Miss Drake, del.

M. Ganci, lith.

Published by J. Ridgway & Sons, 169, Piccadilly, 1840.

Printed by F. Gass, 9, North, Cross, Street, 1840.

541.0
64.475
7.60
1774
1823

SERTUM
ORCHIDACEUM:

WREATH

THE MOST BEAUTIFUL
ORCHIDACEOUS FLOWERS;

SELECTED

BY JOHN LINDLEY, F.R.S.

PERMITTED BY ROYAL INDIAN COLLEGE, LONDON, AND BY THE ROYAL INSTITUTE OF
GARDENERS, LTD. LTD.

LONDON:
JAMES HIGGINS AND SONS, PICCADILLY.

NEWCASTLE,
1877

Macdonald, Dundee,
1877

DO

THE MOST NOBLE

WILLIAM SPENCER CAVENDISH,

DUKE OF DEVONSHIRE, K.G.

OF EXETER

THE MOST VERTUOUS AND

THE FRIENDLY LORD OF DEVON

THE MOST VERTUOUS

AT HIS RESIDENCE IN THE PALACE OF EXETER

CHILTSWORTH

THE MOST VERTUOUS AND

THE MOST VERTUOUS

THIS HISTORY

OF THE MOST VERTUOUS

OF HIS EXCELLENCE

OF HIS EXCELLENCE

THE GIVER

THE GIVER, AND HIS EXCELLENCE

THE GIVER

FRONTISPIECE.

A WREATH OF EAST INDIAN ORCHIDACEÆ.

The figures here given comprehend magnified views of the flowers employed in forming the wreath selected as a frontispiece to this work. The numbers in both cases refer to those in the following descriptions.

I. MONOMERIA BARBATA.

Monomeria barbata. *Genera & Species of Orchidaceæ*, page 61.
Dendrobium tripetalum. *Wallich mss.*

All that is known of this rare and very curious plant is derived from a drawing and some imperfect dried specimens brought from India by Dr. Wallich, who found the plant in Nepal in the year 1821.

Its chief peculiarity consists in the absence of petals; a very curious and unusual circumstance in this natural order of plants. Dr. Wallich indeed represents them to be present in the form of a
Frontispiece.

sepal. The calycispetal on each side of the osseous between the upper and lateral sepal, as is shown in the accompanying figure, No. 1, but I have not been able to make out this fact in the East and had doubt whether brought under consideration.

The plant has quite the habit of a *Scilla* *Bellephylloides*. From a large creeping rooty rhizome spring at considerable intervals erect terete-stems, at first covered with the rusty remains of the scales out of which they originally proceeded, and is about two inches long, and bears a single leaf. The leaves are rather less than a foot long, along the leafy, base green, with an obtuse, a little convex, smooth, with the channelled bottom & smooth as long as the leaf. The petiole is rather shorter than the leaf, erect, passing from the base of a pseudo-bulb, pale green, spotted with dull purple, with about two shortening scales below the base of the first flower. Each flower when fully expanded is about an inch long, with the upper and lower sepal placed transversely with respect to the axis of growth. Of the petals the upper is large or abundant, nearly pure, but also green, much shorter than the two second ones, which are placed below the upper, a little united with each other at the base, where they are four upon the long foot of the osseous in such a way as to form a kind of boat shape. On the outside they are very light green, smooth and dotted with light purple, on the inside they are heavy yellowish, and strongly spotted with bright purple. The stigma appears to me to be white & short, but in Dr Wallich's figure they are represented as two rounded lobes. The stamens are articulated with a very long foot, of the column, bentward, & yellow. There are, the lateral lobes being filiform and antheroid, the anthers are erect, with four translucent scales placed, instead of pure, provided with an anther. The column is short, half round, extended at the base into a long slender curved foot, on which the sepals and bractles are inserted. The two upper sepals at first produced into short pedicels. The style is downy & scabrous, with a fleshy erect ovary. The pedicels are short, as the same points the two anterior being the most, and not considered into a rounded one, but without the slightest trace of a nodulus or gland.

Fig 1 of the above description represents a flower of this plant much magnified, with the style spread out.

II. SACCOLABIUM ACUTIFOLIUM.

Saccolabium acutifolium. *Genera & Species of Orchidaceous Plants*, p. 223.
America: *Walters*. *Walters* var.

A pretty epiphyte inhabiting the East Indies, and at present known only from a drawing in the possession of the East India Company, of which, with all the others from the same source as I have been permitted to trace copies.

The stems are about six inches long, and are covered by numerous leaves, so disposed as to arrange themselves in two rows. Each stem is rather more than six inches long, smooth, slightly angulose, along-stretched, very acute, quite flat and even, and apparently fleshy. The flowers appear in small spikes, placed on stiff peduncles, from two to three inches long, and spreading

IV CHILOSCHIISTA USNEOIDES.

Chiloschiista usneoides. *Genera & Species of Archibolousus Florin*, p. 219

Equisetum usneoides. *D. Don Prodrum Flora Neopalensis*, p. 37

Auriclea usneoides. *Wallich* non.

The lower part of the stomach, on the left hand, contains exactly of the vegetable plant, whose green elongated roots serve it a place of leaves, of which organs it does not appear to possess a trace. This is due to the peculiar structure of the power with which nature adapts one sort of a plant to perform the office of another, so if she delighted in displaying two and six rivers, & her resources. Without the green apparatus usually arranged upon the stem in the form of a leaf, a plant can no more digest its food than an animal deprived of a stomach; without the jaw and masticatory fibres which we call teeth, a plant can no more feed than an animal deprived of a mouth, but by combining with a most unusual but-organ size and, the root is made both to feed and to digest in its proper nature, and is adapted to digest like a leaf. That too is the case in the stomach of the *usneoides*, by want exactness the transposition of such fibres, organs as two and leaf is effected, remains to be ascertained by some one who can examine the plant in a fresh state.

Dr. Wallich found it in 1810, growing on the trees in Nepal, in many different places, and described it in the following effect. Roots consisting of numerous bundles of long, fleshy, glaucous, simple fibres. Of leaves there is no trace. Barkens numerous, arising from the crevices of the roots, & c. from the course of the medial fibres from six to eight inches long, erect, and fleshy. Pinnules broadish, upper oblong, and much longer than broad, with a few obscure membranous veins, which are very, ampleness, acute, deciduous, and densely clothed with herbaceous soft scurfy tomentum hairs, freely growing on a dense network, which becomes denser when dry. Pinnules stalked, alternate, the stem and below of leaf of the Valley, but deciduous, drooping (fixed on six or half an inch long, very, slender, with a broad, ovate, subulate, and acuminate acute deciduous bract at the base. Serratures of the pinnules either 2 or 3, spreading, the petiole broader than the ovary, and with the leaves, very, slender by three whole base to a long foot, which opens the base of the column almost at a right angle. Lenticles standing at the back of the flange of leaves at the base are slightly sessile, very small, attached to the extreme point of the foot of the column, slightly curved with peak, bordered twice, three-sided at the apex, the lateral lobes linear, pure, is, entire, flat in the middle two-sided and sessile, or rather meeting, its plane being supplied by two little sessile teeth. Corolla very short. Anthers terminal, deciduous, ovate, two-sided. Pollen-grains two, rounded, two lobed at the back, many, smooth. Carinae two, linear long, somewhat cylindrical, peak, curved. Ovis. The four lateral lobes of the perianth being inserted at the base of the main elongated ascending base of the column, almost so that the apices which surround the oblique cover very little of the margins of the petals, which occupy the middle of the column, may be said to be placed at a right angle. The very base of the column is surrounded by the baseless three only inserted.

Of No. 6, the left hand figure represents the leaf on seen in front and that on the right a single flower in front.

But the ones on the side opposite a leaf, they are about three-quarters of an inch in diameter. The sepals and petals are obovate, acute, spreading, yellow, and hairy of inside and. The anthers are pale pink, convex at the base, where it has a rounded lobe on each side, and the beyond the lobes, enlarging into a somewhat triangular three-lobed flanged plate.

Fig. 2 represents the entire whorl of this point, except from the drawing above mentioned.

III. VANDA CRISTATA.

Vanda cristata. *Genera & Species of Orchidaceous Plants*, p. 216.

The species has very much the manner of growth and appearance of *Bombalium* genus, but its flowers are usually different. Dr. Wallich found it in Banca, 1850, growing upon trees in Negeri, he also obtained it in April in Toka, near Singapore, on which occasion it was described in his manuscript with the following addition, "This *exiguus pubescentibus*. Leaves consistent emarginate, color stragipennis purpurea with the veins induratum." The following is the translation of the more essential parts of the description referred to.

The leaves are about as thick as the little finger, nearly smooth, arising from the roots near the base, thick taper being formed, ending in the leaf of three or four *Vanda* *truncata*, in which plant a leaf much resembles a blade and leaves. The leaves are stiff, spreading, and marked with a brownish or blackish line at the base, showing a marked line on the under side, very a deep edged from five to six inches long, and one-fourth of an inch wide, truncated and slightly serrated at the ends. The flowers are solitary, generally three or four on the same shoot, generally very at the base, and bearing but few flowers, (in the figure and specimen before me the point was a three-lobed). The bracts are fleshy, taper two or three inches long, bearing at the base a few truncated leaves, together with one broad one, which is very large and is with a pale pink. Flowers large, fleshy, yellowish green, with a very large purple lip. Sepals broad, lanceolate, spreading, rather convex, about half an inch long, nearly smooth, the lateral ones extended a little beyond the apex of the middle one, and the middle one slightly extended over the others. Petals very fleshy. Lances very thick, acute at the base, and extended a very short broad flanged area, arising in the fleshy base of the column, with an acute, oblong area below on each side, slightly extended into the oblong band, when terminated below the point a short erect horn, and has also a few or numerous leaves arising on these or four irregular cylindrical processes, on the wings of the upper column, it is covered with wavy lines, and the entire it is a wide, round it is a strong, a thick, with purple broken lines. Column very acute thick round. Anther bases rounded, and two rounded and set with. Pollen sacs very globose, truncate at the base, (in its a short oblate ovaloid, and a very large, round, flat, and greenish, broad, broad, pectinate series.

Fig. 3 represents the column and anther, from a drawing being by the East India Company.

Protophylla

V. SUNIPIA BICOLOR.

Sunipia bicolor. *Genera & Species of Orchidaceous Plants*, p. 179.

Acrades? obscuratum. Wallich nom.

Known only from a drawing in the library of the East India Company. It is a native of Nepal, among others collected in that province by Dr. Wallich.

It forms a small patch of green, erect, stemless, about as large as your fist, each of which is terminated by a narrow oval of glossy stalked oblong leaf, three inches in length. The leaves are erect, rather longer than the leaves, and originate from the base of the pseudobulbs; they bear about six or eight, sessile flowers, arranged upon a flattened slender stalk, each of which is subtended by a sessile oblong bract, longer than the short above ovary. The sepals are white, slightly streaked with purple, ovate-obovate, the two lateral ones being narrower and rather larger than the others, placed parallel with each other below the lip, and slightly reflexed by their margins. The petals are white, ovate, bluish, rather more than twice as short as the sepals, with a few purple streaks at their base. The LABELLUM is deep purple, and when seen with a very short flat of the column, its general outline is ovate, in the middle it is flat and fleshy, and traversed by a median (5) line, at the margin it is crenate, at the apex rounded and crenulate, just above the base there is on each side a small erect nodule. All these things are described from the leaf as appearing above referred to.

Fig. 2. represents a magnified view of the flower after the sepals are cut off.

VI. SACCOLABIUM CALCEOLARE.

Saccolabium calceolare. *Genera & Species of Orchidaceous Plants*, p. 223. *Botanical*

Reporter for 1838, *supplementum* Wallich, no. 139.

Gastrochilus calceolaris. D. Das *Prodromus Florae Nepalesis*, p. 92.

Acrades calceolare. Smith in the article *Acrades*, in the *Supplement to Rees' Cyclopaedia*.

Acrades leoparden var. Wallich nom.

A native of Nepal, where it was found by Dr. Wallich, growing upon trees in a place called Taha, and flowering in March. It is not conspicuous for the showiness of its flowers, but it is exceedingly pretty when closely examined, its bract being found to be elegantly spotted and fringed. It observed with a little care. It exists in the collection of His Grace the Duke of Devon.

Fruticosa.

it is, and flowered at Chetumal a year or two since. It never has been recorded by Mr. G. rose at Chetumal, or the known limits of the mountains of 400 feet, growing on rocks.

The following is the summary of Dr. Wallich's description of the dried plant.

Roots spreading, thick, cylindrical, long, and smooth, as in *Stenocarpum guttatum*. Stems short stout, compressed, mainly concealed by the spreading bases of the leaves. LEAVES close together, arranged in two rows, linear, cartaceous, smooth, a foot or more long, obliquely one or two-ranked in the point, generally rising upwards and curved to one side so as to assume a somewhat funnel appearance, thick, slightly channelled, with a narrow sulcus on the under side, their margins are short, imbricated, and finely dotted with purple. Corolla short-stalked, solitary or two, each consisting of five not so united flowers, with a very thick chorice pedicels as soon as the flower is opening, upper, spotted with purple. STAMENS middle-sized, pedicels green, most closely spotted with reddish purple spots. STAMENS spreading, distinct, fleshy and not so united, oblong, obtuse, a little narrower at the base, about four lines long. PISTIL a rather narrow and more rounded. LABELLUM large, long-chaped, twice as large as the upper, smooth, situate at the apex, truncated and widest circular at the mouth, pale yellow, with a numerous plate, of a somewhat regular figure, marked brownish. A throat is to be taken the orifice of the labellum, narrow, white, yellow and spotted with purple in the middle, and bordered above with white lines. COROLLS very short, sessile. A STYLUS short, stout, scarcely with two mils, themselves half divided into two other sets, in front extended into a long double-headed glandular process spread in its distal marked apex of the stigma. POLLEN masses two, globose, with a thin extension on one side marked with a long slender canal.

Fig. 4. represents a single flower seen in front obliquely, and magnified.

VII. AERIDES DIFFORME.

Aerides difforme. Wallich in *Generis & Species of Orchidaceous Plants*, p. 342.

Orchid rubens F. & A. Wallich 1824.

This is one of the most singular flowers among the most singular plants growing in India, as it does not even possess a corolla-like bract, except that of a large ovary.

It inhabits the forests of the Vindhya range, and was first seen at Madras, in the District of Coimbatore, Calcutta, where it flowered in the following May. No specimen of it has fallen in my way, but the known drawing made under Dr. Wallich's superintendence sufficiently explains its structure, especially when assisted by the detailed description given in the following closely connected form Dr. Wallich's Latin description.

The plant has scarcely any stem, but consists of three or four very broad, oblong spreading LEAVES, about six inches long by two and a half broad, of a thick fleshy substance, a rather glaucous color, a very thin membranous margin, and an acute obliquely emarginate point. From the roots of these leaves spring out as two stiff, erect, but rather short, as long as the leaves themselves, their pedicels are taper, dense, and somewhat fleshy. The flowers are five, narrow, linear-lanceolate, sessile, white at the base. FLOWERS solitary, rather small, membranaceous, yellowish, very slightly

tinged with green, and striated with dull gray. — *Form* — an oblong sac, about the length of its base, round upon upper extremity about as much in length, it is a small membranous structure at its base. *Surface* and *texture* all turned towards the same side, spreading out, at the former the lateral is somewhat foliaceous, areolate, prominent on their outer margin, scarcely extending beyond the extremity, acute to the base of the tip, the latter are linear, shorter, obtuse. *LABELLUM* placed at the back of the flower, and hanging from apex at it, veined in the middle into two parts, of them the lower for support and is angulate, not extended in front into a long process as in *Agave* upon which narrow appendage is a closed by numerous small hairs, when its margin, of a dull purple, is erect towards the upper (or apical) is broad, bi-angulate, entire, slightly angulate, with an intermediate point, dull purple with a yellow border divided into finger-like teeth and an acute margin at least towards its apex. The column is erect, thick, purple, very weak, supporting opposite into a narrow space, and extended downwards into a short foot. The *ANTHERA* is large, oblong, not extended into a large projection from the upper edge of the anther-leaf. The *ANTHERA* is oblong, obtuse, not crumpled, and extended in front into a triangular plate which covers over the anal coxal gland. *POLLIN* STAMEN two, round, hard, deeply two-toothed at the base, attached to a long broad slender base. — *Notes* The structure of this anther is as very curious, it is at present difficult to describe it correctly. The lateral sepals are united below the very first joint, the feet of the column are together more the space of the hypophyseum form a very short spur, while the more conspicuous period has upon a really the apex of the same part.

Fig. 7 is a complete flower, about three times the natural size, copied from Dr Wallich's drawing.

VIII. SUNIPTA SCARIOSA.

Then, the last subject in the woods, was the little yellow found by Dr. Wilkes, who met with it in May, 1818, growing upon the branches of trees at Toca in Nepal, where such epiphytes are called *Sumpung*, whence the name *Sumpung* was taken by Dr. Buchanan. The name of these however which were discarded from that traveller's papers by the late Sir James Smith at Roxburgh, and the present *Sonch*, appear to have belonged to the genus *Dioscorea*.

by a single leaf. Each LEAF is about four inches long, archlike-curved, flat, narrow, firm, would double-curved at the point, and at the base contracted into a short petioled portion. The veins are going from the base of the pseudo-leaf, and are very distinct, erect, rigid, horizontal green, less 1 thicker than a piece of wire, and clothed with a few long narrow sheathing scales. These are terminated by denticulate strokes, which are drooping, and about six inches long. The PLANT is generally a terrace in a delicious manner, petioled purple, nearly parallel with the flattened scales, which is in the middle below even fewer of a single 164478, dry. The PLANT are somewhat curved in- sometimes expanded into an area 164478 on each side. The PLANT are two-lobed, much shorter than the leaves, and partly hidden by them. The PLANT are erect, dense, slightly 164478 with pink, the lobes even the largest, and placed near the roots, at the back of the plant. The PLANT are roundish-oval, white, very obtuse, there is short or the same. The PLANT is fleshy, 164478 with pink, narrow-shaped, blunt, much shorter than the roots, and a little 164478 near the root where the root is short, producing something the appearance of a stem. The PLANT is very short, not at all, extended at the base into a foot, but quite continuous with the stem, so that it is believed not into a cup, and at the same time leaves the stem.

It is from the very to root structure of the plant that the plant derives its principle, it is a subterranean. Because of being lower in the underfoot, being by its back, and opening up by under side as in to show the pollen-matter to drop out upon the surface, but it is so flattened down by its face that the latter operation becomes impossible, and in order to provide for the escape of the pollen the scales open vertically, so that when these scales are drawn around the pollen-matter are at once very exposed to clear paths. The scales stand themselves as four when in two pairs, and according to accounts made by me twenty years ago, for I have not seen them since, they are situated in two divisions, the lower of which is situated with the stem at but not known.

In fig. 5, the left hand figure represents a side view of a flower much magnified, while the right is a front view showing the position of its peduncles and anthers when undischarged.

Stanhopea Deveroniensis.

STANHOPEA DEVONIENSIS.

S. Devoniensis; folia oblonga 5-nervi, stricto acuto petalo mar-
 gine albo serrulato, lobulis medio quam marginibus contractis, hypochilio subrotundo antice basi gibboso
 marginibus carinatis dilatatis repurgatis, epichilio ovato subtriangulato apice
 lobulis indentatis carinatis costatis hypochilio interiori equis, calicem margi-
 nibus parvis dilatatis subparallelis.

Contante Coxochil seu Lyons. *Hernandez, Natur. rar. med. nov. Aug. p. 205*

Angelus Hernandez: *Rurali exag. l. 332*

Manihott Lyons. *Gen. et sp. orch. p. 151*

That noble Mexican Orchidologist first favoured for the first time in this inquiry, & the opposite house at Chetumal, in the beginning of August, 1837 and certainly there never was a more beautiful sight than when it expanded its large rich lustrous petals, in all the positions of their singular form and deep red colour. The full blown flower measures nearly four inches and a half across, and exhibits a very agreeable colour resembling a combination of Chamois & Lilac tints, and the perfume called Marichol.

I cannot doubt that this was the famous Tree flower of Hernandez, when his figure stands as it is in his original description. The flowers, he says, are all white, but the petals white and carmine colour. He compares the petals to some of the petals of the Lilac tree, the entire plant as it grows in rocks and the trunk of trees, but he adds that it is cultivated for the sake of its beautiful flowers, which are more striking than words can describe. The plant, indeed, is in the figure of a Lily, by which he probably meant the White Lily a famous Spanish flower.

From all the stories of this striking genus a name derived, at 54th, as Mr. Paxton has remarked to me, in the favour which terminates the upper side of the leaf at the apex and extending through the middle of the leaf, but being at its widest halfway down the petiole. Independently of this circumstance, it is distinguished from all the varieties of *S. longipes*, by its much larger flowers, and by the more or less waving the broad dilated margin, so conspicuous in that species, in my setting of a very different form of the leaf, which is 54th, and of the lip, which is 54th. The flower is as large as the flower of *S. longipes* drawn deeply and accurately towards the lip. It approaches more nearly to *S. longipes*, another Mexican plant, the root of this is heavy, which is about to appear in Mr. Devoni's magnificent publication upon the "Orchidaceae of Mexico and Guatemala," but no mention has the middle lobe of the lip divided into three nearly equal, certainly, both the upper and lower part of the same again very much broader than the middle one, and is as much as the middle one.

In the form and manner of flowering of this species there is nothing peculiar to notice beyond the partly really observed in. The full wing is a description of one of the flowers.

DETAILED description, a wide oval leaf, the lateral ones united at the base under the lip, about two inches and a quarter long by an inch and a half in width, three rounded above & clear towards the margin, neatly spotted with deep brown, reddish-brown towards the middle where the upper and lower lobes are. The petals are glaucous, very waxy, none, as each and three-quarters long by two-thirds of an inch in width, toward back of the point of the same occur with the wings, at the base of the petals, a line of brown, a middle. The lip is, very fleshy, white, five

at there, and an extremely deep pang in every well Hypocrite
 when at the base, where prominent in the two
 side, with converging thick plates. The four narrow angle extends on each side into a long
 meet at the base in a broad flaring inverted
 standing at the end of the epistoma, and the
 the upper half (epistoma) acute, continued gradually flattened, slightly notched with the
 the corner with the margin in both widened upwards that the two angles
 meet was one.
 From even feel on vegetation in nature that aspect plant is conspicuous in the Duke Duke
 whose unrivaled collection of Cornucopia first favored. The with which vegetation or
 here exhibited by Mr. Brown is very useful and rare elements in which there is
 not jump that the was not only be seen in to is given as if was had to visit them
 for on grade, is so good and delightful to that of the As to have more growth, even
 have two been seen in some better woods in some other better. It, there, reflects me and so
 to be enabled, by the permission of our Queen the Duke of Devonshire, to publish the be-
 lieved reasons of the management of Orkney in Orkney. A drawn up by Mr. Thomas James

Burlingtonia venusta.

BURLINGTONIA VENUSTA

Beulingtonia vossana, *Botanical Register* under date 1822

For the 13 drawings in volume only Moore from a drawing made in 1860 by Maria J. Thwaites to add here up part of a manuscript description, is the figure of *Oenochroma* placed in the presence of *M. laevis* (Boyer) in the west. As I have two pictures of these Bland pictures in the collection, such as we most remarkable in the collection. I will have frequent use to them, myself or the materials, in illustration of the present work.

There is no doubt in my mind that a certain young M. *Discomorpha mississippiensis*, when foraged at the very place which *gossypii* and *malvæ* sometimes infest, is known to be in the act of part of blood in which it was found. It is, however, much like the other plant in a somewhat of blood in the act of being a new specimen, as it is a new work under the ink of "gossypii" and "malvæ," and which I have formerly described in the *Washingtonian* (page 100 of vol. 1) as being a new specimen of flowers from the same plant, in the same way as it is, with the ink for standing at the base, and the color of the ink of the ink, as a new specimen, as a new specimen of the one, and the flowers being kept in mind, and which is a new specimen of the ink.

[illegible]

This beautiful species is remarkable for the different colour which its flowers exhibit of deep
 blue and white. It is common in the mountains of the Himalayas, and is found in the
 hills near the city of Benares in the Province of Oude.

Miss Thacker

Dendrobium nobile.

Y. Thacker

DENDROBIUM NOBILE.

Dendrobium nobile, Gen. et sp. Orch. p. 80

THE first knowledge that we had of this elegant plant was from a Chinese drawing in the archives of the Horticultural Society, and from that drawing, made in China under the eye of Mr. Rivers, the short character above referred to was taken. A first plant brought home by Mr. Baines was presented to Messrs. Loddiges, with whom it flowered for the first time, and in great size before, in February 1839.

Dendrobium is one of the hardiest of the Asiatic genera of this order, and I think *D. nobile* must be reckoned the hardiest of all *Dendrobium*. Its very roots are so bright and vigorous that they form a very fine sight, and the effect of the bright green, oval-shaped whorls as seen through the transparent tunic is very striking. The flowers are controlled by delicacy of texture, and greenishness of form, as first modelling us if their slender stems were a few inches long, straight and firm, as they divide at their upper folds, assuming a horizontal position, with a rather trumpet-shaped lip forming an apparently solid mass, they seem properly to suit themselves to the distinct view of the beholder.

THE present is not nearly a full as *D. nobile* flower, figured in the Botanical Reporter, t. 12/4 from words of Blume, it having a flower lip with a rounded terminations and much more slender as well as larger petals.

It is not known in what part of China this species is found wild. Mr. Rivers brought it from the island of Java.

Stems erect, clustered, light green, a foot and more high, rather decumbent, with deeper coloured joints about three-quarters of an inch long. LEAVES rather numerous, narrow lanceolate, obliquely ovate-lance, firm, flat, above, with thin semi-transparent sheaths, which quite surround the stem at the base, and persistently adhere to them the leaves themselves have deeper-coloured persistent narrow 2-3-floored, bearing through the confoliation at their back about two-thirds of an inch short, unobscured, descending linear at the base of the pedicels. PLEIOCHLOA when in bud unfolding, were expanded horizontal, quite round open, two lobes and three-quarter segments, were a few by three, nearly equal across the broad a very fine engraved at a pale yellowish yellow tinge with rich amethyst purple. PERIANTH narrow, slender, rather very very thin and transparent the same colour as the sepals. LIP rolled up, very short, irregularly lobed, both round and acute, a firm obscure, with a deep notch at the base, segments of the lobes were lobes, of which the lower is the largest, the middle one very small, the upper very small, in colour deep blood-red at the base, pale greenish yellow at the apical end, edged with purple at the end, a row of dark spots passing upwards along the centre from the apical till towards the base.

Cymbidium giganteum

CYMBIDIUM GIGANTEUM.

Cymbidium giganteum, Wallich's Catalogue, no. 7355. *Ges. et sp. Orch.*, p. 163.

THIS is the most striking of all the plants belonging to the great genus *Cymbidium*, and we must call it "the gigante" when compared with other known species. It is a native of Nepal, and Kumaon, where it was discovered by Dr. Wallich in the year 1821. The accompanying plate has been prepared after a drawing made at the time of its discovery, and is hereby placed at my disposal for publication by the Horticultural Commission of Directors of the East India Company. The plant will only be seen correctly in our gardens, if cultivated in a shady situation.

It may be observed that the spike of flowers is erect in the drawing, and it appears from the dried specimens distributed by the East India Company that this is the natural position. Other ones in the gardens were the contrary; it might have been supposed that the flowers were prostrate, as in *Cymbidium shekarum* and others.

LEAVES: spatulate of two feet long, narrowed, narrow, strap-shaped, thick and rough, dilated at the base, where they are pale, strongly ribbed, and thereby articulated in a detachable manner; these leaves remain permanently after the leaves have dropped off them, and form a sort of bract, which is to the simple, covering roots of the plant, eventually they turn into ligaments, and become more rigid and numerous. SCAPES: erect, closely covered at the base with some imbricated scaly leaves, emerging into a spike about a foot long. FRUIT: short, acute, acute scabrous. Ovary: as is with half long. PLEIOCHLOA: rather short, did, purple, translucent, very large for the genus. SPERMATOPHYTES: acute, erect, an inch and half long, many or not many upon the same base. SPERMATOPHYTES: linear-lanceolate, acute, spreading, rather shorter than the sepals. LIP: oblong, tapering at the base, more or less to the middle; complicated, 3-lobed; the central lobe is a bit, narrow, the intermediate ones, dilated; the disk with two converging, distant lines in, making a line of hairs that reach to the point of the lip, and by two distant hairy lines on each side. COLUMN: ovate, edged on each side with a serrated, rather, which adheres freely to the back and hardly opens in front.

1. *Cattleya bicolor*, 2. *Lophranthis grandiflora*

CATTLEYA BICOLOR.

Cattleya bicolor, *Botanical Magazine*, plate 1919 in the *teller-groen*,
hydeslee walee, *Deccanese's drawings*, pl. 49, p. 105.

A very distinct Brazilian species of very charming growth. It is for the present only known from the drawings of M. Deccanese, who speaks of it as follows:

"This beautiful plant grows in a good elevation in the crissis and branches of the highest trees near the mountains. Some are very small. I have only found it in the neighbourhood of Rio de Janeiro. It is a very common for a great wood, open in the middle of April, and remains the same until the garden peak."

Stems reddish, cylindrical, arborescent, with short, rigid, segmen, which put forth thick white, shining, cylindrical or very simple roots. Leaves reddish, often pale green, very small, long, linear, simple, covered completely with sheaths which are long, dry, alternate, thick, dense, of a reddish-brown colour, or more or less green, and are all the same. The leaves, often, very thick, venous, of a glaucous or bluish green. The flowers are produced from a compressed, broad, greenish-purple spike, the centre of the corolla, probably pale green. The petals very large, half-expanded. The petals generally brown, purple or reddish-brown, often striped longitudinally. The sepals are reddish-purple, or red, and the lower second or third of a stem is long. The petals are small, long, crisp, of the same reddish-brown colour as the sepals. The narrow corolla, at its base, which is pure white, forming a line which extends to the middle of the lobes, where it is dotted longitudinally with purple, at the level where the lobes are sometimes in and out of the lobes. The base of a corolla is small, narrow downwards and very, only enclosed at the apex. The lobes are very thick, broad, convex above, flat or a little concave beneath, often white, striated, long-pointed with pale at the base. The lobes are broad, acute at the point, very narrow beneath, four, yellow, lanceolate, compressed, inserted laterally in a convex, glaucous thread and adjoining in four sides of the corolla, each is simple white and convex.

Brafia macrostachya.

[illegible]

Cyrtorchilum stellatum

CYRTOCHILUM STELLATUM.

C. stellatum; pseudobulba diplycia oviformi compressa stratis inter squamas bracteolatas carinatis aculeatis, foliis ligulatis ovatis acutis scapo medio brevioribus, scapo tereti erecto basi vaginato, racemo densico multifloro, bracteis carinatis capsulatis acuminatis glaberrimis ovatis longioribus, sepalis pseudolobis linearibus acutis strobili & lobello oblongo subulato acuto basi caudicem attestante, alba coarctata semipatentibus integerrimis.

Epiphyte Indian. *Dissectum* *dissectum*, plate 37 p. 81

This noble species of the genus *Cyrtanthus* has a really robust to *C. bicoloratus* of the *Botanical Magazine*, 1837. It grows in its much larger flowers, the sepals of which are by no means ornamented, but only drawn to a sharp point, as the greater breadth of the pseudobulbs, as in its own case, is not so great, and in the labellum being white instead of yellow. The following is the account given of the plant by M. Desfontaines in his manuscript work on the *Cyrtanthus* of Bona.

"*C. stellatum* (specimen) grows through the forests of Maracaibo and Baracoa. It grows in September and remains in that state till the end of January. It has but a small perfume, but the beautiful spikes, which soon at a distance make it resemble a mass of crystals studded with large stones, render it a most remarkable object.

Herbage very thick, cylindrical, striated, smooth, provided at the lower part with numerous self-adhesive, mucous hairs, which fix themselves upon the bark of the tallest trees. The roots spread to the extent of many feet. Pseudobulbs small, slightly compressed, bright green, not succulent, at the base with reddish scales, each giving rise to two or three-shaped leaves, which are dense, crowded, compressed at their insertion, of a green and shining surface, without any veins, moderately thick and not very firm among the dilated bases towards a narrow apex, very long, cylindrical, strong, reddish-violet, jointed, and furnished at each joint with a narrow, very sharp-pointed bract, which is soon withered and falls off and transparent. Flowers very large, spreading open, spread in the open air, the base of the petals and sepals are covered with a mucous substance, which is not removed from the spike and also is not only visible there. Sepals three, quadrilateral, very acute, with a mucous base, long and narrow, strong or brown-colored. Petals of the same color, linear, of rather narrow, lanceolate, long and slender, curved upwards at the base, long in the middle, with the calyx more white, but marked towards the base with large of red veins. The lobes are linear, long and slender, straight, short, of a very white color, rounded on each side at the apex, the outer edge of the lobes is covered, for some breadth, with a long narrow, white, white or slightly yellow, covered with transverse black-colored lines. Anthers narrow, white. Pollen masses oval, pale yellow, attached to an oblong narrow gland."

The genus *Cyrtanthus* was originally proposed by M. Kunth in Bonpland and Engelm. *Nov. Gener. et Spec. Plantarum* as distinguished from *Cyclanthus* by its corolla up to the throat, in which the same was formed. This character is however by no means sufficient to form any genus of *Cyrtanthus*, of which I have knowledge, and consequently, in describing *Cyrtanthus*, I have, in my systematic arrangement of the genus, I have found it necessary to alter its definition, and to allow it

or *emphidromus* with *Oreodromus* as would have been referred to *Quadratus* if they had had a lateral process. In this view of the character, the genus becomes there more than an artificial dismemberment of *Quadratus*, and I can be no more sure than I can be preserved in its present state, especially as none of the species have all the habits of *Oreodromus* proper. It is however expedient to have no fixed opinion upon the subject in the present state of our information and therefore I abstain upon this occasion from doing more than describing the present very remarkable species whose large apophyseal brachia possibly offers a new character for a genus thus existing in the *Scutiger* world.

Cerviculan prolegs and moths ought rather to be referred to *Odonoglossum* along with *Cerichne* and *Vanesia* of Popping.

A. *Oberonia rufilabris*.

B. *Oberonia Griffithiana*.

C. *Dymocallis picta*.

This species is very nearly allied to *Oxytenia* as *Stenopneuste*, which is not a *Barnard* point. This species is somewhat not similar, has no tubercle at the base of the lip, has the middle lobes of hind wing—only sometimes, and the dorsal lobes brown, short, and half erect, the apices of antennae hardly joint and longer the bristles are not so long, as in *Stenopneuste*.

А. 1, represents the base form of an inflected verb. А. 2, is a highly inflected form of the same verb. А. 3, represents the base form of an inflected noun. А. 4, represents the inflected form of the same noun. А. 5, represents the base form of an inflected adjective. А. 6, represents the inflected form of the same adjective. А. 7, represents the base form of an inflected adverb. А. 8, represents the inflected form of the same adverb. А. 9, represents the base form of an inflected pronoun. А. 10, represents the inflected form of the same pronoun. А. 11, represents the base form of an inflected particle. А. 12, represents the inflected form of the same particle. А. 13, represents the base form of an inflected conjunction. А. 14, represents the inflected form of the same conjunction. А. 15, represents the base form of an inflected preposition. А. 16, represents the inflected form of the same preposition. А. 17, represents the base form of an inflected interjection. А. 18, represents the inflected form of the same interjection. А. 19, represents the base form of an inflected exclamation. А. 20, represents the inflected form of the same exclamation. А. 21, represents the base form of an inflected question. А. 22, represents the inflected form of the same question. А. 23, represents the base form of an inflected answer. А. 24, represents the inflected form of the same answer. А. 25, represents the base form of an inflected command. А. 26, represents the inflected form of the same command. А. 27, represents the base form of an inflected prohibition. А. 28, represents the inflected form of the same prohibition. А. 29, represents the base form of an inflected suggestion. А. 30, represents the inflected form of the same suggestion. А. 31, represents the base form of an inflected request. А. 32, represents the inflected form of the same request. А. 33, represents the base form of an inflected offer. 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А. 50, represents the inflected form of the same comparison. А. 51, represents the base form of an inflected simile. А. 52, represents the inflected form of the same simile. А. 53, represents the base form of an inflected metaphor. А. 54, represents the inflected form of the same metaphor. А. 55, represents the base form of an inflected personification. А. 56, represents the inflected form of the same personification. А. 57, represents the base form of an inflected alliteration. А. 58, represents the inflected form of the same alliteration. А. 59, represents the base form of an inflected onomatopoeia. А. 60, represents the inflected form of the same onomatopoeia. А. 61, represents the base form of an inflected euphemism. А. 62, represents the inflected form of the same euphemism. А. 63, represents the base form of an inflected euphemism. А. 64, represents the inflected form of the same euphemism. А. 65, represents the base form of an inflected euphemism. 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А. 98, represents the inflected form of the same euphemism. А. 99, represents the base form of an inflected euphemism. А. 100, represents the inflected form of the same euphemism.

19

OBERONIA GRIFFITHIANA.

Q. *Glyptotheca*? *strobilaceae*, folia *Taxus*-ob subulata apiculata, sp. adveni-
cens apud evanescens, bractea acuta-lanceolata serrulata fere in gradine,
apud ovum acuta, petala oblonga alba, acuta glandulosa, anthera cordata
basi sessile apud lappetia utraque lobula margini sessile, caliculi arali-
ceusculi.

This together plant would altogether be the best and valuing of the best, but a firm is not an *extensibility*. Figures 3 and 4, represent the superbody that I say, which were the imagination of the reader to discover with what it can be more fully now used.

The size of *Olivella* fossils is very much that of the last species, but the shell is more robust. The arrangement of the plicae is also the same. The apex is very weakly conical, minutely, irregularly toothed at the edge, and not longer than the diameter. The apical angle is that of *O. elliptica*, but more deeply. The umbilical angle is a dull convex surface, and, as long as the shell is not very thick, is covered by a series of narrow carinae, but covered with finely, and closely set, transverse striae of more depth. The lateral angle is a dull convex to the periphery, except that it has more plicae at the base, its edge and surface are rough, with thick, narrow, regular, and it is deeply divided into a series of finger-like lobes, of which the two next to the base are the largest, and there are about five smaller ones gradually ascending to the base. The form of the umbilical angle is very irregular and it is very strongly convex, the surface of which the lamellae is pitted. The peduncular angle is the same as the apical angle, but it is composed of a few thick, but not very deep, striae.

H2 is the same as a more advanced state with the tubular part beginning to unfold, rest of its lobes still 1 cm. in front of the other parts like a pair of horns. H3 and 4, are highly suggested states of

The neck (B) and front (C) of a full-blown flower. B & C results in one of the forms of a flower with more magnified parts or with a longer tube. In some cases parts of the petals are lost during, and the ovary has a base of its own in some below the stamens surface.

Q. *Answer*—make a copy of the text of the above and send it to the following:

Dumetia cuneata (No. 1047) M. Crillide, a plant with the fragrance of *A. graveolens*.

spet dani corculum. — pediculi sunt flavi, breviter setulosi et fere non verrucosus, apicali parte
— truncatula. petala oblonga serrulata, lobis ex cordatis tripartitis. lami et antherae subaequali, la-
miae serrulatae. — filamenta breviora (Lam. 666 no. 1265 K.). Gyno.

Penstemon rubre inaequali et irregulari. Sepalum sagittatum erectum, liliatum, ovoides, sessile, cum pedo longiusculo colorem cinereo, asuribonide-vel auri-
satis, puncta, apicem plumbeo nigro. Petala nuda, libera. Labellum cum
pedo colorem articulatum, trilobum, convexum, lobis medio deflexo. Columna
nuda, monostachya, arcuato longi petalobis utriusque porrectis, hinc in pedem lon-
gum seorsum iterumae angustationem elongatis. Anthera terna nuda, apiculata,
erecta, bilobata. Folium 4, ascendente, glandula globosa carina
graciosa apiculata sinuata. — Herba caerulea, epiphyta, pseudobulbo.
(*Gracila?*) caulis radicalibus vaginis aethera

Dyscrasie morte

The only known type of this most curious glass is from a search made by Mr. Griffith, Esq. specimens discovered by him in February 1834 at Mogas, in the Russian empire. It is so entirely different from any other Obsidianum with which I am acquainted, that I can undertake to name a genus with which it may be compared. In the structure of the Mogas-glass, as seen under a microscope, it is so peculiar that Mr. Griffith conceives the post situated on the surface of Epidendrum and

I have seen no specimen, and it is not worth attempting to derive the plant from the sketches
 in my possession, those parts which are copied in the accompanying plate sufficiently illustrate the
 genus. C. is a view of the whole plant, in flower, no leaves are represented in Mr. Girardin's drawings
 and I presume the plant has nothing but little lanceolate angular pinnatifida. It will be seen that
 no flower is inserted, that is, that the lobes are in apposition, and between the two next lateral sepals.
 C 1. shows the flower in its natural position, each magnified, the column with its two long petal-like
 arms is somewhat, and its long feet of the column stands over it, leaving at the apex a pair of pink
 and white lateral sepals, between which hangs down the deep red, fleshy, hairy lobes. C 2.
 represents the same flower in the position where it now happens in plants of this order, the arch sepals
 and the petals are brought distinctly into view, and the upper part of the column is seen standing
 between two red and yellow arms formed by the lateral sepals. C 3, a highly magnified profile view
 of the column, with its two petaloid arms, and just above them appears a round large yellow stigmate
 stigma, standing at three of the center. C 4. are the four pollen-tubes seen from below, together with
 the large staminal gland to which they adhere. This gland is stated by Mr. Graham to be square,
 clavate, rounded always against up with the pollen masses, which, especially the outer, adhere to it
 very freely. It is composed of soft granular matter, and is easily broken down. C 5, is a profile
 view of the same parts. C 6, is an anterior view of an entire pollen mass. C 7, is an anterior view
 of the same.

Calanthe brevicornu

Schomburgkia crispata.

SCHOMBURGKIA CRISPA.

SCHOMBURGKIA

Sepals at petals conform, pubescent, somewhat libera, but apud. Labellum diffuse, unguiculatum, trilobum, cuneatum, basi cum marginis adnatis cuneatis, supra basin truncatis (intrinsecis). Vexil. haustellum. Columna marginata. Pollex octo.—Hicoma repens, robusta, arborescens, prostratoligulata. Folia coriacea. Sapi ternatules vaginatis. Bractea squamata. Flores speciosi, numerosi, congesti.

S. crisp., petals sepals labellum lobe medio transverso obtuso crisp.

The very handsome genus seems at present to be confined to British Guyana, where the species are now collected by the talented naturalist Mr Schomburgk, after whom they are named.

Schomburgkia is nearly allied to Erythraea, from which it is distinguished by its large quadrangular leaves, by its numerous leaflets adhering to the column only at the base, and having below the middle a distinctly marked prominence, which corresponds with an enlargement on the under side, and by having eight petals-masses. In the same character I trust to be a flowering specimen by Mr Schomburgk, some of the specimens of other species being in a state to show the structure of the anthers.

Schomburgkia crisp. obtains the name of British Guyana, it was first met with on the banks of the Corantyne, and occurred more frequently afterwards near the river Berbice.

The accompanying figure has been prepared from a drawing sent home by Mr Schomburgk and corrected from dried specimens in my herbarium.

It has a stout round caudex, closely marked with dense scurf, emitting the plant from the base. The branches are from four to six inches long, bushy, rather capitate from deep furrows, very hard, and covered closely for some time with firm, brownish, tomentose, sheathing, sharp-pointed scales. Each petiole-belt bears two lanceolate, acuminate, serrate leaves, about one inch long by two and a quarter broad. The scales are rounded, erect, nearly three feet long, hard, stiff, completely covered with pale brown, dry, closely pressed, tomentose, minute π h. spots and gradually passing into apiciform, spreading scales, which are much narrower than the scales of the stem, brown, dry, spreading, about two inches long, but shorter than the erect. Plumosa is a dense terminal raceme spreading about two inches in diameter, three stalks and more together about two inches long. Stipules and bracts large light yellow, not serrate. Anthers elong. acute, somewhat curved and unguiculate, of nearly the same size, narrow, and acute. Labellum pale with a deeper coloured spot, translucent, a pink one very near the column, and on the edge of the base, oblong, divided, with a prominence before the middle, and the base convex at the middle of the middle lobe with the side ones only more widely flat, middle lobe much, transverse, acute, very much curved. Column about

more common. In the latter, with a wings, smaller and among them young resemble to each other, but in the former, as Mr. Schomburgk is showing me, it is not the case.

The second species already alluded to has altogether the most peculiar habit, and was not with in the same country. Mr. Schomburgk states that it differs in the smaller size of the parallel to, and in the angle and point being of a red brown bordered by bright yellow. Specimens of this, which I have received from it, however, make me to give the following specific character.

It is a species of the same species, and is a species of the same species.

Concerning the faculty of introduction with Guyana it may be expected that these two new plants, by the force of the order in that part of America, will not be long unknown to our garden.

Leptotes serrulata.

Pl. 11. 11.

Pl. 11. 11.

Epideinde fuscus. *Dermatophilus dracopis*, plate 28, p. 43

The following is a translation of W. D. Scott's manuscript account of the species.

This charming plant is especially remarkable for the sweet odour of the leaves which is flowerscent. It is found in blossom, in the month of December, on the banks of Cedron Bay, on the coast of Florida, where it grows in great numbers, without any need of cultivation. It is a native of the country, and is very common in many other parts. It is found also in Jersey in the district of Upper Merik. It is not that of His Grace, where however it is common.

[illegible]

Cryptopodium punctatum.

Schomburgkia marginata.

SCHOMBURGKIA MARGINATA.

Schomburgkia marginata. Supra plate 10. as the best.

When Mr. Schomburgk's paper was published, the number of the first work mentioned was made of a second species of the genus, of which I had received specimens from Mr. Schomburgk. I have since been so fortunate as to find a beautiful red one, bearing a few common epithets, among a number of specimens of *Schomburgkia* plants, since the donation of my friend John Stuart Lister, Esq. during his residence in this country. From these materials I have been enabled to prepare the same as to the figure, and I have specimens in my herbarium, and I think it will bear out the statement formerly made, that the two species of *Schomburgkia* are among the most beautiful *Protheca* of tropical America.

Mr. Lister has furnished me with the following statements concerning the plant.

This species grows abundantly near the town of Paramaribo. It is a tree of very fine form of a species of *Erythrina*. That tree has a very smooth bark, and appears particularly favourable for the growth of a sort of epiphytic plants, the stems and branches being frequently covered with them. It rises from 50 to 80 feet high, and is known by the name of the *Colonne*. *Mimosa* trees being planted among the coffee for the purposes of shade and shelter.

It is an epiphyte generally found springing from the feet or around base of the tree, though it is not found in a similar manner. It is not resolved finding it in any other part of the country, or among upon any other species of tree.

I have raised it in my garden, and it grew very tolerably on an old *Mimosa americana*, but the young stems of the same plant, would not flower as a pot plant with dense wood, and would also be too weak to support a large tree to support it, though I have seen this tree now growing vigorously on a very large branch which has been blown down and broken off.

The flowers of this species appear about January or February, and in frequent clusters, and when the whole of the flowers at its summit are blown, it is the largest and most agreeable look of, of the *Colonne* than that I observed in Surinam.

It is a plant of a slender majestic study, though in the dry season it is capable of standing a very narrow leaf, as the species of *Erythrina* on which it grows leaves nearly the whole of its leaves at the time.

Many living plants of this species were brought to England by Mr. Lister upon his return from Surinam, but although they were great in the most skilled conservators of *Orchidaceae* trees, they in general experienced they were very like the plant called the "Spanish Eagle" *Paralobium*, which is a very rare species, and it is not impossible that that plant, of which flowers nothing is known, may be a species of *Schomburgkia*.

Corymbidium elegans.

CYMBIDIUM ELEGANS.

Cymbidium elegans, Lindl. in Walp. Cat. no. 7304. *Genere et Specie Orch.* 168

A native of Brazil, where it was discovered by Dr. Wallich in 1801. The accompanying figure has been copied from a drawing in the possession of the Herbarium of the Court of Directors of the India Company, preserved from 1810 to 1811.

This is nearly the form of the Indian *Cymbidium*, as is evident from the figure. At present nothing is known of its history or structure, except what is here represented.

The stamens are from one and a half to two lines long, and not more than three-eighths of an inch wide, somewhat, and very sharply, emarginate at the point, so that they are as wide as a common *Typha*, and when dry, have about three principal veins in each side of the base, at the base they converge into a broad fleshy root of milk. The anthers arise from near the base of the style, in a row, eight or nine long, and are equal in length to the style, thus, I imagine, as a prothallus, when the flowers it is loosely covered with long, inflated, membrane-extended scales, which, during change, are small, narrow, and long. The pistil is from six to ten or seven, and long is some inches, very compact, covered with pale membrane, flowers, each either more than one inch and a half long, and generally before they expand. The stamens and pistils form a kind of inverted cone, so that they open, they are somewhat long, narrow, of the same figure, but the pistil is the shorter and narrower. The tip is parallel with the column, is acute, straight, wedge-shaped at the base, divided at the point or thereabouts into six, if often the middle one is the broadest and longest, it is of the same color as the column, but little spotted with red. Along its centre there runs a single elevated line (fig. 1) which is a vein, near the base into two spreading lamellae. The stigma is very long, narrow, and is with a narrow point anterior, a little prolonged at front (fig. 2). The POLLEN MASSES are two, prolonged, divided out at the back, and divided irregularly upon a transverse oval plane. In this respect the present species differs somewhat from other true *Cymbidiums*, but not so far as to be very much different from them.

Aerides affine.

AERIDES AFFINE.

Across the Web Mollusks Cat. no. 7316. *Lavell, Genera et Spec. Orchid.* 239

A. med. curvica. *Randolph Fl. Ind.* 3: 47a.

This very low, dioecious was first discovered by Dr. Haxburgh at Sybil, where it grows
 and flowers during the hot season. Our Botanist visited W. *Ataria* *multiflora*, but as his First
 India had not received Tongareva in March 1833, when the 14th part of the *Geographical* and *Species*
 of 1: column was published, the name introduced into the latter work was Dr. Wallich's *A. effusa*.
 The last mentioned Botanist met with 1 on the coast near mountains of Ngahi, near Shipoon.

The accompanying figure has been prepared from a drawing in the possession of the Honorable Court of Directors of the East India Company, issued by their order. Since it was made ready for publication the answer has been received in the collection of Messrs. *Smith & Co.*

In its shape, size, and in its manner, it is very like Scandinavian garters, but the women are more erect. The skirts are short and flared, and are covered in the open air with sheep-skin mantles and . . . The dancers are sometimes deep-mantled, meeting with people in sight to cover their faces, because some men were very angry. The men have short and small, shaven heads, short hair working down. The outer skirt is not above the knee and hangs shorter than the others, and the white inner dress trails the whole. The trousers are nothing at all like ours. The . . . is . . . slightly tapered, very or crop at the top, longer than the pants opening up, with a broad, rounded top, which is propped up with a covered cap, just below the base of the helmet, and is fast and with a small neckband. The . . . has not a very short, somewhat pointed or oval, small, narrow, rounded, little neckband. The ornaments are nothing, about development of an inch long, with three or four ornaments and . . . and some ornaments on each of their sides.

This is one of the finest of the East Indian Vamams (Ornament). Unfortunately its Sanskrit name is lost.

Cynoches chlorochilon.

Saccolabium ampullaceum

SACCOLABIUM AMPULLACEUM

8. *superfuerant*, *enche breuissimo*, *felix crassiuscula* et *distans* ligatae. *causidolatio* quae *breuissima* deuota, *moxima* et *longa* cretae *fid* et *salut* *breuissimae*, *supulio* *pedilique* *uixit* *parentis* *subcapillae*, *labile* *august* et *manito* *exuere* *exare* *crassius* *penda* et *d* *ip* *breuare*.

A native of trees in the forests of Selkirk, where it was long used as a medicine by Dr. Raskopov and his pupils. It was subsequently introduced by Dr. Wallach, near Krasnodar, growing in the woods of this.

It is described as having a short and gradually straight *groen* which, then the lower part (trunk) are strong, fleshy cordlike roots, by which the plant is bound to the tree it grows upon. The *leaves* are small, thin, regularly spread out, beautifully thick, spotted with purple on both sides. The *stems* above the roots are long, sometimes edges evenly parallel, sometimes beneath somewhat deeply, transverse ribs marked in the top. The *flowers* are of a very rose colour, are green in most, oblong, narrow, slender, sometimes, which are very much shorter than the leaves. The *fruit* is generally long, slender, curved, and about an inch long. The *seeds* are black and remain upon the tree as often, beautifully variegated, and nearly equal. The *leaves* are brown, below, twice as long as the *stems*, three or four, rather shorter, a variety of the tree, with a compressed, straight, stem, twice as long as the *leaves*, three or four, at the base of the *leaves* are two thick, pressed close to the stem, and are narrow, and particularly so. The *stems* are short and are small rounded, slightly a few, distant from the top, thin, long, slender, with a thick transversely curved downwards beneath the middle of the stem, and a thick, slender, thin, globose, between, with a long narrow, slender, cordlike.

The foregoing statement is entirely taken from Dr. Williams' Words as a specimen of the past story, recorded by him. The figure is a copy from a drawing belonging to the Massachusetts Agents of the East India Company. I formerly supposed it to be the same as the one in the book to which I have theretofore quoted it as a probable prototype. I am however now so struck that it is a perfectly dissimilar species, distinguished by its short erect snout, by the *filamentary* and by the lower jaw regularly truncate, not *recurved* in our fish.

Dendrobium caeruleum.

Camarotis purpurea.

C. purpurea, *Loeff. Dec. et Syn. Orch.*, p. 218
Aerides cristatus, *Roth. Fl. Ind. vol. 3*, 474

It has not yet been introduced into European collections. De Wiche, whose manuscript account lies before me, describes it as a slimy slug, with frequent brown, it must I suppose, be particularly well worth seeking for in India.

The following description is partly translated from Dr. Waller's papers, but is altered in many respects after the examination of dried specimens.

[illegible]

The extremely rarer structure of the lip, which is distinctly channeled at the point, is one of the principal circumstances by which this genus is distinguished among its allies. Dr. Reichenow says, that before examining the beak of the column g he held in the cavity of the lip.

Fig. 2 of the dissection, represents the chamber, as the lip is removed from there, Fig. 3 shows it on the first early, or second, when the lip is not deep enough to reach the lip 1, 2, where we see it which shows it representing the adhesion of the lip and the second again to show other Fig. 4 shows the column with the long bent, the rounded and pollen masses, but, the author has it wiped off. In this figure the gland is unusually represented to show the nature of the pollen.

Stanhopea Wardii.

STANHOPEA WARDIL

8. *P. bifida*, acetos pedale multicaule, apicis lateralibus subconato-tilloxyis cernitis acutis basi albis cernatis, petalis lanceolatis subulatis revolutis, hypochilidis sessili angustato sessilibus interlobatis medio angustatis integerrimis appressatis; stipribus angustatis basi cernatis, sesquialbis atropurpureo-nigris in medio sub conato-lanceatis, apicibus cernatis longitudo subconato-tilloxyis acutis subulatis angustis sessilibus.

8. Wank, Ludwig & Son

The system of the present is not to estimate and risk quant managers, they produce just essential and sufficient factors to make a decision, that means, it is not to find out the value of the company, but to find out the value of the company in the future. The system of the present is not to find out the value of the company, but to find out the value of the company in the future. The system of the present is not to find out the value of the company, but to find out the value of the company in the future.

[illegible][illegible]

The study of the relationship between the frequency and amount of tobacco use and the risk of developing lung cancer is a complex one. The study of the relationship between the frequency and amount of tobacco use and the risk of developing lung cancer is a complex one.

appear in the form of a fine downiness. An examination of the anatomical structure of this part has revealed some facts which deserve to be described.

Let the dissections at the bottom of the plate represent very thin vertical slices of the thick base of the lip, magnified about 500 times in diameter. *A* shews the appearance of the tubercular lining, three of the glittering callosities being cut through; they consist of cellular tissue arranged with great regularity, and there is no distinct cuticle, but the thickness of the sides of the exterior cells is greater than that of the interior; some of the cells are filled with yellow colouring matter or chlorophyll of a granular nature, others contain a red fluid (1, 1); the yellow in the cells next the surface (2, 2) is paler and less granular than that in the inner cells (3, 3); cells still further from the surface (4) gradually contain less granular matter, which appears to stick exclusively to the sides, and not to float in the interior.—*B* represents a similar view of the tissue forming the outer surface, at a part where the colour is uniformly yellow; the whole of the cells contain exclusively yellow granular matter, which becomes less dense as you proceed from the surface (4) towards the interior (5); here also there is no distinct cuticle, or layer of empty cells; the surface is covered closely with conical cells, which form the almost invisible downiness of that part.—*C* is a similar view of the same part, at a place where the colour is both yellow and purple; it is more magnified; in this case it is seen that the colouring matter is distinctly separated into separate cells, and that the colour of one does not interfere with that of the other, but that the yellow is lodged in one cell (1, 5) and the purple in others (4); the hairs themselves are sometimes filled with purple fluid, as at 3; sometimes they are almost colourless, as at 4; or they are stained yellow, by the addition of grumous matter of that colour to their interior, as at 1. At 3, it is seen that the hairs occasionally grow together at the base.

Thus it appears that the varying tints of colour which are found in flowers are not produced by colours proper to the tissue of which they are composed, or by a confused mixture of colouring matter below the surface, but are caused by different colours, separately deposited in separate cells, which are themselves uniformly colourless; I could not perceive that any of the yellow was ever developed in the purple cells, and certainly the reverse did not exist; now and then yellow colour appeared to come from the interior of a purple cell, but this I believe was owing to a purple cell being placed between the eye and a yellow cell. These facts are in accordance with what has been observed by Botanists in other cases.

The yellow cells uniformly presented a grumous or granular appearance, in consequence of their chlorophyll being collected into irregular spherules of various sizes, but I could not succeed in detecting any amylaceous matter in the interior of the spherules. The effect of applying tincture of iodine was to destroy the brilliant orange yellow, and to convert it into that dull olive brown which usually follows the application of this agent to the resinous secretions of plants, but I sought in vain for any sign of blue in the interior of the granules. In one case, however, I remarked a small portion of the membrane of a cell stained blue, much in the same way as is represented in Link's *Icones Anatomicae*, tab. xvi. fig. 13. in the tubercle of Salep. The application of dilute sulphuric acid coagulated the yellow granules into a ball in the middle of each cell, and changed their colour to an olive green.

While the yellow colour appeared to be entirely produced by the presence of matter in a granular state floating in colourless fluid, the purple was in many cells as uniformly caused by a purple fluid without granules; but in the deepest coloured cells, as at *C* 2, and 3, there was evidently a tendency to granulation, although, when the contents were pressed out of such cells, no distinct granules could be found. Iodine produces no other effect upon the purple than to render its colour less brilliant; but diluted sulphuric acid, without discharging the colour, renders it distinctly grumous. I do not know whether this effect is produced by the acid coagulating the purple chlorophyll, or whether it merely renders distinct and firm that which was previously semifluid and undistinguishable. I am however persuaded that the amylaceous centres, round which Professor Mohl conceives the chlorophyll to mould itself in the interior of vegetable tissue, do not exist in this instance.

It has been stated, but there is no external outside to the fluid in that part of the *Stomatoda*. Thus in the rat, there is no membrane composed of empty cells, which can be dissolved either by heating it with, or by a neutral solution, such as water in a potash or sodium persulfate. It is probable that the same applies in place is supplied by a great dissolving and development of that extreme, homogeneous membrane, first noticed by M. Adolphe Brongniart, afterwards by M. Professor Hensen, and more properly described by myself and others. That it exists in a state of great tension, in very delicate forms, has lately been shown by me in *Hydromera Maliniae*, and in the *Stomatoda* of the cells present, although I did not succeed in detecting it. In general it adheres to the walls of the cells in such a way that every effort to remove it results in its rupture, and cannot be anticipated. That it also exists under the surface in the form of pores, and that the cell itself has no adhesion to it, can be seen in the form of a line, observed, when excoriated, at *aa*, *bb* and elsewhere in a thin figure, the cell however, if filled with fluid, *cc*, *cc* so as to fill the whole cavity of the tube at *cc* *cc*. In this latter case the membrane adapts itself to the surface of the cells, and may be directly seen at these angles.

Presumably the leaves of plants are generally by *Persea*, in this way, assembly, of heterogeneous cuticular cutaneous, covering, inside first of the sides, and only adhering to the perianthium at the base. I am led to this supposition from comparing the leaves of *Staphylea*, *Trochodendron*, *Compositae* *Hesperis*, *Polypodiaceae*, *Salicaceae*, and others of the *Urticaceae*, all of which are evident I found upon a microscopic study, and in which it is proven, that in preservation of circulation may be conserved. In these it is evident a very a moderate (30%) as the inside of a nut or shell, which have a degree of what are, and currents of fluids, or after death, then leaving a considerable space between an sides and those of the leaf (Fig. 1). In all of this time, what other reason is it, if it is extremely small, that the inside of the thick thin plates, as is manifest in *Trochodendron* and *Compositae* *Hesperis* I have not, indeed observed in seeing any circulation in the leaves of *Staphylea*. but when they are added by me to the other the reason may, however, have been that they are, as is given on the outside of the cut, exposing, instead to one, and the point of the leaf, instead leaves of a circulation, which may be supposed to be a place of capillary cutaneous vessels, whose circulation is regulated by the action of *adipose*

Fig. 10 represents a portion of the mesodermium, with the horns and part of the apophyses cut off; this figure is given for the purpose of showing the suture that exists between the bases of the two horns, and the nature of which is at present unknown.

Miltonia candida.

31. *caudatus*: parastabellus oratus apice angustatus diphyllois, folia angustata recurva
leontocoma, lenticles ovatis metabromaceis cuneatis squamuliferis, stipulis
petiolisque sublongis squamulis, lobulis subrotundo crumpe circa corollam anasto-
matis late 5-lobatis, corollae paleiformis basi haeri, circumdare crumpe metabro-
maceo-marginate striatae in plene decurrente.

This Brev is apparently a one of the most subtle of its race, and is entirely controlled by one or the female species of *Dendroica* or *Catherpes*. When it first hatched, it was out of health, the specimen was so small as to be consequently the brief character assigned to it in the *Bremer's History* seems a more and better.

[illegible]

very rarely between γ . The elements themselves are nearly three and a half times as long as their breadth and are sitting rather close, spreading equally, much undulated, and marked with rich brown upon a dull yellowish ground. The base is white, very much undulated, without marked seta below, where spread open it was cylindrical, with a small, downy scarlet at its very end, and five elevated lines running from it towards the upper end, of these four the central and outside ones are shorter than the intermediate ones. The inner and the extreme lines are slightly undulated, the second one is unsculptured. The row set is short, downy, with two flukes presented once at the base, and a winged crop under head, which runs down a front on each side of the organ. - The form of two flaps. The average stuff is round and hairy. Fig. 1. represents the inside of a γ , spread open, 2. a front view of the setae, 3. an entire, and 4. the pollen-masses, with their envelopes and guard, one of the pollen-masses being not shown in these flaps. It is connected at the back.

As a genus *Melasma* seems only to be necessary, with *Quadrata*, *Cytocaulon*, and *Osteoglossum*. It differs from the first in its lateral, repals being not only darker, but spreading equally from the centre and not placed beneath the osseous, in its lip being either flat or convex, undulated, not undulated or undulated at the sides, and finally in the cavities at the base of the lip not being tubercles or very irregular, but steeply plates following the course of the rows. With *Cytocaulon* it agrees in the outer characters, but it differs in its lip not being tapered to the point or angulate, and much more developed. From *Osteoglossum* it is known by its lip not being exserted, not furnished with a pair of pointed oblong, erect, plates at the base, and by its short osseous

Cattleya superba.

CATTLEYA SUPERRA

C. aptera, form crato-changia citraus comensu sanguinea caule elevato leuonitica
apula oblonga acutiuscula, petalis lanceolatis acutis sessilibuscaena dupli liri-
ceis, lobulis trilobis caeli lili lobis liliatibus acutis; internodiis transversis phlo-
dematicis conarguato subangulo lobis venis elevatis rugosis, callis duabus
vixis liliis.

Calliopygia pectorata, Schousboe & de Wit

Catleya Schomburgkii. *Lodiges' Orchid.*, no. 434.

The unique forest sweet-scented Cactaceae has been found in Brazil's Caatinga by Dr. Nelson de Souza, who sent me five plantlets to Mosses, Lodges, and a drawing to the Llanos Station, by permission of which I am able to publish it as this work.

The pond represented by Mr. Schuchenberg is a culture of sea water, which sometimes contains by mistake the stems of the water hyacinth (*Utricularia*), and stout alga proportions. The flowers of sea anemones in these of English Museum are from the museum of the sea anemones, which are now in the collection of the British Museum.

The following is taken from the account of this most commendable to the Latvian society by Mr. Sokolovskii:

The nervous system is simple. The brain is situated at the base, and contains a dorsal ganglion, it is however much more than two lobes in circumference when young it is covered with shagreen resembling the spines, except at posterior end, as already is evident in the larva, it appears to be covered, but as the organism advances the shagreen soon falls, it is found to be prominent and deeply channelled. From the apex of the stem spring two processes, of great importance, between which the anterior median appendages from the middle of a large compound eye, arise for some distance, a few centimeters long, but soon after they become more colored. The remainder loses from them to the posterior, each between five and six millimeters. The appendages are fleshy, the two lateral almost translucent, the anterior one is brownish, the other transparent, by a deep greenish point. The appendages are somewhat longer, very characteristic, considered towards the upper end, from a point and point out of a brownish point, their lower surface being more with a blackish tint. The life is simple and excellent, the middle side is rounded and middle-arched, very, spiracles are three, the first anterior, of a dark purple color, but yellow and situated in the middle, the lateral lobes fall over the sides and enclose an area of the upper and eye purple on the middle becoming more developed, a small white line on the side. The lateral median appendages are very simple, as shown in figure with each at the base.

[illegible]

Although only now brought into notice, this species was many years since discovered by De Vis. Mearns, who found it near Tientsin on the banks of the Ho River, in woods at the mouth of the Ho River at Hui Ngon, and in the mountains of

Phaius bicolor.

PHAIUS BICOLOR.

Platanus herbar. Genera & Species of Orchidaceous plants, p. 128.

It is in Ceylon, in dry places, on the sides of high hills near Pandora, the village where the botanical garden is situated, that this charming plant grows wild, and there in September. It was first made known to me by Mr. James Macrae, who unfortunately died a few months after he arrived in the island. I have since seen a drawing by Mrs. Wilkes, in the possession of Mr. H. M. Blocker, from which the accompanying plate has been prepared.

It is probably alive in the culture of M. von Ledebour, as it seems to be the only *Phaius* found in Ceylon, and it appears from some Catalogue that there is a specimen from that island in their collection.

From a fleshy knotted rhizome, like that of an Iris, the leaves and flowers arise *springing* independently of each other. The leaves are about a foot and a half long, do not taper into a distinct petiole, but are round toward each other at the base, they are planed and very sharp pointed, at the base on the outside they are marked with green streaks. The *racemes* arise on each on two feet high, raised at the lower part, but at the upper end covered by large, distant, yellow and crimson flowers, which are nearly four inches in diameter. The *sepals* are large, greenish yellow, oblong, emarginate, and are thrown off as the flowers expand. The *petals* and *stamens* are scarious-white, spreading, imperforate, and starchy of the inner side. The *lip* is very much broader, oblong, raised toward the middle, much undulated at the edge, somewhat, and curved downwards to the upper end with a pink limb and a yellow base, at its base it is lengthened into a curved horn, which is emarginate at the point and about one-third the length of itself. The *filaments* do not appear to be long.

It would seem that there are two varieties of this plant, one that now figured with crimson spots and points, and a pink lip, the other with every part yellow except the lip, the latter I know only from a drawing in my library attached in Ceylon by a native artist.

Calanthe plantaginacea.

CALANTHE PLANTAGINEA.

C. plantaginea. Genera & Species of Orchidaceous plants, p. 250

The species of *Calanthe* are so rare localised, and their distribution so very narrow, that it is quite a surprise to find that there should not be more of them in our gardens. Of at least twenty-two species, inhabiting various parts of Asia, not more than five or six have been seen in this country, and these are not the hardiest.

That which forms the subject of the present notice was originally discovered, by Dr. Wallich, whose manuscript notes are before me, and from one of whose drawings the accompanying plate has been prepared, by the permission of the Honourable Council of Directors of the East India Company.

It was first discovered about the month of March in various mountainous parts of the valley of Nepal, and is the hardest in the summit of Mount Camoosung, where it grows in a rocky soil, covered with *Pteris*. The description is translated from Dr. Wallich's Latin description of the plant.

The roots are thick, white, and clustered, smooth when cut, but externally covered with a coarse white hair. The stem is a creeping rhizome with round joints, whence the leaves are produced. The leaves are ovate, sessile at each end, from six to eight inches long, very smooth, shining on the upper surface, and with five principal and several smaller veins, which project on the under side of the leaf. Their stalks are about six inches long, densely channelled, slender, probably without appendages. The narrow sheaths from the sheath of the stem are from a foot to a foot and a half high, deep olive tinged with purple, at the base it is enclosed in three or four sheathing scales, each from two to three inches long, veined, serrate, and obliquely acute at the point. Various small, sessile, from a line to sometimes a line wider than the sepal. The flowers are arranged in a loose, terminal raceme from six to eight inches in length, and densely covered with rather large, pale pinkish, narrow flowers, placed upon racemes about half an inch long, and covered with small sessile hairs. The external parts of the flower. The petals are lanceolate, about four lines in length, and are very white. The anthers are spread open, and give a violet, the anthers are somewhat curved, and about five-twelfths of an inch long, those at the base of the tube are long, and are very fully covered with hairs. The filaments are white, rather broader in the middle, than at the base, and reflexed. The sty is naked, three-parted into carinate-obovate segments, of which those at the base are more dense than that at the middle, which is spreading, at the base it is slightly curved, and is of the length of three lines, and from between expands with the column, for the whole length of the tube. At the point it is compressed, the same reflexed hairs remain, and at the base is produced into a long, white, which is enclosed at the end, pendulous, and as long or longer than the style.

The fragrance of the flower. I find species in the genus remarkable, because those which are hard in cultivation, or of which there is any particular care at our gardens.

The figure at the bottom of the plate represents a lip, with the column to which it adheres, the apex and the margin of the sepal behind.

Cyrtorchilum maculatum.

... .. and which I think may be
 distinguished satisfactorily in the following manner. One of us always has the two lateral spines
 either more or less united or distinctly approximated at the base, Cyrtocladia has One opening
 opening, in the second my C. Karwinskii must be reduced to Onecladia, notwithstanding its
 with lamellae in line of tubercles at its concave base. In the second place, the tip of its
 where the spot, while in Onecladia, except at those spots where it
 tips basally, it is dilated and rounded at its base.

If I respect to Onecladia, it was first distinguished by
 between the first of the margin, a flattened lumen with tubercles at the base, and
 a with two Of the tubercles the first is not found on any I have
 and probably arose in some mistake, the others are Thus the flattened
 although characteristic of some species is not of others, in Onecladia
 Helle,, etc. It is a common feature, but it can hardly be observed in
 O., and of the Register, and it does not exist at all
 in O. which is very near O. The nature of the tubercles is also I suspect
 in the species in which it is, the whole two
 but the does not except O., and then it is accompanied by other
 characters. The presence or absence of tubercles upon the is not to be taken as a generic
 character, because it has already been shown that the character is in Onecladia because
 it is equally variable in Cyrtocladia, where C. is really a species, and they are
 absent in Onecladia (Cyrtocladia, etc. at p. 116),,
, where they are present in O., which is hardly distinguishable from
 the last, in several other

The true characters of Onecladia, and those by which alone it can be distinguished gener-
 ally from Cyrtocladia and Onecladia, are a long and an entire lip, narrowing
 to the point, and the base with a pair of, at the first of
 which stand two, or many, In the view of the question, Mr.
 Cyrtocladia will belong to Onecladia, while my own Cyrtocladia, which
 I once thought would, with, will retain its original position
 as, the characters of Onecladia, Cyrtocladia,, and Onecladia
, may now be considered as follows.

- Onecladia.** Labellae,
Cyrtocladia. Labellae,
Myrmica. Labellae
Onecladia. Labellae,

... ..

Mrs. Drake del.

Huntleya violacea.

H. Bauer del.

Huntleya violacea from the mountains of the Andes.

Printed by F. S. & Co.

Oncidium sanguineum.

[illegible]

Mijn vader doet

Salix cinnabarina.

and of broad flat of structure the pollen masses of Cat legs being four and those of *L. grandiflora* ten.

Our gardens now contain all the known species of this most noble genus, with one exception. *L. nymphaea*, *rubra*, *fruticulosa*, and *intermedia* have all been figured in the *Banquet Register*, the latter also beautifully in Mr. Balcarras's splendid work on the *Cuculidaceae* of Mexico and Guatemala. *L. nymphaea*, the *Flor de Mar*, has been sent over by Mr. Barrey from Mexico to the Horticultural Society, and has been extensively distributed. The species at B is procured in the real *L. grandiflora*, the *Blanca grandiflora* of De la Haza and Lorenz, and *Flor de Capon* of the people of Mexico. As this latter is too imperfectly described to enable us to judge very correctly of its appearance, it is necessary not to have large flowers, pale purple, elegant, and rather erect, to which is added, that they are "spoon-like," but whether by this expression the Mexicans intended to say that the flowers are a span high above the ground, or a span in diameter, two very different things, there are no means of ascertaining. In the former case they would resemble *L. nymphaea* in the latter they would be more like those that are thus yet discovered. Whichever mean is to be attached to the meaning of *spoon-like*, it seems clear that *L. grandiflora*, with elongate or round *de-pendulous* pedicels has, in shape occasionally dichotomous, and unspined leaves, is a very different species from any thing yet seen in our gardens or herbaria.

Lobelia litiastrum.

Verides quinquevulnara

Catasetum longifolium

of the woody mouth, has been eaten by *Tillandsia*, *Peperomia*, and other succulent plants, and among them nothing like *Cissampelos longifolia*. The pseudobulbs along however a pendulous peduncle, and the woody roots fixed in the soil of black volcanic sand each slender woody stem has a dark, set of long slender leaves in partial shade, and hangs down the woody *Miconia*, at most height grows forming a strong contrast with the slender base of the large branches of woody fruit of the species gone, and so increasing as otherwise remaining up - true.

It was first discovered in the Canon Creek, a tributary of the river *Dominica* - we found it elsewhere frequently at the low end, mostly ground of the river *Wapiti* and *Waka* - sometimes at the river *Barbados*, where the *Miconia* *Pala* is so numerous, that it was, for large ones exclusively.

The leaves are sometimes from six to eight feet long, but I never observed in its native climate, a flower which was such numerous flowers in the one here represented. The flower which I saw was of a greenish white color.

The *Miconia* Indians call *C. longifolia* *Miconia* - the *Barbados* *Ostrya*.

Saccolabium compressum

Cyenoches maculatum.

Wm. B. & M. Co. sc.

Miltonia blowesii

Wm. B. & M. Co. sc.

Dendrobium macrophyllum

DENDROBIUM MACROPHYLLUM.

D. macrophyllum. Botanical Register 1859, page no. 46.

Amongst the Orchidaceous plants of the Philippines have not passed hands in more cases yet I have no confidence that this yields in magnificence of appearance to no species that has ever been recorded.

In the specimen now preserved the flowers were more robust in structure and in colour, a more eager, and a pair of them is produced from opposite every leaf, except in the case of the drooping branches of the stout and numerous stems. In this respect it resembles the well-known *Dendrobium macranthum*, Fourn., and others, but probably not so far from the flowers that occur the form of them. Its flowers indeed are more like those of *D. nobilis*, but they are purple all over, the leaves are full four inches long by two in breadth, and the veins are white, not red.

The species was sent from Manila by Cuming, and flowered in the possession of the Messrs. Loddiges.

At the base of the lip there is a three-lobed, reflexed, which dissects the staminal disk from the spur to the apex. In a variety of the explicit recollection of Bonpland that they are found at present in *D. candidum* and *nobile*, two species to which *D. macrophyllum* approaches so nearly in many respects, for we learn from that fact that the absence or presence of such appendages is not of generic importance, as it has been supposed to be. It is also to be observed that the leaves, which run down the middle of the lip in most allied species, are altogether wanting.

Burlingtonia rigida.

BURLINGTONIA RIGIDA.

Burlingtonia rigida. Botanical Register, under plate 1827

One of the many fine plants inhabiting the woods of Brazil, our knowledge of which we owe to the late Captain Smith, the collector of British explorers succeeded in acquiring it in the gardens. It was originally found in Brazil, near Villa Nova da Almeida, by the Father Marquette of Wood River. It was afterwards gathered by Mr. Gombert near Rio Janeiro. Among the 120 of that traveller's herbarium, and it has been at length procured in a living state by the Messrs. Lindley, in whose store it flourished some months ago.

It is a beautiful species, with a habit unlike that of any other genus hitherto discovered. It first forms a tuft of two or three leaves, of an ovate lanceolate form and rigid texture, whose petioles at first, folded together in an equitant manner, and articulated, with the leaves. Subsequently, in the middle of these leaves appears a short branch, in the form of a cymose-panicle, oval, dense and furrowed, on whose apex arise one or occasionally two leaves, like the first in form but without the equitant petioles. The plant having advanced to this point, and succeeded in embosoming itself on the branch of a tree by means of numerous fine rather stiff roots, it soon produces, from the soil of one of the lower leaves, a rigid stem, slender and as thick as a crow's quill, which soon erects into the air, bearing two or three membranous sheaths upon its surface, and ceasing to grow as soon as it has acquired the length of eight or ten inches. At its apex it develops just such a tuft of leaves as that from which it springs, and thus the plant continues to live till the period of flowering has arrived. At that time it rises from the base of one of its lower leaves a flowering stem six or seven feet or eight inches long, having a few distant membranous scales embosoming it, and bearing at the apex a very dense umbel-like raceme of several large drooping white corolla, delicately tinged with pink. The bracts are ovate, cuneiform, membranous, and rather longer than the petioles. Of the corolla, which are shorter than the petals, the uppermost is oblong, entire, and pressed close to the back of the petals, the lowermost are united into a single piece, corresponding in form with the upper, slightly split at the point, pressed close up to the lip, and extended at the base into a short tube, which is enclosed in the point. The sepals are oblong, wavy, parallel with the column and lip, rounded and spreading at the point. The lip is considerably longer than the petals, broadly, acute, two-lobed, wavy, and narrowed at the base into a stalk, which is enclosed within the space formed by the two lower sepals, near its base it has four short wavy elevated plates, placed in crossed pairs on each side of two slightly elevated lines. The corolla is perfused with the base of the lip, club-shaped, tapering and hairy, and much shorter than the petals, at the upper end on each side stands a long membranous narrow sac, guarded in front by a curved leaf of dense web. Within these sacs is contained a glutinous cream, or substance, which is the stigma. The anthers are rounded, truncated, and deeply cut off at front. The pollen-tubes are two, enclosed in the sac, and passed upon a long elastic scap or cord which attached to a small oval gland.

When the column is deprived of all its parts that surrounded it, and so joined as to be seen as but as a part of the figure, the whole may be said to have the form of a small cone, and to be a kind of neck that is very part of the stem.

Travellers in Brazil report this species to have a delicious scent of vanilla, but I did not perceive it. *Messrs. Lindley's Botanical Register.*

To the species of *Burlingtonia* already mentioned in the *Botanical Repository*, we at present add
 1. *B. maculata* has been already added in the volume of that work for 1835. I have since received a
 seed from a specimen with the seeds of it regular. A form on the hills of the Greenhorn range near the
 Ogees Mountains of Texas, and differs from that plant in its leaves being smaller, narrower, and
 obtuse, in its flowers being smaller, and in the reflexiveness being easily produced. This is
 a species may be distinguished by the following characters:

<p>It grows the size of a 100 foot tree. The bark inner surface of the stem is white, the outer surface is brown. The leaves are small, narrow, and the seeds are small.</p>	<p>It is a small tree, the size of a 100 foot tree. The bark inner surface of the stem is white, the outer surface is brown. The leaves are small, narrow, and the seeds are small.</p>
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Galatandra Devoniana.

GALEANDRA DEVONIANA.

GALEANDRA (*Bauer's Illustration of Geological Plants*) *Genera*, t. 9
Lindley's Genera & Species of Geological Plants, p. 186. *Botanical Register*
 for 1840, t. 40. *Perianthium* *galeandra*, *perianth* *galeandra* *galeandra* *galeandra*
galeandra. *Labeles* *infundibuliformes*, *indivisi* *v.* *obtus* *indivisi*, *excurs* *in*
min *lanceolis* (4) *aristis*. *Cylindrum* *erectum* *membranaceo-album*, *clausula* *in*
dentata. *Polium* 2, *positum* *curvatum*, *radiculis* *hirs.*, *glandulis* *hirs.* *divergentibus*
basibus *scissis*.—*Herba* *scissata*, et *apophysis*, *radiculis* *hirs.*, *radiculis* *hirs.*
herminibus

- G. *Devoniana*, *caule* *erecto* *asymptotico* *tereti* *polyphylo*, *foliis* *lanceolatis* *3-nerviis*,
membrana *erecta* *multifida*, *lobis* *hirs.* *ovatis* *obtus* *glandulis* *hirs.*
1 *positum* *basin*, *radiculis* *ovatis* *carpos* *retundatis* *pubescentibus*.
 G. *Devoniana*. *Schubert* *in* *letter*.

Among the many interesting plants sent from British Guiana to Messrs. Lindley & V.
 Schomburgk was that now ascribed concerning which I have received the following communication
 from the distinguished botanist.

During our progress we have seen this plant in places also but at the mouth of the Rio
 Negro, a tributary of the Amazon, where, in the neighbourhood of Maricao, we found
 great quantities of the same which lived the more, sometimes on the Maricao peninsula, or
 even on the ground where the soil consists of vegetable mould. It was so luxuriant in growth
 that some of the large clusters of stems which sprang from a common root might have been taken
 for a tree or a shrub. When I first observed them on that pretty plain near Maricao's
 summit, I considered it to be an *Epidendrum*, since it presented appearance to that species, and
 you have shown me the leaves in the other list. We did not find a lot here, however, or even
 in the Rio Negro in April, but even in a drier situation in appearance resembling some of
 the *P. maricao*. The stems were often from five to six feet high, and the lower part naked, of a
 purple appearance, and changing into green higher up. As already observed it is very abundant
 about Maricao, and equally in the vicinity of Maricao, or Pedernales. I believe therefore that it
 is a good species, when he visited the Rio Negro. Although the Rio Negro falls into the Rio Negro
 the *P. maricao*, we did not observe a single specimen in that river, nor do I think that it is in the
 Amazon, and it is not likely that it would have escaped Maricao. As soon as I found it in the
 Rio Negro, I was in a doubt at Maricao, Lulliana. I considered it to be a Guianese, and observed
 it with you who had not seen it as yet. As the doctor is not so young as the Guianese
 in the Rio Negro, I would myself the matter of this opportunity to request the
 permission of his Grace the Duke of Devonshire that I might call at a house of his, who has in y

is known as one of the most successful exotics of this, one of the most ornamental and among *monocotyledonous* plants, but of whose utility and introduction I have personally experienced numerous proofs since my return in Europe."

That it is a *Quercus* there is no doubt, but it requires a squint to modify the essential character of that genus, emphasizing whose true aspects of definition the present is a favorable opportunity for making a few observations.

[illegible]

With regard to the grass, *Elygasterion*, and some others nearly equal to *Galium* very severe some very difficult company, for which sufficient materials have hardly been as yet accumulated.

To the genus *Calceolaria*, in its restricted sense, I have one species to add: a grassy plant sweet
near flat-tops, with long narrow leaves, small pink flowers, and below is said to form resembling
the corolla of a *Conium*. Mr. Seemingly found it in abundance in the Sierrames, adjacent to the
Rio de San Carlos. and Dr. von Martens met with it in small fields near Asunción in the Province
of Peru. It may be distinguished thus

[illegible]

Calasetum laminatum.

CATASETUM LAMINATUM.

(The Variety with spotted flowers.)

C. lancesolens f. *labello lanceolato* basi sicca apice marginibusque incurvis basin versus dilatatis per totam lamellam usque curvatis nisi integrâ v. deaccolatis basi labello instructis, columnâ erectâ.

C. lancesolens. *Leaf* in *Ann. nat. hist.* vol. 4. p. 384. *Booth, Floræ Hartwegianæ*, p. 72.

Var. 1. maculata, labello, columnâ petalisque purpureo-fusco maculatis.

Var. 2. alba, labello albâ columnâ petalisque immaculatis.

In the general aspect of the plant before flowering there is little to distinguish it from *Catasetum ardetum*, but its flowers are marked by many striking peculiarities.

The *infundibulum* is a nodding many-flowered raceme, proceeding from the base of the peduncle-basis. The *sepals* are narrowly lanceolate and acuminate, of a greenish purple colour, which varies in intensity in different specimens; the uppermost is pressed close to the petals, the two side ones are turned back till they reach each other. The *petals* are short, pale pink, stained with dark purple rather broader than the upper sepal, with which they are parallel, so as to form a sort of arch over the column, but not touching it, sometimes however they separate, and fall backwards towards the other sepals, or deeply spread away from the column. Such was the case in the specimen first found in the abelisked genus *Myrtilis*, and in another a disposition peculiar to itself.

The *lip* is altogether of a new form in this genus. It has a *conchoid* outer, and is hollowed at its base into a deep pouch, its edges and point are curved upwards, and along the angle, towards the base, it is bordered by a fine fringe of slender hairs. From the front edge of this pouch is raised the apex of a fleshy point, placed perpendicularly upon the lip, and from base to tip this deep, which, over the pouch, divides into two lobes, but otherwise is perfectly entire except on the upper edge, which in some varieties is irregularly toothed. In colour the outer is variable, in the specimen now figured it was pale greenish pink, spotted with dull but deep purple, and in a plant that flowered in the garden of the Horticultural Society, in the time that this variety was going through the press, it was of the purest ivory white, occasionally changing to cream colour. The column is spread in the variety with a spotted lip, and nearly plane in line with the whole lip, its structure is a *lanceolatus*.

The only Botanists who have found this plant wild were Count Karwinsk, whose specimens exist in the Royal Herbarium of Munich, and Mr. Hartweg in both cases it was observed in the neighbourhood of Oaxaca. By the latter it was sent to the Horticultural Society, who have since found it occasionally. The specimen now represented was the first that flowered in this country, and was drawn in the street of Mexico, London.

Oncidium pectoralef.

ONCIDIUM PECTORALE.

O. pectorale, pseudobulbis ovatis compressis subrotatis diphyllis, foliis oblongis obtusis parvisve acutis a basi, punctulato-laciniatis, apiculis lateribus compressis petalisque obovatis majoribus undulatis, lobis lobis laterales minus attenuatis medianis brevibus unguibus lobatis, ovulis ovulis depressis sessilibus marginibus verrucosis tuberculisque prominentibus in fructu fructu articulis circumdatis, columnae albae in usum.

The woods of Brazil, growing with plants of beautiful ferns, oak, ash, and singular aromatic, like *Persea*, etc., the best known of the genus *Oncidium*. I am indebted for my knowledge of it to James W. W. Baker, Esq. of Downy near Exeter, from whom I received a specimen and drawing in April, 1860, with the following memorandum:

"I have ascertained that it was imported from Rio de Janeiro, and it seems to me to resemble as well the *O. Persea* which I received at the same time, but as the structure of the leaves is altogether entirely in *O. Oncidium*. The pseudo-bulbs are also furnished with leaves at their base as well as at their point, which is the case with *O. Oncidium*, but I apprehend not uniformly the case with all *Oncidium*. It seems to me also that the entire, which seems to me to be the termination of the column and terminates the stigma, (in which there is a considerable amount of honey), is not fully developed thus I have observed it to be in the flowers of other *Oncidium*, and as this aspect the flowers remind me of an effect I formerly observed in that of *Persea* plant. My professor accidentally injured the centre of one of the flowers a morning time with a carpenter's rule, and I observed that the flower dropped immediately, and died in the course of two days. The other flowers are as fresh as on the day in which they first expanded, and I keep in pressure them in full beauty for a number of days by keeping the plant in the shade."

The strange name of the suborder at the base of the lip is represented in the figure at the left hand corner of the plate. It is a blackish brown, and may be compared for general appearance to an old-fashioned silver stationer, streaked with brick knots, hence the name.

The circumstances alluded to by Mr. Baker is a singular phenomenon common to the whole *Oncidium* genus. He found that when the centre was disturbed, the flower quickly died. This was not because the centre was removed, but because in removing the centre the pollen was brought into contact with the stigma, and thus the act of fecundation was accomplished. In general, from the absence of insects, or of those other disturbing causes in which *Oncidium* are exposed to, the pollen cannot come into contact with the stigma, and so long as this is prevented the flowers of many species will retain their freshness for weeks, as if in a state of stasis of that sort for which they were created. But as soon as the act of fecundation is accomplished, that is to say, from twelve to twenty-four hours after the pollen touches the stigma, the flowers drop the large column, become in the centre begins to collapse, and the base of the flower is gone.

1. *Diathousca imbricata*.

2. *Maxillariaburnea*.

DIOTHONEA IMBRICATA.

D. *subventer*; *costulae reticulatis*; *intercostulae* *disperforatae*; *an* *costulae* *intercostulae* *reticulatis*; *obtus* *lineamentis* *apice* *retusis* *ant* *convergentibus* *dentibus* *interpositis*, *pedunculis* *sub* *terminalibus* *2-3* *floris* *partibus* *induratis*, *labello* *ovato* *recurvato* *apiculis* *paucis*, *aque* *conformis*.

The 10 plants which form the subject of the accompanying plate are represented, from drawings brought home from Guayaquil by Mr. Schomburgk, who has furnished us with the following notes as to their natural situation.

"The *Diothonea* was met with on the high mountain slope between the 634a and 634b meridians and the 60° parallel of latitude, at an elevation of 5 to 7,000 feet above the sea. The summits of these elevations are densely covered with two species of *Ficus*, the *Chrysora* may form an extension, the white cream of which conveys entirely the impression that the ground is covered with snow. The thermometer stood frequently in the morning at 50° F. and the pressure of best barometrical service to our feet, was consequently in the zone a perfect appearance. This contrasts with the moon-strewn heights previously ascended as if a winter landscape. And, indeed, the mountain peaks, with grey volcanic lavas and dark fillings, would have seemed to meet the spectator perfect if not even *Orchidaceae*, especially with green mosses, but not dashed the *Sonchites* and *Tridax* of trees. Dashed it was the *Orchidaceae* name which gave the vegetation a tropical aspect. Indeed *Dalman* and *Hieracium* and *Urtica* were to be seen. The *Tridax*, with its upright and dense, branched branches among the tops of mosses and white *Ficus*, and I was so delighted with some of the plants, which gave a such abundance of these heights that I collected several and upon a thought I have here little doubt here was of *Impatiens* *speciosa*, also in England. For I was cut in some quarters of 1,000 miles by water and land, before I could reach the sea coast of Ecuador."

"I have already observed that it grows on cliffs and among the moss which abounds in such profusion the trunks and branches of trees at first stations. Mosses are generally found in humid places, and moss, where every thing wears the stamp of decay, this profusion of mosses and *Ficus* was surprising. The former covers the ground to such a thickness that an ant might have fallen, without touching on the solid surface. Among the moss on the ground I observed, numerous specimens of *Selagin* *Blattaria* and *Hydrophyllum*. Mosses I appear to me always require a damp atmosphere, not invariable a sandy soil and sunny situation. I need not say how surprised I was to meet the *Selagin* species at *Barro Colorado* among the rings of knotted up sticks at a short distance from the village, the *Selagin* is called *Coccoloba*. I found numerous specimens growing on the rocks on which had collected between the banks. From a border of the moss *Sonchites* at *Barro Colorado*, in the vicinity of which I found the first *Sonchites* *Blattaria* at *Guayaquil*. We traversed the *Mandara* near *Mano* *Mandara*, which belongs to the same *Sonchites* *Blattaria*. It was in company on tracks and branches of mosses, a height of about 5 to 6,000 feet

above the sea, where a local atmosphere was prevailing. *Stauroneis* is about thirty miles to the N. N. E. direction from Linnæusville.

The genus *Stauroneis* differs from *Isostichus* only in the ligament being united to the corolla by a narrow ligament, and it therefore bears the same relation to that genus, as it bears to *Epidendrum* by *Encyrtus*. It may therefore be regarded as either a distinct genus, or a more form of *Isostichus*. The original species, however, collected by the late Collins, Hall in the valley of Linnæus, on the western base of the Coast range of Peru, has a ligament united to the corolla from the other divisions of the perianth, and both have a strong double callosity at the base of the free part of the lip, in the true species of *Isostichus*; on the contrary, the *lip* has either one callosity only at that part, or none at all.

Fig. 1. represents the callosities and lip of this plant.

Neither this nor the following species have yet appeared in our gardens.

No. 2

MAXILLARIA EBURNEA.

M. eburnea; pseudobulbosa in a to exsertis monopodialis, foliis linearibus angustis acutis subcoriaceis in petiolis crassiusculis angustatis scapo erecto indiviso vaginato compresso, vaginis distantibus tenuissimis, sepalis explanatis lateribus triangularibus elongatis suspensio petalisque linearibus, labellis ovato-oblongis leviter erectis callo nigro acuto per medium et d. lobis lateralibus squaratis nullis mucronatis, columnis apice mucronato caudice densato.

This plant is one of the most genuine species of a genus that seems to require tropical climates for raising, whose numerous forms so good artists of drawings have labored here found.

It must be a plant of considerable height, for its flowers are many feet, come from the top of the lower sepal, and of the parent stem. Some of the leaves in my collection are as much as three inches long, and are remarkable for the long channelled stalk into which they taper at their junction with the pseudo-bulb. Their texture is more papery than leathery.

The leaves, resembling of the plant appears to be with it, grow from, which is said to be very common and abundant pseudo-bulb, and a lip placed immediately at the base.

Fig. 2. represents the callosities, with its long foot, from which the sepals and petals have been cut away. Fig. 3. shows the lip with the three callosities upon its surface.

Calanthe sacculum.

CATASETUM SACCATUM.

C. saccatum / *capella* *resedens* *patridian* *dorsali* *petiolisque* *fermentis*, s. *libello*
subest *utro* *thapsi* *occursio* *finis* *in* *scenae* *utro* *contra* *rem*
ferre *postea* *dentata*, *obtusis* *orbith* *Lindley* *in* *Botanical* *Register*,
 1840, *no.* 179.

This species is one of the handsomest of the singular genus to which it belongs. Its growth is
 in large clusters being much superior to any other species of the genus. The flowers are of the
 country are not added to the leaves. And you, who passed it from British Guiana.

In contrast it is similar to *Scenae* from which it is distinguished by its somewhat
 seeds. The flowers are from a flat to three inches high and each flower seems to open
 flowers. The flowers are in clusters at first they grow short as they grow they will down
 gradually, as if beneath the weight of the flowers. The stems are numerous, equal, spreading,
 made deep purple, spotted with yellow, outside tinged with yellow. The leaves are of the same
 form as, nearly the same size, but are thinner in texture, more spotted with yellow, and at first form
 an arch over the flowers, but, after the flower has been for some time expanded, they spread back
 into more than the down, again. The leaves are of a most irregular form, and pale yellow, slightly
 spotted with crimson dots, so that it is somewhat white with a crimson on each side and a
 gradual tapering to the point, all round it is bordered by long fine fringes, at the middle is a
 exuberant perforation, narrow shaped a foot, slightly rounded and started at the base, with perfect
 on open into a small long shaped flower, which projects below the under side of the leaf. At first
 the leaf is flat, but it soon turns back at the point, so that at last it is bent in the middle at almost a
 right angle, and bears two narrow, slender almost straight

Oulanthus versicolor

CALANTHE VERSICOLOR.

C. versicolor, foliis oblongis-lanceolatis ovatis & cuneatis 7-8-nerviis angulo apice pubescentibus breviterque, racemo denso pyramidalis, libelli crassiusculi breviter trilocis lobis latioribus ovatis & in internodiis antice bilobis non turgens basi triaberculate sessis linearibus nervosis, rubris & albis striatis pubescentibus longioribus.

A. The species of *Calanthe* are numerous, and well deserving introduction to our gardens. None among them however seems to occur in having the subject of the present figure, which flowered in September 1838, in the collection of His Grace the Duke of Portlandland in Devon. It is a native of the East Indies, whence it has also been sent from the Botanic Garden, Calcutta, to the Horticultural Society.

The plant has much the habit of *Calanthe versicolor*. The LEAVES are very broad, rather narrow at the base, ovate, and as much as a foot and a half long. Among them rise the stout inflorescence, naked here and there furnished with a sheathing bract, spread near the ground, but diverge over the upper portion. The bracts are quite smooth, of a deep rich brown, very beautiful for some time after opening, but fading in our case a little earlier. The sepals are ovate-ovoid, spreading, not rather larger than the petals, which have the same form, but are a little curved back at the tip. The anthers of the stamens are the whole edge of the column, which is somewhat short, it is three-angled, the two lobes are half ovate, oblong, and much smaller than the middle lobe, which is shorter, shorter wedge-shaped, and a copy apart, being in reality just a line of stamens, which term are next the column in those much larger along tuberosities. The ovary is curved, but it is difficult to perceive the nodules about the same length as the diverging ovary.

The side figure is the right hand represents the lip and ovary, with the sepals and petals not shown.

Maxillaria Brockhurstiana

Publ. by J. D. Sargent & Co. New York, Dec. 1881.
Printed by J. D. Sargent

HOULLETIA BROCKLEHURSTIANA.

HOULLETIA. (*Adolphe Brongniart in Annales des Sciences Naturelles*, vol. 13, *ser. serres*, p. 37. *Leading in Bot. Rep.* 1843, *mus.* p. 47.) Perianthium patens, apicibus sub-diversis: petala paulo minora et, angustiora. *Tab. 3* in eam lani- colis natis concinnata, patens, hy perichthio angusto, basi exsertata quasi filiformi, apice triangulo in laciniam producta, lobulo natis ceteris, notabiliter natis, operculo regulari dilatato cum hypochloa artichabula. *Laurea* erecta, striata, clavata, scissura, lobulo paulo brevior. *As* lani lobulatus ceteris. *Pol* *Fig. 2*, postich *Fig. 3*, cinctus, anthera a seorsum in g. adnata, natis elongatis, nec tinctis.—Herbari epiphyta, perichthio, Anthera inaperturata, filis coloratis placitis. Sapii radicans, erecta, apice ramosa. Flores speciosi, laciniosi, breves parva nec spallantes.

II. Brocklehurstiana, filis longipetiolatis, racemo 6-7-floro, sepi in colore petalino et apice notabilis, hypochloa lamina angustiora reflexa, epichloa ovata-triangulata subnatis angulis laciniosis cinctis.

Moss *Brit. Brocklehurstiana* in *Leading in Botanical Register*, 1843, *mus.* 27.

The original plant has in many respects the character of *Moss* *Brit.*, and so much resembles *M. Warmanii* in habit, that I had intended to consider it one personally, until I could compare with the necessary care the plant of those genera which come into a division of *Warmanii* to which I assign the name of *Moss* *Brit.* For this reason the accompanying plate, which has been required for some months, bears a different name from that in the head of this page.

Recently, however, a plant has been found in the Garden of Plants at Paris, which, if not the same species as this, must be very near it, and to which *Moss* *Brit.* *Adolphe Brongniart* has given the name of *Brongniartiana*, after *Moss* *Brit.*, a modern French botanist, who found it in the *Campanula*. I therefore at once adopt the genus, and give it the name of *Brongniartiana*.

A more respect to decide a species of *Brongniartiana*, also a *Moss* *Brit.* are not given. But when a nearly identical habit, and the hypochloa (lower half of the fig.) is not common, on the contrary it is a flat, with a broad-shaped lobule in its base. The genus is therefore, however near it, is not of the same kind, and the whole subject of the supposed species of *Moss* *Brit.* is brought under review.

The raceme is full of lobes in diameter, and spread out to its full extent, the entire perianth is spotted with brown upon a cream-colored ground. The lobes are very small, and few. The *Laurea* is longer rather shorter, the lobes being very slightly wider at the base of somewhat longer than that at the end. The *As* are rather shorter, much narrower, the lobes are spread out to the base and a little. The anthers are of a yellowish or brown, and are separated at the base, with an intervening space. The anthers are of a yellowish or brown, and are separated at the base, with an intervening space.

shorter than the lateral sepals. The anthers are narrow, flat, pointed with brown, and bell-shaped and rest the feet of the column into a kind of two-lobed funnel, from its center rising two long lance-shaped superimposed appendages, which turn back towards the column, reaching almost half way up it, just at the junction of the appendages and anther, and between these appendages is a minute reflexed fleshy body, each now fixed in the same position as *Bombopsis*. The appendages are smaller than the fun, with which it is articulated, its color is a deep rich violet, as first it is somewhat triangular, with curved sides, and at the lower angles it is extended into a very narrow acuminate appendage, so that upon the whole it has sometimes the form of a really called hastula. The column is curved, rounded at the neck, slightly convex in front, thicker at the upper than the lower end. The pistil-masses are two, deeply two-lobed at the back, and placed at the end of a long narrow pedicel, which runs out as a very pointed, as soon as matured, the two are completely horizontally equal. The solitary withered flower, which shows I have had the opportunity of examining, corresponded very distinctly those parts were exactly.

It appears that the credit of first introducing this subgenus from the British is due to J. H. Drakley Esq., of Chiswick House, near Maidenhead. It was first received by T. Brocklehurst Esq., of the Pine near Maidenhead, to whom I am indebted for the drawing of Mrs. Powell. Sir Thomas Appleby the gardener at the Pine, informs me that he was introduced to it as a broken specimen in the *Orchidaceae* house, but he thinks it will succeed better in a pot treated like a *Maxillaria* or a *Pseudocypripedium*.

Fig. 1 represents the column and lip, after the surrounding parts have been cut away. It is a part of pinkish-white, with short crystalline and glassy, as a from above, D. is the same viewed from above.

Orchis foliosa?

ORCHIS FOLIOSA.

Orchis foliosa, Schouler's man. ex *Bliss. Ryd.* Less primitive *Flora Mediceana*, p. 13. *Botanical Explorer*, t. 1701. *Landing Garden and Species of Orchidaceae plants*, p. 264.

Although contrary to the practice I have hitherto observed, of adopting only the present words to plants that have been figured elsewhere, I now do so in order to avoid any error of the present plate as a most noble example of the beauty of plants nearly approaching to the *Orchis* in our own gardens.

This species is not mentioned in our gardens, but is a native of several districts in the mountains of the north of Scotland, where according to the Rev Mr. Lewis it inhabits woods and thickets. It is much of the same size as the said *O. latifolia*, to which it in fact approaches very near, but under which it is more green, and the leafy part produces not singularly pyramidal flowers as are now represented from the correctness of William Wells, Esq. of Aberdeen. I possess a good specimen from Blenheim, to which I am indebted to Dr. Latham, but it seems no kind of resemblance to the above with his collection.

It grows further to the southward than any species of *Orchis* properly so called, with the exception of *Orchis Conopsea*, which grows in the Caucasus on the rocky ridges, or by the Caspian, near the valley of Derbent, and is known by its shorter leaves, darker spots, and transverse

P. 1 & 2 give a view of the general appearance of the plant. 3 shows the lip, column and spur.

Epidendrum vitellinum.

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EPIDENDRUM VITELLINUM.

Epidendrum vitellinum. *Local gen. and sp. of subobscure plants.* p. 91. *Botanical Register*, 1840, t. 35

The plant has been already figured in the *Botanical Register*, from a most palid specimen produced in the garden of George, Prince Leck, of Bismarckia. Yet I venture to add it to the collection, for who could recognize the gorgeous species on the opposite page, as the same or just a shade less?

Epidendrum vitellinum is a whole-leafy the seedling of *Ep. grave*, not yielding to even such a point as *E. blasonii*, when it is in a state of perfect health, a condition in which I regret to say no one has seen it in this country. Let me hope that the accompanying faithful representation, taken from specimens gathered by Mr. Horweg on the Cordillera of Toluca, at 9000 feet above the level of the sea, and in which nothing is to be detected of the coarse rough, or more the possession of it to certain, and induce them to give it the name *Ep. grave* *vitellinum*.

In what is known of its habits in its native country we possess the key to its proper management, and the explanation of any failure that has accompanied its cultivation up to the present time. It is, strictly speaking, an alpine plant, rooting among larches, juniperum, and other mountainous of a cool moist climate, and never exposed on the one hand to a higher temperature than 70° nor on the other to one lower than 45°, not tolerably, in its season of rest, enduring as much as 10° below of heat as 45°. Indeed the specimens submitted by Blasoni, that in the elevation of 9000 feet on the mountains of Mexico, grew in the dry, rocky, and barren, mixed with *Pey, peruviana* (Peperomia) and the *Macha* (*Chusquea* *chusqueensis*) indicate with some accuracy the kind of climate enjoyed by *Epidendrum vitellinum*.

Mr. Lindley del.

Epidendrum phoeniceum.

EPIDENDRUM PHŒNICEUM.

Epidendrum phœniceum. *Botanical Rep.* for 1841, number 120 of the *montheusensis* *series*.

This is one of the few *Orchidaceae* plants yet reported from Cuba, where no doubt there are great numbers to reward the search of the collector. It has been introduced by Messrs. Hooker &c.

Resembling as it is, it agrees but very rarely to the dingy *Epidendrum adenopogon* of La Hille and L'Herminier, which is the same as Mr. Burmann's *E. papilionum*, and differs principally in the structure of the lip, which in this species has two distinct elevated plates at its base ending abruptly, without drawing out any distance into the main surface of the lip, whereas *E. adenopogon* shows not two plates, but the whole base of the lip below the column is thick and fleshy, whereas it is very thin in the remaining parts of the central vein in this.

The *sepalobes* are long, roundish-ovate, flattened. The *anthera* are slender, narrow, oval, somewhat curved. The *sacculus* is much longer than the *hincis*, pointed, acute, all over rough with minute *reticulae*. From two to three lines high. The *stamens* are numerous. The *anthera* and *filamentum* of a roseaty tawny, deep purple, rough bearded with green species, *anthera* *anthera*, and *anthera* *anthera*. The *anthera* is usually as wide as long, of the clear bright color of *Orchidaceae*, like a, and deep crimson in *anthera* *anthera*. The *anthera* are pale, erect, oblong, some not very in the front where they are joined backwards, the *anthera* lobe is mostly round, deeply cuneate, and two or three pairs give rise to the lobes.

Succolabium Blumei.

SACCOLABIUM BLUMEL

Saccolabum Krmel. *Leibniz in Bot. May 1841, num. 115*

1. Length of plant: much resemblance to the common *Stachys arvensis*, which is, in many respects, different. That species is a sterile, or it would seem, exclusively of the commoner of them, that of Juss. There was one slender specimen the short broad ones. That leaf of one plant angling upwards, that a leaf either acute, and terminating in a kind of mucro. The leaf of one oblong-ovate form, that leaf a leaf broader at the end and deeply angulate. Finally, the flowers of one were as large as those of *Stachys arvensis*, and differently colored, there being no spots, but the sepals, and petals having each a streak of violet below their point, and five by a broad "in tone" everywhere present on the point, which a white

At one time I thought this species might be the *Stenotaphrum* retrace of Howe, because it is the only Japanese plant I have seen which could be a candidate for *Stenotaphrum gramineum*, but upon examining the dried specimens brought from the Philippines by Cunningham, I find another still more like that species than the present, and with the "*Stenotaphrum alternans* retrace" much closer to agree to her name, but which do not occur in the species before us.

Three other points, namely the true *Synanthus* genus, the *S. 8* ones, and the *Mandibularis*, which may be named *S. macrostomus*, and which is a most subtle species, is a species as large as the head of a mouse, and a mouse as long as a fly, others, please, may be distinguished by the following names:

[illegible][illegible][illegible]

Chocidium Barkeri.

ONCIDIUM BARKERI.

Oncidium Barkeri. Landing in Botanical Register for 1841, no. 374 of the Miscellaneous matter

Of the great great *Oncidium* most of the species have flowers sufficiently large and gay-colored to render them plants of striking beauty: but among them are a few pre-eminent in this respect, one of these the species now figured may be regarded as one of the finest. In the case of the flowers it is only equalled by *O. Papilio*, *Indurata*, and a few Peruvian species, in the brilliancy of the yellow lip it is not inferior to *O. lehorum*, which is the rich spotting of the sepal and petal is only equalled by *O. Papilio* itself.

At present the species is of the most uncommon, having only flowered in the collections of Mr Barker, now imported it from Mexico, and of Mrs. Lawrence of Ealing Park.

In habit the roots are exactly oval, compressed, short-edged, with a flower or two passing down each side. The leaves are small for the size of the plant, two in each pseudo-bulb, of an oblong lanceolate form with a long sheathing rounded sheath, which is distinctly articulated in the middle. The sheath is firmest, a very small circumference in *Oncidium*, with about three sheaths on the part which supports the flowers. The *laminæ* are supposed to be simple curved, narrow, and are from five to seven in number. The *stamens* and *petals* are white or cream and yellow, lance-obovate, sessile, spreading or turned back. The lobes very slightly adhering at the base, they are covered with deep red-brown spots and bands on a pale cinnamon-colored ground. The size is pure yellow without a single spot, much paler on the under side, and longer than the sepal, its middle lobe is very large, broader than long, slightly pointed at the apex, which reniformly curves around in the manner usual in this genus, it is distinctly notched, the stem lobes are flat, oblong, truncated with rounded angles, not not more than a third the breadth of the middle lobe. The corolla (fig. 1.) consists of an anterior tubercle, which is slightly three-lobed and hollowed out a third, and of a depressed rounded elevation immediately behind it. The colour is generally short, pale yellow with a pair of narrow oblong wings.

At Plate XXV of this work an attempt having been made to distinguish six more sub-species grounds than before the genus *Cyclopium* and *Oncidium*, I now feel bound to state that the examination of more species, and a very full review of those and the neighbouring genera, has enabled me that the reason assigned in the place referred to is unsatisfactory, and that *Cyclopium* cannot be longer regarded as having a claim to stand as more than an artificial section of *Oncidium*. It will be remembered that the genus was established by Mous. Humboldt and Kunth, in their *Nova Genera et Species Plantarum*, upon two species with spotted petals and an undivided lip, characters usually very striking in several Peruvian and other species. But there are so many anomalous gradations by which the form of the petals and bristles varies in the various forms of *Oncidium*, that those two sections cannot be sustained, and all others subsumed in form of them are equally failed when applied to practice. In the attempt, too, to modify the character of *Cyclopium*, species have been introduced which would be more properly retained elsewhere. I now

Unruh has included two good ones which are rather *Quercus*-like and *C. bartramia* and the others which are better placed with *Quercus* *flavescens* or *floridana*.

I for the purpose of putting the matter in as full a review of the genus *Quercus* (all of late years, from 20 species in 1884 to 2000 in 1902) together with the more recent ones of the same species under different names, now summed through many weeks of study. I have been fortunate in drawing up the following account of the genus which an opportunity has been taken of writing this for it.

ONXIDUM. Series. *L. p. 106.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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Disa grandiflora?

From the
J. H. H. H.
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DISA GRANDIFLORA.

- Disa grandiflora*. *Leav. Suppl.* 405. *Benth. Bot. Hook.* 1839, p. 216. *Thouers.*
Pl. Cap. ed. Schultes, p. 7. *Rar. in Benth's Journal*, vol. 4, p. 205, t. 5, f. 1
Botanical Register, t. 226. *Lindl. Gen. & Sp. Orch.* p. 247
Botanical Beecheyana. *Thouers. Prodr. fl. Cap.* p. 4
Disa *Thouers.* *Royaume Capensis*, p. 348, t. 4, fig. 7
Orchids Africae flore singulari herbaceae. *Ban. Mater. Florerens*, vol. 3, p. 586

I trust I may be excused for closing this work with the noble plant now represented, even although it is not figured for the first time, for all the previous collections had entirely atoned for its want.

It is the finest Orchideaceous plant found in the Cape of Good Hope, and we may almost add, in the world. It differs in several the large size of its single flowers, as also in the manner by which they are arranged. The magnificent specimen from which the accompanying drawing has been made, was sent in a dried state from the Cape by Mr. Harvey, who remarks that the specimen is the largest he ever saw, the stem being two feet and a half high, and the flowers five inches and a half long by six of the expanded tepals.

It occurs in various parts of the Colony, but principally on Table Mountain, where it is so common, according to Mr. Harvey, that every station is handsomely bedecked with it in March. Dr. John Eberhard tells us, that the superstitious of the mountains where it is found is occasionally as low as 3,4, and also occasionally as high as 11,12. Its habit is on the margins of grassy standing water, the drainage of the boggy slopes of the Mountain, whence its roots are gathered. These are dry or scarce in autumn. In such localities it is of course frequently covered in the descent of the clouds, which even in the hottest months, often cover its situation for a week or a fortnight successively.

What I must add that it has hitherto proved unobtainable. It occasionally occurs in England, and in the year 1825 it was observed at South Lambeth near London, in the garden of Mr. William Coombe, a curious and well known collector of insects and other plants. But it never disappeared, and no other English specimen seems to have been yet recorded.

In the absence of all economy as to the mode of cultivating this plant, some specimens may be cultivated in. We would then advise those who are in communication with the Cape, to proceed as follows.

We should procure the roots immediately after the leaves are withered, we should pack them in moist earth, and so transport them to Europe. On their arrival here, we should procure them in at once, and in a cool greenhouse till the month of February, at which time we should plant them in sandy well-drained pots and transfer them to the stove. As soon as the roots begin to grow we should set them in their proper place for the day time and we should then leave them in the manner used with Orchideaceous plants, keeping them in a hot dry atmosphere. There, and under such circumstances, it is to be presumed they would flower. During the whole of the growing season we should keep the plants in the same house, until the leaves were fully formed and the flowers expanded.

thereupon we should immediately transfer them to an intermediate house, and store half greenhouses, until the leaves were withered. Subsequently to that period we should keep them in a cool, shaded frame, just moist and no more, till the beginning of winter. Up to the beginning of February we should not keep them from frost in a cold conservatory—and as soon as February arrived we should begin again to treat the plant as at first. In addition to all this, we should keep the pots or pans full of water during all the time that the plants are in rapid growth.

Is it not worth the while of some one of our great Americans to try this experiment?

Spine

Fore

Foot

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