



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoepe

CALADENIA
Lobata **Plicata**

Printed at the Surveyor General's Office Sydney
October 1882

Caladenia lobata. (Fitzgerald.)

Caladenia plicata. (Fitzgerald.)

CALADENIA LOBATA is the largest and in every way the finest of what are known as "Spider Orchids." It is peculiar to Western Australia, and in that Colony I have only found it in one locality, St. Werberg's, on the Upper Hay River, where it is not uncommon on the hills. The contrast between the delicate green and maroon of the flowers is not its only attraction. The labellum, constantly vibrating up and down in every breeze, catches the eye, when the beauty of the flower might otherwise be unobserved. The most marked peculiarities in this species, when compared with other forms which have by some botanists been brought together as varieties of *C. Patersoni*, are—the inflated bases of the upturned lateral sepals, the lobes on the columns (like those of a *Drakaea*), and the absence of the two calli to be found at the base of the column of all or at least most of the other closely allied species. It flowers in September.

Caladenia plicata is also peculiar to Western Australia, where I found it at "the tannery," near Albany, King George's Sound, and at St. Werberg's, Upper Hay River. The labellum has the same tremulous motion as that seen in *C. lobata*, vibrating backwards and forwards on flowers which are almost horizontal. Were not the name *clavigera* already given to one of the species of the genus, it might well be applied to this, the clubs at the ends of the sepals being far more conspicuous in it than in the form named from possessing them, or in any other known to me. But the re-duplication in the labellum, which has the centre lobe sharply doubled back beneath the disk, so as to give the whole labellum an elliptical form, at once distinguishes it from all other species, and from this peculiarity I have named it. *Caladenia plicata* is to be found in peaty soil, in the shade of trees, and flowers in September.

DESCRIPTION of *Caladenia lobata* as given in Gardener's Chronicle of 8th April, 1882, page 461, No. 432, Vol. XVII.

"A tall robust species, probably the tallest in the genus, from one foot six inches to two feet; hairy. Leaf oblong, lanceolate, sheathing at the base, about six inches long, about one inch four lines broad. One or two flowered. Petals yellowish with a red line down the centre, linear, tapering to a point, about two inches. Sepals reaching two inches eight lines, or even three inches, dilated for about one inch then passing into long fine points, the dilated portion about five lines broad, but reduplicate. Dorsal sepal erect and much curved forward. Lateral sepals sharply curved upwards. Labellum about one inch two lines long, and one inch broad, on a long narrow elastic claw; three-lobed; central lobe, maroon, lanceolate, acute, denticulate, reflexed, inflated at the base. Lateral lobes green, narrow, acute, fringed with long linear calli. Calli of the disk linear, crowded for about one-third of the labellum in two bands which unite into one towards the base. Column about nine lines, curved near the anther. Wings dilated into a very peculiar orbicular lobe about the centre of the column. No gland at the base of the column. Anther with a sharp point."

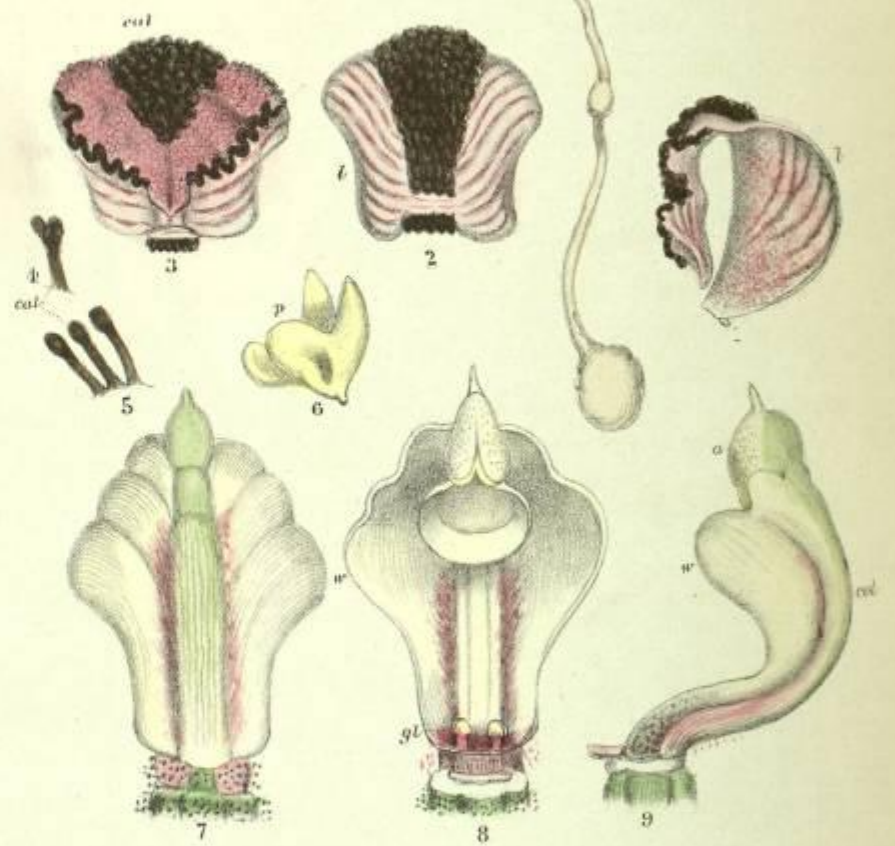
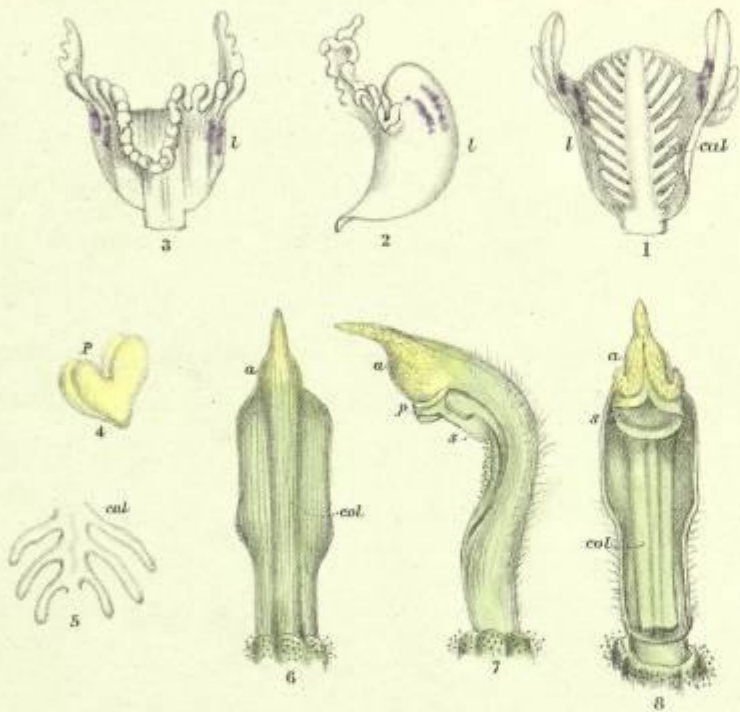
DESCRIPTION of *Caladenia plicata*, as given in the Gardener's Chronicle of 8th April, 1882, page 461, No. 432, Vol. XVII.

"A very hairy species, one foot high. Leaf lanceolate, seven or eight inches long, and seven or eight lines broad, sheathing at the base. The flowers (generally two) yellowish, with red lines down the centre of the sepals and petals. Petals narrow, lanceolate, acute, ten lines. Sepals about one inch, lanceolate at the base for about half their length, then narrow, linear, clavate, the enlargements at the ends being covered with numerous brown calli. Dorsal sepal erect, recurved. Labellum about four lines, on a long slender claw, three-lobed, the central red-brown, oblong, denticulate, recurved so as to become plicate and touch the under surface of the disk. Lateral lobes orbicular, reddish-yellow, and fringed with long linear calli. Calli of the disk linear, clavate in a densely covered band down the centre of the labellum. Column about six lines, much curved, winged from the base in two lobes, and having two oval calli near the base. Anther with a short point. (The labellum is constantly moving backwards and forwards with the slightest breath of air.)"

EXPLANATION OF PLATE.

Caladenia lobata.—Fig. 1. Labellum, from the side. 2. Pollen masses. 3. Column, from the front. 4. Column, from the side. 5. Labellum, from the front. 6. Calli of the disk. 7. Labellum, from the back.

Caladenia plicata.—Fig. 1. Labellum, from below. 2. Column, from the side. 3. Pollen-masses. 4. Labellum, from the side. 5. Clavate end of sepal. 6. Labellum, from above. 7. Column, from back and front. 8. Column and labellum, from the side.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoepe

Paniculata

CALADENIA

Macrostylis

Caladenia paniculata. (Fitzgerald.) *Caladenia macrostylis.* (Fitzgerald.)

CALADENIA PANICULATA belongs to a section of the Caladenias as distinct from others as many genera are from each other, namely, the group in which the calli of the disks are not in rows, but in a half-circle, more or less perfect, and in which the dorsal sepal is not set so distinctly at right angles to the rest of the perianth,—a group wholly I believe confined to Western Australia.

C. paniculata is more closely related to *C. flava* than to any other, but is easily recognized by its small, narrowly divided white flowers, which are borne in two or more panicles, and by the plate edged with calli, on the disk. The only plants I know of were found growing on the hill-sides in open forests, at St. Werberg, Upper Hay River, Western Australia. It flowers in September.

Caladenia macrostylis. This pretty and very distinct form of "spider orchid" was also found at St. Werberg, on the edge of a swamp. It flowers in September. The expansion of the column is remarkable, and distinguishes it from other Caladenias.

DESCRIPTIONS as given in Gardener's Chronicle of 8th April, 1882, No. 432, Vol. XVII.

"*Caladenia paniculata.* A small hairy species, about three inches high, leaf oblong, lanceolate, two to three inches. Flowers three to six, in a flat panicle. Petals and sepals narrow, lanceolate acute, white with a central streak of red, and tinged with red at the ends on the outside, about four lines long and one broad. Labellum not two lines long, three-lobed, the central lobe lanceolate, fringed with clavate calli, side lobes ovate, entire. Calli of the disk, about twenty, linear, in two rows, united by a long central callus, which extends from the short claw for two-thirds of the length of the labellum. Column winged from the base; Anther with a long point.

"*Caladenia macrostylis.* A slender species, hairy, about seven inches high. Leaf linear-lanceolate, sheathing at the base, four to five inches long. One-flowered. Sepals and petals light-yellow, with a red line down the centre. Petals about one inch, lanceolate, tapering to a fine point, turned up. Sepals about one inch long and three lines broad, broad lanceolate, tapering to a fine, slightly clavate point. Dorsal sepal erect for three-fourths of its length. Labellum on a short claw, ovate lanceolate, about six lines long and four broad, yellow, veined with red, the edges thickened for about one-third towards the point, undulate, dark red-brown. Calli of the disk dark red-brown, in a broad band extending from near the base to within about a line from the point, linear, clavate, closely packed together, three or four calli at the base, linear, twice clavate. Column about five lines long and four broad, very much bent, winged from the base to half way up the anther. Wings on each side of the stigma very broad. Anther with a short point. Two orbicular calli at the base of the column."

EXPLANATION OF PLATE.

Caladenia paniculata.—Fig. 1. Labellum, from above. 2. Labellum, from the side. 3. Labellum, from below. 4. Pollen-masses. 5. Calli of the disk. 6. Column, from the back. 7. Column, from the side. 8. Column, from the front.

Caladenia macrostylis.—Fig. 1. Labellum, from the side. 2. Labellum, from above. 3. Labellum, from the front. 4. Calli of the disk, near the base. 5. Calli of the disk, from its centre. 6. Pollen-masses. 7. Column, from the back. 8. Column, from the front. 9. Column, from the side.



From Nature by R. D. Fitzgerald FLS

On Stone by Arthur I. Stopps

SARCOCHILUS Rubricentrum

Printed at the Surveyor General's Office Sydney N SW
May 1882.



Sarcochilus rubricentrum. (*Fitzgerald.*)

THE following notice and description of this species appeared in the *Gardener's Chronicle* of 10th July, 1880, page 38, No. 341, Vol. XIV.

"Through the kindness of Mr. E. Ramsay, F.L.S., I am enabled to describe a very pretty *Sarcochilus*, which I believe to be new, though closely allied to *S. Fitzgeraldi* (Mueller). The plant, obtained at Cairns, Queensland, was flowered in the green-house at the Museum, Sydney, by Mr. Ramsay, and given to me by that gentleman. The habit of this orchid is not decumbent, as in *S. Fitzgeraldi*. The flowers are much more numerous, smaller, and borne on more robust and upright peduncles, the general appearance being more that of a crucifer than an orchid. The pure white flowers with their bright red centres (from which I have given the name), make it a very attractive species. It flowers in September.

DESCRIPTION.

"Stems erect, about two inches, retaining the old bases of the leaves. Leaves oblong, about five inches, the portion on one side of the mid-rib longer and broader than the other. Flowers from twelve to twenty, about eight lines across, on pedicels of from two to four lines, white with red centre, which is spotted with darker red. Peduncles rising from below the basis of the old leaves, six inches, erect, much stouter than in *S. Fitzgeraldi*. Sepals larger than the petals, oblong, contracted towards the base, about four lines long. Petals more ovate than sepals, smaller, about three lines long. Labellum having a band of red across the front, broader and shorter than in *S. Fitzgeraldi*. The wings shorter, and more ovate. The large gland on the disk not slightly notched, but deeply cut to half its length; the small gland at the base also more deeply cut. The base of the column shorter, banded with deep red. Pollen-masses on a short caudicle."

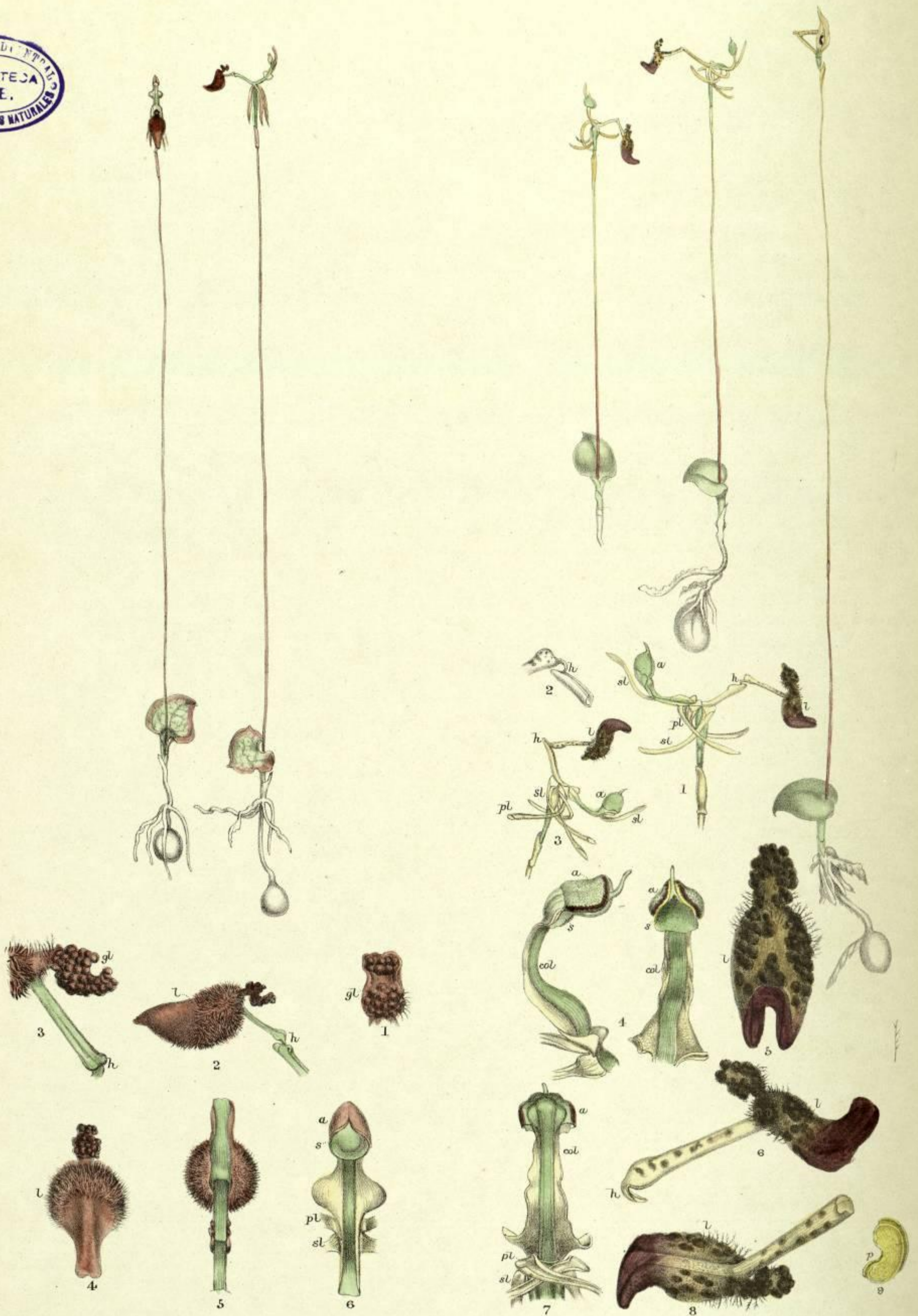
EXPLANATION OF PLATE.

