

THE
ORCHID
WORLD

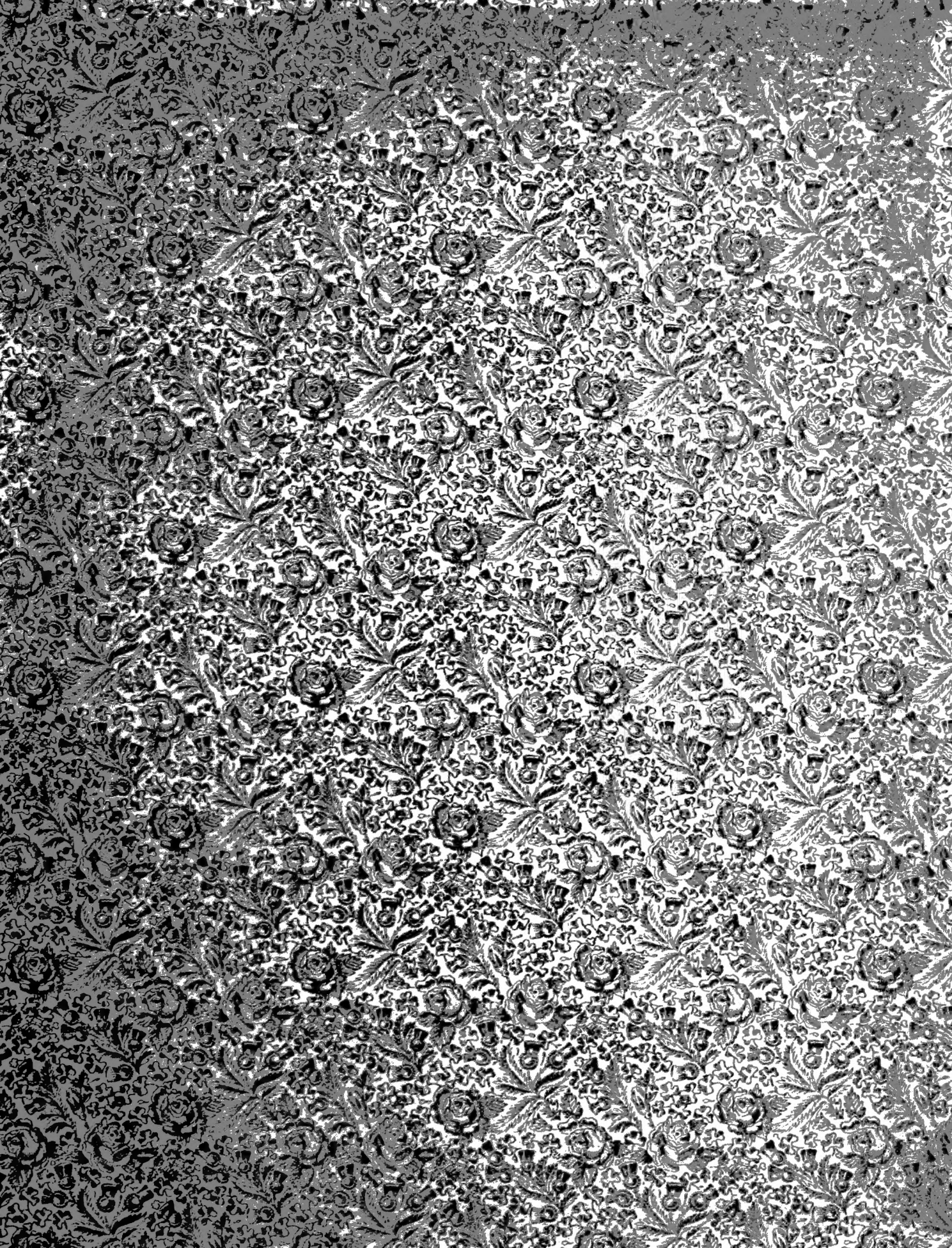
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THE
ORCHID WORLD.

A Monthly Illustrated Journal entirely devoted
to Orchidology.

EDITED BY

GURNEY WILSON, F.L.S.,

*Member of the Scientific and Orchid Committees of the
Royal Horticultural Society.*



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With 130 Illustrations.



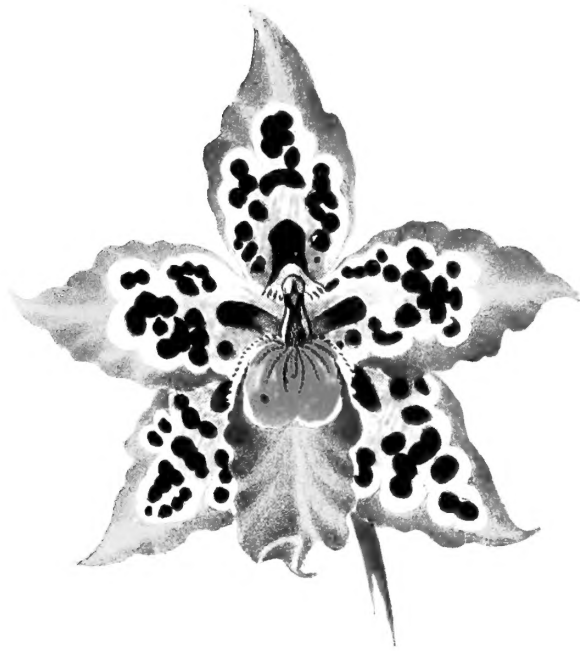
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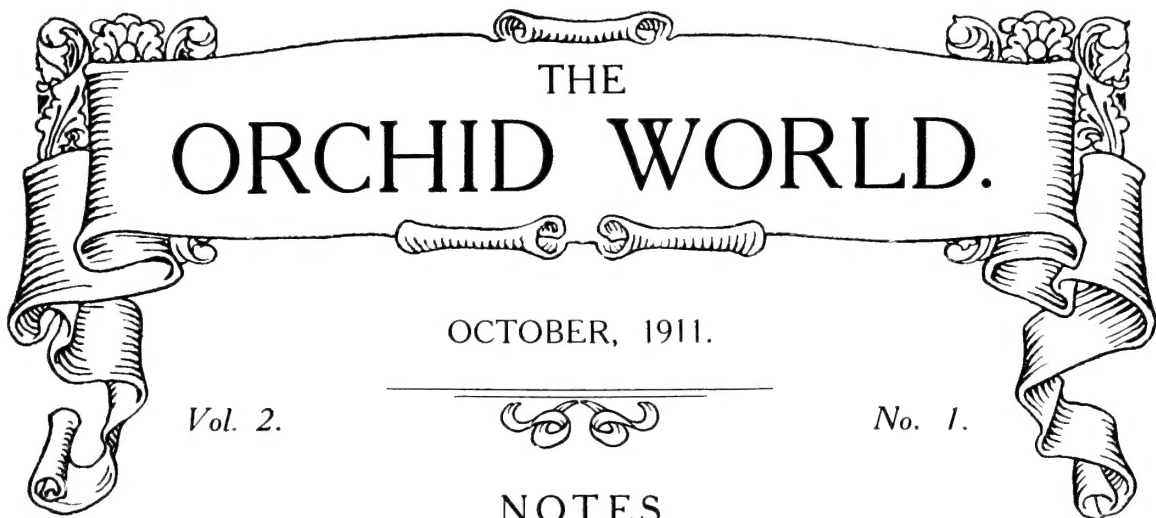
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ODONTOGLOSSUM SMITHII.



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OCTOBER, 1911.

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NOTES.

ODONTOGLOSSUM SMITHII.—This most beautiful and very distinct hybrid, the subject of our coloured plate, is the result of crossing *O. Rossii rubescens* with *O. crispo-Harryanum*, and when exhibited by Messrs. Charlesworth at the Royal Horticultural Society, December 5th, 1905, it was deservedly awarded a First-class Certificate. The plant soon after passed into the noted collection of J. Gurney Fowler, Esq., where it has much increased in size. Owing to the comparatively small quantity of seed produced by *O. Rossii*, and the great difficulty experienced in raising it, hybrids from this Mexican species will always remain scarce.



MILTONIA VEXILLARIA LEOPOLDII.—Seedlings, the result of self-fertilising this distinct variety noted for the elegant crimson blotch of colour on the labellum, have recently been flowered by Mr. W. Bolton, of Warrington. In one, flowering for the first time, the rich blotch has extended considerably beyond its usual position, and in the form of small spots the colour is carried to the margin of the labellum. It is very distinct and gives promise of still further improvement.



CATTELEYA IRIS.—A fine variety of this beautiful hybrid has recently been flowered

by Mr. J. Shelton, The Wildernesse Gardens, Sevenoaks. It has the peculiarity of two perfect flowers on one stalk, the two ovaries being connected by a thin membrane.



CATTELEYA HARDYANA COUNTESS OF DERBY.—This magnificent variety originally appeared in the Stand Hall collection in September, 1894. It was at first considered to be a variety of *Cattleya Warscewiczii*, but the unmistakable characters of *Cattleya Hardyana* shown in the flower caused it to be soon afterwards regarded as a very rare variety of this hybrid. This season it has flowered in exceptionally good form in the noted collection of J. J. Holden, Esq., Southport, and Mr. Johnson, who has so successfully grown the plant, sends the three flowered inflorescence. The sepals and petals are very broad and well-formed, of a remarkable creamy-white colour, an extremely rare condition due to the absence of the purple pigment normally possessed by *Cattleya Warscewiczii*. The lip is intense purple almost covered with the rich crimson-purple derived from the *Cattleya aurea* parent, the side lobes being conspicuously marked with the bright yellow blotches which are always to be seen in *Cattleya Warscewiczii*, and with rich purple and gold markings extending to the base of the column.

MEDALS FOR ORCHIDS.—At the recent Carlisle and Cumberland Horticultural Show Gold Medals were awarded to Sir Benjamin Scott, Linden House, Stanwix, Carlisle, and to Messrs. Mansell and Hatcher, Ltd., Rawdon, Yorks.



THREE-SPURRED ORCHID.—At the Scientific Committee meeting of the Royal Horticultural Society, August 29th, Mr. Botting Hemsley showed a drawing of a British Orchid found on Reigate Hill in the third week of April last. Beside other abnormalities, it had three spurs, but no pollen. Although somewhat resembling *Habenaria viridis* it was impossible to connect it with any British species, and its early flowering was unaccountable. As three-spurred Orchids are rarely found, it is interesting to note similar instances recorded by Mr. Botting Hemsley in 1908 (*Journ. Linn. Soc.*, vol. xxxviii, p. 391); in one specimen, a *Platanthera*, the additional spurs were developments of the lateral sepals. A second specimen was an example of true peloria, all the spurred organs being of the inner or petal series. In both examples all the flowers on the spike were transformed, and the ovary was not twisted. Mr. Sommer, of Florence, also describes an example of false peloria (*Bullettino della Società Botanica Italiana*, n. 6, July, 1898, p. 186) in which two extra spurs were produced by the lateral sepals, all the flowers being transformed. The specimen was *Platanthera bifolia*, gathered in a wood in the neighbourhood of Florence.



OBITUARY.—We much regret to announce the death on August 31st of Mr. John Robson, Altrincham, Cheshire. For more than fifty years Mr. Robson had been a grower of Orchids. As far back as March 20th, 1866, he exhibited at the Royal Horticultural Society a group of *Odontoglossums* for which a "Special Certificate" was awarded. On the same day he also received a First-class Certificate for *Dendrobium thyrsoiflorum*. The

original cards announcing these awards are still preserved.



ROYAL INTERNATIONAL EXHIBITION.—In addition to the classes in Division III. already published, there are in Division IX. three "Open" classes reserved for New Orchids which must not be in commerce nor have been previously exhibited publicly. Class 334 is for one Orchid, species, in flower; class 335, one Orchid, variety of a species, in flower; class 336, one Orchid, hybrid, in flower. Medals or Certificates will be awarded to any sufficiently meritorious new or rare Orchids. The awards will be made according to the "Rules for judging" of the Royal Horticultural Society. The *Gardener's Chronicle* Cup is offered for the best new plant, not necessarily an Orchid, which has not been exhibited previously.



Cattleya labiata Alice Britton.
A beautiful snow-white variety in the collection of
Clement Moore, Esq., Hackensack, N.J., U.S.A.



THE FIRMIN LAMBEAU GOLD MEDAL.

The large Gold Medal generously presented by Mons. Firmin Lambeau to the Royal International Exhibition, 1912, is to be won by the exhibitor whose collection contains the most interesting hybrid Orchids raised by himself. The figure of the goddess Flora on the obverse side was engraved by the late Leopold Wiener and borrowed from the Museum of the

Belgian Mint. The medal is encased in an elegant piece of chased silversmith's work of Louis XVI. style, which greatly adds to its appearance and beauty. This unique work of art is valued at 700 francs. We are much indebted to Mons. Louis Gentil, Editor of *La Tribune Horticole*, for his kindness in lending the block.

HINTS FOR AMATEURS.

WHEN necessary always open the ventilators on the opposite side of the house to that on which the wind is blowing.

Never use pots or baskets which are too large for the plant; a safe rule to follow is allow just room enough for one more new bulb to be made.

An extra amount of compost surrounding a plant will not make it grow any better; it will probably turn sour and cause many of the roots to rot off.

When watering always give enough to soak every particle of the compost in the pot or basket; little and often is a bad method, for frequently it is not sufficient to reach the lower part, and this may be dust dry while the top is wet and sodden.

Never leave the new growths full of water at night time; they are very likely to damp off when a drop in the temperature takes place.

Use, if possible, rain-water of an almost equal temperature to the house; this does not apply to the tap-water used for damping down.

A guide as to the condition of the moisture in the pot may be seen in the colour of the sphagnum moss; it is bright green when wet and almost white when dry.

Do not forget that Orchids are like other plants, and are accustomed to a lower temperature at night time.

It is better to ripen the pseudo-bulbs of Orchids by allowing a free circulation of air than to burn them by a sudden exposure to the rays of the sun.

It is not advisable to tie the new growths to the galvanised wire of suspended pans or baskets in such a way that direct contact takes place; this wire is frequently in an acid state, and burning of the tender surface of the plant often results.

ITALIAN ORCHIDS.

By W. HERBERT COX.

AMONG all that host of flowers which blossom in the Italian fields in the Spring, the most beautiful, certainly the most fantastic, are the numerous examples of the Orchid family. In mid-May they are to be seen everywhere in their thousands. From earliest spring—almost winter by the coast—some kind may be found, and they go on well into the autumn. In the north, however, May sees them at their very best. On the hills surrounding Florence, the towers of which gleam in the sunlight with the silvery thread of the Arno flowing between, they flourish exceedingly.

The Castello di Poggio, a real castle stronghold, probably formerly occupied by some robber chief, judging from its appearance, stands high on those hills and looks down into the great valley below. It is surrounded by towering black Cupressus, miles of fresh green scrub Oaks and patches of heathery land on which golden Broom and pink and white Cytisus (*monspessulanus* and *albidus*) are all ablaze. The three kinds of vegetation give rise to a great variety of flowers, the Orchids taking so full an advantage of it that within a few hundred yards of the Castello as many as thirty varieties may be found without the least trouble.

The first to appear here is the Spider (*Ophrys aranifera*) in early April, dull, brown bodies just like the creatures after which they

are named. They come in various relays, old bulbs and seedlings, so that the flowering season is continued for quite a long time. The late Spider (*O. arachnites*), which is not found until May, has pink petals with a blueish streak, and a protruding appendix. The Bee (*O. apifera*), still later, has rosy

flowerets on which a bee seems to be sitting, sucking honey. Two other varieties of *Ophrys* are found there, *O. Bertolonii*, which the Ligurians call "the little bird looking at itself in a mirror," which it certainly does suggest, and the dingy *O. funera*, believed to be a variety of *O. fusca*.

Orchis is a very large class, varying much in colour, size, and appearance. The Meadow (*Orchis morio*) and the Orchid of Province (*O. provincialis*) form large drifts, the purple of the former mingling beautifully with the soft primrose of the latter. A lordly plant is *O. fusca*, standing up boldly from its big,



Ophrys Bertolonii.

The Bird and the Looking-glass Orchid.

glossy leaves, its head in a brown helmet, and a mulberry-coloured tongue hanging down. The Monkey (*O. Simia*) has an unusual knack of opening at the top of the stem its flowers with their thin twisted arms and legs, but it is rather rare here. The Plume of Feathers (*O. tridentata*) is a pretty lilac flowered kind. The claret flowers of the thin leaved *O. laxiflora* look well in the damp, sphagnum grown spots. Neither of the common purple kinds, known as *O. maculata* and *O. mascula*,

grow here, though they are found at several places in the neighbourhood.

A truly remarkable species is *Limodorum abortivum*, for its stems, which are quite leafless, are frequently four feet high and grow in clumps of perhaps a dozen in the clearings among the Stone Pines. The whole of the plant, stem, flowers, and bracts are of a metallic shade of purple, the flowers having glints of gold upon the lip. There are also crowds of *Serapias lingua*, locally called the Hen's Mouth, hanging down their tongues, of all shades of scarlet.

I was extremely fortunate in finding there the very rare hybrid *Orchi-Serapias complicata*, a cross between *O. laxiflora* and *S. lingua*. The discovery caused great interest at Kew, which has now my dried specimen. It is a beautiful little thing, with large, marooned coloured flowers having a trilobed lip quite out of all proportion to the rest of the plant. Another rarity is *Habenaria intacta*, with pink striped flowers and spotted leaves; it is admitted into our flora as it grows in north-west Ireland.

The Butterflies (*Habenaria bifolia*) show their long tailed white wings, the sub-variety

laxiflora flowering with them, whilst flocks of swallow-tailed real butterflies dance above. The beautiful *Cephalanthera ensifolia*, with sword-like leaves, is another white kind; *C. pallens* grows with it, but it is not so ornamental. An *Epipactis*, a near relation, is putting forth its leaves, but its time of blossoming is not yet. The rosy-pink pyramid of *Anacamptis pyramidalis* has just opened its flowers.

Perhaps the most interesting of all these Italian Orchids I have left until the last, the great Lizard (*Orchis hircina*). All the winter the broad, dark green leaves have stood out from all the rest of the foliage surrounding it, then gradually, little by little, the stems have lengthened out until, at last, at the very end of May the long greenish purple lizards have burst forth and are squirming in thousands, as many as twenty on each plant. Here I have only dealt with the Orchids, yet, all the way home through the Olives, less like the ghosts of trees than usual, for they are in flower, countless other beautiful flowers grow. True the Tulips and Anemones are over, yet what a glorious contrast is a field of pale mauve Iris with scarlet Poppies intermingled.

THE ATMOSPHERE OF THE ORCHID HOUSE.

IN the early days of Orchid growing nearly all rare and expensive plants were given an abundance of heat; in fact, the purchase-price of the plant seemed almost a guide to the degrees of heat thought necessary for its successful cultivation. We read of expensive Orchids being plunged into the tan bed of the hot-house, and the weaker they became so much the more care was taken of them. Happily such notions have passed away, and we now not only attempt, but in the majority of cases succeed, in obtaining even better cultural results than the plants achieve in their native country.

All this has come about by the rational treatment accorded to their cultivation. Instead of looking upon Orchids as some strange, little understood wonder, we now treat them, from a cultural point, merely as a

very interesting and rare portion of the earth's vegetation, and to obtain success when grown in the somewhat artificial atmosphere of our greenhouses it is only necessary, therefore, to give them, as near as possible, the same climatic conditions which they or, in the case of hybrids, their parents have enjoyed in the past.

This treatment can only be allowed them when their natural climate has been studied. Not only should the temperature and the rainfall be noted, but the situation in which the plants are found should be considered. Some kinds are only discovered in low moisture-laden valleys, some on the highest branches of the trees where they are exposed to the full amount of air and sunshine, others in shady nooks and the lower branches of trees, and some on the almost bare rocks which

receive a large amount of sunshine and hot drying winds. Such different kinds of atmosphere clearly suggest that we cannot expect all Orchids to do well when grown in one house having little or no difference in its growing conditions.

The attainment of good results will, therefore, depend on either selecting plants to suit an existing house or else make certain of the kinds desired to be grown, and erect a suitable structure for them. But there are many amateurs who are unable, for various reasons, to erect or maintain a large range of greenhouses, and, therefore, the best that can be done under the circumstances must be their motto. But how seldom is this attempted, far less so is it ever carried out. The usual conception of the best arrangement under the circumstances being the placing of the largest plants on the lowest portion of the staging, and the smallest ones on the shelves or suspended in pans from the roof.

This method certainly allows the greatest number of plants to be stored in a house, but it cannot by any means be considered the best available manner of attempting their cultivation. The smallness of a plant should be no reason for placing it, either suspended in a pan or placed on a shelf, near the roof where the ten or more extra degrees of heat, which usually pervade this part of the house, would entirely prevent the plant obtaining the good health it might enjoy when grown in the cooler and moister position below. And, also, because a heat-loving plant happens to be represented by a large specimen it is frequently placed in the lower and cooler part of the house instead of having a position more suitable to its requirements.

Many an amateur is satisfied when, by the neatness of arrangement, he considers his house to be in order; but to one educated in the correct requirements of the occupants of the house, satisfaction is only obtained when the plants are placed in such manner as to obtain every possible advantage of the growing conditions which existing circumstances admit.

Instances might be given where an Orchid has almost refused to grow on one side of a house, but when removed to the

other a perceptible difference has been noticed in a few days, and after a week or so, the plant has grown with vigour. Surprise has often been expressed at such occurrences, but they are entirely due to the removal of the plant to a position where the environment is either more suitable or possesses several similitudes to that of its native country.

The nature of the floor of the house has much to do with the creation of a suitable atmosphere. Concrete and glazed tiles were formerly frequently used, but, with the exception of a thin layer of water on the surface, which quickly evaporates, these materials are non-porous and cannot be recommended. Ordinary bricks, or clinkers covered with cinder ash form an admirable material, for by capillary action fresh supplies of water are continuously brought to the surface and evaporated. A layer of broken coke contains a far greater evaporating surface than a sheet of water, and if some two or three inches of it are placed under the staging and soaked once or twice a day with water, an atmosphere congenial to the occupants of the house will be maintained.

Other growers have obtained excellent results by placing a lattice-wood floor over the natural earth. To prevent sourness occurring attention must be given by occasionally turning over the soil or replacing it with fresh material from an outside source. This method appeals to one as being very natural, and it is more than probable that certain gases beneficial to the plant are liberated from the soil. Good results have also followed the placing of leaves from trees, such as the oak and beech, on the floor of the house, a similarity to the natural forest home of the Orchid being thus produced.

Moisture, one of the most essential things in the cultivation of Orchids, may also be produced by suspending pieces of damp sacking from the edge of the staging. These should be moistened during the hot and dry weather, considerable benefit to the plants resulting from the rapid evaporating of the water. It is hardly necessary to state that a large amount of atmospheric moisture is

derived from the watering of the plants, and the usual procedure of "damping down."

The atmosphere always holds, in invisible suspension, a varying quantity of moisture. It is, in point of fact, never dry, or in any way near dryness. Even when the air seems parching hot, drying the skin and withering vegetation, it is easy to demonstrate by the aid of chemical agents the existence of moisture.

The air has a wonderful power of absorbing water, the amount held in suspension being correlative with the degree of atmospheric heat at the time. The higher the temperature, the larger the amount of water absorbed by the atmosphere; when all its interstices are full, it is then said to be at its point of saturation, and any further supply of moisture becomes visible in the form of steam and moisture.

This saturation point can be produced at any temperature, for it only depends on there being sufficient water to fill all the interstices of the atmosphere. It is easily understood that when the air is in a cold and, therefore, condensed state there are few interstices to fill, consequently very little water will be required to produce this point of saturation. A rise in the temperature expands the air, with the result that more interstices are formed and a corresponding amount of water will be taken up.

Therefore, whatever amount of moisture has been absorbed by a certain degree of temperature that amount will be lessened proportionally with the cooling of the atmosphere, and the result must necessarily be a deposition of moisture, or, in other words, a fall of dew.

How does this law of Nature concern the atmosphere of the Orchid house? The temperature at the break of day is usually at its lowest, but increases rapidly with the advancement of the morning until, about mid-day, it is at its highest. During this period considerable absorption of the moisture produced by damping down, and that given off from the ground, has taken place, the Orchids greatly enjoying this delightfully warm, moisture-laden atmosphere.

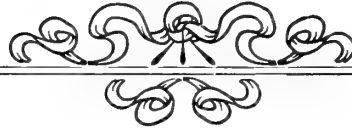
As the daylight fades so the atmosphere becomes cooler and much of the suspended moisture is condensed on the plants in the form of dew. This dew is very beneficial to cool growing *Odontoglossums*, but somewhat detrimental to plants, such as *Cattleyas*, in flower. Hence we see that much success in growing Orchids will depend on the correct application of methods for controlling the moisture in the atmosphere.

In houses where a continuously moist atmosphere is required, the temperature must be maintained at night-time by artificial means, or considerable deposits of moisture will be formed to the detriment of the plant.

In houses occupied by plants in flower, or those requiring a drier atmosphere for producing ripening of the bulbs in autumn, a cooler night temperature is beneficial. Therefore, to prevent drip and the formation of dew, much of the atmospheric moisture must be disposed of by means of judicious ventilation. It will be found that by allowing the top ventilators to remain slightly open the moisture will be evaporated at almost the same rate as it is squeezed out of the air by contraction due to the falling temperature.

G. W.

The Orchid Catalogue of the Julius Roehrs Co., Rutherford, New Jersey, U.S.A., is to hand. Consisting of 36 pages with many excellent photographic reproductions it is of great value to Orchid growers, more especially to those in the United States. In a short cultural note, with which we entirely agree, it is remarked: "Some people still have the impression that Orchids are difficult to grow, but, with the exception of some few rare varieties, quite the contrary is the case. In fact, they are no more difficult of culture than the ordinary greenhouse plant. In this country (United States) many *Cattleyas* after finishing one growth will start another, an action which should be encouraged, as these bulbs will be fully developed and ready for flowering." The short English season will, unfortunately, not allow of more than one bulb being made during the year.



The Glebelands Collection,

South Woodford, Essex.

IN the beautiful, old-fashioned garden at Glebelands, the residence of J. Gurney Fowler, Esq., can be seen many of the arts and crafts of horticulture, and whether it be noble trees and flowering shrubs, or hot-house plants and tender flowers, all alike reflect the enthusiastic interest taken in them by their owner. Shelley's words :

" All rare blossoms from every clime
Grew in that garden in perfect prime,"

may well be used as descriptive of its beauty, for the Orchid houses are well filled with choice exotic specimens selected by one who for many years has been an admirer of all things rare and beautiful in horticulture.

The range of greenhouses is devoted to the culture of many kinds of fruit, decorative plants, and the safe keeping of a world-famed collection of Orchids, from which numerous specimens have frequently been exhibited at the Royal Horticultural Society and on many occasions received the highest awards.

Probably the most pleasure is obtained from the *Odontoglossum* house, a structure which has been built as near to perfection as possible, and which produces such excellent cultural results as to merit a description of its construction.

This house is span-roofed, 70 feet long and 20 feet wide, all the woodwork having the

bars grooved to carry off the drip, and the glass cut on the curve with the same object. Canvas blinds placed a short distance above the glass are used for shading, and by means of a perforated water-pipe running from end to end along the ridge, the house may be kept cool and damp during the hot days of summer.

On the inside of the brick wall a similar perforated pipe is placed

which enables the brickwork to be kept continuously moist. These pipes are supplied from the district water mains, and, by means of valves, the surplus water is not al-

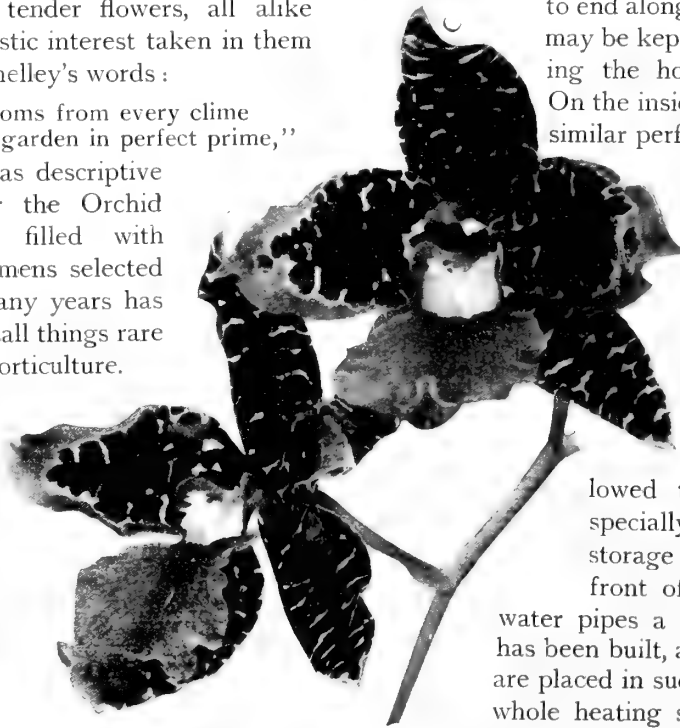
lowed to enter the tanks specially reserved for the storage of rain-water. In

front of the four-inch hot-water pipes a wall of loose bricks has been built, and over the top tiles are placed in such a manner that the whole heating system is incased in

moisture holding material. The teakwood staging

is raised about two feet above the tiles, thus allowing a free circulation of the moist air which is so conducive to the welfare of *Odontoglossums*.

The adjoining illustrations of a few of the *Odontoglossums* give a comparatively poor conception of the elegance of the varieties contained in this house. When it is stated that almost the whole of it is occupied by these specially fine forms, the impossibility of



Odontoglossum Jeanette. 'Rossii rubescens' × *amabile*.
F.C.C. March 14th, 1911.

describing them all will readily be seen. The many beautiful *Odontoglossums* make a very grand display of bloom in the spring time, and the marvellous range in the method of spotting and blotching which they possess creates in them an attractive interest. The following are a few of the best and most noted varieties of *Odontoglossum crispum*:—

Odontoglossum crispum Angela, received an Award of Merit when exhibited by Mr. Cookson, April 6th, 1909; *O. c.* Britannia; *O. c.* Britain's Queen, received an Award of Merit when shown by Mr. Pitt, April 11th, 1905; *O. c.* Carmania, a distinct variety with dark red bulbs; *O. c.* Cooksonianum; *O. c.* Elsie, one of the very best; *O. c.* Lindenii; *O. c.* Lucianii, a grand form, which received a First-class Certificate when exhibited by Mr. Linden, March 23rd, 1897; *O. c.* mortebeekense; *O. c.* Mrs. J. McBean, one of the best blotched varieties; *O. c.* Olive, see illustration; *O. c.* rotundum, a very fine variety with dark

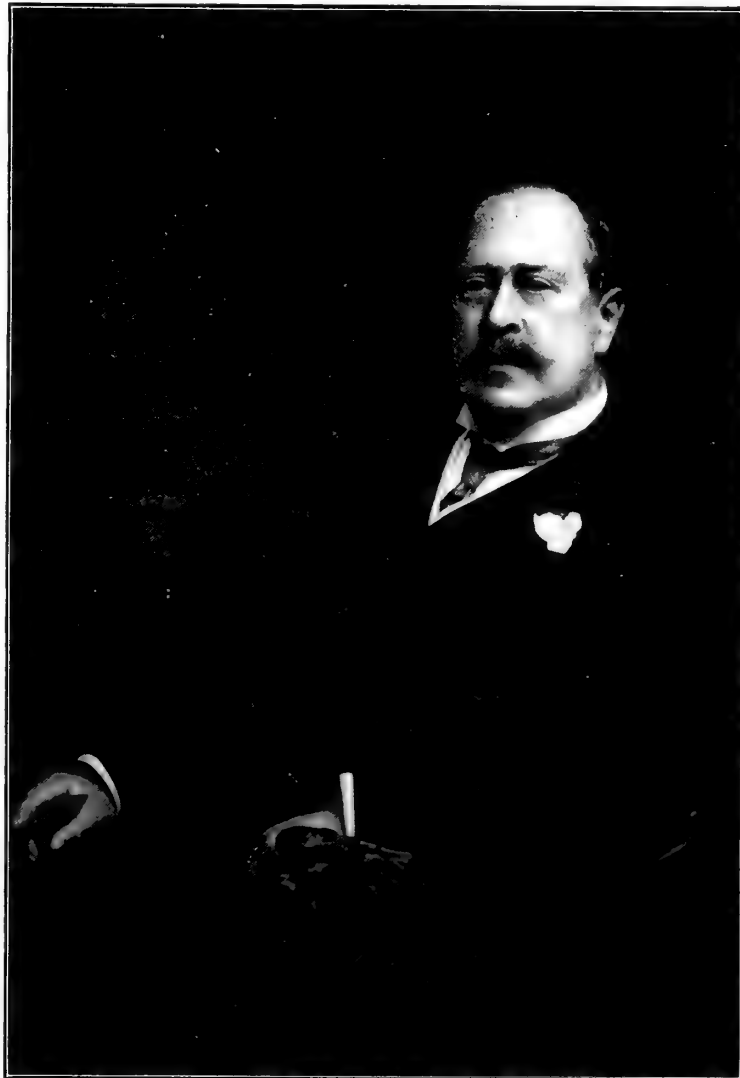
blotches, and of excellent shape; *O. c.* solum, a variety with the lip entirely covered with purple; *O. c.* The Jewel; *O. c.* waltonense; and *O. c.* Winnie, a fine blotched form with long bulbs. There are also many distinct unnamed varieties including several pure-white forms.

It is little more than ten years ago that the first *Odontoglossum* hybrid was exhibited. Ever since then the advance has been rapid and full of interest. The hybrids exhibited at the present time would, a few years ago, have been considered impossible to produce, yet each succeeding year brings its fresh wonders and anticipations of still more marvellous creations.

The Glebelands collection contains one of the richest selections of *Odontoglossum*

hybrids. The enumeration of them all must give place to the mentioning of only a few which will suggest to the reader the high standard of excellence here maintained.

Odontoglossum amabile Fowlerianum and the Glebelands variety of the same, both of



J. Gurney Fowler, Esq.

Photo by Elliott & Fry.

which have received Awards of Merit; *O. ardentissimum* Dorothy Fox, a flower of extra good shape; *O. Arnoldianum*, with reddish-

\times *crispum*), one of the most distinct hybrids with blueish-purple flowers, and the nearest approach to the long wished for blue *Odonto-*



Cypripedium Daisy Barclay. F.C.C., July 4th, 1905.

Godefroyæ leucochilum \times *Rothschildianum*.

brown sepals and petals, received an Award of Merit, April 19th, 1910; *O. Devossiana* with very red flowers; *O. Europa* (*cœruleum*

glossum, received a First-class Certificate, June 20th, 1911; *O. eximium* is represented by several grand varieties; *O. Fowlerianum*

(*Rossii rubescens* × *cirrhosum*), an extremely pretty hybrid which received a First-class Certificate, March 6th, 1906; and a specimen of *O. Harryano-crispum* in an eight-inch pot.

The very fine variety of *Odontoglossum illustrissimum* (see picture) is the result of crossing *O. Lambeauianum* and *ardentissimum*, and shows the great improvement in shape and colour which the hybridist has produced. *O. Jasper* (*amabile* × *crispum*) has bulbs resembling large polished chestnuts; *O. Jeanette* (*Rossii rubescens* × *amabile heatonense*), a grand variety with violet-purple sepals and petals densely marked with rich dark-brown spots, received a First-class Certificate, March 14th, 1911; *O. percultum* J. R. Roberts produces very beautiful flowers, and there are excellent forms of *O. Ossulstonii* and *O. Othello*.

Odontoglossum Smithii, the subject of our coloured plate, is a rare and beautiful hybrid between *Rossii rubescens* and *crispo-Harryanum*. The plant, which has been carefully grown, now consists of nine bulbs and three growths; when exhibited on December 5th, 1905, it was unanimously awarded a First-class Certificate. *Odontoglossum nebulosum* Gurney Wilson, without doubt the finest variety of this species ever seen, was added to the collection in 1904. *O. Wiganianum* is an extra strong grower, and the varieties of *O. Wilckeanum* are known by the names J. Gurney Fowler, Miss Louise Fowler, William Pitt, and Pitt's variety.

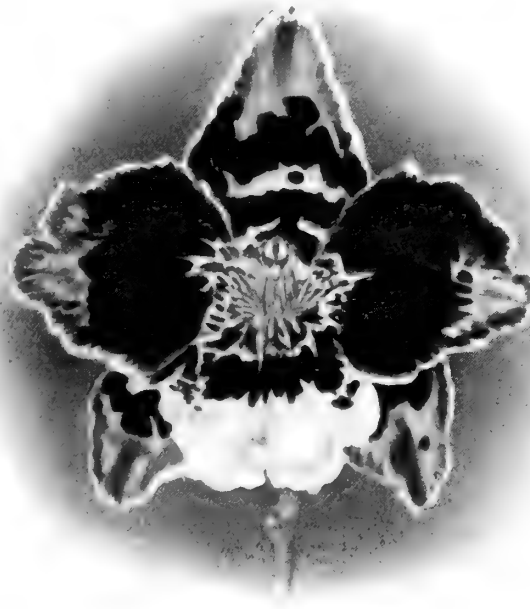
The potting material consists of *Osmunda* fibre top dressed with a mixture of peat fibre and sphagnum moss, a few leaves are also used, preference being given to those from the beech which contain less tannin than those gathered from oak trees. This method suits the plants exceedingly well, and it is seldom that such very remarkable vigour and good health are witnessed.

The collection of *Cochlioda* hybrids includes most of the finest varieties, a notable and robust growing plant being *Odontioda*

Bradshawia
Cookson's
variety. Another interesting specimen is *Odontonia Laressee* (*O. crispum* × *M. Warscewiczii*). The middle of the centre staging of this house is occupied by large plants of *Oncidium macranthum*, one of which recently produced a spike of over 350 flowers, very healthy specimens of the various *Cymbidiums*, and other tall grow-

ing Orchids. Odd corners contain many curious species of *Masdevallias* and a few plants of botanical interest.

The *Cypripedium* house is of great interest, especially so to the many Orchidists who are now occupied with the study of the numerous varieties and hybrids of these autumn flowering plants. The majority are large specimens, and, therefore, yield blooms of considerable size and good texture. The collection contains many choice forms of the popular *C. Leeanaum*; the finest variety of this hybrid, known as "J. Gurney Fowler," consists of 13



Odontoglossum illustrissimum.
Lambeauianum × *ardentissimum.*

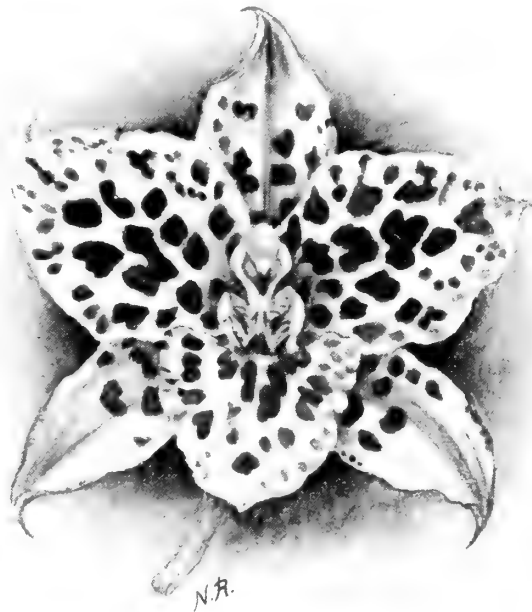
strong plants. It received a First-class Certificate, January 24th, 1905.

Cypripedium Daisy Barclay is a scarce and beautiful hybrid obtained by crossing *C. Godefroyæ leucochilum* with *C. Rothschildianum*. It received a First-class Certificate, July 4th, 1905. In this house may also be seen the Glebelands variety of *C. nitens*, several plants of *C. Troilus*, *C. Thalia* Mrs. F. Wellesley, the massive *C. Beeckmanii*, seven plants of *C. calloso-Rothschildianum* (F.C.C., July 10th, 1906), the very distinct *C. l'Ansonii* (F.C.C., June 28th, 1898), and large plants of the following, all of which have, at different times, received awards: *C. Ernest Read*, *C. Miss Louisa Fowler*, *C. Mrs. Alfred Fowler*, *C. Memoria Jerninghamiæ*, *C. Baron Schröder*, *C. Olivia*, *C. Chapmanii*, *C. aureum* *Ædippe*, *C. Transvaal superbum*, and *C. Fred. K. Sander*, the latter being a very fine hybrid raised from *C. Annie Measures* × *C. bellatulum*. It received a First-class Certificate, October 18th, 1904. As may be expected in such a representative collection many of the rare albino forms are to be seen in large specimens.

The collection of *Lælias* and *Cattleyas* contains many of the finest forms of the leading species and hybrids. *Cattleya Mendelii* "J. Gurney Fowler" is one of the finest forms of this species in existence. There are large plants of *Cattleya Rosa Leemann*, *C. Mantinii*, *C. labiata Amesiana*, *C. Trianæ*, *C. Schröderæ* Fowler's variety, *C. intermedia alba*, *C. labiata alba*, *C. labiata Princess*

of Wales (F.C.C., November 7th, 1899), *C. labiata* Mrs. E. Ashworth (F.C.C., October 13th, 1896), *C. Gaskelliana alba*, *C. Lüddemanniana Stanleyi*, *C. F. W. Wigan*, *Brasso-Cattleya Digbyano-purpurata* King Edward VII., B.-C. The Baron, *Lælia tenebrosa* Walton Grange variety, *Cattleya Warscewiczii* Frau Melanie Beyrodt, *C. Mossiæ* Lady Dorington, *Lælio-Cattleya* Henry Greenwood, and L.-C. *Canhamiana alba*.

In other houses almost entirely devoted to Orchids may be seen a large plant of *Eulophiella Peetersiana*, the new *Anguloa Cliftonii*, good varieties of *Lycaste Skinneri* and *L. Balliæ superba*, *Zygopetalum Perrenoudii*, *Sobralia macrantha alba* which has just carried no less than 350 flowers, many varieties of *Thunias*, the rare *Aracnanthe Rohaniana* to which a First-class Certificate was granted on October 15th, 1907, the very scarce *Neomoorea irrorata*, a selection of the best *Stanhopeas*

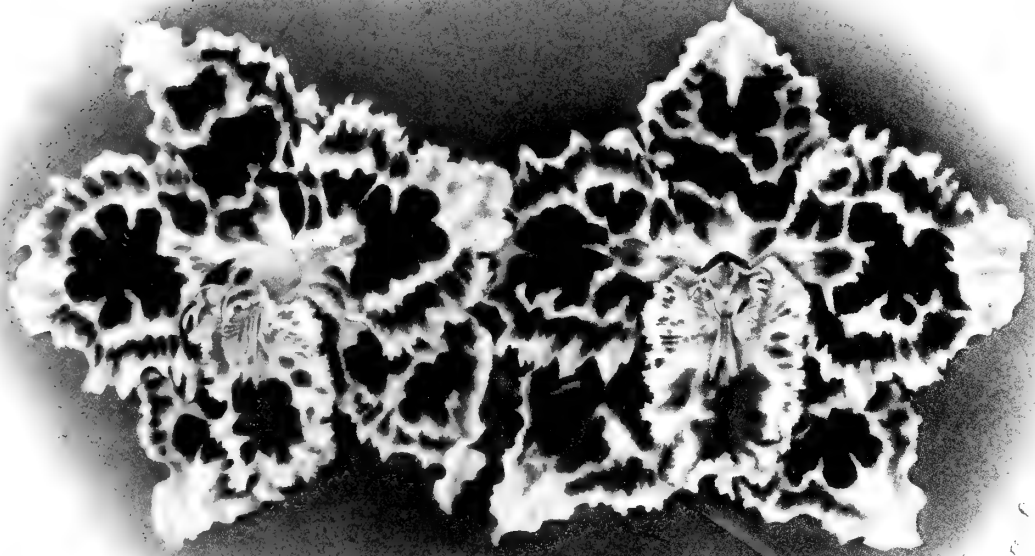


Odontoglossum nebulosum Gurney Wilson.
A. M., May 3rd, 1904.

growing in baskets, many excellent specimens of *Phalænopsis*, and a number of healthy plants of *Vanda teres*.

Of this multitude of plants it may truly be said that they all show ample evidence of the many correct items of culture which are bestowed on them by Mr. J. Davis.

In concluding these comparatively short notes on such an important collection, it seems hardly necessary to call to memory the fact that Mr. J. Gurney Fowler, besides holding many other important positions, is Chairman of the forthcoming International Exhibition,



Odontoglossum crispum Olive. From a painting by Miss M. Walters Anson.

Treasurer of the Royal Horticultural Society, and Chairman of the Orchid Committee. His work, therefore, towards the advancement of horticulture is continuous and praiseworthy,

and in the words of Carlyle it may truly be said: "What a man can do is his greatest ornament."

G. W.

NEW PLANTS.

ADIODA ST. FUSCIEN (ADA AURANTIACA × COCHLIODA NOEZLIANA).—A new bigeneric hybrid exhibited at the Royal Horticultural Society, August 29th, 1911, by Mons. Henri Graire, Amiens, France. The plant carried an erect spike of seven flowers, about 1½ inches in diameter, and of a reddish scarlet colour. The labellum being broad shouldered with a long, narrow, median lobe.

CATTELEYA REMULA (GRANULOSA × MRS. MYRA PEETERS).—A large, well-proportioned flower, the sepals and petals light

mauve with a slight yellowish tinge, the lip purple with a yellow isthmus. This interesting hybrid was exhibited by Messrs. Hassall and Co., at the Royal Horticultural Society, August 29th, 1911. The frequent result of crossing two white Cattleyas is a coloured hybrid, due, it has been suggested, to the parents not being true albinos. Cattleya Mrs. Myra Peeters, a hybrid between *C. Gaskelliana* alba and *C. Warneri* alba, produces, however, a white flower, from which it has been argued that the parents were true

albinos. In *C. Remula*, therefore, we should expect a hybrid with the olive-greenish yellow flower of *C. granulosa* slightly increased in size with a diminishing quantity of colour. But such is not the result, the purple-tinted flowers proving that, by some means or other, reversion to the possession of purple pigment has taken place.

LÆLIO-CATTLEYA SCAMPSTONENSIS (L.-C. LA FRANCE × *C. AUREA*).—A large, elegant flower, the sepals and petals yellow, almost covered with rich reddish-copper, giving a very warm and pleasing tone to the flower. The lip is elongated, somewhat narrow at the base, but broadened and crisped at the apex, almost without side lobes or shoulders, and of a rich purple colour. Raised by Mr. F. C. Puddle, Scampston Hall Gardens, Rillington, York. *Lælio-Cattleya La France*, a hybrid between *L. tenebrosa* and *C. bicolor*, was first exhibited at Paris by Mons. Mantin in 1898. By crossing L.-C. La France with *C. aurea* a hybrid containing $\frac{1}{2}$ *C. aurea*, $\frac{1}{4}$ *C. bicolor* and $\frac{1}{4}$ *L. tenebrosa* has been produced, or exactly what would be obtained by crossing L.-C. *luminosa* with *C. Iris*. These are examples of how the same proportions of specific characters can be united, but how far the results will agree remains to be seen.

LÆLIO-CATTLEYA EXQUISITA [*C. SHAKE-SPEARE* (*GRANULOSA* × *REX*) × L.-C. *ELSTEAD GEM* (*XANTHINA* × *BICOLOR*)]—A very pleasing flower with canary-yellow sepals and petals, and a deep-purple lip. It is interesting to note that all the four parental species are practically without purple in the sepals and petals. Exhibited by Messrs. Sander and Sons, Royal Horticultural Society, Sept. 12th, 1911.

LÆLIO-CATTLEYA DAMON (*CRISPA* × *CALLISTOGLOSSA*).—In form and size the flower much resembles a good *Lælia crispa*, but the labellum is magenta-purple veined with dark purple. The tips of the petals are prettily marked with purple feathering. Raised by Messrs. Sander and Sons, St. Albans.

SOPHRO-LÆLIO-CATTLEYA JEANETTE (L.-C. *MARTINETTI* × *S. GRANDIFLORA*),

from Messrs. Charlesworth and Co., Haywards Heath.—One of the finest results obtained by the use of the scarlet *S. grandiflora*. The large flower is bright vermilion-red, with somewhat darker veining slightly tinged with rose; the base of the lip is pale yellow, the front veined with ruby-red. Unanimously awarded a First-class Certificate when exhibited at the Royal Horticultural Society, September 12th, 1911.

LÆLIO-CATTLEYA SAPPHO (*BICOLOR* × *PURPURATA*).—The result of crossing two long bulbed species both having richly coloured lips. The lip is the only good feature in this flower. Raised by Messrs. Sander and Sons, St. Albans.

CATTLEYA NESTOR (*HARRISONIÆ* × *IRIS*).—A delicate soft-mauve flower with a yellowish underlying colour. The segments are well proportioned and give promise of further developments. This hybrid somewhat resembles the well-known *Cattleya Mrs. Pitt*, but the influence of *C. bicolor* can be traced in the isthmus and broad front lobe of the lip. Exhibited by Messrs. Hassall and Co., Southgate, at the Royal Horticultural Society, Sept. 12th, 1911.

CATTLEYA VERSICOLOR (*VELUTINA* × *MOSSIÆ*).—The bronzy-copper sepals and petals of this hybrid are very attractive. The labellum is magenta-purple slightly veined with a darker colour, the throat is yellowish-brown. Exhibited by Messrs. Sander and Sons, at the Royal Horticultural Society, Sept. 12th, 1911.

LÆLIA-CATTLEYA FABIVS (L.-C. *blechleyensis* × L.-C. *elegans*).—A disappointing result, the flower being inferior to both parents. Raised by Messrs. Sander and Sons, St. Albans.

LÆLIO-CATTLEYA CALLISTOR (*BICOLOR* × *CALLISTOGLOSSA*).—The parental species are noted for their rich purple lips, and much of this colour has been transmitted to the flower of the seedling, which has a specially well coloured lip. Raised by Messrs. Sander and Sons, St. Albans.

BRASSAVOLA DIGBYANA IN CONJUNCTION WITH A LÆLIA AND A CATTLEYA.

IN the last two issues of this journal the Brasso-Lælias and Brasso-Cattleyas were enumerated. There is still a third class of Brassavola hybrid to consider, viz., Brassavola Digbyana in conjunction with a Lælia and a Cattleya. Every Orchidist is so accustomed to the name Lælio-Cattleya that the addition of a Brassavola to this hybrid suggested the name Brasso-Lælio-Cattleya. This combination of generic names has also been arranged Brassocatlælia, a method which, beside possessing certain other advantages, certainly makes a more pronounceable word.

