbis monophyllis, floribus confertis e vaginis caulinis.

*E. vestitum.* Sw. prodr.

*C. pro-*

*E. testæfolium.* Sw. prodr.

*C. lineare*, caule simplici erecto, foliis distichis linearibus obtusis apice emarginatis, floribus terminalibus subspicatis.

*Epidendrum lineare.* LINN. JACQ. am. t. 131. f. 1.

Habitant in India occidentali.

*C. equitans*, caule simplici inferne flexuoso, foliis compressis ensiformibus basi equitantibus; racemo terminali spicato filiformi nutante.

*Epidendrum equitans.* FORST. prodr.

Ex Insulis Societatis maris pacifici.

*C. teretifolium*, caule simplici, foliis semiteretibus; floris solitarii terminalis labello apice triquetro.

*Epidendrum teretifolium.* Sw. prodr.

*C. ferrulatum*, caule subdiphylo, foliis lanceolatis carinatis ferrulatis; spicis terminalibus laxis filiformibus.

*Epidendrum ferrulatum.* Sw. prodr.

*C. globosum*, caule simplici subunifloro, foliis teretibus canaliculatis; labello ovato, capsulis globosis.

*Epidendrum globosum.* Sw. prodr. JACQ. am. t. 133. f. 1.

\*\*) *Petalis patentibus.*

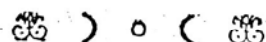
*C. autumnale*, caulibus e radice reptante simplicibus ancipitibus, foliis confertis lanceolatis; spicis subpaniculatis terminalibus.

*Epidendrum autumnale.* FORST. prodr.

Habitat in Nova Zelandia.

*C. montanum*, caule simpliciusculo, foliis lato-lanceolatis apice subrecurvis; racemo terminali, floribus secundis, lamina lab. 3fidæ.

Epi-



Katu kaidu Marawara. RHEED. Mal. 12. t. 26.

*L. virenti* adfinc.

## 5. DENDROBIUM.

Char. Gen. Petala 5. erecto-patentia:

*Lateralia exteriora* antice circa basin labelli conniventia l. connata, saepe cornu mentientia.

*Semina* priorum.

Obs. Genus *Labello* a petalis later. exterioribus antice productis basi incluso, ab *Epid.* & *Cymb.* distinctum. Nomen a *Δενδρον arbor* & *βίωσ vitam ago*, quia omnes species, quantum scio, in arboribus parasiticæ.

\*) *Acaulia*.

D. *Palmifolium*, foliis lato-lanceolatis nervosis, singulis bulbo innatis; scapis radicalibus multifloris.

*Epidendrum palmifolium*. Sw. prodr.

D. *Barringtonia*, foliis pluribus bulbo innatis latioribus; scapis subunifloris.

*Epidendrum Barringt.* SMITH. Icon Pi&ct. t. 15.

D. *sanguineum*, foliis geminis oblongis bulbo innatis, scapo subdiviso, petalis lateralibus in formam cornu, germi adnati, decurrentibus.

*Epidendrum sanguineum*. Sw. prodr. SLOAN.

h. 1. t. 121. f. 2.

Habitant in India occidentali; Jamaica.

D. *Myosurus*, foliis lanceolato-linearibus canaliculatis subemarginatis; scapis nudis, spica filiformi nutante.

Epi-

Translation by E.D. Hatch

p70, 3

*Cymbidium*

Generic characters - Petals 5, erect or spreading. Base of the labellum concave or fairly flat, without a spur, the lamina outspread. For the seed see the preceding [genus #2 ?].

Obs. - This genus differs from *Epidendrum* in the labellum being frequently concave [hence the name] and not joined to the column. Name from CYMBA - a boat.

Group A. Parasitic [actually epiphytic].

p72

Subgroup \*\*

Petals spreading.

*Cymbidium autumnale*

Stems unbranched, arising from the creeping rhizomes; leaves crowded, lanceolate; spikes terminal, subpaniculate.

*Epidendrum autumnale* Forst. Prodr.

Habitat in Nova Zelandia.

p82, 5

*Dendrobium*

Generic characters - petals 5, erect-spreading; the front of the lateral sepals fused or coming in contact at the base of the labellum, the spur often imitating a horn. For the seed see the first [genus #1 ?].

Obs. - This genus is distinct from *Epidendrum* and *Cymbidium* in that the labellum is broader than the petals and the front of the lateral sepals are included in an elongated [spur] at the base.

Name from ARBOR - a tree; and VITAM AGO - life from; because all the known species are parasitic on trees. [Swartz was unaware that they were actually epiphytes and did NOT draw their life from the trees - but this is how the name arose].

## Smith J.E.

*Arethusa catenata.*

*Exotic Botany* 2. London, Taylor, 1804.

[*Caladenia catenata*]

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GYNANDRIA Diandria.

Nectary an ascending lip without a spur. Petals 5, narrow at their base. Lid vertical.

Leaf radical, solitary, linear. Lip bearing a double row of prominent glands.

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SPECIMENS of this elegant little plant, both dried and in spirits, accompanied by a coloured drawing, were long ago communicated to us by Dr. White from New South Wales. It is said to flower in July, and is, no doubt, perennial. No living specimens have been brought over.

The root is oblong and fleshy, somewhat downy, throwing out fibres from the base. Stem solitary, 5 or 6 inches high, erect, simple, single-flowered, almost naked, round, very slightly hairy. Leaf radical, solitary, upright, about as long as the stem, narrow, linear, channelled, acute, smooth or slightly hairy. Bractees 1, 2 or 3, more or less remote from the flower, sheathing, ovate, acute. Flower terminal, erect. Petals 5, spreading, elliptical, acute, tapering at the base, ribbed, rose-coloured. Lip upright, half as long as the petals, blueish, recurved at the point, marked in the front with 2 chain-like rows of yellow glandular tubercles. Column greenish, hairy and viscid, its sides dilated or bordered. Anthera covered with a little terminal permanent lid. Germen oblong; downy and viscid.

This is one of the *Orchideæ* of New Holland whose genus is most easily decided. We have seen among the inimitable drawings of Mr. Ferdinand Bauer a number of others of the same tribe, no less remarkable for singularity than beauty. These, as well as the whole Flora of that interesting country, will in due time be illustrated by the accurate pen of Mr. Brown, now Clerk and Librarian to the Linnæan Society, and we will not anticipate his discoveries, nor execute imperfectly what he has so much better materials for completing. We shall therefore in general decline the publication of New Holland plants for the future, except we should want to elucidate any particular point to which we have given peculiar attention, or any thing that may want explanation from the gardens.

A lip of the flower. B its chain-like glands. C back of the column. D anthera and its lid. E germen.

## J.L.H. de la Billardiere

*Novae Hollandiae Specimen plantarum 2.*

Paris, Huzard. p62. f212. 1806

## M A L A X I S.

COROLLA pentapetala, patens, resupinata. Labellum concavo-patulum, ascendens. Anthera opercularis (1).

## MALAXIS SUBULATA. Tab. 212.

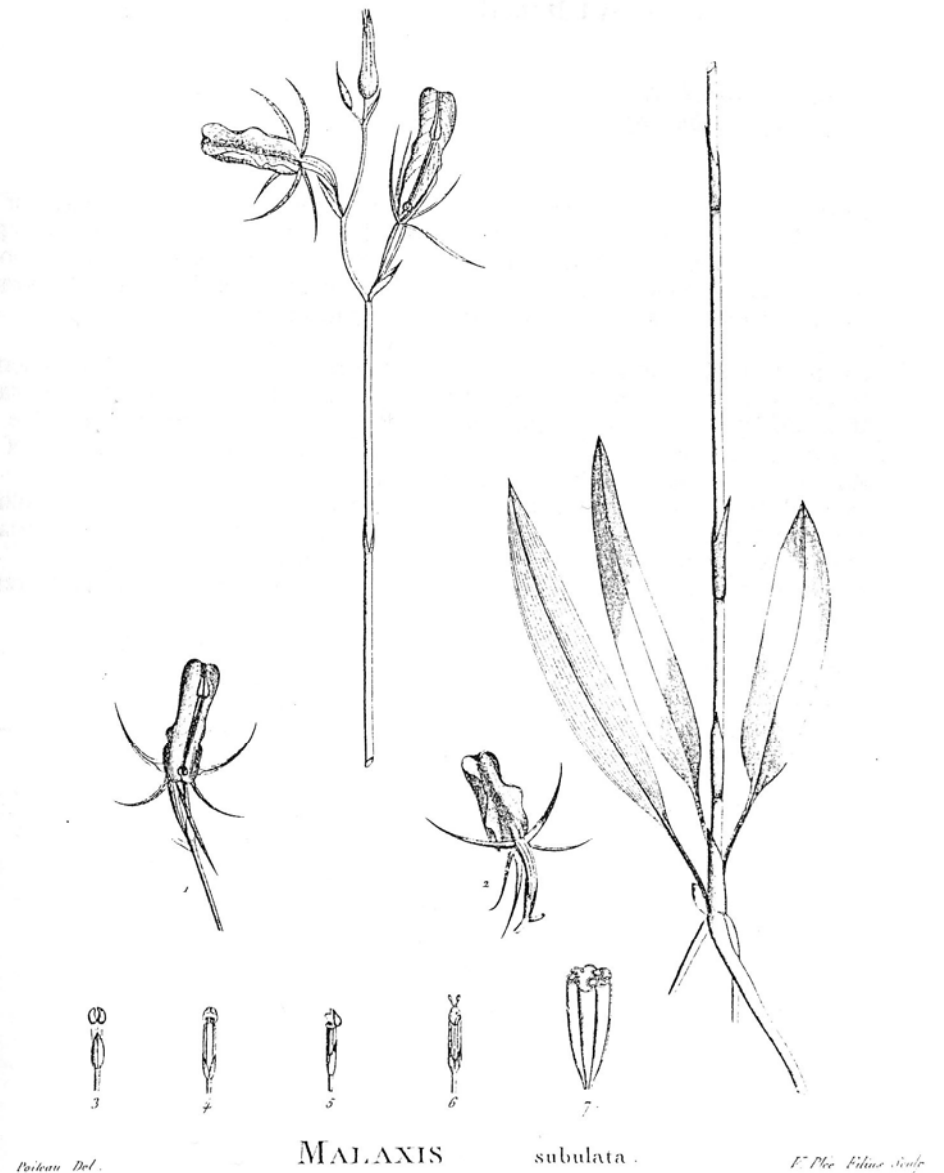
MALAXIS foliis pluribus, lanceolatis, petiolatis, scapo tereti, vaginato brevioribus; labello repando, latiusculo, bicalloso, petalis subulatis longiore.

RADICULÆ crassæ, paucæ, indivisæ. Folia terna ad sena, palmaria, lanceolata, subtus nervosa, petiolo vix pollicari. Scapus teretiusculus, pedalis, vaginis ejusdem remotis, acutis, submembranaceis. Racemus terminalis, bracteam sub singulo flore concavam, ovato-oblongam, subacuminatam. Petala subulata, margine inflexa, subrevoluta; tria exteriora æqualia, uno scilicet inferiori duobusque superioribus; bina interiora cæteris paululum breviora. Labellum petalis paulo longius, reflexis marginibus repandum, latiusculum, basi stylum amplectens, emarginatum, apiculo obtuso, reflexo, fasciis binis extantibus et supra medium bicallosis intus in medio longitudinaliter prominulum. Stylus brevissimus; anthera operculari, hemisphærica, subdidyma, biloculari, oblique insidenti, pollinis massis duabus clavatis, apici loculorum inter se junctis, summo styli incumbentibus; stigmate terminali, antico (corollam verò resupinatam situ postico), obliquo, concavo, antheram contecto. Capsula obovato-oblonga. Cæterum ut in congeneribus.

HABITAT in capite Van-Diemen.

1. Flos anticè visus. 2. *Idem*, posticè. 3. Pistillum vix auctum, cum anthera bracteaque, situ naturali et antico, (corollam verò resupinatam postico situ). 4. *Idem*, visum posticè. 5. *Idem*, è latere visum. 6. *Idem*, posticè visum, genitalibus expansis, massis pollinis conspicuis. 7. Capsulae insigaiter auctae sectio.

(1) Swartz *Orch.* 1805, p. 68.



Translation and notes by E.D.Hatch

*Malaxis subulata*

[*Cryptostylis subulata*]

Leaves - 3, soft, 3 inches long, lanceolate, with nerves on the under side, shortly sheathing the terete scape, the petioles barely an inch long.

Labellum repand, rather broad, with 2 calli.

Roots - few, thick, unbranched.

Scape - almost terete, a foot high, sheathing at the base, the sheaths sub-membranous, acute.

Raceme - terminal, with a concave, ovate-oblong, sub-acuminate bract below each flower.

Sepals & petals - longer than the labellum, subulate, sub-revolute, with inflexed margins, the 3 sepals equal, the 2 petals a little shorter, the labellum undoubtedly prettier than the other segments.

Labellum - clasping the base of the column, a little longer than the sepals, reflexed with repand margins, an obtuse reflexed point, and 2 longitudinal raised calli in the centre.

Column - very short.

Anther - 2-celled, hemispherical, lidded, the connective oblique, concave.

Pollinia - 2, clavate, joined at the tips and folded inwards at the top of the column.

Stigma - on the front of the column, terminal, (the corolla certainly resupinate).

Capsule - ovate-oblong, as in the rest of the genus.

Habitat - rare in Tasmania.

Salisbury R.A.

*Corybas aconitiflorus*. Aconite-flowered *Corybas*.

Paradisus Londinensis LXXXIII, 1807.

ORDO NATURALIS.

Orchidæ. Jus. Gen. p. 64.

Sect. 1. Monandra.

Pericarpium membranaceum. Petalorum supremum, galeæ instar, fornicatum: Labellum grande, supremo connivens, compressum, margine nunc pectinatum; reliqua longe minora. Stylus apice lateribusque dilatatis 3-lobus, cui infra stigma pulvinar subrotundum apponitur. Anthera dorso styli infra marginem inserta, mobilis, 2-locularis. Pollen granulosum. *Herbæ pulchellæ. Radix tuberosa, superne fibris paucis succulentis exsertis. Caulis circiter pollicem longus. Folia 3, medium tantummodo completum reliquis bracteis fornicibus. Flores solitarii. Nomen a floribus Corybæ et velatum capit simulantibus. Character ad exemplar fere defloratum cum sicco alius speciei collatum, itaque recognoscendum.*

C. folio medio reniformi acuminato: labelli margine valde revoluto.

Sponte nascentem in *New Holland*, legit ALLEX. GORDON.

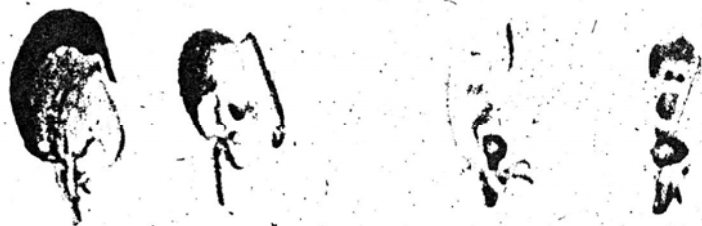
Floret apud nos *Julio*.

For this curious plant, Mr. HOOKER is indebted to the Countess of ESSEX, whose collection at *Cashbury*, will soon be, like every thing else there, truly princely and magnificent. The specimen was much decayed when it reached me, but by comparing it with a dried one both of this and another species, liberally given to me by E. J. A. WOODHOUSE, Esq. I am enabled to draw up the following description.

Root whitish, spindle-shaped with one short fibre at the top, its base terminating in a bulb about the size of a pea. Stem about an inch long, round, smooth. Leaves 3, of which only the middle one can be called complete: Petiole embracing the stem: Lamina circular, kidney-shaped, very entire, shortly acuminate, bright green on the upper surface, paler underneath, exceeding finely papulose, the two lowest pair of side nerves semi-circular and concentric. Flower solitary, of a dark violet blue colour. Pericarpium white young green and obpyramidal; its alternate angles smaller. Upper Petal large, vaulted over the Labellum which is nearly as large, melliferous on both the internal sides near the base, revolute at the margin and in this species I believe quite entire, but in another indented: the remaining Petals very small. Style small, buried within the Labellum, behind the anther and at the sides of the stigma dilated into 3 lobes: a whitish tubercle or bolster covers the front below the stigma. Stigma nearly orbicular, concave. Anther yellow, inserted far below the margin of the style, 2-locular. Pollen in the living specimen dissolved upon the stigma: in a dried one of both species moistened by boiling water, apparently consisting of separate grains.

REFERENCES TO THE PLATE.

1. A flower, half of the upper Petal being cut away to show the Labellum. 2. Half of the Labellum shewing one of the Nectariums near the base. 3. Style, natural size. 4. 5. A side and front view of the Style highly magnified, showing the lowest Petal, Bolster, Stigma and Anther.



*Neottia sinensis* Persoon

Design. & Pub. 1841, 1807, by W. Fischer

## C.H. Persoon

*Synopsis Plantarum seu Enchiridium, complectens enumerationem systematicam specierum hucusque cognitarum.*

Pars II. Parisiis Lutetiorum, Treuttel et Wurtz, etc. 2. 1807. p511

1984. **NEOTTIA**. *Cal.* ringens, foliolis lateralibus exterioribus antice circa basin labelli ventricosum connexis. *Anthera* stylo parallela, postice inserta.

7. *sinensis*, scapo subnudo, fol. subulatis trinerviis, spica spirali. *Aristotelea spiralis*. Lour. Cochinch. 2, ed. Willd. p. 638. Hab. prope Cantonem Sinarum.

Translation and notes by E.D.Hatch

7.  
*Neottia sinensis*  
[*Spiranthes sinensis*]

Scape more or less naked. Leaves subulate, 3-nerved. Spike twisted into a spiral. *Aristotelia spiralis* Lour. Cochinch. Ed.2: p638. Habitat - vicinity of Canton, China.



## Smith J.E.

In Rees A. *The Cyclopaedia or universal dictionary of arts, sciences and literature.*

London, Rivington (39 vols), 1808.

**DENDROBIUM**, in *Botany*, (from *δένδρον*, a tree, and *βίος*, life,) a genus of plants, belonging to the Orchis tribe, growing parasitically, for the most part, on the trunks or branches of old trees, in tropical countries. Willd. Sp. Pl. v. 4. Swartz. Act. Holm. 1800. p. 244. Tracts on Botany, 197. Schrad. Journal, 1799, 234. t. 2. f. 1. Sw. Orchid. in Schrad. Neues Journ. v. 1. 92. Class and order, *Gynandria Monandria*. Nat. Ord. *Orchideae*, Linn. Juss.

Gen. Ch. reformed. *Cal.*- (in some species reversed,) three-leaved, oblong, somewhat spreading; the two lowermost leaves extended at the base, on their under side, and cohering so as to form a pouch, bearing some resemblance to a spur. *Cor.* Petals two, oblong, lateral; nectary a lip, of various shapes in different species; its base included in, and often connected with, the pouch of the calyx, destitute of a spur; its prominent part occasionally concave or flat, undivided or lobed, generally more coloured than the rest of the flower. *Stam.* Anther an hemispherical terminal deciduous lid, of two or four cells; masses of pollen two or more, globular, yellow, glutinous. *Pist.* Germen inferior, oblong or ovate, erect, furrowed; style columnar, semi-cylindrical, a little incurved, concave in front; stigma a moist, shining, orbicular spot, in the fore part of the style near the top. *Peric.* Capsule oblong or ovate, with three or six angles or ribs, one cell and three valves, bursting between the ribs. *Seeds* numerous, minute, each clothed with a chaffy tunic.

Ess. Ch. reformed. Calyx-leaves forming a pouch with their base. Lip without a spur. Anther vertical. Pollen globose. Flowers often reversed.

27. *D. pygmaeum*. Stem creeping, bulbiferous. Leaves nearly sessile, elliptical, downy, coriaceous, solitary from each bulb. Clusters . . . Gathered on mossy rocks and trees in New Zealand, by Mr. Archibald Menzies, F.L.S. This is but half the size of the last, with which it agrees so nearly in habit, that though its flowers are unknown, we scruple not to refer it hither. *Stems* thread-shaped, slender. *Leaves* alternate, on very short footstalks, elliptical, obtuse, revolute, coriaceous rather than fleshy; ribbed and roughish beneath; clothed above with short, prominent, downy hairs. Each footstalk proceeds from a little round bulb, like a ring, smooth and shining, yellowish, and much wrinkled in a dry state, but apparently very succulent when fresh.

## R. Brown

*Prodromus Florae Novae Hollandiae et Insulae Van-  
diemen I*

London, J. Johnson et Sectos. 1810.

## ORCHIDÆ.

DIAGNOSIS. *Perianthium* superum. *Genitalia* basi v. longitudinaliter connata. *Pollen* (Antheræ 1—2,) in massas figuræ determinatæ concervatum. *Capsula* unilocularis, placentis tribus polyspermis axi valvularum adnatis. *Semina* minuta, albuminosa, evitellosa.

DESCRIPTIO. *Perianthium* superum, petaloideum, sex-divisum, irregulare ringens v. patens, rarò æquale; marcescens (in Vanillâ cum ovario articulatum et deciduum): foliola duplici ordine disposita, distincta v. variè connata: *exteriora* 3, quorum *anticum* (dorsale *Auct.*) torsione ovarii v. pedicelli in flore expanso sæpiùs posticum, sæpè fornicatum, rarò basi calcaratum: *duo posteriora* (antica v. lateralia *Auct.*) invicem æqualia; ab antico figurâ plerumque dissimilia, quandoque infra connata, in quibusdam nana: *interiora* 3, horum *duo lateralia* cum antico exteriorum sæpè adscendentia v. conniventia v. basi coalita, quandoque nana: *tertium* (Labellum) antico exteriorum obversum, in plerisque dissimile, et sæpè basi columnæ fructificationis accretum, indivisum v. lobatum, basi sæpè unicalcaratum rarò bicalcaratum, apice quandoque saccatum v. calcaratum, intùs quandoque cristatum v. barbatum, nunc appendice auctum, in quibusdam unguiculatum, laminâ cum ungue articulatâ, geniculo rarò sub-irritabili. *Stamina*. *Filamenta* tria, invicem et stylo plus minus connata, intra laciniam anticam exteriorum, labello obversa; *lateralia* sæpissimè sterilia et sæpiùs abbreviata v. obsoleta; nunc (in *Cypripedio*) antherifera; *intermedium* antheriferum, rarò (et tunc lateralia antherifera) sterile.

*Anthera*

*Anthera* ditheca, lobis vel discretis et lateribus columnæ sæpè ultra productæ adnatis; vel approximatis in antheram, modo stigmati solutò parallelam immobilem persistentem, modo columnam terminantem sæpiùsque mobilem operculiformem deciduam: sæpissimè septo longitudinali unico, rarò triplici intùs divisis.

*Pollen* e granulis simplicibus v. sæpè e spherulis quaternis conflatis; ad anthesin coeuntibus in massas determinatæ figuræ, numero loculorum, nunc (dum *Anthera* adnata rariùsve terminalis mobilis) formatas e lobulis numerosis, angulatis, materiâ glutinosâ elasticâ cohærentibus; nunc (dum *Anthera* stigmati parallela, rariùsve terminalis) subpulverea, lamelliformes, granulis facile solubilibus; nunc denique (dum *Anthera* terminalis opercularis) cereaceas, homogeneas, læves: post dehisceniam loculorum alterâ extremitate, sæpiùs attenuatâ, stigmati affixas, vel immediatè, vel ope processus filiformis elastici, modò ab ipsâ massâ orundi, modò a stigmate derivati.

*Ovarium* subrotundum—cylindraceum, costatum, costis 3 eminentioribus, foliolis perianthii exterioribus oppositis, uniloculare, placentis 3 parietalibus polyspermis, foliolis interioribus perianthii oppositis.

*Stylus* cum stamine basi longitudinaliterve connatus, nunc brevissimus. *Stigma* obliquum, labellum sæpiùs spectans, concavum, secernens, quandoque juxta basin columnæ subhorizontale; apice lateribusve glandulâ unicâ v. duplici nudâ v. cucullo proprio v. communi inclusâ pollen affigenti, instructum.

*Capsula* ovata—cylindracea, trivalvis, sæpè fenestrata, costis 3 eminentioribus post lapsum valvularum persistentibus, et basi et apice cohærentibus.

*Semina* plurima, minutissima, plerumque arillo (testa?) utrinque subulato instructa; in Vanillâ nuda.

*Allumen* semini conforme *Gært.*

*Embryo* minutus, monocotyledoneus axillis: Radicula in regione umbilici, ideoque centrifuga.

*Herbæ* v. *Suffrutices*. *Radix* tuberosa, v. fibrosa. *Caulis* simplex, rarò divisus, foliatus, v. vaginatus. *Folia* simplicia,

simplicia, integerrima, basi vaginanti: Flores spicati, racemosi, corymbosi, v. solitarii, raro paniculati; unibracteati. Pubes, dum adsit, simplex, acuta, nunc glanduloso-capitata.

Obs. I. Auctores omnes flores Orchidearum resupinatos nuncupant cum reverà recti sunt. Labellum enim ante floris expansionem, antè seu posticum, mox in pluribus, torsione pedicelli baseosve ovarii, anticum evadit.

Obs. II. Cel. Swartz. de hâc familiâ præcipuè auctor meritis-simus, laciniam medianam labii inferioris Satyrî *Taub.* pro labello descripsit, perperam, nam galea bicalcarata hujus generis verum est labellum, seu foliolum posticum seriei inferioris, ut patet ex ejusdem positione relativâ cum stamine et ovarii placentis.

Obs. III. Quoniam in Cypripedio habemus columnæ lobos laterales antheriferos intermediumque sterilem, fas est reliquorum generum lobos laterales, in pluribus manifestos, in nonnullis raro antheriferos, in vix ullis omnino deficientes, uti stamina sterilia contemplare. Hæc structura conceptio haud levem accipit confirmationem ex analogiâ *Philydri* jam descripti, quod etsi in multis ab Orchideis longissimè recedit, attamen structurâ staminis et seminum iisdem apprime convenit.

Obs. IV. Textura massarum Pollinis magni valoris esse videtur in methodo naturali. Hinc quatuor Swartzianis quintam sectionem adjecimus, adhucdum parvulam, cui præter Gastrodium pertinet *Epipogium Gmel.* perperam cum *Limonodori* associatum.

Simplicitas v. compositio granularum pollinis in pluribus generibus determinanda. In sectione primâ compositæ sunt, penitus ut in Apocineis (non Aselepiadeis) comosis plerisque, in secundâ et tertiâ quantum examini subjecimus, simplicis, etiam ad lentem multò augmentem, observavimus.

Obs. V. Cel. Salisburius in tentamine (in *Linn. trans.* 7. p. 29.) de germinatione hujus ordinis, præcocem forizationem tuberis monstravit, quod verò quoque obtinet in aliis monocotyledonibus radice bulbosâ donatis: illius iconibus autem, quarum series incompleta, defectus cotyledonis minimè probatus est; nam harum secundâ a dextro numerata exhibet semen adhucdum arillo inclusum, et germinatione vix inceptâ, formatum albumine magno, ad cujus alteram extremitatem Embryo existit, exiguus, radicula minutâ partem exsertâ: in tertiâ autem albumen jam absorptum est, radicula in tuberculum conversa, plumula diphylla: et auctor aliter figuras suas nunc explicare, et punctum acutum exsertum

sertum pro principio plumulæ habere cupiat, legem infringit, si ullam in carpologiâ. universalem, secundum quam *Radicula embryonis in axi albuminis inclusi semper ejusdem peripheriam spectat et approximata est.*

Sect. I. Monandræ. *Anthera* lobis discretis, columnæ juxta apicem adnatis. *Pollinis* in massâ e lobulis numerosis, elasticâ materiâ coherentibus, in granulis (compositis) ægrè solubilibus. *Herbæ Terrestres.*

HABENARIA. *Willd. sp. pl.*

Orchidis species. *Sw. et Willd.*

*Perianthium* ringens, foliolis 3. v. 5. in galeâ conniventibus. *Labellum* basi subtus calcaratum v. subsaccatum. *Anthera* terminalis, loculis adnatis, basibus quandoque solutis elongatis. *Massa Pollinis* pedicellatâ, pedicellis singulis basi glandulâ respondententi nudâ insertis.

Obs. Vastum genus *Orchidis* aliâ ratione quam Cel. Willdenovius subdivisi, illius nomen tamen retinui.

*Habenaria* commodè dividi possit in duas phalanges, ad priorem loculis antherarum longitudinaliter adnatis pertinent *Orchis bifolia*, *hyperborea*, *aphylla*, *flava*, *cordata*, *cubitalis*, *albida*, *viridis*, *fimbriata*, *secunda*, *hispidula*, *Burmänniana*, aliæque plures nondum descriptæ: ad alteram loculis antherarum basi solutis sæpiusque elongatis referendæ sint *Orchis Susannæ*, *ciliaris*, *cristata Mich.* *habenaria*, *monorrhiza Sw.* *lacera Mich.* *Roxburgii Sw.* *viridiflora Sw.* *fissa Willd.* aliæque, præsertim ex Indiâ orientali et Americâ septentrionali, præter duas subsequentes Novæ Hollandiæ.

Species capenses, a reliquis habitu diversæ sunt; sed quarum harum plures, vel recentes vel exsiccatas, examini subjeci, discrimen nullum certum in fructificatione hactenus detegere licuit.

ORCHIS, quæ nec intra tropicos, nec in hemisphærio australi, et vix quidem extra Europam, occurrit, ab *Habenaria* differt pedicellis pollinis basi insertis vel glandulâ unicâ v. duplici, sed semper in uno eodemque processu cuculliformi stigmatis inclusis. Sequentes species huic characteri respondentis sunt determinatæ: *Orchis morio L.* *mascula L.* *palustris*

palustris Jacq. ustulata L. militaris L. fusca Jacq. papilionacea L. ? pallens Jacq. coriophora L. ? odoratissima L. spectabilis L. sambucina L. ? pyramidalis L. hircina Sw. globosa L. latifolia L. maculata L. in harum tribus ultimis, (forsan in plurimis,) glandula duplex, in nonnullis uti in O. hircinâ et pyramidalî, unica existit. Aliæ species europææ, præcipuè floribus purpureis, sine dubio ad hoc genus pertinent: sed Orchis conopsea L. characterem parum infirmat, quippe in hâc (quæ habitu certè meliùs convenit Orchidi quàm Habenariâ,) pedicelli massarum glandulis duabus approximatis linearibus nudis inserti sunt: an ideo generè distinguenda? cum Habenariis enim vix associari posset.

OPHRYDIS character optimus a D. Francisco Bauer primùm detectus, positus est in pedicellis massarum distinctis, singulis cucullo proprio inclusis, quâ notâ ab omnibus primo intuitu dignoscitur. Species genuinæ a nobis determinatæ sunt Op. myodes, apifera Sw. aranifera Sw. vespifera Brot. vernixia Brot. cum characterè autem proposito procul dubio insuper convenient Tournesortianæ nuperrimè a Desfontaines evulgatæ, necnon Hispanicæ Cavanillesii.

Ophrys monorchis L. et alpina L. glandulis pedicellorum distinctis nudis Habenariæ similes, ab eâdem diversæ labello haud calcarato, et vix basi saccato. Ophrys anthropophora L. structurâ antherarum Orchidi respondet, pedicellis insertis glandulis distinctis sed cucullo communi inclusis.

SERAPIAS quæ Ophrydi aliquo modo et facie et columnæ structurâ accedit, pedicellis ambobus in eâdem glandulâ, cucullo inclusâ insertis, abundè differt.

1. H. ochroleuca, labello tripartito: lobis integris: intermedio compresso-filiformi lateralibus lanceolatis acutissimis parùm longiore, calcarî clavato ovarium subæquante. (T.) v. v.
2. H. elongata, labello tripartito: lobis integris: intermedio dimidio breviorè, calcaribus ovario duplò longioribus, foliolis interioribus perianthii indivisis. (T.) v. v.

Sect. II. MONANDRÆ. *Anthera* stigmatè parallela, persistens, loculis approximatis. *Pollinis* massæ pulvereæ, in granulos (simplices) facillè solvendæ, apice affixæ filo a stigmati glandulâ ortum ducenti. *Herbæ Terrestres.*

THELYMITRA. Forst. Swartz. Smith.

*Perianthium* regulare, subpatens. *Labellum* sessile, foliolis coniforme! *Anthera* stigmatè parallela, lobo medio cuculli trifidi inserta.

I. Flores cærulei, nunc albi v. carnei.

1. T. *ixioides*, perianthio patulo, cuculli laciniis lateralibus penicillatis: intermediâ trifidâ: lobulis lateralibus apice erosio medio breviorè bifido dorso cristato, spicâ multiflorâ. (J.) v. v.  
Thelymitra ixioides. Sw. act. stockh. 1800. p. 228. et in Schrad. neu. journ. 1. band. 1. stück. p. 58. Smith. exot. bot. 1. p. 55. t. 29. (sed caret maculis saturatoribus perianthii). Willd. sp. pl. 4. p. 79.
2. T. *media*, perianthio patulo, cuculli laciniis extimis penicillatis: intermediâ dorso nudo trifidâ: lobulo medio dimidio breviorè emarginato, spicâ multiflorâ. (J.) v. v.
3. T. *canaliculata*, perianthio patulo, cuculli laciniis extimis penicillatis: intermediâ dorso nudo multifidâ: lobulis corrugatis: exteriorè longiorè remotiorè, spicâ multiflorâ. (T.) v. v.
4. T. *pauciflora*, cucullo perianthio patulo dimidio breviorè: laciniis extimis penicillatis: intermediâ dorso nudo emarginatâ: lobulis rotundatis integris, spicâ pauciflorâ. (J.) v. v.
5. T. *nuda*, cucullo perianthio patulo dimidio breviorè: laciniis extimis penicillatis: intermediâ dorso nudo emarginatâ: lobulis rotundatis integris, spicâ multiflorâ. (D.) v. v.
6. T. *angustifolia*, perianthio patulo, cuculli laciniis extimis penicillatis: intermediâ dorso nudo emarginatâ: lobulis dentatis, spicâ pauciflorâ, folio scapum æquante. (J.) v. v.
7. T. *carnea*, perianthio patulo, cuculli laciniis extimis denticulatis imberbibus, scapo 1-2-floro. (J.) v. v.
8. T. *venosa*, perianthio conniventi, cuculli laciniis extimis imberbibus spiritaliter involutis. (J.) v. v.

II. Flores

## II. Flores flavi.

9. *T. tigrina*, perianthio patulo maculato, cuculli laciniis lateralibus distinctis stuposo-barbatis: intermediâ breviorē cristatâ, foliis linearibus canaliculatis. (M.) v. v.
10. *T. fusco-lutea*, perianthio patulo, cuculli laciniis lateralibus conniventibus coherentibus fimbriatis: intermediâ erectâ nudâ, foliis lanceolatis. (M.) v. v.

## EPIBLEMA.

*Perianthium* foliolis 5, aequalibus, patulis. *Labellum* unguiculatum, laminâ integrâ basi processibus filiformibus fasciculatis. *Appendix* e basi columnæ, infra ungui labelli adnata. *Anthera* stigmati parallela, utrinque lobo petaloideo stipata.

Herba facie Thelymitræ, cui affinitate proxima; Flores cærulei, speciosi.

E. *grandiflorum*. (M.) v. v.

## DIURIS. Smith in linn. trans. 4. p. 222.

*Perianthium* irregulare, subringens, 6-partitum: foliola 2 anteriora exteriorum labello ecalcarato trifido supposita, linearia: interiorum lateralia patula, unguiculata. *Anthera* stigmati parallela, utrinque lobo laterali columnæ petaloideo stipata.

OBS. Lobi laterales Labelli a Cel. Smith et Swartz. uti foliola distincta perianthii proponuntur, et ab auctore prius memorato lacinix laterales columnæ, quæ in hoc et generibus affinitate proximis petaloideæ, uti foliola accessoria perianthii insuper numerantur; tales autem lacinix, plûs minûs manifestæ, in Orchideis plerisque occurrunt, et a nobis filamenta sterilia putatæ sunt, ut in caractere generali ordinis observationibusque adjectis jam dictum est.

## I. Flores flavi.

1. *D. maculata*, labello basi intus bicarinato: laciniis lateralibus intermediam subæquantibus, foliolorum perianthii interiorum laminis obovatis. (J.) v. v.  
Diuris maculata. Smith, exot. bot. 1. p. 57.\* t. 30. (haud benè respectu macularum). Willd. sp. pl. 4. p. 79.
2. *D. aurea*, labelli laciniâ intermediâ basi intus bicarinatâ lateralibus duplò longiore, foliolis perianthii apice integris: interioribus

- interioribus ellipticis acutis, foliis linearibus canaliculatis scapo brevioribus. (J.) v. v.  
Diuris aurea. Smith, exot. bot. 1. p. 15. t. 9.  
Diuris spatulata. Sw. in Schrad. neu. journ. 1. stück. 1. band. p. 60.
3. *D. emarginata*, labelli laciniâ intermediâ basi intus bicarinatâ lateralibus duplò longiore, foliolis perianthii emarginatis, foliis subulatis canaliculatis scapo ter brevioribus, spicâ pauciflorâ. (M.) v. v.
4. *D. setacea*, labelli laciniâ intermediâ basi intus bicarinatâ lateralibus duplò longiore, foliis setaceis scapo 1-2-floro 4-5-ies brevioribus. (M.) v. v.
5. *D. pedunculata*, labelli laciniâ intermediâ basi intus carinâ duplici pubescenti lateralibus triplò longiore, foliolis anterioribus labello parùm longioribus, interiorum lateralibus laminis lanceolatis acutissimis, foliis scapo 2-3-floro longioribus. (J.) v. v.
6. *D. sulphurea*, labelli laciniâ intermediâ basi ecarinatâ foliolis anterioribus dimidio breviorē, foliis linearibus canaliculatis scapo duplò brevioribus, spicâ 3—5-flora. (J.) v. v.
7. *D. pauciflora*, labelli laciniâ intermediâ basi intus unicarinatâ lateralibus aliquoties longiore, foliolis interioribus perianthii laminis ellipticis acutis, foliis subulatis canaliculatis scapo 1-2-floro 3-4-plo longioribus. (M.) v. v.

## II. Flores purpurei v. albi.

8. *D. elongata*, labelli laciniâ intermediâ basi intus bicarinatâ, columnæ laciniis lateralibus basi crispatis, foliis scapo dimidio brevioribus. (J.) v. v.  
Diuris elongata. Sw. in Schrad. neu. journ. 1. stück. 1. band. p. 59.
9. *D. alba*, labelli laciniâ intermediâ basi intus bicarinatâ, columnæ laciniis lateralibus margine simplici, foliis scapum subæquantibus. (F.) v. v.
10. *D. longifolia*, labelli laciniâ intermediâ basi intus unicarinatâ, foliis racemum 3-4-florum æquantibus. (M.) D. Menzies. v. s.

## ORTHOCERAS.

*Perianthium* ringens, galea ovata, foliolis exterioribus anterioribus erectis, linearibus; interioribus nanis, sessilibus, subgaleam

Galeam conniventibus. *Labellum* trifidum, ecalcaratum. *Anthera* stigmati parallela, utrinque lobo laterali columnæ stipata.

*Affinitate proxima* Diuri; *diversa* perianthii magis ringenti, foliolis inferioribus arrectis, interioribus nanis, conniventibus, sessilibus. Bulbi indivisi.

*O. strictum.* (J.) v. v.

## CRYPTOSTYLIS.

*Perianthium* foliolis 5, linearibus, patulis. *Labellum* posticum, integrum, sessile, latius, basi concavâ columnam brevissimam occultante. *Anthera* stigmati parallela, lobo laterali columnæ utrinque stipata.

Bulbi fasciculati. Folia radicalia, plana, petiolata, pauca. Flores scapum vaginatum terminantes, spicati, sordidè rufi, inodori.

Obs. Genus ab omnibus sat distinctum et a *Malaxidi* diversissimum.

1. *C. longifolia*, floribus porrectis, labello convexo marginibus recurvis: axi a basi striis 3 elevatis desinentibus in processum callosum elevationem apici approximatum, foliis oblongis. (J. D.) v. v.

*Malaxis* subulata. *Labill. nov. holl.* 2. p. 62. t. 212.

2. *C. ovata*, floribus porrectis, labello convexo marginibus recurvis: axi intus infra medium lævi; juxta apicem processu calloso, foliis oblongo-ovatis. (M.) v. v.
3. *C. erecta*, floribus erectis, labello suprâ concavo axeos carinâ suprâ membranaceâ elevatione. (J.) v. v.

## PRASOPHYLLUM.

*Perianthium* ringens, galea antica, foliolis duobus posticis exteriorum sapius coherentibus; interioribus inæquilateris. *Labellum* adscendens, indivisum, ecalcaratum, unguiculatum. *Columna* bipartita, laciniis lateralibus membranaceis. *Anthera* stigmati parallela, antica, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, pulveræ, apicibus stigmati affixæ.

Herbæ terrestres, glabræ. Bulbi indivisi. Caulis unifolius, basi vaginâ 1—2 brevi instructus, supra folium ebracteatus. Foliolum teres, fistulosum, quandoque abbreviatum, vaginâ longissimâ. Flores spicati, inter minores, colore varii.

Obs. Genus hinc proximum *Cranichi* inde *Genoplesio*.