Sarcochilus rubricentrum.—Fig. 1. Flower, from the front. 2. Flower, from the back. 3. Anther and pollen masses. 4. Labellum, from the front. 5. Labellum, from the back. 6. Gland of the disk. 7. Column and labellum, from the side. 8. Top of column, anther removed, showing a pollen mass in the stigma. 9. Column, from the front. 10. Column, from the side.

Genus *Drakæa*. (*Lindley*.)

DRAKÆA is a small genus, known as "Hammer Orchids," allied to *Caleana*, but not possessing the sensitive labellum of that genus; for though the labellum is delicately poised on the end of the column, I could not find in any of the species I have examined any irritability.

The labellum is a very curious appendage to the column, but unless it is useful as a decoy to insects, from its resemblance to one in form and motion (for it trembles in the wind), I do not see how it can assist in the fertilization of the plant. It certainly has no power of impelling any insect against the column, as is constantly done by the labellum of other orchids, or of catching them, as in the case of *Caleana*.




From Nature by R.D. Fitzgerald, P.L.S.

On Stone by Arthur H. Sargent

DRAKÆA

Glyptodon Elastica

Printed at the Surveyor General's Office Sydney N.S.W.
May 1883.



Drakæa elastica. (Lindley.) Drakæa glyptodon. (Fitzgerald.)

DRAKÆA ELASTICA.—This species was obtained at Perth, Western Australia, and replaced at Dardanup and Albany, by the form which, from the likeness of the labellum to the extinct tortoise, I have named *D. glyptodon*. Both species are found in sand, and flower in September. They grow in little companies, having to a very great degree a peculiarity belonging to some other orchids, namely, that only one individual is first seen, but if you stand and look at it for a few moments, you will be surprised by observing several others, some taller, some shorter, standing all round it, which have become conspicuous as the eye seems to obtain the proper focus.

I have not noticed any insects upon or about either species, and they would appear to me to be seldom fertilized. When fertilized it must obviously be by the intervention of insects, unless (as I have often thought was the case with *Chiloglottis diphylla*) after a long period in which they have not been visited by insects, the labellum returns to the column, and adhering to the rostellum, when brushed accidentally removes the pollinia and applies them to the stigma; or the same result is produced by the withering and shrinking of the labellum, the length of which being thus reduced, the extracted pollen masses are brought opposite to and in contact with the stigma. I have seen examples of *Drakæa* and *Chiloglottis* evidently gone to seed, which appeared to me to be so self-fertilized, but such self-fertilization is I think only occasional.

DESCRIPTION of *Drakæa glyptodon* as given in Gardener's Chronicle of 15th April, 1882, page 494, No. 433, Vol. XVII.

“A slender plant, six to nine inches high, leaf thick, ovate-cordate, about five lines in diameter. One-flowered. Lateral sepals and petals red-brown, about four lines long, recurved, linear. Dorsal sepal rather longer, erect. Labellum dark red-brown, articulate at the end of the basal projection of the column, on a linear claw of about two lines. The central part of the labellum ovate convex, produced towards the end into an emarginate projection, and at the base into a glandular appendage, resembling the head of the extinct Armadillo, Glyptodon. The recurved under surface and basal part of the upper surface covered with branching hairs. Column about four lines, much curved, the wings forming two ovate auricles about the middle. Basal projection linear, about two lines. Stigma not produced into a long point (or rostellum?) as it is in *D. elastica*, and the anther not pointed.”

EXPLANATION OF PLATE.

Drakæa glyptodon.—Fig. 1. Glandular appendage to labellum. 2. Labellum, from the side. 3. Portion of labellum, from the side, showing glandular appendage and claw. 4. Labellum, from above. 5. Labellum, from below, and basal projection of the claw. 6. Column, from the front.

Drakæa elastica.—Fig. 1. Flower, from the side. 2. Portion of projection of column and portion of claw, showing hinge. 3. Flower, from the side, inverted so as to let the labellum fall back on the hinge. 4. Column, from the side and front. 5. Labellum, from above. 6. Labellum, from the side. 7. Column, from the back, with parts of sepals and parts of petals, showing how they cross. 8. Labellum, from below. 9. Pollen masses.



From Nature by R. D. Fitzgerald, P.L.S.

On Stone by Arthur J. Stepe

DENDROBIUM Superbiens

Printed at the Surveyor General's Office Sydney N.S.W.
August 1873.



Dendrobium superbiens. (*Reichenbach.*)

THE habit, form of the flowers generally, and especially of the labellum and column, would almost lead to the conclusion that this beautiful Dendrob is a variety of *D. undulatum*, and the less robust growth and colour of the flowers, to the supposition that it has arisen from hybridisation between *D. undulata* and *D. bigibbum*, or some other of the lilac species found in Australia.

The figure is taken from a plant grown in the green-house of the late Sir William Macarthur, and obtained from Northern Queensland. The flowering is generally about April, but a plant in the possession of Capt. Broomfield continued in flower for thirteen months, producing at least twelve spikes at a time, the individual flowers lasting three months.

EXPLANATION OF PLATE.

Fig. 1. Column and labellum, from the side. 2. Column, from the side, showing spur. 3. Glands and plates of the disks. 4. Column, from the front. 5. Top of column, from the front. 6. Pollen masses. 7. Column, from the back.



From Nature by R. D. Fitzgerald F.L.S.

On Stone by Arthur J. Stoppa

Elatum

PRASOPHYLLUM

Australe

Printed at the Surveyor General's Office Sydney N.S.W.
November 1879.



Prasophyllum elatum. (*R. Brown.*) *Prasophyllum Australe.* (*R. Brown.*)

PRASOPHYLLUM ELATUM is not only, as the name implies, the tallest *prasophyllum*, but the tallest terrestrial orchid in Australia. It is found in swampy ground, in small groups, and must be very generally visited by some insect or insects, which I have not been able to observe about them, possibly from their being nocturnal. The form of the column precludes the idea of self-fertilization, and yet the whole spike of closely set flowers are frequently fertilized. The long wings or appendages to the column in this species are very peculiar, but the advantage they may be (if any) I have not been able to discover. It flowers in August, and is distributed over the whole of the Australian coast countries, with the exception probably of the North and North-west; unless the form to be found in Western Australia be distinct, as might well be deemed the case, were it not that it possesses the same long wings to the column.

Prasophyllum Australe. I am indebted to my friend Mr. G. H. Sheaffe for enabling me to figure and record this species as one of New South Wales. It had previously only been found in Victoria and Tasmania, but he obtained the specimen from which the figure has been taken at Conjola Lake, near Ulladulla.

It flowers in September, and appears from the form of the column to be always fertilized by insects.

EXPLANATION OF PLATE.

Prasophyllum elatum.—Fig. 1. Column and labellum, from the side. 2. Column, from the side, one wing removed, the pollen masses having sprung from the anther. 3. Flower, from the side.

Prasophyllum Australe.—Fig. 1. Anther, from the side. 2. Column, from the front and back. 3. Flower, from the side. 4. Labellum, from the side. 5. Pollen masses. 6. Labellum, from the front. 7. Flower, from the front. 8. Column, from the side. 9. Column and labellum, from the side.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoppes

Brevilabre

PRASOPHYLLUM

Alpinum

Printed at the Surveyor General's Office Sydney NSW
April 1881.

Prasophyllum brevilabre. (Hooker.) *Prasophyllum alpinum.* (R. Brown.)

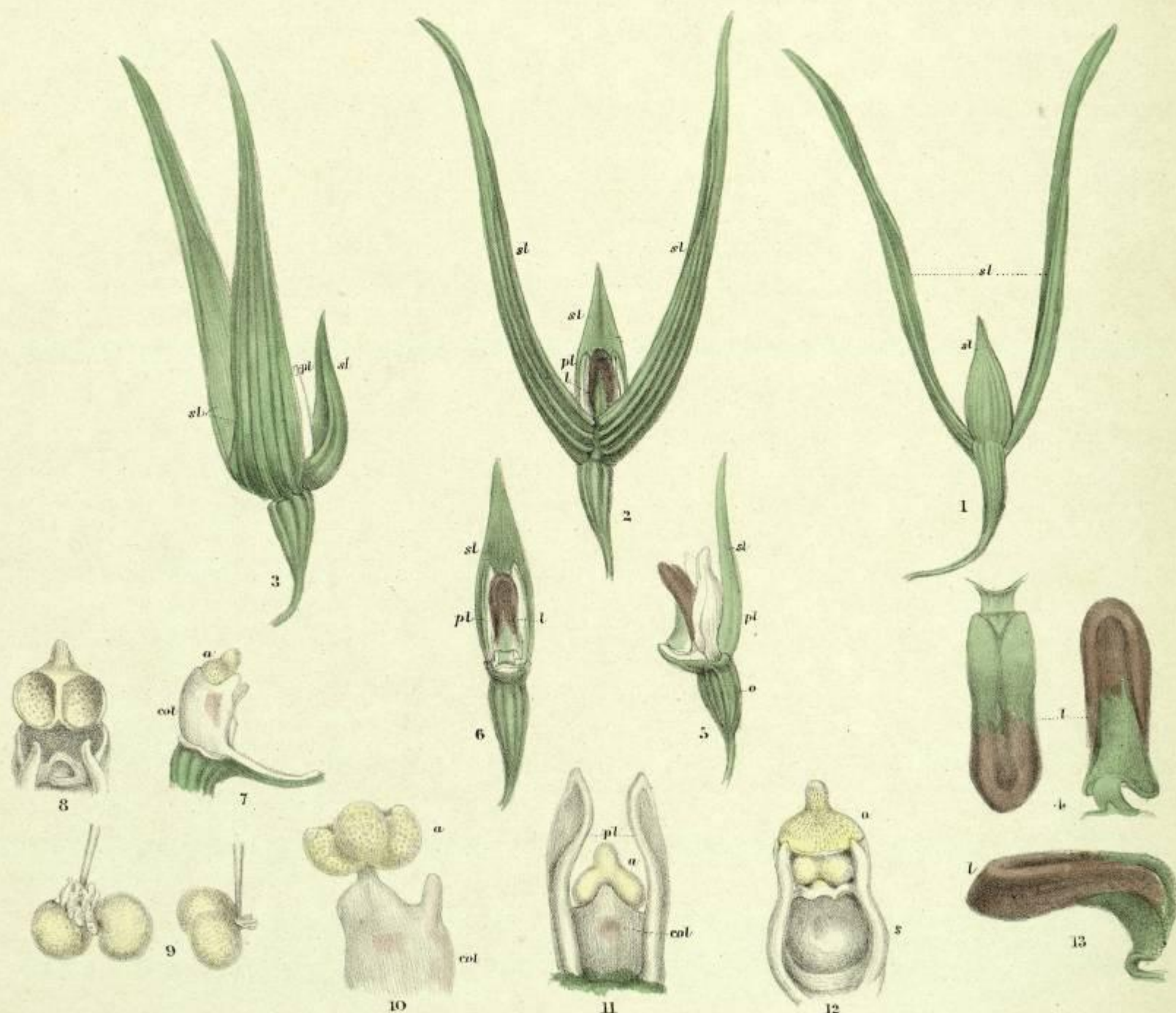
PRASOPHYLLUM BREVILABRE may easily be distinguished from *P. patens*, by the lateral sepals and labellum. The sepals in the former are united for nearly their whole length, and the labellum is sharply recurved, and does not project between the sepals, whereas in the latter the sepals are quite free, and the labellum projects between them. *P. alpinum* may be distinguished from both by its light colour, by the form of the lateral sepals, by the plate on the disk being pointed and near the end of the labellum (whereas in the others the plate is at the base), and by the sweet scent of the flowers. At Mount Victoria, on the Blue Mountains, a form of *P. brevilabre*, much finer than the ordinary, is to be found (fig. A). It is more robust, the labellum is much broader and thicker, and of a much purer white, and the petals are dilated at the ends. Plants of this variety when found growing in the swamps in little groups generally have all the flowers fertilized, whereas, when specimens are obtained singly in stony ground, the pollinia are seldom removed and the flowers are not fertilized. From this it may be inferred that the insects which fertilize this plant frequent swampy ground, and are probably attracted by groups rather than by single plants. This variety of *P. brevilabre* flowers in November, and the typical form, which affects the low lands, in August. *P. alpinum*, belonging to the country west of the coast range, flowers in September.

EXPLANATION OF PLATE.

Prasophyllum brevilabre.—Fig. 1. Flower, from the front. 2. Labellum, from the front. 3. Labellum, from the side. 4. Flower, from the side. 5. Anther and stigma (stigma partially twisted). 6. Pollen masses. 7. Stigma and anther, from the side. 8. Column, from below. 9. Column, from the side. 10. Column, from above.

Prasophyllum brevilabre (variety?) fig. A.—Fig. 1. Pollen masses. 2. Labellum, from the side. 3. Pollen masses, from the side. 4. Column, from the side. 5. Column, from above. 6. Labellum, from below. 7. Column, from the side (pollen masses sprung). 8. Labellum, from above. 9. Wing of column, from the side. 10. Flower, from the side.

Prasophyllum alpinum.—Fig. 1. Pollen masses, from below. 2. Flower, from the front. 3. Labellum, from the front. 4. Labellum, from the side. 5. Flower, from the side. 6. Column, from the side. 7. Labellum, from the hinge. 8. Pollen masses. 9. Column, from above. 10. Column, from below.

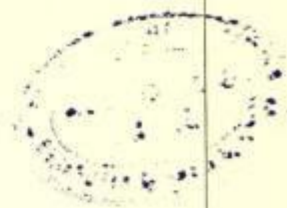


From Nature by R.D. Fitzgerald, FLS

On Stone by Arthur J. Stoppes

BOLBOPHYLLUM Ellisæ

Printed at the Surveyor General's Office Sydney N.S.W.
May 1882.



Bolbophyllum Elisæ. (Mueller.)

BOLBOPHYLLUM ELISÆ is hardly a bolbophyllum, and hardly a cirrhopetalum. It appears doubtful to me whether it should be included in either genus; for though the inequality of the sepals is characteristic of cirrhopetalum, the flowers and habit are not those of the genus, and the form of the column and that of the pollen masses, connected by a short gland or rostellum, is not that of either, and the anther is unlike that of allied genera, being wholly without a point or beak.

This species is by no means common. I have personally found it only in the Burragorang Valley, in the Blue Mountains, as an epiphyte on a fig-tree. It flowers in October.

EXPLANATION OF PLATE.