BRASSAVOLA DIGBYANA WITH A LÆLIO-CATTLEYA.

The following nine hybrids are composed of one-half Brassavola Digbyana and a quarter each of a Lælia and a Cattleya species. They have, therefore, the same proportion of Brassavola Digbyana in their parentage as the Brasso-Lælias and the Brasso-Cattleyas.

B.-L.-C. Edgar Wigan, obtained by crossing B. Digbyana with L.-C. Aphrodite (C. Mendelii × L. purpurata), is noted for being the first instance in which B. Digbyana was used with a hybrid. When exhibited by Sir Frederick Wigan at the Royal Horticultural Society, May, 1901, it obtained a First-class Certificate.

B.-L.-C. Mackayi was named in honour of Mr. Mackay, orchid grower to Mr. Joseph Chamberlain. It flowered in 1903, the parentage being B. Digbyana × L.-C. elegans.

B.-L.-C. Ardernæ was raised by Messrs. Sander and named in honour of Mrs. Ardern, Stockport. The plant afterwards passed into the collection of Samuel Gratrix, Esq., Manchester, and received an Award of Merit from the Manchester Orchid Society, November, 1904. It is the result of crossing B. Digbyana with L.-C. callistoglossa, the

rich colouring of the two parents in this hybrid producing a fine result.

B.-L.-C. ballarucensis (B. Digbyana × L.-C. Schilleriana) was raised by Mons. F. Denis, and is recorded in the *Orchid Review*, 1906, p. 135.

B.-L.-C. Lido was first flowered by Mons. Ch. Maron in 1906. The parents are B. Digbyana and L.-C. Henry Greenwood (L.-C. Schilleriana × C. Hardyana), and from the complexity of the parentage great variation may be expected in the seedlings from this pod.

B.-L.-C. Rowena was raised in the Westonbirt collection by crossing B. Digbyana with L.-C. Doris. When exhibited at the Royal Horticultural Society, September 3rd, 1907, it received a First-class Certificate.

B.-L.-C. Hippocrates also originated in the Westonbirt collection during the same month of 1907. It is the result of crossing B. Digbyana with L.-C. Hippolyta.

B.-L.-C. Digbyano-Ernestii was shown by Mons. Maron at the Royal Horticultural Society, September 29th, 1908. The parentage is B. Digbyana × L.-C. Ernestii, the latter plant being a hybrid between C. Percivaliana and L. flava.

B.-L.-C. Thera, obtained by crossing B. Digbyana with L.-C. G. S. Ball, was raised by Messrs. Charlesworth, and flowered in 1909.

The flowering of the above hybrids proved that Brassavola Digbyana possesses very strong characteristics, which are too much in evidence in the hybrid, the greenish-white nature of the flower greatly reducing the amount of purple pigment. It was, therefore, thought that a smaller proportion of Brassavola Digbyana would be more advantageous, and although this might possibly reduce the fringed nature of the labellum, an idea which subsequently proved correct, the loss would be more than balanced by the extra colour obtained.

BRASSO-CATTLEYA WITH A LÆLIA.

B.-L.-C. *Veitchii* is the only recorded plant of a Brasso-Cattleya combined with a Lælia. It is the result of fertilising *L. purpurata* with B.-C. *Digbyano-Mossiaë*, and was exhibited by Messrs. Veitch at the Royal Horticultural Society in 1907. It is the first recorded instance of the proportion of *Brassavola Digbyana* being reduced to a quarter share.

BRASSO-LÆLIA WITH A CATTLEYA.

The following six hybrids are the result of crossing a Brasso-Lælia with a Cattleya species. The combination reduces the proportion of *Brassavola Digbyana* to a quarter share in each case. It is interesting to note that in four of these hybrids Lælia *cinnabarina* has been used with the intention of producing a rich colour.

B.-L.-C. *Agamedes*, obtained by crossing *C. labiata* with B.-L. Mrs. *Gratrix* (*cinnabarina* × *Digbyana*), was raised by Messrs. Charlesworth and catalogued by them in 1909.

B.-L.-C. *Surprise* (*C. bicolor* × B.-L. *Digbyano-purpurata*) was exhibited by Mr. Walker at the Royal Horticultural Society, December, 1909.

B.-L.-C. *Fuerstenbergii* is recorded and figured in the *Orchis*, 1910, p. 57. It is the result of crossing B.-L. Mrs. *Gratrix* with *C. Trianaë*.

B.-L.-C. *Thompsonii*, a hybrid between *C. Gaskelliana* and B.-L. *Digbyano-purpurata* was catalogued by Messrs. Charlesworth in 1909.

B.-L.-C. *Fowleri* produces a large, good shaped, reddish-orange flower. It was obtained by crossing *C. Schröderæ* with B.-L. Mrs. *Gratrix*, and when exhibited by Mr. J. Gurney Fowler at the Royal Horticultural Society, April 30th, 1907, it received a First-class Certificate.

B.-L.-C. *Cooksonii* is a beautiful hybrid with golden yellow flowers slightly suffused with red, the result of crossing *C. aurea* with B.-L. Mrs. *Gratrix*. It received an Award

of Merit when exhibited at the Royal Horticultural Society, February 9th, 1909.

BRASSO-CATTLEYA WITH A LÆLIO-CATTLEYA.

In the next five hybrids the theoretical proportion of the species is the same, viz., one-quarter *Brassavola Digbyana*, one-half Cattleya and one-quarter Lælia.

B.-L.-C. *Elatior* was exhibited by Messrs. Veitch in 1909. It is derived from L.-C. *Hippolyta* × B.-C. *Digbyano-Mossiaë*.

B.-L.-C. *Lutetia* was exhibited in 1909. It is one of Messrs. Charlesworth's hybrids obtained by crossing L.-C. *highburyensis* with B.-C. Mrs. *Leemann*.

B.-L.-C. *Triune* (L.-C. *Hyeana* × B.-C. *Digbyano-Schröderæ*) was shown by Sir Trevor Lawrence, Bart., in 1911. It produces a large flower of rosy-mauve colour with a fringed lip marked with purple.

B.-L.-C. *Pink Beauty* was exhibited by Messrs. Veitch in 1910. It is the result of crossing L.-C. *Hippolyta* with B.-C. *Digbyano-Mossiaë*.

B.-L.-C. *Baron Hénin* was exhibited by Mons. Firmin Lambeau at the Brussels Horticultural Meeting, August 20th, 1911. It was obtained by crossing L.-C. *callistoglossa* with B.-C. Mrs. *Leemann*.

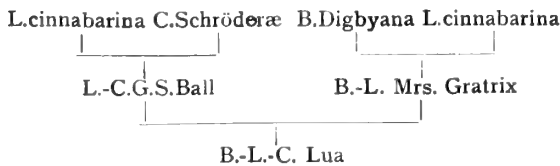
BRASSO-LÆLIA WITH A LÆLIO-CATTLEYA.

In the following four hybrids *Brassavola Digbyana* is responsible for one fourth, Lælia one-half, and Cattleya one-quarter of the parentage.

B.-L.-C. *King Emperor*, obtained by crossing B.-L. *Digbyano-purpurata* with L.-C. *Dominiana*, the latter being a scarce hybrid between *L. purpurata* and *C. aurea*, first flowered in 1911, and is described in Vol. 1, p. 196, of this journal.

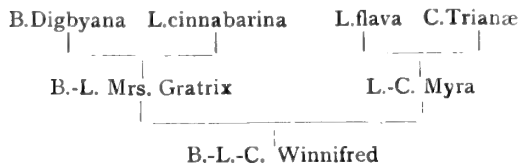
B.-L.-C. *Nereus* is described in Vol. 1, p. 223, of this journal. It was exhibited by Messrs. Cypher in 1911, the parents being B.-L. Mrs. *Gratrix* and L.-C. *Hyeana*.

B.-L.-C. Lua was catalogued by Messrs. Charlesworth in 1909.



The above will show the very large proportion of *Lælia cinnabarina* in this hybrid. The cinnabar colour is much in evidence, although the shape of many of the flowers is rather poor. Still, out of the many plants from this pod, there is always the remote possibility of one appearing having the size and shape of *Cattleya Schröderæ*, the fringed lip of *Brassavola Digbyana*, and the rich colour of *Lælia cinnabarina*; and, if so, what a triumph for the raiser.

B.-L.-C. Winnifred was first flowered in 1910 by Messrs. Charlesworth, the bright-yellow colour of the flower being derived from the *Lælia flava* in the following ancestry:—



It by no means follows that all the seedlings from this pod will produce yellow flowers, for the *L. cinnabarina* and the *C. Trianæ* will affect the colour and shape in many of them. There is an advantage in working with hybrids containing several highly coloured species for more than one shade of colour is frequently produced in the final results. As the object in view was to obtain more colour one might wonder why such a light coloured species as *Cattleya Trianæ* is included in the parentage. But a hybridist frequently finds that the plant he desires to work with is either unobtainable or not in flower at the requisite time, hence he is forced to use a hybrid containing this particular species in the hope that its characters will ultimately produce the desired result. It should also be noted that *B. Digbyana*, *L. cinnabarina*, and *L. flava* are all very narrow petaled flowers, and, therefore, without the inclusion of one or more

broad petaled kinds, such as *C. Trianæ*, the hybrid would be of a poor, starchy nature.

G. W.

TRICHOPILIA SUAVIS.

This very sweet hawthorn-scented cool house Orchid usually blossoms during the months of April, May, and June. The bulbs are rather thin and bear a large single leaf somewhat resembling that of *Odontoglossum grande*. The flowers, three to five of which are produced on short horizontal spikes, are creamy-white, the lip yellow in the throat, and spotted with rose-pink on the sides.

The following particulars as to its habitat are given by E. Morren in the *Belgique Horticole* for 1874:—

“This charming flower was discovered in 1848 by Warscewicz, in Costa Rica, on the Cordillera at an altitude of 5,000 to 9,000 feet. The finest specimens were met with on the volcano of Chiriqui, at an altitude of 8,000 feet, where the thermometer ranges from 50 to 60 degrees F.; some of the plants measuring two feet in circumference, and bearing from forty to eighty flowers at a time. Warscewicz sent the plants to M. Skinner, of London, remarking that they grew on the trunks of oaks, species of *Trichilia*, and on *Cupania glabra*, at from 20 to 40 feet above the ground, but never lower down, and when the trees fall through age or any other circumstance, the *Trichopilias* soon languish and die. At Chiriqui, at this altitude, there is a dry season lasting from November till April, when there is neither rain nor dew, and the wind is often very violent, but throughout the remainder of the year both rains and dews are copious and frequent.”

In the year 1850 it flowered in the collection of R. S. Holford, Esq., at Westonbirt, and about the same time in the collections of Mrs. Lawrence, at Ealing, and of Messrs. Loddiges, at Hackney. Some two years later it was figured in the *Botanical Magazine*, t. 4654, from a plant which flowered in the nursery of Messrs. Lucombe, Pince and Co.

AUTUMN NOTES.

THE advent of autumn is a reminder that the growing season of many Orchids has come to an end. The occupants of the Cattleya house have done exceedingly well during this record year of sunshine; large plump bulbs with strong healthy leaves are to be seen in almost every collection. This encouraging result will greatly assist the plants through the forthcoming winter, and enable them to produce their flowers in great perfection. The tendency to produce second growths must always be discouraged, for, except in a few favourable climates, the season does not extend sufficiently to allow their completion. As soon as a plant has almost finished making its bulb it should be removed to a cooler and drier atmosphere, only sufficient water being given to prevent shrivelling. This prevention of further growth will allow the plant to concentrate all its energies on the production of thick textured flowers of lasting properties.

Dendrobiums require treatment somewhat similar, but even more sunshine may be given with beneficial results. These plants have the advantage of being able to withstand, during their season of rest, even cooler temperatures than those accorded to Cattleyas. In some instances multiplication of the existing stock may be desired in preference to an abundance of flowers. This can easily be accomplished with Dendrobiums, for if the plants are kept in a warm and moist atmosphere during the autumn and winter, ripening of the bulbs will be prevented, and in place of the usual flower buds in the spring-time many of the nodes will produce young plants. These, after a few months, will produce roots of their own, and may then, with a piece of the old bulb, be potted separately. The autumn, therefore, is the time to decide whether flowers or young plants are required.

Odontoglossums have, by this time of the year, made new growths of considerable size. Although much of the necessary potting has already been done, there are always a few late plants which require attention during the month of October. It is not advisable to

repot any Orchid during the depth of winter, growth is then very slow and the plant takes considerable time to re-establish itself. Therefore, any plants not ready for potting at the end of this month had better be left until early in the new year.

Cypripediums are, undoubtedly, at their best during the autumn months. The supply of flowers from these plants continues till well into the new year, many of the individual flowers lasting a month in perfection. Cypripediums must always be kept moist and continually watched for the presence of thrips on the flower buds and in the centres of the new growths.

Shading on all houses may now be entirely dispensed with. Where Orchid houses are situated near large towns the plants will be greatly benefited by having the glass washed on frequent occasions. It is surprising what a large amount of sooty matter is annually deposited. Many growers advocate the frequent washing of the inside of the house with a good insecticide for the removal of injurious insects.

Fires will now be required at night time. Coke burns up quickly, but does not last for long, it is useful at the present time when only a little fire heat is wanted. Later on, when continual artificial heat is necessary, there is nothing to equal good anthracite coal, it burns steadily for many hours and gives off a great amount of heat. Nothing is more vexing than to have trouble with the heating apparatus. It, therefore, behoves everyone to have a good boiler well capable of doing the work required, and to see that all the pipes and fittings are in thorough working order before the coldness of winter approaches.

Those growers who have the advantage of lath roller blinds can leave them on the houses through the winter months. On cold nights they may be used for protection against wind and frost; several degrees of heat are saved, and the formation of drip is less likely to occur. In exposed positions some means should be used for fastening them at the loose or bottom ends.



Lycaete Skinneri flowering in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, Lancashire.

GRAMMATOPHYLLUM SPECIOSUM.

THIS wonderful Orchid is very rarely seen in cultivation, for the enormous size which the plant must attain before flowering prevents its inclusion in our comparatively small houses. Mr. A. Keyser, Selangor, records (*Gardeners' Chronicle*, 1890, i., p. 265) a large plant which he found growing on a Durian tree, and which required fifteen men to move it. It measured 7ft. 2in. high and 13½ft. across, and carried seven spikes of bloom, the longest being 8ft. 6in. high. Mr. J. H. Veitch records one in the Botanic Gardens at Penang as 42½ft. in circumference, the stems from six to seven feet long, and one of the preceding year's racemes, of which there were thirty, 7½ft. long.

In the Buitenzorg Botanic Garden, Java, a huge specimen grew on the trunk of a Canary tree. The specimen flowered in 1892, and produced about 50 flower spikes, each of them bearing 60 to 100 blossoms. Mr. Ridley records a plant which was

brought down from Malacca to Singapore, and weighed, with the portion of the tree on which it grew, three-quarters of a ton. Specimens in the Penang and Singapore Gardens measure over forty feet in circumference.

The flowering season is August and September, but it has rarely flowered in England, the most noteworthy occasion being in August, 1897, when it produced a spike of more than 70 flowers in the collection of Sir Trevor Lawrence, Burford. Mr. W. H. White, who had charge of the plant, was ordered to make more room for the fast increasing collection by destroying this specimen. The plant, however, only had its roots severely cut back, and was tightly squeezed into a much smaller pot. This procedure, whether by the sudden check or otherwise, caused the plant to produce the previously mentioned flower spike, which developed at the rate of six inches in twenty-four hours.

THREE USEFUL DENDROBIUMS.

DENDROBIUM *infundibulum* is a most beautiful species for supplying pure-white flowers for decorative purposes. It belongs to the nigro-hirsute, or black-haired, stem section of the genus, and derives its specific name from the resemblance which the base of the lip has to a funnel. The long slender bulbs are usually about two feet in height, with narrow, acute, unequally bi-lobed leaves. The flowers, which are borne in great profusion during the spring months, are large, usually four inches across, pure-white, with an orange-coloured anchor-shaped blotch in the broad part of the throat.

Dendrobium Jamesianum, named in honour of the late Mr. James Veitch, is considered by some to be a variety of *D. infundibulum*. It has rarely, if ever, been found growing with it, each species being confined to its own range of mountains in Moulmein, and there are also many distinctive points. The bulbs are stouter, not nearly so high, the nigro-

hirsute nature is more discernible, and the flowers have a cinnabar stain on the lip, the side lobes of which are asperated. Both *infundibulum* and *Jamesianum* are high mountain species, and succeed admirably in the cool house during the summer months, but being usually winter-growing species a somewhat higher temperature is advisable during this period.

Dendrobium formosum is a compact-growing species with stoutish black-haired stems about a foot high. The leaves are thick and broader than either *infundibulum* or *Jamesianum*, and the flowers, which last more than a month in perfection, are pure-white with a bright-yellow furrow down the centre of the lip. This species is widely distributed on the low-lying hills at Amherst, and enjoys a considerably higher temperature than either of the previously mentioned species.

ROYAL HORTICULTURAL SOCIETY.

August 29th, 1911.

MEMBERS of the Orchid Committee present : Harry J. Veitch, Esq. (in the chair); and Messrs. Jas. O'Brien (hon. sec.), W. H. White, W. Bolton, Gurney Wilson, H. G. Alexander, A. Dye, W. H. Hatcher, W. P. Bound, J. Charlesworth, W. Cobb, J. E. Shill, A. A. McBean, and Stuart Low.

The Duke of Marlborough, Blenheim Palace (gr. Mr. Hunter), was awarded a Silver-gilt Flora Medal for an exceptionally well-grown exhibit of *Vanda cœrulea*. More than 80 plants were included, and their graceful bright blue flowers were very much admired.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an attractive group containing a strong plant of *Oncidium luridum*, a grand specimen of *Ærides Sanderianum*, the rare *Houlletia Wallisii* which obtained an Award of Merit, several *Sophranitis hybridæ*, *Cycnoches densiflorum*, *Stanhopea oculata*, and the elegant *Houlletia Brocklehurstiana*.

Messrs. Stuart Low and Co., Bush Hill Park, received a Silver Banksian Medal for a good group in which several interesting Orchids were seen, those of special merit being *Bifrenaria tetragona*, *Peristeria elata*, the curious *Masdevallia simula*, *Bulbophyllum barbigerum*, the elegant *Oncidium Lanceanum*, a large flowered variety of *Dendrobium formosum*, *Vanda cœrulea*, and a large assortment of *Cattleya* hybrids.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for a well arranged group in which several very distinct varieties of *Cattleya Adula* and the pretty *Cattleya iridescens* were specially noted. Other Orchids included the richly coloured *Miltonia Moreliana*, a good plant of *Stanhopea Wardii oculata*, *Cattleya Iris*, and a specimen of *Lælio-Cattleya Issy*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was awarded a Silver Banksian Medal for a group containing many excellent *Cattleya* hybrids. Included in it were some fine varieties of *Cattleya Adula* and *C. Iris*,

C. Pittiana, a good variety of *Brasso-Cattleya* Mdm. Chas. Maron, several well-flowered plants of *Cypripedium Maudiaë*, and *Cattleya Gaskelliana Phyllis*, a distinct form.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), showed the cut spike of a variety of *Dendrobium undulatum* having 19 bright yellowish-green flowers with a white crest, the sepals and petals being twisted and undulated.

Messrs. Sander and Sons, St. Albans, showed *Catasetum reflexum*, an interesting species with dark greenish-yellow flowers barred with brown-purple.

R. G. Thwaites, Esq., Chessington, Streatham Hill (gr. Mr. J. M. Black), exhibited several good plants of *Cattleya Adula*, *C. Pittiana*, the distinct *Odontioda Thwaitesii*, and *Cattleya Roupelliana*.

C. Kirch, Esq., 60, Uplands Road, Hornsey, exhibited a very strong plant of *Cattleya Adula* which carried a spike of five well developed flowers.

Messrs. Jas. Veitch and Sons, Chelsea, exhibited two specimen plants of *Lælio-Cattleya Dominiana* (*C. aurea* × *L. purpurata*).

Mons. Henri Graire sent *Adioda St. Fuscien* (*Ada aurantiaca* × *Cochlioda Nœzliana*). See "New Plants."

AWARD OF MERIT.

Houlletia Wallisii, from Messrs. Charlesworth and Co., Haywards Heath.—A very beautiful and interesting species originally described by the late Professor Reichenbach in the *Gardener's Chronicle*, June 5, 1869, p. 611. The inflorescence is short and decumbent, the large, wax-like flowers being of a pale yellow colour spotted inside with reddish-purple.

CULTURAL COMMENDATION.

To Messrs. Charlesworth and Co., for a magnificent plant of *Ærides Sanderianum* with four spikes of flowers.

September 12th, 1911.

MEMBERS of the Orchid Committee present: Harry J. Veitch, Esq. (in the Chair); Messrs. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., F. Sander, R. G. Thwaites, A. A. McBean, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, C. H. Curtis, W. H. White, Gurney Wilson, W. Bolton, de Barri Crawshay, and H. G. Alexander.

many other rare and interesting Orchids were also shown.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for a small group of select Orchids, the finest being the new Sophro-Lælio-Cattleya Jeanette (see Awards) Other good things included Lælio-Cattleya Anthela, Cattleya Rhoda with a very good lip, C. Gaskelliana



Houletia Wallisii.

Received an Award of Merit when exhibited at the Royal Horticultural Society, August 29th, 1911, by Messrs. Charlesworth & Co.

Messrs. Sander and Sons, St. Albans, were awarded a Silver-gilt Medal for a large group including many new hybrids. In the centre were three specimen plants of *Vanda Sanderiana*, one being a good rosy variety. Some 15 varieties of *Lælio-Cattleya* Walter Gott, a specimen of *Acineta chrysantha*, the new *Lælio-Cattleya exquisita*, L.-C. Colmanii, L.-C. Damon (*callistoglossa* × *crispa*), and

alba, *Miltonia Bleuana nobilior*, a pretty variety of *Odontoglossum Lambeauianum*, *Cynoches maculata*, and the interesting *Stanhopea oculata*.

Samuel Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hales), received a Silver Banksian Medal for a very effective group of various Orchids. Included in it were good plants of *Phalænopsis violacea*, *Dendrobium*

MacCarthiæ, Lælio-Cattleya Henry Greenwood, a very nice variety of Cattleya Pittiana, and the bright-yellow *Oncidium varicosum*.

Messrs. Stuart Low and Co., Bush Hill Park, received a Silver Banksian Medal for a well-arranged group containing many fine specimens of *Oncidium varicosum*. In the centre was a well-flowered plant of *Houlletia Brocklehurstiana*. Other good Orchids included *Miltonia Roezlii alba*, *Cycnoches maculatum*, *Vanda coerulea*, *Dendrobium sanguinolentum* and its rare album variety, and many hybrid Cattleyas.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for a very good group containing many excellent varieties of *Cattleya iridescens* (bicolor × *Eldorado*), one being of a beautiful copper colour, others ranged in colour from yellow to rosy-purple, but all had purple labellums. A good plant of *Miltonia Roezlii* was also shown.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was awarded a Silver Banksian Medal for a very attractive group. Included in it were several good forms of *Cattleya Adula*, *C. Gaskelliana alba*, *C. Thurgoodiana* Vale Bridge variety, the remarkable *Bulbophyllum grandiflorum*, *B. guttatum*, and *Cattleya Ena* var. *E. V. Low*, a fine flower with yellowish sepals and petals of particularly good shape.

R. G. Thwaites, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. J. M. Black), exhibited many excellent varieties of *Cattleya Adula* (bicolor × *Hardyana*) having varying tints of colour on the sepals and petals. The pure-white *Cattleya Dusseldorfei Undine*, several distinct forms of *Cattleya Euphrasia* and *Lælio-Cattleya bletchleyensis* were also shown.

W. P. Burkinshaw, Esq., Hesse, sent *Cypripedium Venus* Hesse variety, a fine wax-like flower.

Lady Audley Neeld, Grittleton, Chippenham (gr. Mr. Pitts), exhibited *Cypripedium Fascination* (*Fascinata* × *insigne* Harefield Hall), a large flower with a well formed dorsal sepal and broad petals; also *Cypripedium Dallas* (*Curtisii exquisitum* × *Fairrieanum*).

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), sent *Lælio-Cattleya Colmanii* Goodson's variety, a grand flower with a rich purple lip and throat veined with gold; also a good form of *Cypripedium Lord Derby*.

Sir Jeremiah Colman, Bart., V.M.H., exhibited a remarkable *Bulbophyllum* of the *B. mandibulare* section, with reddish-brown flowers, and somewhat resembling *B. orthoglossum*. It has been provisionally named *B. nigrum*.

Messrs. James Veitch and Sons, King's Road, Chelsea, sent *Cattleya Carmen* (*Ludemanniana* × *Warszewiczii*), a large flower of good substance, with a rosy-purple front lobe to the lip.

AWARDS.

FIRST-CLASS CERTIFICATE.

Sophro-Lælio-Cattleya Jeanette (*L.-C. Martinetti* × *C. grandiflora*), from Messrs. Charlesworth and Co., Haywards Heath.—See "New Plants."

CULTURAL COMMENDATION.

To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., K.C.V.O., for a large specimen of *Dendrobium glomeratum* with over 30 rose-coloured flowers with orange-coloured labellums.

MANCHESTER ORCHID SOCIETY.

September 14th, 1911.

MEMBERS of the Committee present: Z. A. Ward, Esq. (in the chair), and Messrs. R. Ashworth, W. R. Lee, C. Parker, H. Thorp, J. C. Cowan, J. Cypher, W. Holmes, A. J. Keeling, F. K. Sander, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver-gilt Medal

for a magnificent group of *Cattleyas* of the Iris section, prominent amongst which was a fine form, Ward's var., a large flower, brilliant in colour, with an intensely coloured lip. (F.C.C.) Amongst the *Cypripediums* were noticed *Rossettii*, *Triumphans*, and *Leanium Corona*. A Cultural Certificate and Bronze Medal were granted to the gardener for the excellent growth of the *Cattleyas*.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged a nice group, to which a Silver Medal was awarded. *Cattleya Gaskelliana alba*, *C. Dominiana langleyense*, and *C. Iris sanguinea* were very good, as were *Cypripedium Rossettii*, *C. Chorltonii*, and *Lycaste Skinneri alba*.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was awarded a Silver Medal for a group of choice plants. *Cattleya Thurgoodiana nobilior* (F.C.C.), *C. Gaskelliana alba*, *Lælio-Cattleya Maqueda*, *Brasso-Cattleya*, Mrs. J. Leemann, *Dendrobium Phalænopsis Colmanii*, *Cypripedium Rossettii*, amongst others, making a nice display.

Dr. Hodgkinson, Wilmslow (gr. Mr. Moore), staged an interesting plant of *Lælia Bertii* (*tenebrosa* × *majalis*).

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), staged an unnamed variety of *Catasetum macrocarpum*.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged *Lælio-Cattleya Rubens magnifica*, a good variety.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a group containing the following *Cypripediums*:—*Niobe superbum*, *Milo*, *Leonæ*, and *Fair-ricianum*. The dark-coloured *Miltonia Moreliana*, *Vanda cœrulea*, *Odontoglossum grande*, and a nice plant of *Phaio-Cymbidium chardwarensense* were also well shown.

Messrs. Keeling and Sons, Bradford, staged a group to which a Bronze Medal was awarded. The best *Cypripediums* being *Kimballianum*, *Lord Derby*, *Rolfeæ superbum*, *Arthurianum*, and *gigas Corndean var.*

Messrs. Hassall and Co., Southgate, staged a few plants of merit, *Cattleya iridescens cuprea* being specially noticeable. Examples

of *Lælio-Cattleya Walter Gott*, and a *Cypripedium* hybrid between *Harefield Hall* and *Hitchinsia* were also shown.

Mr. E. V. Low, Haywards Heath, staged *Cattleya Gaskelliana Phyllis*, *C. Adula*, a fine variety, *Cypripedium Mirabilis*, and *C. Amboyne*.

Mr. W. Shackleton, Great Horton, staged a plant of *Cypripedium Lord Ossulston*, *Chillingham* variety.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya Thurgoodiana nobilior, from W. R. Lee, Esq. A splendid flower of good form and substance. *Dendrobium Phalænopsis Colmanii*, from the same exhibitor, a large full flower, well lined in the lip.

Cattleya Iris Wards var., from Z. A. Ward, Esq. One of the finest forms of the type seen, sepals and petals very brilliant, with intense colouring in the lip.

AWARDS OF MERIT.

Lælio-Cattleya Maqueda (G. Woodhams × Lord Rothschild), from W. R. Lee, Esq. An excellent form, very even in colour.

Cattleya Adula, var. *Maronii*, from Z. A. Ward, Esq., also *C. Iris "St. Giles,"* and "No. 3," both fine forms, from the same exhibitor.

Lælia Bertii (*tenebrosa* × *majalis*), from Dr. Hodgkinson. A large flower of deep colour.

Catasetum macrocarpum, from R. Ashworth, Esq. A well-flowered plant of a supposed new variety.

Lælio-Cattleya Rubens magnifica, from J. McCartney, Esq. A very nice variety of good form.

Cattleya iridescens cuprea (*bicolor* × *Eldorado*), from Messrs. Hassall and Co. A very distinct form, brilliant in colour.

Miltonia Crashlayana alba, from Messrs. A. J. Keeling and Sons. A very distinct variety of the type.



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NOTES.

A LARGE ORCHID WREATH.—At the end of a recent performance at the Imperial Opera, St. Petersburg, the stage was literally covered with flowers, and one wreath of rare Orchids was presented over 7 feet in diameter.



CATTLEYA LABIATA.—This well-known autumn-flowering species is now to be seen at its best. In the Orchid establishment of Mr. Ed. V. Low, Haywards Heath, a plant in a 12in. basket is carrying no less than 46 large flowers, a really grand display for one plant.



AN IMPORTANT SHOW.—The Manchester Orchid, and North of England Societies will hold a grand Orchid show at Manchester on February 22nd, 1912. There is every prospect of the combined efforts of these two influential Societies meeting with great success.



ROYAL INTERNATIONAL EXHIBITION.—The judging of the Orchids at this exhibition will be according to the standard of the Royal Horticultural Society; arrangements will be made to have the large collection of paintings available for reference on this occasion, as at the ordinary fortnightly meetings. A Silver Cup has been offered by Mons. Jules Hye de Crom, Ghent, for the best group of *Miltonia vexillaria*, its varieties, and hybrids; in a space not exceeding 100 sq. feet.

PHAIUS GRANDIFOLIUS.—Those who contemplate paying a visit to Messrs. Mansell and Hatcher's establishment at Rawdon, Yorks, will be interested in hearing that Apperley Bridge, the nearest railway station, is famous for being the spot where the first plant of *Phaius grandifolius* which flowered in this country was cultivated in 1776. It had been sent there to Mrs. Hird, by her uncle, Dr. Fothergill, in a black Chinese pot, full of stiff loam, in which it had been imported.



ALBINO CYPRIPEDIUMS.—Messrs. A. J. Keeling, Bradford, have recently flowered a number of seedling *Cypripediums*, the result of crossing *C. insigne* Laura Kimball with *C. insigne* *Sanderæ*, both of which are albino forms. Of the plants which have, so far, flowered, about 25 per cent. are pure albinos, the others have entirely reverted to the typical coloured forms. One of these, a good variety, received an Award of Merit when exhibited at the recent meeting of the Manchester Orchid Society as *Cypripedium westgatense*.



NEW ORCHID CATALOGUE.—Messrs. Hassall and Co., Southgate, have just issued a most useful catalogue of their large stock of Orchids. A copy may be had on application, post free.

GRAMMATOPHYLLUM SPECIOSUM.—With reference to a note in our last issue concerning this giant Orchid, a correspondent informs us that this species, though by nature an epiphyte, readily adapts itself to terrestrial treatment and frequently grows with increased strength when planted on the ground. At Peradeniya, where it was formerly treated as an epiphyte, this plant is now grown on a specially prepared soil, with the result that it flowers regularly every year.



CATTLEYA IRIS KING EDWARD VII.—A flower of this very fine variety has been sent by Mr. G. E. Day, Orchid grower to H. S. Goodson, Esq., Fairlawn, Putney. It measures $5\frac{1}{2}$ inches across the broad, golden-amber coloured petals; the lip is $2\frac{1}{2}$ inches wide, of a rich-purple, the margin being undulated and slightly fringed. This flower much resembles *Cattleya aurea* in size, but the fleshy nature of *Cattleya bicolor* has been inherited to a large extent, the result being an unusually large, thick textured flower of great beauty. It received a First-class Certificate, September 13th, 1910.



LELIO-CATTLEYA ST. GOTHARD (L.-C. GOTTOIANA \times C. HARDYANA.—This is another elegant hybrid from the same collection. The form of the flower is perfect, every segment being well proportioned. The colour is very rich, that of the lip being crimson-purple and extending completely round the border. A First-class Certificate was awarded to the plant when exhibited by Mr. Goodson, October 13th, 1908.



THE CHARLEROI EXHIBITION.—At this recent great horticultural show the following medals were awarded to Orchids. Gold Medal, value 250 fr.: Messrs. Duchesne and Lanthoine, Watermæl. Gold Medals, value 200 fr.: M. Jules Hénin, Fraciennes; M. Ch. Dietrich, Auderghem; Messrs. Charlesworth

and Co., Haywards Heath. Gold Medal, value 100 fr.: Mr. Hermann Cogen, Tervueren, Silver-gilt Medals, value 30 fr.: M. Firmin Lambeau, for the best *Cattleya*, the best *Cattleya* hybrid, and for the best *Miltonia* hybrid. Messrs. Duchesne and Lanthoine received a Silver-gilt Medal, value 30 fr., for the best *Cypripedium*.



CYMBIDIUM ERYTHROSTYLUM.—Little more than six years ago this species, which is closely allied to *C. eburneum* and *C. Parishii*, was discovered in Annam by Mr. Micholitz when collecting for Messrs. Sander and Sons. It was first flowered in this country by Sir Fred. Moore at the Royal Botanic Gardens, Glasnevin. The pure-white flowers are very elegant and attractive, the sepals being broader than the petals, about an inch in width and slightly concave. The lip is three-lobed at the apex, yellowish-white, and lined throughout with reddish-purple, the lines breaking up into dots at the margin of the side lobes. The column is bright crimson, in allusion to which the specific name was given. Mr. H. G. Alexander, Orchid grower to Sir George Holford, K.C.V.O., Westonbirt, has forwarded a truly magnificent inflorescence consisting of 14 large flowers, each one measuring four inches from top to bottom, and without any suspicion of colour on the sepals and petals. This example is certainly a record of cultural skill.



BULBOPHYLLUM LEOPARDINUM.—Of this interesting species, a plant of which has recently flowered in the Mundham collection, Mr. Robert Pantling has recorded (*Orchids of the Sikkim-Himalaya*) the following incident, which throws some light on the fertilisation of the genus generally:—"One of the many visitors to the plant on my table while I was making a drawing of it, was an insect rather longer than the common house-fly, but brownish in colour and covered with stiff hairs. One of these alighted on a flower and depressed the mobile lip to its utmost.

As the fly absorbed the nectar on the anterior part of the lip it gradually approached nearer and nearer the base, seeking for more. As it got to the part of the lip which bends down to join the column the lip began to rise, and as the latter suddenly assumed its normal position the fly was pressed between it and the column and was for some time held a prisoner. After some struggles it managed to escape, carrying off one of the pollinia glued to its thorax. This incident may assist to throw some light on the use of the mobility of the lip so characteristic of this genus and of *Cirrhopetalum*."



CŒLOGYNE CRISTATA.—At this season of the year plants of *Cœlogyne cristata* should be brought into a slightly warmer atmosphere where a minimum night temperature of 50° F. can be maintained, and a position where they can be placed well up to the light should be selected. A cool *Cattleya* house is very suitable, for if the plants are left in the *Odonoglossum* house during the winter the flower spikes are apt to turn black and damp off. If many plants are grown, one or two of the strongest may be placed in a slightly higher temperature; these will then bloom at an earlier date and the flowering season will be considerably extended. Although considered by many an easy Orchid to grow, it does not always flower the season after the plants have been repotted; many of the finest spikes of bloom are produced when the pot is full of bulbs growing in a mass one upon another. The flowering season is February to March, the flowers, some six or eight on a drooping spike, are pure-white, with a prominent blotch of yellow on the crest of the lip. The varieties *citrina* and *Lemoniana* have the centre of the lip stained a delicate lemon colour; it is as well to mention that the latter variety, often erroneously spelt with a small initial letter, was named in honour of Sir Charles Lemon. The variety *alba*, also known as *hololeuca*, is entirely without the yellow colour, and when first discovered large sums were paid for small pieces; now it is fairly plentiful, and nice plants can be purchased for a few shillings.

ORCHIDS OF GAZALAND.

THE Journal of the Linnean Society, Vol. XL., is devoted to "A Contribution to our knowledge of the Flora of Gazaland, being an account of Collections made by Mr. C. F. M. Swynnerton, F.L.S.," Dr. A. B. Rendle, F.R.S., F.L.S., being responsible for the Monocotyledons.

The tract that we commonly call Gazaland, extends roughly from some distance to the south of Delagoa Bay to the Umvumvumu, Lusitu, and Buzi rivers, the sea bounding it on the east and the River Sabi on the west.

The Orchidaceæ, of which three new species are described, consists of:—

Eulophia milanjana, Rendle. Distribution, German East Africa to Gazaland. In flower, October.

Lissochilus papilionaceus, Rendle. Distribution, British Central Africa. In flower, March.

L. Krebsii, Reichenb., f. Distribution, Mt. Milanji and Morambala Mountains; also South Africa. In flower, November.

L. arenarius, Lindl. Distribution, widely diffused in Tropical Africa; Natal. In flower, November.

Ansellia humilis, Bull. Distribution, Lower Zambesi. In flower, October.

Eulophia Swynnertonii, Rendle, sp. nov. Habitat Mt. Pene, 6,500—7,000 ft. In flower, September and October. Common on the higher grass-covered slopes.

Angræcum rhodesianum, Rendle, sp. nov. Habitat, Melsetter. In flower, September.

Brachycorythis acutiloba, Rendle, sp. nov. Habitat near Chirinda, 3,800 ft. In flower, December. A common ground Orchid.

Habenaria pedicellaris, Reichenb., f. Distribution, Abyssinia, Mt. Kilimanjaro. In flower, April.

Satyrium Buchanii, Schlechter. Distribution, Nyasaland. In flower, April.

S. speciosum, Rolfe. Distribution, Nyasaland; Zambesiland. In flower, December.

S. occultum, Rolfe. Distribution, Nyasaland. In flower, January.

Disa hamatopetala, Rendle. Distribution, Nyasaland. In flower, September.

CORYANTHES BALFOURIANA.

THIS extremely interesting Orchid is a native of Peru, where it was discovered by Mr. Forget when collecting for Messrs. Sander. The reproduced photographs have been kindly sent by Sir John Edwards - Moss, Bart., Roby Hall, Torquay, in whose collection a plant recently flowered. At St. Albans, Messrs. Sander flowered a similar plant which they were unable to identify or match with any known Peruvian species. They, therefore, provisionally named it *C. Balfouriana*, in compliment to Professor Balfour, Regius Keeper of the Royal Botanic Garden, Edinburgh.

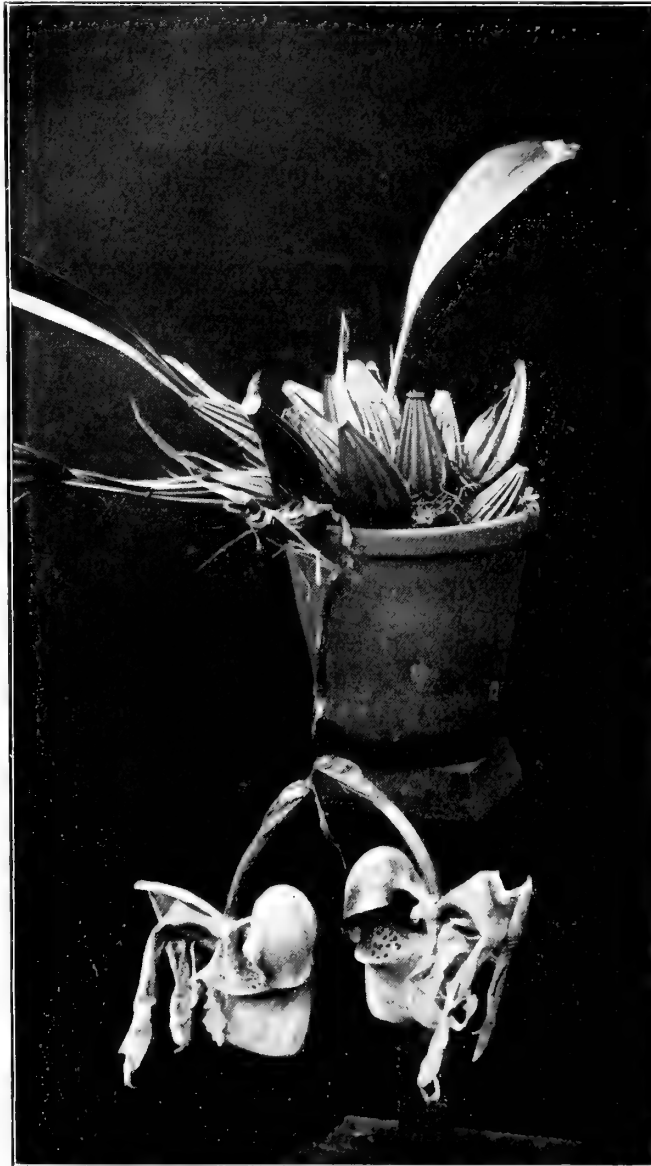
Of *Coryanthes*, Sir Joseph Paxton wrote in 1838, "and such was the extraordinary form the flowers presented, that wonder and surprise were created in all who were favoured with an opportunity of seeing them." Considering the rareness of the flowers a short description will not be unwelcome.

In habit the plant much resembles the better known *Stanhopea* genus. The long pendulous

scape bears two or three very curiously shaped flowers. The generic name is taken from *korys*, a helmet, and *anthos*, a flower, in

allusion to the helmet-like appendage to the lip of the flower. The sepals, after opening, soon collapse and assume the attitude of bat's wings at rest. The wonderful lip is as fleshy and solid in its texture as the sepals and petals are delicate. The lower part is converted into a large bucket, above which two horn-like appendages (marked A in the right-hand flower of the large photograph) secrete so much nectar that drops may be seen continually falling into it. When the bucket is nearly full the fluid overflows by the spout (B). This spout is closely over-arched by the end of the column, which bears the stigma and pollen-masses in such a position, that an insect forcing its

way out of the bucket through this passage would first rub its back against the stigma, or female part, and afterwards against the viscid discs of the pollinia, or male part, and thus remove them.



Coryanthes Balfouriana, flowering in the collection of Sir John Edwards-Moss, Bart., Roby Hall, Torquay.



Coryanthes Balfourtiana, flowering in the collection of Sir John Edwards-Moss, Bart., Roby Hall, Torquay.

The truly wonderful way in which fertilisation is effected has often been observed in plants growing in their native country. The bees, attracted either by the perfume or the flavour of the nectar, can be seen in great numbers disputing with others for a place on the edge of the bucket. Partly by this contest, and possibly intoxicated by the liquid they are drinking, they tumble into the bucket and receive a wetting sufficient to prevent their immediate escape. Crawling round the inside they soon discover the opening of the spout and emerge at the spot marked B. It is here that the pollen is removed by adhering to the bee's back.

The insect no sooner comes out than he returns again to the feast, when it is generally precipitated a second time into the bucket, passing through the same opening, and so inserting the pollen-masses on to the stigma, or female portion of the flower. Sometimes there are so many bees assembled that there is a continual procession of them through the passage specified.

Darwin was greatly interested in this genus, and thought there could not be the least doubt that the fertilisation of the flower absolutely depended on insects crawling out through this passage. If the bucket had been dry, the bees could easily have escaped by flying away. Therefore he argued that the fluid is secreted

by the horn-like appendages in such extraordinary quantity for the sake of wetting the wings of the bees, and thus compelling them to crawl out through the passage.

The *Botanical Magazine* for 1827 mentions a plant of *Coryanthes* in the collection of Mr. Harrison, of Liverpool, the flower of which was observed by his gardener to be rapidly filled with honey. Some of the cups were emptied in the morning, but during the same day were half-filled with the nectariferous juice.

Coryanthes are best grown in baskets or pans with moss and peat, or *Osmunda* fibre, and beside a brisk heat, require during their period of growth a plentiful supply of water at the roots. On completing their growth the plants should be kept on the dry side and placed in a position where a good light may be obtained. They do not seem to require so much shade as *Stanhopeas*.

Coryanthes Bungerothii is a native of Venezuela and blooms in the month of May; *C. leucocorys* is a native of Peru and flowers in June; *C. macrantha*, one of the best species in the genus, comes from Caracas, and opens its flowers during the months of May, June, and July; *C. macrocorys* is Peruvian; *C. maculata* is a summer flowering species, and is a native of Demerara; and *C. speciosa*, from Brazil, has rather large flowers which are produced in April and May.

THE REDISCOVERY OF LÆLIA GOULDIANA.

By J. M. BLACK.

THE rediscovery of a lost Orchid is a really important event, and when my friend Mr. Louis Forget was recently in England he was kind enough to give me a few details of his successful hunt for *Lælia Gouldiana*, a summary of which may be of some interest to the readers of the *Orchid World*.

Mr. Forget had some misgivings when he received a brief order to go and collect 3,000 plants of this *Lælia*, for might it not be a hybrid after all, as had been suggested? and was it really to be found in quantity?

It may be mentioned that many years ago Mr. Forget localised *Lælia tenebrosa* after

three years of thankless search, and came across *Lælia Jongheana* accidentally when exploring for a new spot for the pretty *Lælia præstans*, but his impressions on those occasions were very different to those recently experienced.

Mr. Forget left Vera Cruz by train in the evening, clad only in light clothes, and suffered much from the cold in consequence during the night and until sunrise, finding the interior of Mexico very different to what he had imagined. On arriving at the heights of Orizaba, he became filled with the conviction that he must surely be on the wrong track—that no Orchids could possibly survive in such

frosty regions. He determined, however, to go through with the journey he had mapped out for himself, and for his directions he relied largely on what he had gleaned from a casual conversation with the late Mr. Theimer, the original discoverer of the species. Of the names and places Mr. Theimer had mentioned Mr. Forget particularly relied upon one, but found, with resulting confusion, that this name was owned by dozens of towns and villages.

This contretemps, combined with the unlikely aspect of the cold region, had half decided him to retire from further search in that direction, and it was when making a detour with the intention of returning that, on the second day, he came across a deep valley in which he found *Lælia Gouldiana*.

Here were thousands of flowers open, some grand masses having dozens of spikes of 4-7 flowers, and all of a uniform deep-rose colour. There was also but little variation of form, and it may be a matter of some regret from the collector's point of view that such a showy and elegant species does not offer a wider range of varieties.

Lælia Gouldiana grows on a rough-barked and sturdy *Acacia*, but Mr. Forget also found a few plants openly exposed on rocks and edges of ugly ravines and growing mixed with *Lælia anceps* on a species of *Quercus*; and flanking the sides of the valley, and in a cooler position, he had some *Lælia majalis* collected.

Lælia Gouldiana is strictly epiphytal, and may be said to almost live upon itself, as it roots with extraordinary freedom, the roots being interwoven into dense, close mats; making leads freely from the centre of the mass as well as round the edges, the plant develops to enormous proportions, and so big were many of these that Mr. Forget had to section them into pieces small enough to get them into portable shape for his donkeys and mules. For this purpose he had to use a large saw, as no headway could be made with a knife, and then he could observe the long succession of bulbs buried in the spongy mass of roots. This mass of roots holds no small portion of its own decay and a considerable quantity of

humus from the leaves of the trees, and thus forms a retentive bed for the rains.



Lælia Gouldiana grows and ripens its bulbs in six months, expanding its shapely flowers from the end of October through November, and then from November to April rests. This winter resting period Mr. Forget describes as having dry frosty nights and bright dazzling days. The sun's rays had an unusual effect on him, as, although he felt the burning influence, he could feel the air chilly at the same time.


Mr. Forget would suggest that these Central Mexican Orchids should have much the same treatment as *Cacti*, and he would put only light white-wash on the glass for shade during the summer, and with full air on the house from May to September, with generous syringing and watering during suitable weather. During the winter he would advise a day temperature of 55°—60° F., varying a little with outside conditions.




The natives of Mexico are good gardeners and lovers of nature in a high degree, and Mr. Forget found that *Lælia Gouldiana* was a great favourite with those in that district, the flowers being in great demand by them on their saint days, when they are used in lavish abundance to decorate the churches and chapels. For this reason he found that nearly everybody had plants under cultivation, having transplanted them on to trees near their dwellings, and this was a "great convenience" to him.

On Mr. Forget enquiring why they did not care so much for *Lælia anceps*, they replied that *Lælia Gouldiana* was much finer and much more floriferous, and Mr. Forget has no doubt that this will be the opinion of the majority of those who grow it in the glass-houses of these islands and the continent.



Lælia Gouldiana, singularly enough, has not an indigenous name, the natives calling it *Monjas*, which is the Spanish for nun, the reason given for so calling it being because the little cap covering the pollinia resembles a nun's bonnet; and during the short time Mr. Forget spent in the district, the natives did not get familiar with his name, calling him simply *El hombre de los Monjas*, the nun man.



The Mundham Collection,
 Chichester, Sussex.

THE Mundham collection of Orchids has long been renowned for the many very rare and curious specimens which it contains. Many an amateur has possessed

means a small plant, very often too small to produce a flower spike. One is, therefore, more than pleased with the numerous large specimens contained in the very interesting



Cirrhopetalum pulchrum Cliftonii. (R.H.S. Journal.)

the desire to visit the Tropics in order to see Orchids growing in their natural habitat, but travellers would have many a weary day's march before discovering such elegant plants as exist at Mundham. It is true that many of them are represented in other collections, but represented, in the case of rarities, frequently

collection belonging to the Rev. J. C. B. Fletcher, Mundham, Chichester.

Antiquity now has many admirers, gratification being often obtained by the acquisition of that which age has made venerable. Hybrids, therefore, the result of modern work, have, in this collection, little attention

bestowed upon them; it being composed essentially of species producing the beautiful and fantastic flowers whose history age alone can tell.

This noted collection is contained in several substantially-built spacious houses, each one

being a veritable store-house filled with the wonders of Nature. *Bulbophyllum barbigerum* with its fragile, continually moving lip, *B. saltatorium*, of a similar curious construction, the very large flowering *B. grandiflorum*, and *B. Hamelinii* grow here with great vigour. *B. sicyobulbon*, fastened on a tile, *B. leopardinum*, *B. nutans*, and the curious *B. Pechei* are all represented by healthy specimens; a plant of *B. anceps* being, probably, the

largest in cultivation. There are also excellent plants of *B. polyrhizum*, with its branching rhizomes, the very remarkable *B. Ericssonii* and its near relation *B. virescens*. Notice must also be made of *B. Reinwardtii* and *B. saurocephalum*.

The *Cirrhopetalums* include the elegant

C. pulchrum Cliftonii, the curious *C. Fascinator*, *C. Medusæ* with its remarkable flowers resembling a head with long hair, and also a variety of the same without any spots on the sepals and petals, *C. robustum*, the pretty *C. Andersoni*, *C. Thourasii*, a large plant of

C. Mastersianum which is nearly always in flower, a grand specimen of *C. biflorum*, and the very elegant *C. guttulatam*, known also as *Bulbophyllum umbellatum*, the two genera being very closely allied.

Renanthera coccinea alba is a great rarity and the same may be said of the pure-white flowering *Aerides virens Sanderæ*. *Rodriguezia crispa*, *Cœlia macrostachya* with its rosy-red flowers, and the strange-looking *Oncidium*

juncifolium are all in a healthy condition. A plant of *Eria lanata* carries thirteen seed-pods, all the result of self-fertilisation, and suggests that insect agency is not always a necessity. The genus *Eria* is particularly well represented, notable examples being *E. ferox* and *E. vestita*. An



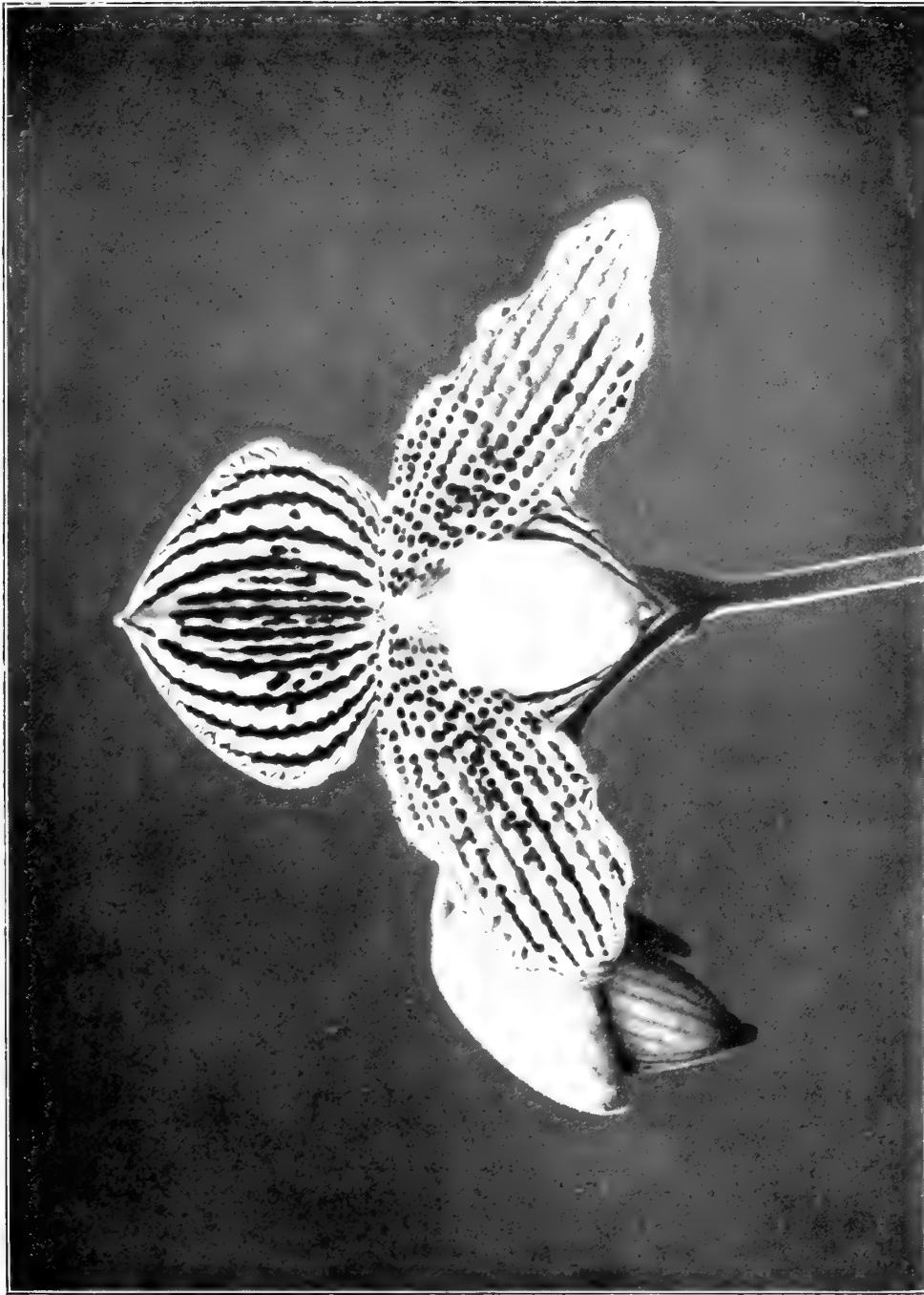
Rev. J. C. B. Fletcher, M.A.



Arachnanthe Lowii flowering in the collection of the Rev. J. C. B. Fletcher, Mundham, Chichester.

interesting plant is *Cymbidium pendulum*, it is frequently confused with *C. aloifolium*, but when the two can be seen growing side by

in cultivation; the numerous bulbs and many new growths are growing on a mound of compost placed in a huge pot. The new *Oncidium*



Cypripedium Fletcherianum (*Godefroyæ leucochilum* × *W. R. Lee*).

side, as they do at Sikkim, a great distinction can be seen. One of the largest specimens in the collection is *Cælogyne Meyeriana*, without doubt the greenest flowering Orchid

Sanderæ, the yellow flowering *Phaius flavus*, and *Maxillaria meleagris* all grow well and show every sign of good culture.

Arachmanthe Lowii, certainly the finest

plant in this country, is alone worth a visit to Mundham. Discovered by Sir Hugh Low in Borneo, this plant is truly remarkable. In its native country it delights in high trees on the banks of rivers, thick forests, and other humid places. Owing to the length of time required for transmission very few plants are alive when arriving at this country. The reproduced photograph was taken a few years ago, since when this wonderful specimen has greatly increased in size. It has now seven new growths, and when flowering during the month of August this year it produced no less than thirteen long stems having an average length of eight feet and carrying an aggregate of 368 flowers. These long stems occupied a period of eight weeks in growing, or a weekly average of twelve inches growth. A very remarkable feature of this plant is the production of dimorphic flowers, or, in other words, two forms of flower on

the same spike, for which no one has yet been able to discover the cause or their usefulness to the plant. The two or three blossoms at the base of the spike, which are widely separated from the rest, are of a tawny-yellow, spotted with crimson. The rest of

the flowers are greenish-yellow, marked throughout by large irregular blotches, mostly transverse, of a rich dark-brown.

Arachnanthe Rohaniana is just now in full bloom, it has two spikes with twenty-nine and thirty flowers respectively; one spike has four of the orange-coloured flowers at the base, and the other three; hitherto the plant has only borne two of these flowers on a spike. The spikes themselves are considerably longer than usual and the flowers much finer, both forms of flowers being much lighter in colour than those of *A. Lowii*. The plant is growing very fast and strong and is considerably larger than when first obtained.

Arachnanthe Cathcartii, a native of the Sikkim-Himalayas, where it grows by the side of streams in deep cool shade, is another excellent specimen in this collection. There are also good plants of *Arachnanthe*



Arachnanthe Rohaniana.

moschifera, *Vanda Parishii*, and *Vanda tricolor*. *Vanda Dearei*, a rare species from Ceylon, has attained the unusual height of 4ft. 6in., the large flowers being very attractive. *Vanda Sanderiana*, the finest species of the genus, grows well,

this season it carried twelve of its beautiful flowers.

Cœlogyne fuscescens is a beautiful species from North India; and *Cœlogyne Micholitzii* with over sixty bulbs, carries a seed pod the result of crossing with *C. speciosa alba*, of which there is a large plant. *Isochilus linearis*, a Tropical American species, is a pretty Orchid which grows about a foot in height and produces rose-red flowers in the spring and summer. *Lockhartia elegans*, from Trinidad, bears pretty yellow flowers with a fleshy lip spotted with purple.

The numerous species of *Pleurothallis*, varying considerably in their inflorescences, receive their share of attention, but many of the flowers are so small that a magnifying glass is required to observe their plan of construction. Many of the *Stanhopeas* are grand specimens growing in suspended baskets; their curious wax-like flowers have been freely produced during the present year. Of other interesting Orchids mention must be made of a large specimen of *Scuticaria Hadweni*, with its long sub-terete leaves; *Zygopetalum Sanderianum*, with its broad blue lip; and *Eulophia guineensis*, a summer flowering plant from West Tropical Africa.

Megaclinium Bufo with its extremely interesting flowers, reminding one of numerous small frogs sitting on a flattened snake, is a great rarity. *Ærides Houletiana*, an elegant species from Cochin China, *Angræcum Eichlerianum* from West Africa, and *Angræcum Scottianum* with its pure-white flowers must also be noted.

The *Dendrobium* house contains a large selection of well-known and rare species. At this time of the year the plants are resting, but in the spring a welcome display is produced. Of the many specimens mention must be made of *Dendrobium aggregatum*, *D. Farmeri*, the Javan *D. mutabile*, *D. moschatum cupreum*, a very strong plant of *D. Phalænopsis album*, the Australian *D. Goldei*, and *D. Parishii* with its rich dark-rose flowers.

The *Cypripedium* house is well filled, the great variation in the coloration and markings of the flowers producing a pretty effect at this season of the year. The following forms are

very distinct: *Cypripedium Fletcherianum*, *Cyp. Daisy Barclay*, figured on page 10, *Cyp. Stonei*, and *Cyp. caudatum* with its peculiar long petals.

There are also good plants of *Lælia Finckeniana alba*, a part of the original *Cattleya Hardyana*, *Cattleya Bowringiana* Low's var., a hugh specimen of *Cattleya Mantinii*, the beautiful *Lælia purpurata Russelliana*, *Platyclinis filiformis* with its numerous slender spikes of golden flowers, the spider-like *Brassia maculata*, and *Cattleya Luddemania alba* with thirteen bulbs.

This large and valuable collection contains a vast amount of material of great interest to those studying the many various species and varieties of this wonderful order of plants. Mr. Fletcher has now been growing Orchids for more than twenty years, and to find his equal as an enthusiast would indeed be a difficult task.

G. W.

SEASONABLE NOTES.

In this country we are now at a season of the year when the days are at their shortest and the growing conditions at their minimum. Every advantage must, therefore, be taken of the few hours of sunshine which we may receive. In large towns only a moderate light can be obtained, the sun's rays being almost obscured by the thick haze of smoke and fog which so frequently overhangs a large populous district.

Light is of very great importance to plant life, without a certain amount growth soon stops and the existence of the plant is endangered. Orchids when deprived for any length of time of their normal seasonable amount of bright light soon turn yellow, lose their leaves, and ultimately die.

The leaves of plants are arranged in such a manner that a correct or suitable amount of sunlight may be received by them. This arrangement is designed during their formation, and may often be noticed in plants which have been grown near a wall and have in consequence only received the light from one direction

When arranging the contents of a house, an operation often carried out at this dull season of the year, care should be taken to stage the plants in such a way that the light may fall on them as nearly as possible from the same direction as before. The growth of plants being either finished or in a semi-dormant condition, no alteration in the leaf arrangement can take place at this season of the year.

No good results can be expected if the under-sides of the leaves are exposed to a brighter light than that acting on the under surface, a rather unlikely occurrence with plants having comparatively thin drooping leaves, but liable to happen with Orchids possessing stiff, somewhat erect leaves. To create a smart appearance, it is a common practice to tie the leaves and bulbs of *Cattleyas* and other closely allied genera in an upright position; but, by so doing, the leaves receive the

light in a very different manner than formerly. It is very doubtful whether this is a procedure to be recommended; it must always be remembered that man's idea of order may frequently be adverse to that of Nature's. Plants after countless ages have evolved a certain method of construction suitable to their surroundings and requirements, any attempt to suddenly alter this arrangement may bring about unwelcome trouble, it certainly is not a sound principle of horticulture.

There are, however, a few plants which, owing to our comparatively short growing season, may require some assistance to prevent their bulbs from drooping in an unnatural position, but, even with these, care should be exercised in the manner of tying them up, or the bulbs may be placed in a manner not only unnatural but detrimental to the welfare of the plant.

THE ATMOSPHERE OF AN ORCHID HOUSE.

EXCESS of moisture causes the formation of drops of water on the glass and sash-bars. This condition of the atmosphere usually occurs during cold weather, especially at night-time, and, if not soon remedied, the plants are subjected to a continual falling of drops of cold water upon their leaves, flower sheaths, and tender new growths. This, known to every Orchid grower as "drip," is extremely detrimental, for it occurs when the atmosphere is already in an almost saturated condition and with little chance of drying.

Where plenty of room is obtainable, the plants may be arranged so that the drip, if formed, may fall between them; in small collections circumstances will not allow this method to be carried out, but in both cases prevention is better than cure. It has been previously shown that cold coming in contact with moist atmosphere causes some of the moisture to condense; by covering the roof of the Orchid house with some protective material on cold nights, much of this condensation may be prevented.

It will be well to mention that water falling from a recently-watered suspended pan or basket is not so detrimental, for it only occurs when the conditions of the atmosphere are in a right state for watering the plants, that is, when the air is moderately dry, and any excess of water is quickly evaporated. Therefore, it will be seen, there are two distinct kinds of "drip," one, caused by condensation of the atmospheric moisture due to a lowering of the temperature; another, due to careless watering. The former is detrimental and requires every means of prevention; the latter, although far less harmful, should, and can, easily be avoided.

A highly saturated atmosphere will do little harm to Orchids so long as the temperature remains comparatively high; but great danger to the plants is incurred by allowing the temperature to fall and remain at a low level when the atmosphere is charged with an excess of moisture.

Vanda coerulea delights, during the day-time of the growing season, in a very damp and hot atmosphere, but if the temperature is lowered

without disposing of the moisture, spotting of the leaves will surely result.

Boxall, when collecting *Vanda coerulea* in the Southern Shan States, frequently had to contend with extremely hot, humid days, yet at night-time it was so cold that hoar frost was formed on the ground and very often on the plants themselves. He, however, always noticed that, before the arrival of the cold and frost, keen drying winds came and carried away almost all the moisture in the atmosphere; the plants, therefore, never suffered from the effect of a saturated atmosphere at a low temperature.

"Spot" on the leaves of Orchids may be attributed to an unnatural or excessive amount of atmospheric moisture when the temperature is low, and the plant is fully charged with water. This spot disease of Orchids was investigated by Mr. George Masee, of Kew, and the following experiments which he carried out are recorded in the *Annals of Botany*, Vol. IX., No. XXXV., Sept., 1895.

A young, healthy plant of *Habenaria Susannæ*, perfectly free from spot, and which up to the date of the experiment had been growing in a house having a temperature ranging between 75° and 80° F., was selected for experiment. Minute particles of ice were placed at intervals on the uninjured surface of the leaves. The plant—along with the pot in which it grew—was then placed in a sink and covered with a bell-jar, and cold water from a tap allowed to flow over the bell-jar for twelve hours, during which time the temperature inside the jar ranged between 41° and 45° F. Twenty-four hours after the experiment the places on the surface of the leaves originally covered by particles of ice were pale in colour, and on examination under the microscope commencement of the disease could be traced. The remaining spots were examined at intervals, and within four days every phase of the disease was observed, agreeing in every respect with the features already known.

A second experiment, in which drops of water at a temperature of 45° F. were placed on the leaves instead of particles of ice, gave

similar results, the spotting only occurring on the portions of the leaf which had been moistened. Numerous additional experiments showed that "spot" could not be produced by a fall of less than 9° F. from the average temperature in which the plant had been growing. It was also noticed that plants which had previously been grown in a high temperature became diseased at a much smaller reduction of temperature than plants previously accustomed to a comparatively low temperature.

It was found impossible to produce "spot" on plants which had remained in a dry place for two or three days, or in those scantily supplied with water and kept in a low temperature. Mr. Masee's summary is briefly: That the Orchid disease known as "spot" is of non-parasitic origin; the initial cause being the presence of minute drops of water on the surface of the leaves at a time when the temperature is exceptionally low, and the roots copiously supplied with water. "Spot" in the broadest sense of the term is, in the case of cultivated Orchids, mainly, if not entirely, caused by the three following conditions:—(1) too high a temperature; (2) too much water, and not sufficient air in contact with the roots; (3) watering or spraying with a falling instead of a rising temperature.

In the early autumn and spring months the sun is frequently of sufficient power to burn the leaves of Orchids in a house when the cold winds will not allow of much ventilation being used. If the blinds are used at such times of the year excessive shade would be produced, and much of the sun's warmth would be lost. By closing the ventilators and thoroughly damping the floor and other exposed positions, a considerable amount of moisture will be condensed on the inner side of the glass, and this shading will prove quite sufficient to prevent the burning rays of the sun from injuriously affecting the plants. When, after a few hours, the sun has lost its power, the ventilators may be slightly opened, and any excess of moisture thereby disposed of.

G. W.

AN INTERESTING BOOK FOR ORCHIDISTS.

Pilgrims to the Isles of Penance, Orchid Gathering in the East. By Mrs. Talbot Clifton. London: John Long. Price 12s. 6d.

The botanical side of Orchidology has been frequently written upon, and many notes concerning the plants themselves have been made. Mrs. Talbot Clifton has, however, written a book concerning the lands and surroundings where they grow. Accompanied by her husband, whose name has so long been connected with Orchids, a journey of several thousands of miles was made in search of Orchids in the forests and jungles of the East. This well-written book, full of interesting geographical and botanical matters, describes the author's arrival at Calcutta, where there is a great Banyan tree with 853 aerial roots, from whence passage was booked to Rangoon, where the damp heat was fearful: ninety-five degrees in the shade. At Mandalay a Chinese merchant friend was met who promised to get coolies sent into the interior to collect Orchids, and thus they procured some fifteen hundred, mostly *Dendrobiums*.

The chapter on the prison system of Andaman is full of interest, and contains many thoughtful notes on the difference between the English and Eastern code of morals. One prisoner, a murderer, was convict nurse, his duty being to wheel a child's perambulator. The greatest punishment which can be inflicted upon a woman who is ill-behaved in jail is to cut her hair.

Phalænopsis tetraspis was here collected by sending convicts up the trees for them, as they were covered with ants. Mrs. Clifton believes she is the only white woman who has ever seen these growing wild. Graphic descriptions are given of how she watched Mr. Clifton collect Orchids from branches covered with ants, and on which sat green parrots with long tails, and other curiously coloured birds. *Ærides*, *Vandas*, *Cymbidiums*, and *Dendrobiums* were collected, and after being carefully packed, despatched to England.

A notable chapter on the Mergui Archipelago contains much of interest concerning the curious food and manners of the inhabitants. A Burman has a strong feeling against anyone walking overhead in his bungalow; to avoid this a Burman will put a ladder up to the window and so climb into a room rather than mount the stairs.

The discovery here of certain rare Orchids caused great delight.

At Penang and Perak more Orchids, *Cœlogynes*, *Renantheras*, etc., were collected. The temperature usually being extremely high at these places, much interest will be taken in the account of the Malay bathroom and manner of washing.

Powers, Temporal, Magical, and Mental, are fully described in Chapter XXIV. The jewels and clothes of a princess, the Rajah of Perak and his three wives, and the curious ideas of the transmigration of souls, are subjects of especial interest.

The Botanical gardens of Singapore were visited, the Curator, Mr. Ridley, promising to pack any Orchids collected in Java. The account of the journey to Buitenzorg mentions a huge mid-day meal, consisting of twenty-four ingredients, and taking ten men to hand it round.

From the above it will be seen that Mrs. Talbot Clifton has produced a deeply interesting book on the wonders of the Eastern lands where so many Orchids grow. It is illustrated by a map and fifty-four excellent photographic plates of Orchids, scenery, inhabitants, villages, and last, but not least, of Mr. and Mrs. J. Talbot Clifton.

As a thorough insight into the interior of these Eastern lands *The Orchid Pilgrimage* will be gladly welcomed, not only by the many now interested in the study of Orchids, but also by all those who obtain pleasure by reading descriptive works of travel.

The two illustrations on the next page are selected from the many in this book. We are much indebted to the publishers for their kindness in lending the blocks.



The Jungle where Phalenopsis tetraspis was found.



Javanese Girls with Fruit and Nuts.

A NEW BOOK ON ORCHIDS.

Orchids for Amateurs. A Practical Guide to the Cultivation of Sixty easily-grown Cool and Fifty Warm House kinds adapted for Small Mixed Greenhouses. By C. Alwyn Harrison. Edited by T. W. Sanders, F.L.S. (London: W. H. and L. Collingridge.) Price 2s. 6d.

This useful, well-illustrated book will be welcomed by amateurs, for it is written in a suitable style for those commencing the popular culture of Orchids. It is the outcome on the part of the author, who is an enthusiastic and successful grower of Orchids on a small scale, to interest owners of cool and warm greenhouses in the art of cultivating these quaint and very beautiful denizens of the Tropics.

The book is divided into three parts. The first is devoted to cool house Orchids, and contains particulars of some sixty species and hybrids suitable for this house. Part II. contains a list of fifty warm house Orchids, some ten different genera being enumerated. Part III. is chiefly devoted to imported plants, and a list of cool and warm greenhouse plants

which can be successfully grown with Orchids.

The illustrations are well prepared and depict *Odontoglossums*, *Cypripediums*, *Dendrobiums*, and other kinds suitable for amateurs. There are interesting chapters on Temperature, Shading, and Watering, together with many other details respecting cultural work. The method of potting and suitable composts are described in a practical manner.

No attempt has been made to explain the difficulties of seed-raising; this may, in the case of a book for amateurs, well be left out, for it is only in the hands of experts that much success can be obtained. To obtain a knowledge of the elementary principles of Orchid-growing, it is to be hoped that this little book will prove of great assistance.

We regret to note that all the specific names in an adjectival form are spelt with a small initial letter. Names derived from individuals should be spelt with a capital letter, otherwise the nomenclature is singularly free from inaccuracies.

ROYAL HORTICULTURAL SOCIETY.

September 26th, 1911.

MEMBERS of the Orchid Committee present: Harry J. Veitch, Esq. (in the Chair); and Messrs. Jas. O'Brien (hon. sec.), C. H. Curtis, R. G. Thwaites, T. Armstrong, A. A. McBean, W. Cobb, J. Charlesworth, J. Cypher, J. E. Shill, W. P. Bound, W. H. Hatcher, A. Dye, Gurney Wilson, W. Bolton, John S. Moss, and W. H. White.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. Hudson), exhibited some finely-grown plants of *Habenaria militaris* with dense heads of cinnabar-scarlet flowers. A large plant of *Cattleya Iris* with nine flowers was also shown.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. White), exhibited a large plant of *Zygopetalum maxillare* with over 100

flowers, a specimen of *Epidendrum floribundum*, and the remarkable *Epidendrum Laucheanum*.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), showed *Odontoglossum Memoria Baron H. Schröder*, a very fine hybrid, the white flowers being almost covered with bright violet blotches. The plant carried a grand spike, on which only a few flowers had opened; the Committee desired to see it again before making any award.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited *Cattleya Freya* var. Mrs. Frederick Sassoon, which obtained an Award of Merit; *Cattleya Gaskelliana Delight*, a good form with white sepals and petals and a purple mark on the lip; and *Cypripedium Dowleri* Westfield variety.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), showed *Cattleya Adula* Thwaites variety, a very fine flower, and *Lælia pumila alba* Purity, a pure-white flower with a slight tinge of yellow in the throat.

Samuel Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hales), received a Silver Banksian Medal for an effective group. Included in it were several good *Cattleyas* of the Iris type, *C. Maronii*, *C. Caduceus*, and the pretty *Vanda violacea*.

W. Waters Butler, Esq. (gr. Mr. R. H. Jones), exhibited a seedling between *Cattleya aurea* and *Cattleya Hardyana*, the result being very similar to *Cattleya Hardyana* Massaiana. The sepals and petals were marbled with rose colour, and the lip was particularly good and well coloured.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), exhibited a few good plants, one being the very fine *Lælio-Cattleya* St. Gothard, a remarkable hybrid. Others included *S.-L. heatonense*, *S.-L.-C. Nestor*, and *Lælia elegans* Turneri.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Banksian Medal for a group of rare Orchids. The best being their new *Odontoglossum Harwoodii*, "The Shrubbery variety." Others included *Vanda Marguerite Maron* (teres × *suavis*), *Cypripedium Daisy Barclay*, and a *Cypripedium* hybrid between *Fairrieanum* and *glaucophyllum*.

Messrs. Sander and Sons, St. Albans, received a Silver Banksian Medal for a large group containing many *Cattleyas*, *Lælio-Cattleyas*, and several rare Orchids. Those of special merit being *Catasetum maculatum*, the curious *Uropedium Lindenii*, *Vanda Sanderiana*, and the singular *Sievkingia peruviana*.

Messrs. Stuart Low and Co., Bush Hill Park, received a Silver Banksian Medal for a very good group containing a fine form of *Cattleya Iris Cæsar*, with a rich crimson lip, *Cattleya Gaskelliana* The Princess, a fine form of *Cattleya Hardyana*, the blue flowering *Dendrobium Victoria Regina*, and, along the back row, many varieties of the autumn flowering *Oncidiums*.

Messrs. Jas. Veitch and Sons, Chelsea, exhibited *Lælio-Cattleya Violetta*, *Cattleya Hardyana*, *Cypripedium Maudiaë magnificum*, and other excellent plants

Messrs. Hassall and Co., Southgate, were awarded a Silver Banksian Medal for an effective group of well-grown Orchids. Included in it were the dark-purple flowering *Miltonia Moreliana*. *Cattleya Thurgoodiana*, several distinct varieties of *Lælio-Cattleya* Walter Gott, and the elegant *Zygopetalum rostratum*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, exhibited some rare and interesting Orchids. Those of special merit being a large plant of *Cirrhopetalum ornatissimum*, *Cypripedium Maudiaë*, *C. Germaine Opoix*, *C. Rossettii* Westonbirt var., and *Brasso-Lælia Jessoppii*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum Harwoodii "The Shrubbery variety" (*maculatum auriferum* × *Wiganianum*), from Messrs. Charlesworth and Co.—A very remarkable and distinct flower, being even finer than the one certificated on January 31st, 1911. The flowers are somewhat flatly arranged, the broad lip being a distinct feature. The whole flower is a bright buttercup yellow with rich dark-purple spotting, the lip having several large blotches of the same colour.

AWARDS OF MERIT.

Cattleya Freya var. *Mrs. Frederick Sassoon* (*Mantini nigrans* × *Dowiana aurea*), from Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins).—This large and beautiful hybrid is far finer than any *Mantini* cross previously seen. The sepals and petals are rich rosy-mauve, and the lip ruby-crimson with bright gold veining.

Epidendrum Laucheanum, from Sir Trevor Lawrence, Bart. (gr. Mr. W. H. White).—A very remarkable species with slender pendulous racemes over two feet in length, the numerous small flowers having purplish sepals and petals and a yellow lip.

CULTURAL COMMENDATIONS.

To Mr. James Hudson (gr. to Leopold de Rothschild, Esq.), for well-grown plants of *Habenaria militaris*.

To Mr. W. H. White (Orchid grower to Sir Trevor Lawrence), for a large plant of *Zygopetalum maxillare* with over 100 flowers.

T. Armstrong, J. Cypher, W. H. Hatcher, H. G. Alexander, J. E. Shill, F. J. Hanbury, Gurney Wilson, W. Bolton, J. S. Moss, and C. J. Lucas.

Owing to the Hall being reserved for the great Fruit Show only plants submitted to the Committee were shown.



Cypripedium Lucifer.

Niobe "Westonbirt var." × Hera Euryades.

October 10th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair); and Messrs. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Harry J. Veitch, Walter Cobb, J. Charlesworth, A. A. McBean, W. P. Bound,

AWARDS.

FIRST-CLASS CERTIFICATES.

Cypripedium Lucifer (*Niobe Westonbirt* var. × *Euryades*), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury (gr. Mr. Alexander). A good-shaped flower with

very attractive colouring. The dorsal sepal is broad and flat, beautifully veined and suffused with rose-purple; the base being emerald green. The broad petals are purplish-brown, the lip mahogany colour.

Cypripedium Royal George (*Harrisianum* *superbum* × *Minos Youngii*), from Messrs. Armstrong and Brown, Tunbridge Wells. A bold and extremely large *Cypripedium*. The dorsal sepal, three inches in breadth, shows much of the *Minos Youngii*, being broad and flat, with distinct dotted lines of purple. The yellowish-green petals have their upper halves tinged with purplish-brown. One of the best hybrid *Cypripediums*. The stock has passed into the noted collection of Francis Wellesley, Esq., Westfield, Woking.

Odontioda Euterpe (*Cochlioda Noezliana* × *Odontoglossum Uro-Skinneri*), from Messrs. Charlesworth and Co., Haywards Heath. An elegant hybrid, with brilliant-red flowers having a crimson-coloured lip.

OTHER EXHIBITS.

E. H. Davidson Esq., Borlases, Twyford (gr. Mr. F. Cooper), sent *Lælio-Cattleya Davidsoniæ* (*L.-C. Bella* × *C. labiata*), a very pretty hybrid with rose sepals and petals, and a good purple lip.

Messrs. Hassall and Co., Southgate, exhibited *Cattleya Hassallii* (*labiata* × *Empress Frederick*), a good hybrid showing

great promise, the seedling being as yet only four years old. Also *C. Parthenia* Prince of Wales.

Messrs. Charlesworth and Co., Haywards Heath, showed *Odontoglossum grande aureum* Charlesworth's variety, a very fine flower, the lip being almost white; also *Stanhopea platyceras*, and *Gongora maculata*.

Messrs. Mansell and Hatcher, Rawdon, Yorks, sent *Miltonia candida superba*, a very large form, the lip being white with a purple blotch; and a creamy-white variety of *Cattleya aurea*.

J. Brisdon Seattle, Esq., Fairfield, Putney (gr. Mr. T. W. Paice), exhibited a large specimen of *Miltonia Karwinskii*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent *Cattleya Thurgoodiana* Wivelsfield variety, a large form; and *Cattleya Norba*, of unknown parentage, but showing the characteristics of *C. granulosa*. Also *C. labiata Italia*, a new variety flowering for the first time, the sepals and petals pure-white, the lip with a slight pink tinge.

Messrs. J. and A. A. McBean, Cooksbridge, exhibited a good plant of *Miltonia vexillaria Leopoldii*, the last made bulbs having three spikes with a total of eighteen flowers.

Messrs. Armstrong and Brown, Tunbridge Wells, showed *Cypripedium Thyone* (*Prewettii* × *Fairrieanum*), *C. Dallas* (*Curtisii* × *Fairrieanum*), and *C. Thisbe* (*Beechense* × *Fairrieanum*).

MANCHESTER ORCHID SOCIETY.

September 28th, 1911.

MEMBERS of the Committee present:—Rev. J. Crombleholme (in the chair), and Messrs. R. Ashworth, J. Bamber, C. Parker, H. Thorp, Z. A. Ward, J. Cypher, J. C. Cowan, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged a magnificent group, over 150 plants being included. *Odontoglossum grande*, *Vanda cœrulea*, *Cypripedium Fairrieanum*, *Cattleya Iris*, and several others were well represented. A Gold Medal was unanimously granted.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), also staged a fine group, a feature being a fine collection of *Dendrobium Phalænopsis Schröderianum* (which gained for the gardener a Cultural Commendation and Bronze Medal); several fine forms of *Cattleya aurea* and *C. Iris* were also shown. A Silver-gilt Medal was awarded.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was also granted a Silver-gilt Medal for an effective group of *Cattleyas* and *Cypripediums*, a very fine display of *C. insigne Sanderæ* being a feature.

J. McCartney, Esq., Bolton (gr. Mr.

Holmes), was awarded a Silver Medal for a group composed of some fine forms of *Cattleyas*—*Armstrongiæ*, *Mantini*, Mrs. Pitt, and others. Several good *Cypripediums* were also shown.

W. J. Hargreaves, Esq., Burnley, staged a group of well-grown plants, to which a Silver Medal was granted. The best plants were *Cattleya Mantini*, *C. Parthenia*, and some good varieties of *C. labiata*. *Oncidium*s and *Cypripedium*s were also shown.

The Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a nice group of *Cypripedium*s, to which a Silver Medal was awarded, the most noticeable being *C. insigne Sanderæ*, *C. triumphans*, *C. Maudia*, and *C. Fairrieanum*.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Bronze Medal for a group which included several forms of *Lælio-Cattleyas*, *Lycaste Skinneri alba*, and others.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged *Odontoglossum grande aureum* Charlesworth's variety, *Cattleya labiata alba*, and two others which obtained awards.

Messrs. J. Cypher and Sons, Cheltenham, were granted a Silver Medal for a nice, mixed group of *Cattleya Peetersii*, *Cypripedium*s in great variety, and *Vanda Cœrulea*.

Messrs. Sander and Sons, St. Albans, staged a nice group, to which a Silver Medal was awarded. The majority of the plants were fine varieties of the well-known autumn flowering *Cattleyas*.

Messrs. Hassall and Co., Southgate, were awarded a Silver Medal for a nice collection of *Cattleyas* and hybrids.

Mr. E. V. Low, Haywards Heath, staged *Cattleya Thurgoodiana Wivelsfield* var., and several *Cypripedium*s.

Messrs. A. J. Keeling and Sons, Bradford, exhibited *Lælio-Cattleya Lily* (*labiata* × *L.-C. Dominiana*), and several *Cypripedium*s.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum grande Charlesworth's variety from R. le Doux, Esq. *Cypripedium*

Thogun, from W. R. Lee, Esq. (gr. Mr. Woodhouse), one of the best *Cypripedium*s.

AWARDS OF MERIT.

Cattleya labiata alba variety Mdm. le Doux, from R. le Doux, Esq. *Cattleya Empress Frederick* var. *marlfieldense*; *Cattleya exquisita* from the same exhibitor.

Cattleya Suavior, from W. J. Hargreaves, Esq., Burnley. *Cattleya highburyensis* var. *Mary McCartney*, from J. McCartney, Esq. *Cattleya Adula* Ward's var., from Z. A. Ward, Esq.; *Cypripedium Zethus*, from the same exhibitor. *Dendrobium Phalænopsis Schröderianum* var. *Miranda*, from W. R. Lee, Esq. *Cypripedium Lord Ossulston* var. *Cherubicum*, from the Rev. J. Crombleholme. *Lælio-Cattleya Lily*, from Messrs. A. J. Keeling and Sons; *Oncidium Forbesii splendens* and *Cypripedium westgatensis*, from the same exhibitor. *Cattleya Ena Morton's* var., from the Liverpool Orchid Co. *Cattleya Thurgoodiana Wivelsfield* var., from Mr. E. V. Low.

The following competitions for amateurs have been arranged:—

"ROBSON'S" CUP.

Value 100 Guineas.

For *Odontoglossum*s, to include species, varieties and hybrids; also the following *Miltonias*:—*M. vexillaria* and all varieties or hybrids obtained from this species; *M. Roezlii* and varieties or hybrids obtained from this species.

Odontiodas, *i.e.*, any form of *Odontoglossum* crossed with *Cochlioda* or *Mesospinidium*, will be included in this competition. A prize of five guineas will be awarded to the gardener of the winner.

Conditions of Competition. To be won by the amateur who gains the largest number of points in two years, dating from June 23rd, 1910, such points to be awarded according to the rules of the Society. No points from confirmed awards to count in this competition.

In all the following competitions points for confirmed awards will be reckoned.

“W. R. LEE'S” SILVER TROPHY.

To be awarded to the amateur employing more than one gardener who gains the highest number of points during the session for groups and individual plants. A prize of three guineas will be given to the gardener of the winner.

“W. R. LEE'S” GOLD MEDAL.

To be awarded to the amateur who employs not more than one gardener, who gains the highest number of points during the session for groups and individual plants. A prize of three guineas will be given to the gardener of the winner.

“CYPHER'S” GOLD MEDAL.

To be awarded to the amateur who gains the most points during the session and for general excellence and arrangement of exhibits.

“SANDER” PRIZES.

A first prize of four guineas, second prize of two guineas, third prize of one guinea, to the gardener exhibiting the greatest number of groups during the session.

“ED. V. LOW'S” SILVER VASE.

To be awarded to the amateur who gains the highest number of points for white Cattleyas, Lælias, and their hybrids, *i.e.*, white sepals and petals. A prize of two guineas will be given to the gardener of the winner.

“STUART LOW” PRIZES.

Plants value five guineas to the amateur who gains the highest number of points for

Cattleyas, Lælias, hybrids of Cattleyas and Lælias, Brasso-Cattleyas and Lælias during the session. A prize of two guineas will be given to the gardener of the winner.

“SOCIETY'S” PRIZES.

The Society offers a Gold Medal, Silver-gilt Medal, and Silver Medal for the amateur who (not engaged in other competitions) gains respectively the highest, second highest, and third highest number of points from July 20th, 1911, to May 30th, 1912.

Similar awards, under similar conditions, will be made to amateurs who grow Orchids without the aid of a gardener; a minimum of 25 points to qualify for the Gold Medal.

The usual Medals will be awarded for occasional groups where not engaged in other competitions.

RULES FOR COMPETITORS.

1. A group to consist of not less than 12 plants.
2. In all competitions (except Robson's Cup) points gained for confirmed awards for plants will be credited to the exhibitor, and the points gained from the commencement of the session will be reckoned.
3. Sectional groups put up for the various competitions, and being awarded points for same, may not be entered for the Society's Medal awards. (Competitors for Messrs. Cypher's Gold Medal are exempt from this rule.)
4. Competitors, or their gardeners, must sign a declaration of the competitions in which they wish to take part, and hand same to the Secretary.

THE NORTH OF ENGLAND HORTICULTURAL SOCIETY.

October 18th, 1911.

THE Town Hall, Leeds, was completely filled with excellent exhibits, including many good groups of Orchids. The show was opened by Lady Kathleen Pilkington, the Lord Mayor, and Major J. W. Dent.

Members of the Orchid Committee present :

W. Mansell, Esq. (in the Chair), and Messrs. Gurney Wilson (hon. sec.), A. J. Hall, G. W. Musk, W. Shackleton, F. W. Corney, F. C. Puddle, G. Taylor, E. Rogers, A. G. Ellwood, and A. R. Crossley.

J. H. Craven, Esq., The Beeches, Keighley, (gr. M. Corney), received a Silver-gilt Medal

for an excellent exhibit of Orchids. The group contained good plants of *Cypripedium Gaston Bultel*, *C. Germaine Opoix*, many specimens of *Epidendrum vitellinum majus*, *Odontoglossum grande*, and a rare albino form of the same.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-gilt Medal for a large group of beautiful Orchids. Those which received special attention being *Cattleya Fabia alba*, *C. Iris*, *Lælio-Cattleya Elva*, *Brasso-Cattleya Mdm. Chas. Maron*, *Odontioda Lutetia*, a very distinct variety, *Oncidium Lanceanum*, and several good varieties of *Cattleya labiata*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was awarded a Silver-gilt Medal for an excellent group of rare species and hybrids. Included in it were grand varieties of *Cattleya labiata alba*, *Cypripedium Baron Schröder* with seven flowers, *Cattleya Thurgoodiana*, *C. Fabia*, and *Cypripedium Germaine Opoix*. Two plants from this exhibitor received First Diplomas.

Messrs. Mansell and Hatcher, Rawdon, Yorks, received a Silver Medal for a very effective group of Orchids in which were some very well-flowered plants of *Pleione lagenaria*, *Dendrobium formosum giganteum*, *Odontoglossum crispum* with good spikes of bloom, some well-flowered *Odontoglossum grande*, and numerous others.

A. C. Watson, Esq., Thornycroft, Morley (gr. Mr. C. Cross), staged some well-grown Orchids. Those of interest included a good variety of *Cypripedium bellatulum*, *Oncidium tigrinum*, the pretty *Cypripedium Fairrieanum*, *Odontoglossum tripudians*, *O. Hallii*, and several good *Cattleya* hybrids. A bronze Medal was awarded to this exhibitor.

Messrs. Hassall and Co., Southgate, London, exhibited several excellent varieties of Orchids, two of which obtained awards.

Messrs. A. J. Keeling, Westgate Hill, Bradford, received a Bronze Medal for a group containing a fine variety of *Oncidium Forbesii*, *Cypripedium insigne Harefield Hall*, the curious *Catasetum macrocarpum*, and other good *Cypripediums*.

The Liverpool Orchid Co., exhibited a number of *Cattleya* hybrids, including *Iris*, *Wendlandiana*, and *Thayeriana*. A Bronze Medal was awarded.

Mr. D. McLeod, Chorlton-cum-Hardy, Manchester, exhibited *Cypripedium Charlesworthii*, *C. Thalia*, and a good promising *Cypripedium* seedling.

AWARDS.

FIRST DIPLOMAS.

Cattleya labiata W. R. Lee, from Mr. E. V. Low, Haywards Heath. A beautiful large flower, the sepals and petals pure-white, the lip having a slight pinkish blotch.

Cattleya labiata leucochila, from Mr. E. V. Low, Haywards Heath. A very distinct and fascinating variety, the sepals and petals of the usual rich mauve, but the lip being almost without this colour, thus allowing the soft yellow in the throat to show to advantage.

Cattleya Fabia eximia, from Messrs. Hassall and Co., Southgate. One of the finest forms of this useful hybrid. The petals are particularly broad, and the whole flower well coloured.

Cattleya Lord Rothschild var. *delicata*, from Messrs. Charlesworth and Co., Haywards Heath. The beautiful distinct shade of colour on this flower is very delicate and pleasing. A scarce variety.

Cypripedium San-Actæus, from J. H. Craven, Esq., Keighley (gr. Mr. Corney). A thick set and handsome albino hybrid. The whole flower, with the exception of the upper part of the dorsal sepal, which is pure-white, being of a rich yellowish-green colour.

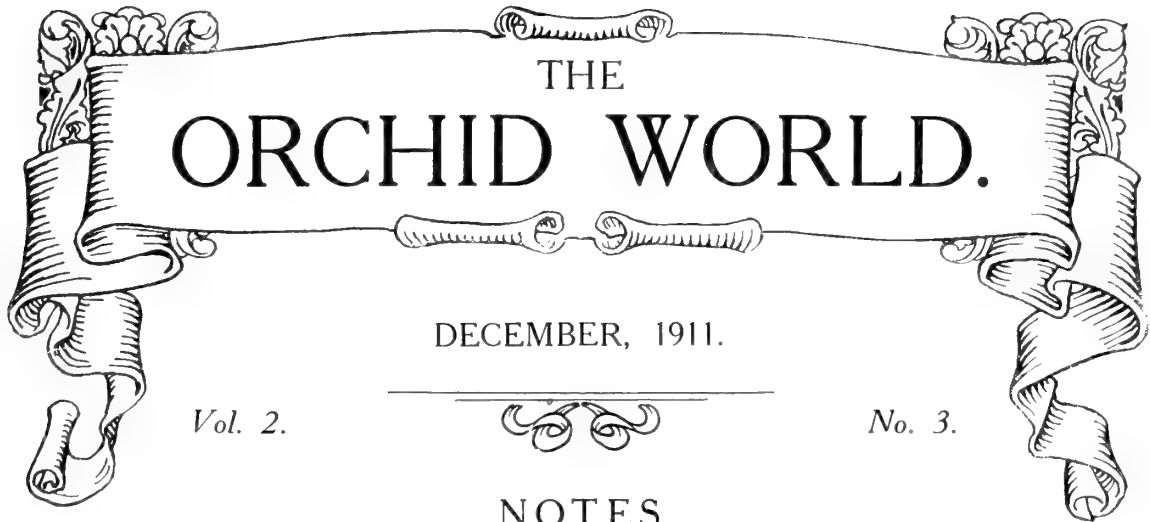
SECOND DIPLOMAS.

Cattleya Empress Frederick, from Messrs. Charlesworth and Co., Haywards Heath. A large, bold variety of this well-known hybrid.

Cattleya labiata exquisita, from Messrs. Hassall and Co., Southgate. A very good and richly-coloured variety of this popular autumn-flowering species.







THE ORCHID WORLD.

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NOTES.

DENDROBIUM MACROPHYLLUM MOLUCENSE.—This very floriferous variety was figured on page 268 of our first volume. In an accompanying note we stated that it came from Malacca, and gave it the varietal name *malaccense*. We regret to say this is an error on our part, the plant being a native of the Molucca Islands. The varietal name must, therefore, be altered to *moluccense*.



MEGACLINIUM BUFO.—This extraordinary species has been thus described: "Let the reader imagine a green snake to be pressed flat like a dried flower, and then to have a row of toads, or some such speckled reptiles, drawn up the middle in single file, their backs set up, their forelegs sprawling right and left, and their mouths wide open with a large purple tongue wagging about convulsively; and a pretty considerable approach will be gained to an idea of this strange plant, which, if Pythagoras had but known about it, would have rendered all arguments about the transmigration of souls superfluous."



ORCHID PSEUDOBUULBS.—The *Kew Bulletin* has received from a correspondent in Grand Cayman, British West Indies, a pseudobulb of *Schomburgkia Thomsoniana* which is used for making tobacco pipes in the island. The pseudobulbs are about nine inches long and make useful pipe bowls. The plant is known to the natives as "Wild Banana." In another species, *S. tibicinis*, a

native of Honduras, the pseudobulbs are between one and two feet long and quite hollow and smooth inside, and are commonly used by the native children as trumpets, whence it is called the cowhorn Orchid. At their base, too, there is always a small hole, and masses of ants and other insects take advantage of it in constructing their nests.



PROPOSED ORCHID SHOW AND CONFERENCE.—At the meeting of the Orchid Committee of the Royal Horticultural Society on November 7th, the Chairman, Mr. J. Gurney Fowler, stated that several Orchidists had expressed opinions to the effect that an autumn show and conference were desirable, and he wished to have the opinion of the Committee in order that he might bring the matter before the Council. The members of the Committee unanimously agreed that the project ought to be carried out, and voted for the meeting to take place early in November, 1912. At the meeting of the Council on the same day it was decided to hold the Show on November 5th and 6th, 1912, the object being to demonstrate the great advance made in the hybridisation of Orchids, and the value of such hybrids as autumn flowering plants. The following were selected to form a Committee to draw up a Schedule for the Show:—Mr. J. Gurney Fowler (chairman), Mr. Jas. O'Brien (hon. sec.), Lt.-Col. Sir George L. Holford, K.C.V.O., Mr. Gurney Wilson, and Mr. John Cypher. The Council

agreed to award Cups and Medals, and it was further suggested that an Orchid Conference be held on the second day of the Show. This latter suggestion, however, the Council will consider more fully in due course.



MEXICAN ORCHIDS.—The large amount of bright sunshine which we have received during the past summer has been specially favourable to Mexican Orchids. In Messrs. Charlesworth's establishment a batch of *Lælia anceps* has a total number of 280 strong flower spikes, and a smaller lot of *Lælia autumnalis* is carrying 75 stout spikes, one plant having as many as eight. Very little shading has been used in the culture of these plants.



TRADE NOTICE.—Mr. H. Cheal's engagement with Mr. Edward Low has terminated.



CYPRIPEDIUM CHARLESWORTHII, VAR. REX.—The very broad dorsal sepal which this grand variety possesses is beautifully veined and suffused with rose. The petals and pouch are yellowish-brown, a distinctive feature being the pure-white staminode. The illustration is from a photograph kindly sent by Gust. H. Müller-Abeken, Esq., The Hague, Holland, in whose collection this unique variety is represented by a robust specimen carrying eight large flowers.



ONCIDIUM TIGRINUM.—Some excellent varieties of this elegant species have been sent from the collection of C. Alwyn Harrison, Esq., Lyndhurst, Watford. The large bright-yellow labellum is very attractive, and the dark tiger-like markings on the sepals and petals give the flower additional charm. This species may be well recommended to those requiring an Orchid having a delicious scent. A hybrid between

Cattleya Harrisoniana and *Lælia xanthina* is also sent from the same collection. This cross, which was recorded on page 33 of our first volume as L.-C. Mars, produces creamy-yellow flowers, sometimes as many as ten flowers on a spike.



CATTLEYA FABIA ALBA.—Albino forms of *Cattleya* species are very rarely found, often not one is discovered in a large importation. Hybridists have attempted their production with partial success, but by no means are they absolutely certain of the results until the seedlings flower. A somewhat remarkable result has occurred in the collection of W. H. St. Quintin, Esq., Rillington, York. A *Cattleya aurea* was crossed with a normally purple-coloured *Cattleya labiata*, and of the seedlings which have flowered one has almost pure-white sepals and petals, and a purple coloured labellum; the remainder are typical forms of *Cattleya Fabia*.



Cypripedium Charlesworthii, var Rex.

CYPRIPEDIUM SIBYL SUPERBUM.—

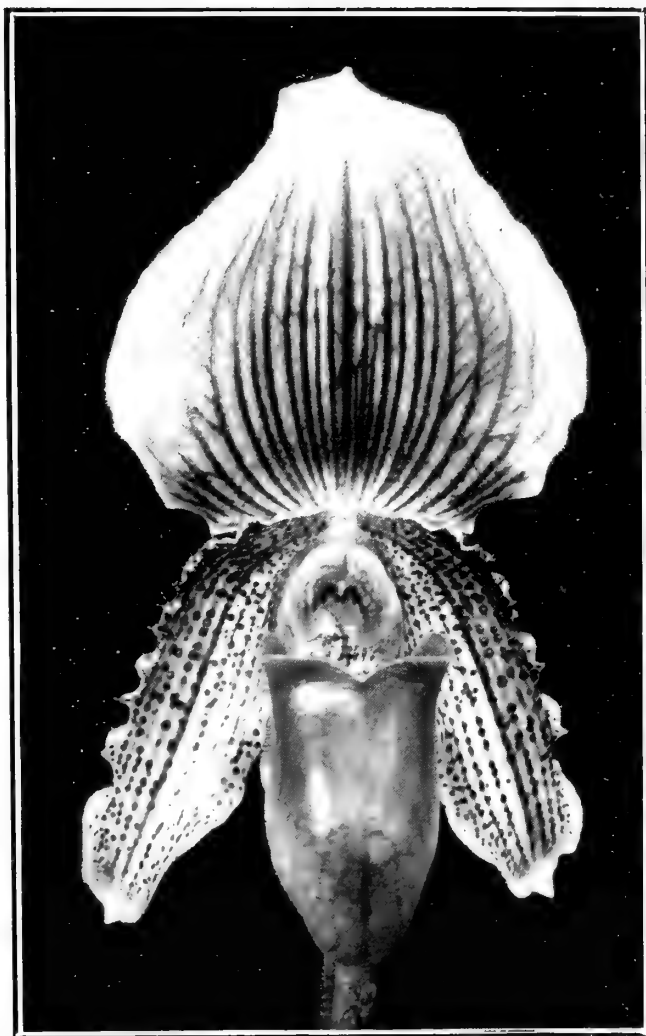
This very distinct and attractive *Cypripedium* received an Award of Merit at the Royal Horticultural Society when exhibited by Mrs. N. C. Cookson, November 7th, 1911. The parentage was then recorded as *Francisæ* × *Fairrianum*, the former being a hybrid between *callosum* and *Curtisii*, and of which a similar plant was exhibited by Mr. G. H. Goulten on January 16th, 1894, under the name *Cyp. Goultenianum*. The correct nomenclature should therefore be *Cypripedium Sibyl superbum* (*Goultenianum* × *Fairrianum*). In the reproduced photograph, which has been taken by Mr. H. J. Chapman, the characteristics of all three species can be plainly seen. The large white dorsal is tinged with rose and striped from the green base with purple. The petals, drooping as in *Fairrianum*, are densely spotted with dark purple.



REVERSION.— An interesting inflorescence of a hybrid resulting from *Lælia Latona* × *Lælio-Cattleya Ophir* has been sent by Mr. F. W. Thurgood, Orchid grower to H. T. Pitt, Esq. The inner whorl of one flower is composed of three petals, and it may be considered a reversion to the primitive form of an Orchid. Another flower shows reduction from a trimerous to a dimerous condition, there being a dorsal and a ventral sepal and two lateral petals. From a decorative point of view, the canary-yellow colour of the flowers is certainly of value.



SOPHRO-LÆLIA GRANGFIELDENSIS (*S GRANDIFLORA* × *L. JONGHEANA*).— This interesting plant seems to have been first recorded in a list which was sent out by Messrs. Keeling, in October, 1905. It will always be a scarce hybrid for, apart from the



Cypripedium Sibyl superbum.

well-known fact that most *Sophronis* crosses are hard to raise, *Lælia Jongheana* is by no means an easy plant to cultivate. It has been seen growing very well in a warm *Odontoglossum* house, and we may suggest that its hybrids, especially *S.-L. grangfieldensis*, will grow best in a temperature slightly cooler than that usually maintained for *Cattleyas* and *Lælias*. At a recent meeting of the Royal Horticultural Society a good example of this hybrid was exhibited from the collection of Frank Lloyd, Esq., Coombe House, Croydon, where it had been grown by Mr. E. Mills. The conspicuous ridges on the labellum of *Lælia Jongheana* were also clearly visible in the hybrid.

CATTLEYA BOWRINGIANA.—This very useful autumn-flowering *Cattleya* is closely allied to *Cattleya Skimmeri*, the bulbs are somewhat similar, but differ in being swollen at the base. It is a native of Central America, where it obtains an abundance of moisture and a free circulation of air. Some splendid specimens of this species have recently been in flower in the collection of F. J. O. Montague, Esq., J.P., Lyndford Hall, Mundford, Norfolk. Some of these spikes have been sent by Mr. E. Hill, under whose care the plants have given such floriferous results. The flowers vary in colour from a delicate mauve to almost purple, the labellum of every flower having a darker blotch of colour on the front lobe. On account of the number of flowers produced on a spike, and also the round form of the petals, this species has been much used for hybridising purposes, one of the best results being *Cattleya Mantinii* (*Bowringiana* × *aurea*), a fine spike of which has also been sent by Mr. Hill. The very remarkable rich colour is probably due to the influence of the yellow colour of *Cattleya aurea*, the gold veining on the labellum of the hybrid being also indicative of this elegant species.

VANDA KIMBALLIANA ALBA.—This rare variety, probably the first alba form of the species to be recorded, has recently flowered in the establishment of Messrs. Mansell and Hatcher. The sepals and petals, which are usually slightly suffused with a delicate rose, are pure-white; the labellum, normally of an amethyst-purple, is also pure-white, the only colour being in the small side lobes which are bright-yellow, but without the usual brownish spots. An Award of Merit was given to the plant when exhibited at the Royal Horticultural Society, October 24th, 1911. This species was originally discovered by Boxall in Upper Burmah, where it was found growing in clusters mostly on the bare rocks, and generally in the full blaze of the sun. The plants are of slender habit, but may be grown three or four together in a pan with the usual compost. They will also succeed well if

nothing else but broken crocks are placed around the roots; in this condition they have been grown for several years and produced an abundance of bloom in the autumn months. The species was named in honour of Mr. W. S. Kimball, Rochester, U.S.A., an ardent grower of Burmese plants.

SEASONABLE NOTES.

Plants pushing their flower buds will require slightly more water at this time of the year than others which do not flower until the spring or early summer months. If the plants can be arranged in batches according to their flowering season considerable trouble will be saved, and the watering can be done with greater correctness. Of course, when the plants have opened their flowers they may be removed to different positions in the house, and thus make a better floral display.

Many flower spikes, especially those produced without a sheath, are liable, in the early stages, to be eaten by slugs. This is a great disappointment, and although many may be caught at night-time, the only really successful way is to suspend the plants directly the tip of the spike can be seen. Another excellent plan is to place cotton-wool round the stem, slugs and other insects are unable to get over this.

Care must be exercised when watering suspended plants; they should be dipped in a tank or bucket, and allowed to thoroughly drain before being hung up again, much damage is likely to occur by allowing water to drip on to the plants below.

During the winter-time valuable plants are frequently suspended from the roof, an advantage to them, for the amount of extra light which they thus receive is considerable, but a disadvantage to any plants that remain beneath, for their amount of light is thereby still further decreased. Unless, therefore, sufficient room over the pathways will allow plants to be suspended, it will be found much the better way to either place the valuable plants on inverted pots or else arrange them in a separate part of the house where extra attention may be devoted to them.

VANDA SANDERIANA.

(See coloured plate.)

TO the Sanderian collector, M. Roebelen, belongs the honour of discovering this magnificent species.

He procured it towards the end of 1881 in the neighbourhood of Davao, in the Philippine Islands, and writes thus of his discovery:—"I had collected a few plants which bore no

with any number of carriers provided I handed over to him everything in my possession, and particularly my umbrella which he wanted for his wife. I set out the same day for the dwelling of a Spaniard, and remained with him for a time packing my plants. He it was who accompanied me the



Vanda Sanderiana.

A semi-established plant in the collection of Messrs. Lager & Hurrell, Summit, New Jersey, U.S.A.

flowers, but which revealed a novelty by their habit and remains of old flower spikes still remaining on the plants. At this time, I was suddenly abandoned by my escort of prisoners which had been given me for carriers. I was then obliged to descend to the plain, and after a somewhat lengthy palaver and bargaining with the chief of a powerful tribe, he consented to supply me

first day in his small boat, having no servants at his disposal. We landed in the evening on a small clearing by the stream which we had traversed, and there it was that I saw at the top of a tree some flowers, which appeared to my vision glorious, and some minutes afterwards, in spite of huge ants and other vermin in swarms, I held in my hand the beautiful *Vanda Sanderiana*

All my miseries, all my fatigues, were at that moment forgotten. It is necessary to have travelled in order to realise the joy at the discovery of a new plant of such startling beauty and novelty as this most wonderful Orchid."

The late John Dominy, the father of Orchid hybridisation, exclaimed when he saw *Vanda Sanderiana* for the first time, "Thank goodness, I have lived to see this marvel among Vandas"; and that fascinating writer, the late F. W. Burbidge, went into ecstasies of delight when he first saw the new beauty, calling it the "Jewel in the Lotus." Mr. Sander's excitement on receiving the first dried flowers of this plant can be better imagined than described; his joy knew no bounds; such an occurrence to so great an enthusiast was like a spark to a powder magazine.

Of the many noble species of Orchids introduced by Mr. Sander, this is of the foremost rank. The late Professor Reichenbach said: "It is the grandest novelty introduced for years, and will mark a golden letter-day in our Orchid calendar."

Soon after the first discovery of this plant, R. Curnow, one of Messrs. Hugh Low and Co.'s collectors, brought home a magnificent lot of plants. One of these was sold to Mr. Lee, at Downside, Leatherhead, where it flowered in the summer of 1883, about six weeks after being imported. This was the first specimen to bloom in this country. Another plant, offered for sale at Messrs. Stevens' Auction Rooms, was purchased by Messrs. Backhouse, of York, for 200 guineas. About a year later it produced eleven spikes of bloom. Subsequently it was purchased by Messrs. Veitch and sold to Mrs. Morgan, of New York.

Some remarkable specimens of this species are at present in the establishment of Messrs. Lager and Hurrell, Summit, New Jersey, U.S.A. One of these, a semi-established plant in a 13-inch basket, is illustrated above. It has thirteen stems, varying in height from five to twenty-four inches, with a total number of eighty leaves. Another fine specimen has eleven stems, varying in height from

eight to twenty inches, the tallest stem being divided at the top into two growths, and seventy-four leaves. These plants have been sent to New York *via* the Pacific to San Francisco, thence overland. It is evident that owing to the facilities obtained at this latter place for securing these plants from their native country, that they travel much better than importations sent *via* Europe.

This *Vanda* is a bad traveller, and many hundreds of pounds have been lost in importations of this plant. There is room for an ambitious and enthusiastic Orchid lover to try and cultivate the more difficult of our beautiful Orchids. In the case of this glorious beauty of the Philippines, it is only necessary to have heat enough, and air with it, to grow large specimens from moderately-sized plants. We grow pine-apples, why not grow *Vanda Sanderiana*? It seems to be a question of heat with a difference in treatment. Among the East Indian Orchids are a number so charming that it is regrettable we do not see them more often.

ORCHIDS OF SOUTH AFRICA.

Icones Orchidearum Austro-Africanarum.

By Harry Bolus, F.L.S., Hon. D.Sc. (Cape Town). Vol. II. London: Wm. Wesley and Son, 28, Essex Street, Strand. 1911.

Fifteen years have elapsed since the publication, in 1896, of the first volume of this work. In a country like the South African Union, so imperfectly explored and so difficult of exploration by botanical collectors, some years must elapse before the same proportion of the existing vegetation can be known, as is the case in older and more populous countries.

Exactly 100 coloured plates are included in this work, a large proportion of which have been drawn from living plants only. Among those who have kindly assisted in exploring and collecting specimens must be mentioned Miss Alice Pegler, of Kentani, Tembuland, Miss C. B. Newdigate, of Forest Hall, near Plettenberg Bay and Knysna, who sent such

excellent living specimens of several rare species, such as *Disa excelsa*, Swartz, long lost to science, and scarcely known since its first discovery by Thunberg in 1773, Mr. N. S. Pillans, and Miss H. M. L. Kensit.

The text includes descriptions, in both Latin and English, and the geographical distribution of all the plants figured. To those unacquainted with the Orchids of South Africa, we may mention that the species chiefly belong to the following genera: *Disa*, *Eulophia*, *Habenaria*, *Holothrix*, *Polystachya*, and *Satyrium*.

Of *Disa cornuta* the author remarks: "This is one of the commonest species of Orchids in the neighbourhood of those suburbs of Cape Town which lie on the eastern side of Table Mountain, and may be found almost every year in October." Of *Disa Charpentieriana*, "a very curious and distinct species of a group of which we are far from knowing the limits of variability. The long lip is very remarkable, and as it sways about in the wind

suggests a possible means of attraction for insects."

Satyrium foliosum is one of the rarest South African Orchids, and has hitherto only been found in one spot, or within a few hundred yards of one spot. The flowers are, fortunately for its survival, a dull yellow, turning brown in age, or its extinction by the Vandals of Cape Town might be feared within a very short time.

This work, of which the last pages were finally corrected by the author on the eve of his death, may be considered the leading textbook on the subject, and although scientifically written for the botanist, amateurs will find it a ready means of determining the correct names to be applied to the many species indigenous to South Africa. If any improvement can be suggested it is that the illustrations be bound in such a way that they adjoin the descriptive text. As it is they are bound together at the end of the volume, and reference is somewhat difficult.

AN ORCHID COLLECTOR'S TRAVELS THROUGH BRITISH GUIANA TO BRAZIL.

By ED. KROMER.

WHEN the Orchid fancier at his English and with pleasant affection admires country seat lingers over his blooms, the beauties of his greenhouses, perhaps he never, or very rarely, gives a thought to the hardships often endured by those men who enter the mountain ranges of South America, or other tropical parts of the world, in search of, perhaps, one single species, which may be the favourite pet in his collection. He enjoys his treasures without dreaming of the professional collector, who, with a certain amount of pluck and perseverance, a strong constitution, and a skill for finding his way about the world, attaches to his person a band of naked Indians, and by canoeing, tramping and climbing deposits himself on the sides of an almost inaccessible mountain, trying then hard to gather the necessary quantity of plants in the shortest time possible, and then returning through immense virgin forests, across arid savannahs, down gigantic streams, until he

reaches the nearest seaport, where he is able to get the result of his labours consigned to Europe. Of course, it does not follow that all such trouble, risk of health or life and hardships, are necessarily always connected with *all* species of Orchids; many are found within comparatively easy reach from the sea-coast, or in the immediate neighbourhood of larger or smaller towns, like Bogotá, Mexico, Carácas, Rio de Janeiro, Manilla, Singapore and many others, where the collector takes up his abode in a comfortable hotel, and where, if he gets to some extent known to the natives he can purchase any quantity or quality of plants by simply writing a letter. But, on the other hand, where this is not the case, he has sometimes to equip a regular expedition, entailing heavy expenses, and he has to face dangers as great as those encountered by the prospector for gold, the African explorer, or the missionary. To this latter class of travelling must be reckoned a

journey I undertook some years ago, and which is the subject of this present narrative.

At that time, on my return to England after a two years stay in Brazil, the suggestion was made to me by my then employers, whether I would feel inclined to go and collect *Cattleya Lawrenceana*. Without hesitation I accepted willingly the offer, first for the love of the journey in itself, and then because I was certain of making this journey with comparatively greater facility than a former expedition, made some years previously for the same purpose. I had gained a thorough knowledge of the country, its people and all the necessary requirements. Accordingly, after only a very short holiday, I did not lose much time in making all the necessary preparations. I bought a considerable stock of barter goods which had to serve as a means for business transactions with the native Indians, to whom the knowledge and value of current money was completely unknown. I had a quantity of small trunks made of a neat shape and size so as to be carried comfortably on the Indians' backs. In these trunks the goods, my own outfit, and a stock of provisions were packed. Leaving England on the 4th September, I arrived, after a fortnight's pleasant voyage across the Atlantic, in Georgetown, the capital of British Guiana, or Demerara, on the 18th September.

Before proceeding any further, it may be as well to give here a short history of *Cattleya Lawrenceana*. Sir Robert Schomburgk, who, in company with his brother, was exploring the whole interior of the Colony in the years 1837 to 1842 on behalf of the British Government, was the first to find on Mount Roraima a certain *Cattleya*, which, not having seen it in bloom, he considered to be *Cattleya Mossiæ*. In the early eighties a professional Orchid collector, Burke, also passed through those regions, and he also either overlooked it altogether or took it for *Cattleya Mossiæ* as well. A few other naturalists, Brown, Appien and Whiteley, who happened to come across that part of the country, also made no mention of the existence of this plant. At last, in 1884, another collector, Seidl, was fortunate enough in recognising in the plant a new species altogether, and in sending the

first large consignment of it to England. The following year, in 1886, I visited that part and succeeded in dispatching another large consignment, as also did at the same time another collector, Osmer, for the United States. The plant is named in honour of Sir Trevor Lawrence, Bart., the worthy President of the Royal Horticultural Society.

I think I ought to describe the geographical position of the home of this *Cattleya*. The most north-eastern part of the South American continent, between Brazil and Venezuela, represents the three colonies of British, Dutch and French Guiana. Of these British Guiana is the largest and penetrates furthest inland like a wedge, and just at the summit of this wedge, at 61 degrees longitude West and 5 degrees latitude North, where the respective boundaries of the three countries Brazil, British Guiana and Venezuela meet, stands that wonderful and mysterious mountain of Roraima, which until 1884 was considered inaccessible, although several attempts have been made by former travellers. At the foot of this mountain and its immediate neighbourhood *Cattleya Lawrenceana* was found growing.

On my arrival in Georgetown I spent the first three days in completing quickly the last purchases of barter goods, provisions, and other objects necessary for the journey to the interior. Half a day's run in a river steamer up the mouth of the Essequibo river brought me to the picturesque little village of Bartika Grove, at the junction of the Massaruni river with the Essequibo, and from this point all journeys to any part of the interior of the colony really commence. Not a little was I surprised to find such an immense alteration in this place since my first visit a few years previously. Then only about half-a-dozen small bungalows and a few huts, scattered about along the banks of the Essequibo, were to be seen; now I find a flourishing and prosperous little settlement with a few hundred houses, some large well-stocked shops, several hotels, official buildings, a church, the inevitable police station and prison; and all this was due to the gold industry, which during that period took such a marvellous development. The scenery round this part of the

Massaruni and Essequibo is admitted to be the most picturesque of any in the colony; and, strange to say, but not without reason, this delightful spot had been chosen by the governing authorities as a site for a convict settlement and an asylum for lepers! For the Orchid collector, also, this district years ago offered a good field for operation. Here used to grow in abundance *Epidendrum bicornutum*, *Scuticaria Steelii*, *Zygopetalum rostratum*, *Oncidium Lanceanum*, *Stanhopea eburnea*, *Burlingtonia candida*, *Bifrenaria aurantiaca*, *Coryanthes maculata*, *Brassavolas*, *Brassias* and a large number of other species of more botanical than horticultural value.

From Bartika Grove two different routes lead to the interior and the savannahs: one by way of the Essequibo and the Potaro river as far as the Kaieteur Fall and then overland, this is a shorter route by water but longer overland, and this was the route taken on my first expedition. The second route is by way of the Massaruni and then up the Curubung river as far as the Mcrebeh Fall and then overland. This route is longer by water but shorter overland, and has the disadvantage of being considerably more expensive. Much as I should have preferred to follow my first route I was forcibly obliged to desist from it. I was informed that the two mission stations, Ichowra and Chinápau on the Potaro river, where formerly I found every help and assistance, were given up and completely deserted by Indians, and that it would have been out of the question to get there sufficient hands as carriers and guides. For this reason I selected the second route by way of the Massaruni.

On the 24th September at last everything was made ready for a start, the huge stock of barter goods, provisions, baggage, etc., was transferred to a big boat, manned by a mixed crew of all colours, black, white, and red and intermediate shades, and consisting of a captain, who was a half-caste, a bowman, who was a nigger, 12 pullers, and a smart young Indian fellow, named Peter, whom I engaged as interpreter and cook for the journey. On the way, while the crew were busy in building for my comfort a sort of a roof against the hot sun, I spent a last hour with an old

acquaintance, Dr. Law, at the convict settlement; then we were really off, leaving soon all traces of civilised life behind, meeting still for the first few days an occasional boatful of gold-diggers returning from their placers, and paddled along through the dark tropical forest with the monkeys and macaws keeping up a lively music over our heads.

Now, before going any further, a word of explanation, what that stock of barter goods, with which payments had to be effected, consisted of might be of some interest; one or another might feel a craving to make a similar journey one day. It is a curious and varied list. The one precious article mostly coveted by an Indian is, of course, a gun; in proud possession of a gun the Indian considers himself the acme of creation. Therefore we have: 1 doz. single-barrel muzzle-loading Buck guns (at 7 dollars each), 1 doz. bags of shot, $\frac{1}{2}$ cwt. gunpowder in $\frac{1}{4}$ lb. flasks, 10 doz. boxes of caps, 2 boxes of gunnipples, 1 doz. packets of fishhooks, in various sizes, 1 doz. axes, 1 doz. cutlasses, 1 doz. American hatchets, 6 doz. butcher knives, in various sizes, 3 doz. pocket knives, $\frac{1}{2}$ doz. saws, 3 doz. scissors, 3 doz. razors, 3 doz. files, 6 doz. pipes, 3 doz. tin whistles, 2 or 3 musical boxes, a collection of cheap Birmingham jewellery, 6 gross common glass buttons, 6 doz. combs, in various sizes, 6 doz. small mirrors, 6 doz. small packets of needles, ditto pins, 6 doz. reels of thread, white and black, 2 doz. blue or khaki drill trousers, 3 doz. vests, 75 lb. small glass beads, in blue, white and red, 6 pieces red and white calico prints, 6 pieces blue drill (salemporas), 6 doz. red or coloured large handkerchiefs, and a few more odds and ends. All these articles must be of good quality and of a neat pattern. But the most important article—next to the guns—and at the same time the most useful article for everybody of the expedition is—salt. When you consider that Indians don't know salt at all, or only from hearsay, and, once tasted, look upon it as a first-class delicacy, to the same degree as our youngsters appreciate chocolate, you will soon find out that a spoonful of salt goes a long way, and you cannot have enough of it.

(To be continued.)

The Auburn House Collection,
Southport.

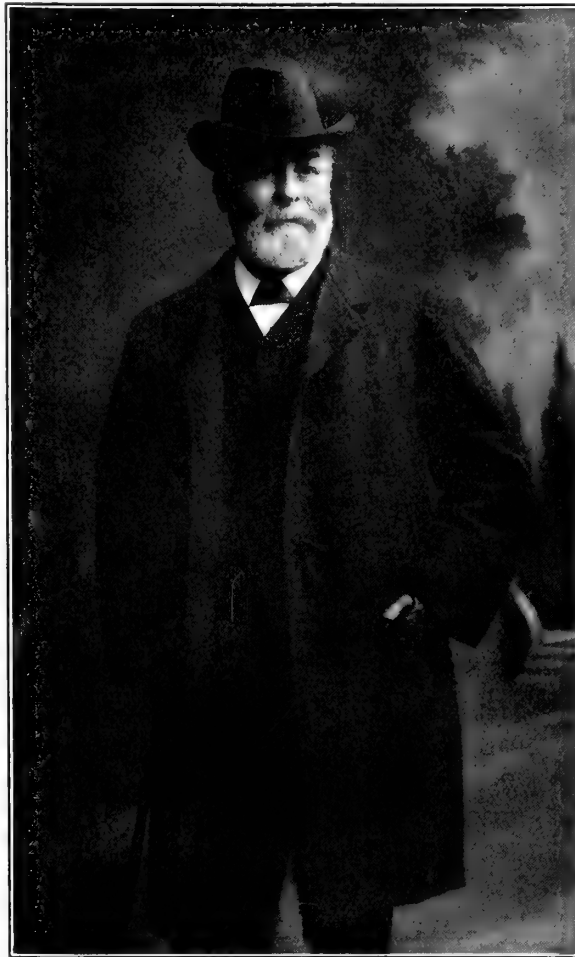
SOUTHPORT, with its beautiful bright atmosphere, could boast, many years ago, of one of the finest collections of Orchids in the country. There are still a few Orchidists who remember the many large specimens which were then in the houses of Mr. R. P. Percival, who is for ever commemorated in *Cattleya Percivaliana*, named in his honour by Prof. Reichenbach, who, in describing the species, said "This *Cattleya* may prove a source of great enjoyment." Although this collection has long since been dispersed, it is gratifying to know that Southport has, at the present time, an even better collection in the possession of J. J. Holden, Esq., and that Reichenbach's prediction, true as it was of the species, is equally applicable, for "this collection proves a source of great enjoyment to the owner."

The Orchid houses are situated almost on a level and within a very short distance from

the sea; in fact, they are built on the actual sand of the shore. The saline atmosphere seems beneficial to the Orchids, yet great difficulty is experienced in growing roses and other garden plants, although the soil in which they are planted has all been brought from a place many miles inland.

The *Cattleya* house contains a large amount of hot-water piping, one length of which passes through the rain-water tank and thus keeps the water in a very suitable condition for use; the atmosphere is always in a very buoyant and fit state. The collection of *Cattleyas* contains nearly two hundred "albinos," many of great rarity and beauty. During the last few weeks some of the best have been in flower, and of

these mention must be made of *C. Harrisoniana alba*, with eight flowers, *C. labiata alba*, a fine form having but little of the usual orange colour in the throat, *C. Warneri alba*, of which there are two good plants, *C. labiata*



J. J. Holden, Esq.



Cattleya Her Majesty.
Sepals and petals pure-white, labellum golden-yellow spotted with rose-purple.

Amesiæ, a lovely variety having pure-white sepals and petals, and a light blush tinge on the labellum, *C. labiata* Empress, *C. Fabia*

Cattleya Holdenii (*intermedia alba* × *Warneri alba*), which are good growers. From one of last year's bulbs two have been produced



Cypripedium Holdenii. (*Maudia* × *callosum Sandera.*)

alba, and *C. Maggie Raphael alba*; the two latter have pure-white sepals and petals and a richly-coloured labellum.

There are also grand specimen plants of

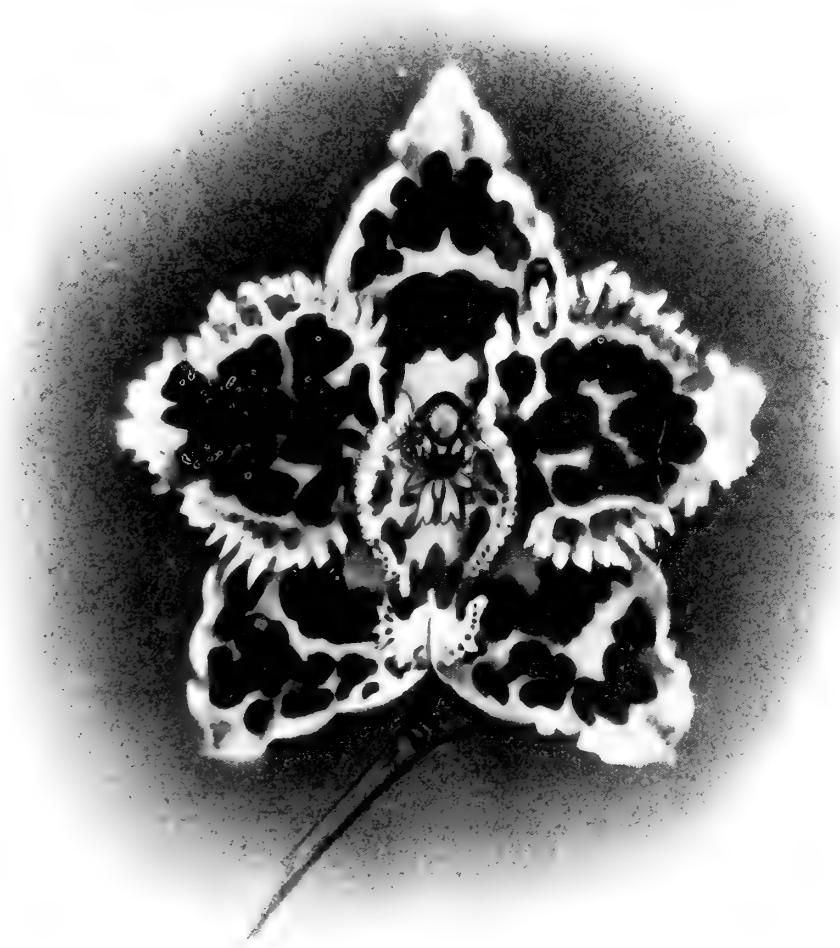
which are now carrying thirteen flowers. The elegant *C. Mossiæ Wagneri*, *C. Ludemanniana alba*, and the distinct variety known as *Stanleyi*, which has a prettily marked

labellum, are well represented. There are a number of albino *Cattleya* hybrids, the most noted being *C. Suzanne Hye de Crom*, the stock of which now consists of five large plants.

Mention must also be made of *Cattleya Queen Maud*, and the wonderful variety of

C. Trianae, *C. Mossiae Holdenii*, a very beautiful form, and many of the best *Cattleya* hybrids. Two very interesting plants in this house are *Cattleya labiata Peetersii* and *C. Hardyana Massaiana*.

The *Brasso-Cattleyas* are well represented and include some unique specimens.



Odontoglossum Dorothy Holden.

C. Hardyana "Countess of Derby," described on page 1 of the present volume, the reputation of which has extended to every country of the world where Orchids are grown.

During the spring time a welcome display is made by a large selection of *Cattleya Schröderæ*, several fine varieties of

Suspended from the roof is a large plant of *Trichopilia Backhouseana*; its beautiful flowers are much admired.

The *Odontoglossum* house at this season of the year does not present such a grand show of bloom as may be seen in the spring time. There are, however, a few choice plants in flower, and from them a good

conception of the great beauty of these exceedingly pretty species and hybrids may be obtained.

Odontoglossum crispum is represented by some of the finest forms, notable examples being *O. c. Lindenii*, *O. c. Lucianii*, and *O. c. Holdenii*, a very large, white flower, and the marvellous *O. c. xanthotes Warburtonii*. The *Odontoglossum* hybrids include some of the finest results of the hybridists' work.

The *Cypripedium* house is span-roofed with a centre path. On both sides is a row of silver-leaved *Panicum variegatum*, at the back of which are several hundred richly-coloured *Cypripedium* flowers, the whole making a truly wonderful display such as is rarely possible with any other kind of plant. Species, varieties, and hybrids seem to vie with each other in attracting one's attention. Bold flowers may be admired in *Cypripedium*



Odontoglossum Dreadnought.

The range of colour is remarkable, some bright-yellow, others deep-purple. A few have immense purple blotches on a pure-white ground, others are almost covered with small spots on a rosy ground. *Od. amabile* Holden's variety is one of the best forms of this beautiful *Harryanum* hybrid. *Od. ardentissimum Johnsonii* is a very large white flower handsomely marked with purple blotches.

Aeson giganteum, *C. Dreadnought*, and *C. insigne Harefield Hall*; rare varieties may be seen in *C. Actæus Bianca*, *C. Holdenii* with its broad dorsal of $3\frac{1}{2}$ in. diameter, and *C. The King*; while pretty varieties include *C. Fairrieanum*, *C. Baron Schröder*, and *C. Minos Youngii*, of which there are ten plants. The healthy condition of all these is very marked.

Of the other *Cypripedium* hybrids which

are now in flower mention must be made of *C. Gaston Bultel*, a magnificent flower, *C. Archie Neill*, *C. Lceanum Corona*, *C. Berkeleyanum*, *C. Dora Crawshaw*, and *C. Boltonii*, an almost pure-white form. With such a large number in flower it is impossible to record more than a few, and words will not adequately describe them or give an idea of the fine effect produced when they are grown to such perfection.

Besides many excellent *Dendrobiums* there are several plants of the wonderful *Bulbophyllum virescens*, the elegant *Cymbidium erythrostylum*, and other interesting Orchids. The genus *Lycaste* is well represented, there are good plants of *L. Skinneri alba*, *L. Lucianii superbum*, *L. Deppei*, and *L. Mary Gratrix*.

The above short account of this large collection gives but a comparatively poor idea of the very numerous species and hybrids which it contains, and when it is mentioned that almost every one of these has been brought together during the last three or four years one will have some slight idea of the intense interest which Mr. Holden takes in Orchidology.

All the cultural details are carried out by Mr. R. Johnson with his customary excellence, and in every section of this large collection there is evidence of his thirty years' experience in Orchid growing. It is a great pleasure to see plants growing so well and producing such excellent floriferous results.

G. W.

NEW PLANTS.

SOPHRO - LÆLIO - CATTLEYA MENIPPE (*CATTLEYA HARDYANA* × *SOPHRO-LÆLIA HEATONENSIS*).—In this hybrid another success has been achieved, the scarlet colour of the *Sophronitis grandiflora* having created a remarkably rich scarlet-crimson colour on the whole flower, the lip of which strongly resembles in formation that of the *Sophronitis* species, but, of course, much larger. Exhibited by H. S. Goodson, Esq., at the Royal Horticultural Society, September 26th, 1911.

BRASSO-LÆLIO-CATTLEYA BAUCIS (*L.-C. INTERMEDIIO-FLAVA* × *B.-C. MRS. J. LEE-MANN*).—A somewhat disappointing result; flowers creamy-white and rather small. Exhibited by Mons. Maron at the Royal Horticultural Society, October 24th, 1911.

BRASSO - LÆLIO - CATTLEYA TRUFFAUTIANA (*L.-C. LUMINOSA* × *B.-C. MRS. J. LEEMANN*).—A grand hybrid, flowers golden-yellow speckled with purple, the lip mauve, and fringed. Exhibited by Mons. Maron, at the Royal Horticultural Society, October 24th, 1911.

SOPHRO-LÆLIO-CATTLEYA ALICE (*S.-L. HEATONENSE* × *C. MRS. PITT*).—A very pleasing hybrid with rosy-scarlet flowers. The labellum is broad with a wide throat, and shows the yellow colour so often seen in the throat of the latter parent. Raised by Mr. Giles, Orchid grower to F. du Cane Godman, Esq., South Lodge, Horsham.

LÆLIO-CATTLEYA STEPPESTEDIANA (*C. LUDDMANNIANA* × *L.-C. ANDROMEDA*).—A very bright, golden-yellow flower exhibiting promising qualities. Shown by Mons. le Comte Joseph de Hemptinne, St. Denis, Westrem, Ghent, at the Royal Horticultural Society, October 24th, 1911.

LÆLIO - CATTLEYA ARIADNE (*L. - C. ALCYONE* × *C. AUREA*).—The former parent is a hybrid between *L. flava* and *C. Schilleriana*, the desire being to produce a golden-yellow sepaled and petaled flower with a rich-crimson labellum. A good example was shown by E. R. Ashton, Esq., at the Royal Horticultural Society, November 7th, 1911.

LÆLIO-CATTLEYA ORIENT [*C. LABIATA* × *L.-C. ADOLPHUS* (*L. CINNABARINA* × *C. ACLANDIÆ*)].—This new hybrid has been raised in the collection of W. H. St. Quintin, Esq., Scampston Hall, Rillington, York, by Mr. F. C. Puddle, who sends a flower with the following note: "You will notice how dominant is the influence of *L. cinnabarina*. I really made the cross to see if the spots of *C. Aclandiæ* would show more in another generation than they do in *L.-C. Adolphus*. But in this, the first seedling to flower, the influence of *C. Aclandiæ* seems altogether lost. I have a number of similar plants to

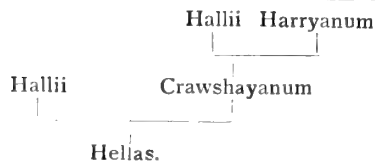
flower, in which the characteristics of this species may possibly be more in evidence, which, of course, would certainly occur had I recrossed L.-C. Adolphus with C. Aclandiæ, but I thought it would be more interesting to try with some other species which would improve the shape of the flower." The specimen sent has cinnabar-yellow sepals and petals, and a purple blotched labellum.

CATTLEYA OLAF (LABIATA ALBA × PARTHENIA PRINCE OF WALES) — A pleasing flower with almost white sepals and petals; the labellum has purple mottling in front of a yellow disc. Shown at the meeting of the Royal Horticultural Society, November 7th, 1911, by Francis Wellesley, Esq.

CYPRIPEDIUM A. J. H. SMITH (HERA EURYADES × NIVEUM)—A flower slightly larger than the latter parent, and remarkable for having the upper half of the petals considerably darker than the other portions of the flower. Raised by Mr. H. J. Chapman, Orchid grower to Mrs. N. C. Cookson, Wylam.

LÆLIO-CATTLEYA SAPPHIRATA (L.-C. CANHAMIANA × C. MAXIMA).—The flower of this new hybrid resembles the former parent in size and form, but the lip is almost covered with a mass of blueish-purple veins derived from the pollen parent. Raised by Messrs. Sander and Sons, St. Albans.

ODONTOGLOSSUM HELLAS.



To many this would not commend itself, but it is more than an ordinary Hallii as it might almost be thought it would be. In form it approaches Harryanum, having somewhat incurved petals. In colour it goes to Hallii, having the three whorls of blotches peculiar to it, the linear spotting in the bases of the petals being easily recognisable, the ground colour of both sepals and petals being creamy-yellow tinged with green.

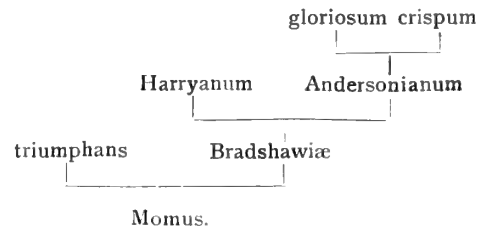
The lip is a very handsome segment, and is large, creamy-white with a central red-brown

spot, and having a run of marginal spots at the lower half of the sides, its crest being almost that of a pure Hallii; the column very like Hallii, but the cirrhi almost suppressed. I used a fine variety of Hallii leucoglossum, hence the general light colour of this hybrid. It bloomed April 22nd, 1911.

de B. Crawshay, November 20th, 1911.



ODONTOGLOSSUM MOMUS.



Od. Bradshawia and its hybrid Momus, which I bloomed in May, 1909, are unique plants; some may say "a good thing, too," but if no one raised anything but what was certain to be "fine and valuable," we should not have learnt perhaps that which we know now, and we, or at least some of us, *might* still be saying "blotched crispums are not hybrids." I wonder if there is *anyone* who still thinks so?

Momus has a rich-yellow ground colour evenly spotted with red-brown, thicker in the sepals, the basilar markings derived from triumphans being strongly marked, and in form it is like the same parent; the petals have the central basal line peculiar to gloriosum.

The lip is almost white-ground colour, having a central arrow-head shaped blotch of red-brown that has the sheen peculiar to triumphans, the crest, column, and wings are almost that of a pure triumphans, which species predominates very heavily, almost obliterating the three other parental species.

It is here seen how powerful a true triumphans from the Ocaña district is; the reason being that it is almost a pure species, so little hybridity has taken place there, so different from triumphans latisepalum, which is so mixed up among crispum, Hunnewellianum, etc.

de B. Crawshay, November 20th, 1911

ODONTOGLOSSUM WALTRAUTE.
(NÆVIUM × HARRYANUM).

This plant, the only one I saved, bloomed September 27th, 1910, and proved to be a remarkably pretty thing. Imagine a very strong and heavy spike of nævium much exaggerated, flowers thicker and larger, of a bright light-yellow, copiously spotted with rich-brown, having a lip midway between the parents, and you have a mind picture of a hybrid well worth re-raising.

de B. Crawshay, November 20th, 1911.



ODONTOGLOSSUM KASHIMA.

Lindleyanum Harryanum

Hallii

Wattianum

Kashima.

This is a very strong grower as would be supposed, but a very shy bloomer as all Wattianum hybrids seem to be. They carry very fine spikes of large flowers. Sepals and petals light-yellow marked with brown, in form intermediate. The lip very large,

oblong, of same colour, with a large oblong blotch that develops a shade of purple around the edge of the brown. I bloomed it in September, 1911.

de B. Crawshay, November 20th, 1911.



ODONTOGLOSSUM GALBA.

nobile crispum

sceptrum

ardentissimum

Galba

This meagre result I bloomed October 22nd, 1910, and I have been waiting (and am likely to by past evidence) for a good variety to publish it upon. A dirtier muddy mauvish-brown it would be difficult to make, and most of them have not the mauve, which the pollen parent could not transmit.

The whole flower is almost a solid ground colour as in *sceptrum*, and save that it is an experiment, which no one else need try, it is hardly worth recording. Fortunately, they are good growers, and make a fine spike of decorative æsthetic-coloured flowers.

de B. Crawshay, November 20th, 1911.

THE ATMOSPHERE OF AN ORCHID HOUSE.

THE maintenance of a suitable temperature is one of the essential principles of Orchid culture. The mere act of registering, by means of a thermometer, the amount of heat does not explain how or from whence it is produced. Not only is the topic of special interest at this season of the year, but a good knowledge of the subject is of great importance to all engaged in the practical work of Orchid growing under glass.

Without discussing the theoretical question of "What is heat?" it will be sufficient for our purpose to state that heat manifests itself in three ways, viz., by conduction, radiation, and convection. A clear comprehension of these principles will greatly assist us in understanding how the temperature of the atmosphere of an Orchid house may be artificially maintained.

Conduction. If two short rods of similar length, one composed of silver and the other of iron, have one of their ends placed in a fire the other end of each will gradually become warm, but not at the same rate, the rod of silver becoming hot in a much less space of time. This is because silver is a much better conductor of heat than iron, and it may be stated that that which takes up heat readily is just as ready to give it up.

It is at once evident that as the fire heat cannot be directly applied to the water an intervening material of high conductive power must be used. Also, if the hot-water pipes are constructed of material having a very low conductive power it would be almost impossible for the heat of the water to have any effect on the atmosphere of the house. The metal having the highest conductive power is

silver, followed by copper, brass, cast-iron, wrought-iron, and lead. The great cost of the first three compels us to utilise cast-iron for the construction of the boiler and pipes.

Although a saving in the cost of the heating apparatus is thus obtained, it must be remembered that the greater the difficulty of transferring the fire-heat to the water, or the heat of the water to the surface of the pipes, the larger will be the amount of fuel consumed. With the ever increasing cost of fuel we may, in the near future, have to consider whether it will be more advantageous to spend a larger sum of money in erecting an apparatus composed of some material, such as copper, having a higher power of conductivity.

Radiation, from radio, to emit, or give off, rays. The air, by direct contact, receives a small amount of heat from the hot-water pipes. It is not sufficient for heat to be brought to the surface of the hot-water pipes, it must be radiated, or given off. One may often have heard a remark to the effect that although there are plenty of pipes in the house, which are always hot, yet the temperature of the air is never as warm as it should be. This is an interesting point. Those who have been up in a balloon, or a flying machine, have noticed that the atmosphere gets colder and colder the further they go away from the earth, yet at the same time they are getting nearer to the sun. This is because the rays of heat always pass through the air without affecting it; it is only when they come in contact with heat absorbing substances that these bodies are gradually made warm. The air is warmed by direct contact with these heated bodies.

It will, therefore, be seen that it is absolutely necessary for the pipes to give off rays of heat which, when coming in contact with heat absorbing materials in the house, will warm them; these warmed objects will then warm the air in direct contact with them.

Now this radiation does not depend on the material of the pipes, but entirely on the nature of their outer surface or skin. If the pipes were made of silver, a metal of high conductive but low radiative power, they

would, when feeling extremely hot, radiate or give off very little heat. If these silver pipes were polished still less heat would be obtained from them. This is because silver is a bad radiating material. Lamp black is one of the very best and most suitable radiating materials. If the silver pipes are coated with this substance we have the finest conductive material radiating, or giving off, heat in a very efficient manner.

Cast-iron pipes come very near to those of silver, but even with these a great deal will depend on whether the surface is rough or polished. If in the latter state poor results are bound to occur, but if coated with lamp black the radiating power will be greatly increased, and a corresponding rise in the temperature of the house will be produced.

Therefore, it will be plainly seen that in order to allow the heat of the water to manifest itself on the outside of the pipes these must be made of a material having a high conductive power; and secondly, the surface of these pipes must be in a suitable radiating condition or the heat will not be given off into the house.

Convection (from *conveho*, to carry up). Water is a fairly good conductive substance, but it is almost impossible for the heat to pass through a long length of pipe. Resource, is, therefore, taken of the difference in the weight of hot and cold water. The idea that hot-water always ascends is incorrect. It is the cold water which, being heavier, sinks to the lowest part and so forces the hot-water to the highest portion of the heating apparatus. If the pipes are placed on a continual rise the hot-water will gradually pass through them in reaching the highest point. When parting with its heat it becomes heavier and again returns to the boiler. It is thus that the circulation is maintained.

Convection is also in evidence in the atmosphere. As soon as the air is warmed by contact with a heated body it rapidly ascends, its place being occupied by air of a lower temperature. The circulation of air takes place at a much more rapid rate than that of water. G. W.

SEASONABLE NOTES.

Many Orchids rest naturally during the winter months, and do not require the heat and moisture necessary when the plant is in full growth. It is surprising what an amount of cold some plants will stand when in a dry state. A sudden change from growing conditions to a drier and colder atmosphere is not advisable; all plants should be gradually hardened off and the foliage properly matured before they are placed in any decided change of atmosphere.

Species and hybrids vary so much that no definite date can be given for the commencement or ending of the resting season; every plant must be treated entirely according to its own wants. While some may only require watering once a week, others will want attention every day, so much depends on root activity and the kind of compost used. Only sufficient water should be given to prevent the bulbs from shrivelling, any excess is likely to cause the plants to commence a new growth at a most unfavourable time of the year.

ROYAL HORTICULTURAL SOCIETY.

October 24th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Harry J. Veitch, Stuart Low, R. G. Thwaites, F. J. Hanbury, A. A. McBean, C. H. Curtis, T. Armstrong, W. Cobb, J. Charlesworth, J. S. Moss, J. Cypher, W. P. Bound, W. H. Hatcher, H. G. Alexander, A. Dye, W. H. White, Gurney Wilson, and W. Bolton.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Flora Medal for a group of excellent Orchids. The best being *Cattleya Fabia alba*, the rare *Oncidium varicosum concolor*, and a fine variety of *Odontoglossum Aireworth*.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for an excellent group containing good plants of *Saccolabium acutifolium*, *Spathoglottis Fortunei*, the curious *Bulbophyllum Medusæ*, and several good *Cypripediums*.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Flora Medal for an attractive group in which were several good forms of *Cattleya Fabia*, some interesting *Bulbophyllums* and *Cirrhoptalums*, the elegant *Cœlogyne fuliginosa*, a nice selection of *Cattleya hybrids*, and many excellent *Cypripediums*.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for an

excellent group of autumn-flowering *Cattleyas*, *Cypripediums*, and hybrids, those of special merit being *Cattleya Mantinii*, *C. Portia*, several rare *Masdevallias* and *Bulbophyllums*, and good plants of *Vanda cœrulea*.

Messrs. Hassall and Co., Southgate, received a Silver Flora Medal for a group containing many very fine forms of *Cattleya labiata*, several having remarkably good lips. The rare *Angræcum infundibulare* and *Eria stellata* were also shown.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Flora Medal for a bright and attractive group. At the back were many well-flowered plants of the various *Oncidiums*, and in front good examples of *Cynoches maculatum*, *Masdevallia macrura*, many fine forms of *Cattleya labiata* and *C. gigas*, and the elegant *Oncidium St. Legerianum*.

Messrs. J. and A. A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a good group, containing many elegant Orchids. Mention must be made of *Odontioda Charlesworthii*, *Cattleya Warscewiczii* with 16 flowers on four leads, *C. aurea*, and a very fine *Lælio-Cattleya St. Gothard*.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed *Cattleya labiata* Lady Leese, a beautiful pure-white form with a violet-purple blotch on the lip; *Lælio-Cattleya Mrs. Phayre*, and the reverse cross of the same.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), exhibited *Lælio-Cattleya luminosa aurea*, the pretty *Cypripedium Oberon* (*Euryades* × *Fairrieanum*), and a very fine variety of *Brasso-Cattleya Mdm. Chas. Maron*.

Mons. Ch. Maron Brunoy, France, received a Bronze Banksian Medal for a small group of choice hybrids, the best being *Cattleya Fabia Vigeriana*, a very dark variety, a nice form of *C. Fabia alba*, *C. Marg. Maron*, and several good *Brasso-Cattleyas*.

Frank Lloyd, Esq., Coombe House, Croydon (gr. Mr. E. Mills), exhibited a nice variety of *Sophro-Lælia grangei* *fieldensis*.

Sir Trevor Lawrence, Bart., K.C.V.O. (gr. Mr. W. H. White), exhibited a large specimen of *Octomeria Baurei*.

W. P. Burkinshaw, Esq., West Hill, Hessle, Hull (gr. Mr. Barker), exhibited *Cypripedium Gaston Bultel* and *C. Lord Ossulston*, both well grown plants.

C. J. Phillips, Esq., The Glebe, Sevenoaks, exhibited *Oncidium Forbesii* "Glebe" variety, one of the largest forms seen.

Mons. le Comte de Hemptinne, St. Denis, Westrem, Ghent, exhibited *Lælio-Cattleya Steppediana*. See "New Plants."

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed a very fine variety of *Brasso-Cattleya Queen Alexandra*, and a magnificent specimen of *Cattleya labiata*.

Edward Roberts, Esq., Park Lodge, Eltham (gr. Mr. W. Carr), sent *Cypripedium Gipsy*, a fine flower, darkly coloured, and resembling *C. Harrisianum superbum*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Lælio-Cattleya luminosa aurea (*L. tenebrosa* "Walton Grange" variety × *C. aurea*), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander). A plant of great interest and beauty. By using this albino form of *tenebrosa* the sepals and petals of the hybrid are of a clear, yellowish-gold colour; the lip being very dark reddish-claret colour.

Lælio-Cattleya St. Gothard "McBean's" variety (*L.-C. Gottoiana* × *C. Hardyana*), from Messrs. McBean, Cooksbridge. A remarkably good shaped flower, all the segments being very broad and of a rich rosy-purple colour. A great acquisition.

AWARD OF MERIT.

Vanda Kimballiana alba, from Messrs. Mansell and Hatcher, Rawdon, Yorks. A very distinct and beautiful albino form of this well-known Burmese species.

November 7th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair); and Messrs. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Harry J. Veitch, Gurney Wilson, R. G. Thwaites, W. Thompson, G. F. Moore, T. Armstrong, A. A. McBean, W. Cobb, J. Charlesworth, J. E. Shill, J. Cypher, W. H. Hatcher, H. G. Alexander, A. Dye, C. H. Curtis, J. Wilson Potter, W. Bolton, R. Brooman-White, J. S. Moss, de B. Crawshay, C. Cookson, and C. J. Lucas.

G. F. Moore, Esq., Bourton-on-the-Water (gr. Mr. Page), was awarded a Lindley Medal for a very fine group of *Dendrobium Phalænopsis Schröderianum*, the varieties varying from pure-white to dark ruby. Several excellent *Cypripediums* were included.

E. R. Ashton, Esq., Broadlands, Camden Park, Tunbridge Wells (gr. Mr. A. Young), received a Silver Flora Medal for a very showy and effective group. In it were good specimens of *Brasso-Cattleya Mrs. J. Lee-mann*, *Cattleya Phrygia*, *C. Luegæ*, and the beautiful pure-white *C. Dusseldorfei Undine*.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Flora Medal for some excellent Orchids. Mention must be made of *Cattleya labiata Penelope*, *C. Fabia*, *Stanhopea convoluta* and a curious *Mormodes*.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a fine group containing many rare species. Several *Cattleya* hybrids, *Dendrobium Sanderæ*, and *Gongora cassidea* were also shown.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for an interesting group of *Cypripediums*, amongst which were specimen plants of *Dendrobium formosum*, and some hybrid *Odontoglossums*.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for a group of excellent varieties of *Cattleya labiata*, *C. Fabia alba*, and some choice *Cypripediums*.

Several very interesting botanical Orchids were also shown.

W. R. Lee, Esq., Plumpton Hall, Heywood (gr. Mr. Woodhams), showed the grand *Cypripedium King George* and *C. Hannibal*, both in excellent condition.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed *Cattleya Olaf* (*labiata alba* × *Parthenia*), a nice pure-white flower with rose markings on the lip.



Calanthe Cooksonia (*Harrisii* × *vestita*).

Photograph by H. J. Chapman.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Banksian Medal for a good group of autumn flowering *Cattleyas*. The best were *Cattleya Fabia*, *C. Armstrongia*, and *C. Minucia*.

Messrs. J. and A. A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a group of well-grown Orchids. Those of special merit included *Lælio-Cattleya Arachne*, *Odontioda Charlesworthii*, and a large plant of *Cypripedium insigne Sanderæ*.

Messrs. Armstrong and Brown, Tunbridge Wells, received a Bronze Medal for a good group containing many grand *Cypripediums*.

His Grace the Duke of Devonshire, Chatsworth (gr. Mr. Jennings), exhibited *Renanthera coccinea*, a strongly-flowered plant, for which the Committee passed a Vote of Thanks.

Mr. E. V. Low, Vale Bridge, Haywards Heath, exhibited *Cattleya labiata* W. R. Lee, a very fine variety, *Lælio-Cattleya Decia alba*, and several excellent *Cypripedium* hybrids.

J. Gurney Fowler, Esq., exhibited a very strong spike of *Cymbidium Tracyanum*.

Mrs. N. C. Cookson, Oakwood, Wylam, exhibited *Cypripedium A. J. H. Smith*

(*Euryades* × *niveum*), *Calanthe Harrisii*, and *C. Cooksoniæ*.

F. Du Cane Godman, Esq., Horsham, sent *Sophro-Lælio-Cattleya Alice* (*S.-L. heatonense* × *C. Mrs. Pitt*).

The Rev. J. C. B. Fletcher, Mundham Vicarage, Chichester, sent *Bulbophyllum Medusæ alba*, *Catasetum Gnomus*, and *Epidendrum* species.

E. H. Davidson, Esq., Borlases, Twyford, exhibited *Odontioda Dora*, and *Cypripedium Venus*.

C. J. Lucas, Esq., Warnham Court, exhibited a nearly white variety of *Brasso-Cattleya Digbyano-Mendelii*.

Gurney Wilson, Esq., Haywards Heath, exhibited an interesting peloriate form of *Cattleya labiata*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya Ashtonii alba (*Harrisoniana* × *Warscewiczii*), from Messrs. Sander and Sons.—A large good shaped flower, the lip being broad and with bright orange-yellow in the throat.

Calanthe Cooksoniæ (*Harrisii* × *vestita*), from Mrs. N. C. Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman).—The largest and best pure-white *Calanthe* hybrid, a great advance on the parents.

Cypripedium Sibyl superbum (*Francisix* × *Fairrieanum*), from Mrs. Cookson.—See illustration p. 51.

Cattleya Venus lutescens (*Iris* × *aurea*), from Messrs. J. and A. A. McBean, Cooksbridge.—A very large variety with lemon yellow sepals and petals, and a broad lip.

CERTIFICATE OF APPRECIATION.

Odontocidium Fowlerianum (*Odontoglossum cirrhosum* × *Oncidium Forbesii*), from J. Gurney Fowler, Esq. (gr. Mr. Davis).—An extremely pretty hybrid, the sepals and petals blotched with chocolate-red on a yellowish ground. The labellum is large,

yellow in the centre, and marked with bright red.

November 21st, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. James O'Brien (hon. sec.), and twenty-five members present.

His Grace the Duke of Marlborough, Blenheim Palace (gr. Mr. Hunter), was awarded a Gold Medal for a magnificent collection of well-grown plants of *Vanda cœrulea*, *Cypripedium insigne Sanderæ*, one specimen having as many as 34 flowers, and a large variety of other Orchids.

H. S. Goodson, Esq., Fairlawn, West Hill, Putney (gr. Mr. Day), received a Silver Flora Medal for a grand show of *Cypripedium insigne Sanderæ*, the plants being exceedingly well flowered. Other Orchids in this exhibit included *Cypripedium Maudiaë*, *Cattleya labiata Schofieldiana*, with white sepals and petals, and several fine varieties of *Lælio-Cattleyas*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for a group of *Epidendrum vitellinum majus*, the orange red colour being very effective. *Vanda Sanderiana*, *Cattleya labiata James Lowther*, a pure-white variety with a slight suffusion of rose on the labellum, and several good *Cattleyas* were also shown.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a large group of autumn flowering hybrids, the very rare *Cœlogyne Swaniana*, *Lælio-Cattleya Sapphirata*, and many others.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Banksian Medal for a group containing many excellent *Cattleyas* and their hybrids, a good selection of interesting botanical species, and other rare Orchids.

Messrs. James Cypher and Sons, Cheltenham, received a Silver Banksian Medal for a grand collection of *Cypripediums*, notable examples being *Felicity*, and albino forms of *insigne*.

Mr. E. V. Low, Haywards Heath, obtained a Silver Banksian Medal for a very effective

group of choice Cattleyas, *Cypripediums* in great variety, and the rare *Odontoglossum grande aureum*.

Messrs. W. B. Hartland and Sons, Ballintemple, Cork, were awarded a Silver Banksian Medal for a good group of Orchids.

Messrs. Hassall and Co., Southgate, N., obtained a Bronze Banksian Medal for a well-arranged group of *Cattleya bicolor* hybrids, the elegant *Angræcum infundibulare*, and some curious botanical species.

Messrs. J. and A. A. McBean, Cooksbridge, staged a very effective group of well-grown Orchids, the *Cattleya Fabias* being specially fine. A new *Lælio-Cattleya* was also shown.

Messrs. James Veitch and Sons, Chelsea, staged a very pretty group of the pure-white *Calanthe Harrisii*, and *Cypripedium James O'Brien*, an improvement on *insigne* Harefield Hall.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorking (gr. Mr. White), exhibited the elegant *Zygopetalum Ballii*.

St. Whitlaw, Esq., Amerden, Taplow, Bucks (gr. Mr. Mitchell), exhibited *Cypripedium amerdense*.

Mrs. T. B. Haywood, Woodhatch, Reigate (gr. Mr. Barrett), sent a good shaped *Cypripedium* hybrid between *Euryades* and *Harrisianum*.

F. Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), staged *Cattleya labiata* Her Majesty The Queen, a large white flower.

Capt. J. F. Laycock, Wiseton, Bawtry (gr. Mr. Musk), sent a well-grown plant of *Lælio-Cattleya Henry Greenwood*.

Messrs. Mansell and Hatcher, Rawdon, Yorks, exhibited a good plant of *Angræcum Kotschyi* growing on a piece of tree. It carried two long spikes of flowers.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum Thais, from W. R. Lee, Esq., Plumpton Hall, Heywood (gr. Mr. Woodhouse). A beautiful specimen, having very large, broad sepals and petals heavily

blotched with reddish-purple, the lip slightly pandurate.

Odontoglossum Chione, from W. R. Lee, Esq. A very richly-coloured hybrid, resembling *O. illustre*. A distinctive feature is the white apex of the lip.

Lælio-Cattleya Prince of Orange (L.-C. *Hippolyta* × *C. aurea*), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury (gr. Mr. Alexander). A very beautiful hybrid. The sepals and petals orange slightly shaded with red, the lip bright cinnabar-purple.

Brasso-Cattleya Digbyano-Mossiae Holford's variety, from Lieut.-Col. Sir George Holford, K.C.V.O. An extremely large and beautiful flower, the sepals and petals being almost white, the lip deeply fringed.

Cypripedium Chapmanii Westonbirt var., from Lieut.-Col. Sir George Holford. A very great improvement both in size and colour on the original variety.

AWARDS OF MERIT.

Cypripedium Elatior (Leeanum × Baron Schröder), from F. M. Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth). An attractive hybrid, the broad dorsal is beautifully marked and spotted with purple.

Lælio-Cattleya Denganii (*C. Dowiana* × L.-C. *Cappei*), from Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins). A pleasing hybrid with reddish-copper sepals and petals, and reddish-purple front lobe to the lip.

Brasso-Cattleya Leucothea (*B. nodosa* × *C. Schröderæ*). An almost pure-white flower, the lip expanded and entirely without spots. From Messrs. McBean, Cooksbridge.

Lælio-Cattleya W. J. Biggs, from Messrs. Wm. J. Biggs and Co., Enfield. A richly-coloured hybrid of unknown parentage. The sepals and petals are copper-colour, the labellum reddish-purple.

CULTURAL COMMENDATION

to Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, for *Maxillaria picta*, *M. phœnicanthera*, and *Trichosma suavis*.

MANCHESTER ORCHID SOCIETY.

November 2nd, 1911.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the Chair); R. Ashworth, J. Bamber, W. R. Lee, C. Parker, G. H. Peace, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, W. Holmes, A. J. Keeling, D. McLeod, W. Stevens, and H. Arthur (Secretary).

Ziba Ward, Esq., Northenden (gr. Mr. Weatherby) received a Silver-gilt Medal for a fine group of *Cypripediums*, a special feature being the albino forms, of which fifty plants were shown of *Cyp. insigne* *Sanderæ*. Several good *Cattleyas* received awards.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was awarded a Silver-gilt Medal for a good group of *Dendrobium Phalænopsis*, *Cattleyas*, and *Cypripediums*.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), exhibited a very nice group which was awarded a Special Vote of Thanks. One of the most interesting plants in this exhibit was *Odontoglossum crispum* with a spike almost four feet long carrying twenty-eight flowers.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a group containing many good *Cattleyas*, excellent *Cypripediums*, and *Odontoglossums*.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), received a Bronze Medal for a group consisting of varieties of *Cattleya labiata* and its hybrids, and various *Cypripediums*.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), received a Bronze Medal for a good group of *Cypripediums*.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged *Cattleya labiata* alba var. *Richard le Doux*.

Wm. Thompson, Esq., Stone (gr. Mr. Stevens), exhibited a fine form of *Odontoglossum crispum hololucum* Walton Grange variety, and several excellent *Cypripediums*.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), exhibited a fine form of *Cattleya Harrisoniana* alba with two flower spikes, and several *Cypripediums*.

G. H. Peace, Esq., Monton Grange (gr. Mr.

Mace), showed a good plant of *Oncidium ornithorynchum album* with several good spikes.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), staged fine examples of several excellent *Cypripediums*.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a good group of various Orchids.

Messrs. A. J. Keeling and Sons, Bradford, showed *Cypripedium Mellone* (*Hitchense* × *insigne*), and others.

Messrs. Charlesworth and Co., Haywards Heath, showed several good *Cattleya* hybrids.

Messrs. Stuart Low and Co., Bush Hill Park, staged four fine plants of *Cattleya Fabia*.

Messrs. Hassall and Co., Southgate, exhibited some interesting *Cattleya* hybrids.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya labiata var. *Richard le Doux*, from R. le Doux, Esq.; *Cattleya labiata* var. *W. R. Lee*, from W. R. Lee, Esq.; *Oncidium ornithorynchum album*, from G. H. Peace, Esq.

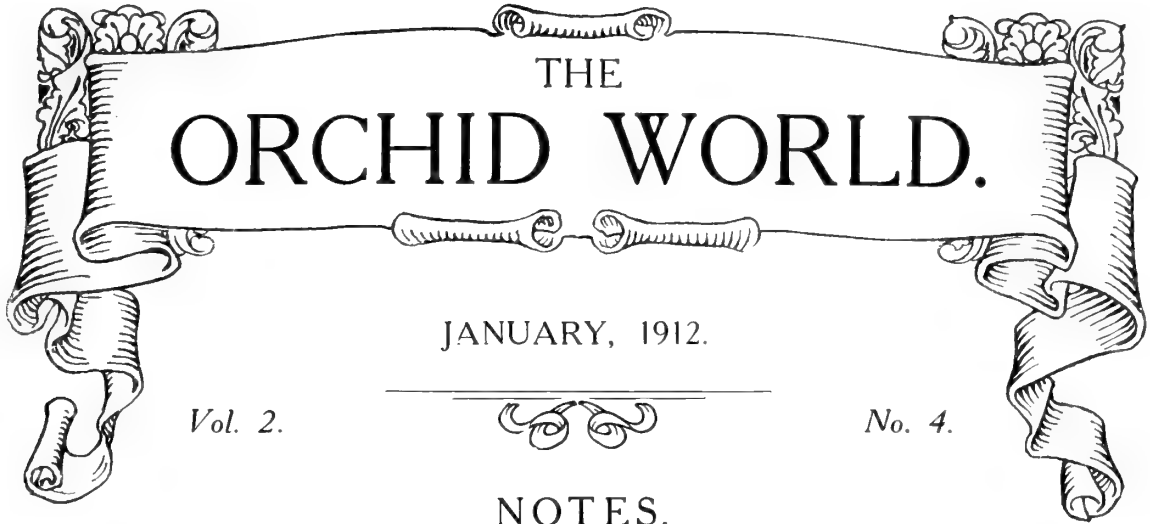
AWARDS OF MERIT.

Cattleya labiata var. *Helène*, and *Lælia Pella* (*purpurata* × *majalis*), both from W. R. Lee, Esq.

Cattleya Armstrongiæ Ward's var.; *C. Armstrongiæ* var. *Mrs. Ward*; *C. Miss Williams*; *Cypripedium Perfection* Ward's var.; *C. Actæus* Ward's var.; all from Z. A. Ward, Esq.

Cattleya Fabia var. *Prince John*, from J. McCartney, Esq.

Cypripedium Pyrrha Thompson's var.; *C. Grittleton* (*Stevensii* × *Curtisii*); *C. hybrid* (*Spicerianum* × *Thompsonii*); *Odontoglossum crispum hololucum* Walton Grange var.; all from W. Thompson, Esq.



MAXILLARIA PICTA.—A grand specimen of this very fragrant Brazilian species is in the collection of Col. Stephenson R. Clarke, C.B., Borde Hill, Cuckfield. The plant is under the care of Mr. E. Johnson, who informs us that it now consists of over 400 bulbs and has recently produced more than 250 flowers.



ORCHID SALE.—At a recent sale of duplicates from the "Oakwood" collection, *Odontioda Bradshawiae* Cookson's var., three bulbs, realised 26 guineas; *Odontoglossum crispum* Luciani, four bulbs, made 13 guineas; *Odonto. crispum* Leonard Perfect, three bulbs, went for 33 guineas; and *Odonto. crispum* Harold, two bulbs and a strong growth, found a purchaser at 40 guineas.



CÆLOGYNE BARBATA.—A correspondent has had considerable trouble in being unable to produce flowers on this useful cool-house species. The plants grow well, but every year, notwithstanding all care, some kind of black liquid forms in the heart of the new growths and rots the spike. Will successful growers kindly let us know the treatment they adopt for this plant?



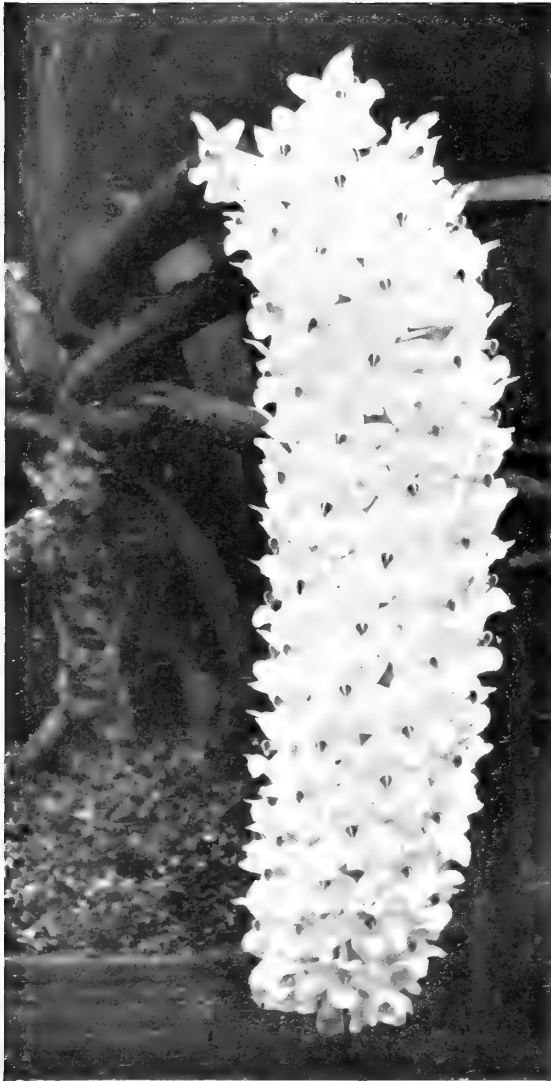
ORCHID V. CAMERA.—A London Evening Paper contained the following account of a

plant which seems to answer to the name of *Bulbophyllum barbigerum*:—"The trembling Orchid exhibited at the Temple Show has caused some amusement by its eccentric behaviour towards a Press photographer. For an hour and a half it defied all his efforts to take its picture. Every time the operator fixed his camera and posed his subject this plant with nerves began to quiver violently. After spoiling several plates, the persevering man, brought to a state bordering on desperation, attempted to snap the Orchid with a hand camera. Its tremors, however, only increased. Finally it was carried to the Temple conservatory, where it was surrounded by old friends, and its nerves thus being quietened, the photographer was rewarded for his patience."



ORCHID FLOWERS, DOUBLE VARIETIES.—Many of our ordinary plants owe their so-called double flowers to a petaloid condition of the stamens—a not uncommon occurrence. Double flowers of Orchids, although somewhat rare, also generally arise from petalification of the stamens, or filaments. What makes these double flowers the more interesting, states Dr. Masters, in his *Vegetable Teratology*, is the development, in a petaloid condition, of some of all of those stamens which under ordinary circumstances are wholly suppressed, so that the morphological structure of the flower, at first a matter of theory, becomes actually realised. A good

example of the above has occurred with Mr. A. W. Jensen, Lindfield, Haywards Heath, who has recently flowered for the second time a plant of *Odontoglossum crispum* having flowers possessing twelve to fifteen sepals and petals.



Rhynchosstylis retusa alba.

RHYNCHOSTYLIS RETUSA, Blume.—This elegant species has received many names; Lindley called it *Saccolabium guttatum*, under which it is, perhaps, better known in gardens. It is widely distributed from India to Java, but many local varieties have been too often treated and named as species. The flowers are usually white or pink, with numerous

violet-purple markings, the front lobe of the lip being wholly purple. Our illustration is of a pure-white variety which was sent, about twelve months ago, to the well-known collection of Gust. H. Müller-Abeken, Esq., The Hague, Holland, where it has recently produced two fine pendulous racemes, only one of which is reproduced. When the photograph was taken the flowers had been open a fortnight and did not show the slightest sign of fading.

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THE INTERNATIONAL EXHIBITION OF 1869.—The following note, which is taken from Williams' *Orchid Manual* for 1877, will, owing to the coming great event of 1912, not be uninteresting. "Mr. Robert Warner, in 1869, sent upwards of fifty specimen Orchids from his gardens at Broomfield to the International Horticultural Exhibition at St. Petersburg. These plants were carefully packed in close cases and sent by rail the whole journey, saving the short run by steamer across the Channel, eight days being occupied in the transport. When unpacked and staged they were in excellent condition, having suffered during the journey no more than they would have done in the houses at home. That these plants should travel to St. Petersburg in such excellent condition is undoubtedly the greatest feat in connection with horticultural exhibitions that has ever been accomplished, especially when it is stated that they were all large plants—amongst them *Phalænopsis Schilleriana*, with a hundred expanded blooms; *P. grandiflora*, with about half the number; *Vandas*, with numerous spikes; *Trichopilia crispa*, with a hundred open flowers; *Cattleyas*, *Dendrobiums*, *Odontoglossums*, *Cypripediums*, *Ærides*, and several other genera, the whole being profusely bloomed. A remarkable proof of what care will do with even the most delicate flowers was given in the case of the plant of *Odontoglossum crispum* exhibited in this collection, which, after standing at the St. Petersburg Exhibition for a fortnight, was again packed up and exhibited three weeks later at the Royal Horticultural Society's Gardens at Kensington, with the loss of only one or two flowers."

ERIA CORONARIA (*TRICHOSMA SUAVIS*).—The above photograph of this interesting Orchid, known to many as *Trichosma suavis*, has been kindly sent by Sir John Edwards-Moss, Bart., Roby Hall, Torquay, in whose collection this grand specimen has produced many fine spikes of bloom, some having as many as six flowers.

This species was first mentioned by Lindley, who described it in the *Botanical Register* of 1841 under the name *Cœlogyne coronaria*, with the remark that it came from the Chirree district of the Khosea hills of India, where it was found by Gibson, when in that country collecting for the Duke of Devonshire.

The following year, 1842, he published a figure of it in the same work, and remarked: "When this plant was sent to me from Chatsworth I too hastily referred it to the genus *Cœlogyne*, misled by a certain similarity of appearance and structure. It is so very different in several circumstances, that I feel obliged to recognise in it a genus distinct from any hitherto described." He gave it the name *Trichosma suavis*, the Sweet-scented Hair Orchis.

Gibson found it growing upon trees in densely-shaded woods near the summit of the hills. The strong perfume, somewhat resembling Melic-grass, is highly esteemed by the wood-cutting natives, who are fond of adorning their hair with its blossoms, and it was this custom that gave Gibson the clue to its discovery.

Lindley, however, in 1859, finally removed this species to *Eria*, of which genus he formed for it the section *Trichosma*, and recorded it in the *Journal of the Linnean Society*, III., 52, as *Eria suavis*. Griffith has given it the name *Eria cylindropoda*.

King and Pantling, in *Orchids of the Sikkim-Himalaya*, state "There is, therefore, good authority in favour of treating this plant as an *Eria* rather than as the solitary member of a distinct genus. When Lindley



Eria coronaria (*Trichosma suavis*).

changed the generic name from *Cœlogyne* to *Trichosma*, he ought to have kept up the specific name *coronaria*. In consequence of his not having done so, the authorship of the species as an *Eria* falls to Reichenbach filius." See *Gardeners' Chronicle*, 1876, I., 234.

The plant requires to be kept moist during the whole of the year, but a high temperature is not recommended, excellent cultural results having been obtained when it has been grown in the cool-house.

PELORIA IN ORCHIDS.

The term *peloria*, first used by Linnæus, is now applied by botanists to all flowers which pass from irregularity to regularity. The lip of an Orchid is really a petal which has become irregular in form, and when, as sometimes happens, this re-assumes the shape of the petals the flower becomes regular; it is very possible that this represents an ancestral condition of the flower.

In other instances the two petals have assumed the form of the lip, making three lips in all, whence Reichenbach's term "*trilabellia*." In such cases when the flower becomes regular

by the increase of the irregular portions the term irregular peloria is used. It may be regarded as a form of increased development, a good example being *Dendrobium nobile Cooksonianum*, in which the petals have purple blotches similar to that on the lip.

Instances are on record of the lateral sepals assuming the form and marking of the labellum. In *Dendrobium Wardianum* Fowlerianum the lateral sepals have orange-coloured discs with dark-purple blotches, thus becoming lip-like. As the labellum and the two petals constitute the inner whorl, and the three sepals the outer whorl, of the perianth, examples where reproductions of the lip characters appear on the sepals are termed false peloria.

In the collection of Sir Jeremiah Colman, Bart., Gatton Park, Reigate, are two varieties of *Cattleya labiata* which produce regularly each year flowers differing from the normal type. Mr. J. Collier kindly sends specimens of both these interesting forms. One, known as *Cattleya labiata monstrosa*, exhibits evidence of false peloria, the two lateral sepals being streaked with yellow, and somewhat connivent, thus attempting the formation of another lip. The other form, known as *Cattleya labiata Lorna Fielden*, has the lateral sepals still further advanced in the process of lip formation, and, what is still more interesting, the dorsal sepal has entirely assumed the shape and form of a petal. Regularity, therefore, has been partially obtained by the segments of the outer whorl imitating those of the inner whorl. Both plants are good growers and do not exhibit any deviation from the usual type.

SIR JOSEPH HOOKER.

The death of Sir Joseph Hooker will be mourned throughout the whole world of science, for not only was he the greatest of British botanists, but he was one of the great outstanding men of his age.

Born at Halesworth, Suffolk, June 30th, 1817, he obtained his M.D. degree at Glasgow in 1839, and the same year was appointed

surgeon and naturalist to the Antarctic Expedition led by Sir James Ross in the *Erceus*. Darwin predicted for Hooker a great career, and subsequent results proved this to be correct.

In 1847 he went out to the district of the Sikkim and Nepal Himalayas, where he obtained much information on the geographical distribution of plants. Humboldt characterised his work as "a perfect treasure of important observations."

He undertook such elaborate travels in Syria and Palestine, Morocco, and North America, as to cause Professor Asa Gray to say of him: "No botanist of the present century, perhaps of any time, has seen more of the earth's vegetation under natural conditions."

It was Hooker and Lyell who advised Darwin when he hesitated whether to publish a preliminary notice of his "Origin of Species." This was soon afterwards communicated to the Linnean Society in 1858. The review of the "Origin of Species" which most pleased Darwin was that written by Hooker in the pages of the *Gardeners' Chronicle*. At the meeting of the Linnean Society, held to commemorate the 50th anniversary of the communication of the Darwin-Wallace joint paper on natural selection, Hooker delivered—at the age of 91—a vigorous speech recalling the far off times when the great events were taking place.

Hooker succeeded his father as Director of Kew in 1865, and here his vast knowledge enabled him to still further increase the great reputation which he had already made. Of the numerous honours which Hooker received mention must be made of his attainment in 1873 to the highest position open to a British man of science—the presidency of the Royal Society.

For a full account of his life and work a very complete and excellent account may be found in the *Gardeners' Chronicle* of Dec. 16th, and following issues.

In 1909 Sir Joseph Hooker honoured the Editor of the *Orchid World* by nominating him for the Fellowship of the Linnean Society.

DENDROBIUM PIERARDI.

THIS showy *Dendrobium* is a native of Sikkim, where it is found in tropical valleys as high as 3,000 feet; it also

grows in Assam, Bengal, and southwards to Tenasserim and the Peninsular of India. Dr. Roxburgh named it in honour of M. Pierard, who introduced it into the Calcutta gardens. In the *Botanical Magazine* of 1825, t. 2584, it is described with the remark "that it is cultivated at Calcutta by tying it on a smooth branch of a tree, water being constantly conducted to it by a string through a small aperture in a vessel above; that, so treated, it hangs down the length of six feet, covered with flowers after the leaves decay, at which time, it is stated by Dr. Carey to be one of the most beautiful objects in the vegetable kingdom."

The prevailing colour of the flower is a beautiful rose or pale purple, and the texture is translucent, the lip being pale-yellow with radiating lines of purple at the base.

In its native country the slender, pendulous

stems are two to four feet long, but under cultivation stems considerably longer than these have been produced. The first illustration is of a

grand specimen flowering in the collection of Frank Lloyd, Esq., Coombe House, Croydon, where it has been so successfully grown by Mr. M. E. Mills. In this plant the growths were three to four feet long, but particularly well covered with flowers, making, probably, one of the finest specimens yet seen. At the tips of the drooping bulbs a few buds have produced young plants, which can easily be detected by their long, slender, white roots.

The second illustration depicts three wonderful plants grown more than twenty years ago by Mr. J. Gregory, at Birdhurst, Croydon. The bulbs varied

in length from eight to twelve feet, and although a number of buds dropped off owing to a dense fog, which, however, did not affect the open flowers, the plants presented a most beautiful sight for several weeks.



Dendrobium Pierardi, a wonderful specimen.

Photograph by J. Gregory.

This species varies but slightly. In the variety *latifolium* the stems are stouter and darker in colour, and the flowers are slightly larger than in the type. Another variety, which has smaller flowers, was described by

grown in a suspended basket with a compost of *Osmunda* fibre, or fibrous peat and *Sphagnum* moss in equal parts. During the period of growth, this *Dendrobium* enjoys very strong heat and an abundance of moisture



Dendrobium Pierardi, as grown by Mr. J. Gregory.

Robert Brown as a species under the name *D. cucullatum* (Bot. Reg. t. 548), but this Sir Joseph Hooker considers to be merely a variety of *D. Pierardi*; it is found chiefly in the western coast of Southern India.

From its pendulous nature the plant is best

both to the roots and in the atmosphere. When the plant has completed its growth, it should be removed to a cooler house where it can be hung close to the glass and obtain full exposure to the sun, and during the day-time have a free circulation of air to ripen its

bulbs. It is quite natural for many of the leaves to drop off before winter. The temperature should be gradually lowered, a good place being the cool end of the *Cattleya* house where it may remain for the winter; very little water will be required.

Early in the new year, when it can be seen that the flower buds are beginning to show, more moisture at the roots and a higher temperature may be allowed, and the plants may, with advantage, be replaced in their growing situation

SOME IDEAS ON ORCHID HYBRIDISATION.

By J. M. BLACK.

(Continued from Vol. 1., page 278.)

"THE YELLOW" IN *CATTELYAS* AND *LÆLIAS*.—The "yellow" and albinism in Orchids seem to be closely related, and I cannot just remember an instance among *Cattleyas* or *Lælias* where the two are entirely dissociated. In the rare *L. pumila alba* the yellow has faded almost into a green, and in *C. intermedia alba* it is only faintly in evidence, while all shades and densities are present in the throats of the various albinos of the labiata section of *Cattleyas*, being in these latter usually the most decisive factor in distinguishing one variety from another, as no two are exactly the same in this respect, the shade and area covered never exactly corresponding. The yellow may range from tasteless straw-colour to orange, and even be rich in tone like the yoke of an egg, as in the case of a *C. Percivaliana alba* that I know. There can be no degrees of whiteness in albino *Cattleyas*, although some whites are clearer than others, but in finely grown plants with well nourished flowers of thick texture one can sometimes almost detect a cream tint, and "creamy-white" is not an unusual expression when describing an albino. It will also be observed that most albino *Cattleyas* open decidedly creamy in tint, but clear up to pure white as the flowers ripen and become set. The seat of the yellow in albino *Cattleyas* and *Lælias* is invariably in the labellum, but normally white ground *Odontoglossums*, like *crispum* and *Pescatorei*, have in the albino forms occasionally a few yellow spots on the other segments, as, for instance, *O. c. xanthotes Charlesworthii* and *O. Pescatorei xanthotes*; but these spots are erratic and only come out strongly when the plants are well grown.

Now this yellow, which is constantly found in the albino forms of all *Cattleyas* and *Lælias*, exists in all the coloured forms as well, and in the same varying degree as regards density and distribution, and on the same narrowly defined area of the throat and front lobe of the labellum. This one quality of yellow colour, then, is common to coloured forms and albinos alike. In *Cattleya Mossiæ* and *C. Percivaliana* there is in the coloured forms usually more yellow than in *C. Gaskelliana* and *C. labiata*, and in the albinos of these the two former have again usually more yellow than the two latter, which is but consistency. In whatever light we regard the purple pigment we must accept this yellow as a fixture which no juggling with hybridisation can remove.

It might be somewhat of a wild speculation to suggest that probably all *Cattleyas* and *Lælias* were yellow once, and the albino form is the nearest approach to a sport back to the primeval colour that they are now able to effect at this distance. That is a proposition that I submit as an explanation of the recurring appearance of these albinos—and albinos appear all over these two genera—and I also rely on that proposition to point the way to our producing the much sought for self-yellow *Cattleya* by hybridisation. But accepting my rather far-fetched supposition that the yellow has been ousted from all parts of the perianth except the labellum by the purple pigment, we must recognise the latter's ascendancy, and avoid its introduction, if possible, into the generation of yellow *Cattleyas* that we propose producing.

I have pointed out in a previous article how careful one must be when crossing for albinos

—how if the least particle of the dominant rose or purple pigment is present in either parent the progeny will revert to type, and I would derive a lesson from this well ascertained fact as a guidance in our present endeavour. Just as we rightly regard the pure white and yellow flower as an albino, so we must regard the pure yellow flower as an albino, and I shall henceforth call it a yellow-albino. I would also suggest to those whose duty it is to look after the nomenclature of Orchids, that they insist on the words *alba* and *album* being given to those varieties only that are without question white or white and yellow in all segments and not to varieties that have purple lips, for these latter have no claim to be so named. The careless use of the word *alba* is misleading and mischievous, but we shall all continue to sin in this respect until a strict rule is passed and enforced. I would also make the same distinction between the yellow-albino and the yellow *Cattleya* or *Lælio-Cattleya* having a coloured lip. Now to produce this yellow-albino by hybridisation, my theory is that we must exercise the same care and discretion in selecting parents as for an albino, our only concern being that there are very few yellow-albino species in either the *Cattleya* or *Lælia* genus to select from, and these few are sadly wanting in shape or other qualities that we recognise as constituting the perfect *Cattleya* bloom. Let us first examine our material and then think out a *modus operandi*.

There is no dearth among *Cattleyas* of species containing some yellow on other parts of the perianth besides the labellum, but as these usually contain a mingling of rose as well, besides purple on the labellum, they will be useless for producing a pure yellow-albino breed of hybrids. I shall discuss these various species in a future article, and shall no doubt find some of them useful for the production of the *Cattleya* with yellow sepals and petals and coloured lip, but which frankly has no pretensions to being a yellow-albino.

In the *Cattleya* genus there is only one *Cattleya* that I would venture to call a pure yellow-albino, and that is *Cattleya citrina*. This is no sport from a coloured form, but is

typically and fixedly pure. *Cattleya citrina* has been sadly neglected by the hybridist, but it is by no means negligible. It is a very pretty object in itself, dainty and sweet-scented, but its topsy-turvy way of growing and flowering, and the great dissimilarity between it and the other members of the genus, have no doubt led to its being left out of the hybridist's reckoning. We can only guess at its potentialities, as with the exception of *Brasso-Cattleya* H. G. Alexander (*C. citrina* × *Brassavola Digbyana*) the few occasions on which it has been used in hybridisation it has been misused. B.-C. H. G. Alexander was sufficiently meritorious to receive an A.M. from the committee of the R.H.S., when exhibited on March 5th, 1907, and the *Orchid Review* described it as follows: "The plant bears erect, somewhat compressed pseudobulbs and dark green fleshy leaves, and is thus like the *Brassavola* in habit; but the flower is more like the *Cattleya* parent, being somewhat pendulous and on a rather long pedicel, while the segments are somewhat connivent, fleshy and light yellow in colour. The lip is entire, but somewhat fringed at the margin, and primrose yellow in front, passing into greenish towards the base. It is a very distinct and remarkable hybrid, and Mr. Alexander must be congratulated on his success in uniting two such diverse species." This was thus an entirely satisfactory hybrid, and had succeeded in shaking off the *C. citrina*'s habit of growing and flowering head downwards.

B. Digbyana is not by any means an albino, being invariably suffused with rose, notably on the exterior surface of the sepals, and the ensemble is usually a dull, greenish-white, which generally succeeds in quenching in its hybrids any brilliance there may be in any variety of *Cattleya* that it is mated with. It would seem then all the more wonderful that the yellow of the *C. citrina* should escape complete annihilation when blended with this plant. One of the cleanest yellows among *Lælia cinnabarina* hybrids is *Brasso-Lælia* Mrs. M. Gratrix (*B. Digbyana* × *L. cinnabarina*), and I am giving these two illustrations to show that a white and yellow in

hybridisation produce yellow, and have selected two *B. Digbyana* hybrids for this purpose, as I can find no record of a pure albino having been used with a yellow-albino, the whitish *B. Digbyana* being the nearest approach to this that I can find.

There are among *Lælias* more self yellows than among *Cattleyas*, but as only the best for our purpose need interest us at present, I should select *L. Cowanii*, as it has the richest and purest yellow. *Lælia Cowanii* has not a good shape, but neither have *flava*, *harpo-phylla*, *cinnabarina*, nor *monophylla*. There are very few *L. Cowanii* hybrids in existence, and none to tell us how it will act when united with an albino; but I should have every confidence in it, and the few hybrids that have flowered with *L. Cowanii* for a parent have invariably been good, and in two cases, notwithstanding that coloured varieties were used with it, they were self yellows—namely, *L.-c. Oriens* (*L. Cowanii* × *C. Trianæ*) and *L. Gwennie* (*L. Cowanii* × *L. Jongheana*).

Instances of this kind would seem to indicate that the way to produce yellow hybrids would be to mate coloured species (and not their albino forms) with the yellow species, and no doubt many good yellows have been so produced as *primary hybrids*; but it would be quite impossible to continue the process to the next generation in pursuit of size and shape—their inherent weakness—without introducing colour into the labellum, and, with the exception of cases where *C. Dowiana* would be used as the next parent, into other parts of the flower as well.

The conclusions that I have been endeavouring to come to are, briefly, that with *Cattleya citrina*, a yellow-albino, with *Lælia Cowanii*, a yellow-albino, and with the albinos of the labiata group of *Cattleyas*, it ought to be possible to build up a self-yellow *Cattleya* of perfect shape. This would not be the work of the first cross, but secondaries and tertiaries should see us there.

We have plenty of instances on record where species with narrow segments have become incorporated into perfectly shaped hybrids while transmitting at the same time a full measure of their own particular and desirable

characteristics, as witnessed, for example, in *Lælia-Cattleya Firminii*, a hybrid composed of *L. cinnabarina*, *C. Mossiæ* and *C. Dowiana*, and in *Brasso-Cattleya Cliftonii*, a hybrid composed of *Brassavola Digbyana*, *C. Mossiæ* and *C. Trianæ*. In the former instance the *L. cinnabarina* has transmitted its colour, its desirable characteristic, in a marked degree, while its notoriously bad shape has been lost; and in the latter instance the *B. Digbyana* has transmitted its bold fringed lip in a great measure, its desirable characteristic, while its weak sepals and petals have become filled up.

As the albinos of the labiata section have the largest and best forms, when good, the hybridist will have to rely upon them for size and shape, but any albino that makes for this can be used. One of the prettiest all-yellow *Lælio-Cattleyas* that I have seen is *L.-c. Daffodil*, a very beautiful form of which the enterprising firm of Messrs. Armstrong and Brown exhibited in the spring of 1908. This hybrid is the result of crossing *L.-c. Mercia* (*C. Schröderæ* × *L. flava*) with *L. Jongheana alba*, and it was very appropriately named.

But will the white not absorb the yellow? is a query that suggests itself. I do not think so, and there is nothing to point in that direction, but much to testify the reverse. The yellow in *L. Cowanii* and *C. citrina* is very different to the pale and undecided yellow in *C. Dowiana*, which so often loses itself when crossed with a white variety of another *Cattleya*, the white seeming to play a disproportionate part in the hybrid; but I will leave the discussion of this phenomenon to my future article on the yellow *Cattleya* with coloured labellum.

If we in our endeavours to produce a perfect all-yellow *Cattleya* confine our selection of parents to the albino varieties of coloured species and the yellow-albino species that I have named, of one thing I am convinced, and that is that our hybrids will never develop any other colour than yellow; and run in whatever direction the hybrid may it can never be other than yellow or white, and both are by far the scarcest forms in the *Cattleya* and *Lælia* genera and their common progeny.

The Rosslyn Collection,
Stamford Hill, N.

IT has been jokingly said that to have a large and important collection of Orchids one must also own the Bank of England. However, although only separated by about four miles, "Rosslyn," for many years the residence of H. T. Pitt, Esq., possesses a collection of Orchids as celebrated to Orchidists as the Bank is famous to London.

The association of Mr. Pitt's name with that of Orchids will be perpetually remembered, for, although still an ardent amateur of this fascinating pursuit, it was during the period when blotched varieties of *Odontoglossum crispum* were rising in popularity and value that he was the centre figure of attraction. Not only were his plants continually receiving the highest possible awards and being illustrated in the leading horticultural publications, but his very keen appreciation of, and determined wish to possess, the very

finest varieties gave such complete confidence to others that for many years almost all interest in Orchids was concentrated on the rare varieties of *Odontoglossum crispum*.

It is still fresh in the memory of many that the record price, viz., £1,500 for *O. crispum* F. K. Sander, was paid by Mr. Pitt in 1903. Soon afterwards he refused £100 for a single flower from this plant, the evident wish of the one who made the offer being the possession of the pollen for hybridising purposes.

If there is one Orchid which can be selected for its world-wide reputation surely it must be *Odontoglossum crispum* Pitti

anum. Gold Medals and other awards have unanimously been granted to it, and on March 22nd, 1906, at a sale of duplicates from this collection, the record price of 1,150 guineas was paid for a plant, consisting of three bulbs, of this wonderful variety. It is



H. T. Pitt, Esq.

of interest to note that at a certain continental fashionable resort the only two items of important news to be announced were the winner of the English Derby and the record price for an Orchid.

At the same sale one bulb and a growth of *Odontoglossum crispum* F. K. Sander realised the large sum of 800 guineas. Other notable prices were 470 guineas for *O. crispum* Abner Hassall, 400 guineas for *O. crispum* Pittiæ, and 290 guineas for *O. crispum* Persimmon.

Altogether there are some twenty-four houses and divisions constructed in various forms and with different aspects to suit the many kinds of Orchids cultivated. The *Odontoglossum* seedling house contains some two thousand small plants of various crosses, the majority being very promising. There are many seedlings the result of crossing

Odontoglossum crispum Pittianum with *O. c. Pittiæ*, *O. c. Lindenii* with *O. c. Pittiæ*, *O. c. F. K. Sander* with *O. Edwardii*, and *O. Rossii* with *O. Rolfeæ*; a very interesting young plant is *O. cordatum* × *O. c. Pittianum*.

The intermediate *Cypripedium* house is full of choice varieties of these slipper-like flowers. Mention must be made of the pretty *Cyp. Thalia* Mrs. F. Wellesley, the large-flowered *C. Aeson giganteum*, a good batch of the elegant *C. Spicerianum*, which is so useful

for producing flowers in mid-winter, and a nice selection of *Selenipediums*. *Cymbidium Huttonii* grows well in this house, and the same may be said of many of the *Bulbophyllums* and *Cirrhopetalums*, which genera are well represented. Several good plants of *Chondrorhyncha Chestertonii* are nearly always in flower.

In the *Vanda* house may be seen many *Angræcums* and *Vandas*, all in excellent health; it is regrettable that these interesting

plants are not grown so much as they were; they are, perhaps, not fashionable. The rare *Eulophiella Elisabethæ*, several varieties of the pretty *Spathoglottis*, *Cynorchis kewensis*, numerous plants of the various *Catasetums*, and other botanical Orchids entice one to spend considerable time in studying their various forms of construction. On the front side of this lean-to



Odontoglossum crispum Pittianum.

house are about 1,500 *Cattleya* and *Lælio-Cattleya* seedlings, although, as yet, about four years old, many have produced fairly large bulbs during the last growing season. A good selection of the various species of *Phalænopsis* appreciate the atmosphere of this house.

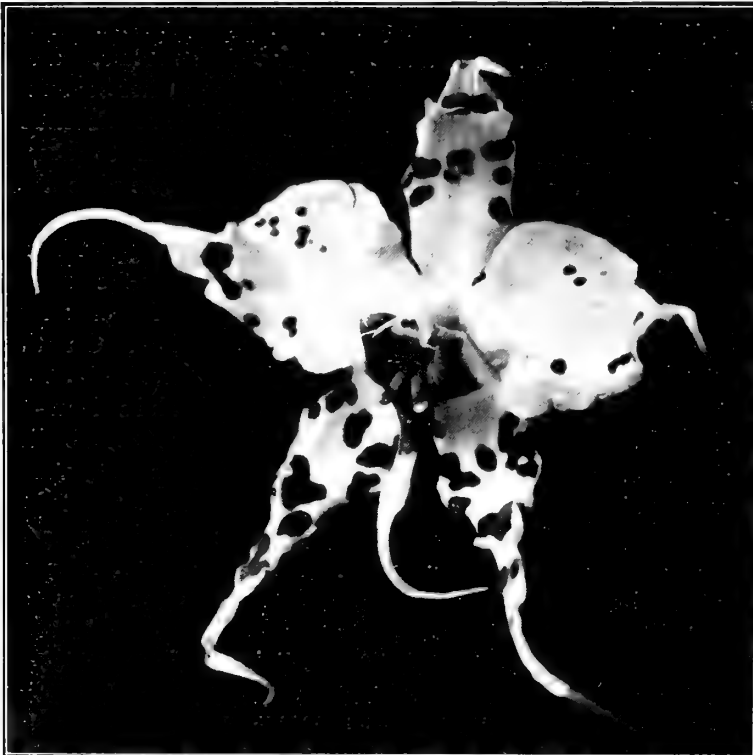
The cool intermediate house contains a large assortment of the various *Lycastes*, *Maxillarias*, and *Epidendrums*. The elegant *Houlletia Brocklehurstiana*, *Nanodes*

Matthewsii, and a rare hybrid between *Odontoglossum Uro-Skinneri* album and *O. bic-tonense* album, both parents being also represented by large plants. The *Cymbidiums* include *Lowianum* Pitt's variety and *Low-grinum*, the latter now producing three strong flower-spikes. *Miltonia vexillaria* grows here almost entirely without spotting of the leaves; the varieties include many beautiful forms, of which mention must be made of "Queen Alexandra."

In the Mexican-house are grown the various *Anguloas*, such as *Cliftonii*, *Ruckeri*, and *Clowesii*, and the many select varieties of *Lælia anceps* now making a fine display with their long, graceful flower-spikes.



Odontoglossum crispum Pittæ.



Odontoglossum cirrhosum Pitt's var.

One spacious house is entirely devoted to selected varieties of *Odontoglossum crispum* and *Oncidium* species, the latter including *macranthum*, *serratum*, and *insculptum*.

The second *Odontoglossum* house is entirely filled with exceedingly choice varieties of *Odontoglossum crispum*. To mention the names of *Pittianum*, *F. K. Sander*, *Ashworthianum*, *Persimmon*, and *Magnum Bonum* is to recall plants which have caused, on their first appearance, intense excitement among other Orchid amateurs.

The *Dendrobium* house is just commencing its annual display of bloom; there is no other Orchid so useful at this time of the year.

Another *Cypripedium* house is mainly devoted to specimen plants of this ever popular genus. Among the many hybrids of special merit are excellent varieties of *Olivia*, *Felicity*, *Wottonii*, and *William Lloyd*. The albinos are well represented, many being large specimens. On the back staging of this house are several rare botanical Orchids, *Angræcum pertusum*, now producing eight spikes of bloom, *Bulbophyllum Ericsonii*, a large specimen with upwards of thirty bulbs, and one of the most wonderful and curious of all species, and an extremely interesting and comprehensive collection of other Orchids.

In a house, stated to have been built seventy-eight years ago, are many more excellent *Cypripediums*, a large number of which are still in flower.

A large span-roof house, with a centre staging, contains several thousand *Cattleyas* and *Lælio-Cattleyas*, etc., all in excellent health. Only those who have kept the records of the many different crosses know to what extent hybridisation has been carried on among them. Of the immense number of hybrids which this house contains mention must be made of *Cattleya Iris* "His Majesty," the finest variety yet seen, *Cattleya Hardyana* "Countess of Derby," a well-known rare variety, *Cattleya Hardyana Massaiana*, and *Lælio-Cattleya Hector* (*Martinettii* × *aurea*).

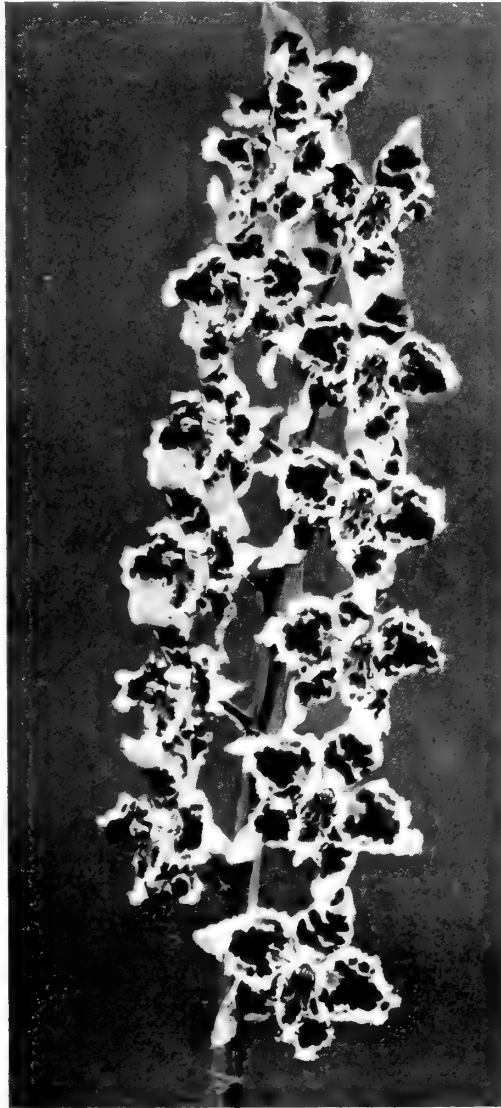
Of the finest species notable examples are *Cattleya chocoensis alba*, and two superb varieties of *Cattleya Warscewiczii*, known respectively as "Rosslyn" and "Wigan's."

A smaller house contains about 2,000 seedlings, the majority being the result of crossing specially fine varieties of *Cattleya Mantinii* with the best forms of *Cattleyas Iris*, *aurea*, *Haroldiana*, *luminosa*, and *Lord Rothschild*.

Such a large collection as this demands considerable space to do it justice, but these few notes will give some idea of its size, the immense variation of the species and hybrids which it contains, and last, but not least, of the enthusiastic admiration which Mr. Pitt has for so many years devoted to these ever-beautiful and rare plants.

To Mr. F. W. Thurgood many words of praise are due for the very excellent condition of the whole of the plants, his skill in raising Orchids from seed, and the keen interest he has taken in the collection during the last fourteen years.

G. W.



Odontoglossum crispum Pittianum.

NEW PLANTS.

LÆLIO-CATTLEYA THURGOODIANA (*L.-C. MARTINETTII* × *C. HARDYANA*).—A somewhat remarkable result, the sepals being much lighter in colour than the petals. The yellow colour, derived from the *C. aurea* in the latter parental hybrid, is still visible in

all parts of the sepals and petals, the latter having considerably more of the rose flushing than the former. The labellum, as may be expected from the parents used, is very richly coloured with crimson-purple which extends over the side lobes to the base of the column; the throat is veined with gold. Raised by Mr. F. W. Thurgood, Orchid grower to H. T. Pitt, Esq., Stamford Hill, N.

CATTLEYA GERTRUDE PITT (*C. MOSSLE* × *C. PITTLE*).—The latter parent is a hybrid between *C. Schilleriana* and *C. Harrisoniana*, and obtained a F.C.C. when exhibited at the Royal Horticultural Society by Mr. H. T. Pitt, May 23rd, 1905. In this new and elegant *Cattleya*, the three parental species are easily discernible, the influence of *C. Schilleriana* being noticed in the thick fleshy flower and the formation of the lip. The colour is soft rosy-purple, the petals being minutely veined with a darker colour, the labellum somewhat flat, streaked and veined with purple. Raised by Mr. F. W. Thurgood, Orchid grower to H. T. Pitt, Esq., Stamford Hill, N.

CATTLEYA ACIS (*MARONII* × *AUREA*).—A great improvement on *Cattleya Maronii*, a hybrid between *C. velutina* and *C. aurea*, the additional influence of the latter species has much increased the size and form of the flower. Raised by Messrs. Armstrong and Brown, Tunbridge Wells.

CYPRIPEDIUM CILIX (*BOXALLII* × *FAIRRIEANUM*). In this, another of the many *Fairrieanum* hybrids which have recently been produced, the evidence of *Boxallii* can be seen in the dark brownish-purple median streak of colour on the dorsal sepal, while the drooping nature of the petals is derived from *Fairrieanum*. In other respects this hybrid is intermediate in form and colour between both parents. It resembles its close relation *Cyp. Capt. Spender Clay* (*villosum* × *Fairrieanum*). Raised by Messrs. Armstrong and Brown, Tunbridge Wells.

SOPHRO-CATTLEYA LOTTE MÜLLER (*C. PEETERSII* × *S.-C. NYDIA*), from Messrs. Charlesworth and Co., Haywards Heath.—A very remarkable and elegant hybrid with broad sepals and petals of a beautiful rich

rose-red. The lip is broad, crisped at the margin, and of a ruby-crimson colour with gold veining in the throat. Received a First-class Certificate when exhibited at the Royal Horticultural Society, December 5th, 1911.

L. ELIO-CATTLEYA NELLA (*DOMINIANA LANGLEYENSIS* × *LABIATA*), from Messrs. Veitch and Sons, Chelsea.—A very beautiful hybrid of a bright, rich rosy-purple colour. The petals are very broad, and the darker coloured lip is also well formed. Received a First-class Certificate at the Royal Horticultural Society, December 19th, 1911.

L. ELIO-CATTLEYA FLORYI (*TRIANÆ* × *C. G. ROEBLING*).—The flower of this new hybrid much resembles a good variety of *Cattleya Trianæ*. The petals are very broad, of a delicate shade of mauve, and with a few purple markings at the tips; the lip is rosy-purple with a narrow white margin. Exhibited by Mr. Sidney Flory at the Royal Horticultural Society, December 19th, 1911.

CATTLEYA SYLVIA (*AUREA* × *FABIA ALBA*).—A pretty hybrid with creamy-yellow sepals and petals, and a purple-margined lip veined with gold. A promising seedling raised by Messrs. Hassall and Co., Southgate, N. A hybrid of somewhat similar parentage was flowered by Mons. Maron in 1907. It was the result of crossing *Cattleya Dowiana rosita* with *C. Fabia*. Another plant of this cross was exhibited by Mons. Jules Hye at Brussels, November 15th, 1908, under the name *Cattleya Fernand Hye*, but the parentage is not believed to have been previously recorded. If *Cattleya Dowiana* and *Cattleya aurea* are considered to be different species, the two hybrids, *Cattleya Sylvia* and *Cattleya Fernand Hye*, may be considered distinct from one another.

CATTLEYA LABIATA.—The illustration on next page depicts a wonderful specimen of this autumn flowering species in the establishment of Mr. W. A. Manda, South Orange, N.J., U.S.A. The mass was imported two years ago, and has recently produced 146 flowers, the majority of them four and five on a long stout stem. The spread of the flowers is about six feet.



Cattleya labiata. A wonderful specimen.

AN ORCHID COLLECTOR'S TRAVELS THROUGH BRITISH GUIANA TO BRAZIL.

By ED. KROMER.

(Continued from page 57.)

NOW we continue our journey. On the third day of our trip we reached the foot of the second of the 33 Falls or rapids which we had to pass to reach our destination by water. It was the famous, or rather infamous, Capuri Fall, not only the widest and highest, but also the most puzzling and dangerous of all the Falls on the Massaruni river, as some months afterwards we actually experienced to our cost on our homeward journey. This obstacle, whenever met with, makes it necessary to unload the whole boat, to drag both craft and cargo a considerable distance overland, or by low water, over the many rocks, and then enter the water again on the other side of the Fall. Very often the traveller is running great risk, either going up or coming down, of losing his boat in these rapids, more so in high water, and not unfrequently the loss of life besides has to be recorded. On some days during our progress we hauled over as many as four or five of these rapids in succession, not counting the smaller currents.

On the eighth day of our journey, while we were just engaged in preparing our mid-day meal at a clearing on the shore, a small boat was suddenly observed at a distance coming down the river, and on its approach I had the satisfaction of shaking hands with a Mr. Seyler, of whom I had heard before at Bartika Grove. He was returning from an unsuccessful prospecting trip to some creek higher up, where he had a claim, and, when hearing of my intention of going to Roraima, he at once became so enthusiastic over it that he proposed to accompany me as soon as he had quickly settled his business in town. His offer I gladly accepted, and, indeed, three weeks later he overtook me on the banks of a river further inland. He gave me much valuable information, which he gained when accompanying, some three years previously, an explorer by this same route to Roraima.

After another week's monotonous paddling we came to the picturesque landing-place of a once important Indian village, called Camacussa. The village itself, like most Indian settlements, was lying some distance inland, hidden in the bush, and it owed its existence, before the time of the gold-diggers, in no small measure to the enterprise of the late Mr. Whiteley, well-known all over the Colony as a naturalist for the British Museum. Here I hoped to be able to engage some Indians to come with us as carriers, but in this attempt, unfortunately, I failed. I noticed only a small number of people, and they, as they explained, were only here on a visit, and strangers to the place; they gave me, however, this consolation, that I would probably meet with better luck at a place called Potaring, some distance higher up the river. Potaring, which, indeed, we reached three days later, consists of an immense clearing in the thick forests just above the mouth of the Curubung, in the Massaruni; it was only recently created by an American gentleman, Mr. Barnard, one of the few successful gold-diggers, as a plantation of cassava, yam, pumpkins, plantains, bananas, and other tropical produce for his place a few miles higher up than this spot. Here at last I succeeded at once in engaging a few Indians, and acting upon a hint given by my interpreter, Peter, to wait another day or two longer, I decided to stop so long; indeed, some more Indians turned up, whom I had no difficulty in engaging as well—no doubt the sight of so many useful goods in the trunks had a tempting effect on their minds.

From Potaring we branched off up the Curubung river on the right side of the Massaruni, and two days later arrived, with the Indians in their canoes, at the landing-stage below the Mecrebeh Fall, which here made further navigation impossible. Here we unloaded the boat as the next stage of our journey was to be overland, and, after writing

the last letters, I sent the boat back the next day with instructions to the captain to call at this place again about the middle of December with a still larger boat to take us back again. During the next three days I occupied myself in getting the stock of provisions and goods ready into small loads of an equal weight of about 70 lbs., to be carried on the backs of the Indians. At the same time I awaited patiently the arrival of more people, who, as Seyler informed me, were formerly living in great numbers along the Curubung. My patience, however, was badly rewarded as only a few more Indians turned up ready to go, and from them I learnt that many of their people had since died of measles, and the rest had dispersed in all directions in fear of the arrival of the dreaded gold-diggers.

rocks, roots and wood of all sizes and shapes. On one occasion only, on the third day, where in the dense forest an accidental fire once caused a tiny clearing, were we able for the first time in three days to see the bright sun and the clear open sky. One cannot imagine any kind of marching more wearisome than this long, slow progress, lasting for so many days in a stifling heat, under a dense roof of foliage which does not admit the slightest bit of light. Besides, one's whole attention is always occupied and strained, for there is a dense network of tree roots, treacherously covered with leaves, which make the unwary traveller fall heavily to the ground; there are overhead numberless bush ropes—lianas—hanging down, coiled, looped or tangled, besides branches of trees which catch him



An Indian Boat, or "Woodskin."

Under these conditions I would not wait any longer, and on the 19th October I started with eighteen men, all of the Acawoi tribe, and all heavily loaded, not, however, without leaving a dozen loads behind. We had to cross the Curubung Mountain, and within the first hour we came to the foot of an almost perpendicular cliff, some 500 feet high, the ascent of which to me was particularly trying, inasmuch as from the last three weeks comfortable sitting in the boat my limbs became rather stiffened through want of exercise. For four days we had to tramp through the densest virgin forest in a continual semi-darkness, over a disagreeable profusion of

round the neck or knock his hat off and cause him to stop, much to his great discomfort. Moreover, one's sense of sight, sound and touch become nearly annihilated, and more than once I walked along with my eyes closed, half asleep, till a treacherous root or a stone wakened me out of my dream. It was therefore a pleasant feeling when, in the morning of the fourth day, we could hear the sound of rushing water at a distance, and about mid-day we came to the banks of the Membáru river, after having descended a similar cliff to the one we climbed on the other side of the mountain.

Here another obstacle presented itself; the

journey had to be done again by water for several days, and no boats—or, better called by their proper name, *woodskins*—were to be seen. These woodskins the Indians make out of the bark of a certain huge tree (I believe called Carracól). They are 2 to 2½ feet wide, 15 to 20 feet long, flat-bottomed, and the bark only one-third to half an inch thick. Luckily, an old worn-out canoe, or dugout, was discovered hidden in the water under some overhanging branches; this was quickly made watertight and manned by two Indians, who volunteered to reach an Indian settlement on the Camaráng river in search of more woodskins, while a dozen men went back again for the loads which were left behind on the Curubung.

During the absence of these men I occupied the time with Peter, either in short botanical excursions along the river or with the remaining four men went out fishing or hunting, and thus providing our mess table with excellent game and fish. In the immediate vicinity of our camp I found a beautiful, white-flowered, terrestrial Aroid, which afterwards Seyler informed me was named *Anthurium Osmerianum*, and also a quaint and interesting terrestrial Orchid, *Govenia deliciosa*, whose small white flowers had a deliciously powerful scent; it grew in quantities in the dense shade of the forest, and I intended collecting some on our return journey; as it turned out, unfortunately, all the tubers perished afterwards on their voyage to Europe. On the branches of many of the smaller trees overhanging the river I noticed a quantity of *Scuticaria Steelii*, *Sobralia sessilis*, *Houlletias*, a kind of *Coryanthes*, but not in bloom, and ever so many species of Orchids of more or less botanical value. Not the least interesting feature to be studied here, and one which I also observed in my travels in other countries, was the complete absence of any of these kinds of Orchids further inside the dark forest; while, for instance, a good many of these trees overhanging the banks of the river were literally covered with one or another of the species, or many species mixed up; it was quite impossible to discover a single plant of any of them on trees standing, say, 100 yards

away from the river. This for the Orchid grower is a hint so far, as it shows that these species vegetate with preference in a moist atmosphere, in clear light, and avoid the darkness and dry atmosphere.

On the fourth day of our waiting, towards mid-day, we were agreeably surprised to hear the report of several revolver shots, and at once concluded these signals were given by Mr. Seyler; indeed, half-an-hour afterwards he put in an appearance, bringing with him three Indians, heavily loaded, whom he managed to get hold of at Camacussa. Later in the afternoon the other twelve men with the rest of the loads also turned up from the Curubung side, having made the journey there and back in the marvellous short time of 3½ days; and, to make our happiness complete, towards evening our two messengers, who volunteered to look out for woodskins, also returned with three canoes and some more Indians, and the welcome news that another nine woodskins were awaiting us below a big Fall a short distance down the river. That whole night, in a bright, glorious moonshine, there was an uninterrupted going and coming of the three crafts carrying all our baggage and at last ourselves to that Fall, and in the morning we were able to make a fresh start with a fleet of twelve woodskins and thirty-six men all told.

We went down the Membáru to its mouth in the Massaruni, then up the latter for a distance of a couple of miles, and entered the mouth of the Camaráng river on the left of the Massaruni. Here at one place we met with another peculiar feature of travelling. We reached a point at which, under the direction of one of our new friends, who evidently acted as headman, we unloaded everything, carried loads and boats over a slightly elevated ground for some fifty yards and entered the very same river again, having thus cut off one whole day's journey, as we were informed. In another day we reached the first Indian settlement, whose chief, a strongly-built elderly fellow, boasting of the name of Robert, had sent all these men and woodskins to our assistance.

(To be continued.)

CALENDAR OF OPERATIONS FOR JANUARY.

By J. T. BARKER, The West Hill, Hessle, East Yorks.

WE have now reached that season of the year when we may expect our plants to show signs of renewed activity, but during the present month the winter treatment must be continued, as there is much danger in unduly pushing our plants into growth.

Temperatures. The atmospheric temperatures of the houses should be maintained, as nearly as circumstances will permit, at the following figures:—

Cool house, day 50 deg.—55 deg., with sun 60 deg., night 50 deg.

Intermediate house, day 60 deg.—63 deg., with sun 66 deg., night 57 deg.—60 deg.

Cattleya and Mexican house, day 60 deg.—65 deg., with sun 68 deg., night 58 deg.—60 deg.

East Indian house, day 65 deg.—70 deg., with sun 75 deg., night 65 deg.

The changes which occur so suddenly in the climate make it almost impossible to maintain these exactly. It matters little how much temperatures rise during the day from sun heat, provided there are proportional quantities of fresh air and moisture. Great care should be taken that the night temperatures are not exceeded, as if the pipes are over-heated a condition of dryness is caused, which is detrimental to our plants. The whole question of temperature depends on the outside condition; on a mild day or night no harm will occur should the figures given be exceeded, and on a cold day or night it will not matter if the temperatures fall a few degrees lower than the minimum given.

Ventilation is most essential to all our houses, and the plants should be afforded a supply of fresh air on all favourable occasions; a stagnant atmosphere is injurious to the plants. With a little trouble it is astonishing what can be accomplished even in admitting air on unfavourable occasions. Draughts must be strictly avoided, as undoubtedly they are as injurious to plants as to ourselves.

Atmospheric moisture. The amount of moisture in the air must be regulated according

to the amount of fire heat used, and other circumstances. All the paths and walls must be damped once or twice a day according to the outside conditions. On a damp, moist, mild day they will not require so much as on a clear bright day. Much depends on the proper balance of atmospheric moisture being maintained, as an atmosphere overloaded with moisture is as injurious as an over-heated stuffy one.

Watering must be done with caution, no plant should be allowed to suffer from too little or too much water; the cultivator should be thoroughly satisfied that his plant requires it before any is given. When a plant is dry and requires water, I believe in thoroughly moistening the compost in which it is growing. To my mind the whole secret of plant culture depends on the giving and withholding of water.

Insect and other pests must be diligently searched for, as at this season they are often very troublesome, and if allowed to get a footing they are hard to eradicate. The house should be vapourised at intervals as a preventative against attacks of thrip and other pests. Slugs and cockroaches do an immense amount of harm, devouring roots, flower spikes, and, in fact, almost everything.

Cleaning. Should the houses not have had their usual winter cleansing this matter should have attention at once. In nothing is cleanliness so essential as in Orchid growing. The whole of the houses, both inside and out, woodwork, glass, and walls, should be thoroughly cleansed. The plants should then be well sponged with some approved insecticide and rearranged so that each one receives the maximum amount of light possible. Likewise all pots, stands, or whatever is used to elevate the plants to the desired height, should be thoroughly scrubbed, using water as hot as possible. Thoroughness in this detail is essential, a thing half done is not done at all, and in nothing is this so true as in plant cleaning.

Miltonia vexillaria, and its hybrids, in the

intermediate house will now be growing actively, and as soon as the roots can be seen pushing through the compost more water may be given, taking care that the compost is dry before applying it; the water should be, at least, of the same temperature as that of the house. The later flowering varieties, such as *M. v. superba*, *M. v. Leopoldiana*, *M. v. rubella*, may, as soon as the young growths are seen to be making roots, be repotted, using the compost recommended below for *Odontoglossums*.

Odontoglossums. Many of these will be pushing their flower spikes, and these, as soon as they get long enough, should be tied to stakes, so that they get the benefit of all the light possible. Any plants of this genus which were missed at the autumn potting may, if they require it, be done towards the end of the month. The compost I use, and which I find satisfactory, is equal parts of peat fibre (from which all the fine particles have been taken), *Polypodium* fibre, *Osmunda* fibre, and sphagnum moss, all mixed together, with a fair amount of drainage in the bottom of the pot. All newly potted plants should be placed by themselves and kept on the dry side until the roots can be seen pushing through the compost. A few *Odontoglossums* are now in bloom, and with *Masdevallia tovarensis*, *M. Schröderiana*, *Sophronitis grandiflora*, and a few *Oncidiums* enliven the house at this time of the year by making a nice display.

Sophronitis grandiflora. Should any of these require re-potting it is best done after the flowering period, as new roots are then pushing from the partially made pseudobulbs. Shallow pans are the best receptacles, using a size just large enough to accommodate the plant and allow about $\frac{1}{2}$ inch to $\frac{3}{4}$ inch of compost to be placed about the roots, the compost being the same as for *Odontoglossums*. The plants should be potted moderately firm, and are best grown suspended from the roof, where they are well exposed to light and air; the cool house will suit them best.

Cypripediums. The winter flowering section of this most useful genus will now be making a great show, and in places where fogs are prevalent they are indispensable if a

supply of flowers is required during the winter months. I find they succeed best in the following mixture:—Two parts best fibrous peat, one part *Polypodium* fibre, and one part fibrous loam, with a liberal mixture of sphagnum moss. Keep those newly potted on the dry side; the others must have water as they require it. The later varieties, such as *C. aureum*, throwing up their flower spikes, should not be allowed to suffer from want of water, or malformed flowers will be the result.

Cattleyas will mostly be at rest, and should be carefully watered. There will not be many in flower, but where any quantities of *Cattleya* hybrids and *Lælio-Cattleyas* are grown there will always be some in bloom. *Cattleya Percivaliana* and *C. Trianae* are already fast pushing up their flower spikes; these should have water whenever they require it. The atmosphere of the *Cattleya* house should not be overcharged with moisture at this season, as an excess of moisture may do a great deal of harm and be the cause of black spot on the foliage of the plants.

Lælia anceps and its varieties are now in full flower, and, where grown in quantity, and well done, are a most desirable class of Orchid. A house of it with its allies *L. Gouldiana* and *L. autumnalis*, with its variety *alba*, make a delightful picture, and the flowers come at a most acceptable season. The plants should be kept moderately dry, but in no case should they be allowed to suffer.

Cœlogyne cristata, and its varieties, pushing up their flower spikes are best accommodated at the cool end of the intermediate house.

*Dendrobium*s that are in their resting quarters should be looked over from time to time, only enough water being given to prevent shrivelling. Their flowering season should not be hurried, unless it is absolutely necessary to have their flowers at an early season, for they will come much finer if allowed to develop slowly and naturally. *D. Phalænopsis* and its allies should have a good rest without being removed to another house; as soon as growth recommences they may have water in moderate quantities.

Towards the end of the month many species of *Aerides* and allied genera may, if

they require it, be repotted; I am not an advocate of top-dressing.

Potting materials. A stock of all those things which are required to make the various composts should be obtained, so that when the busy season arrives there is no delay; the various materials, through being either too wet or too dry, are often in an unfit condition for use. A little forethought will save much valuable time.

General treatment. The best possible advice I can give for the present month is to look well after the temperatures and atmospheric condition generally, avoid extremes of heat and cold, wet and drought, make no attempt to force growth, maintain the plants in a healthy condition, admit all the light possible, and give air and moisture in accordance with the amount of fire heat necessary to maintain the requisite temperatures

ROYAL HORTICULTURAL SOCIETY.

December 5th.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Sir Jeremiah Colman, Bart., and Messrs. James O'Brien (hon. sec.), Harry J. Veitch, F. J. Hanbury, R. G. Thwaites, W. Waters Butler, T. Armstrong, C. H. Curtis, W. Cobb, J. Charlesworth, J. Cypher, J. E. Shill, W. H. Hatcher, H. G. Alexander, W. P. Bound, A. Dye, W. H. White, J. Wilson Potter, W. Bolton, Gurney Wilson, J. S. Moss, and R. Brooman-White.

J. Gurney Fowler, Esq., Glebelands, South Woodford, was awarded a Silver Flora Medal for an excellent group of *Cypripediums*, the finest example being *C. Leanum* "J. Gurney Fowler." The beautiful *Odontoglossum Smithii* was also shown in fine form.

Francis Wellesley, Esq., Westfield, Woking, exhibited *Lælio-Cattleya Epicasta* "The Premier," a good form with a violet-purple lip. *Cattleya St. George*, an affective hybrid, suggesting the parents *aurea* and *Hardyana*, was also shown.

Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander), staged *Cypripedium Nydia* (*Niobe* "Westonbirt var." × *Charlesianum*), with a rose-purple dorsal of excellent shape.

Sir Jeremiah Colman, Bart., V.M.H. Gatton Park, Reigate, exhibited the beautiful *Cœlogyne Mooreana*, *Malura citrina*, and a good variety of *Cypripedium insigne*.

F. Bostock, Esq., Springfield, Northampton, showed *Cypripedium Actæus* "Mrs. F. Bostock," a good variety with a broad, white

dorsal having a green base spotted with purple; also *C. Actæus springfieldensis*, a strong grower with four flowers having a green dorsal sepal with a white margin.

Mrs. Norman Cookson, Oakwood, Wylam exhibited *Cypripedium Leanum Gratrixiæ*, *Calanthe Chapmanii rosea*, and *Odontoglossum crispum Chapmaniæ*, a richly blotched variety.

E. H. Davidson, Esq., Twyford, exhibited *Cattleya armainvillieriensis alba*, a very pleasing hybrid between *Mendelii* and *gigas*.

C. J. Phillips, Esq., The Glebe, Sevenoaks, sent a good variety of *Cymbidium elegans*.

R. Brooman-White, Esq., Arddarroch (gr. Mr. J. Smith), exhibited some magnificent cut spikes of *Odontoglossum crispum*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for a group containing the magnificent *Sophro-Cattleya Lotte Müller*, *Odontoglossum Goodsonii*, which was awarded a F.C.C., August 17th, 1909, the pretty *Sophro-Lælio-Cattleya Pandora*, and many other seasonable Orchids.

Messrs. Armstrong and Brown, Orchidhurst, Tunbridge Wells, received a Silver Flora Medal for a well-arranged group in which some excellent *Cypripediums* were staged, several being new. *Odontioda beechensis*, several new *Cattleya* hybrids, and other notable Orchids were also shown.

Messrs. Jas. Veitch and Son, Chelsea, received a Silver Flora Medal for a large group, in the centre of which was the extremely fine *Odontoglossum Aurora* (Rossii

rubescens × *Lambcauana*), a very richly-coloured flower resembling *Odonto. Jeanette*. Several good *Cypripediums* and some attractive *Cattleyas* were also included.

Messrs. Jas. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for a well-arranged group of *Cypripediums*, the most noticeable being *Fulshawense*, *Gaston Bultel*, and varieties of *Thalia*.

Messrs. J. and A. A. McBean, Cooksbridge, were awarded a Silver Flora Medal for a good group of excellent species and hybrids. Mention must be made of *Cattleya Luegæ*, *C. Fabia*, the richly-coloured *Sophro-Lælio-Cattleya Marathon*, *Lycaste Skinneri alba*, and several good *Cypripediums*.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for some excellent Orchids, many being very rare. The very beautiful *Cattleya Dowiana Rosita*, *Stanhopea insignis*, *Cattleya Cooksoniæ amabilis* and *Odontioda Graireana* were shown in good form.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver Banksian Medal for a good group of winter flowering Orchids. In it were large plants of *Vanda cœrulea*, *Saccolabium giganteum*, the rare *Houlettia Brocklehurstiana*, and many *Cypripediums*.

Messrs. Mansell and Hatcher, Rawdon, Yorks., received a Bronze Banksian Medal for a group of well-grown *Cypripediums*, the rare *Dendrobium Phalænopsis album* with its pure-white flowers, and *Calanthe vestita*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was awarded a Bronze Banksian Medal for a group of excellent rare and beautiful *Cypripediums*, *Cyp. Minos Youngii* with five flowers, *C. Baron Schröder* with nine flowers, and *C. Gaston Bultel* were specially good.

Messrs. Hassall and Co., Southgate, exhibited several well-grown Orchids of special merit. *Lælio-Cattleya Rubens*, *Cattleya Aliciæ*, and *C. St. Gilles* were much admired.

Miss Walters Anson, The Studio, Broadway, Streatham, exhibited many excellent examples of her skill in Orchid painting.

AWARDS.

FIRST-CLASS CERTIFICATE.

Sophro-Cattleya Lotte Müller (*C. Peetersii* × *S.-C. Nydia*), from Messrs. Charlesworth and Co. See "New Plants."

AWARDS OF MERIT.

Cypripedium Draco "Westonbirt variety" (insigne *Harefield Hall* × *Hera Euryades*), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A very fine hybrid of excellent form. The broad dorsal sepal is greenish-yellow spotted with dark purple, the apex having a white margin. Petals and lip are yellow, tinged and marked with mahogany.

Trichopilia Gouldii (*suavis* × *fragrans*), from Messrs. Charlesworth and Co.—This pretty, fragrant hybrid has silver-white sepals and petals spotted with rose, the lip being similarly marked.

December 19th, 1911.

MEMBERS of the Orchid Committee present : J. Gurney Fowler, Esq. (in the chair), James O'Brien (hon. sec.), and Messrs. Harry J. Veitch, J. Charlesworth, T. Armstrong, F. J. Hanbury, W. H. Hatcher, J. E. Shill, Gurney Wilson, A. Dye, C. J. Lucas, W. Bolton, H. G. Alexander, C. H. Curtis, and A. A. McBean.

Only plants for Certificate were allowed at this meeting.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate, exhibited *Cypripedium insigne* Gatton Park variety, and *Odontioda Diana* (*C. Nozliana* × *O. amabile*), a good shape flower of soft-red colour, the lip being slightly reflexed.

F. Wellesley, Esq., Westfield, Woking, showed *Lælio-Cattleya Rubens* Westfield variety, a richly-coloured hybrid, and *Brasso-Lælio-Cattleya Veitchii*, a large flower which has previously received a First-class Certificate.

The Hon. Lady Neeld, Grittleton, Chippenham, Wilts., showed *Cattleya Venus*, a large flower with a rather flat lip, and of excellent colouring.

Messrs. Charlesworth and Co., Haywards

Heath, exhibited *Lælio-Cattleya Myrrha flavescens* (L.-C. *Gottoiana* × *aurea rosita*), a pleasing flower with amber-yellow sepals and petals, and a rosy-purple marked lip; also *Odontioda Cooksoniæ venustum*, of excellent colour, and *Oncidium anthocrene* having two spikes with an aggregate of over ninety flowers.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed *Cypripedium Samuel Gratrix*, with a large, broad dorsal sepal; *C. Napoleon*, a good-shaped flower with a large white border to the dorsal; *C. Beryl Westpoint* var.; *C. The Maharajah*; and *C. The Gaekwar* (*Ceres* × *Leeanum*).

Messrs. Veitch and Sons, Chelsea, exhibited *Cypripedium Snowdon*, a beautiful albino form, *C. Clonia*, and *Lælio-Cattleya Nella* (see Awards).

From Tracy's Nursery, Amyand Park Road, Twickenham, came *Lælio-Cattleya Floryi* (see "New Plants") and *Cypripedium villosum* Tracy's variety, a distinct form.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, showed an almost pure-white form of *Vanda Amesiana*.

Messrs. Sander and Sons, St. Albans, showed *Cypripedium Troilus invincible*, a large flower resembling *insigne* Harefield Hall, and an unnamed *Cypripedium* of merit.

The Royal Horticultural Society exhibited from their gardens at Wisley a variety of *Calanthe*, which the Committee thought to be *Calanthe Sedenii*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Lælio-Cattleya Nella, from Messrs. Veitch and Sons, Chelsea. See "New Plants."

Cypripedium Royal Sovereign (*Hera* × *Urania*), from Messrs. Sander and Sons, St. Albans, a beautiful result. The large white dorsal sepal is flushed with rose, and prettily marked with vertical lines of purple spots. The lip is large and of a bright rosy-brown tint.

AWARDS OF MERIT.

Cypripedium Lord Wolmer Westonbirt variety, from Lieut-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander).—A very distinct and beautiful hybrid with a broad white dorsal sepal prettily spotted with purple, the base being tinged with green. The ventral sepal is broad and somewhat similarly marked. The petals are yellow, almost covered with light brown, and of excellent form.

Cypripedium insigne Gatton Park variety, from Sir Jeremiah Colman, Bart., Gatton Park, Reigate.—A home-raised seedling between *insigne montanum* and *insigne* Harefield Hall. The flower is large, the dorsal flat, spotted with purple, and with a broad white margin. Altogether a grand variety.

Odontoglossum crispum Alcyone, from J. Gurney Fowler, Esq., Glebelands, South Woodford.—One of the prettiest varieties of this popular species. The petals are very broad, crisped at the margin, and with numerous purple spots, the sepals having larger spots. The plant carried a long spike with many flowers, and was greatly admired.

Cypripedium Actæus var. *Durbar*, from Messrs. Charlesworth and Co., Haywards Heath.—A large thick-set flower with massive segments. The green dorsal sepal is spotted with brown, and has a broad white margin.

MANCHESTER ORCHID SOCIETY.

November 30th, 1911.

MEMBERS present:—Rev. J. Crombleholme (in the chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, A. Warburton, Z. A. Ward, J. Cypher, J. Evans, W. Holmes, A. J.

Keeling, D. McLeod, and H. Arthur (Secretary).

W. R. Lee, Esq., was awarded a Silver-gilt Medal for a good group, in which were some very fine *Odontoglossums*, *Cattleyas*, and *Cypripediums*.

R. Ashworth, Esq., received a Silver-gilt Medal for an effective display, which included many excellent Cattleyas, *Vanda cœrulea alba*, and other good Orchids.

Z. A. Ward, Esq., staged a nice group, to which a Silver Medal was awarded.

Col. J. Rutherford, M.P., was awarded a Silver Medal for *Odontoglossums* in variety, several good *Cypripediums*, and *Sophro-Cattleya Doris*.

J. McCartney, Esq., was awarded a Bronze Medal for a group of Cattleyas and *Lælio-Cattleyas*.

Rev. J. Crombleholme staged a group of *Cypripediums*, for which a Bronze Medal was awarded.

A. Warburton, Esq., received a Bronze Medal for a group of *Cypripediums*, the insigne section being well represented.

G. H. Peace, Esq., staged a nice group of *Cypripediums*, to which a Bronze Medal was awarded.

Wm. Thompson, Esq., was awarded a Bronze Medal for an interesting group, chiefly consisting of *Cypripediums*.

J. J. Holden, Esq., staged some very fine albino Cattleyas and the grand *Odontoglossum Bronze Dragon*.

R. le Doux, Esq., staged some good *Odontoglossums* and *Cypripediums*.

H. J. Bromilow, Esq., exhibited *Cypripedium Leeaenum* var. *Mona*.

J. Walmsley, Esq., staged *Cypripedium Mrs. Alice Walmsley*.

H. Thorp, Esq., exhibited several *Cypripediums*.

Messrs. Cypher and Sons were awarded a Silver Medal for a good group.

Messrs. Stuart Low and Co. staged several good Cattleyas.

Messrs. A. J. Keeling and Sons received a Silver Medal for a group of excellent *Cypripediums*.

Messrs. Sander and Sons staged *Cypripediums*, etc.

Mr. D. McLeod exhibited a number of good *Cypripediums* and several seedlings.

Mr. H. Arthur staged *Cypripedium insigne Sanderæ* and good forms of other well-known varieties.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum crispum *Briseis* and *Odonto. Thais*, from W. R. Lee, Esq.

Cattleya Roehrsiana Ashworth's var. and *C. Gildenii* (*Hardyana* × *Maggie Raphael*), both from R. Ashworth, Esq.

Cypripedium Our King (insigne *Harefield Hall* × *Niobe*), from W. Thompson, Esq.

Odontoglossum Bronze Dragon, from J. J. Holden, Esq., one of the most beautiful *Odontoglossums*; also *Cattleya labiata albanescens*.

AWARDS OF MERIT.

Odontoglossum Harmaches, *O. Lais*, *Miltonia Leopoldii nobilior*, and *Cattleya labiata Virgin Queen*, all from W. R. Lee, Esq.

Odontoglossum crispum *Rosemount*, *O. eximium Nubian*, and *Vanda cœrulea alba*, from R. Ashworth, Esq.

Cypripedium Corneyanum var. *Marie Louise*, *C. Alcibiades Ward's* var., and *C. James Renwick* (insigne *Harefield Hall* × *Actæus*), from Z. A. Ward, Esq.

Cypripedium Bonar Law (*J. Howes* × *Actæus*), from Col. Rutherford, M.P.

Lælio-Cattleya Captain Starkie (*L.-C. Aphrodite* × *C. labiata*), from J. McCartney, Esq.

Cypripedium hybrid, from Wm. Thompson, Esq.

Cattleya O'Brieniana alba, from J. J. Holden, Esq.

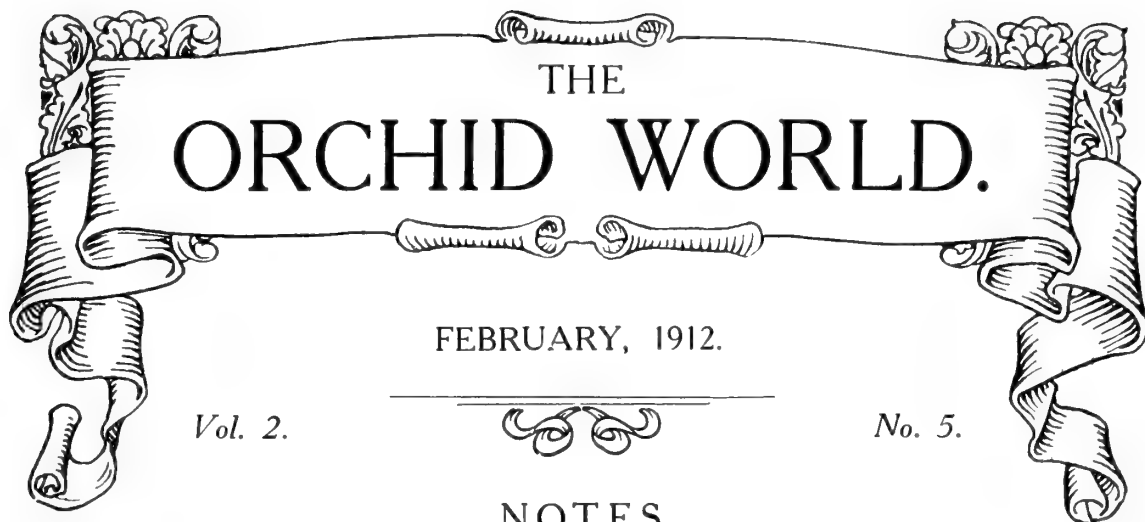
Odontoglossum Dora var. *Mrs. H. B. Irving* (*Lambeauianum* × *Pescatorei*), *Cattleya Hybla* var. *Mrs. Frank Hurdell*, and *Sophro-Lælio-Cattleya Miss Edith d'Abrew* (*S.-L. heatonensis* × *C. Iris*), from R. le Doux, Esq.

Cypripedium Leeaenum var. *Mona*, from H. J. Bromilow, Esq.

Cypripedium Mrs. Alice Walmsley, from Jas. Walmsley, Esq.

Cypripedium Hitchinsia giganteum and *C. H. magnificum*, from Messrs. A. J. Keeling and Sons.

Cypripedium Seymouræ (*Leeaenum* × *Clinkaberryanum* × *Fairrieanum*), from Mr D. McLeod.



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NOTES.

ODONTOGLOSSUM PESCATOREI SUAVE.—A very sweet-scented variety of this pretty cool-house Orchid has recently flowered in the collection of J. B. H. Goodden, Esq., The Manor House, West Coker, Yeovil. It is rarely one comes across a flower of this species with such a distinct odour, and it will be interesting to note whether this peculiarity will continue in future years.



ABNORMAL ODONTOGLOSSUM.—A curious example of the fusion of two flowers has occurred on a plant of *Odontoglossum crispum* in the collection of Malcolm Cooke, Esq., Tankerville, Kingston Hill. The specimen has five sepals in the outer whorl and three petals and two labellums in the inner whorl, while the two columns, which bear perfect pollen masses, are somewhat coherent. One of the staminodes usually present in the form of a side wing to the column has become petaloid. The stalk also shows evidence of the fusion of two ovaries.



ORCHID RECORDS.—The Manchester Orchid Society gives notice that the owners of plants receiving First-class Certificates shall give a flower to be painted, or shall present a painting of same to the Society for future reference. This is a step in the right direction, and it is to be hoped that if the painting is not forthcoming the award shall be withdrawn. Perhaps in the near future the rule may be made to apply to Awards of Merit also.

Exhibitors are asked to note that no cut flowers and fronds of ferns will be allowed in the staging of competitive groups. All plants exhibited at the meetings of this Society are to be shown to the best advantage, and all paper is to be removed from the flowers.



ORCHID SEED.—A 1912 catalogue of garden seeds contains the following:—“Orchids, greenhouse perennial, 1 ft. in height, one penny per packet of 25 seeds. Remarks, many grand kinds.” We hope some purchasers may be so fortunate as to find 26 seeds in their packets, for the additional one may be a prize winner.



YORK SHOW, 1912.—The fifty-fourth annual show will be held on June 19th, 20th, and 21st, in Bootham Park, York. Eight classes and nearly £100 in prizes are specially reserved for Orchids. Entries should be sent in before the 12th June to Mr. Fred. Arey, Davyhall Chambers, Davygate, York.



DONCASTER SHOW, 1912.—The Royal Agricultural Society of England will hold a Horticultural Exhibition at Doncaster on July 3rd to 6th. In the schedule of Prizes Class 2 is for a Collection of Orchids arranged for effect on a stage 100 square feet. The First Prize, Gold Medal and £10; Second Prize, £5; Third Prize, £3. Entries, which close Friday, May 31st, should be sent to Mr. Peter Blair, Trentham Gardens, Stoke-on-Trent.

AN AMATEUR'S SUCCESS.

The adjoining photograph is of a group of Orchids exhibited by Arthur Easton, Esq., Shirley, Faversham, Kent, at the local Flower Show in November last. The plants were staged by Mr. Warner, who used a high frame which slanted against the wall, and from a mass of maidenhair fern the Orchids showed to great advantage. Mr. Easton, in winning the First Prize, is to be congratulated on his success, for although he only employs a gardener one day a week, his plants give excellent results. This interesting exhibit disproves the theory that Orchids can only be successfully grown where a large staff of gardeners is kept. The varieties include *Odontoglossum crispum*, *O. Rossii*, *Dendrobium Phalænopsis*, *Cattleya labiata*, *Oncidium varicosum*, *O. Kramerianum*, and *Cypripedium hybrids*.



An Amateur's 1st Prize Group of Orchids.



ANGRÆCUM SUBERBUM.—Of this elegant species William Ellis in his *Visits to Madagascar* says: "The roots of this Orchid formed a sort of network at the base of the bulb. During the journey I occasionally noticed it growing not only on the branches of living trees, but very often high up on the bare barked trunks of the dead trees. Sometimes in the angle formed by the junction of an arm with the trunk of a large native tree, apparently without a fragment of bark adhering to the trunk, a bunch of moss, or a cluster of Orchids, or both mingled together, would be growing apparently with great vigour, and often in full flower. More than one tall bare trunk, twelve or eighteen inches in diameter, and thirty feet high, stood sur-

mounted, or surrounded near its summit, by a cluster of *Angræcums*, with their long, sword-shaped, fleshy leaves, or what was more beautiful still, a fine specimen of some species of bird's-nest fern. The contrast between the white, shining, barkless trunk, and these verdant clusters of plants on the top, was sometimes very striking; especially as the Orchids were often in flower, and by their growth altogether suggested the idea that by the decay of their own roots a receptacle was formed for the moisture or the rain by which the plant was nourished. This combination of life and death, growth and decay, presented one of the most singular amongst the many, to me, new and curious aspects of nature which my journey afforded."

CATTLEYA LABIATA.—A very interesting plant of this autumn flowering species is in the collection of Sir John Ramsden, Bart., Byram Hall, Ferrybridge, E. Yorks, where it has been successfully grown by Mr. Geo. Taylor. The plant, which when acquired some ten years ago was very small, and only had three or four bulbs, has been grown on an Elder wood block. During this period it has only been re-blocked twice, and on each occasion Elder wood was used because the bark of this peels off very cleanly, thus allowing the roots to be unfasted with but little trouble. Every other year a little peat or osmunda mixture is fastened round it by means of thin copper wire. The specimen is suspended in a moist airy house, and during the growing season is frequently syringed over head. Last autumn it carried no less than 33 flowers and buds, and the adjoining illustration gives a good idea of the plant when it was deservedly awarded a Cultural Commendation at York Show last November.



An interesting Plant of Cattleya labiata growing on a block of wood.

piece obtained some ten years ago, and which, with five others, he purchased as the ordinary Lycaste Skinneri. It is worthy of note that these also grow well with him.



BRASSO-LÆLIO-CATTLEYA WOTAN.—This elegant hybrid between Lælio-Cattleya callistoglossa and Brasso-Cattleya Mrs. J. Leemann appears to have been first exhibited in Germany by Mr. Karthaus, on November 25th, 1909. The *Gartenflora*, although correctly giving the parentage, recorded the plant as a Brasso-Cattleya. This hybrid has also been known as B.-L.-C. Baron Hénin, which name must now be suppressed, the former taking precedence by reason of its earlier publication.



LYCASTE SKINNERI ALBA.—A very remarkable specimen of this species is in the collection of W. J. Naish, Esq., Wilton, near Salisbury. The plant is in a ten inch pot and has 18 bulbs, several of which are 7 inches in length and the same measurement in circumference. The leaves are 4 feet in length, 6 inches in breadth, and the total width across the foliage is 4 feet. Accustomed, as one is, to see this fine Orchid generally in small plants, it is encouraging to see such a magnificent specimen. Mr. Naish is justly proud of his success with the culture of this species, the more so because of having grown the plant described above from quite a small imported

SCELOCHILUS VARIEGATUS.—Sir Jeremiah Colman, Bart., exhibited this rare species at the Royal Horticultural Society, January 9th, 1912. A Botanical Certificate was unanimously awarded to the plant by the Scientific Committee.

ODONTONIA FIRMINII.—This interesting bigeneric hybrid reveals the future possibilities of the hybridist's work. M. Firmin Lambeau made the cross with the express purpose of proving the practicability of uniting the genera *Miltonia* and *Odontoglossum*. *Odontonia Firminii* was exhibited at the Royal Horticultural Society, January 9th, 1912. It has a large white flower, the labellum being very broad at the apex and with a slight pink flushing at the base. The suggested parentage was *Miltonia vexillaria* × *Odontoglossum crispum*; but as some doubt as to the correctness of the *Miltonia* species was expressed by members of the Orchid Committee the plant was submitted to the Scientific Committee, who were of opinion that probably *Miltonia Phalænopsis* had been used instead of *M. vexillaria*; but, before giving any award, they desired to see other results from this or closely allied crosses which would probably decide the point at issue. However, M. Lambeau has certainly achieved a noteworthy result, and although only plain varieties were used in this example, hybridists will be able to judge of the beautiful results which may possibly be produced by crossing superb varieties, such as *M. vexillaria* "G. D. Owen" and *O. crispum Lucianii*. This is not the only record of the two genera having been united, for M. Lairesse exhibited, June 20th, 1905, *Odontonia Lairesseæ*, obtained by crossing *O. crispum* with *M. Warscewiczii*.



CŒLOGYNE BARBATA.—We have received several communications regarding the cultivation of this elegant species. The general opinion is that it requires a temperature somewhat higher than the cool house, yet not so warm as that usually found in many intermediate houses, and that a good light position should be selected for the plant. Mr. H. G. Alexander informs us that, at Westonbirt, it grows remarkably well when placed in an airy position near a ventilator; a fair amount of water being given to the plant during its season of active growth, but considerably less when the bulbs are mature. At Gatton Park, Mr. J.

Collier obtains considerable success by cultivating the plant in a cool intermediate house, where it flowers well in company with other *Cœlogyne* species and hybrids, amongst which may be mentioned *C. Colmanii* (*cristata* × *speciosa*). Other growers suggest that only just sufficient water should be given during the winter time to prevent shrivelling, for if the compost remains sodden during a short spell of cold weather, or even a sudden drop of temperature, black spots or rot frequently manifest themselves; more especially is this the case when the plant is pushing its flower buds. It is also stated that this plant is a strong grower, and greatly objects to being shut up in a close over-heated sweaty atmosphere.



POLYSTACHYA LUTEOLA.—This pretty little green-flowered Orchid was known about a hundred years ago as *Dendrobium polystachion*, under which name it was beautifully figured in *Lindley's Collectanea Botanica*, 1821. In 1825 it was figured in *Hooker's Exotic Flora* from a plant in the Liverpool collection, to which it was sent from the East Indies by Dr. Wallich. Hooker in describing the species states, "Dr. Lindley has given an admirable figure and description of the plant in his *Collectanea Botanica*; but he had not seen the pollen-masses in a perfect state. Still, judging from the habit of the individual, he thought that it would be desirable to divide it from *Dendrobium*. The nature of its pollen-mass is indeed quite different, and the general structure of the flower is also very unlike that of either *Dendrobium Pierardii* or *D. fimbriatum*; hence, not finding that this plant would agree with any genus of Orchideous plants hitherto described, I have constituted a new one, *Polystachya*, derived from the Greek for 'many spikes,' in allusion to its numerous spikes borne upon the same scape; a circumstance so unusual in this family." Mr. F. C. Puddle, Scampston Hall Gardens, Rillington, York, has recently sent some cut flower spikes of this Orchid, which beside having numerous flowers carry many seed pods, the species evidently being self-fertilising. It is interesting

to note that the plant from which these spikes were cut was collected in South Trinidad by E. G. Meade Waldo, Esq., whilst on a cruise in the yacht *Valkalla*, under Lord Crawford, in the autumn and spring of 1905 and 1906. The plant was found growing on a tree fern very near the highest point in the island.



CURIOUS CYPRIPEDIUMS.—Two *Cypridium* hybrids in the establishment of Messrs. J. Veitch and Sons, Chelsea, have produced flowers in which the labellum is entirely wanting. A total suppression of this organ is rarely met with, but in this case it is apparently permanent, for an exactly similar coincidence occurred in the previous year on the same plants.



LÆLIO-CATTLEYA KATHLEEN JONES.—This new and elegant hybrid, which has been raised by C. Alwyn Harrison, Esq., Lyndhurst, Watford, is the result of crossing *Cattleya Maggie Raphael* with *Lælia præstans*. In form and shape the flower much resembles the *Lælia* parent, but the labellum is of a much darker colour. The sepals and petals are bright rosy-mauve, and the yellow underlying colour, derived from *Cattleya aurea*, is very discernible.



CATASETUM GARNETTIANUM.—A good flower spike of this interesting Orchid comes from the collection of J. S. Bergheim, Esq., Belsize Court, Hampstead, N.W. The species, which belongs to the section *Myanthus*, in which the lip of the flower is underneath, is fully described in the *Botanical Magazine* t. 7069, the illustration having been prepared from a plant presented to the Royal Gardens by P. F. Garnett, Esq., of South Bank, Grassendale, Liverpool, who received it from the Amazon river in North Brazil, 1888.



ZYGOPETALUM MACKAYI CHARLESWORTHII.—This Brazilian species was originally described in 1827 by Dr. William Hooker, and although many plants have been in



Zygotetalum Mackayi Charlesworthii.

cultivation since this date, the credit of flowering the first albino form is due to Messrs. Charlesworth and Co. This rare variety has greenish-yellow sepals and petals and a pure white labellum.



Blenheim Palace. The South Front.

The Blenheim Palace Collection,

Woodstock, Oxford.

SINCE their creation the gardens at Blenheim have always been among the most famous in the country, and the horticultural craft as carried on here in the past has had widespread influence, and has acted as an inspiration to many generations of gardeners. The Dukes and Duchesses of Marlborough have been consistent patrons of horticulture, and the present Duke is specially interested in the Orchid collection, which is extending rapidly, and for which a great development in the near future is prophesied.

His Grace takes a great interest in the boys in the village, and many of the more intelligent are taken on in the gardens when they leave school. The idea of the Duke, ably seconded by Mr. Hunter, is to train these boys in horticultural arts, so that, when they reach the age of twenty, they are in a position to earn a good wage, having received first-class instruction over a period of years. Several boys have

already passed through Mr. Hunter's hands, and are on the way to becoming capable journeymen.

Everything at Blenheim is on a generous scale, but as the scope of these notes does not go beyond the Orchids, restriction must be kept to the following details:

The Palace has four fronts, answering roughly to the points of the compass, that of the north being 348 feet from wing to wing. The interior is proportionally magnificent. The Park is 2,700 acres in extent, and twelve miles in circuit, and was laid out by "Capability" Brown. The kitchen garden, in which are ranges of fruit houses, etc., is a large rectangle covering twelve acres, and surrounded by a high wall. Outside this wall, on a fine open site, are the principal ranges of plant and Orchid houses; it is with the latter that we are concerned.

The main range of Orchid houses, four in

number, lead out of a commodious, span-roofed corridor fourteen feet wide. These houses have centre and side staging, are substantially built, and are fitted with gearing for the manipulation of the ventilators; they are 100 feet in length and 25 feet wide, and have been built some twenty years.

Three of these houses are well-filled with good, thriving stock, viz., Cattleyas, Calanthes, Odontoglossums, etc., only a few of which it will be possible to mention in these notes; but a steady transformation is gradually creeping over the collection as the Blenheim raised hybrids are quickly increasing in number and size.

It would be premature to pass an opinion on these hybrids until they commence in earnest to flower, but a glance through the stud book gives evidence that thought is being put into the work. I have laboured somewhat in these pages, in my notes on hybridisation, to emphasise the importance of a careful selection of parents in the beginning, and there are few places affording the boundless scope of Blenheim to build up a collection second to none by this means. The Blenheim collection is no new thing, but like other old established

collections it has passed through many vicissitudes, and it is not until recent years that it entered upon its present and most promising phase. His Grace is an enthusiastic Orchidist, and Mr. G. Hunter, the head gardener, is an experienced and practical Orchid grower.

On entering the first of these houses, one noticed a fine flourishing batch of about two hundred hybrid Calanthes with their parents, including Bryan, Florence, bella, Wm. Murray, etc. These were exceptionally strong, many having two leads, and a few as many as three. They were potted in a compost of equal parts of Osmunda fibre, fibrous loam, and sphagnum moss, and were watered once a week from June to September with weak manure water. This house was mainly filled with Lælio - Cattleya



The Duke of Marlborough, K.G., P.C.

hybrids purchased from many sources and comprising all the best known kinds. Mention may be made of Cattleya Fabia alba, Lælio-Cattleya Canhamiana alba, the albinos of Cattleya Gaskelliana, choocoensis, labiata, and other species. There were also good plants of Brasso-Cattleya Queen Alexandra, C. Dussendorfei, Undine, etc.

Many robust plants of the highly coloured

and better known hybrids of commerce were also noted; these include *Lælio-Cattleya callistoglossa*, *C. Octave Doin*, *C. Empress Frederick*, *Brasso-Cattleyas* in variety, and others too numerous to mention. A good sprinkling of *Cattleyas* were in flower, considering the season, among which was a cross between *Lælio-Cattleya Doris* and *Brassavola Digbyana*; this was a fair yellow colour.

anceps, *Dendrobium Deari*, *D. Dalhouseianum*, *D. formosum*, *D. Phalænopsis*, while a large number of *Lælio-Cattleya* and *Cattleya* seedlings were being grown on the shelves.

In the next house one half had been cleared to make room for numerous seedlings. The side stages of the other half were already full of these interesting plants, *Cattleyas* on one side and *Cypripediums* on the other; while



The Vanda cærulea House.

Many fine varieties of *Cattleya Iris*, *Lælio-Cattleya Berthe Fournier*, and the *Blenheim* variety of *Cattleya labiata*, etc., were making a good display.

About a hundred plants of *Miltonia vexillaria* were growing at the cooler end of this house, while suspended from the roof a strong plant of *Sopbro-Lælia Eros* in flower arrested attention; it is a charming variety and has been used considerably in crossing.

The corridor was filled chiefly with *Lælia*

the centre staging was occupied with adult *Cypripediums* in great variety, including *Earl of Tankerville*, *Troilus* var. *Lord Nelson*, *Mrs. E. V. Low*, *Fulshawense*, *Venus Oakwood* variety, *Queen of Italy*, and *Lord Ossulston*, etc. A vigorous little batch of *Cypripedium bellatulum* had been raised from seed in this country, and among them the pure-white variety.

The remaining house in this range was filled with *Odontoglossums*, principally

O. crispum, of which there are 5,000 grown for cut flower purposes. Besides many blotched crispums there were the three albinos—*xanthotes Charlesworthii*, Snow Queen, and *virginale*. There were also a few of the better known *Odontiodas*, and other interesting things, and suspended from the roof a number of good plants of *Odontoglossum grande*.

The Vanda house is 60 odd feet by 25 feet, and here 1,000 plants of *Vanda cœrulea* are to be seen in perfect health and vigour. This house has given immense satisfaction for some time, and two excellent groups were shown at the Royal Horticultural Society last year, one receiving a Silver-gilt Medal and the other a Gold Medal.

Spotting of the leaves frequently occurs on



The Odontoglossum House.

Apart from this range is another large house, measuring 100 feet by 25 feet, which is devoted to the popular species of *Lælia* and *Cattleya*. Large batches of *Cattleya speciosissima*, *C. labiata*, *C. Gaskelliana*, *Lælia purpurata*, and other well-known large flowered species are grown for their flowers. Good batches of *Vanda Amesiana* and *V. Kimballiana* were thriving exceedingly well, and there were a number of healthy plants of *Epiphronitis Veitchii*.

Vanda cœrulea, and although those at Blenheim were slightly affected in 1910, it was entirely absent during the last autumn. The plants are a good colour, well rooted, and with leaves down to the pot. One large plant with a double break has recently produced six spikes of bloom, and many have given three and four spikes. This is a magnificent Orchid, and when grown in quantity has a very extended flower season, and, as Mr. Hunter is satisfied that he has overcome any difficulty

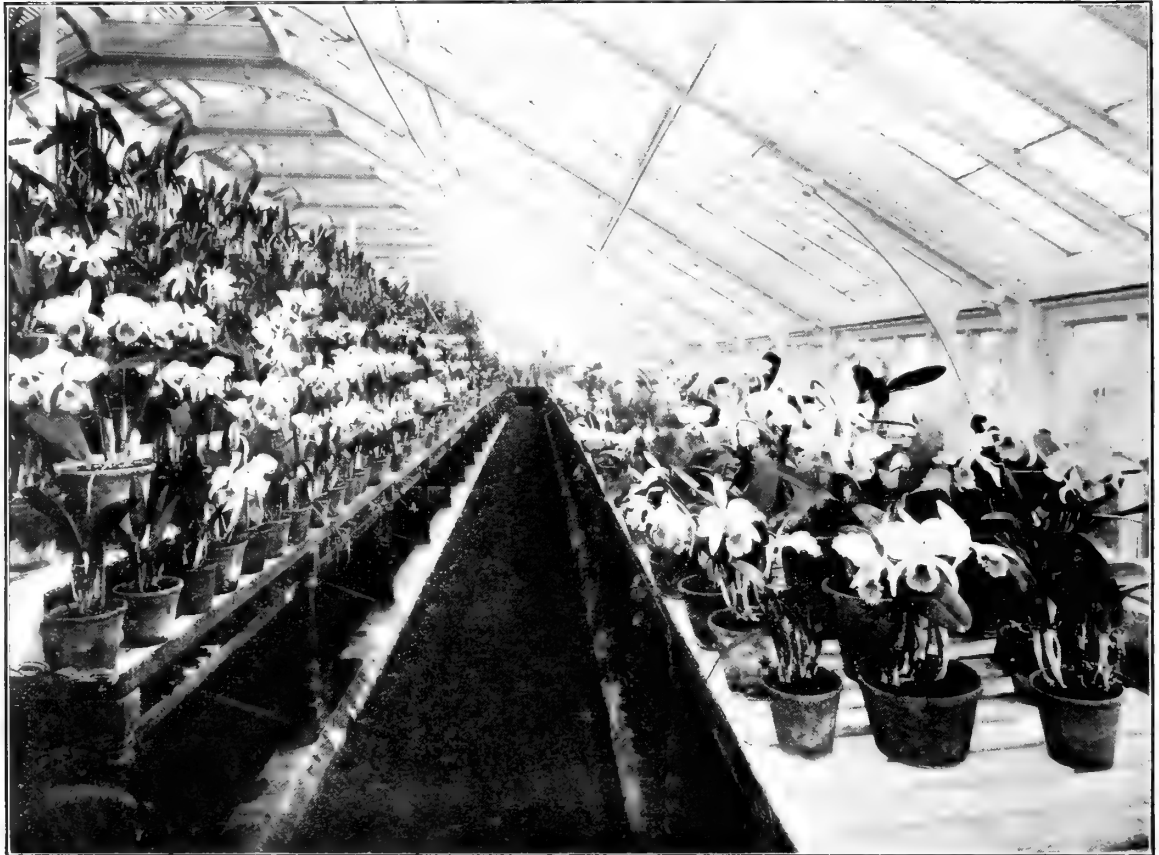
in growing it, his method of culture may be of some considerable help to others less fortunate.

He ascribes his success in a great measure to giving abundance of air when the outside conditions will permit. He endeavours to secure a minimum day temperature during the growing months of 70 deg. F., and this with top and bottom ventilation. The house is provided with side lights which open besides

sufficient water is given to prevent shrivelling, and a buoyant, intermediate temperature of 45 to 50 degrees is maintained. The plants are potted in Osmunda fibre, moss, and crocks.

Suspended from the rafters in this house were many strong plants of *Epidendrum vitellinum* in fine productive growth.

The seedling house is 33 feet by 12 feet,



The Cattleya House.

the usual bottom ventilators over the pipes, and all are opened to their full capacity on suitable days. A considerable amount of top ventilation is left on the house at night during the summer. The plants are watered in the afternoon, and when in active growth are frequently syringed, and at this period occasionally with soot water, which must be of immense benefit to plants with so many aerial roots. During winter, when the roots seal over and growth is reduced to a minimum, just

and has a heated case built on one staging to slope with the glass. The bottom of the case is made of perforated zinc, over which sphagnum moss is placed, and in this the seed pans are plunged to half their depth. One relies largely on brisk, moist heat for raising the *Cattleya* and *Lælia* seed, and this was germinating and growing with great freedom, and evidence of recent success was to be seen in the many thousands of seedlings that were distributed over the various houses, only a

very brief sketch of which has been given. There have been between four and five hundred different crosses raised at Blenheim.

The next house is of the same dimensions as the preceding, and in this are a number of Masdevallias, and a limited number of *Odontoglossum* seedlings, etc.

It is a matter of congratulation that such an

important and prosperous collection of Orchids finds a home at Blenheim. It may, however, be said that many of our other noted English mansions might still further enrich the interest of their gardens by acquiring a thoroughly representative collection of Orchids, and thus follow the excellent example set by Blenheim.

J. M. B.

AN ORCHID COLLECTOR'S TRAVELS THROUGH BRITISH GUIANA TO BRAZIL.

By ED. KROMER.

(Continued from page 90.)

THIS important chief, Robert, received us with a certain retiring, patronising air, surrounded by his three wives and a large number of people, all gesticulating, singing, or rather howling, and dancing about the place like mad. At the sight of this spectacle, we remembered at once that we had just arrived at a time when the whole neighbourhood from far and wide had assembled to hold one of their yearly *Paiwari* feasts—a sort of a harvest festival—which always last for several days, and during which, as we both had witnessed once before, the whole crowd, male and female, young and old, indulge in the most senseless and wildest of orgies. Luckily for us, friend Robert, who alone seemed to have maintained his dignity, informed us that this was the last day of the festival. After having explained to him the object of our journey, he not only promised to provide us with provisions, but also to facilitate our further progress with woodskins and more extra hands if we would stay another day or two. The offer seemed reasonable enough; indeed, the next day a good quantity of food-stuffs was brought to us in shape of some big baskets full of cassava bread, yams, plantains, pumpkins, sweet potatoes, sugar-cane, and even venison. We were well off then. The good people seemed untired in placing before us huge calabashes of their inevitable *Casiri*, a mysterious beverage composed of a mixture of vegetable matters in an advanced

state of fermentation; to refuse it would mean offence, so not to create any ill-feeling we just moistened our lips with it, and passed it on to our own Indian companions; they made short work of it. In a friendly chat in the evening with Robert, I succeeded in making a contract with him for the building of at least four more woodskins during our absence for the easier conveyance of our collections and ourselves on our homeward journey, and as a guarantee I presented him with an axe, saw, two cutlasses, some knives, file, and such articles as may be useful for timber work. Robert apparently was pleased, but still something seemed to trouble him; Robert, the chief of all the *Camarang* Indians, was not a fully equipped Indian: he had no gun, and what sort of a man is an Indian without a gun. So he first suggested, and then insisted, on getting a gun besides. For my part I objected, as I failed to see what connection there could possibly be between a gun and shipbuilding; Robert, however, laconically declared, what a man *needs* he *must* have, and—well, well, we were in the lion's den; Robert got his gun. How ill-placed my confidence was, however, was shown to us later on—instead of the promised four woodskins he had built exactly *one*.

Thanks to Robert's masterly superintendence we could start after a day's rest in full strength for once, but to avoid any shipwreck we had to keep a sharp eye on some of our new friends, who were still suffering from

the effects of the previous day's debauch. For two days we journeyed up the Camarang in a south-westerly direction; on the third, we branched off in the Ataparoó river and arrived in the evening at the usual landing-stage of the Indians below a great Fall, which was hidden from our view though, and here our real overland journey began. On the previous day at one point, where the river was of considerable width, a great excitement prevailed suddenly amongst the advance guard of our fleet, when the Indians spied a tiger on the opposite bank, and under the shouts of "Kaikúsi! Kaikúsi!" made a rush in that direction, but before they reached the mid-stream the beast had disappeared in the thick underbush, and the volley fired by Seyler and some more proved to be a miss. I mention this episode simply because it was the only one occasion on our whole expedition on which we came across a ferocious animal. Snakes, of course, small and large, were of such daily occurrence, that in time we did not pay special attention to them, but killed them whenever we could.

On the morning of 31st October we said good-bye to Robert and his companions, and started towards Roraima on foot. After another mountain ascent of terrible steepness and similar conditions as on the Curubung, the forest ended in a distinctly straight line, and late in the afternoon we stepped out in the wide, open Savannah, near a river called Cáma, which there formed the boundary between the colony and Venezuela. We were told that we would find before us a small settlement, called Ariamáng, but to our great disappointment we found the houses burnt down, the place deserted, and only a few remaining charred poles reminded one of a former habitation. Now we were always in the open Savannah, and such a glorious Savannah! everything bright and luxurious; numberless wood-islands studded here and there, while after all the hot and stuffy air of the forests we could breathe at last a refreshing cool, to us almost cold air, loaded with the various fragrant scents of the Savannah vegetation. For instance, while marching along a very sandy track one day

we perceived one particular sweet scent, so strong that I could not resist to find out the source of it, and to my agreeable surprise I discovered, close to our path, a large group of *Sobralia liliastrum*, which grows there some six to eight feet high, and was then covered with its golden-yellow blossoms. Growing with this *Sobralia* we also met with huge clumps of another Orchid, *Epidendrum Schomburgkii*, with its red and purple flowers, and growing to a height of four to six feet. The underbush for a considerable distance consisted of a beautiful scarlet-flowered, shrubby *Justicia*, also in full and picture-like bloom, intermixed with extensive growths of *Abolboda sceptrum*, whose large spiny rosettes on long dried flower-stalks were everywhere visible. Looking in every direction the eye met with extensive batches, bordering almost every stream, of the majestic Palm, *Mauritia flexuosa*, whose hard and broad leaf-stems, when cut in proper shape, provided capital sandals for our Indians.

The grandest scenery, however, presented itself to us on our left, showing an immensely long range of mountain formations, consisting of the most peculiarly shaped forms of the Huyabave bö in the foreground, behind it the Itarica-rima, next to this the Waiaka-biapa, at a further distance the flat-topped Kukenaam, the brother of Roraima, and behind this we could just distinguish the majestic outlines of Roraima itself. What melodious names!

On the outskirts of one of these wood-islands we decided to stop for a few days, as Seyler informed me that in this particular wood-island, three years previously, Osmers and himself had found the *Cattleya Lawrenceana* in large quantities. We did, indeed, find it, but not in large quantities; quite naturally those two had skimmed the cream off the milk, and all they left for me to find, with a good amount of searching, were about 400 to 500 decent plants. For these plants we roughly built a sort of a stage underneath a roof of palm-leaves in the bush, and another start was made on the 7th November, after again leaving some loads behind in charge of a guard, as some of our new men from the

Camarang declared that they would not go any further into territory of a different tribe, with whom they did not live on the best of terms. So we paid them off and let them go. Two days later, after a difficult march over mostly stony and more hilly ground, we reached the first village of the Arecuna tribe, on the Yuruáni river, called Waibéna; the old chief gave us a most cordial reception and proudly reminded us of some former

Even from the very two trees, between which my hammock was slung, we could gather a few plants. We placed, therefore, before leaving this place a huge order with the kind chief to have as many plants collected as possible; this speculation, however, we found later on, was a complete failure. We climbed the next day a bare and stony hill of such formidable steepness that all the former ascents seemed only child's play



Mr. Kromer and his Troup of Carriers in the Forest at Robert's Place on the Camarang River.

travellers whom he honoured with his hospitality—Appun, Whiteley particularly, Burke and Seidl. He willingly ordered some of his own people off to fetch our loads left behind, and even promised to supply us with all available provisions he could spare at our point of destination on Roraima, which was then only another one and a half day's journey away. In the wood-island, where we had our camp adjoining the village, we discovered some more *Cattleyas* growing.

compared to this one, and the following day at noon we came at last to the village of Teroota, which stands on a small eminence, still in Venezuelan territory, and separated from the southern slope of Roraima mountain only by the narrow but steep bed of the Kukuenaam river, which here divides Venezuela from Brazil.

The fame of our approach had preceded us. There stood at the entrance to his large hut, and surrounded by his numerous family

and loyal subjects, the old chief Jeremiah, the king of Roraima as he calls himself, whose shrewd old face I had no difficulty in recognising at once after an absence of five years. One of his ladies presented us with a huge calabash of Kasiri, the drink of welcome. We found the village of Teroota itself half in decay, but a more pleasant, and at the same time half comical, sight met our eyes when looking down the valley across the Kukenaam river. There we noticed some twelve houses scattered about over the plain, and at the very end of the settlement one extraordinary large building with very high roof, which we were told was the church. But in the centre of all this, which formed a square, we observed a large number of people hurrying up and down and arranging themselves in two rows, while a tall, dark figure in their midst seemingly directed all their movements, allotting to each his place.

Expecting to find with more facility a house for ourselves down in the valley amongst these people, we hurried down the

steep hill and crossed the Kukenaam river up to our waist in water. On reaching the square the strange-looking, strongly-built figure, whom we had already noticed from the hill-top, briskly stepped forward, and with a stern, grave countenance and extending his hand greeted us, repeating in an almost thundering voice the word "gmani, gmani," an unsuccessful imitation of "good morning!" He wore a pair of woollen trousers, much too tight and too short for him, with an even thicker long overcoat, over which were crossed a pair of braces, and his head covered with an old battered silk hat; there at least was a proof how civilisation had progressed in these parts. He gave us to understand that he was the clergyman. Then we passed along the two rows of people, the ladies all on one side, the gentlemen on the other, and we shook hands with all of them from the tallest to the smallest youngster. Our prospects certainly looked promising.

(To be continued.)

CHYSIS AND THEIR CULTURE.

ALTHOUGH this genus contains but a few species, is worthy of notice. The species are deciduous, losing their leaves during their season of rest, and inhabit the northern part of South America. The stems are very thick and fleshy, about a foot long, and produce their elegant flowers in lateral racemes, with the young growth. Their cultural requirements are easily maintained. Although frequently seen growing well when fastened on flat blocks of wood, they produce much finer results when grown in pans or baskets and suspended in the Cattleya house, for during the growing season they delight in plenty of light and moisture. A cooler temperature and very little water should be given them during their resting season. Any requisite potting should be attended to after the plants have finished flowering; they succeed well in good Osmunda fibre, with plenty of drainage

material. The following are the best known species:—

C. bractescens is an elegant species from Mexico, whence it was first imported by Mr. George Barker, who flowered it in April, 1840. It was described by Lindley in the *Botanical Register*, 1841, t. 23, with the remark "It forms the third of the genus now known, and is readily distinguished by its large white, not yellow, flowers, and greatly inflated leafy bracts. Its pollen-masses show yet more strongly than those of the original species the singular structure upon which the genus is founded. In this, as in most other Orchidaceæ, the most exact attention should be paid to the markings and elevations of the labellum, for they furnish the most constant and exact characters for distinguishing species." This species blossoms in April and May, the waxy flowers are two to three inches across, pure-white, with yellow on the

inside of the lip, and the disc having five to seven fleshy lamellæ between the erect side lobes. It is one of the commonest Orchids in the coast woods of Mexico, and is said to largely inhabit the lowlands.

C. lævis is considered by many to be the finest species of the genus. The fusiform stems are about fifteen inches long, producing from the young growths in June pendulous racemes, each bearing eight or more flowers. The sepals and petals are yellow in the lower, and orange in the upper part, and the lip is yellow with crimson spotting, and the middle lobe roundish and frilled, with a crest of five fleshy lamellæ on the disc. It is a native of Mexico, and usually flowers in the early summer.

C. aurea is a beautiful species from Venezuela. Its period of flowering is uncertain: although frequently producing its drooping racemes in the early summer, it sometimes

flowers twice in the same year. The flowers, which seldom fully expand, have yellow sepals and petals, and a tawny-yellow lip marked with crimson. It is also found in Mexico, where it grows at an altitude of from 3,000 to 4,000 feet.

C. Limminghei frequently produces three flower spikes from a single growth. The flowers, which are not so large as those of *C. aurea*, are waxy-white, blotched or stained with bright purple, the side lobes of the lip are yellow, streaked on the inside with red, the middle lobe being bright purple. This species usually flowers about April and May.

During the years 1874 to 1896 Messrs. Veitch flowered three hybrids: *C. Chelsoni* derived from *C. lævis* × *C. Limminghei*, *C. langleyensis* obtained by crossing *C. bractescens* with *C. Chelsoni*, and *C. Sedeni*, a hybrid between *C. bractescens* and *C. Limminghei*.

CALENDAR OF OPERATIONS FOR FEBRUARY.

By J. T. BARKER, The West Hill, Hessle, East Yorks.

THE temperatures for the month should remain as advised for January, excepting that a rise of a few degrees may be allowed with sun heat, should it prevail. In all matters relating to watering, atmospheric moisture, and cultural details generally, the general conditions given last month are equally suitable for the present one. Should, however, the climatic conditions change from the wet dull weather we have recently experienced for some considerable time, to bright, clear, frosty weather, we may expect more sunshine, and with it an increased amount of light. In this case our plants will naturally take up more water, and more moisture will be required in the atmosphere to prevent that over-dry and parched atmosphere which is so harmful and destructive to our plants.

Shading. In some parts of the country it will be necessary during this month to place the blinds upon the houses; but with us we can generally manage without them until the

first week in March. However, these useful articles should be taken in hand at once, and any renewals and repairs attended to. In different districts blinds of various thicknesses will be required according to the amount of sunshine received. In many districts last season the ordinary lath roller blinds were not sufficient to keep back the heat and the direct rays of the sun, but as we had a most abnormal summer we may take it for granted that blinds that have answered our purpose before will do so again.

Mexican *Lælias* are now past for this season. They have made a bold show for some weeks, and as the bright weather of last season suited them the flower spikes were more plentiful than usual. It is not easy to find a more useful Orchid, providing the plants are well grown; if not they are unsatisfactory, as they occupy much room and provide few flowers. Their culture is not at all difficult if treated in accordance with their requirements. They must not be starved by the

want of water at any season, neither must they be overwatered. Should any of the plants require attention in the way of re-potting it should be proceeded with as soon as it is seen that new roots are ready to push from the base of the bulbs. The compost I recommend for them is equal parts of peat, polypodium, osmunda, A.I. Fibre, and clean sphagnum moss, with a fair sprinkling of half decayed oak leaves which have been rubbed through a half-inch sieve. All the earthy particles should be removed from the different fibres. The newly potted plants should be carefully watered until the new roots are seen to be pushing through the compost. They may be sprayed over head once or twice a day according to the weather, until they get re-established. They delight in the brightest position of the Mexican house.

Dendrobiums of the deciduous section are now showing flower buds in various stages of development. The species and hybrids of this section when grown in quantity, as they deserve to be, will make a beautiful show for some weeks. A house in full flower is a thing to be remembered, and amply repays the cultivator for any trouble bestowed upon them. They should not be hurried, as the flowers are much finer and larger if allowed to come naturally, and as the buds expand more moisture may be given at the roots. The temperature of the Cattleya house will answer their requirements admirably. Dendrobium Wardianum will make a brilliant show from this time onwards. This plant usually thrives and flowers abundantly for the first few years after being imported, and then generally dwindles and dies. This is not as it should be if we properly understood their requirements. Therefore it is a necessity to replenish the stock from time to time as opportunities afford. For this season some plants have already reached this country. I would advise that some be procured at once so that they may have ample time for growing during the coming summer. The imported plants should be placed in pans just large enough to hold them comfortably, using crocks for drainage, which should not reach far up the pan. The best rooting medium I find for them is equal

parts osmunda, polypodium, A.I. Fibre, and sphagnum moss. They should not be potted too firmly, and the pseudobulbs should be neatly tied up to a stake placed in the centre of the pan for that purpose. Very little water will be required until the new growths, pushing from the base, are seen to be rooting nicely in the new compost. This species is best accommodated in a cool, airy position in the intermediate house, suspended well up to the light. When in full growth they delight in an abundance of moisture.

Cypripediums, as they pass out of flower, should be re-potted, so that the majority are done before the busy month of March is upon us. I do not believe in top-dressing this class of Orchid, and I generally find the smaller plants pay for re-potting each season. If these plants are to succeed, they must have a nice sweet rooting medium.

Masdevallias. Any plants that were left over from the autumn, or that now appear to require new compost, may be done at this season, using the compost as advised for Miltonias, with the addition of a little fibrous loam. The smaller varieties are best grown in shallow pans suspended from the roof, using the compost with the loam. They all succeed at the warm end of the cool house.

Oncidium of the winter flowering varieties will be commencing to grow, and when about to push roots from the new growths may be re-potted. They succeed in the mixture used for Miltonias, with the only exception that a larger proportion of leaves may be used. They thrive in a cool, shady position of the cool house. Oncidium macranthum, and others of this section, pushing up their flower spikes, should have these carefully trained round stakes, and be guarded against slugs and other pests. This class of plant delights in the shadiest position possible in the cool house, and a free circulation of air amongst them at all times.

Cattleya Percivaliana and C. Trianae will now be at their best, and where they are grown in quantity will make a display in the Cattleya house. It should be the aim of every cultivator to make, as far as possible, a display in each house all the year round. These two

species are most useful, as being the two first to flower they brighten one of the duller months of the year. After flowering they soon commence to root, and any requisite attention as regards re-potting may be done. Any hybrid *Cattleyas* or *Lælio-Cattleyas* that are pushing new roots may likewise have attention. I am no advocate of always pulling this class of plant about, but if the compost is at all decayed, or sour, I would recommend giving them new compost to root in. I am firmly convinced that many failures with these plants are due to this cause.

Phaius will be commencing to grow, and they may be re-potted when the new growth is seen to be putting out new roots. I find these plants pay for re-potting every season, as the large amount of water which they require when in full growth decays the compost. They succeed in a compost of equal parts peat and loam, the latter as fibrous as possible, with a fair sprinkling of silver sand. They require a fairly high temperature with a buoyant atmosphere, as if too close, black spot appears upon their leaves. They will succeed best in a warm *Cattleya* house.

Odontoglossum crispum, and many hybrids, will now be developing their flower spikes; they should be frequently examined for slugs,

otherwise the spikes may be ruined before the cultivator is aware that they are showing. Keep the plants fairly moist, but do not give water until it is seen that the compost is fairly dry. As the spikes push up they should be secured to neat stakes, and any weak plants be disbudded down to two or three flowers. *O. grande*, *O. citrosimum*, *O. nebulosum*, *O. Insleayi*, and *O. Uro-Skinneri* will still be better at rest in the cool *Cattleya* house, giving them only just enough water to prevent shrivelling.

General remarks. Do not be in a hurry to push any plant into new growth, as, so far, we have not had any cold weather this winter. A sudden fall in temperature when plants are making fresh growth might do a great deal of harm. Therefore, try and keep everything resting, and wage a continual warfare against all insect pests.

The amateur Orchid house. It has often been asked how an amateur is to grow all the different Orchids in one house; of course, it is an impossibility, but he can select those that will succeed in the house he possesses, be it either warm or cool. I am quite of the opinion that every greenhouse will grow Orchids of some description, it is only a matter of attention and selection.

HYBRID EUROPEAN ORCHIDS.

By W. HERBERT COX.

DURING the last few years great strides have been made towards the fuller understanding of the hybridisation of Orchids, many most beautiful flowers having been produced by artificial means. This progress, however, has only been made in relation to the greenhouse varieties; the hardy kinds have been left beyond the pale. Yet, surely, it would be much easier to deal with the out-of-door plants. I suppose the root of the matter is the monetary value obtained for the result, for, as yet, hardy Orchids do not fetch fancy prices. Sometime in the future, when their interest and beauty is more fully realised, I believe there will be the same, if not even greater pleasure taken in them than there is at present in those grown in our glass-houses.

Another great reason is the difficulty of their cultivation, for but few growers indeed have had any success with them. In a later article I hope to set forth some hints which will be of use in this matter. A tremendous amount of trouble and forethought has been lavished on the indoor plants, but their no less beautiful sisters are just put in an odd corner, usually at the wrong season of the year, and there left to die. I am quite convinced that ere many years have passed they will be amongst the most valued ornaments of our gardens, and millionaires will then show their Orchid beds with even greater pride than they now show their Orchid houses.

Nature has realised the neglected state of these beautiful things and has set about in her own way to remedy the evil. Darwin

remarked "that cross fertilisation is beneficial to most Orchids, which may be observed for the numerous structures they have for this purpose, yet," he went on to say, "self-fertilisation ensures a larger supply of seed."

There are numerous hybrids among all European Orchids, such as *Gymnadenia* and *Nigritella*, *Cephalanthera* and *Epipactis*, *Anacamptis* and *Gymnadenia*, *Herminium* and *Bicchia*, whilst *Orchis* hybridise freely with *Serapias* (see page 2 for *Orchiserapias complicata*), *Aceras*, *Loroglossum*, *Ceologlossum*, *Platanthera*, and *Gymnadenia*, yet strangely enough the *Ophrys* only hybridise amongst themselves, except *Cephalophrys integra*, said to be between *Ophrys apifera* and *Cephalanthera rubra*, found near Conegliano in Italy, but this seems a very doubtful case. It is probably owing to the fact that some of them, for example *Ophrys apifera*, fertilise themselves, the caudicles of the pollinia being remarkably long, thin, and flexible, instead of rigid enough to stand upright as in other *Ophrys*. *O. scolopax*, the Woodpecker, according to Moggridge, does not show any tendency to fertilise itself at Mentone, yet at Cannes the pollen masses naturally fall out of the cells and strike the stigma. This, says the same authority, is probably due to the insects which assist the plant being more common in one locality than the other.

Of *Ophrys aranifera*, Delphino states that it is but little visited by insects, and in Liguria hardly one flower out of 3,000 sets a capsule, though near Florence rather more are produced. I rather doubt his statement for I have studied the plants in both localities, in which there are enormous numbers of specimens growing. Natural hybrids are very rare in England, so that when, a couple of years ago, *Ophrys hybrida* was found on the Wye downs, a splendid district for Orchids, it caused considerable interest. Noteworthy, too, was the finding of *O. Botteroni* by Professor Chodat, which was believed to be a new species endemic only in the Jura, but it has since been proved to be a hybrid.

Linnæus grouped *Ophrys apifera*, *O. aranifera*, *O. arachnites*, and *O. scolopax* together

to form a single species, which he called *insectifera* on account of the cross hybridisation between them, but later botanists have separated them and most carefully distinguished all the different crosses.

As a rule these hybrids are rare everywhere, but occasionally they are met with in great quantities, for instance, *Nigritella suaveolens* is said to be so common that in the Pusterthal of the Tyrol hundreds of specimens may be counted in the same meadow.

Cephalopactis speciosa (*Cephalanthera pallens* and *Epipactis atrorubens*) which is found in the Erlafthal, Lower Austria, is of special interest as it shows peculiarities resembling two species growing in very remote countries, the Japanese *E. Thunbergii* and *E. gigantea* from Texas and other southern United States. There is also the peculiar *Orchiceologlossum Erdingeri*, also from Austria.

It is sometimes extremely difficult to tell whether a plant is a species, variety, or hybrid; *Serapias olbida* is an example of this, and though appearing intermediate between *S. lingua* and *S. longipetala* Vergun, having searched in vain for those species on the isthmus of Giens where it grows, does not consider it to be a hybrid. The isthmus was probably formerly an island, but is now connected with the mainland near Hyères by the salt pans. Camus thinks it may be a fixed cross for many years reproducing itself by new bulbs.

There is some doubt of another plant which I have found growing in great quantities at Rapallo, on the Italian Riviera, and flowering in March. Bala figures it as *Ophrys aranifera* variety *niceensis*; other authorities describe it as variety *specularia*; but Camus calls it sub-species *arachnitiformis*. It might easily be between *O. aranifera* and *O. arachnites*, for in general characteristics it resembles the former, but in colour and minor details the latter.

Above I have tried to show how extremely interesting these natural hybrids are, and I should now like to suggest that an enormous amount of useful work might be done by some careful grower amongst other hardy Orchids.



*The Large Cattleya House of Messrs. James & A. McBean, Cooksbridge, Sussex.
Many plants of *Oncidium varicosum* adorn the roof with their long sprays of bright yellow flowers.*

ROYAL HORTICULTURAL SOCIETY.

January 9th, 1912.

MEMBERS of the Orchid Committee present : J. Gurney Fowler, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, J. Wilson Potter, R. Brooman-White, de B. Crawshay, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Cypher, W. P. Bound, Walter Cobb, J. Charlesworth, A. McBean, T. Armstrong, F. J. Hanbury, C. H. Curtis, J. S. Moss, Stuart Low, and Sir Jeremiah Colman, Bart

Sir Jeremiah Colman, Bart., Gatton Park, Reigate, was awarded a Silver Banksian Medal for a good group, in the centre of which was a magnificent specimen of *Dendrobium speciosum nitidum* having 36 trusses of bloom. Several excellent varieties of *Lælio-Cattleya Epicasta*, *Cœlia bella* with numerous purple tinted flowers, and *Phaio-Calanthe rosea* were also shown in excellent form.

Francis Wellesley, Esq., Westfield, Woking, exhibited many very good *Cypripediums*, the best being *C. Miss A. Willan* (*Leeanum* × *Sallieri*), *C. Memoria Mostynii*, and *C. Sanctæus* "Westfield var."

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorking, exhibited a well flowered plant of *Maxillaria arachnites*, *Cypripedium Hera* "Burford var.," and *C. Eury-biades* (*Euryades* × *Alcibiades*).

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent *Cattleya Peetersii* "Westonbirt var.," a beautiful flower with white sepals and petals and a deep-rose coloured lip with gold veining, *Cyp. nitens-Leeanum aureum*, and *Cyp. Bronzino*, a good hybrid of unrecorded parentage.

de Barri Crawshay, Esq., Rosefield, Sevenoaks, exhibited *Lælia anceps Schröderæ* *rosefieldiense*, *L. a. Seuenacca*, and the elegant *Cymbidium rosefieldiense*.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, showed *Cypripedium J. F. Alcock*, a good hybrid.

G. Hanbury, Esq., Blythewood, Burnham, exhibited two specimens of *Calanthe vestita*.

Earl Stanhope, Chevening Park, showed *Calanthe vestita grandiflora*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Banksian Medal for a group containing the new *Odontioda Schröderi* (*O. Bradshawiæ* × *O. crispum*), a very rich red coloured flower, the elegant *Cattleya Octave Doin*, and other interesting hybrids.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a large group containing many excellent Orchids. *Cypripedium Golden Oriole* (*insigne Sanderianum* × *Dreadnought*) and *Cyp. Jucundum* were specially good. Other plants included *Cymbidium Holfordianum*, several good *Phalænopsis*, and many botanical specimens.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Flora Medal for an interesting group containing several good *Calanthes*, *Cattleya Percivaliana alba*, *Sophro-Cattleya Saxa*, and many excellent *Cypripediums*.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded a Silver Flora Medal for a good group of *Cypripediums* and *Cattleyas*, *C. Maggie Raphael alba* being very attractive. Some good *Calanthes* and *Masdevallias*, and a distinct variety of *Odontioda Bradshawiæ* were also shown.

Messrs. Jas. Veitch and Sons, Chelsea, secured a Silver Flora Medal for an attractive group of the blue *Zygopetalum Mackyi*, on each side of which were several albino forms of *Cypripedium insigne* and good *Odontoglossums*.

Messrs. J. and A. McBean, Cooksbridge, were awarded a Silver Flora Medal for a very pretty group of *Lælia anceps Schröderæ*, the long graceful flower spikes being much admired. *Sophro-Cattleya Thwaitesii*, a good variety of *Odontioda Charlesworthii*, and several *Cypripedium* hybrids were also included.

Messrs. J. Cypher and Sons, Cheltenham, received a Silver Flora Medal for an excellent group of *Cypripediums*, the principal varieties including Mrs. Godman, *Leeanum Corona*,

and Victor Hugo. Several *Masdevallias*, *Lycaste lasioglossa*, and *Calanthe Harrisii* were shown in good form.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was awarded a Silver Banksian Medal for some excellent specimens of *Cypripediums*. A pure-white variety of *Dendrobium Phalænopsis*, and the curious *Bulbophyllum Siamense* were also shown.

Messrs. Hassall and Co., Southgate, were awarded a Bronze Banksian Medal for a group containing good examples of *Cattleya Albertiana*, *Odontoglossum Dora*, *O. laudatum*, and the bright *Lælio-Cattleya Charlesworthii*.

AWARDS.

FIRST-CLASS CERTIFICATE

Lælio-Cattleya Bella alba (*L. purpurata* × *C. labiata*), from Baron Bruno Schröder, Englefield Green (gr. Mr. J. E. Shill).—A very beautiful hybrid with six large flowers having pure-white sepals and petals and a rich crimson-purple lip.

AWARDS OF MERIT.

Cypripedium San - Actæus "Westfield variety," from Francis Wellesley, Esq., Westfield, Woking.—A good hybrid with a large pure white dorsal prettily spotted with purple.

Lælio-Cattleya Mrs. W. Hopkins (*L.-C. Haroldiana* × *L. Iona nigricans*), from Francis Wellesley, Esq.—A very distinct hybrid with yellowish sepals and petals and a violet-crimson lip.

Odontoglossum crispum "Queen of the Morn," from Walter Cobb, Esq., Normanhurst, Rusper.—A large and beautiful rose-tinted flower of the true Pacho type, the petals being very broad and overlapping the sepals.

Cypripedium Jucundum (*Alcibiades* × *Veronica*), from Messrs. Sander and Sons, St. Albans.—The dorsal sepal of this large flowered hybrid is pure white with a green base and prettily spotted with purple. A good result.

Cattleya Maggie Raphael alba "Orchid-hurst variety," from Messrs. Armstrong and Brown, Tunbridge Wells.—A very superior form having broad pure white petals and a

magenta-crimson lip with gold veining in the throat.

Cymbidium rosefieldiense (*grandiflorum* × *Tracyanum*), from de B. Crawshay, Esq., Rosefield, Sevenoaks.—A very elegant hybrid and one of the best of the green flowered section. The broad emerald-green sepals and petals are prettily spotted with red.

Cypripedium nitens-Beeckense (*nitens* × *Beeckmani*), from J. Gurney Fowler, Esq., Glebelands, South Woodford.—A very large, bold flower exhibiting the characteristics of both parents, the petals being particularly broad.

Cypripedium Catiline (Mrs. Wm. Mostyn × *Leonidas*), from the Duke of Marlborough, Blenheim Palace.—A very pretty hybrid with a dorsal sepal much resembling the former parent.

January 23rd, 1912.

MEMBERS of the Orchid Committee present : J. Gurney Fowler, Esq. (in the chair), Sir Jeremiah Colman, Bart., James O'Brien (hon. sec.), and Messrs. Harry J. Veitch, Gurney Wilson, F. J. Hanbury, G. F. Moore, T. Armstrong, A. McBean, W. Cobb, J. Charlesworth, J. Cypher, W. P. Bound, J. Shill, A. Dye, W. H. White, W. Wilson Potter, de Barri Crawshay, W. Bolton, H. G. Alexander, and J. S. Moss.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate, received a Silver Flora Medal for a beautiful group of the various varieties of *Lælia anceps*, the white forms being very attractive. Good plants of *Phaio-Calanthe Colmanii* were also shown.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), was awarded a Lindley Medal for a group of specially well-grown Orchids; included in it were *Vanda Watsonii*, *Lælia anceps Amesiana* with 29 flowers, *L. autumnalis alba*, and *Lælio-Cattleya Cappei* "Westonbirt var." with 13 flowers.

F. Wellesley, Esq., Westfield, Woking, exhibited *Cypripedium King Emperor*, and *Cyp. Thalia "The Baron"* (*insigne Sanderæ* × *Baron Schröder*), the latter having a large white dorsal marked with green at the base and with dark purple spotting.

Pantia Ralli, Esq., Ashstead Park, Epsom (gr. Mr. Farnes), exhibited a small group of choice Orchids. Those of special merit being *Cattleya Trianae* alba "Ashstead Park var.," a good dark form of *Lycaste Ballia*, *Cymbidium Hookerianum*, and *Laelio-Cattleya* J. F. Birbeck alba (L.-C. Henry Greenwood \times C. Mendelii), with white sepals and petals and beautiful bluish-purple labellum.

H. S. Goodson, Esq., West Hill, Putney (gr. Mr. Day), exhibited *Odontoglossum Ceres* "Goodson's var.," *Odontioda Cooksonae* var. Royal Scarlet, and *Laelio-Cattleya Wellsiana* "Goodson's var."

de Barri Crawshay, Esq., Rosefield, Sevenoaks, showed the very choice *Odontoglossum harvengtense* in excellent form, the scarce *Zygopetalum brachypetalum*, and *Od. Yula* (*Adrianae* \times *Lambeauianum*), a new hybrid with a pinkish flower having the sepals and petals blotched with reddish-purple and margined with a row of smaller spots, the labellum is slightly pandurate and shows the influence of *Odontoglossum Pescatorei*.

C. J. Phillips, Esq., The Glebe, Sevenoaks, showed *Cymbidium Pauwelsii*, with creamy-yellow sepals and petals and the labellum blotched with red.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for a good selection including *Odontioda Diana*, *Laelio-Cattleya amabilis* with pure white sepals and petals and a mottled labellum, *Calanthe violacea*, and others.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for an excellent group in which were many botanical Orchids. *Cattleya Percivaliana* alba, a good variety, *Odontoglossum eximium*; and many choice *Cypripediums* were shown in fine form.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver Flora Medal for an interesting exhibit of *Miltonias*, a good selection of *Cypripediums*, *Calanthes*, and several distinct *Laelio-Cattleyas*.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded a Silver Flora Medal for a very attractive group containing many excellent varieties of *Cattleya Maggie Raphael* alba, *Masdevallia Schröderiana*, a very dark

form of *Laelio-Cattleya* *Wilhelmina*, and interesting botanical specimens.

Messrs. J. and A. McBean, Cooksbridge, Sussex, received a Silver Banksian Medal for a group of select and beautiful Orchids. Included in it were *Brasso-Cattleya* Mrs. J. Leemann, *Cypripedium Saturn*, a good selection of white *Laelia anceps* and *Cattleya chocoensis*.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for an extensive group of *Cypripediums* which included *Thompsonii*, *Minos Youngii*, Mrs. F. Godman, and Mrs. Mostyn.

Messrs. Hassall and Co., Southgate, exhibited *Cattleya Octave Doin*, a very distinct variety of *Lycaste Skinneri*, and excellent examples of *Odontoglossum Aireworth* and *Od. Lambeauianum*.

Mons. Mertens, Ghent, exhibited *Cypripedium laekense*, and several blotched *Odontoglossum* hybrids.

Mr. W. A. Manda, South Orange, N.J., U.S.A., and St. Albans, showed a small group of different varieties of *Cattleya Trianae*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, exhibited a choice selection including *Cypripedium Waterloo*, *Cyp. aureum Surprise*, *Cyp. Laconia* (*Leeanum giganteum* \times *Sallieri aureum*), a pretty flower of a yellowish emerald-green colour.

Messrs. Veitch and Sons, Chelsea, showed *Odontoglossum Doris* (*crispum* \times *Ossulstonii*), a pretty flower with numerous small spots, *Cypripedium Idina* (Countess of Carnarvon \times *insigne Harefield Hall*), and *Cyp. Actæus*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cypripedium *Norah* (Mons. de Curte \times *Ædipe*), from Sir George Holford, K.C.V.O.—One of the finest *Cypripediums*. The dorsal sepal is very broad, white, slightly flushed with purple at the base and with vertical lines of purple spotting. The petals and lip are of good form and substance, yellow with brownish-purple markings.

AWARDS OF MERIT.

Zygo-Colax Charlesworthii "Cobb's var.," from W. Cobb, Esq.—A great improvement on previous forms of this elegant hybrid; the labellum is broad and richly marked with violet-purple.

Cypripedium Duke of Marlborough, from the Duke of Marlborough.—A large flower with a broad white dorsal sepal, the other segments being equally well formed.

Zygopetalum Mackayi Charlesworthii, from Messrs. Charlesworth and Co.—An extremely beautiful albino form of the true *Mackayi*, sepals and petals greenish-yellow, labellum pure white.

Cymbidium Schlegelii (*Wiganianum* × *insigne*), from Messrs. J. and A. McBean.—A pretty hybrid intermediate in form and colour between both parents, and apparently a good grower.

Lælio-Cattleya amabilis (L.-C. *Fascinator* × *speciosissima*), from Messrs. Charlesworth and Co.—One of the prettiest hybrids. Sepals and petals pure white, labellum mottled with rosy purple.

CULTURAL COMMENDATION.

To G. Hanbury, Esq., Blythewood, Burnham, for *Calanthe Wm. Murray*.

MANCHESTER ORCHID SOCIETY.

December 28th, 1911.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), R. Ashworth, C. Parker, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

Silver Medals were awarded to—

W. R. Lee, Esq., Heywood, for a group chiefly composed of *Cypripediums*.

Z. A. Ward, Esq., Northenden, for a group of *Odontoglossums* and *Cypripediums*.

R. le Doux, Esq., West Derby, for choice *Cypripediums* and *Odontoglossums*.

Col. J. Rutherford, Esq., Blackburn, for good *Lælia anceps*, *Odontiodas* and *Lycastes*.

R. Ashworth, Esq., Newchurch, for a good group containing many choice Orchids.

J. McCartney, Esq., Bolton, for some excellent *Lælia anceps* and *Cypripediums*.

Messrs. J. Cypher and Sons, Cheltenham, for an excellent exhibit.

Mr. J. Evans, Congleton, for a small but choice group.

Bronze Medals were awarded to—

Rev. J. Crombleholme, Clayton-le-Moors, for a small group of *Cypripediums*.

O. O. Wrigley, Esq., for a group of about 20 plants of *Vanda cœrulea*.

The Liverpool Orchid Co., Gateacre, for *Cypripediums*.

Others exhibitors included—

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown); J. J. Holden, Esq., Southport; H. J. Bromilow, Esq., Rann Lee; Messrs. A. J. Keeling and Sons, Bradford; Messrs. Hassall and Co., Southgate; and Mr. W. Shackleton, Great Horton.

AWARDS.

FIRST-CLASS CERTIFICATES TO

W. R. Lee, Esq., for *Odontoglossum crispum Anami*, a very fine variety with heavily blotched segments; *O. crispum xanthotes* var. Golden Gem, with yellow markings on segments; and *Cypripedium Helen II*. "Westonbirt var.," a very fine variety.

S. Gratrix, Esq., for *Cypripedium Royal Sovereign*, a magnificent flower; and *Cyp. Helen II*. "Westonbirt var."

AWARDS OF MERIT TO

S. Gratrix, Esq., for *Cypripedium Magog* (*Adrastus* × *Euryades splendens*).

J. J. Holden, Esq., for *Cypripedium Aurora Borealis*.

R. le Doux, Esq., for *Cypripedium Bernal Bagshaw* (*Alcibiades* × *Standard*), *Cyp. Hazel Vicars* (*Lord Ossulston* × *Actæus*), and *Cyp. Dora Jameson*.

R. Ashworth, Esq., for *Cypripedium Actæus ashlandense* Nos. 1 and 2; and *Odontoglossum CEsopus*, parentage unknown.

J. McCartney, Esq., for *Lælia anceps Holmesii*, a fine variety of the Chamberlainiana type.

January 12th, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur, Secretary.

Z. A. Ward, Esq., Northenden, was awarded a Silver-gilt Medal for a good group of *Odontoglossums* and other special Orchids.

W. R. Lee, Esq., Plumpton Hall, Heywood, was awarded a Silver Medal for a nice group, many specimens in which obtained Certificates.

Col. J. Rutherford, M.P., Blackburn, received a Silver Medal for an excellent miscellaneous group.

W. J. Hargreaves, Esq., Burnley, was awarded a Silver Medal for a group of *Cypripediums* containing many fine varieties.

J. McCartney, Esq., Bolton, secured a Silver Medal for a group of various Orchids.

Rev. J. Crombleholme, Clayton-le-Moors, was awarded a Bronze Medal for a small, but pretty group.

G. H. Peace, Esq., Monton Grange, received a Bronze Medal for a group containing some interesting *Cypripediums*.

O. O. Wrigley, Esq., Bury, was awarded a Vote of Thanks for a collection of *Cypripediums*.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), exhibited several excellent specimens.

J. J. Holden, Esq., Southport, staged some rare Orchids, one of which secured a First-class Certificate.

H. J. Bromilow, Esq., Rann Lee, staged *Cypripedium* Reginald Young and other seedlings.

J. H. Craven, Esq., Keighley, exhibited some *Odontoglossum* seedlings and a good *Odontioda*.

R. le Doux, Esq., West Derby, staged *Cypripedium* Beechense superbum.

H. Thorp, Esq., Middleton, staged *Cypripedium* St. Albans.

Messrs. J. Cypher and Sons, Cheltenham, staged a good group of *Cypripediums*.

Messrs. Sander and Sons, St. Albans, exhibited several good Orchids.

Messrs. Stuart Low and Co., Enfield, exhibited *Sophro-Cattleya Saxa* "Low's var.," and other specimens.

Messrs. A. J. Keeling and Sons, Bradford, staged some attractive *Cypripediums*.

Messrs. Hassall and Co., Southgate, exhibited some excellent *Odontoglossums*.

Messrs. Charlesworth and Co., Haywards Heath, staged a few very choice Orchids.

Mr. W. Shackleton, Great Horton, exhibited a variety of *Odontoglossum Rossii* with petals spotted to the tips.

Mr. D. McLeod, Chorlton-cum-Hardy, exhibited a collection of cut flowers.

AWARDS.

FIRST-CLASS CERTIFICATES.

Lælio-Cattleya Myrrha grandis (Gottoiana × *Dowiana Rosita*), a grand flower with a large lip; *Cypripedium Actæus* "Durbar," a large round flower; *Odontoglossum crispum xanthotes perfecta*, a very beautiful variety with lemon-yellow markings, all from W. R. Lee, Esq.

Odontoglossum Delhi (*augustum* × *eximium*), from J. J. Holden, Esq., a very fine flower, good size, almost solid colour.

Odontoglossum crispum xanthotes "Gratrix," from S. Gratrix, Esq., a well-shaped flower with bright yellow markings.

AWARDS OF MERIT.

Cattleya Maggie Raphael pulcherrima, and *Odontoglossum Milky Way*, both from W. R. Lee, Esq.

Cypripedium Jasper (*Alcibiades* × *Hitchinsia*), and *Odontoglossum Eric*, both from Z. A. Ward, Esq.

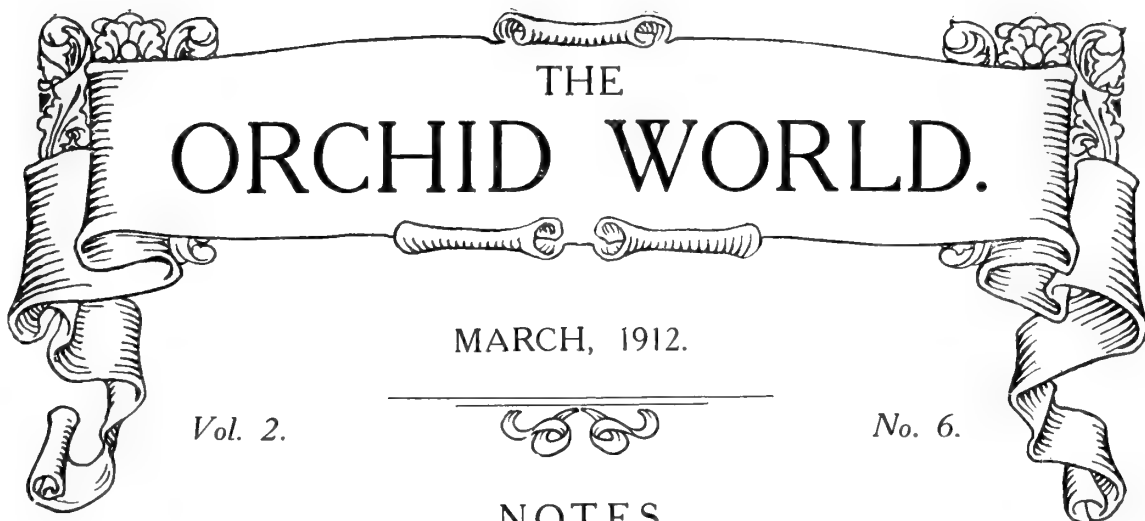
Cypripedium seedling (*hirsutissimum* × *aureum Hyeantum*), from S. Gratrix, Esq.

Cypripedium Actæus major, from Col. J. Rutherford, M.P.

Cypripedium caudatum Sanderæ, and *Cyp. Jucundum*, from Messrs. Sander and Sons.

Sophro-Cattleya Saxa "Low's var.," from Messrs. Stuart Low and Co.

Cypripedium Lion (*Mrs. Mostyn* × *Euryades*), from Messrs. A. J. Keeling and Sons.



THE ORCHID WORLD.

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NOTES.

HABENARIA REGNIERI.—A coloured illustration of this scarlet flowering hybrid between *H. militaris* and *H. carnea* is given in the issue of *Le Jardin* for February 5th, 1912.

CYPRIPEDIUM HOCHBERGIANUM.—This new hybrid between *C. Mastersianum* and *C. glaucophyllum* is recorded and figured in *Moller's Deutsche Gartner-Zeitung*, 1911, p. 256.

ORCHID AWARDS.—The Royal Horticultural Society granted, during the year 1910, 34 First-class Certificates and 77 Awards of Merit; and during the year 1911 37 First-class Certificates and 56 Awards of Merit.

WEATHER PREDICTION.—“A certain and sure prediction for a severe winter,” writes Mr. Wm. Bolton, of Warrington, “may be taken from the instinct of bees, for when these intelligent builders double the walls of their hives with an extra lining of wax in the autumn it is a sign of a forthcoming exceptionally cold winter. Many beekeepers reported this peculiar action last autumn; the bees thus provided against the recent extreme cold.

KEW GARDENS.—During the year 1911 3,704,606 persons visited the Royal Botanic

Gardens, Kew. These figures show an increase of 158,304 over those of the previous year and are the largest on record. Additions to the Gardens include Orchids from Darjeeling, a quantity of *Orchis foliosa* from Dr. M. Grabham, Madeira, and Sobralias and Epidendrums from C. J. Lucas, Esq., Warnham Court, Horsham.

CATTELEYA GUTTATA.—A photograph of a rare variety of this species comes from M. Pedro de Mello, Avenida Costa 25, Santos, Brazil. The sepals and petals are light greenish-yellow, and entirely without the usual crimson spotting, the column and labellum are pure white. Owing to the apparent total elimination of the crimson or purple pigment this flower may be regarded as an albino form of the species.

HABENARIA CONOPSEA ALBA.—This rare and beautiful hardy Orchid is figured in the *Gardeners' Chronicle*, 1912, p. 68, from a photograph of two plants, mother and daughter, flowering in the rock garden of E. A. Bowles, Esq., Waltham Cross. This species is fairly abundant in England and Scotland, but the white form is extremely rare. During the nine years of cultivation this albino form has greatly increased in vigour, and when recently replanted it was found to consist of four separate plants.

MESSRS. TH. PAUWELS AND CO., MEIRELBEKE. *-La Tribune Horticole*, in the issue of February 3rd, 1912, gives illustrations of *Odontoglossum crispum* "Pauwels' Perfection," *Cattleya* Mrs. Pitt "sine æqua," and *Brasso-Cattleya* *Senateur de Bast*, all meritorious Orchids in their collection. Portraits are also given of M. Th. Pauwels and of the special prize offered by M. Jules Hye de Crom which has recently been won for the first time by Messrs. Pauwels and Co.



LÆLIO-CATTLEYA IXION. -The parentage of this new hybrid is L.-C. Myra (*L. flava* × *C. Trianæ*) × *C. Octave Doin* (*Mendelii* × *aurea*), and the results vary according to the different ways in which the specific characters unite. In the example shown by Messrs. Charlesworth and Co., at the Royal Horticultural Society, February 6th, 1912, the broad sepals and petals were clear canary-yellow and the labellum blotched with ruby-purple, the flower evidently possessing much of the *L. flava* and *C. aurea* colour determinants. This plant is a decided advance in the creation of a large yellow flower.



CYPRIPEDIUM CURTO-PHYLLUM. Under this name two good flowers of a hybrid between *Cypripedium Curtisii* and *C. glaucophyllum* are sent from the collection of H. T. Pitt, Esq., Stamford Hill. Hybrids of this parentage flowered, in the year 1910, in the collection of Dr. Hans Goldschmidt, Essen Ruhr, Germany, but they do not appear to have been named. The flowers are very intermediate in form and colour, the characteristics of both parents being plainly visible.



LÆLIO-CATTLEYA GOLDEN GEM. -This is one of those much appreciated hybrids having a bright golden-yellow colour. The parentage is *Lælia Latona* (*cinnabarina* × *purpurata*) × *Lælio-Cattleya Ophir* (*xanthina* × *aurea*), from which one would expect a large proportion of yellow flowering seedlings. This new hybrid, which is flowering on

a very small plant, has been raised by Mr. Thurgood, Orchid grower to H. T. Pitt, Esq. When the plant becomes stronger larger and better shaped flowers will be produced. The labellum is obscurely three lobed, flushed and veined with purple on the margin. From the same collection comes a flower of a new hybrid between *Odontoglossum crispo-Harryanum* and *Od. Andersonianum*; the powerful nature of the *gloriosum* is very noticeable; and also a hybrid resulting from *Od. Duvivierianum* × *Od. crispum*, but there is no evidence of anything else than *crispum* in the flower. It will be of interest to watch the flowering of other seedlings from this pod.



ALBINO HYBRIDS. -Hybridisation has yielded many unthought of results, the crossing of albino forms being a notable instance. One would expect pure-white flowers on the hybrid seedlings raised from albino parents, but such, as experience has proved, is not always the pleasing result. *Dendrobium nobile virginale*, a pure-white variety, has, when crossed with its own pollen, produced healthy seedlings, every one of which has carried pure white flowers. This experiment has been repeated by several growers, the results in all cases being the same. *Cypripedium insigne Sanderæ* has also yielded albino seedlings, and so have some of the albino *Cattleya* species. By some unknown reason there is absolutely no certainty regarding the results when two different albino species are united; sometimes albinos are produced, at other times the normal coloured forms, and, occasionally, flowers possessing an excess of colour. In the *Cypripedium* genus we have instances of two albino species producing an albino hybrid; in *Cattleyas* there are similar results; and, recently, *Dendrobium* has been added to the list. Mr. F. C. Puddle, Scampston Hall Gardens, Rillington, York, has flowered two pure white hybrids between *Dendrobium nobile virginale* and *D. Findlayanum album*. By the appearance of the buds on the other plants raised from this seed pod the remainder are also pure albinos. The name of this hybrid is *Dendrobium Cybele album*.



*The Vanda cœrulea House of Mess. Maron & Sons, Brunoy, France.
Photographed December 20th, 1911.*

VANDA CHARLESWORTHII.—This rare hybrid between *V. cœrulea* and *V. Bensonii* has recently flowered in the establishment of Mess. Maron and Sons, Brunoy, France. The two parents grow together in Burma, and it is not surprising, therefore, that an occasional hybrid between the two should appear. The flower has lilac-blue veining on a greyish ground, and the apex of the labellum bears two rounded auricles, as in *V. Bensonii*. This hybrid was first recorded in the year 1894. M. Maron, it will be remembered, flowered, in 1903, the very remarkable *Vanda Marguerite Maron*, a hybrid which he obtained by crossing *V. teres* with *V. suavis*. From the above photograph it will be seen how very useful *Vanda cœrulea* is for Christmas decoration, the large blue flowers proving very attractive. The plants in this house are almost entirely without spotting on the leaves.



STANHOPEA PERUVIANA.—This Peruvian species is figured in the *Botanical Magazine* for February, t. 8417. The plant from which the figure was prepared was discovered by

Mr. Forget when collecting for Messrs. Sander. It is allied to the Mexican *S. Wardii*, but has smaller flowers with narrower petals, while the hypochile of the lip differs materially in shape and is not distinctly angled at the base. *S. peruviana* is remarkable for the unusual width and almost board-like firmness of its dark-green, plicate leaves.



THE ARISTOCRACY OF PLANTS.—Orchids are the most beautiful and curious of all nature's productions; they are rich in every shade or variety of colour; in their habits airy and fantastic, but always elegant; replete with the richest and strongest aromatic perfumes, or emitting the most refreshing and delicate odours; portraying in the extraordinary formation of their flowers the entire scope of animated nature, beasts, birds, fish, insects, and reptiles, nor has the human species even escaped their mimic caricatures. This wonderful tribe of plants, I think, may not inaptly be dominated The Aristocracy of Plants.—*Lyon's Orchids, 1845.*



Cypripedium Norah. *Mons. de Certe* × *Ædipe*.

Photo by F. Waldock.

The above illustration gives a very true representation of the excellent good points possessed by this hybrid *Cypripedium*. The species contained in the parentage are *Spicerianum*, evidence of which can be seen in the large white dorsal sepal; *insigne*, which is responsible for the spotting thereon; and *Boxallii* and *villosum*, both of which contribute the median vertical lines of colour on the dorsal, and to the formation of the broad lateral petals. A First-class Certificate was awarded to the plant when exhibited by Lieut.-Col. Sir George Holford at the Royal Horticultural Society, January 23rd, 1912. Mr. H. G. Alexander has studied considerably the essential points of a *Cypripedium* hybrid, so much so that no less than 14 First-class

Certificates and 20 Awards of Merit have been awarded to plants which have emanated from the Westonbirt collection, the most noted being *Actæus Bianca*, *Alcibiades magnificum*, *Antinous*, *Lucifer*, *Minotaur*, *Moonbeam*, *Sultan*, *Shogun*, and *Norah*.



ORCHID CATALOGUE.—A very useful descriptive list of Orchids has recently been issued by Mr. Edward V. Low, Vale Bridge, Haywards Heath. Many of the rare species and a large number of hybrids are priced. The collection of *Cattleya labiata albas* comprises no less than 31 items in the Catalogue, and the list of *Cypripediums* includes some 250 different and distinct forms.

SOME JAMAICAN ORCHIDS.

JAMAICA, the largest of the British West Indian Islands, has contributed many notable species to our Orchid collections, and although these are not equal in elegance to the grand varieties obtained from South America and other countries there are, nevertheless, several of considerable interest and beauty.

Cypripediums are entirely absent in Jamaica, and the genus *Calanthe*, so widely distributed in other tropical countries, is only represented by a single species. Of the many other terrestrial kinds that of *Phaius grandifolius* is the only one worth mentioning, but even this is not believed to be indigenous, it has become naturalised by cultivation.

From the epiphytes, or those which grow on trees and rocks, one has a much larger class to select from. *Brassavola nodosa* and *B. cordata*, with their thick and fleshy half cylindrical leaves indicating the exposed and sunny position which they habit, are easily grown, and are somewhat attractive Orchids when suspended in a pan or small basket in the *Cattleya* house. *B. cordata* produces more flowers than *B. nodosa*, but they are not quite so large.

Zygopetalum flabelliforme, better known as *Z. cochleare*, under which name it was figured by Lindley in the *Botanical Register*, is noted for its very fragrant flowers; the sepals and petals are greenish-white, and the lip blue with a purple lined crest.

Oncidium pulchellum, as its name denotes, is a very pretty *Oncidium*, its graceful branched spike of small white flowers produces a welcome change from the usual yellow colour of the flowers of this genus. It is entirely without pseudo-bulbs. *Oncidium guttatum* with its brownish flowers marked with purple, and *O. luridum* with yellow flowers spotted with cinnamon-brown, are also well worth growing.

Brassia maculata with its spike of about 12 spider like flowers is a showy early summer blooming species; the sepals and petals are yellowish-green spotted with reddish-brown. *Brassia caudata* produces flowers with the

sepals about five inches in length, of a yellowish-green colour, and with a few large purplish-brown spots.

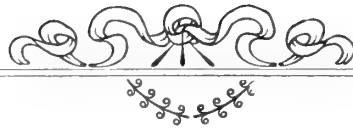
Broughtonia sanguinea grows on rocks fully exposed to the influence of the sun, and this fact explains why the plant is so often successfully cultivated when placed on a block of wood, with a little moss, and suspended in a very sunny position of the *Cattleya* house. *Broughtonia domingensis*, known also as *Læliopsis domingensis*, is a superior species, the pretty rose-lilac flowers, which last in perfection about a month, are produced about seven or eight together at the apex of a long slender scape.

The genus *Epidendrum*, with its 750 species, is well represented in Jamaica, some 30 or more of which may be collected in the island. *E. fragrans*, although not a showy kind, deserves a place on account of the sweet perfume which it yields. *E. cochleatum* is not only a very floriferous species, but is one of the earliest known Orchids, having flowered at Kew in 1787. *E. nocturnum* may be distinguished by its long narrow median lobe of the labellum, it is usually discovered on stones and rocky land. *E. polybulbon* is an interesting Orchid not growing more than 3 inches in height; the small pseudo-bulbs, which are produced on creeping rhizomes, each carry two leaves about 1 inch in length. *E. Ottonis* is remarkable for having three anthers, a very rare occurrence.

Lælia monophylla is the only representative of the genus in Jamaica. It is a dwarf growing species found at an altitude of about 4,000 ft., and it produces bright orange-scarlet flowers with a purple anther cap. Some difficulty is often experienced in its cultivation.

Pleurothallis, a large genus of about 600 species, is represented by about 30 different kinds, all more or less interesting; and there are also many other genera of botanical interest.

Vanilla planifolia, which produces the best vanilla beans of commerce, and three or four other species are frequently met with.



The Sunbury House Collection,

Tunbridge Wells.



FORTY years is a long span in one's life-time, yet during the whole of this period specimen plants have been added to the well-known collection at Sunbury House, the residence of the Rev. R. V. C. Kinleside. Here then is the opportunity of seeing the various classes of Orchids in which amateurs have been interested during the last forty years.

The species of *Aerides*, *Vandas*, and *Saccolabiums*, of which so much has been said and written concerning their stately appearance, are well represented, their distichous, ever-green leaves and white fleshy roots at all times being an ornament to the house. The rare and curious *Masdevallias*, for which, not long ago, many guineas were paid for small pieces consisting of but two or three leaves,

are here in large specimens. The elegant tropical species of *Phalaenopsis*, beautiful alike in foliage and flowers, are examples of the

Orchids from the Philippines and other eastern islands.

The *Phalaenopsis* house is almost entirely devoted to these plants, the majority of which have been in cultivation more than thirty years, the large plants being on the side staging and the smaller ones suspended in baskets from the roof. The distinct *P. intermedia Brymeriana*, which was named in



Rev. R. V. C. Kinleside.

honour of Mr. W. E. Brymer, Ilsington House, Dorchester, is very rare. *P. amabilis* and *P. Schilleriana* with its beautiful mottled leaves, and several other elegant species, are notable examples of the contents of this house.

In the *Cypripedium* house a grand display

of bloom has existed throughout the dull winter months, species as well as hybrids creating considerable interest by the various markings and coloration of their dorsal sepals. Of the best which have lately been in flower mention must be made of *Cypripedium aureum* Surprise, *Beeckmanii*, a noble flower, Victor, and a very excellent variety of Venus, the flowers of which are pure white. *Cypripedium Euryades* "New Hey Hall variety" has this season produced curiously deformed flowers, the dorsal sepal and other organs having been duplicated. It is interesting to note how soon these plants grow into specimens.

The spacious Cattleya house contains much of interest, for many of the best Cattleyas from the celebrated Downside collection have passed into the possession of Mr. Kinleside. At the dispersal of this collection many of the plants were sold by auction, and the following

prices were realised by Messrs./Protheroe and Morris:—*Cattleya Trianae Osmanii*, 7 bulbs, 100 guineas; *C. Trianae Leeana*, 13 bulbs, 190 guineas; *C. Trianae Dodgsonii*, 8 bulbs, 72 guineas. All these varieties are represented in the Sunbury House collection. A number of distinct plants of *Cattleya Trianae*, recently imported, are among the latest additions. All the other well-known species of Cattleyas are cultivated in this house.

The *Odontoglossum* house at this season of the year is very bright with numerous flowers. The hybridist's work has very much increased the beauty of this section, the various

colours being remarkable, *Odontioda Diana* and *O. Bradshawiae* being excellent plants and examples of the introduction of scarlet. Yellow and brown show to advantage in the various forms of *Odontoglossum harvengtense*. *Odontoglossum Jasper* (*amabile* × *crispum*) is a comparatively new hybrid; the one recently in flower in this collection has a particularly rich rosy-purple ground colour. The yellow *Oncidiums*, some of which are rather difficult to cultivate, add a pleasing touch of yellow.

The white *Odontoglossums* are represented by good *crispums*, a large and remarkably

thick textured *Pescatorei*, and the useful *pulchellum majus*. Many of the handsome blotched *crispums* are a useful addition, one of the best, *crispum Lucianii*, flowers with much vigour. *Odontoglossum Harryanum*, the maker of so many truly beautiful hybrids, has proved of



Phalaenopsis intermedia Brymeriana.

value in this as well as almost every collection; needless to say, there are many of its seedlings in this house. *Odontoglossum crispum Kinlesideanum* received an Award of Merit, May 26th, 1908.

In another house, chiefly used for choice *Dendrobiums*, are several strong pieces of the large flowering *D. Wardianum*, but as in other places it is found impossible to cultivate this species successfully for more than three years; the only way out of the trouble is to replenish the stock by purchasing newly imported plants.

The rare and beautiful *Sophro-Cattleya*

Doris with its scarlet-red flowers has a similarly coloured companion in *Sophr-Lælia Psyche*, a hybrid between *L. cinnabarina* and *S. grandiflora*. *Cattleyas* of the albino section are represented by many kinds, the *labiata albas* being worthy of special mention. As one would expect in such a large collection there are numerous varieties of *Cymbidiums*, *Calanthes*, and *Cœlogynes*.

Miltoniodes Harwoodii is one of the most remarkable of the recent additions, the

crossing of *Miltonia vexillaria* with *Cochlioda Nœzliana* has resulted in a fairly large flower effectively suffused with scarlet.

The unabated interest which Mr. Kinleside takes in horticulture generally is also visible in the other glass-houses devoted to various ornamental plants, orange trees laden with ripe fruit, and numerous flowering plants. At the formation of the Orchid Committee of the Royal Horticultural Society, March 26th, 1889, Mr. Kinleside was elected as a member.

CATTLEYA SCHRÖDERÆ.

OF all the spring flowering *Cattleyas* none is so delicate in colouring as *Cattleya Schröderæ*, so slight is the blush tint on many of its varieties that one might expect to find several pure albino forms in every importation, but many Orchid growers have found to their disappointment that varieties with only the slightest trace of colour in the flowers have, when flowering the following year, developed a perceptible purple tint. The pure albino of this species probably does not exist; it is doubtful whether any of the so-called *Cattleya Schröderæ albas* are entirely devoid of purple pigment.

The beautiful orange-yellow in the throat of this species is a distinctive feature, and more than one Orchid grower has enriched his collection by the acquisition of varieties possessing this special charm. The labellum is prettily crisped and coloured with a slightly deeper rose tint than that of the sepals and petals. Few *Cattleyas* are so delightfully fragrant, and when a number are in flower together the amount of perfume is remarkable.

With a species possessing such distinctive features and of comparatively easy culture it is not surprising to find that much use has been made of it by hybridists. When crossed with a *Cattleya* species various results have been obtained, the best known being *Cattleya Robert de Wavrin*, in which *Cattleya Schilleriana* was the other parent. As may be expected the labellum of this hybrid is particularly good, the sepals and petals usually narrow. About eleven other *Cattleya* hybrids, in which *Cattleya Schröderæ* has taken part,

are known, the most remarkable being *Cattleya Zephyr*, the result of using *Cattleya aurea*. Anyone attempting to reproduce this hybrid will encounter much difficulty in securing the two parents in flower at the same period. But whatever the difficulties are the results are almost certain to be good, and the raiser will be fully rewarded in knowing that he possesses seedlings likely to be of permanent rareness; this is, surely, more than can be said of many hybrids.

Cattleya Schröderæ when combined with a *Lælia* species has yielded many most useful and beautiful hybrids. For several years the principal Orchid groups at the Temple Show have always included a large selection of the hybrid known as *Lælio-Cattleya Fascinator* (*L. purpurata* × *C. Schröderæ*); in fact, one grower, realising the usefulness of the hybrid for this purpose, has raised a large number of plants. The variation in the design and coloration of the labellum is remarkable, scarcely two being alike.

In *Lælio-Cattleya* G. S. Ball (*cinnabarina* × *Schröderæ*) we have another useful and delicately coloured hybrid. The cinnabar pigment of the *Lælia* parent combines with the soft colour of the *Cattleya* in a very pleasing manner, but, as in most of the cinnabar hybrids, the shape is somewhat poor. It is rather strange that no one has raised a hybrid between *L.-C. G. S. Ball* and *C. Schröderæ*, the extra influence obtained by the second use of *C. Schröderæ* would make an appreciable difference in the form of the flower, and, owing to the potent colour of the



Cattleya Schröderæ.
A very beautiful variety in the collection of Clement Moore, Esq., Hackensack, N.J., U.S.A.

Lælia, a sufficient amount of cinnabar pigment would remain.

In Lælio-Cattleya Mercia (flava × Schröderæ) the canary-yellow colour of the Lælia is not overcome by a preponderance of purple pigment; the flowers of the hybrid are generally of a good yellow colour, but are naturally somewhat narrow in the segments. In this also improvement would be effected by crossing the hybrid with C. Schröderæ, and thereby obtaining a greater percentage of the large and better shaped parent.

Lælio-Cattleya Olivia (Jongheana × Schröderæ) is a beautiful hybrid, the happy combination of the distinct yellow-ridged throat of the Lælia with the orange coloured throat of the Cattleya being very effective. L. Jongheana and L. pumila, both dwarf growing species, have the best shaped petals in the Lælia genus. Another reward awaits the hybridist who flowers the cross between C. Schröderæ and L. pumila; at present, there is no record of its existence.

Cattleya Schröderæ in conjunction with several of the highly coloured Lælio-Cattleyas has yielded some excellent results, and, as in other hybrids of three or more species, also many poor ones. Those who raise the largest number of plants from a seed-pod have the best chance of success, for it is only when the seedlings arrive at the flowering stage that selection is in any way possible. It is not always that the most vigorous seedlings have the best flowers, some of the weakest growing ones often possess the ideal colour. Thousands of seeds from every pod are never grown, far less are they even germinated, and how many wonderful varieties have thus been lost no one dares to guess.

The creation of a blue *Odontoglossum* is a very possible event, but the entrancing idea of a blue Lælia or Cattleya is likely to remain unrealised. There are, however, certain combinations of pigments in the flowers of hybrids which suggest the appearance of blue, and it is somewhat remarkable that in almost every one of these instances Cattleya Schröderæ has taken a part in the parentage. A few Cattleyas are known to possess a blue tinge on the front lobe of the labellum, but

the working up of these slight visible rudiments into an ideal blue flower is almost beyond the possibilities of imagination.

DISEASE OF ORCHIDS.

A SOMEWHAT prevalent disease of Orchids and other plants, caused by a minute fungus, *Thielavia basicola*, Zopf, is illustrated and described in the *Kew Bulletin*, 1912, p. 44. A number of *Cypripediums*, attacked by the disease, were sent to Kew for investigation.

The basal portion of each plant was soft and decayed, and covered on the surface with a dense, black, crusty layer consisting of the *Torula* condition of the fungus. When placed in a damp chamber at the ordinary temperature of the laboratory, the white *Milowia* stage of the fungus developed within a few days, and gradually encroached on the still living green portion of the leaves.

Of the symptoms of the disease in Orchids, Mr. G. Masee, the author of the article, states: "I have only observed the disease on cultivated species of *Cypripedium*, of which abundant material was sent to Kew, and it was stated to be present on most of the plants occupying a large house. The roots are attacked first, then the bases of the leaves, which gradually become brown and assume the condition of a soft rot, when the whole plant falls over. The snow-white *Milowia* fruit was produced in abundance when the decayed portions were placed under favourable conditions for its growth. It was in all probability the spores of this condition of the fungus that spread the disease from one plant to another in the house, the minute spores being dispersed by wind, syringing, etc."

Of the preventive measures, Mr. Masee remarks: "It is practically impossible to cure a plant that is once infected, as the mycelium is located in the living tissue of the root, and no substance is known that will check or kill mycelium, without at the same time killing or materially injuring the host-plant. Hence the only means of checking the onslaught of the fungus is by the adoption of preventive measures."

SOME SWISS ORCHIDS.

By W. HERBERT COX.

JUNE is the month for Swiss wild flowers, so in June the Orchids of that country are at their best. As the snows melt there so late the plants do not appear until later than elsewhere and then come altogether with a rush, the flowers of Spring with the flowers of Summer meeting in June and forming a glorious array. Plants which blossom with us in England at far distant seasons may be found on the same day, though higher in the mountains; for instance, the Early Purple (*Orchis mascula*) our first kind in perfection in April, and the Marsh (*Epipactis palustris*) seldom seen at home until July. There are but few people to see them however, for tourists do not visit Switzerland before July.

Of all the Swiss Cantons the Bernese Oberland is, in my experience, the richest in Orchids; the other Cantons have many but Berne has most, both in numbers and variety, Orchids of the highlands and Orchids of the vales. Perhaps it is because they grow in spots too remote for the tourist to disturb them. Yet even in the neighbourhood of the large towns many Orchids may be found. Around Interlaken, for example, is a rich locality. Less than a mile from the town, between the lakes of Thun and Brienz, there is a piece of marshy ground upon which many kinds grow luxuriantly. Great masses of sprays of the beautiful terra cotta, pale lipped flowers of *Epipactis palustris*, give quite a distinctive character to the field; contrasting well with them are countless plants of long-tailed white Butterflies (*Platanthera bifolia*) and the common, almost everywhere, Spotted Palmate (*Orchis maculata*) in varying shades of lilac. Besides these three typical marshland kinds, other less expected things may be seen in the sphagnum as the Dwarf (*Orchis ustulata*) and the sweet-scented Gnat (*Gymnadenia conopsea*) both usually found on the driest and barest hill-sides. The former always looks as though it had been scorched by the heat of the sun's rays, but is a charming little thing for all that. The Twayblade (*Listera ovata*) also grows there;

it is a typical woodland plant, but catholic in its taste, and may occasionally be found in both damp and dry open places. Quite near, too, in the woods of Darlingen, grows the lovely *Cephalanthera rubra*, which the Germans call by the exceedingly poetic name of "the little red forest bird." It is a somewhat rare plant, the spray of four or five large red flowers being borne well above the sword shaped leaves. For a companion it has the deep purple, tight cluster of *Epipactis atropurpurea*, small leaved with a purple stem. Orchids have an artistic way of growing in pairs so that each makes an excellent foil for the other. This plant also grows further along Lake Thun on the bare chalk cuttings at Oberhofen. The now rare, but formerly quite common, Lady's Slipper (*Cypripedium calceolus*), the largest of the European kinds, is said to grow in this locality, but I have never been lucky enough to find it.

Near the end of the Lauterbrunnen valley, after leaving Trachsellaucenen by the "Bergwerk," two almost inseparable companions blossom together, the dainty heart-leaved Twayblade growing in the fissures between damp rocks, in such places as one might expect to find a filmy fern, and the Coral Root (*Corallorhiza innata*) happy in the black soil made by the falling needles of the Christmas trees. It seems to be but a little knotted, gnarled branch of coral, the root, a stem, some bracts and a few yellowish spotted flowers, no leaves, no, nothing more at all. This plant was formerly believed to be a parasite, but that has since been disproved, and I think my own experience helps that, for near there, by the wonderful Schmadribach waterfall, I came across a plant flowering on a bare lump of stone in some pine needle humus which had collected in a groove. The same two Orchids grow together in almost all the woods around Ober Steinberg, and also under the trees on the cliffs around the much admired Oeschinen See, many miles away. Near the waterfall, too, is said to grow the very rare saprophyte *Epipogium aphyllum*,

always difficult to find, as it frequently allows many years to pass without sending up a single spike of its strongly scented, rather large, flowers, resting content to grow only underground. Not far away, at Stechelberg, I have found the Early Purple (*Orchis mascula*) in full perfection as late as the end of June.

Higher in the mountains, in the beds of Alpen roses, whortleberries and heather, *Bicchia albida* succeeds well. They are dear little plants, seldom more than six inches high, with closely packed heads of white, sweet-scented flowers. With it grows its usual companion and near relative, the Gnat (*Gymnadenia conopsea*). Higher still, just above the hamlet of Ober Steinberg, another devoted couple of companions are found, the Globe (*Traunsteinera globosa*), with a round head and ball-tipped pink petals, and *Nigritella angustifolia*, which we English usually call the Chocolate or the Black Orchid, from its unusually dark colour, or sometimes the Vanilla, of which it is scented, like so many of the European kinds. The Swiss, however, call it "Mamentreu," and amongst them a bunch of it accompanied by the Edelweiss constitutes a proposal of marriage. These two also blossom together high on the Oldenhorn, among the Diablerets, in Canton Vaud. With them in both localities may be seen squatting in the short grass crowds of the little green Frogs (*Coeloglossum viride*) and *Orchis maculata*. Around Ober Steinberg, besides those already mentioned, I found the Fly (*Ophrys muscifera*), a true woodland species, but there growing on the open hillside far away from the shelter of any

trees, the broad-leaved *Epipactis latifolia*, a late kind not yet in blossom, *Orchis latifolia*, the Bird's Nest and the small greenish *Herminium monorchis*, usually called the Musk, though the scent to me is decidedly more comparable to honey.

Now I will leave Canton Berne. I have already spoken of some of the plants of Canton Vaud, but will also give away a few other localities. Around Leysin the most characteristic plant is the Bird's Nest (*Neottia nidus-avis*), which seems so appropriate to that sanatorium district, for the plant itself always looks as though it were dying, its dingy, brown flowers rising, leafless, from a thick matted cluster of roots which gives it its name. This plant appears really happier in Canton Schaffhausen, where there are miles of Beech woods, for it certainly seems to prefer that soil to the Pine and grows splendidly at Kohlfirst and Diessenhofen by the Falls of the Rhine, accompanied in the latter situation by *Cephalanthera pallens*. This white *Cephalanthera* is not quite so particular about the Beech and grows well in the Oak woods near Aigle (Canton Vaud) with *C. rubra* and *Epipactis latifolia*. Around Leysin also grow the common Twayblade and the *Gymnadenia*. From there up to the Diablerets, by the Ormonts, the post-road passes good patches of *Epipactis palustris*, growing in damp spots, accompanied by the rich claret-coloured *Orchis latifolia* with its hollow stems and spotted leaves. Here I have only given my own experiences of the Swiss Orchids, but I believe that other, and perhaps rarer, ones flourish in Cantons I have not visited.

CALENDAR OF OPERATIONS FOR MARCH.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

TEMPERATURES. With the longer days these may be advanced a few degrees in every house, and with the increased sunshine the rise will be considerable; this will be of great benefit to the plants.

Atmosphere. With the increased temperatures

moisture may now be distributed more freely, for with the increased power of the sun by day and the fire heat in the pipes at night evaporation will take place more quickly. The various houses may be damped down twice a day, at the least, at this season, but as different houses vary the cultivator will

have to carefully avoid an over dry and an over wet atmosphere. The great thing to avoid is a wet and cold atmosphere, for this is most harmful to all classes of plants.

Watering must still be done with discrimination, for at this season it is much easier to wet the compost than to get it dry again, and no plant should have water applied to the roots unless it is dry. If the proper balance of atmospheric moisture is maintained no harm will occur to plants being kept on the dry side, even for a day or two, for they are capable of taking a certain amount of moisture from the atmosphere.

Ventilation. Perhaps at no season of the year is it more essential to watch the ventilation of the houses than in this very trying month. Air must be admitted on all favourable occasions. Fresh air gives health and strength to plants, but as they are naturally delicate and tender after the winter confinement it must be admitted with discretion. Draughts of cold air must, in all cases, be avoided; in all properly constructed Orchid houses it should be possible to admit air without causing a draught.

Stoking requires particular care at this season. A fair amount of heat in the pipes at night time will still be necessary, but during bright sunny days this must be considerably lessened or the temperature will rise to an abnormal degree, which may do some harm, and to reduce it some thought and judgment will be required. Excessive fluctuations in temperature are often the means of much damage being done; they should, as far as possible, be avoided.

Shading during this month will come into general use, but it should not be used excessively, as the plants should be gradually inured to withstand the light. It should also be borne in mind that the foliage and bulbs are tender and easily scorched.

The busy season of repotting is now upon us, and this work must be pushed on whenever possible. I do not advocate re-potting of any plants during a spell of cold weather, especially if there is any danger of the temperatures not being maintained up to the normal figures, as I believe much harm will accrue; rather postpone the work until

the weather takes a favourable turn. The constitution of plants must be studied if success is to be maintained, and the cultivator's aim should be to grow each plant individually.

Epidendrums. The long stemmed species of *Epidendrum*, such as *Wallisii*, *radicans*, and *O'Brienianum* are becoming active and pushing new roots; the present time is a favourable one for re-potting or dividing any plants that require it. They are best grown in the intermediate house, using well drained pots and the same compost as for *Cattleyas*. As *radicans* and *O'Brienianum* are of a rambling habit and emit roots from the whole length of their scandent stems some means must be used to support them in an upright position; this is best done by tying them to rather stout stakes made of hard wood.

Catasetums, *Cynoches*, and *Mormodes*. These peculiar and rather difficult plants to deal with will also show signs of activity. Having had a long dry rest in an intermediate house they will now commence to push new growths and large fleshy roots, and should be re-potted at once. Shake the plants out each year, using new material consisting of a very light mixture of one-half *osmunda* fibre, the other half sphagnum moss, well chopped and pulled to pieces; the drainage must be ample. After potting, the plants should be removed to their growing quarters in the warmest house, giving only sufficient water to keep the compost alive until the roots get hold of the new material, otherwise the new growths may damp off. If a rather moist position in the warm house is selected for them very little water will be required for some time.

Thunias should be re-potted annually; the work should be done as soon as the new growth proceeds from the base of the old pseudo-bulb. The compost I recommend for them consists of one-half peat and one-half loam from which all the fine particles have been taken, mixed with some sphagnum moss and dried cow manure. The pots must be well drained, as when in full growth they require a liberal supply of water; it is not advisable to pot too firmly as the roots are not capable of pushing through any hard

material. They delight in a sunny position in the warm house, close to the glass, and water must be sparingly given them until the flower spike appears at the top of the new growth. To many, these plants are often very unsatisfactory, but for exhibition purposes they are indispensable, and on this account are worth the extra trouble to flower them satisfactorily.

Pleiones, such as *maculata*, *lagenaria*, and *Wallichiana*, will now be growing vigorously; they must have more water at the roots, and may be occasionally sprayed on the under side of the leaves to prevent an attack of red spider, to which they are very subject, but it is not yet advisable to syringe them overhead as their leaves are still young and tender. The plants do well in a light position in the *Cattleya* or intermediate house; they must be shaded from strong sunshine.

Deciduous *Calanthes* will, during this month, need attention as regards re-potting, this being best done when the young growths are two to three inches high, and are about to push roots. Various kinds of compost are recommended for these plants, but they will succeed admirably in the one recommended for *Thunias*. I do not recommend too heavy a compost, relying rather on feeding later on with a weak solution of manure water. I prefer a good rooting medium to a close retentive compost. As regards potting the soil should be neither too wet nor too dry, and it should be thoroughly warmed before using; in fact, all compost should be warmed to the same temperature as the house in which the plants are growing. *Calanthes* should be grown in the warmest house, and must be watered with discretion. It is during the early stages of growth that great care is needed, for if at all over watered the root action is faulty, and the growth unsatisfactory.

Angræcums, *Aerides*, *Saccolabiums*, and *Vandas*, which during the winter months have been kept as dry and cool as safety will allow, will be starting again into growth, and new rootlets will be pushing; a more liberal supply of moisture, both in the atmosphere and at the roots, may henceforth be given. Any plants that have become leggy and unsightly may be lowered, filling the pots about half full with clean broken crocks, finishing

off with clean, living sphagnum moss. Where such *Vandas* as *teres*, *Hookeriana*, and *Miss Joaquim* have been rested in an intermediate house, it is now advisable to return them to their growing quarters in the East Indian or the warmest house where the lightest position possible should be selected for them.

Whilst overhauling these plants it is a favourable opportunity to thoroughly clean them as they are often attacked by a small scale, which is very difficult to eradicate when once it gets established. *Renanthera lmschootiana* succeeds best in an intermediate house the whole year through; it will now be pushing up its flower spikes and will need more water at the roots.

Anguloas will now commence to push up their new growths; they must be carefully watered until such growth gets nicely away, and when the new roots are seen to be pushing may be re-potted, if necessary. The compost recommended for *Thunias* will answer their requirements, and they should be grown in the intermediate house. The same remarks apply to *Lycastes*, which for cultural purposes may be treated in the same manner. After being disturbed at the roots both kinds must be watered with care until re-established.

Miltonias. *M. vexillaria*, and its varieties, will now be rapidly making new growth; they will require more water at the roots. Towards the end of the month these plants may be taken from the intermediate house, in which they have passed the winter, and be placed at the warm end of the cool house, where the humid atmosphere will be of great benefit to them. *M. Bleuana* with *B. Rœzlii* had better stand for a few more weeks at the warm end of the intermediate house. *M. spectabilis*, with its varieties, and others of the late summer and autumn flowering kinds, require a shady position in the intermediate house during the whole year; these plants are now making their growth and liberal supplies of water will be required. If any of the plants need new potting material it should be afforded them just before the growths produce new roots. The potting compost may be similar to that employed for *Dendrobiums*.



Varieties of Lælia anceps flowering in the establishment of Messrs. Charlesworth & Co., Haywards Heath.

AN ORCHID COLLECTOR'S TRAVELS THROUGH BRITISH GUIANA TO BRAZIL.

By ED. KROMER.

(Continued from page 110.)

Our first care now was to secure a house for ourselves during our stay. At first we intended to have a special house built for us, but as by this time our own men were so knocked up that they needed a rest badly, and as we knew from our own European experience what amount of worry and trouble there is always connected with building, we gave up that idea, and instead we fixed our eyes upon a structure which stood nearest to the church, and which appeared to us either half finished only or half dilapidated. This house, after a stiff bargaining with the landlord, who was none other than our reverend friend, the clergyman, we secured for a month; a cutlass, pocket-knife, some fish-hooks, two handkerchiefs, two mirrors and a mouth-organ, paid in advance, were the house-rent. At last we had a house!

I may mention here our amazement at witnessing what a most extraordinary ecclesiastical mania possessed these people at this place, called Kamaiwawong, just then, inducing them to give up all work, and instead to devote themselves during day-time to such extravagant and unintelligible church-service as some of the party must have seen in their travels at the mission stations on the Potaro or the upper Essequibo.

Every day now we set out early in the morning in the different directions searching for the various species of Orchids and other plants. Along the arid banks of the Kukenaam river we found the *Cattleya*, growing only either on bare rocks or on isolated standing, gnarled trees, fully exposed to the sun, but by no means did we meet it in abundance, a circumstance that gave me considerable concern. In the lower bed of the river, growing amongst grasses and in high water, completely covered over, we came across large clumps of *Cypripedium Klotschianum*, but its flower I found anything but attractive.

In the other direction towards the cliff of Roraima, over undulated sloping ground, extends that wonderful savannah, which Schomburgk described in glowing words as a true botanical Eldorado. Here, on drier ground, we gathered a quantity of *Zygopetalum Burkei* which was also found on bare rocks, together with *Pogonia parviflora* and *P. tenuis*, *Cyrtopodium cristatum*, *Habenaria Moritzii*, *Stelis guianensis*, *Catasetum discolor*, and the charming *Eriopsis biloba*, fully exposed to the sun; strange to say that I again came across this latter plant some 1,500 miles away from here in Northern Peru, where, however, I found it growing in deep shade in the virgin forests. On the edge of the savannah, between enormous blocks of rocks and in their crevices, we met *Oncidium nigratum* with its quaint little white and black striped flowers on huge branched stems. Some 50 plants were all we could get.

Still higher up the slope we noticed innumerable blossoms of the lovely *Utricularia Humboldtii* with its dark blue flowers on tall spikes, which grows here chiefly in the axils of the leaves of a *Bromelia*, *Brocchinia cordylinoides*, so in order to get the *Utricularia* safely away, we also took the *Bromelia* with it. Close to this *Utricularia*, but confined again separately to its own district, we found a field of *Cypripedium Lindleyanum* with its yellow-brown blossoms on tall branched stems; this plant gave us considerable trouble with its long fleshy roots deep in the muddy swamp, the more we pulled to get it out the more we sunk with our feet in the soft mud. Below the forest slope, but still on swampy ground, were amongst the short grasses large batches of the South American pitcher plant, *Heliamphora nutans*, with its delicate, star-shaped white flowers on reddish stems, a most welcome addition to our collection. Reaching the edge of the savannah at its highest point towards the cliff of Roraima

we enter the forest, after clearing with difficulty a path through the dense growing bamboo and bramble bushes, and within a short distance we spy several exquisitely bright scarlet coloured, single-standing blooms, the colour of *Sophranitis grandiflora*, on short hair-like stems sticking out of the moist, green moss which covers here every stem and branches of the trees; it is the flower that betrays the existence of the plant, *Utricularia Campbelliana*, a diminutive creature, smaller than the flower itself. What care we bestowed all the time on these precious pigmies may well be imagined. Here, too, we could gather another interesting, dwarf-growing specimen in the shape of a pretty dark purple coloured *Masdevallia*, which afterwards proved to be *M. guianensis*.

That we would attempt to make an ascent to the top of Roraima again was a settled matter between us right from the beginning. Both of us had undertaken it once before, though independently and at different periods. But on this occasion our ambition carried us a step further. We were determined to risk what neither others nor ourselves had done before, namely, to spend at least *one night* on the top, so as to have sufficient time to get as far as possible a thorough good look round the place. Before putting this scheme into execution, however, I was considerably concerned over the insufficient quantity of *Cattleyas* we had secured so far, which, after all, were the chief object of this expedition. Knowing that I might succeed in getting more *Cattleyas*, if only in limited number, on the *Rú-iméru*, a tributary of the *Kukenaam*, some 25 miles south of Roraima, I decided for a quick excursion in that direction. I had been to that spot once before, and with the exception of the brothers Schomburgk and myself it had never been visited by any other traveller. So after ordering one gang of Indians to get during my absence a path cleared up the slope above the savannah as far as the cliff and then along the ledge leading to the summit, and while another party under Seyler's directions had to continue the collecting of plants in the neighbourhood, I started off with six men in a southerly

direction following the course of the *Kukenaam* and reached *Rú-iméru* after a two days' sharp but comfortable march. On the way we passed Schomburgk's *Our Village*, but of this nothing more but a few decayed clay walls were to be seen. Seventeen times we had to cross different creeks and rivers on this two days' march, amongst them the *Kukenaam* alone seven times and its water reached up to our waist. We made a camp below the Fall, which from a height of some 300 feet descends in seven cascades. *Rú-iméru* means the Fall of the *Rú*, *Rú* is the name of the river, *iméru* the Fall. Our crop of *Cattleyas* was not exactly a very large one, but still it swelled our stock by some 250 very nice plants.

Our return journey to Roraima was done by the wish of my Indians by a different route, on which at one place they called my attention to a huge quadrangular shaped rock, the front side of which was covered with symmetrically carved, antique Indian hieroglyphic scriptures, similar to those to be seen at the Mission Waraputa on the *Essequibo*. To my disappointment a heavy torrential rain broke loose when we passed that spot, which prevented me from taking a photographic view of this interesting Indian relic.

On my return to our camp Seyler informed me that the path was so far cleared for our ascent. We prepared some very light loads for some ten men, who offered to accompany us, but we took no hammocks, as we knew there were no trees there to sling them from, and we started early in the morning of the 20th November. Fortunately no rain fell that day, and we found that our Indian engineers made a fairly good clearing up the forest slope as far as the cliff only, but no further up the ledge, which runs in an oblique way along the cliff to the summit.

Passing over the swampy savannah, where we obtained, as I stated previously, our botanical collections, and which lies 5,600 feet above sea-level, we first came through a dense bush of low trees, seldom stepping on solid soil, but instead, hand and feet fully occupied, over masses of vegetation dense enough to bear our own weight; higher up,

climbing over tree-stumps and high rocks or crawling on all fours underneath others, the ground sometimes treacherously covered with leaves but hollow underneath, so that we sank in with one leg or another, *thus* we toiled on till we reached the summit of the slope at the bottom of the perpendicular cliff. It was then eleven o'clock and a short rest was necessary, the thermometer registered 54 in the shade, and after our perspiring exertions we felt the cold intensely.

muddy clay, and over some more rocks and shrubs, everything wrapped in a covering of beautiful, many-coloured wet mosses, which felt, however, icy cold to our touch.

At last we came to the Fall, by the Indians called "Kamaiwa," which descends in one leap some 500 feet from the top of the cliff on to the ledge. Luckily there was very little water coming down just then, but coming from such a height it fell upon us as a very heavy rain. On the other side of this Fall we had to climb



Mr. Kromer, and the Interior of his House.

From this point we descended first a deep, dark ravine, overgrown with a familiar looking blackberry, *Rubus guianensis*, the ripe fruit of which was deliciously sweet, then we began to follow the ledge, which in many places was so narrow that we had to keep very close to the cliff; we had to pass through a dense network of a short-growing, but most troublesome bamboo, which defied even the sharpest wood-knife to sever it, then over very slippery,

up a number of natural stone steps, covered with a short growing *Bromelia*, whose sharp-pointed, serrate leaves caused our Indians, who wore neither trousers nor boots, great pain. The pitcher plant, *Heliamphora nutans*, which I mentioned before, also was here in abundance and of such great size and beauty that it looked almost like a new species. We were now nearing the top, one more courageous effort and we should see

what before ourselves only three other white men were favoured to see—the top of Roraima. It was one o'clock and the thermometer registered 48 degrees F. in the sun at five degrees latitude north of the Equator.

At this point I consider it most appropriate to mention in connection with such an occurrence the name of Sir Everard im Thurn, the late Governor of the Fiji Islands, who towards the end of 1884 visited Roraima, and after perseveringly mastering all natural obstacles succeeded in reaching the summit of Roraima, the first white man, in fact the first living man, to reach that goal, as even the local Indians never thought of such an attempt, holding their Roraima in such holy veneration.

After having admired for a while in amazing astonishment the nearest surroundings from our position, 8,600 feet above sea-level, our first occupation was to select a sleeping-place for the night for us two, and with the help of the Indians we soon found a convenient, though rough shelter underneath a big overhanging rock near the edge of the cliff. In all haste we started gathering a quantity of the scarlet flowering *Utricularia*, which I mentioned once before, and which grows here nearly everywhere in abundance in the soft swampy soil. