

15. **CYMBIDIUM**, Swartz.

Sepals and petals nearly equal, free, spreading. Labellum sessile, free, articulate on the base of the column, or very shortly adnate to it, concave, entire or 3-lobed. Column erect or slightly incurved, semiterete, sometimes narrowly winged. Anther lid-like, very concave, more or less 2-celled. Pollen-masses 2, usually 2-lobed ($\frac{1}{2}$ united in pairs), sessile on a somewhat triangular gland.—Plants usually epiphytical. Stems often short and slightly swollen into pseudobulbs. Leaves elongated, keeled, striate. Flowers not small, in loose racemes pedunculate in the lower axils, the peduncle often long with sheathing rigid scales at the base. Bracts usually small.

The genus, as at present understood, comprises tropical and subtropical species, both of the New and of the Old World, but chiefly from the latter. It has not, however, been subject to any recent revision. The Australian species appear to be all endemic.

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| Labellum 3-lobed with 2 longitudinal raised pubescent or fringed plates on the disk | 1. <i>C. canaliculatum</i> . |
| Labellum 3-lobed without longitudinal plates. Leaves very long and mostly 1 in. broad | 2. <i>C. albuciflorum</i> . |
| Labellum undivided without longitudinal plates | 3. <i>C. suave</i> . |

1. **C. canaliculatum**, *R. Br. Prod.* 331. Leaf-stems or pseudobulbs usually 2 to 4 in. long. Leaves elongated, narrow, keeled, channelled above, striate, the upper ones often 6 in. to 1 ft. long or even more, the lower ones short. Racemes from the lower axils often 1 ft.

long including the peduncle, the sheathing scales at the base rather rigid, the bracts small and spreading. Pedicels $\frac{1}{2}$ to 1 in. long. Sepals and petals oblong or lanceolate, 5 to 7 lines long. Labellum rather shorter than the sepals, distinctly 3-lobed, the lateral lobes decurrent along the claw, the middle lobe broadly ovate or almost rhomboidal, as long as the lower part, papillose on the upper surface; the disk between the lateral lobes with 2 longitudinal raised lines or plates slightly pubescent or shortly fringed. Column about as long as the lateral lobes, slightly incurved, with 2 narrow longitudinal wings.—*Lindl. Gen. and Sp. Orch.* 164; *Bot. Mag.* t. 5851; *Reichb. f. Beitr.* 45.

N. Australia. Fitzmaurice river, *F. Mueller*.

Queensland. Broad Sound, *R. Brown*; Cape York (*Botanical Magazine*); Herbert's Creek, *Bowman*; Cape river, *Fitzalan*; Burnett, *Hairy*.

N. S. Wales. Hunter's river, *A. Cunningham*; Richmond river, *Fawcett*; also in *Mitchell's* and *Leichhardt's* collections.

S. Australia. Cooper's Creek (*F. Mueller*), the specimen not seen.

The flowers are brown with green margins according to the *Bot. Mag.*; yellow, blotched with red according to others; the labellum dull white spotted with red.

3. DENDROBIUM, Swartz.

Sepals nearly equal in length, the lateral ones very obliquely dilated at the base and connate with a projection from the base of the column into a pouch or spur. Petals usually nearly the length of the upper sepal or rather longer. Labellum articulate at the end of or (in species not Australian) shortly connate with the basal projection of the column, concave at the base, with the margins gradually expanded into 2 lateral lobes usually embracing the top of the column, and a central terminal lobe usually spreading or recurved, or the lateral and terminal lobes confluent in an entire concave or spreading lamina, the disk usually bearing longitudinal raised plaits. Column not very long, winged or toothed at the top. Anther terminal, lid-like. Pollen masses 4, in collateral pairs, usually equal and free or slightly coherent.—Rhizome tufted or creeping on trees or rocks; stems elongated and branching or simple and thick, sometimes reduced to short pseudobulbs, and usually bearing both leaves and racemes or 1-flowered peduncles. Flowers often rather large and showy, rarely very small.

A large genus ranging over the warmer regions of both the New and the Old World, one species found as far south as New Zealand. Of the 24 Australian species one only has been identified with certainty with an exotic species, the *D. hispidum* of Vanikoro, in the South Pacific, although another from the same island, of which the flower is unknown, has been conjectured to be the same as the Australian *D. striolatum*; the remaining 22 appear to be strictly endemic.

SECT. 1. *Dendrocoryne*.—Stems simple, elongated or short, bearing 2 or more flat or channelled leaves at or towards the end. Racemes 1 to 3, apparently terminal or nearly so, or only in the uppermost axils. (Stems more leafy with short axillary racemes in *D. agrostophyllum* and *D. Smilliæ*.)