Bolbophyllum Elisæ.—Fig. 1. Flower, from the back. 2. Flower, from the front. 3. Flower, from the side. 4. Labellum, from above and from below. 5. Part of flower, from the side, lower sepals removed. 6. Part of flower, the front lower sepals removed. 7. Column, from the side. 8. Top of column, from the front, pollen masses removed, and anther thrown back. 9. Pollen masses. 10. Back of column, anther thrown back. 11. Column and petals, from the back of the column. 12. Column, from the front.

Genus *Microtis*. (*R. Brown.*)

THIS is a very difficult genus to deal with as far as regards distinction of species, though as a genus easily recognized by its small green flowers, borne in spikes, but not inverted as in *Prasophyllum*. It is said to approach *Prasophyllum*, but I cannot see any connection, except in the form of the leek-like leaf. The form of the column is totally distinct from that of *Prasophyllum*, and can hardly be said to resemble any in the Australian genera. The stigma is enclosed within a hood, which also covers the little pollen-masses, lying open to view just above the stigma, and connected by a little globular rostellum or gland, the slightest touch to which brings out the pollinia, either to adhere to the stigma or be carried to some other flower. Insects would appear to be always instrumental in the fertilization, but they are probably of very small size to enable them to enter the diminutive flowers which are generally crowded together. I have never seen any insect on or about any species of *Microtis*. The genus belongs to moist and often shady situations. So far as I am aware, the small conical bulb from which the tubular leaf directly springs is always close to the surface, and is often drawn out of the wet soil if the plant be pulled up. The general time of flowering is spring.



From Nature and on Stone by R.D. Fitzgerald. F.L.S.

Parviflora **MICROTIS** Porphifolia



Microtis porrifolia. (Springel.) Microtis parviflora. (R. Brown.)

MICROTIS PORRIFOLIA is the most generally distributed species in the genus, being found commonly in New South Wales, Victoria, South Australia, Tasmania, and in New Zealand. It generally grows in clumps or patches in swampy ground, whether in actual swamps or in the shallow wet deposits on damp rocks, and the solitary bulb is so near the surface that it requires no digging but is brought away with the leek-like leaf. The pollen masses are easily removed by touching the little globular rostellum with the point of a pin; but to fertilize the flower they must be returned in an upward direction, owing to the almost horizontal position of the stigma, which in *M. parviflora* is absolutely horizontal. Though the intervention of insects is evidently necessary, almost all the flowers in the spikes, of both species, are often fertilized.

Microtis parviflora is not nearly so common on the east coast as *M. porrifolia*, but extends further north, being not only found in Australia, but, according to Bentham, in "New Caledonia, the Indian Archipelago, and South China, and is the only tropical representative of the genus." It grows in similar situations to those in which *M. porrifolia* is obtained, and both species flower in September and October.

EXPLANATION OF PLATE.

Microtis parviflora.—Fig. 1. Flower, from the front. 2. Pollen masses. 3. Column, from the front. 4. Column, from the back, and one petal, partly from the side. 5. Column, from the side.

Microtis porrifolia.—Fig. 1. Flower, from the front. 2. Column, from the back, with one petal and one sepal. 3. Column, from the side. 4. Column, from the front. 5. Labellum, from the side.



From Nature by R.D. Fitzgerald, F.L.S.

Rubra



On Stone by Arthur J. Stoppe

Luteocilium

THELYMITRA

Thelymitra rubra. (Fitzgerald.) *Thelymitra luteocilium.* (Fitzgerald.)

THELYMITRA RUBRA has been confounded with *T. carnea*, from which it is easily distinguished by the large carunculated appendages of the column, by the brighter colour and larger size of the flowers, and by their expanding, whereas those of *T. carnea* very seldom open. *T. rubra* is evidently fertilized by insects, as a touch to the rostellum brings out the pollen masses, though in a rather ragged condition. From which I think it may be inferred that it is sometimes self-fertilized, that is without the assistance of an insect, for I have observed that where the pollen masses are so solid as always to be drawn out perfect, insects are required for fertilization, except in such cases as *T. circumsepta*, where the edges of the stigma turn back on the pollen, or *Orthoceras strictum*, where the stigma is fertilized from the back, or *Spathoglottis Paulinæ*, where the pollen masses fall out. But where the pollen crumbles, it either drops down on the stigma or rises up around, and thus as it were overflows it. *T. rubra* and *T. carnea* are so closely related that it appears to me that either *T. carnea* is a degradation of *T. rubra* to an abortive form, or *T. rubra* is an advance from the self-fertilizing *T. carnea* to what appears to me to be the higher form, where the flower opens and foreign assistance is required for fertilization. *Thelymitra rubra*, as I found it on Mount Lofty, South Australia (and I have not seen it elsewhere), has a habit of growing in clumps, that is, a number of bulbs are massed together, from which several flower-stems arise. It flowers in October.

Thelymitra luteocilium was also obtained on Mount Lofty, South Australia, and as yet from no other locality. When procured (in October), it was so far past the flowering that it was difficult to find a perfect flower, and I have in consequence not been able to give the exact form of the stigma which was, in the few flowers not too far advanced for examination, so covered with pollen that the rostellum and stigma were indistinguishable.

From the position of the anther, and from the stigmas (in the few flowers examined) being covered with a mass of pollen, and from all the past flowers having produced capsules of seed, there can I think be no doubt that this is a self-fertilizing species, the flowers of which have possibly some restriction on their expansion.

It is an interesting form between the *Thelymitras* which have pencilled appendages to the column and those without cilia. The yellow colour of the cilia (from which I have given the name) also appears to me to indicate an approach to non-ciliate forms.

DESCRIPTIONS as given in the Gardener's Chronicle of 15th April, 1882, page 495, No. 433, Vol. XVII.

"*Thelymitra rubra*, a slender species, about one foot high, leaf linear, hardly five inches. Bracts very narrow, stem-clasping. Flowers one or two, bright red. Petals and sepals ovate, acute, about five lines. Column about three lines, produced above and behind the anther, but not hooded, slightly denticulate between the lateral appendages. Lateral appendages lanceolate, produced horizontally beyond the anther almost to a point, not ciliate, but covered on both sides densely with rugose glands. Anther obtuse, continuing to enclose the pollen masses behind the stigma, but produced over it.

"*Thelymitra luteocilium*, a rather stout species, about one foot high, leaf about eight inches, broadly linear, deeply channelled in front, and slightly so on the sides. Bracts long and stem-clasping. Flowers three to five, bright pink. Sepals and petals ovate acute, about four lines. Column about two lines, almost hooded, three-lobed between the lateral appendages. Lateral appendages having two-lobed wings at the bases and dense yellow cilia at the ends, turned upwards. Anther obtuse, protruding over the stigma."

EXPLANATION OF PLATE.

Thelymitra rubra.—Fig. 1. Anther and stigma, from the side. 2. Pollen masses. 3. Appendage to wing of column, from the edge. 4. Column, from the front. 5. Column, from the side. 6. Column, from the back. 7. Top of column, from above. 8. Appendage of wing of column, from the sides.

Thelymitra luteocilium.—Fig. 2. Column, from the back. 3. Column, from the side. 4. Column, from the front, stigma covered with pollen. 5. Top of column. 6. Wing and part of hood of column.

Genus *Eriochilus*. (*R. Brown.*)

THIS small and thoroughly Australian genus belongs specially to Western Australia, only one species being found on the Eastern Coast.

In Western Australia the species are locally known as "Donkeys-ears," from the form of the lateral sepals, and in Eastern Australia, for the same reason, under the even more appropriate term of "Parsons-bands."

The flowering season is autumn and early winter, and the plants are to be found in sandy soil under the shade of bushes, except *E. tenuis*, which affects the patches of shallow soil in the hollows and crevices of granite rocks.




From Nature by R. D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stepp

scaber

ERIOCHILUS

autumnalis.



Eriochilus autumnalis. (*R. Brown.*) *Eriochilus scaber.* (*Lindley.*)

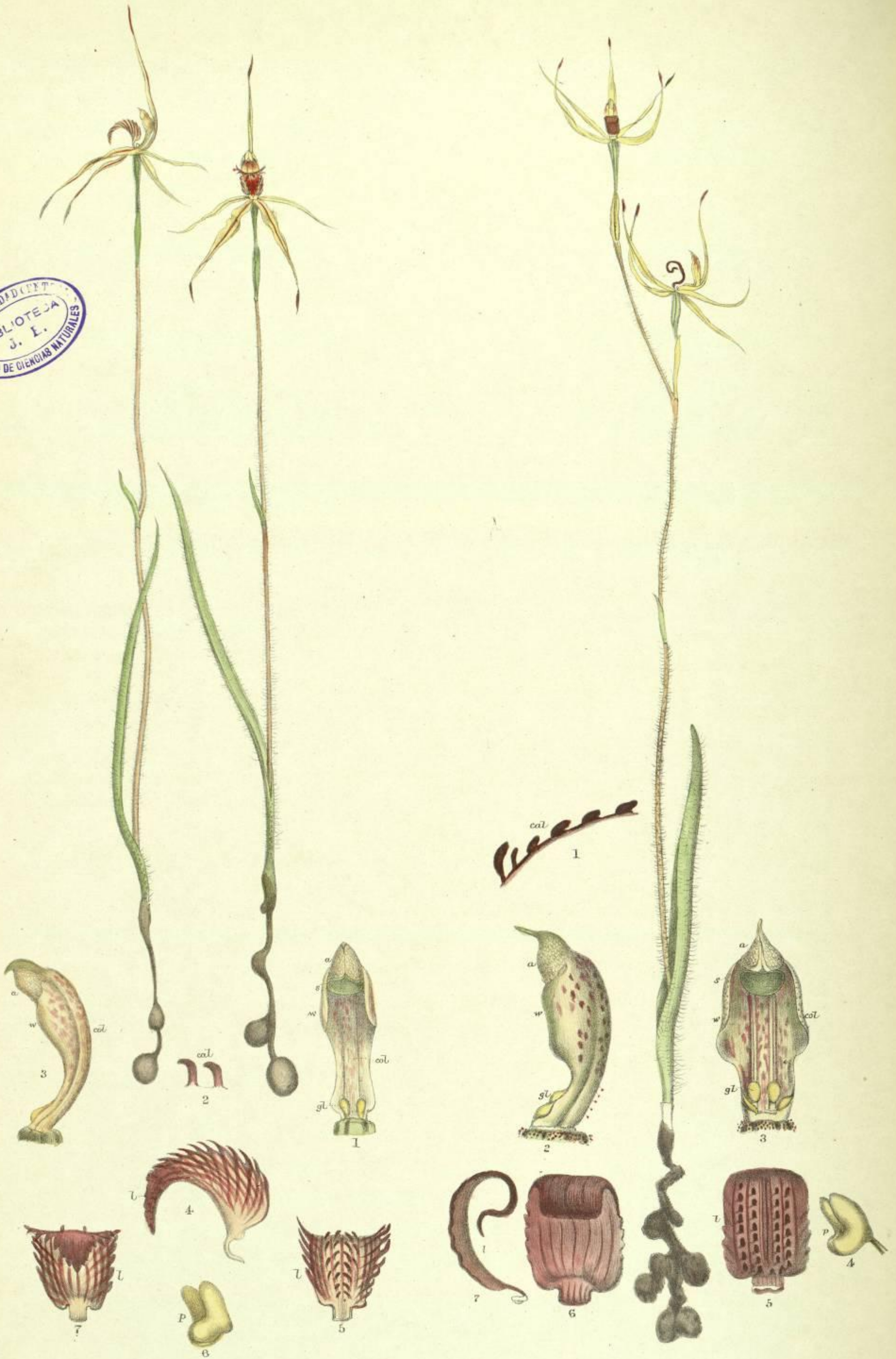
ERIOCHILUS SCABER is peculiar to Western Australia, where the genus is represented by several species. It is generally to be found in wet gravel, and flowers in August.

In *Eriochilus autumnalis* the stigmatic chamber is deep sunk and almost rectangular (a form characteristic of the genus) with undulate margins. On the upper edge, at a slight distance apart, without any definite rostellum, are situated two little adhesive discs. Each disc is attached to four club-shaped pollinia of unequal length, covered by two flaps of the anther. When the point of a pin is introduced into the flower it is at once laid hold of by one or both of the discs, and either one or both of the groups of pollen masses are withdrawn. When returned into the flower some of them infallibly remain in the stigma, which is half full of viscid liquid. The labellum stands up in front of the column so that any small insect resting upon it and endeavouring to get at the nectar, which is secreted at the base, is sure to remove one or both discs, and with them either four or eight pollen masses, probably fertilize the flower, and carry some of them away to other flowers. I have sometimes found pollen masses in the stigmatic chamber when the pollinia had not been removed from the anther of the flower itself. What advantage the wool on the labellum (from which the genus is named) is to the plant I have not been able to make out. The margins of swamps and peaty ground, under the shade of "tea-trees," are the places where this Orchid is most likely to be found. It flowers in March and April, and produces seed rather more freely than most Orchids which are not self-fertilized; and that it is itself reproduced in suitable situations more freely than is I believe generally the case with Orchids has been proved to me by the finding of this species growing in numbers, on the Blue Mountains, on railway embankments which had been only a few years constructed.

EXPLANATION OF PLATE.

Eriochilus scaber.—Fig. 1. Column, from the side. 2. Column, from the front. 3. Flower, from the front, lower sepals removed. 4. Groups of pollen masses. 5. Labellum, from the side. 6. Labellum, from below. 7. Labellum, from above.

Eriochilus autumnalis.—Fig. 1. Column, from the side. 2. Top of column, pollen removed and one flap of anther thrown back. 3. Flower, from the side. 4. Top of column. 5. Column, from the front. 6. Labellum, from below. 7. Labellum, from above. 8. Group of pollen masses.



From Nature by R.D. Fitzgerald, FLS

On Stone by Arthur J. Stoepe

Reticulata

CALADENIA

Leptochila

Printed at the Surveyor General's Office Sydney N.S.W.
May 1883.

Caladenia reticulata. (Fitzgerald.) Caladenia leptochila. (Fitzgerald.)

BOTH forms were obtained on Mount Lofty, South Australia, and have possibly been confused with other allied species (or varieties, if the reader prefers the term); but without figures to elucidate the very meagre descriptions to be found of the various "spider" Caladenias (which by some authors have been reduced to two or three species) it is impossible for me to do other than name the various types, as I cannot reconcile them with each other, or with the consolidated descriptions under which one distinct form can alone be placed. I believe this course is the only one by which the very difficult arrangement of the closely-allied Caladenias, known as "spiders," can be brought to anything like definite order.

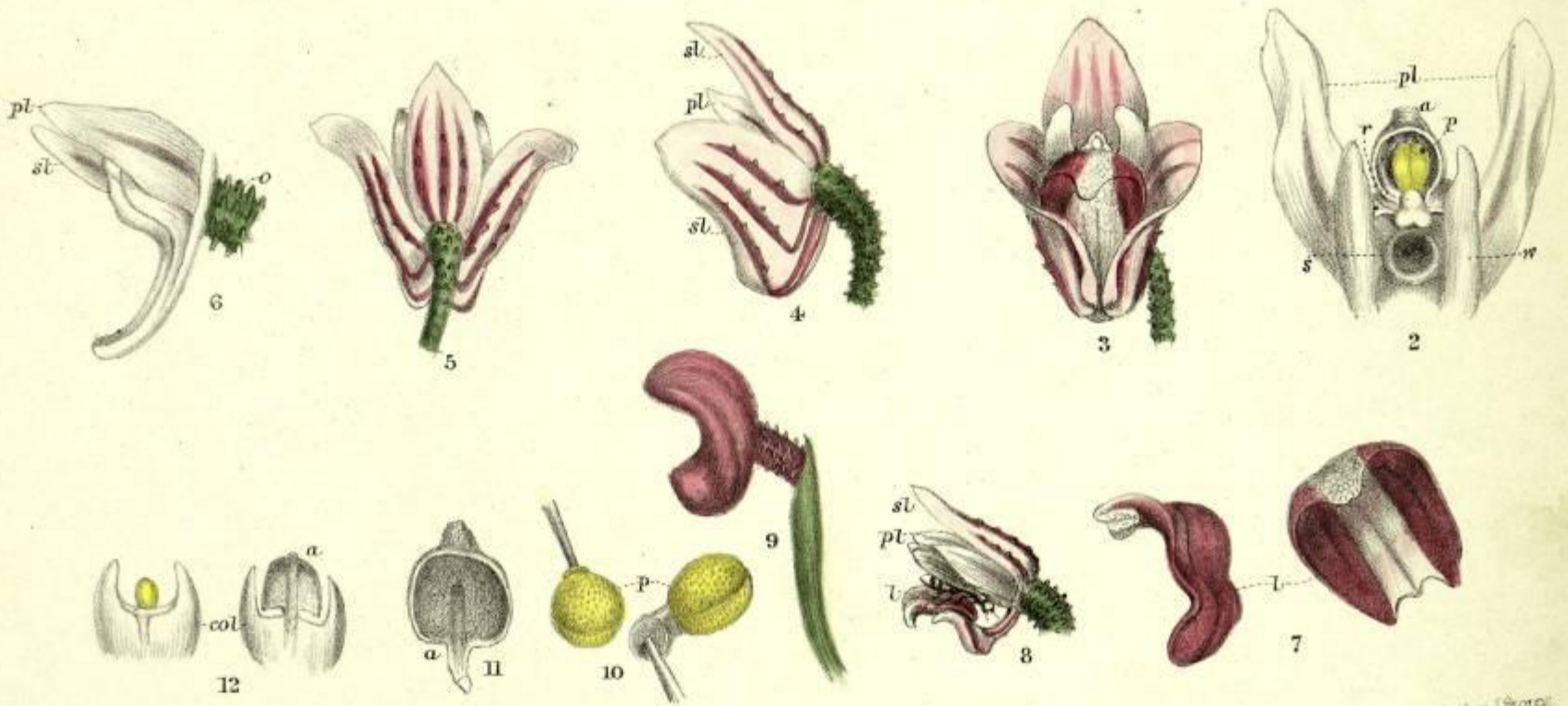
The careful representation of the parts of each form gives the reader, who may wish to investigate, and who may have the opportunity of comparison with specimens in original herbariums, the material to form his own conclusion whether the original name has been attached by me to the correct form or in some cases to one, never seen by the namer, but to which his description would at least equally apply.

Caladenia reticulata and *C. leptochila* both flower in October, and are generally to be found in stony soil on the sides of hills.

EXPLANATION OF PLATE.

Caladenia reticulata.—Fig. 1. Column, from the front. 2. Calli of disc. 3. Column, from the side. 4. Labellum, from the side. 5. Labellum, from above. 6. Pollen masses. 7. Labellum, from below.

Caladenia leptochila.—Fig. 1. Calli of the disc. 2. Column, from the side. 3. Column, from the front. 4. Pollen masses. 5. Labellum, from above. 6. Labellum, from below. 7. Labellum, from the side.



From Nature by R. D. Fisher del.

On Stone by Arthur. J. Harper

BOLBOPHYLLUM Minutissimum

Bolbophyllum minutissimum. (Mueller.)

THROUGH the kindness of my friend, Charles Hugh Fawcett, P.M., I am enabled to figure this smallest of Australian Orchids, as also the largest (see next plate), both obtained at Ballina, on the Richmond River. *B. minutissimum* was first found by Archdeacon King, from whose letter of May 27th, 1884, in reply to my inquiries, I take the following extract:—
“The minute Orchid to which you refer, I discovered in 1849, at the back of the old mill in the gully, then in a state of nature, leading down from Woollahra to Rushcutters Bay. In those days there was a pretty waterfall at the place. The Dendrobium was growing on the top of a rock below the waterfall, and almost within the splash of the falling waters. It was among moss, and partly shaded by the foliage of some Eucalypti. The aspect is northerly, so that there was plenty of sunlight and heat. I placed a few plants on the rocks in the garden of the late Mr. Wm. Macleay, at Elizabeth Bay. I learned afterwards that one of the plants had flowered; but the flower was not preserved. I suggested the name of *D. mumulifolium*, because of the resemblance of the pseudo bulbs, round and somewhat flat, to the fossils of the mumulite formation. I find that the species is now known by another name, which struck me as less descriptive, because a still smaller Dendrobium may one day be found.” This account of one of our rarest Orchids is interesting, not only from the information it contains respecting the habitat of the minute epiphyte, but from the fact that the spot is now in the midst of the City of Sydney. The plant was not again observed till recently rediscovered by Mr. Fawcett, at Ballina, the only locality where it is now known to exist, though, from its diminutive size and from its resemblance to a lichen, it may readily be overlooked in other situations. The specimens obtained at The Richmond were found clinging to the branches of a tree, and not on a rock. It flowers in October.

There are points in which this plant is altogether distinct from either Dendrobium or Bolbophyllum. With the latter, however, I suppose it had best remain. The typical spurs on the column of Bolbophyllum are wanting. The anther, which is without the beak so constant in Dendrobium, and even Bolbophyllum, is very distinct, leaving, as it does, the pollen masses exposed, and the pollen masses themselves (two, not four) are united by a gland or rostellum, absent, so far as I am aware (at least in Australian species), from both Dendrobium and Bolbophyllum, except in Bolbophyllum Ellisse, which is also a very doubtful Bolbophyllum, but resembles this species in the form of the column and parts of the flower more than any other. The pseudo bulbs also are not those of either genus.

EXPLANATION OF PLATE.

Bolbophyllum minutissimum.—Fig. 1. Plant in seed (magnified). 2. Head of column and petals. 3. Flower, from the front. 4. Flower, from the side. 5. Flower, from the back. 6. Column and petals, from the side. 7. Labellum, from the side and from below. 8. Flower, from the side, showing method of fertilization by insects. 9. Bud and bract, from the side. 10. Pollen masses. 11. Anther, showing hinge. 12. Top of column with anther, and anther removed.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoppe.

GALEOLA Ledgerii

Printed at the Surveyor General's Office Sydney N.S.W.
July, 1882.



Galeola Ledgerii. (Mueller.)

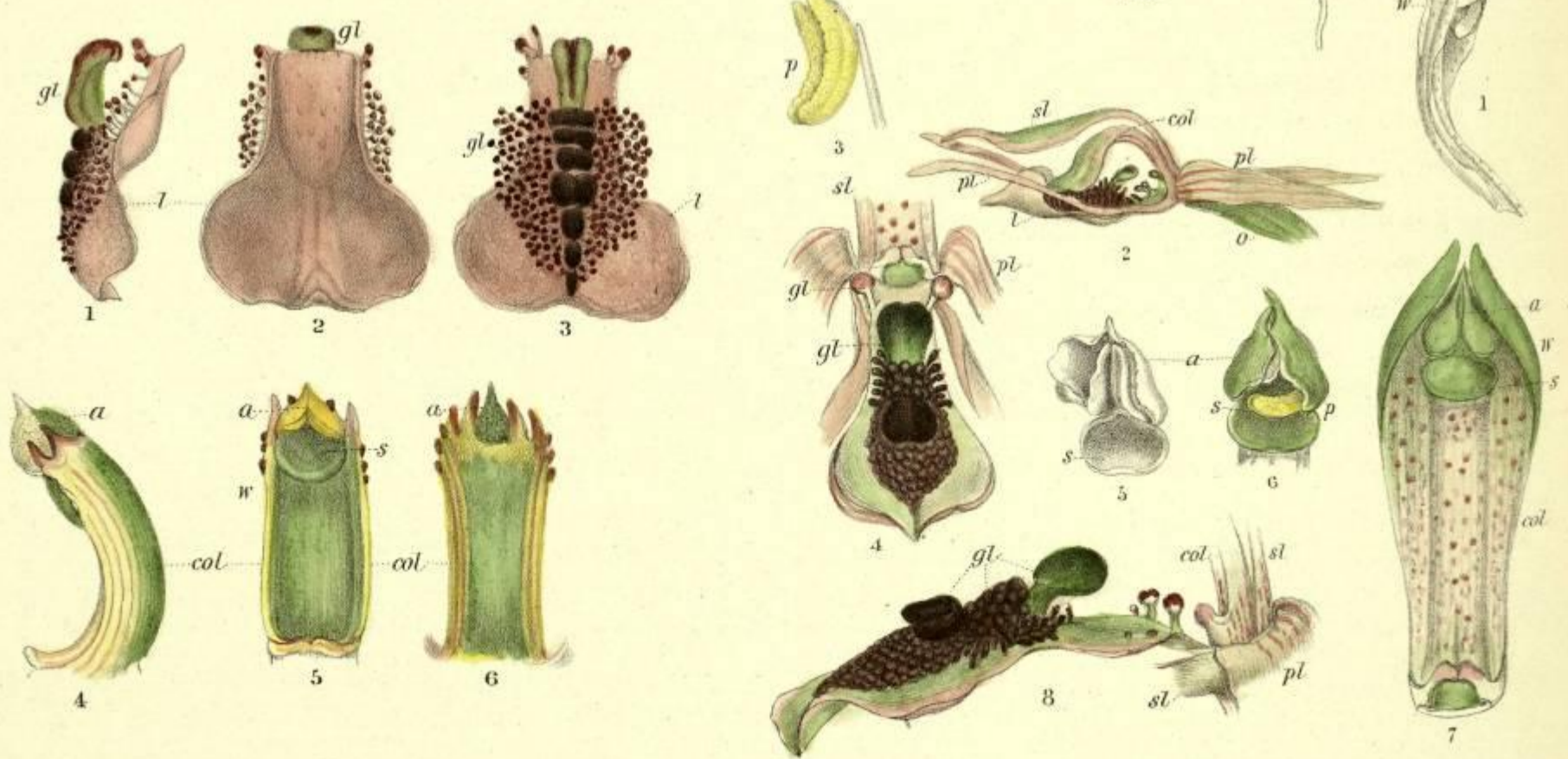
THIS is the largest known Orchid in Australia, and is only to be found in the dense "cedar scrubs" on the east coast, and not further south, so far as I am aware, than the Macleay River, on the banks of which, and on those of the Bellinger, I observed it clinging to the Rosewood (*Dysoxylon Fraserianum*) and other trees peculiar to the tropical forests. It attains a height of thirty feet, and one spike of flowers measured six feet in length and three in breadth. This Orchid adheres to the tree (from the base of which it grows) by attaching hand-like roots which grow from the nodes, and opposite to the spikes and spikelets, which form the large dependent panicles of waxy flowers.

Though originally named *foliata*, it has no true leaves, but only leaf-like bracts at the nodes, and for this reason, and in honor of Mr. Ledger (who first introduced the Llama into Australia), Baron F. von Müller requested me to change the name he had originally given to that of *Ledgerii*, his genus *Ledgeria* being reduced to a synonym; but the Baron has since included the species in his Census under the original name of *foliata*.

The fertilization is evidently by insects, as in the true epiphytes, and by the same method in which *Dendrobium* is fertilized, that is by the spring of the labellum pressing the insects against the column. The figure, which is only of a small portion of a panicle, was taken from a very fine specimen, kindly sent from the Richmond River by Mr. Fawcett, who also, about the same time, obtained the smallest Australian Orchid (*Bolbophyllum minutissimum*) in the same locality. The flowering season is November.

EXPLANATION OF PLATE.

Galeola Ledgerii.—Fig. 1. Seed capsule (not magnified). 2. Seeds magnified to show wings, and seed not magnified. 3. Top of column, from the back. 4. Labellum, from above. 5. Pollen masses. 6. Calli of the disc. 7. Anthers. 8. Part of labellum, from above. 9. Column, from the side and front. 10. Column and labellum, from the side.



From Nature by R. D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoppe

CHILOGLOTTIS

trilabra diphylla



Chiloglottis trilabra. (Fitzgerald.) *Chiloglottis diphylla*. (R. Brown.)

CHILOGLOTTIS TRILABRA is an interesting species from the fact that the petals (being formed with the peculiarities of a labellum) prove the correctness of the theory that the labellum is a transformed petal. It was obtained on Mount York, in the Blue Mountains, New South Wales, and appears to be a very local species. About twenty specimens only were found in flower, and the season of flowering is March.

Chiloglottis diphylla is very common on the east coast, and is also to be found in Queensland, Victoria, and Tasmania. The ordinary method of fertilization is evidently by an insect, the spring of the labellum acting against the weight of the visitor, and impelling it against the column as in *Caladenia*, and other closely-allied genera; but I have frequently observed that when the flower has been long in bloom the labellum clasps the column (see fig. 2), and the calli adhere to the pollen masses, when fertilization appears to ensue, either by the contraction of the labellum and consequent extraction of the pollen masses and their contact with the stigma, or by a similar result from the flower being brushed when the labellum has adhered to the pollinia. *C. diphylla* flowers in April.

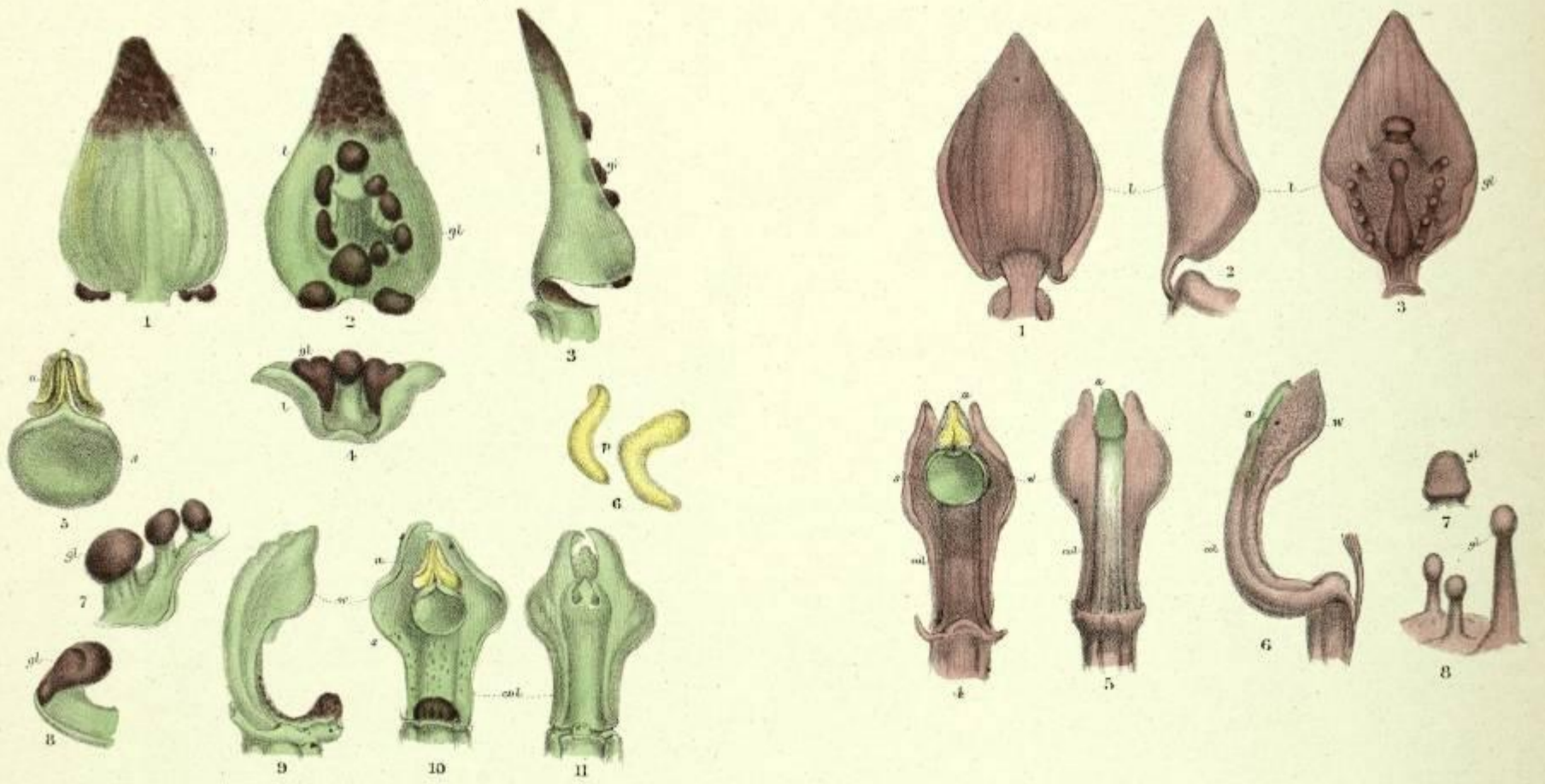
DESCRIPTION OF *CHILOGLOTTIS TRILABRA* (published in *Journal of Botany*, July, 1883, No. 247, Vol. XXI, page 204).

Chiloglottis trilabra.—Leaves two, sessile, oblong-lanceolate, acute, about ten lines long and four broad. One-flowered. Scape about three inches. One large sheathing acute bract below the ovary. Dorsal sepal spathulate, acuminate, about seven lines long, light red-brown tinged with green. Lateral sepals linear, about seven lines, acute, yellowish. Labellum about five lines, obovate acute, on a broad claw. One large reflexed callus near the base and about nine or ten other large flat calli along the centre of the disc, surrounded by numerous small clavate slender calli; the large reflexed callus greenish, the others dark red-brown. The labellum itself light red-brown. Petals of the same form and colour as the labellum, except that the labellum is alone articulate, and the calli on the petals are hardly so fully developed as on the labellum, and the labellum is slightly broader. Column shorter than the petals, not much curved and but slightly winged along its whole length, the wing extending behind the anther into a deeply four-toothed crest; anther with a short point.

EXPLANATION OF PLATE.

Chiloglottis trilabra.—Fig. 1. Labellum, from the side. 2. Labellum, from below. 3. Labellum, from above. 4. Column, from the side. 5. Column, from the front. 6. Column, from the back.

Chiloglottis diphylla.—Fig. 1. Column, from the side. 2. Flower, from the side (contracting after having been long in bloom). 3. Pollen masses. 4. Labellum, from above, with parts of column sepals and petals. 5. Stigma and anther, one wing of anther raised. 6. Top of column, one pollen mass having been drawn out of the anther. 7. Column, from the front. 8. Labellum and base of column, from the side.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoppe

Muelleri

CHILOGLOTTIS

Gunii



Chiloglottis Gunii. (Lindley.) Chiloglottis Muelleri. (Fitzgerald.)

CHILOGLOTTIS GUNII has not, so far as I am aware, been found as yet in New South Wales, though, like many of the Tasmanian forms, not to be obtained on the lowland, it may yet be procured in the mountains, or in the southern parts of the Colony adjoining Victoria, where it has been procured in Gippsland, from which district the specimens figured were forwarded to me by Baron F. von Müller. It appears to be common in Tasmania, and flowers in October.

Chiloglottis Muelleri I have so named as a token of respect for the great botanist of Australia, who kindly sent me specimens, and who concurs with me in considering it to be distinct from *C. Gunii*. It was obtained by Mr. C. French, at the Loddon River, Victoria, and flowered in November.

It may be easily distinguished from *C. Gunii* by its smaller, narrower green flowers, longer leaves, short broad winged column, and the absence of the long callus at the base of the labellum.

DESCRIPTION OF CHILOGLOTTIS MUELLERI.

A more slender plant than *C. Gunii*. Leaves on long petioles lanceolate, acute, from two to three inches long. Flower green. Dorsal sepal hooded, narrower than in *C. Gunii*, obovate, acute, almost half an inch long, and a quarter of an inch broad. Lateral sepals narrow-linear, acuminate, longer than the dorsal sepal. Petals lanceolate, acute, shorter than the sepals on short claw, broadly lanceolate, acute, about five inches long, with short clavate brown calli irregularly grouped in the centre of the disc, but without the long clavate callus at the base of the labellum of *C. Gunii*. Column shorter and broader than in *C. Gunii*.

EXPLANATION OF PLATE.

Chiloglottis Muelleri.—Fig. 1. Labellum, from below. 2. Labellum, from above. 3. Labellum, from the side. 4. Labellum, from the base. 5. Stigma and anther, pollen removed. 6. Pollen masses. 7. Glands of the disc. 8. Gland of the edge of the labellum. 9. Column, from the side. 10. Column, from the front. 11. Column, from the back.

Chiloglottis Gunii.—Fig. 1. Labellum, from below. 2. Labellum, from the side. 3. Labellum, from above. 4. Column, from the front. 5. Column, from the back. 6. Column, from the side, showing hinge of labellum. 7. Central gland of the disc. 8. Rasal glands of the disc.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stopps

CRYPTOSTYLIS longifolia

Printed at the Surveyor General's Office Sydney NSW
November 1883.



Cryptostylis longifolia. (R. Brown.)

CRYPTOSTYLIS LONGIFOLIA is not uncommon along the east coast of New South Wales, and is also found in Queensland, Victoria, and Tasmania, and will possibly be procured in South Australia, but it does not extend to Western Australia, where it is represented by *C. ovata*. It is to be found generally in clay land near water, and on the flat land of the mountains.

On the Blue Mountains I have obtained specimens three and a half feet in height. It therefore occasionally rivals *Prasophyllum elatum*, the tallest of our terrestrial Orchids. It flowers in November.

The flowers being inverted, the insects which fertilize them must have to crawl along the under side of the labellum to reach the rostellum, which is removed from its notch in the stigma by the slightest touch, when the pollen masses are either brought into contact with the stigma of the flower from which the pollinia have been extracted or with that of some other, for the plants do not appear to be ever fertilized without the intervention of insects.

EXPLANATION OF PLATE.

Cryptostylis longifolia.—Fig. 1. Column, from the front, showing parts of sepals and petals. 2. Stigma. 3. Column, from the side. 4. Column, from below, pollen removed. 5. Pollen masses. 6. Column, from the side, showing parts of perianth. 7. Labellum.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoepe

CRYPTOSTYLIS ovata

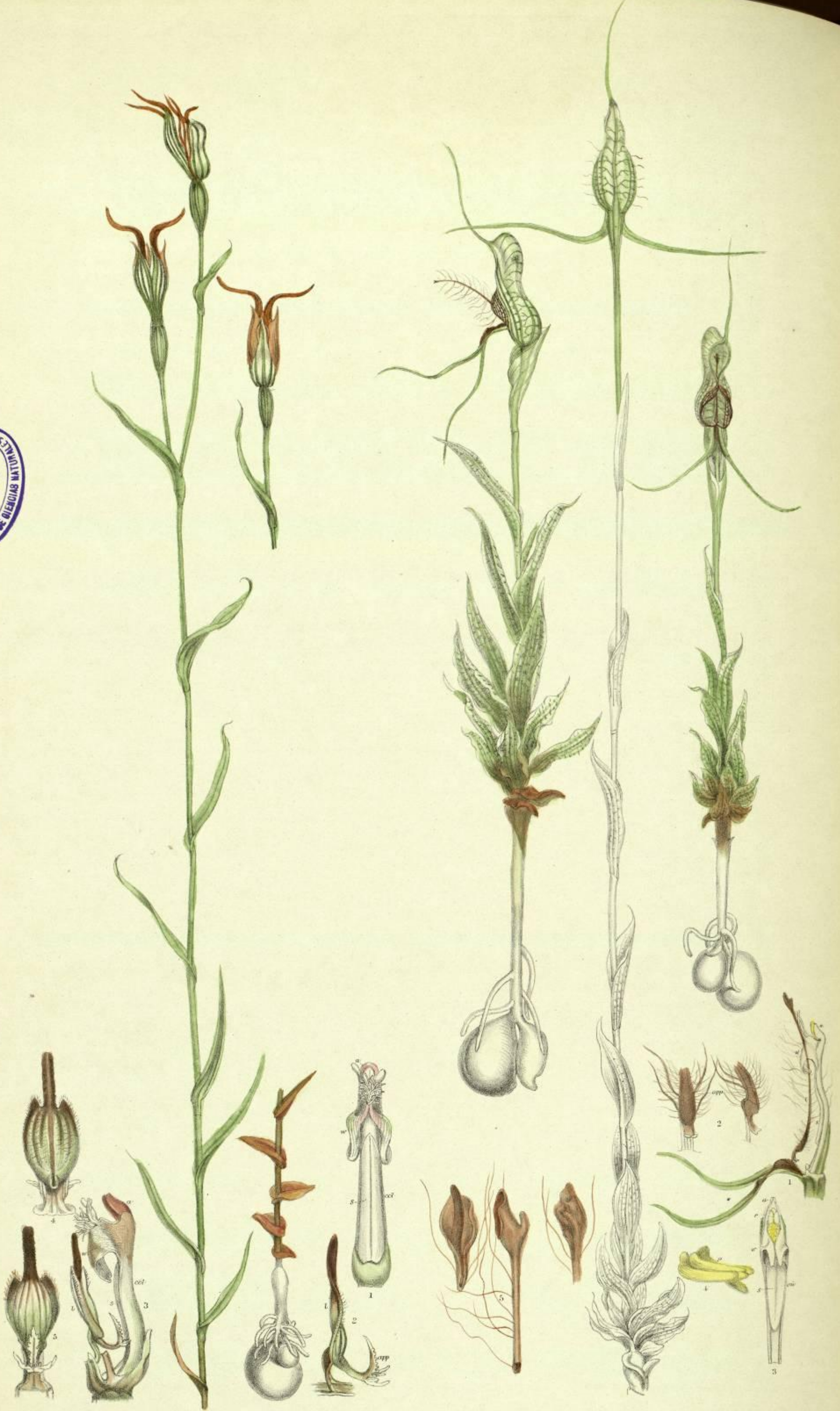
Printed at the Surveyor General's Office Sydney N.S.W.
November 1883.

Cryptostylis ovata. (R. Brown.)

CRYPTOSTYLIS OVATA, though in dried specimens "scarcely to be distinguished from *C. longifolia* except by the larger broader leaves," is a very distinct plant when seen growing, and when the labellum is compared in a fresh state with that of *C. longifolia* the distinctions between them are equally great. It grows in the dampest shadiest parts of the forest, and its dingy flowers are to be found immersed in the tangled growth, about the end of October. This species is peculiar to Western Australia, where, I believe, it is restricted to the western and southern coasts, and is one which might well be absent from the flora of that Colony, the vegetation of which appears to be especially Australian, whereas *Cryptostylis* is allied to Asiatic waifs to be found intermingled with the aboriginal types along the east coast. There is a total absence of Orchids along the north and north-west coasts of Western Australia. If, therefore, *C. ovata* be a form of *C. longifolia*, modified by long separation (caused by the intervention of desert), it has probably reached Western Australia through South Australia; and therefore I think it is very possible that *C. longifolia* may be found in South Australia, though not as yet obtained in the southern part of the continent.

EXPLANATION OF PLATE.

Cryptostylis ovata.—Fig. 1. Column, from the front. 2. Column, from the side. 3. Labellum, from above. 4. Callus of disc, from above. 5. Callus of the disc, from the side.




From Nature by R.D. Fitzgerald, FLS

On Stone by Arthur J. Stopps

Recurva

PTEROSTYLIS

Turfosa



***Pterostylis recurva.* (Bentham.) *Pterostylis turfosa.* (Endlicher.)**

PTEROSTYLIS RECURVA.—This is a very rare form of *Pterostylis*, the only locality where it has I believe been obtained being near the Upper Hay River, Western Australia, where I found only two specimens growing close together.

The enlargement of the lateral sepals, at the expense of the galea, gives it a very distinct and peculiar appearance. It was found growing in white granite sand, and flowers in October.

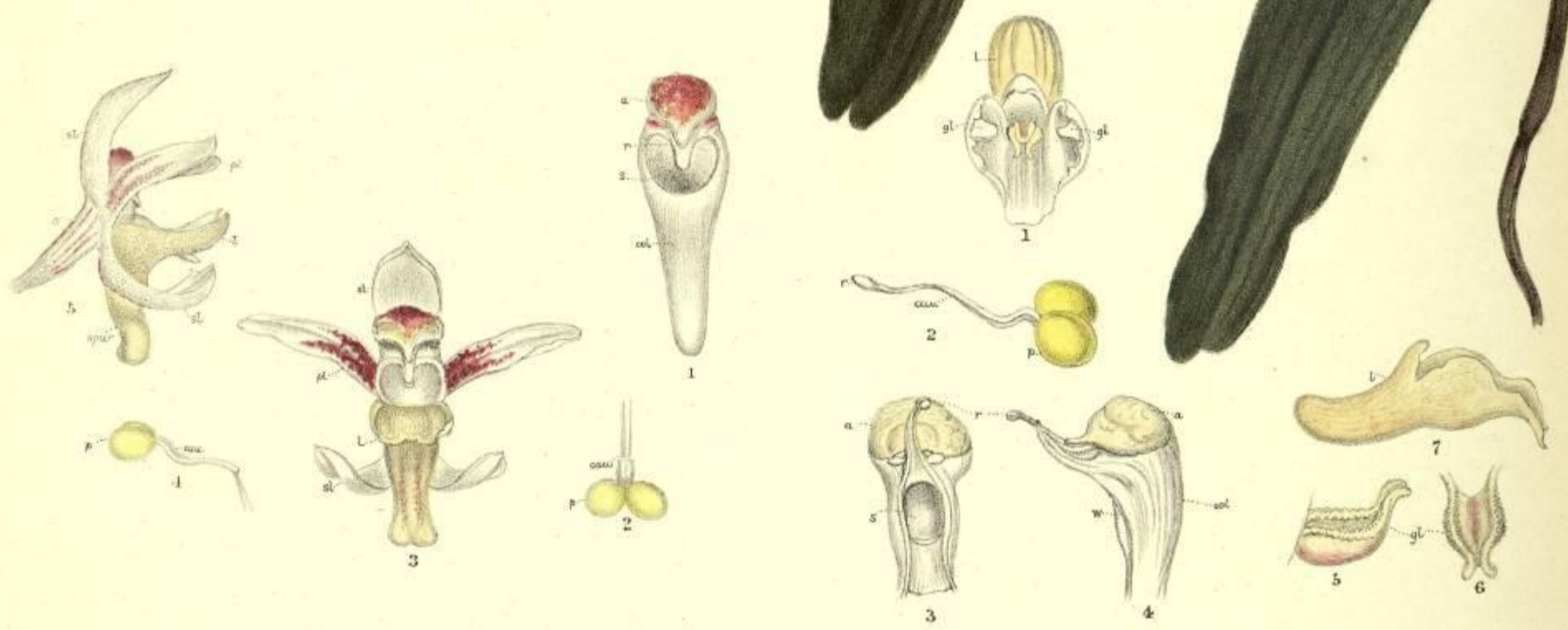
Pterostylis turfosa is a Western Australian species, to be found near Perth, and rather commonly about Albany. The very strange reptile-like form of its semi-transparent flower and its prettily reticulated leaves make it an attractive species. It grows in sandy swampy ground, and flowers in September. As in its nearest congener (*P. barbata*), the labellum would not appear to be in the least degree sensitive; and I believe they are the only two species of *Pterostylis* in which the labellum does not spring upwards on being touched.

I am unable to say what character was intended to be delineated by the name *turfosa*.

EXPLANATION OF PLATE.

Pterostylis recurva.—Fig. 1. Column, from the front. 2. Labellum, from the side. 3. Column and labellum, from the side. 4. Labellum, from below. 5. Labellum, from above.

Pterostylis turfosa.—Fig. 1. Column, labellum, and lateral sepals, from the side. 2. Base of labellum, showing abortive appendage. 3. Top of column, from the front. 4. Pollen masses. 5. Top of labellum.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoppel

Beckleri **CLEISOSTOMA** Keffordii

Printed at the Surveyor General's Office Sydney NSW
March 1885

Cleisostoma Beckleri. (Mueller.) *Cleisostoma Keffordii.* (Bailey.)

CLEISOSTOMA BECKLERI would not appear to be generally distributed, as I have only obtained it in Dongay Creek (a tributary of the Macleay River), and only one other locality, namely The Clarence, is mentioned in the *Flora Australiensis*, but from its diminutive size, and the peculiar situations it affects, it may well have been overlooked. It attaches itself to the slender branches of the "River Gums" (*Tristania laurina*) which grow amongst the boulders in the beds of creeks, and was found in Dongay Creek in company with the still smaller Orchid *Taniophyllum Muelleri*. It has a peculiarity of producing enlargements on its roots which I have not noticed in other members of the genus. The flowering season is November.

Cleisostoma Keffordii.—This very distinct and consequently interesting form of *Cleisostoma* was kindly sent to me by my friend F. M. Bailey, F.L.S., Government Botanist, and was obtained by Mr. W. R. Kefford, on the Johnstone River, Queensland.

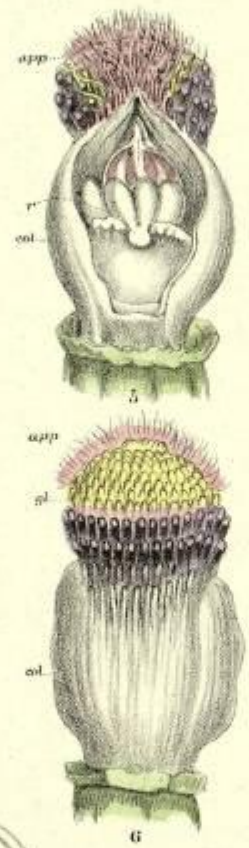
This plant, as Mr. Bailey has observed, "has the habits of a Vanda," and it appears to be an intermediate form between that genus and *Cleisostoma* or *Sarcochilus*, its flowers even being hardly those of a *Cleisostoma*. It flowered in March.

The following is the description of the species as given by Mr. Bailey in the "Reports of the Queensland Acclimatisation Society," April, 1884:—"Stems climbing for several feet over scrub trees, three or four lines diameter, emitting strong wiry roots. Leaves coriaceous, 4 to 6 inches long and about 1 inch broad, very obtuse, contracted at the base, sheaths strongly ribbed or striate. Keel sharp, and three or four more or less strongly-marked ribs on either side. Racemes lateral almost leaf opposed, flexuose, 6 to 9 inches long, with three or four closely adpressed obtuse bracts below the flowers, the upper part bearing sixteen to twenty yellowish-white flowers on pedicels of about four lines. Petals and sepals similar yellow, somewhat reflexed oblong, about four lines long, and scarcely two lines broad. Labellum with pouch about the length of the sepal, slipper-like, the lateral lobes white, with a boss-like gland in the centre of each on the inner side, middle lobe short, appendage within the pouch horn-like, glabrous. Column white, the wings joined, and formed into a prominent beak in front."

EXPLANATION OF PLATE.

Cleisostoma Beckleri.—Fig. 1. Column, from the front. 2. Pollen masses, with caudicle. 3. Flower, from the front. 4. Pollen masses and caudicle, from the side. 5. Flower, from the side.

Cleisostoma Keffordii.—Fig. 1. Labellum, from above. 2. Pollen masses and caudicle, from the side. 3. Column, from the front. 4. Column, from the side. 5. Appendage or gland of disc, from the side. 6. Appendage or gland of disc, from above. 7. Labellum, from the side.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Skoppe

crinita

THELYMITRA

mucida

***Thelymitra crinita.* (Lindley.) *Thelymitra mucida.* (Fitzgerald.)**

THELYMITRA CRINITA.—This very pretty *Thelymitra* appears to be rather generally distributed in Western Australia, as I obtained specimens near Perth, and at Bunbury and Albany. It is easily distinguished by the dense calli of the hood, and from almost every other species by its broad leaf. It flowers in September, and is evidently fertilized by insects from the readiness with which the pollen masses are removed from the anther, and their unbroken condition when extracted.

Thelymitra mucida was obtained in only one locality, Wilson's Inlet, Western Australia, where it was found growing on a plain in standing water, and in company with *Microtis atrata*. It is probably at least sometimes self-fertilized, from the ragged condition of the pollinia when withdrawn from the anther, for it may be observed that fertilization passes in *Thelymitra* from total dependence on insects to constant self-fertilization, according to the cohesive or crumbling character of the pollen. This species flowers in September.

DESCRIPTION OF *THELYMITRA MUCIDA*, AS PUBLISHED IN THE *Gardener's Chronicle*, APRIL 15TH, 1882, No. 433, VOL. XVII, PAGE 495.

“*Thelymitra mucida*.—A slender species, hardly 1 foot high. Leaf linear, about 6 inches, thick, and but slightly channelled. Flowers two or three, lilac-blue. Petals and sepals oblong lanceolate acute, about three lines. Column two lines, of a squarer form than in other species, hooded. The hood deeply and acutely emarginate, with entire edges, very dark, but covered with a hoary bloom resembling mould, which easily rubs off, leaving the dark under-colour apparent. Extreme lateral appendages produced horizontally, covered on the outside with abortive wings, and yellow cilia, smooth on the inside. Anther acute, not produced beyond the stigma, and remaining behind it.”

EXPLANATION OF PLATE.

Thelymitra crinita.—Fig. 1. Pollen masses. 2. Column, from above. 3. Column, from the side. 4. Pollen masses, from the side. 5. Column, from the front. 6. Column, from the back.

Thelymitra mucida.—Fig. 1. Pollen masses. 2. Column, from the side, one wing, and half the hood removed. 3. Column, from the front. 4. Column, from the back. 5. Column, from the side.

Genus *Corunastylis*. (*Fitzgerald*.)

(*Κορύνη*, a thick stick ; *στύλος*, a style.)


THIS new genus is, in my opinion, extremely interesting, as uniting the very abnormal genus *Apostasia* with other Orchids, and as showing how the discovery of a single genus or species may and does bridge over the gaps which are made so much of by those who cannot accept the theory that all forms of life are united by a common descent.

The habit and general appearance of *Corunastylis* is that of the small flowered section of *Prasophyllum*, but the parts of the flowers in the two genera are very distinct.

The free filiform style embedded in the anther, the absence of rostellum and caudicle, the rudimentary bifid petals, absence of wings to the column, and the lanceolate petal-like labellum in *Corunastylis*, are peculiarities wholly unlike those of *Prasophyllum*. Its place appears to be between *Prasophyllum* and *Apostasia*. Though in *Corunastylis* there is only one anther, that anther is attached near the base of the style, and embraces it, and the style resembles that of *Apostasia* more than any other, while in *Apostasia* the second anther is said to be often abortive.

DESCRIPTION.

Flowers small in terminal spike, numerous, reversed. Sepals lanceolate, acute, concave. Lateral sepals somewhat longer than the dorsal. Petals much smaller than the sepals, linear, and bifid. Labellum as long as the sepals, lanceolate, acute on short claw. Column short, not winged, and without lateral appendages. Style shorter than the anther, terete, but clubbed at the end, and without rostellum. Anther on short claw at the base of the style, two-celled, the flaps incurved so as to form a channel in which the filiform style lies. Pollen-masses granular and without caudicle. Terrestrial glabrous herbs with under-ground tubers. Stem slender. Leaf a sheathing bract.



Corunastylis Apostasioides. (Fitzgerald.) Prasophyllum Deanianum.
(Fitzgerald.) Prasophyllum. (Genoplesium.) Baueri. (R. Brown.)

CORUNASTYLIS APOSTASIOIDES was found by G. H. Sheaffe, at Berrima, New South Wales. It flowers in June.

The genus *Genoplesium* (so named by R. Brown on account of its relationship to the genus *Prasophyllum*) has only been known from the very meagre description in Brown's Prodrusus, said to be founded on a drawing by Bauer in the British Museum, and from the drawing itself, which is referred to in the *Flora Australienses* as "representing an abnormal specimen, or one in which there had been some confusion between the petals and lateral lobes of the column."

J. Britten, F.L.S., kindly sent me a copy of this drawing for comparison with a plant I had supposed might be the original of the lost species, as I could not believe that Bauer would have made an inaccurate drawing, or confounded the parts, as supposed. The plant, I imagined, might be *Genoplesium Baueri*, proved to be distinct, and is now figured and described as *Corunastylis Apostasioides*; but within a short period the veritable *Genoplesium* was rediscovered by my friend, H. Deane, F.L.S., at Gladesville, a few miles from Sydney, or, at least, a species so near it as to be only separated from it by minor details, as in the form of the labellum, the ovate-lanceolate petals (unnotched), acute bract, shorter sepals, &c. The new species I have named after the discoverer, but have also given a figure of Brown's *Genoplesium Baueri*, taken from the copy of Bauer's original drawing.

Both species must be placed in the genus *Prasophyllum* to which they clearly belong.

Prasophyllum Deanianum flowers in March. It was found growing under Tea-tree (*Kunzea*), would appear to flower very seldom, and must be extremely rare.

DESCRIPTION OF CORUNASTYLIS APOSTASIOIDES.

Stem rather slender, about one foot high, leafless, except an acute sheathing bract, about one inch from the loose spike of about fifteen shortly pedicillate, small, brownish-yellow flowers. Ovary, oblong, turbinate. Lateral and dorsal sepals, about one line and a half, lanceolate, acute, free, ciliate, along the incurved edges. Labellum without glands, lanceolate, acute, contracted at the base into a short claw, the surface covered, especially towards the point, with soft, reversed hairs. Petals one line long, leniar, bifid, the division nearer the labellum about half a line tapering to a fine point. The other division about a quarter of a line, falcate, linear, blunt, and slightly dilated at the point. Stigma about a quarter of a line, terete, but flattened, on the upper side, and clubbed at the end, without rostellum. Anther longer than the stigma, with a long, fine point, and contracted at the base into a short claw, the edges incurved so as to form a channel in which the stigma rests, and is immersed in the pollen, which is without a caudicle.

DESCRIPTION OF PRASOPHYLLUM DEANIANUM.

Stem red, stout, and waxy, about six or seven inches, with a sheathing bract less than an inch from the loose spike of about seven rather large flowers. Flowers sessile green, except the red edges of the dorsal sepal and petals, and red labellum. Lateral sepals, linear, acute by the turning in of the edges, about four lines long, free. Dorsal sepal about half the length of the lateral sepals, very concave, acuminate. Petals ovate, lanceolate, acute, about one line and a half. Labellum on a short claw, about three lines long, oblong, with blunt point, and with two callosities on the disk near the point, and two longer and thicker at the base. Wings of the column, not bifid, but curved upwards and backwards. Rostellum, red-brown. Caudicle very short. Anther, with rather long filiform point, slightly clavate.

EXPLANATION OF PLATE.

Corunastylis Apostasioides.—Fig. 1. Labellum, petals, and anther from the front. 2. Anther from the side. 3. Flowers and bract from the side. 4. Labellum, petals, stigma, and anther from the side, anther being drawn down so as to show the stigma which is otherwise inclosed in it.

Prasophyllum Deanianum.—Fig. 1. Column from the side. 2. Flower from the front. 3. Flower and bract from the side. 4. Labellum from below, from above, and from the side. 5. Flower from above. 6. Column from above. 7. Pollen-masses.

Prasophyllum Baueri.—Fig. 1. Flower from above. 2. Column from the side. 3. Flower from the front. 4. Leaf from the front. 5. Bract from the side. 6. Flower from the side. 7. Labellum, column, petals, and dorsal sepals from the front.



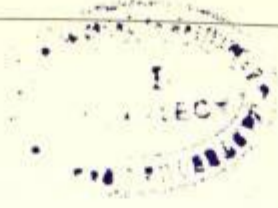
From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoepe

laevis

DIURIS

pallens



Diuris pallens. (Bentham.) Diuris lævis. (Fitzgerald.)

DIURIS PALLENS and DIURIS LÆVIS are very closely allied to *Diuris pedunculata*, but are "distinct in several particulars." In *D. pallens* "the raised lines or plates of the disk converge, and end in a single line along the lamina, but are fringed with small calli instead of being pubescent or ciliate," and the lateral lobes of the labellum are very small; and in *D. lævis* the leaves are twisted, and the labellum is totally without the "pubescent centre and pubescent calli" of *D. pedunculata*.

DIURIS PALLENS has, I believe, been only obtained in New England (New South Wales), where I observed it growing on a wet plain near a hill called "Ben Lomond," the delicate yellow flowers with small dorsal sepal and spreading petals causing it to be taken at first-sight for a *Caladenia*. It flowers in September and October.

DIURIS LÆVIS was found at Albany (Western Australia), and may have been confounded with *D. pedunculata*, though Western Australia has not been given as a habitat of that species. *D. lævis* flowers in September. The following description was published in the *Gardener's Chronicle* of April 15th, 1882, No. 433, Vol. XVII, page 495:—

Diuris lævis.—A slender species, from eight inches to one foot six inches high. Leaves from three to six inches, numerous, linear, spirally twisted, enclosed at their base by a sheath. Flowers two to six, light yellow. Petals elliptical, stipitate, seven or eight lines, including the dark brown claw of about two or three lines. Lateral sepals about seven or eight lines, linear, green. Dorsal sepal almost triangular, embracing the column, about half the length of the other sepals. Labellum three-lobed. The lateral lobes half the length of the central, falcate denticulate along the upper edges, striate with brown lines. Central lobe ovate-rhomboid, about six lines, including the linear portion between the wings, on which portion are two raised lines, perfectly smooth, as is the whole of the labellum. The rhomboidal portion is raised along the centre in a sharp ridge. Wings of the column of the same length as it, toothed.

EXPLANATION OF PLATE.

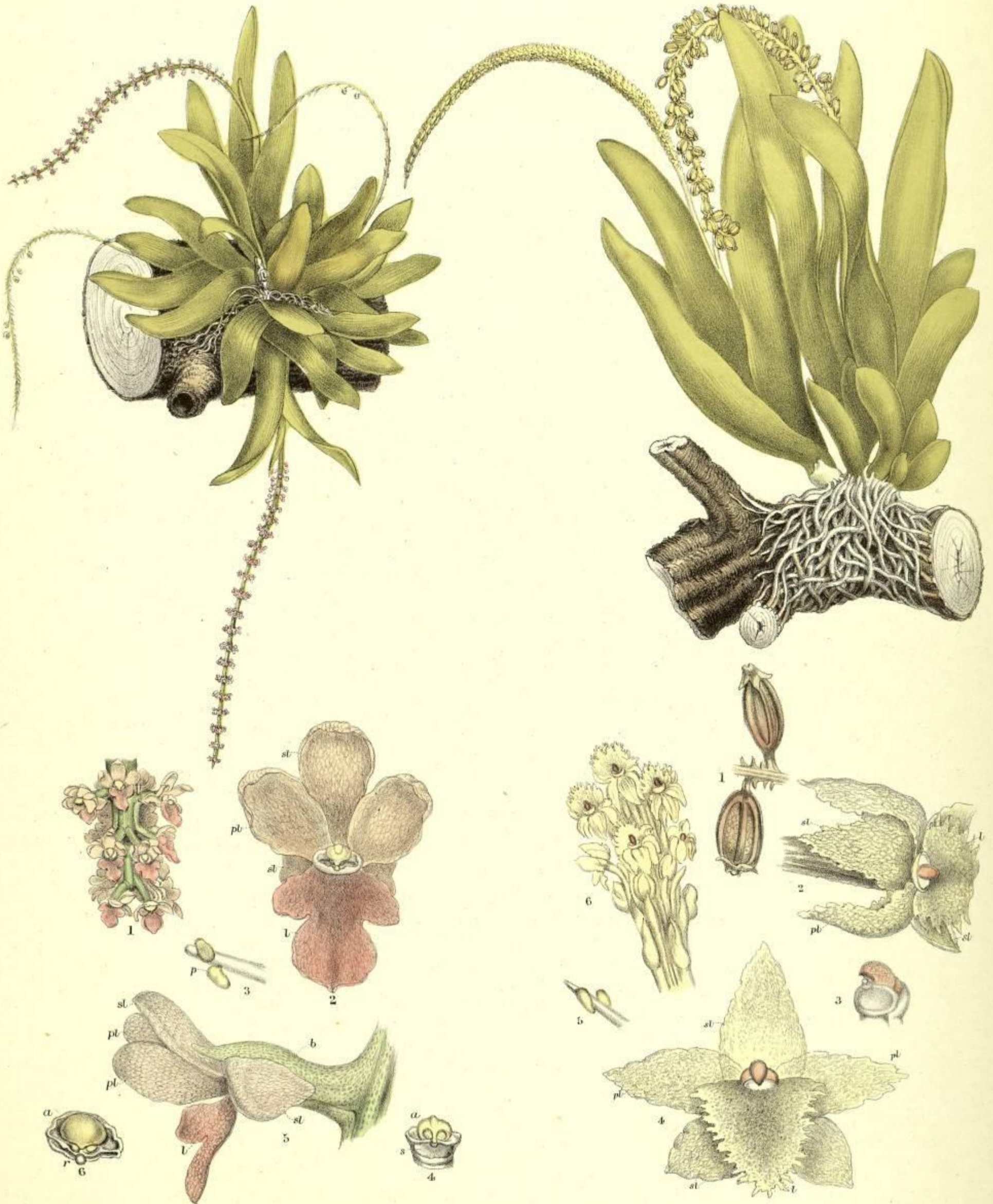
Diuris pallens.—Fig. 1. Labellum, from below, from the side, and from above. 2. Column, from the front. 3. Column, from the side. 4. Column, from the back. 5. Glands, at base of labellum. 6. Pollen masses.

Diuris lævis.—Fig. 1. Labellum, from the side. 2. Base of labellum, from the side, showing glands. 3. Labellum, from above and from below. 4. Column, from the side. 5. Column, from the front. 6. Column, from the back.

Genus *Oberonia*. (*Lindley*.)

OBERONIA is another of the Asiatic forms which have overflowed into Australia, but is only represented by two species—the one peculiar to Australia (*O. palmicola*), and the other to be also found “in East India and the Archipelago.”

It is an epiphyte, resembling *Sarcochilus* in habit, and produces long racemes of minute flowers. It does not extend further south than the northern rivers of New South Wales.



From Nature by R. D. Fitzgerald, P.L.S.

On Stone by Arthur J. Stoye.

OBERONIA
Palmicola Iridifolia



Oberonia palmicola. (Mueller.) *Oberonia iridifolia.* (Lindley.)

OBERONIA PALMICOLA is not uncommon in the Northern "Cedar brushes," and is found adhering to the small branches of trees most frequently where they hang over water. The racemes consist of as many as 300 flowers so very small that fertilisation must be caused by very minute insects, for from the form of the parts of reproduction it is evident that the intervention of insects is a necessity. Only a few seed vessels are usually to be found on the spikes. It flowers in March.

OBERONIA IRIDIFOLIA hardly extends as far south as *O. palmicola*. Its flowers are even smaller and more numerous, and it seems to seed more freely. It flowers in September.

EXPLANATION OF PLATE.

Oberonia palmicola.—Fig. 1. Portion of raceme. 2. Flower, from the front. 3. Pollen masses. 4. Column, from the front. 5. Flower, from the side. 6. Column, from above.

Oberonia iridifolia.—Fig. 1. Capsules. 2. Flower. 3. Column, from the side. 4. Flower, from the front. 5. Pollen masses. 6. Portion of raceme.



From Nature by R. D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoops

DENDROBIUM undulatum

Printed at the Surveyor General's Office Sydney N.S.W.
 Sept. 1887.
 No. 2111

Dendrobium undulatum. (R. Brown.)

DENDROBIUM UNDULATUM is the common coast form of *Dendrobium* in Northern Queensland and the Northern Territory. It grows on rocks, in the fissures of which it sometimes attains a great height.

I have seen plants measuring ten feet, exclusive of the spike of flowers, which in itself was a foot and a half long. The habit is shown in the figure of the variety *Broomfieldii* (next plate), which is that of *D. undulatum*, but on a reduced scale. It is in flower in October, November, and December.

EXPLANATION OF PLATE.

Dendrobium undulatum.—Fig. 1. Top of column, from the front, showing anther thrown back, pollen-masses having been removed. 2. Anther, from front and side. 3. Labellum, from above. 4. Labellum, from the side. 5. Pollen masses. 6. Column and ovary, from the back. 7. Column, from the front, with parts of sepals and petals.

***Dendrobium undulatum* (variety *Broomfieldii*). (*Fitzgerald*.)**

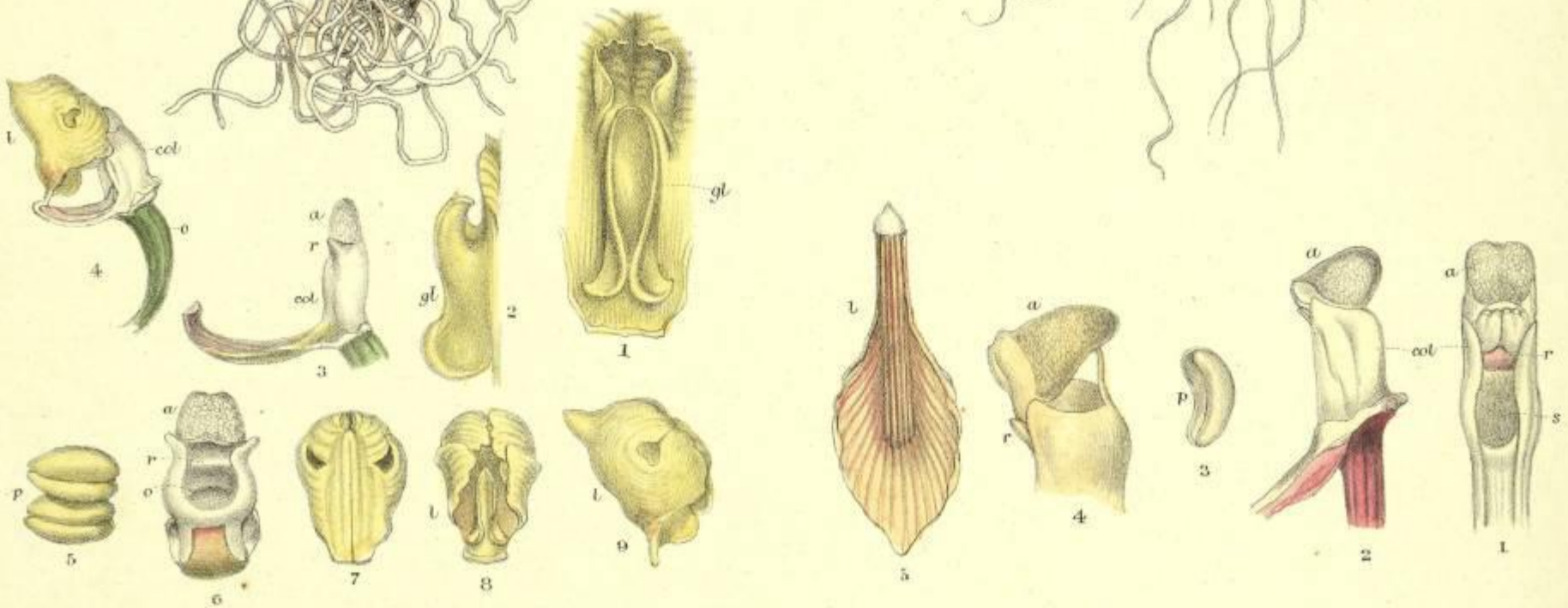
DENDROBIUM BROOMFIELDII must, I think, be considered as only a variety (though so distinct in colour and size), as there do not appear to me to be any important distinctions in the parts of the flowers.

I have named it after my friend, Captain Broomfield, who obtained it from Northern Australia, flowered it in his hot-houses, and kindly afforded me the opportunity of depicting it and many other Orchids. The bright colour and compact habit make it a very pretty addition to our northern Dendrobiums.

It flowers in October, and remains in flower for a very long time.

EXPLANATION OF PLATE.

Dendrobium undulatum, var. *Broomfieldii*.—Fig. 1. Labellum, from above. 2. Labellum, from the side. 3. Labellum, from below. 4. Column, from the front, with parts of sepals and petals. 5. Column, from the side, with spur and parts of sepals and petals. 6. Pollen masses. 7. Points of glands on disk of labellum. 8. Point of labellum, showing end of gland.



From Nature by R.D. Fitzgerald, F.L.S.

On Stone by Arthur J. Stoppe.

Agrostophyllum

DENDROBIUM

Stuartii

Dendrobium agrostophyllum. (Mueller.)

Dendrobium Stuartii. (Bailey.)

FOR the opportunity of figuring both species of very rare *Dendrobiums* I am indebted to the kindness of F. M. Bailey, F.L.S., Government Botanist, Queensland.

When giving a description of *Celandria* (vol. 1, part 7) I supposed that *Dendrobium agrostophyllum* might be one of the species to be included in that genus, but there can be no doubt, on examination, of its being a true *Dendrobium*. It must be very rare. Mr. Bailey informs me that he has often searched for it, but in vain, having only seen the specimen which he sent me (and which he did not obtain in person), and only one habitat (Rockingham Bay) is given in *Flora Australiensis*. It flowers in October.

DENDROBIUM STUARTII comes very near *D. Moorei* of Howe's Island (vol. 1, part 7, plate 10), especially in the peculiar spatulate labellum and spur. As this species was discovered after the publication of the *Flora Australiensis*, I give Mr. Bailey's description and his remarks in his "Contribution to the Queensland Flora" (page 5) in full:—

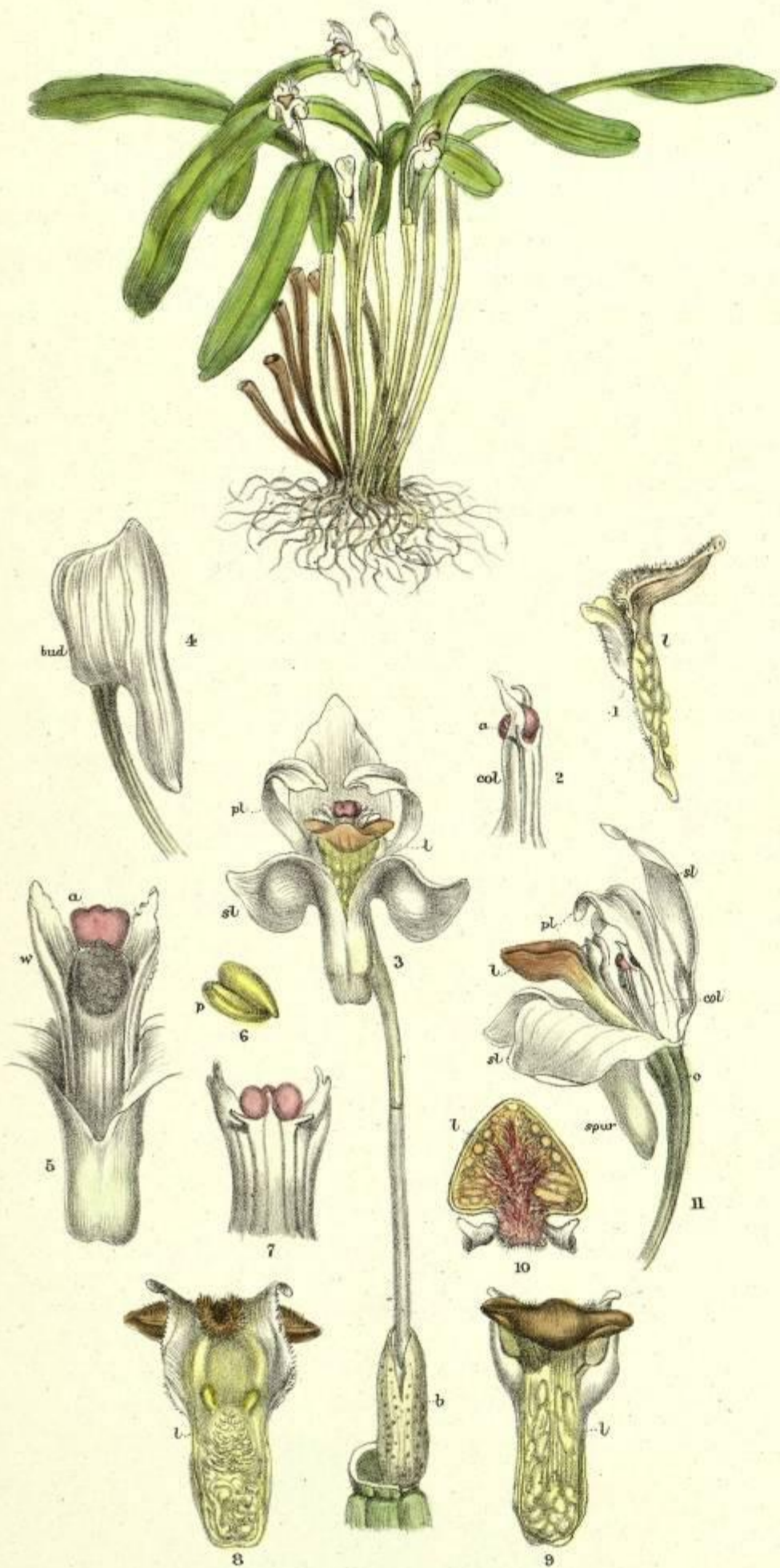
"Stem slender, prominently striate, six to eighteen inches long, leafy, of a purplish colour, the old leafless ones bearing numerous short racemes of usually three flowers. Leaves lanceolate, one to two inches long. Racemes axillary, the rachis about half an inch long, and pedicels of about the same length. Sepals and petals narrow, lanceolate, yellowish green, half an inch long. Spur straight, about three lines long. Labellum tomentose with fringed undulate edges, the disk plates not prominent, obtuse-ovate, three-quarters of an inch long, including the claw, which is articulate to the base of the spur (as in *Bolbophyllum*) without lateral lobes, beautifully marked with forked red veins, which are crossed by two longitudinal ones. Column short, white, the very narrow wings with purple edges. Flowers very fragrant."

"Described from a single plant now flowering in the Brisbane Botanic Garden, sent from near Herberton by J. W. R. Stuart, Esq., from whom several other rare and perhaps new species have been received."

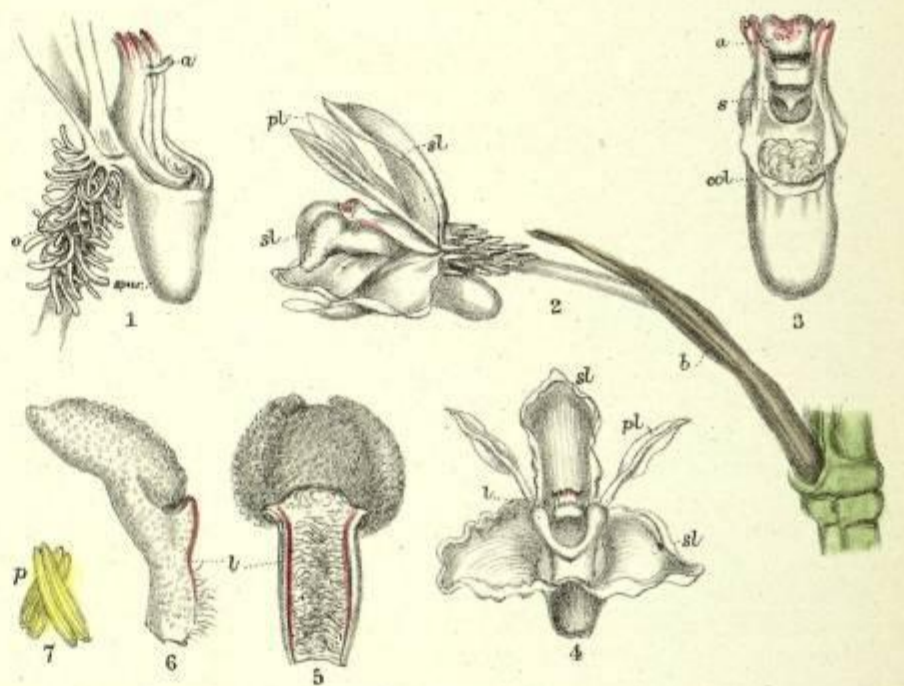
EXPLANATION OF PLATE.

Dendrobium agrostophyllum.—Fig. 1. Glands on labellum, from above. 2. Glands on labellum, from the side. 3. Column, from the side. 4. Ovary, column, and labellum, from the side. 5. Pollen masses. 6. Column, from the front. 7. Labellum, from below. 8. Labellum, from above. 9. Labellum, from the side.

Dendrobium Stuartii.—Fig. 1. Column, from the front. 2. Column, from the side. 3. Pollen masses. 4. Top of column, from the side, anther displaced. 5. Labellum, from above.



From Nature by R.D. Fitzgerald, P.L.S.



On Stone by Arthur J. Stopps

hispidum

DENDROBIUM

Taylori

Dendrobium hispidum. (*Richard.*) **Dendrobium.** (*Bolbophyllum.*)
Taylori. (*Mueller.*)

(Unfortunately the names have been misplaced on the plate. The species to which the name "hispidum" has been given should have been "Taylori," and the species named "Taylori" should have been "hispidum.")

THERE can, I think, be no doubt that both these plants should at least be in the same Genus, and there are in my opinion sufficient distinctions in detail to separate them specifically. The drawings have been made from plants sent to me by my friend, F. M. Bailey, F.L.S., and, of course, show the habit as represented by the specimens; but he informs me that "the erect position of the leaf is not constant in either plant—in fact, the two plants in foliage and general appearance are so similar that I could not distinguish the one from the other without the flowers."

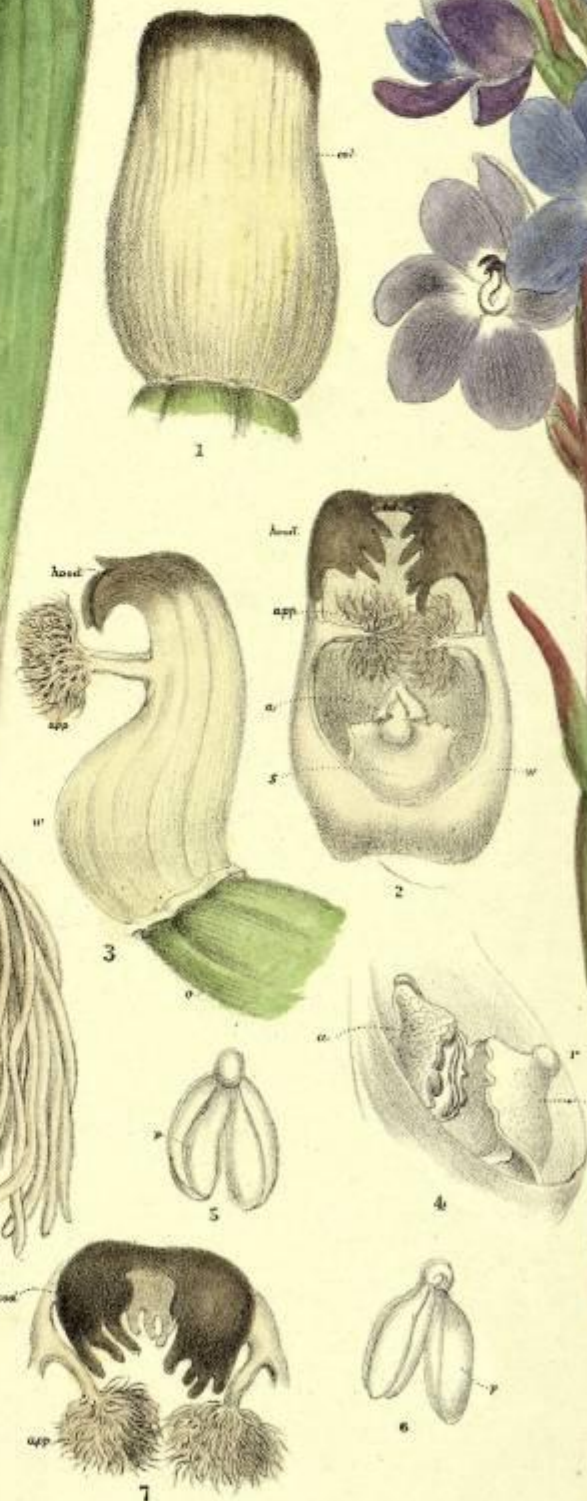
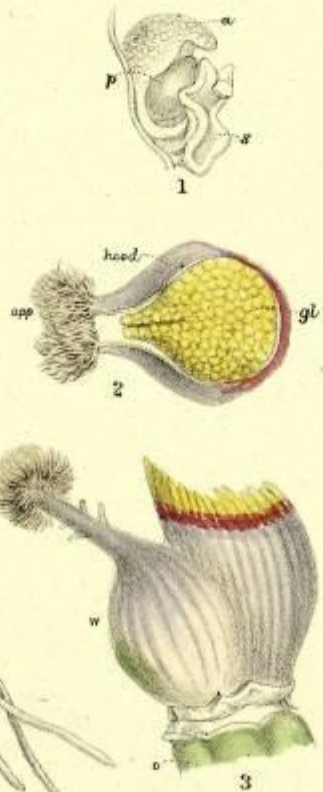
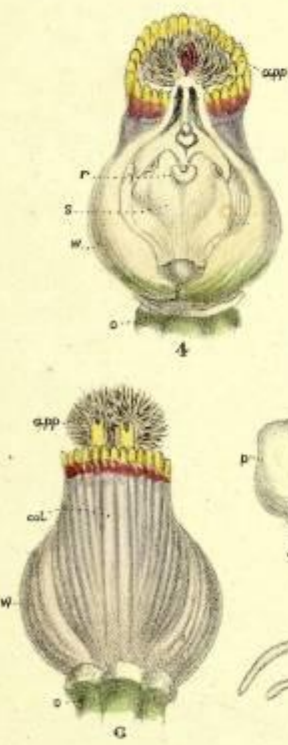
Notwithstanding the similarity of the plants themselves, their flowers differ in material points. Among the most observable are that in *D. Taylori*; the ovary is smooth; the bract sheathing and blunt; the labellum triangular at the point, bearing glands, and with two glands on the disk; the spur short; and the pedicel about twice the length of the flower. In *D. hispidum* the ovary is hispid; bract linear, acute; the labellum ovate, soft, and thick at the point, without any glands; the spur long; and the pedicel about three times the length of the flower.

The plants from which the figures were taken were in flower—*D. hispidum* in July, and *D. Taylori* in October. Both species belong to Northern Queensland, and grow in dense tufts.

EXPLANATION OF PLATE.

Dendrobium Taylori.—Fig. 1. Labellum, from the side. 2. Column, from the side. 3. Flower and bract, from the front. 4. Bud, from the side column, and spur, from the front. 6. Pollen masses. 7. Column, from the back. 8. Labellum, from above. 9. Labellum, from below. 10. Point of labellum, from above. 11. Flower, from the side.

Dendrobium hispidum.—Fig. 1. Column spur and ovary, from the side, with parts of petal and dorsal sepal. 2. Flower and bract, from the side. 3. Column and spur, from the front. 4. Flower, from the front. 5. Labellum, from above. 6. Labellum, from the side. 7. Pollen masses.



From Nature by R.D. Macgregor, FLS

On Stone by Arthur J. Stoppa

fasciculata

THELYMITRA

grandiflora

Printed at the Surveyor General's Office Sydney NSW
March 1885

Thelymitra fasciculata. (Fitzgerald.)

Thelymitra grandiflora. (Fitzgerald.)

THELYMITRA FASCICULATA is a Western Australian form, overlooked or confounded with *T. canaliculata* (next plate), *T. ixioides* (ninth plate), or other of the genus, but it can be easily distinguished by the absence of all lobes or crest between the two penicillate lobes or appendages of the column by there being no edge to the hood or opening in it over the anther, but on the contrary the top of the column is completely covered by a mass of terete glands like truncated bundle of twigs (from which I have given the name). It is also readily distinguished from *T. crinita*, (to which it is most nearly related) by the form of the leaf, which is linear, not ovate-lanceolate. It is to be found in sandy soil, and flowers in September.

DESCRIPTION OF THELYMITRA FASCICULATA.

Stem about one foot high, slender, with three or four sheathing bracts. The leaf linear channelled, generally from three to six inches. Flowers lilac-blue in a raceme of about five flowers. Sepals, petals, and labellum oblong-lanceolate about five lines. Column about two lines. Extreme lateral appendages inflated at the bases, but produced into linear points bearing each a tuft of white cilia at the end. The hood truncate, without lobes or crest, and composed of linear glands closely packed together, which form an almost flat top to the column. Anther produced into a point above the stigma, and remaining behind it. Pollen masses easily removed entire without crumbling.

THELYMITRA GRANDIFLORA comes very near *T. aristata* and *T. epipactoides*, but is a much more beautiful plant than either, and may be distinguished from the former by the broad truncate hood, which is devoid of the thick lobes found in *T. aristata* on each side of a small central crest; by the short blunt anther which in *T. aristata* is produced into a long point; by the spotted leaves, &c. *T. grandiflora* differs from *T. epipactoides* in the great length of the raceme in the latter; in the colour of the flowers, which in *T. epipactoides* is a grey-green, tinged with red; in the hood being broad, deeply denticulate, curved downwards (not narrow), sharp, but slightly notched, and pointing upwards. It may be doubtful whether the three should not be united, but I am of opinion they should be considered as distinct, in which view Baron von Mueller concurs. *T. epipactoides* has been named as a separate species by the Baron, and I find that he proposed in his Herbarium to give the name of "*Grandis*" to the South Australian form, which, without knowledge of such proposal, I described in the *Gardener's Chronicle* under the name of "*Grandiflora*." *T. grandiflora* was found near Adelaide, in South Australia, and flowers in October. It is the largest and most beautiful of the many species in the genus, having denser racemes and larger flowers. Those on the plant (from which the figure was taken) numbered twenty-eight.

DESCRIPTION OF THELYMITRA GRANDIFLORA.

(As given in *Gardener's Chronicle*, April 15th, 1882, No. 433, Vol. XVII, page 495.)

Thelymitra grandiflora.—A very robust species, from one foot six inches to two feet six inches high. Leaf lanceolate, about nine inches long, and about ten lines broad, thick, forming a closed loose sheath round the stem for three or four inches. Lower bracts sheathing in the same way for more than half their length. Flowers about thirty in a dense spike, greyish-blue. Petals and sepals oblong obtuse concave, about eight lines. The back of the sepals much darker in colour. Column about four lines, hooded. The hood remarkably flat, broad, and smooth, of a leaden colour. The space between the extreme lateral appendages consisting of two large wings, deeply denticulate along the edges, and a much smaller arched central wing also denticulate. The extreme lateral appendages produced horizontally and terminating in white penicillate tufts. The wings of the column inflated and inclosing the lower part of the stigma in a cup. Anther not produced over the stigma and remaining behind it.

EXPLANATION OF PLATE.

Thelymitra fasciculata.—Fig. 1. Anther and stigma, from the side. 2. Column, from above. 3. Column, from the side. 4. Column, from the front. 5. Pollen masses. 6. Column, from the back.

Thelymitra grandiflora.—Fig. 1. Column, from the back. 2. Column, from the front. 3. Column, from the side. 4. Anther and stigma, from the side. 5. and 6. Pollen masses. 7. Column, from above.



From Nature and on Stone by R.D. Fitzgerald. F.L.S.

THELYMITRA
canaliculata.

ixioides.

Thelymitra ixioides. (R. Brown.) *Thelymitra canaliculata.* (R. Brown.)

THELYMITRA IXIOIDES is the common form on the coast of New South Wales, extending to the Blue Mountains. It is generally found on the flats on the summits of ridges, but it is not confined to them, being often scattered through the open forests. I have frequently found plants the flowers of which were nearly twice as large as those figured, but I do not think it is well to depict unusually fine specimens, especially in botanical works.

T. ixioides is wholly dependent for its fertilisation on the removal of the pollen masses, and their being brought into contact with the stigma by insects.

It may be taken as a type of the species in the Genus in which the pollen masses are not friable, but come away whole from behind the stigma, and in which the anther does not ascend above the stigma, or the pollen in any way over-lap the stigma, or be over-lapped by it, or crumble upon it. *T. ixioides* flowers in August on the coast, two or three months later in the mountains.

It is said to be found in all the Colonies, but, if it extends to Western Australia, it must be rare, for I did not observe it there.

THELYMITRA CANALICULATA.—It is with doubt I have given the name as that of the species represented, but it is the only one I have found to agree with the description given by Brown. I, therefore, think it had better be taken as *canaliculata* than give that name to one the characters of which could not be reconciled with the description.

For convenience I give Brown's description (as I translate it), and also that given in the *Flora Australiensis*.

"Perianth spreading, the outermost divisions of the hood pencilled, the intermediate one many divided with smooth dorsal surface."—R. Brown, Prod., p. 314.

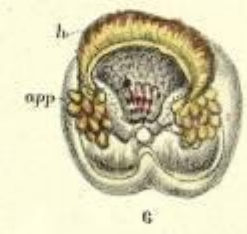
"Habit and few rather small flowers of the slender, narrow-leaved forms of *T. ixioides*, and the floral characters the same, except that the central lobe of the column hood is broader, more external, and, though much denticulate, has no dorsal crest."—*Flora Australiensis*, Vol. VI, p. 318.

The plant from which the drawing has been taken was obtained at Hunter's Hill, near Sydney, but I also procured a few at Albany, Western Australia. It flowers in September.

EXPLANATION OF PLATE.

Thelymitra ixioides.—Fig. 1. Stigma, from the front. 2. Pollen masses. 3. Anther and stigma, from the side. 4. Stigma and pollen masses, from the side. 5. Column, from the front. 6. Column, from the back. 7. Column, from the side.

Thelymitra canaliculata.—Fig. 1. Column, from the front and above. 2. Column, from the side.



From Nature by R. D. Fitzgerald, PLS

On Stone by Arthur J. Stopps

flexuosa

THELYMITRA

urnalis

Printed at the Surveyor General's Office Sydney N.S.W.
 Sept. 1887.
 No. 2114 D. 87 25

Thelymitra flexuosa. (*Endlicher.*) *Thelymitra urnalis.* (*Fitzgerald.*)

THELYMITRA FLEXUOSA is well named, for the hard slender stem bends almost at right angles at the leaf and at each of the bracts. The anthers, it will be observed, of this species and a few others in the genus depart from the ordinary type, and are produced into a broad thick appendage.

T. flexuosa has not I believe, as yet, been obtained in New South Wales. I found it in flower in Western Australia in September, and in South Australia in October.

THELYMITRA URNALIS was found by me, in flower in October, on the top of Mount Lofty (South Australia), and the following description appeared in the *Gardener's Chronicle* of 15th April, 1882, No. 433, Vol. XVII, page 495:—

DESCRIPTION OF THELYMITRA URNALIS.

Thelymitra urnalis.—A slender plant, about a foot high. Leaf about six inches, linear, thick, rather deeply channelled. Bracts long and stem clasping. Flowers one or two. Sepals and petals ovate acute, about three lines. Petals yellow. Sepals yellow inside, dark red brown outside. Column three lines, not hooded, but produced above the anther, undulate or almost denticulate between the lateral appendages, which project horizontally forward and are broad and rugose. The wings of the column enclose it for more than half its length at its base and form a cup, with a central spur more or less developed in front of the stigma, giving the column an urn-like appearance. Anther obtuse, or slightly emarginate, protruding over the stigma, and continuing when mature to include the pollen masses.

EXPLANATION OF PLATE.

Thelymitra flexuosa.—Fig. 1. Column, from the front. 2. Column, from the back. 3. Column, from the side.

Thelymitra urnalis.—Fig. 1. Section of leaf. 2. Column, from the front. 3. Column, from the side. 4. Column, from the back. 5. Anther and stigma, from the side. 6. Column, from above.