I. Columnæ laciniæ laterales (filamenta sterilia) apice integræ. *Anthera* mutica.

1. *P. elatum*, ovariis cylindraceis sessilibus bractea acutiusculâ duplò longioribus, perianthii foliolis acutis: posticis infra distinctis suprâ leviter coherentibus, labello undulato, folio vaginâ breviorè dimidium superius caulis subæquantis. (J.) v. v.
2. *P. australe*, ovariis cylindraceis subpedicellatis bractea breviter acuminatâ vix duplò longioribus, perianthii foliolis apice attenuatis: posticis infra coherentibus suprâ distinctis, labello undulato, folio vaginam æquante. (D.) v. v.
3. *P. macrostachyum*, ovariis cylindraceo-oblongis, bracteis lanceolatis pedicellos subæquantibus, spicâ elongatâ, perianthii foliolis acutissimis: posticis approximatis, columnæ lobis lateralibus antherâ brevioribus, folio dimidium caulis superius superante. (M.) v. v.
4. *P. flavum*, ovariis cylindraceis subsessilibus bractea acutissimâ vix duplò longioribus, spicâ multiflorâ, perianthii foliolis acutiusculis: posticis extra medium distinctis, columnæ laciniis lateralibus antheram æquantibus, folio dimidio superiore caulis multoties breviorè. (J.) v. v.
5. *P. striatum*, ovariis cylindraceo-oblongis bractea ovatâ acuminatâ duplò longioribus, spicâ pauciflorâ, perianthii foliolis posticis longitudinaliter coherentibus basi simplicibus, labello perianthium æquante: marginibus undulatis, antherâ apice attenuatâ. (J.) v. v.
6. *P. gibbosum*, ovariis cylindraceis, spicâ multiflorâ imbricatâ, foliolis obtusiusculis: posticis infra coherentibus basi que saccatis; interioribus spatulatis. (M.) v. v.
7. *P. fuscum*, ovariis obovatis bractea late ovatâ acutâ ter longioribus, perianthii foliolis acuminatis: posticis basi coherentibus, labelli dimidio superiore duplò angustiore lineari-lanceolato: marginibus simplicibus. (J.) v. v.
8. *P. alpinum*, ovariis obovatis, bracteis subrotundis pedicellos subæquantibus, perianthii foliolis acutis: posticis approximatis, labelli dimidio superiore lineari-lanceolato, spicâ pauciflorâ, folio dimidium superius caulis æquante. (D.) v. v.
9. *P. patens*, ovariis obovatis bractea subrotundâ ter longioribus, perianthii foliolis acutis: posticis distinctis patentibus, labello longitudine foliorum: dimidio superiore ovato-oblongo undulato. (J.) v. v.

II. *Columnæ laciniæ laterales bifide. Anthera mucronata v. rostrata.*

10. *P. nigricans*, perianthii foliolis posticis basi coherentibus antico interioribusque nudis, labelli laminâ oblongo-obovatâ bicarinatâ imberbi, laciniis lateralibus columnæ triangularibus bidentatis, antheræ mucrone brevissimo. (M.) v. v.
11. *P. rufum*, perianthii foliolis posticis distinctis: antico interioribusque nudis, labelli laminâ obovato-cuneatâ apice denticulato marginibus brevissimè ciliatis, columnæ laciniis bifidis, antheræ mucrone setaceo. (J.) v. v.
12. *P. fimbriatum*, perianthii foliolis posticis infra approximatis et juxta basin gibbosis: antico interioribusque ciliatis, labelli laminâ longissimè fimbriatâ, laciniis columnæ bipartitis, antheræ rostro elongato. (J.) v. v. flor. emarcidis.

## GENOPLESIMUM.

*Perianthium* ringens, *galea* antica, foliola *postica* longiora, patula; *interiora* infra columnæ adnata. *Labellum* adscendens, indivisum, ecalcaratum, basi cucullatâ. *Columna* semibifida, laciniis lateralibus nullis! *Anthera* stigmati parallela, persistens, loculis approximatis. *Massæ Pollinis* - - -

Obs. Affinitate proximum Prasophyllo quocum habitu convenit, diversum solummodo defectu laciniarum lateralium columnæ, interioribusque perianthii ei adnatis.

G. *Baueri*. (J.) v. v.

Obs. Character ex-Icone D. Ferdinandi Bauer.

## NEOTTIA. Jacq. Sw.

*Perianthium* ringens, foliolis lateralibus exterioribus anticè labello imberbi subunguiculato suppositis; interioribus cum galeâ conniventibus. *Anthera* stigmati parallela.

Obs. Characterem *Cel. Swartz.* in paucis mutavi, propter species nonnullas jam descriptas, aliasque ineditas in Herb. Banks. examini subjectis. *Orchis strateumatica* L. fide specimenis in Herbario Hermannii Neottia species est.

1. *N. australis*, labello indiviso oblongo crispato: basi bilobulata, columnæ lobulis lateralibus stigmati longioribus, spicâ tortili, foliis radicalibus lanceolatis, bulbis oblongis. (J.) v. v.

CALO-

## CALOCHILUS.

*Perianthium* ringens, foliolis lateralibus exterioribus labello suppositis; interioribus sessilibus, minoribus, erectis. *Labellum* longius, sessile, acuminatum, disco intus marginibusque barbato. *Anthera* stigmati parallela, persistens.

Herbæ *glabræ*. Bulbi indivisi, nudi. Folia caulina pauca, infimum canaliculatum, reliqua abbreviata. Spica racemosa, rara, floribus porrectis, rufis majusculis.

Obs. Affinitate proximus Neottia.

1. *C. campestris*, labello perianthio parum longiore: acumine semilanceolato laminâ 5-plo breviora, columnâ basi biglandulosâ, bracteis ovarium superantibus, spicâ 4-8-florâ. (J. T.) v. v.
2. *C. paludosus*, labello perianthio duplè longiore: acumine ligulato flexuoso dimidium laminæ subæquante, columnâ basi eglandulosâ, bracteis ovario brevioribus, spicâ 2-4-florâ. (J.) v. v.

Sect. III. MONANDRÆ. *Anthera* terminalis, persistens, loculis approximatis. *Pollinis* massæ pulveræ, e granulis simplicibus solubilibus conflata, basibus suis stigmati glandulæ affixæ. Herbæ *Terrestres*.

## MICROTIS.

*Perianthium* ringens, foliolis lateralibus exterioribus sessilibus, labello suppositis; interioribus subsimilibus, adscendentibus. *Labellum* dissimile, oblongum, obtusum, basi callosâ. *Anthera* columnam infundibuliformem posticè terminans, auriculo membranaceo utrinque aucta, (unde nomen.) *Massæ Pollinis* utriusque loculi binæ, pulveræ, basi affixæ stigmati apice soluto.

Herbæ *glabræ*. Bulbi indivisi, nudi. Foliolum caulinum unicum, fistulosum, teres, vaginâ longâ. Spica multiflora. Flores parvi, virescentes, v. albi, labello indiviso v. bilobo.

Obs. Hue *Epipactis porrifolia* Sw. quæ *Ophrys unifolia* Forst.

Facie ab *Epipactide* longè recedit, et *Prasophyllo* penitus convenit, sed floribus resupinatis (nostrâ acceptatione,) et antherarum structurâ abundè distincta.

1. *M. par-*

1. *M. parviflora*, perianthii foliolis inferioribus revolutis interioribusque linearibus, labello lineari-oblongo integerrimo: marginibus nudis; disco dimidii superioris ecaloso, spicæ floribus omnibus approximatis. (J. M. T.) v. v.
2. *M. rara*, perianthii foliolis inferioribus revolutis interioribusque linearibus, labello oblongo-cuneato retuso: dimidii superioris disco incrassato; marginibus nudis, spicæ floribus inferioribus distantibus. (J.) v. v.
3. *M. mesia*, perianthii foliolis inferioribus revolutis oblongis acutis: inferioribus linearibus obtusis, labello oblongo-cuneato apice retuso: dimidii superioris disco verrucoso-incrassato; marginibus calloso-tuberculatis. (M.) v. v.
4. *M. alla*, perianthii foliolis inferioribus revolutis interioribusque linearibus, labello dimidio inferiore lineari: superiore dilatato bifido disco incrassato; marginibus undulatis calloso-tuberculatis. (M.) v. v.
5. *M. pulchella*, perianthii foliolis inferioribus ovali-oblongis patentibus, galeâ orbiculato-ovatâ planiusculâ, labello dimidio inferiore partim dilatato retuso. (M.) v. v.

## ACIANTHUS.

*Perianthium* subringens, foliolis exterioribus aristatis, lateralibus labello suppositis, interioribus minoribus, situ variis. *Labelllum* dissimile, foliolis brevius, indivisum, porrectum, basi bicallosum, disco inappendiculato. *Columna* semiteres, apice inauriculato. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo quaternæ, v. binæ bipartitæ.

Herbæ teneres, glabellæ. Bulbi indivisi, solitarii, nudi, caudicem descendente? radiciformem terminantes, novello pedicellato. Caulis unifolius et ipsâ basi vaginâ brevi inclusus, suprâ ebracteatus. Foliolum profunde cordatum, acutum, trinerve, reticulato-venosum, subtus rufum. Flores racemosi v. solitarii, rufi.

1. *A. fornicatus*, floribus racemosis, aristis perianthio quadruplo brevioribus, foliolis interioribus erectiusculis, labello longitudinaliter papuloso, columnâ inclusâ. (J.) v. v.
2. *A. exsertus*, floribus racemosis, aristis brevissimis, galeâ basi attenuatâ, foliolis interioribus horizontaliter reflexis, labello apice papuloso, columnâ exsertâ. (J.) v. v.
3. *A. caudatus*, scapo 1-2-floro, aristis longissimis, folii marginibus undulatis. (J.) D. Eaucr. v. s.

2 r

Incerti

## Incerti generis.

4. *A.?* *bifolius*, scapo unifloro, foliis radicalibus binis cucullatis, perianthio mutico, foliolis 3 exterioribus conformibus: lateralibus reflexis, interiorum? lateralibus angustolinearibus. (D.) †  
*Epipactis reflexa*. *Labill. nov. holl. 2. p. 60. t. 211. f. 1.*  
 Obs. Medius inter *Acianthum* et *Chiloglottim*, et forsân utrumque genus infirmans: cum *Aciantho* convenit *Pollinis* massis quaternis, *Columnâ* inauriculatâ, *Labello* inappendiculato: cum *Chiloglotti* foliis radicalibus binis, perianthii foliolis muticis, interioribus angustatis.  
 In icone foliola angustata, (quæ ab auctore inter interiora numerata,) ex insertione potiùs exteriora sunt.

## CYRTOSTYLIS.

*Perianthium* bilabiatum, foliolis muticis, quatuor lateralibus subæqualibus, patulis. *Labelllum* dissimile, porrectum, planum, obtusum, indivisum, basi bicallosâ. *Columna* semiteres, apice dilatato. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, compressæ, pulveræ.  
 Herba habitu ferè *Acianthi*, (cui fortè nimis affinis.) Foliolum reniforme, multinerve. Flores sæpiùs resupinati. (nostrâ acceptatione.)

Obs. An hujus generis *Malaxis lilifolia Sw.*? structurâ sub-similis, habitu tamen diversa.

*C. reniformis*. (J.) v. v.

## CHILOGLOTTIS.

*Perianthium* bilabiatum, foliolis lateralibus exterioribus enalculatis, apice teretibus, labello suppositis. *Labelllum* unguiculatum, disco laminæ glanduloso basi que *Appendiculâ* linguatâ. *Columna* apice bifido. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, compressæ, pulveræ.

Herba glabra. Bulbi solitarii, nudi, caudicem descendente, radicantem terminantes. Folia radicalia duo, approximata, ovalia, multinervia, basibus angustatis vaginâ scariosâ inclusis. Scapus uniflorus, medio unibracteatus. Flos rufus, bracteâ præterea nullâ.

Obs. Affinitate proximum esse videtur *Cyrtostyli*, sed aliquam analogiam etiam cum *Pterostyli* habet, convenit enim bulbis,



bis, foliis radicalibus, perianthii foliolis lateralibus corniculatis, basique connatis, denique situ appendicis labelli.

*C. diphylla.* (J.) v. v.

## ERIOCHILUS.

*Perianthium* bilabiatum, foliolis lateralibus exterioribus unguiculatis, labello suppositis, interioribus erectis, minoribus. *Labellum* unguiculatum, inappendiculatum, disco pubescenti, eglanduloso. *Columna* semiteres, apice simplici. *Anthera* terminalis, persistens, mucosa, loculis approximatis. *Massæ Pollinis* in singulo loculo quaternæ.

Herba. Bulbus subglobosus, nudus, caudicem descendente terminans. Folium radicale, unicum, subovatum, nunc cucullatum, basi vaginâ scariosâ inclusum. Scapus 1—3-florus, bracteis præter florales nullis. Flores albi v. purpurascens, ovario perianthioque cæcis pybe subglandulosâ brevissimâ conspersis.

Obs. Genus proximum Caladeniæ.

*E. autumnalis.* (J. D. M.) v. v.

Epipactis cucullata. *Labill. nov. holl.* 2. p. 61. t. 211. f. 2.

## CALADENIA.

*Perianthium* bilabiatum, extus glandulosum, labio superiore planiusculo. *Labellum* unguiculatum, cucullatum, subtrilobum, v. apice angustatum, disco glandulis seriatis ornato. *Columna* membranaceo-dilatata. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, compressæ, semibilobæ, pulvereæ.

Herbæ pulcherrimæ, glanduloso-pubescentes, pilis simplicibus intermixtis. Bulbi indivisi, caudicem descendente terminantes, tegmine lamelloso inclusi! Folium caulinum unicum, subradicale, sæpius lineare, basi vaginâ inclusum. Scapus bracteis præter florales unicâ instructus, 1—3-florus. Flores inodori, colore varii. *Anthera* sæpius mucronata.

I. *Perianthii foliola* quatuor subæqualia, labium inferius efformantia. Caladeniæ veræ.

1. *C. alba*, perianthii foliolis acutiusculis, columnâ labelloque exvittatis, glandulis biseriatis: superioribus arcuatis capitulo concolori, lobo intermedio longitudinaliter fimbriato: disco eglanduloso. (J. T.) v. v.

2. *C. carnea*, perianthii foliolis acutis, columnâ labelloque vittatis, glandulis biseriatis: superioribus strictis capitulo colorato, lobo intermedio longitudinaliter fimbriato: disco nudo. (J. T.) v. v.
3. *C. cærulea*, perianthii foliolis acutis, labello vittato: glandulis biseriatis, lobi intermedii marginibus integerrimis: disco glanduloso, bractea scapi adpressâ. (J. D.) v. v.
4. *C. deformis*, perianthii foliolis obtusiusculis, labelli glandulis biseriatis, lobi intermedii marginibus fimbriatis: disco glandulis confertis, bractea scapi patente foliaceâ. (D.) D. Paterson. v. s.
5. *C. alata*, perianthii foliolis acutissimis: interiorum lateralibus divaricatis, columnâ labelloque vittatis, glandulis biseriatis, lobo intermedio basi utrinque unidentato: disco eglanduloso, folio lineari. (J.) v. v.
6. *C. flava*, perianthii foliolis acutis, labelli laminâ basi cordata, glandulis biseriatis: infimis longioribus: supremis fasciculatis, lobo intermedio basi utrinque bidentato dentibus lobum subæquantibus: disco eglanduloso, lateralibus acutis, mucrone antheram æquante, folio lanceolato scapoque hirsuto 2-3-floro. (M.) D. Menzies. v. s.
7. *C. latifolia*, perianthii foliolis acutis, labelli glandulis biseriatis approximatis, lobo intermedio basi utrinque bidentato dentibus lobo ter brevioribus: disco eglanduloso, folio lanceolato-oblongo pubescenti, scapo hirsuto 2-3-floro. (D.) D. Paterson. v. s.
8. *C. gracilis*, perianthii foliolis acutis, labelli glandulis quadriseriatis, lobis lateralibus latioribus quam longis nudiusculis, intermedio breviter fimbriato: disco basi glanduloso. (D.) D. Paterson. v. s.
9. *C. testacea*, perianthii foliolis acutis, labelli glandulis depressis quadriseriatis, lobis lateralibus latioribus quam longis, intermedioque fimbriato: glandulis disci congestis. (J.) v. v.
10. *C. congesta*, perianthii foliolis acutis, labelli glandulis subquadriseriatis depressis: quatuor infimis stipitatis dissimilibus, lobis lateralibus longioribus quam latis intermedioque nudo: disco glanduloso. (D.) D. Paterson. v. s.
11. *C. filamentosa*, perianthii foliolis longissimè acuminatis, labello crenulato, glandulis disci biseriatis, apice angustato nudo eglanduloso. (D.) D. Paterson. v. s.
12. *C. Patersoni*, perianthii foliolis longissimè acuminatis, labello

bello fimbriato, glandulis disci sparsim sexseriatis, apice angustato crenulato. (D.) D. Paterson. *v. s.*

13. *C. dilatata*, perianthii foliolis longissimè acuminatis, glandulis rarioribus extàs conspersis, labello medio dilatato ibique fimbriis elongatis: infra nudo; supra crenulato, disci glandulis confertim quadriseriatis. (D.) D. Paterson. *v. s.*

II. *Labium inferius bipartitum*: *Foliola interiora adscendentia elongata, angustata.* Leptoceras.

14. *C. Menziesii*, folio lanceolato-ovato, glandulis labelli biseriatis. (M.) D. Menzies. *v. s.*

15. *C. macrophylla*, folio elongato-lanceolato, labelli glandulis quadriseriatis. (M.) D. Menzies. *v. s.*

## LYPERANTHUS.

*Perianthium* ringens, extàs eglandulosum, foliolo postico exteriorum fornicato; reliquis planiusculis, subæqualibus. *Labelllum* brevius, marginibus adscendentibus semicucullatum, apice angustatum, disco glanduloso v. papuloso. *Columna* linearis. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in loculo singulo binæ, pulveræ.

*Herbæ terrestres, glabræ.* Bulbi nudi, indivisi, caudicem descendentem supra radicanem terminantes. Caulis juxta basin unifolius, supra bracteis, præter florales, dualis instructus. Flores racemosi, atro-rufi, (unde nomen) sæpius resupinati.

Obs. Affinitas hinc *Caladeniæ*, inde *Corysanthi*.

1. *L. suaveolens*, folio lineari elongato, labio inferiore diphyllo, foliolis lateralibus interioribus adscendentibus, labelli disco glandulis seriatis sessilibus: marginibus nudis. (J.) *v. v.*
2. *L. ellipticus*, folio lanceolato-elliptico, labelli disco papuloso: marginibus nudis. (J.) D. G. Caley. *v. s.*
3. *L. nigricans*, folio cordato-ovato, labio inferiore tetraphyllo, labello fimbriato: disco papuloso. (J. M.) *v. v.*

## GLOSSODIA.

*Perianthium* foliolis quinque, æqualibus, patentibus. *Labelllum* dissimile, brevius, indivisum, eglandulosum. *Appendix* inter labelllum et columnam. *Anthera* columnam membranaceo dilatata terminans, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, compressæ, pulveræ.

*Herbæ terrestres, pilosæ.* Bulbi indivisi, tegmine lamelloso.  
Folium

*Folium radicale unicum, basi vaginæ membranaceâ inclusum.* Scapus 1- raro 2-florus, bracteis, præter florales, unica instructus. Flos cæruleus. *Appendix linguam serpentis æmulans.* (unde nomen.)

Obs. Genus arctè affine *Caladeniæ*, sed Labello eglanduloso, *Appendice* inter Labelllum et Columnam, denique flore vix bilabiato, diversum.

1. *G. major*, *appendicæ semibifidæ*: lobis patentibus acutis. (J.) *v. v.*
2. *G. minor*, *appendicæ bipartitæ*: lobis parallelis obtusis. (J.) *v. v.*

## PTEROSTYLIS.

*Perianthium* ringens, tetraphyllum, foliolo inferiore bifido, (è duobus infra coherentibus conflato.) *Labelllum* unguiculatum, subinclusum. *Lamina* basi appendiculatâ v. gibbosâ. *Ungue* infra labio inferiore connato. *Columna* basi galeâ connata, apice alata. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, compressæ, pulveræ. *Stigma* medio columnæ adnatum.

*Herbæ terrestres, glabræ.* Bulbi nudi, indivisi, caudicem descendentem radiciformem terminantes. Folia nunc radicalia stellata, nervosa, membranacea, scapo bracteato apophyllo; nunc caulina alterna, radicalibus nullis. Flores solitarii rariusve racemosi, ochroleuci, sæpius majusculi.

Obs. Genus distinctissimum.

- I. *Appendix apice diviso, penicillato.* Folia radicalia stellata. Scapus bracteatus, apophyllus.
1. *P. concinna*, foliis radicalibus stellatis, scapo medio unibracteato, labelli laminâ emarginatâ inclusâ columnam æquantem. (J.) *v. v.*
2. *P. ophioglossa*, foliis radicalibus stellatis, scapo medio ebracteato, labelli laminâ emarginatâ columnam superante apice exserto. (J. T.) *v. v.*
3. *P. curta*, foliis radicalibus stellatis, bracteis scapi præter floralem 2—3, flore erectiusculo, labio inferiore brevioris galeâ acutiusculâ, labelli laminâ integrâ. (J.) *v. v.*
4. *P. acuminata*, foliis radicalibus stellatis, bracteis scapi præter floralem unicâ, flore erectiusculo, labio inferiore parum longiore,

- longiore, galeâ acuminatâ, labelli laminâ integrâ: apice attenuatâ exsertâ columnam superante. (J.) v. v.
5. *P. pedunculata*, foliis radicalibus stellatis, bractea scapi præter floralem pedunculo aliquoties breviorē unicâ, flore erectiusculo glabro, labio inferiore multo longiore galeâ acutiusculâ, labello integro incluso obtusiusculo columnâ breviorē. (D.) D. Paterson. v. s.
6. *P. cucullata*, foliis radicalibus stellatis acutis subsessilibus, bractea scapi floralique foliaceis reticulatis cucullatis laxis, flore erectiusculo pubescentulo, labio inferiore vix longiore galeâ acutiusculâ, labello integro obtusiusculo. (D.) v. v.
7. *P. nana*, foliis radicalibus stellatis ovatis acutis petiolo parum longioribus, scapo pubescentulo, flore erecto, labio inferiore longiore galeâ acutiusculâ, labello lanceolato integro. (D.) D. Paterson. v. s.
8. *P. nutans*, foliis radicalibus stellatis, flore nutante, labiis longitudine subæqualibus, galeâ acuminatâ, labello apice attenuato truncato. (J.) v. v.
- II. Appendix apice diviso sæpius penicillato. Folia radicalia in plantâ floridâ nulla. Caulis foliosus.
9. *P. obtusa*, caule unifloro, labelli laminâ obtusâ apice haud angustato, appendice penicillatâ. (J.) v. v.
10. *P. reflexa*, caule unifloro, labelli laminâ apice sensim angustatâ acutâ, appendice penicillatâ, foliolorum lateralium margine interiori medio dilatato integro. (J.) v. v.
11. *P. revoluta*, caule unifloro, labelli laminâ apice sensim angustato acuto, appendice penicillatâ, foliolorum lateralium margine interiori medio dilatato crenato-inciso. (J.) v. v.
12. *P. grandiflora*, caule unifloro, labelli laminâ apice filiformi obtuso, appendice penicillatâ, foliolis lateralibus sursum elliptico-dilatatis. (J.) D. Bauer et Caley. v. s.
13. *P. parviflora*, caule 2—5-floro, labio inferiore breviorē, appendice apice trifurco. (J.) v. v.

## III. Appendix obtusa, indivisa.

14. *P. longifolia*, caule folioso, foliis radicalibus nullis. (J.) D. Caley et Bauer. v. s.
15. *P. squamata*, foliis radicalibus stellatis, bracteis scapi subimbricatis, labiis perianthii acuminatis, labelli laminâ crassiusculâ longitudinaliter ciliatâ. (D.) v. v.
16. *P. rufa*, foliis radicalibus stellatis, bracteis scapi remotis labiis

labiis perianthii acuminatis, labelli laminâ crassiusculâ longitudinaliter ciliatâ. (J.) v. v.

17. *P. gibbosa*, foliis radicalibus stellatis, bracteis scapi distantibus, labiis perianthii acuminatis, labelli laminâ crassiusculâ basi utrinque unisetâ suprâ nudâ. (J.) v. v.
18. *P. mutica*, foliis radicalibus stellatis, labiis perianthii obtusiusculis, labelli laminâ membranaceâ. (J.) v. v.

## IV. Dubie tribus.

19. *P. dubia*, foliis radicalibus - - - ? caulinis duobus, florali pedunculo breviorē, perianthio pubescentulo, labelli laminâ integrâ, appendice penicillatâ.

Obs. An varietas *P. cucullati*?

## CORYSANTHES.

*Perianthium* ringens; *Galea* magna; *Labio inferiore* 4-partito, neno, a labello occultato. *Labelium* maximum, cucullatum, v. tubulosum. *Anthera* terminalis, unilocularis! semi-bivalvis, persistens. *Massæ Pollinis* 4, pulveræe. *Herba pusilla, glutra. Bulbi nudi, indivisi. Folium radice unicum, subrotundum, quandoque sublobatum. Flos subsessilis, maximus, saturatè rufus.*

Obs. Affinitate proxima *Lyperantho nigricanti*.

1. *C. fimbriata*, labello ecalcarato infra cucullato suprâ dilatato: marginibus inflexis fimbriatis. (J.) v. v.
2. *C. unguiculata*, labello ecalcarato tubuloso apice aperto obliquo, galeâ unguiculatâ, flore pendulo. (J.) D. Bauer. v. s.
3. *C. bicalcarata*, labello tubuloso: apicis dilatati marginibus reflexis; basi bicalcaratâ. (J.) v. v.

Obs. Si *Corybas aconitiflorus Salisb. parad. 83.* ad hanc speciem pertinet, quod non admodum improbabile, quævis radice a bulbis totius generis alienâ et foliis utrinque virgibus, nec subtus purpurascens, differt, tunc certè vel ad siccam (ne quidem maceratum) exemplar vel oculis conjunctibus contemplatus fuit; quippe auctor antheram (cujus valvule post deliscentiam explanatæ sunt,) pro styli processu, et massas pollinis ipsas pro antherâ biloculari describere non hesitavit. Et equidem si omnia accuratè depicta et descripta fuissent nihilominus nomen meum retinuissem, utpote prius impositum et auctore modo citato (*Corybas* nondum evulgato) cognitum, qui insuper plus unâ vice, non sine admiratione, contemplatus est figurum

figuram pulcherrimam pictam D. Bauer, cujus tamen nullam mentionem fecit.

Notatu quoque dignum, quod hæc planta (si reverâ eadem ac *Corysanthes bicarata* sit,) in vicinitate Portus Jackson adeo rara est, ut perpauca tantummodo exemplaria usque ad annum 1805 lecta fuere, quamvis a D. Paterson, Bauer, Caley, et meipso, diversis annis, variis temporibus et locis, ob eximiam pulchritudinem et structuram singularem, summâ diligentia quæsitâ fuit; nec eandem in herbario Alex. Gordon, quod tunc temporis in Novâ Cambriâ evolvi, mihi observare licuit: nuper autem in horto quodam Angliæ (teste Salisburio,) flores perfecit.

## CALEANA.

*Perianthium* foliolis quinque subæqualibus, angustis. *Labellum* posticum, unguiculatum: *Lamina* peltata, cava, foramine posteriore. *Columna* petaloideo-dilatata. *Anthera* terminalis, persistens, loculis approximatis. *Massæ Pollinis* in singulo loculo binæ, pulveræ.

*Herbæ glabræ.* Bulbi indivisi, nudi, caudicem descendantem supra fibrosum terminantes, novello pedicellato. Foliolum radicale unicum, lineare, basi vaginâ inclusum. Scapus bractæ præter florales unicâ v. nullâ, pauciflorus. Flores fusco-virides, labellâ columnaque rufis. *Labellum* mobile, reflexum, instante pluvio, luce diminutâ? vel irritatione inflexum, columnæ incumbens.

Obs. Genus pulchrum et valdè distinctum dixi in honorem GEORGI CALEY, botanici periti et accurati, qui jam per plures annos sumptibus et patrocinio illust. D. Banks. plantas Novæ Cambriæ investigavit, plurimasque novas, nobis haud omnino incognitas, sed in hoc opusculo non describendâ detexit.

1. *C. major*, folio lanceolato-lineari plano, scapo medio unibracteato, laminâ labelli lævi: utraq; extremitate angustatâ semiovatâ. (J.) v. v.
2. *C. minor*, folio filiformi-lineari canaliculato, scapo medio ebracteato, labelli laminâ tuberculatâ: apice angustato bilobo. (J.) v. v.

Sect. IV. *Monandræ.* *Anthera* terminalis, mobilis, decidua, loculis approximatis. *Pollinis massæ* e lobulis numerosis, angulatis, elasticè cohærentibus, conflatæ. *Radicum Parasiticæ.*

## GASTRODIA.

*Perianthium* monophyllum, tubulosum, ore 5-loba, lobis infra secundis. *Labellum* inclusum, liberum, unguiculatum, columnæ incumbens. *Columna* longa, apice cavo, basi anticè incassata, ubi Stigma. *Anthera* terminalis, mobilis, decidua, loculis approximatis. *Massæ Pollinis* e particulis angulatis, majusculis, elasticè cohærentibus.

Herba supra radices parasitica. Radix carnosâ, ramosa, articulata. Scapus aphyllus, vaginis alternis, brevibus. Flores racemosi, porrecti, albicantes, v. ochroleuci, Sesami haud absimiles.

Obs. Affinitatem haud lævem habet cum *Epipogio*, (quod *Limodorum Epipogium Sw.*) præsertim *Antherâ* deciduâ cum *Pollinè* e particulis majusculis elasticè cohærentibus, necnon *Stigmate* ad basin *Columnæ* elongatæ sito.

G. sesamoides. (J.) v. v.

Sect. V. *Monandræ.* *Anthera* terminalis, mobilis, operculiformis, decidua. *Pollinis massæ* cereacæ, læves. *Parasiticæ, paucæ Terrestres.*

## DIPODIUM.

*Perianthii* foliola 5, æqualia, patentia. *Labellum* dissimile, trifidum, disco barbato, basi saccatâ. *Columna* semi-cylindracea. *Anthera* terminalis, mobilis, decidua. *Massæ Pollinis* in singulo loculo singulæ, lobulo interiore auctæ, filis distinctis glandulæ stigmatis affixæ.

*Herbæ terrestres, aphyllæ, glabræ.* Radix crassa, ramosa. Caulis basi vaginis imbricatis, supra distantibus instructus. Flores racemosi, purpurei.

Obs. Adfines *Limodoris*, *Cymbidii*que capensibus, *Pollinè* simili donatis, cujus tamen *Massæ* in iis, ut in ferè omnibus sectionis, filo communi stigmati affixæ. *Cymbidia* et *Limodora*

dora ferè omnia ulterius examen requirant, præsertim respectu Antheræ. Interea Limodorum abortivum, cui primum nomen genericum a *Tournef.* datum fuit, a reliquis differt Polline farinaceo: de *Epipogio Gmel.* jam dictum est. Species terrestres utriusque generis cum *Massis Pol-linis* quaternis in singulo loculo, aliud genus efformare videntur ejus Limodorum *Tankervilleæ*, et *Cymbidium* verè secundum exempla sunt.

1. *D. punctatum*, vaginis radicalibus latè ovatis acutis ecarinatis: superioribus longitudinaliter fissis. (J. D.) v. v.  
*Dendrobium punctatum Smith. ex. bot. 1. p. 21. t. 12.*  
Obs. *Cymbidium squamatum Sw.* ejusdem generis et quam maximè affine, differt Vaginis radicalibus oblongis carinatis, superioribus basi integris.

## CYMBIDIUM. Sw.

*Perianthii* foliola 5, subæqualia, patentia, v. erectiuscula. *Labello* basi concavum, ecalcaratum, a foliolis exterioribus distinctum, laminâ parvâ. *Columna* apicera. *Anthera* terminalis, mobilis, decidua. *Pollen* cereaceum.

Obs. Genus nimis artificiale, posthac certè dividendum.

## I. Parasitica v. Rupestris, Perianthio patenti v. reflexo.

1. *C. canaliculatum*, foliis elongato-linearibus altè carinatis rigidis, scapis axillaribus basi bracteis imbricatis, racemis multifloris, perianthio patenti foliolis acutis, labello intus bicarinato: apice trilobo. (T.) v. v.
2. *C. strave*, foliis elongato-linearibus carinatis, scapis axillaribus basi bracteis imbricatis, racemis multifloris, perianthio patenti foliolis obtusis, labello ecarinato indiviso. (J.) v. v.
3. *C. reflexum*, foliis lanceolato-ensiformibus carinatis, racemo multifloro, perianthii foliolis linearibus reflexis, labello infra canaliculato erecto supra planiusculo reflexo: apice 3-dentato. (J.) v. v.

Obs. A plerisque congenerum valdè diversum.

## II. Terrestria. Perianthio patenti unilobato; Labello basi saccato, respectu racheos interiore.

4. *C. pictum*, racemo pendulo multifloro, bracteis lineari-lanceolatis ovaria subæquantibus, labello ovato retuso picto: callis

callo disci ovato apice soluto dentato, foliis lanceolato-oblongis. (T.) v. v.

Obs. *Limodorum nutans Roxb. Corom.*, a quo nostra planta fortè haud specificè diversa, hujus phalangis est; hæc autem cum *Limodoro recurvo Roxb.* aliisque speciebus Indiæ Orientalis, genus proprium efformare videntur *Malaxidi* proximum habitu, nec multum absimile structurâ columnæ florisque expansione.

## SARCOCHILUS.

*Perianthii* foliola 5, æqualia, patentia, duo exteriora cum ungue labelli subtis connata. *Labello* posticum, ecalcaratum, ungue columnâ continuo; Laminâ calceiformi, lobo intermedio carnoso, solido. *Anthera* terminalis, mobilis, decidua. *Pollen* cereaceum.

Obs. Medium tenet inter *Cymbidia* parasitica perianthio patenti, et *Dendrobia*, his tamen habitu et structurâ paulò magis accedens sed vix conjungendus,

*S. falcatus.* (J.) v. v.

## DENDROBIUM. Swartz.

*Perianthium* erecto-patens, foliola lateralia exteriora cum ungue labelli ecalcarati basi connata, calcar æmulantia. *Labelli* lamina articulata cum ungue columnâ continuo. *Anthera* terminalis, mobilis, decidua.

Obs. Genus forsitan dividendum. Species enim *Labello* postico. (Floribus resupinatis secund. Auct.) aliquantulum differunt structurâ *Antheræ*. Ad hanc phalangem ferè omnes species *Novæ Hollandiæ* pertinent, in quibus racemi oppositifolii, nec axillares v. verè terminales sed instar ramorum ex opposito latere articuli caulini orti.

1. *D. undulatum*, foliis bifariis ovali-oblongis emarginatis, racemis oppositifoliis longissimis, labello intus 5-carinato: lobo intermedio oblongo foliolisque interioribus perianthii undulatis. (T.) v. v.
2. *D. speciosum*, caulibus erectis, apice 2-3-phyllis, foliis ovali-oblongis integerrimis racemo terminali multifloro brevioribus, perianthii foliolis angusto-oblongis, labello infra divisuram carinâ unicâ: lobo intermedio latiore quam longo ecarinato. (J. T.) v. v.

*Dendrobium speciosum. Sm. ex. bot. 1. p. 17. t. 10.*

3. *D. amu-*

3. *D. æmulum*, caulibus erectis apice 2-3-phyllis, foliis ovali-oblongis integerrimis racemo terminali multifloro brevioribus, perianthii foliolis linearibus, labello infra divisuram carinâ triplici: lobo intermedio semiovato acutiusculo unicarinato. (J.) v. v.
4. *D. canaliculatum*, caulibus erectis abbreviatis bulbiformibus apice subtriphylis, foliis semicylindraceis canaliculatis acutis carnosis, scapo terminali, racemo multifloro, perianthii foliolis oblongis, labelli lobis lateralibus oblongis: intermedio subrotundo acuto disco 3-lamellosa. (T.) B. v. s.
5. *D. rigidum*, caulibus repentibus, foliis oblongo-lanceolatis acutis carnosis longitudine racemi pauciflori patuli, perianthii foliolis oblongis acutiusculis æquantibus labello lamina oblongâ obtusâ. (T.) B. v. desc. et ic. pict.
6. *D. linguiforme*, caulibus repentibus, foliis ovalibus obtusis depressis carnosis racemo aliquoties brevioribus, perianthii foliolis elongato-linearibus acutis, labelli lobo intermedio undulato tricarinato. (J.) v. v.
7. *D. teretifolium*, caulibus repentibus, foliis filiformibus teretibus, perianthii foliolis elongato-linearibus apice angustatis, labello tricarinato: lobo intermedio lineari-lanceolato acuminato crispato. (J.) v. v.

Obs. Species proxima *D. crispato*, quod differt floribus ferè dimidio minoribus, labello perianthiique foliolis acutissimis nec acuminatis.

Translation and notes by E.D.Hatch

4. p314

*Thelymitra pauciflora*

Perianth - open.

Column - cucullate, half the length of the sepals. Midlobe naked, emarginate, the lobules rotund and entire; the ends of the lateral lobes penicillate;

Spike - few flowered.

p316

*Orthoceras*

Perianth - open, dorsal sepal ovate; lateral sepals erect, linear; petals dwarfed, sessile, converging below the dorsal sepal.

Labellum - 3-lobed, without a spur.

Anther - parallel to the stigmas, lateral lobes stipitate on either side of the column.

Affinities - with *Diuris*, differing in the larger spreading perianth, the erect lateral sepals and the dwarfed, converging petals.

Tubers - unbranched.

p317

*Cryptostylis*

Perianth - segments 5, [3 sepals, 2 petals], linear, spreading.

Labellum - sessile, entire, broad, concave.

Column - very short, hidden behind the base of the labellum.

Anther - parallel with the stigma, column wings on either side, stalked.

Roots - clustered.

Leaves - few, flat, petiolate.

Flowers - in an apical, dull-red, scentless spike, each flower with a sheathing basal bract.

Obs. - These species are all sufficiently distinct from *Malaxis* to warrant a separate genus.

*Prasophyllum*

Perianth - open, dorsal sepal below, lateral sepals above, often joined [at the base]. Petals unequal.

Labellum - ascending, entire, with a basal claw, but without a spur.

Column - with 2 lateral, lacinate, membranous wings.

Anther - parallel to the stigma, persistent, on the front of the column, the cells close together.

Pollinia - in single cells, powdery, attached to the tips of the stigmas.

Tubers - unbranched.

Stem - with a single leaf, with 1-2 sheathing basal bracts, but no stem bracts.

Leaf - terete, hollow throughout, the free lamina sometimes shortened and the lower portion correspondingly long.

Flowers - in a smallish spike, the colour variable.

Glabrous, terrestrial herbs.

Column-wings - (sterile filaments) lateral, lacinate, the tips entire.

Anther - blunt.

Obs. - This genus has affinities with both *Cranichis* and *Genoplesium*.

9. p318

*P. patens*

Ovary - obovate.

Floral bracts - sub-rotund, acute.

Sepals - 3 times as long as the bracts, distinctly spreading.

Labellum - as long as the sepals, ovate-oblong, undulate, narrower towards the base.

p319

*Genoplesium*

Perianth - open, dorsal sepal below; lateral sepals above, longer, spreading, joined near the base of the column.

**Labellum** - entire, without a spur, the base cucullate. [the flower being 'upside-down', the base of the labellum replaces the dorsal sepal as an awning].

**Column** - shallowly 2-lobed, without wings! [the screamer is Brown's].

**Anther** - parallel to the stigma, persistent, the cells close together.

**Obs.** - closely related to *Prasophyllum*, growing in a similar habitat, differing merely in the lack of lacinate column-wings. The generic character is taken from Ferdinand Bauer's drawing.

p320

***Calochilus***

Glabrous herbs. Tubers naked, unbranched.

**Perianth** - open.

**Lateral sepals** - attached near the labellum. Petals smaller, erect.

**Labellum** - long, sessile, acuminate, the disc and its margins bearded.

**Anther** - parallel to the stigmas, persistent.

**Leaves** - cauline, few, the lower part strongly grooved, the remaining stem-bracts shorter

**Flowers** - few, arranged in a raceme, facing outwards, reddish, rather large.

**Obs.** - Affinities with *Neottia*.

2.

***C. paludosus***

**Labellum** - twice as long as the sepals, with a flexuose ligule almost as long, narrowing from the acuminate tip.

**Column-base** - without glands.

**Floral bracts** - shorter than the ovary.

**Spike** - 2-4 flowered.

***Microtis***

Glabrous herbs with unbranched, naked tubers.

**Perianth** - open, lateral sepals sessile, arising near the base of the labellum. Petals rather similar, ascending.

**Labellum** - different in form, oblong, obtuse, entire or 2-lobed with basal calli.

**Anther** - funnel-shaped, placed behind and at the top of the column, with little membranous ears on either side. (From these last the writer has taken the name.)

[*Microtis* = little ears].

**Pollinia** - in 2 cells side by side, powdery, fastened by their bases to the tops of the stigmas.

**Leaf** - single, cauline, terete, hollow throughout, sheathing the stem.

**Spike** - with many small, green or white flowers.

**Obs.** - *Epipactis porrifolia* Sw. and *Ophrys unifolia* Forst. belong in this genus, which is obviously related to *Prasophyllum*, except that the flowers of the latter are resupinate (we accept this), and the structure of the anther is most distinct.

1. p31

***M. parviflora***

**Petals** - revolute and linear.

**Labellum** - linear-oblong, the margins entire; disc narrowing towards the base, without apical calli.

**Spike** - with the flowers packed closely.

***Acianthus***

Delicate, glabrous herbs.

**Tubers** - single, unbranched, naked, descending from the stem? [the question mark is Brown's] forming new pedicels at the ends of the roots [actually the rhizome internodes].

**Perianth** - open below.

***C. reniformis******Chiloglottis***

Glabrous herbs. Tubers solitary, naked, descending from the stem and terminal on the internodes of the rhizomes.

**Perianth** - 2-lobed [see *Cyrtostylis*].

**Lateral sepals** - grooved, the tips terete, rising beside the labellum.

**Labellum** - mounted on a claw, the disc laminate, with basal calli hanging in fragments like tongues.

**Column** - bifid at the tip.

**Anther** - terminal, persistent, the cells side by side.

**Pollinia** - 2 in each cell, compressed, powdery.

**Leaves** - 2, basal, close together, oval, with numerous nerves, the bases enclosed in a narrow membranous sheath.

**Scape** - with a floral bract and a single reddish flower. Stem bracts absent.

**Obs.** - This appears to have close affinities with *Cyrtostylis*, and also some agreement with *Pterostylis*. The single tuber, basal leaves [cf *P. curta*] and finally the horn-shaped calli fused at the base of the labellum.

p33

***Caladenia***

Very beautiful herbs, covered with glandular hairs, mixed with unbranched hairs.

**Tubers** - unbranched, enclosed in a dry papery sheath, descending from the stem and terminating the internodes of the rhizome.

**Perianth** - 2-lobed, dorsal sepal almost flat, lateral sepals glandulose.

**Labellum** - mounted on a claw, cucullate, more or less 3-lobed, or with a

**Lateral sepals** - aristate, rising beside the labellum. Petals smaller, variously placed.

**Labellum** - different [from the lateral sepals], entire, arching forward, with 2 calli at the base, the disc without appendages.

**Column** - semi-terete, the apex without wings.

**Anther** - terminal, persistent, the cells close together.

**Pollinia** - in single sells, 4- or 2-partite.

**Stem** - with a single leaf, itself included in the short basal sheath. Stem-bracts absent.

**Leaf** - deeply cordate, acute, 3-nerved, the reticulated nerves on the under side reddish.

**Flowers** - reddish, solitary or in a raceme.

p32

***Cyrtostylis***

This herb grows with *Acianthus*, with which it has a very strong affinity.

**Perianth** - appearing 2-lobed, [dorsal sepal and labellum have this effect].

**Lateral sepals** - and petals blunt, more or less equal, spreading.

**Labellum** - different, arching outward, flat, obtuse, entire, with 2 calli at the base.

**Column** - semi-terete, the apex dilated.

**Anther** - terminal, persistent, the cells close together.

**Pollinia** - compressed, powdery, in pairs in each cell.

**Leaf** - reniform, with numerous nerves.

**Flowers** - often resupinate (we accept this)

**Obs.** - This genus is possibly related to *Malaxis lilifolia* Sw.? [the question mark is Brown's], the structure is somewhat similar, but the plant grows nevertheless under different conditions.

narrow tip, the disc with a series of ornate glands.

**Column** - membranous, dilated.

**Anther** - terminal, persistent, the cells close together.

**Pollinia** - 2 in a single cell, compressed, more or less 2-lobed, powdery.

**Leaf** - single, cauline, often linear, enclosed by a basal sheath.

**Scape** - with a single stem-bract besides the floral bracts, and 1-3 scentless flowers of varying colour.

**Anther** - usually mucronate.

2. p324

***C. carnea***

**Sepals and petals** - acute, column and labellum striped. Labellar glands in 2 straight rows, those nearest the column with coloured tips, midlobe of the labellum with toothed margins, the disc naked.

5.

***C. alata***

**Sepals and petals** - very acute, the petals spreading, column and labellum striped, labellar glands in 2 rows, the base of the midlobe with a single tooth on either side, disc without glands.

**Leaf** - linear.

p325

***Lyperanthus***

Glabrous terrestrial herbs.

**Tubers** - unbranched, naked, descending from the stem at the ends of the rhizome internodes.

**Perianth** - open, without exterior glands.

**Dorsal sepal** - arched, the other segments more or less equal, almost flat.

**Labellum** - short, slightly cucullate, with ascending margins and a narrow apex, the disc with glands or hairs.

**Column** - linear.

**Anther** - terminal, persistent, the cells close together.

**Pollinia** - in pairs in single cells, powdery.

**Leaf** - single, rising from the base of the stem. Besides the floral bracts, there are also 2 stem-bracts.

**Flowers** - in a raceme, dark-red (hence the name), often resupinate.

**Obs.** - affinities are with *Caladenia* and perhaps *Corysanthes*.

p326

***Pterostylis***

Glabrous terrestrial herbs.

**Tubers** unbranched, naked, terminal on the internodes of the rhizome.

**Perianth** - open, 4-leaved [illusion created by the positioning of the green floral segments],

**Lateral speals** - bifid, (joined and inflated at the base).

**Labellum** - mounted on a claw which is fused to its base, more or less enclosed, the lamina with a fimbriate or swollen basal appendage.

**Column** - fused to the base of the galea, the apex winged.

**Anther** - terminal, persistent, the cells close together.

**Pollinia** - in pairs in single cells, compressed, powdery.

**Stigma** - adnate to the middle of the column.

**Leaves** - membranous with conspicuous nerves, either in a basal rosette, the stem bracts absent; or cauline and alternate, without basal leaves.

**Flowers** - yellow-brown/white, solitary, rather large, rarely in a raceme.

**Obs.** - this genus is most distinct.

8. p327

***P. nutans***

**Leaves** - in a basal rosette.

**Flower** - nodding, segments more or less equal in length, dorsal sepal acuminate, apex of the labellum shortly truncate.

p329

***Caleana***

Glabrous herbs.

**Tubers** - unbranched, naked, terminal on the rhizome internodes: young [tubers] on pedicels.

**Perianth** - segments 5 [3 sepals, 2 petals], narrow, more or less equal in length.

**Labellum** - on a basal claw, the lamina peltate, hollow, opening out, mobile, inflexed, with glistening calli, diminishing towards the rear? reflexing instantly in rain or when irritated.

**Leaf** - single, linear, enclosed in the basal sheath.

**Scape** - few-flowered, with or without a single stem-bract.

**Flowers** - brownish-green, the labellum and column red.

**Column** - like a dilated petal, folded inwards.

**Anther** - terminal, persistent, the cells close together.

**Pollinia** - in pairs in a single cell, powdery.

**Obs.** - This beautiful and very distinct genus is named in honour of George Caley, an experienced and accurate botanist, who for many years, under the patronage and at the expense of Sir

Joseph Banks, investigated the flora of New South Wales, finding many new plants, and others not entirely unknown to us, but in this small book (the *Prodromus*) incompletely described.

2.

***C. minor***

**Leaf** - filiform-linear, grooved.

**Scape** - without a stem-bract.

**Lamina** - of the labellum tuberculate, the apex narrowly 2-lobed.

p330

***Gastrodia***

Parasitic herbs

**Tubers** - fleshy, branching, jointed.

**Perianth** - tubular, flower 5-lobed, the lobes facing down.

**Labellum** - free, mounted on a claw, enclosed in the tube, facing the column.

**Column** - long [Brown is describing *G. sesamoides*], thickened in front beside the stigma, with hollow apex.

**Anther** - terminal, mobile, deciduous, the cells close together.

**Pollinia** - free, angular, elastic, coherent, rather large.

**Scape** - leafless, with short alternate sheathing bracts.

**Flowers** - in a raceme, drooping, whitish or brownish-white, not unlike *Sesamum*.

**Obs.** - Has some affinity with *Epipogium*, (*Liadorum epipogium* Sw.) especially the deciduous anther, the free elastic, coherent and rather large pollinia, and also the elongated column with the stigma at its base.

*G. sesamoides*



## L.C. Richard

*De Orchideis Europaeis Annotationes*

Memoires du Museum Nationale d'histoire naturelle. Paris. 1817. p50.

## 14. SPIRANTHES.

*Spica*. spiraliter contorta.*Ovar*. apice obliquatum.**Cal.** in oblongum connivens; ad apicem subbilabiato-hians.**Lab.** inclusum; inerme; oblongo-obovale, indivisum, canaliculato-amplexans, supernè recurvum et ad margines crispatum.**Gynost.** brevissimè stipitatum. *Gynizus* subellipticus.**Rost.** laminatum; erectum: *Prosc.* oblonga, s. linearis.**Anth.** marginalis; postica; cordata.**Poll.** Massæ oblongæ; apice adglutinatiles: granula globuloso-tri-quadricecellata.

## Translation and notes by E.D.Hatch

14.

*Spiranthes***Spike** - twisted into a spiral.**Ovary** - with an oblique tip.**Floral bract** - oblong, converging, the tip spreading, shallowly 2-lobed.**Labellum** - enclosed, without spines, oblong-obovate, entire, recurved, the margins crisped, with a longitudinal groove, the edges of which tend to come together above.**Stigma** - on a very short stalk, subelliptical.**Rostellum** - laminate, erect, linear-oblong.**Anther** - cordate, facing outwards, with distinct margins.**Pollinia** - oblong, the viscid tips bearing 3- or 4-celled granular globules.

## Lindley J.

*Spiranthes cernua*. Nodding Lady's Tresses.Edwards's *Botanical Register* 10, 1824.

## GYNANDRIA MONANDRIA.

Nat. ord. ORCHIDEE. Sect. II. Br.

**SPIRANTHES** Rich. *Sepala* in cylindro conniventia. *Labellum* porrectum, planum, basi bicallosum, marginibus columnam cum eo parallelam arcetè amplectentibus.—*Herbæ graciles*. *Folia angusta, radicalia*. *Spicæ densæ, tortiles*.*S. cernua*, foliis lanceolatis trinerviis, caule vaginato pubescente, floribus recurvato-cernuis, labello oblongo integerrimo acuto: callis depressis.*Ophrys cernua*. Linn. sp. pl. 1340.*Neottia cernua*. Willd. sp. pl. 4. 75. Bot. mag. 1568. Sweet Flower Gard. 42. Pers. syn. 2. 511.*Radix fibris plurimis, crassis*. *Folia radicalia linearia, longa, caulina vaginantia, brevissima*. *Spica densa, oblonga*. *Flores arcetè recurvati, cernui* (Willd. sp. l. c.). *Sepala superiora parallela, pubescentia, non undulata, labello lanceolato, obtuso, concavo, integerrimo, venoso, sessili, callis baseos depressis*. *Columna brevissima*. *Gynizus magnus, altè bifidus; laciniis longitudine rostri*.

This kind of *Spiranthes* has been long known in our gardens, although it is, like other North American Orchideæ, impatient of cultivation. The specimen from which our drawing was taken was communicated by Robert Barclay, Esq. from his fine collection at Bury Hill, near Dorking.

As it has been repeatedly decided, that the generic appellation *Neottia* belongs to the *Ophrys Nidus Avis* of older writers, there can be no reason why the name *Spiranthes*, applied by Richard to this set of plants, should not be retained; the *Gyrostachys* of Persoon never having, as far as we know, been employed by any author. *Spiranthes* can only be confounded with the *Stenorhynchus* of Richard, which, although not distinguished from it by any very deci-

sive character, has a peculiarity of habit which renders it desirable that it should, if possible, be retained distinct. *Pelexia* of Poiteau, which we formerly (fol. 760), without being aware of that name having been published, called *Collea*; is more distinct in character, but less in habit.

The following are the species of *Spiranthes* at present known; of which M. Richard mentions only six:

1. *S. autumnalis*. Rich. (v. v. sp.)
2. *S. æstivalis*. Rich. (v. v. sp.)
3. *S. australis*. Nob. (v. s. sp.) *Neottia australis*. Brown.
4. *S. pudica*. Lindl. (v. v. c. et s. sp.) This is quite distinct from *S. australis*, with which it has been confounded in fol. 602 of this work. We are well acquainted with both species. Of *S. pudica* we have specimens from Davuria, collected by Adams.
5. *S. flexuosa*. Nob. (v. s. sp.) *Neottia flexuosa*. Smith in Rees.
6. *S. parviflora*. Nob. (v. s. sp.) *Neottia parviflora*. Smith in Rees.
7. *S. africana*. Nob. foliis ligulatis oblongis radicalibus humifusis uninervis, scapo vaginato glabro, spica secunda labelloque 3-lobo acuto plano saccato glaberrimis.—Hab. in insulis Africae australis. Flores virides. (v. fig.) *Satyrium spirale*. Pet. Th. hist. orch. afr. t. 9.
8. *S. congesta*. Nob. foliis lanceolatis suberectis, scapo glabro vaginis obtusis, spica oblonga congesta subspirali puberula, sepalis obtusis, labello integerrimo.—Hab. in Sibiria. Flores rosei? (v. s. sp. comm. cel. Prescott.)
9. *S. tortilis*. Rich. (v. s. sp.) *Neottia tortilis*. Willd.
10. *S. cernua*. Rich. (v. v. c.)
11. *S. elata*. Rich. (v. v. c.) *Neottia elata*. Bot. mag. 2026.
12. *S. picta*. Nob. (v. v. c.) *Neottia picta*. Bot. mag. 1562.
13. *S. bicolor*. Nob. (v. v. c.) *Neottia bicolor*. Suprà fol. 794; where the leaves are inaccurately represented as whole-coloured. They are variegated with lighter and darker green, like those of *S. picta*.
14. *S. diuretica*. Nob. *Neottia diuretica*. Willd. *Spiranthes Nuil.* Rich.
15. *S. quadridentata*. Nob. *Neottia 4-dentata*. Willd.
16. *S. strateumatica*. Nob. *Orchis strateumatica*. Willd.

Many of the above are nearly related to each other in characters; but they are all, in our judgment, truly distinct.

J. L.



## Brown R. and K.P.J.Sprengel.

*Systema vegetabilium* 3, 1826.

## 2970. MICROTIS R. Br.

(Folium in omnibus solitarium fistulosum  
longe vaginans.)

- porrifolia* R. Br. 1. M. labello oblongo integerrimo basi bicalloso, sepalis patentibus. *Nov. Zeeland.* (Ophrys ifolia Forst., Epipactis porrifolia Sw.)
- parviflora* R. Br. 2. M. labello lineari-oblongo integerrimo ecalloso, sepalis inferioribus revolutis, floribus omnibus conferte spicatis. *Nov. Holl.*
- rara* R. Br. 3. M. labelli retusi disco carnosio, sepalis inferioribus revolutis, floribus inferioribus remotis. *Nov. Holl.*
- media* R. Br. 4. M. labelli retusi disco marginibusque verrucosis, sepalis inferioribus revolutis. *Nov. Holl. austr.*
- alba* R. Br. 5. M. labello unguiculato apice dilatato 2fido, disco carnosio, marginibus undulatis calloso-tuberculatis, sepalis inferioribus revolutis. *Nov. Holl. austr.*
- palchella* R. Br. 6. M. labello apice dilatato retuso, sepalis inferioribus patentibus. *Nov. Holl. austr.*

## Lindley J.

*The Genera and Species of Orchidaceous Plants.*

53. BOLBOPHYLLUM pygmæum.

B. rhizomate repente filiformi, foliis solitariis subsessilibus ellipticis pubescentibus coriaceis.

*Dendrobium pygmæum.* Smith in Rees.Hab. in Nova Zelandia. (v. s. *defloratum* in Herb. Smith.)

"Stems thread-shaped, slender. Leaves alternate on very short footstalks, elliptical, obtuse, revolute, coriaceous rather than fleshy; ribbed and roughish beneath; clothed above with short, prominent downy hairs. Each footstalk proceeds from a little round bulb like a ring, smooth and shining yellowish and much wrinkled in a dry state but apparently very succulent when fresh." Smith l. c.

## A. Richard &amp; A-P. Lesson

*Essai d'une Flore de la nouvelle-zelande*  
In Dumont d'Urville. Voyage... de l'Astrolabe. Paris. 1832.

## ORCHIDÆ.

DIURIS, Smith.

219. DIURIS NOVÆ-ZEELANDIÆ, Nob.

(Tab. 25, f. 1.)

D. foliis linearibus, basi vaginantibus, scapo dimidiò brevioribus; floribus 2-4 subsessilibus, spicatis; calycis laciniis lateralibus exterioribus linearibus erectis, superiore fornicatâ acutâ duplò longioribus; labello tripartito; lobo medio ovali lanceolato, lateribus flexis basi unicarinato. Nob.

Crescit in Novæ-Zeelandiæ locis montosis.

## DESCRIPTIO.

RADIX: tubercula duo oblonga, carnosa, inæqualia, altero minore.

FOLIA radicalia linearia scapo dimidiò breviora, acuta, vix duas lineas lata, striata, glabra, basi vaginantia, vaginâ membranaceâ laxâ. Ad basin culmi, circa folia vaginæ adsunt 2-3, laxæ, acutæ, limbo foliaceo destitutæ.

SCAPUS rectus simplex, 8-10 uncias altus, teres, gerens folia 3-4 sensim longitudine decrescientia et ad vaginam tantum versùs scapi apicem reducta.

FLORES 2-4 alterni in apice scapi subsessiles, bractea spathæformi carinatâ acutâ ovario longiori suffulti.

Ovarium ovoideum contortum costatum. Laciniae tres exteriores valdè inaequales. Superior fornicata apice acuta, dorso subrotunda, striata, genitalia obtegens; duæ laterales lineares duplò longiores ascendentes. Interiorum duæ laterales inclusæ, membranaceæ, basi latæ, sensim et obliquè angustatæ, apice truncato-emarginatæ, bilobæ, lobis inæqualibus. Labellum tripartitum, patens; medio carunculâ seu carinâ obtusatâ versùs basin bicruri notatum, ecalcaratum; lobis lateralibus brevioribus obtusis, obliquis, integris, medio duplò longiori subcordato, acuto, marginibus inflexis.

Gynostemium brevissimum lateribus in duas appendices membranaceas erectas, basi latas sensim acutas erectas, ferè longitudine interiorum, productum. Stigma anticum instar lamellæ anticè glandulosæ, ovalis, subcutæ, erectæ, basi concavæ, ante antheram sitæ. Anthera stigmati parallela, gynostemium terminans, oblongo-cordiformis, apice acuminata, bilocularis, loculo singulo sulco seu rimâ longitudinali anticè dehiscens.

Pollinia duo oblonga, simplicia, pulveracea, facilè solubilia.

## OBSERVATIONS.

Nous croyons cette espèce nouvelle. Néanmoins, autant qu'il est possible d'en juger d'après une simple phrase caractéristique, elle nous paraît se rapprocher du *Diuris emarginata* de M. Brown. La figure et la description que nous donnons ici de notre plante pourront servir

à faire reconnaître si en effet elle est différente de l'espèce ci-dessus mentionnée.

THELYMITRA, Forst., Swartz, Rob. Brown.

220. THELYMITRA FORSTERII, Swartz, Act. Holm., 1800, p. 228.

(Tab. 25, f. 2.)

*Thelymitra longiflora*, Forst. Gen., n. 49;

*Scapias regularis*, Forst. Prodr., n. 512.

T. folio unico, basilari, lineari-lanceolato, carinato; floribus spicatis; calycis sepalis erectiusculis, subæqualibus. Nob.

Crescit in Novâ-Zeelandiâ.

## DESCRIPTIO.

RADIX è fibris capillaribus et tuberculis duobus oblongis teretibus gracilibus tomentosis constans.

SCAPUS simplex, vix pedalis, basi vaginis pluribus laxis membranaceis tenuibus suffultus.

FOLIUM unicum è parte inferiore scapi ortum, basi vaginans, lineari-lanceolatum, carinatum, acutum, longitudine scapi vix semunciam latum. Vaginæ sæpiùs duæ, laxæ, acutæ, scapum suprâ folium cingentes.

FLORES 5-7 spicati, inferiores pedunculati, superiores sessiles basi bracteati; bracteâ lanceolatâ acuminatâ, ovario brevioribus.

CALYCIS laciniae tres, subpatulae, aequales, similes, oblongae acutae; interiores tres patulae, obovales, acutae; exteriores subaequales, tenuiores, venosae.

GYNOSTEMIUM membranaceum convolutum, apice cucullatum, bifidum, anticè et versùs apicem in lobos apice penicillatos productum. Anthera ovato-cordata, in sinu gynostemii internè dorso adnata, sessilis, erecta, bilocularis, loculis longitudinaliter dehiscen-  
tibus. Pollinia in utroque loculo solitaria, oblonga, pulverulenta. Stylus brevissimus gynostemio cinctus, sed distinctus, apice sensim in laminam crassam acutam desinens; stigma faciem internam hujus laminae occupans, convexiusculum, medio subdepressum, glanduloso-madidum. Ovarium inferum costatum non contortum.

## OBSERVATIONS.

Le genre *Thelymitra*, en prenant pour type cette espèce, d'après laquelle il a été établi, présente des particularités d'organisation fort remarquables, et qui ne s'observent, à notre connaissance, dans aucun autre genre de la famille des Orchidées. Aussi nous paraît-il avoir été assez incomplètement caractérisé jusqu'à présent. Dans le *Thelymitra Forsteri*, en effet, le style et le stigmate sont tout-à-fait distincts de l'appareil staminal, au lieu de former un tout commun comme dans toutes les autres Orchidées. Ce que, dans la description qui précède, nous avons nommé le gynostème, appartient exclusivement au système staminal, et forme une sorte de voûte alongée bifide à son sommet, offrant sur ses deux côtés, vers la partie supérieure, deux appendices en forme

de pinceaux. C'est sur la face interne de ce corps membraneux, à peu près vers le milieu de sa hauteur, que l'anthere est attachée. Le style, placé en avant du système staminal, est embrassé par lui dans sa partie inférieure, mais cependant il en est tout-à-fait distinct, et le stigmate qui occupe la face interne ou postérieure du style est ainsi tourné du côté de l'anthere.

## DENDROBIUM, Swartz.

221. DENDROBIUM BIFLORUM, Swartz, Act. Holm.  
1800, p. 246.

• Epidendrum biflorum, Forst. Prodr., n. 318.

(Tab. 26.)

D. caule gracili suffrutescente ramosissimo; foliis alternis lineari-lanceolatis acutis, basi à vaginâ secedentibus; pedunculis supra axillaribus, bifurcatis, bifloris; floribus resupinatis. Nob.

Crescit in arboribus parasitica, in Novæ-Zeelandiæ sylvis. (*Hâvre de l'Astrolabe.*)

## DESCRIPTIO.

CAULIS suffrutescens, gracilis, ramosissimus, ramis alternis teretibus glabris, basi vaginis foliorum elapsorum vestitus, 2-3 pedes longus.

FOLIA alterna vaginantia, lineari-lanceolata, acuta, glaberrima, striata, vix duas uncias longa, 2 lineas lata, à vaginâ persistenti integrâ 3-4 lineas longâ, secedentia.

FLORES resupinati, sæpiùs gemini : pedunculus supraaxillaris vaginam perforans basi simplex, apice bifidus, basi et ad bifurcationem vaginâ integrâ laxiusculâ membranaceâ cinctus, foliis brevior.

Calycis laciniarum exteriorum superior (resupinatione floris inferior) ovali-lanceolata, basi libera; duæ laterales æquales obliquæ, basi internâ inter se connatæ, acutæ. Interiorum duæ laterales ovali-oblongæ, acutæ, exteriorum longitudine. Labellum superius, basi unguiculatum et cum processu basilari columnæ articulatam, in medio 4-cristatum, trilobum, lobo medio majori, acuminatum, undulatum, lateralibus minoribus acutis subobliquis. Gynostemium erectum, longiusculum posticè convexum, anticè concavum, marginibus submembranaceis apice productionibus subacuminatis. Stigma medietatem superam columnæ occupans, glanduloso-madidum. Anthera terminalis in apice columnæ (clinandrio) nidulans, operculiformis; operculo orbiculari, anticè acuminato, posticè articulato, duos loculos segregatos offerenti; loculis simplicibus. Pollinia solitaria cereacea, oblongo-arcuata, subtriquetra.

#### OBSERVATIONS.

Cette espèce qui n'avait encore été signalée que par Forster, mais dont on ne possédait pas de description, avait été trouvée par ce naturaliste dans les îles de la Société. M. Lesson l'a rapportée de la Nouvelle-Zélande, et quoiqu'elle ne fût pas nouvelle, nous avons néanmoins cru devoir en donner une figure et une description, afin

d'en bien constater l'existence. La phrase caractéristique donnée par Swartz est peu exacte, ou a été faite d'après un échantillon bien incomplet, puisqu'il dit que la tige est simple, tandis qu'elle est excessivement rameuse.

#### CYMBIDIUM, Swartz.

222. CYMBIDIUM AUTUMNALE, Swartz, Nov. Act. Ups. p. 72.

Epidendrum autumnale, Forst. Prodr., n. 319.

C. caulibus è radice reptante simplicibus ancipitibus, foliis confertis lanceolatis, spicis subpaniculatis terminalibus. Sw. l. c.

Crescit in Novâ-Zeelandiâ (Forster), in arboribus parasiticum.

#### DESCRIPTIO.

RADIX simplex, parasitica, teres, articulata.

CAULIS teres simplex, erectus, herbaceus, totus vaginis foliorum tectus.

FOLIA alterna, erecto-patentia, obliqua, lanceolata, integerrima, acuminata, caulem vaginantia, rigida, glabra, uninervia, palmaria.

PEDUNCULUS universalis sesquipollicaris, teres, subsquamosus. Panicula terminalis erecto-nutans, ovata, laxa. Pedicelli brevissimi 2-3-flori, squamulosi; squamulæ minimæ, brunneæ, acutæ, pedunculum obtegentes, in apice singuli pedicelli binæ, seu

trinæ, flores sessiles cingentes. Spathæ nullæ, nisi squamulas suprâ dictas pro spathis sumantur.

COROLLÆ (calycis Nob.) petala quinque alba patentissima; tria exteriora ovata, duo interiora obovata.

Nectarium intrâ petala interiora bilabiatum fulvum; tubus vix ullus; labium superius brevissimum, subtrifidum; inferius subrotundum, longitudine petalorum; erectum, retusum, sæpè subacuminatum.

STAMINUM filamenta duo brevissima, pistillo insidentia; antheræ tectæ, labio superiore nectarii. Germen turbinatum, tenue, longum, tortum, inferum. Stylus brevissimus, nectarii labio superiore adnatus. Stigma obsoletum.

Obs. Odor erat suavissimus. (Forster. mss.)

#### Translation and notes by E.D.Hatch

p163. t25. f1

n219

#### *Diuris novae-zeelandiae*

[*Orthoceras novae-zeelandiae*]

**Root** - of 2 oblong, fleshy tubers, one smaller than the other.

**Leaves** - basal, linear, acute, striate, glabrous, shorter than the scape, barely 2 lines wide; basal sheaths 2-3, sessile, lax, acute, membranous.

**Scape** - erect, unbranched, 8-10 inches high, terete, carrying 3-4 sheathing bracts, gradually diminishing in size towards the top of the scape.

**Flowers** - in a spike, 2-4, alternate; floral bracts sub-sessile, keeled, acute, longer than the ovary.

**Ovary** - ovoid, with twisted ribs. Dorsal sepal sub-rotund, striate, hooding over the column. Lateral sepals 2, ascending, linear, twice as long as the dorsal sepal. Petals 2, enclosed by the sepals, membranous, broad at the base, gradually narrowing to an oblique, truncate-emarginate tip, the lobes unequal.

**Labellum** - 3-lobed, spreading, the midlobe with an obtuse callus at the base. Lateral lobes shorter, obtuse, oblique, entire. Midlobe twice as long as the lateral lobes, sub-cordate, acute, with inflexed margins.

**Column** - very short, with 2 lateral membranous appendages, erect, acute, gradually broadening towards the base.

**Stigma** - in the form of thin plates on the front of the column, glandular, oval, erect, concave, placed in front of the base of the anther.

**Anther** - parallel to the stigma, terminal, oblong-cordiform, the tip acuminate, 2-celled. Cells with a single groove or cleft, dehiscing longitudinally.

**Pollinia** - 2, oblong, pollen-grains simple, powdery, easily dissolved.

Grows in NZ in hilly places.