Petals obovate, broader than the sepals. Racemes few-flowered, on long peduncles. Flowers pink or lilac.

Basal pouch of the flower with a prominent spur underneath, forming a double spur.

Petals $\frac{3}{4}$ in. broad. Labellum middle-lobe very broad and obtuse 1. *D. bigibbum*.

Petals $\frac{3}{4}$ in. broad. Labellum middle-lobe oblong-lanceolate, acute or mucronate 2. *D. dicuphum*.

Basal pouch scarcely gibbous on the lower side 3. *D. Sumneri*.

- Petals narrower or not broader than the sepals. Flowers white, yellow, brown-red, or spotted with red.
- Leaves flat. Large species. Racemes above 6 in. and often above 1 ft. long, with numerous rather large flowers. Petals and sepals obtuse, very much undulate and spreading.
- Leaves broad. Bracts $\frac{1}{4}$ to $\frac{1}{2}$ in. long 4. *D. undulatum*.
- Leaves narrow. Bracts minute 5. *D. Johannis*.
- Petals and sepals lanceolate, acute, not undulate and almost connivent 6. *D. speciosum*.
- Leaves flat. Racemes under 6 in., with a slender rhachis. Stems usually attenuate towards the base. Sepals and petals with long slender points, 3 or 4 times as long as the labellum.
- Stems prominently 4-angled 7. *D. tetragonum*.
- Stems terete, many-angled 8. *D. æmulum*.
- Stems not much or not at all attenuate at the base. Sepals and petals lanceolate not above $\frac{1}{2}$ longer than the labellum.
- Central lobe of the labellum broad, almost reniform. Flowers reddish purple. Spur conical, straight 9. *D. Kingianum*.
- Flowers yellow. Spur short, broad and incurved 10. *D. gracilicaule*.
- Central lobe of the labellum linear-lanceolate. Spur rather long nearly straight 11. *D. Moorei*.
- Stems rather slender, leafy, with short axillary racemes. Sepals and petals broad, about as long as the labellum 12. *D. agrostophyllum*.
- Leaves flat. Stems long and thick. Racemes several, short and dense. Spur very obtuse, longer than the lanceolate sepals and petals 13. *D. Smillia*.
- Leaves linear, channelled. Stems short. Racemes long pedunculate. Sepals and petals linear-oblong or spatulate 14. *D. canaliculatum*.

SECT. 2. **Monophyllæa.**—Stems tufted, short and thick, terminating in a single leaf with 1 to 3 flowers at its base.

- Leaves flat, oblong or lanceolate.
- Ovary and fruit smooth 15. *D. monophyllum*.
- Ovary and fruit muricate 16. *D. hispidum*.
- Leaves very thick, ovoid-oblong, with tuberculate ribs 17. *D. cucumerinum*.

SECT. 3. **Rhizobium.**—Rhizomes creeping, with scariosus sheathing scales. Leaves solitary in the axils of the scales, either sessile on a broad disk or on a very short tuberculate protuberance. Racemes few-flowered, also from the rhizome.

- Leaves flat, coriaceous, very acute. Sepals lanceolate, about 5 lines long without the spur 18. *D. pugioniforme*.
- Leaves very thick and fleshy, almost acute. Sepals oblong-lanceolate, about 4 lines without the pouch 19. *D. rigidum*.
- Leaves very thick and fleshy, obtuse. Sepals linear or narrow linear-lanceolate, 7 to 10 lines long 20. *D. linguiforme*.

SECT. 4. **Strongyle.**—Stems branched, usually rather slender. Leaves distant, terete. Racemes (few-flowered) or peduncles lateral.

- Sepals and petals narrow, 1 in. long. Spur from $\frac{1}{4}$ to near $\frac{1}{2}$ as long. Labellum much shorter than the sepals, the middle lobe acuminate 21. *D. teretifolium*.
- Sepals and petals lanceolate, under $\frac{3}{4}$ in. Spur short, very obtuse. Labellum nearly as long as the sepals, the middle lobe ovate-oblong 22. *D. striolatum*.
- Sepals and petals narrow, about $\frac{1}{2}$ in. Spur about half as long. Labellum as long as the sepals, the middle lobe acuminate 23. *D. Mortii*.
- Sepals and petals lanceolate, about $\frac{1}{2}$ in. Spur about as long. Labellum nearly as long as the sepals, the middle lobe short and broadly reniform 24. *D. Bowmanii*.

D. complanatum, A. Cunn. in Lindl. Bot. Reg. 1839, Misc. 34, from the neighbourhood of the Brisbane river, is described as having the flattened stems and distichous leaves of the section *Aporum*, Lindl., but as the flowers were never seen, and no specimen of the foliage has been preserved for comparison, it will be impossible to identify the plant. The mention of the yellowish tinge of the foliage might lead one to suppose that it may have been the *Oberonia iridifolia*.

D. Fellowsii, F. Muell. Fragm. vii. 63, is described from very insufficient materials—the summit of a stem, with the rhachis of a few racemes from which the flowers are all fallen away with 2 loose leaves, which would all indicate the *D. Smillia*. Dallachy saw no plants in flower on the trees, but picked up a few yellow flowers from the ground which I cannot distinguish from those of *D. gracilicaulis*. It is very doubtful therefore whether the *D. Fellowsii* may not be a compound of these two species.

D. minutissimum, F. Muell. Fragm. v. 95, from a single locality near Botany Bay, is mentioned by name only, and I have seen no specimens.

2. **D. dicuphum**, *F. Muell. Fragm.* viii. 28. Stems strongly ridged and furrowed, sometimes 3 to 4 in long, rather thick, equal or scarcely contracted towards the base, sometimes shortened into a conical pseudobulb. Leaves few on the upper part of the stem, lanceolate or

linear-lanceolate, 3 to 6 in. long. Raceme erect, on an apparently terminal peduncle of 6 in. to 1 ft., with 3 or 4 (probably pink or purple) flowers, on pedicels of about $\frac{1}{2}$ in. Sepals lanceolate, acutely acuminate, 7 to 8 lines long, the lateral ones forming at the base, with the basal projection of the column, a pouch as in other *Dendrobia*, but also emitting from the under side an obtuse hollow spur 1 to $1\frac{1}{2}$ lines long, forming a distinctly double spur to the flower. Petals obovate, acute, rather longer and broader than the sepals, but not above 3 lines broad in our specimens. Labellum nearly as long as the sepals, attached at the junction of the 2 lobes of the spur, scarcely clawed but mobile, the broad lateral lobes forming a truncate base nearly 5 lines broad, the middle lobe oblong-lanceolate, acute or mucronate and not 2 lines broad; the disk with 3 raised longitudinal lines or plates more or less fringed or crested and extending some way along the middle lobe, and occasionally 1 or 2 shorter additional fringed lines.

N. Australia. Liverpool river, *Gulliver*; and probably the same, but our specimen without flowers, Port Darwin, *Schultz*, n. 412.

13. **EULOPHIA**, R. Br.

Sepals and petals nearly equal, spreading, free or the lateral sepals adnate to the short basal projection of the column. Labellum inserted at the base of the column or its projection but free from it, produced at the base into a short pouch or spur, the lamina 3-lobed or rarely undivided, the disk usually marked with cristate or bearded veins. Column semiterete, with the front angles acute or winged. Pollen-masses 4 in pairs,

or 2 and bifid, waxy, attached to a short linear caudicle on a transverse gland.—Terrestrial herbs, with short stems. Leaves distichous, plicate, or sometimes those of the flowering stems reduced to sheathing scales. Racemes terminal or on radical scapes.

The genus is spread over tropical and subtropical Asia and Africa. The Australian species are both endemic.

Labellum strongly and darkly veined, the middle lobe much broader than long 1. *E. venosa*.
Labellum finely veined, the middle lobe as long as broad 2. *E. Fitzalani*.

1. **E. venosa**, *Reichb. f. in Herb. Lindl.* An erect leafless herb, with the habit of *Dipodium punctatum*, the sheathing scales imbricate at the base of the stem, the upper ones distant, passing into narrow bracts, often as long as the pedicel and ovary. Flowers several in a terminal raceme, whitish with deep red veins. Sepals broadly lanceolate, 6 to 8 lines long, marked with longitudinal somewhat anastomosing veins, the lateral ones attached to the short basal projection of the column. Petals rather shorter and broader, almost obovate-oblong. Labellum rather longer than the sepals, the spur short, the lateral lobes ovate, strongly veined, the middle lobe twice as long and very much broader than long, almost reniform, elegantly veined, the disk with two longitudinal glabrous raised lines or plates between the lobes, shortly prolonged on the middle lobe which has besides 3 or more short undulate raised lines or plates. Column half as long as the sepals, the dorsal lobe bearing the anther rather long and ovate.—*Dipodium venosum*, F. Muell. Fragm. i. 61.

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Queensland. Rockingham bay, *Dollachy*; Port Mackay, *Nerust*.

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N 10

ORCHIDACEAE

Nerulia holochila

(F. Muell.) Benth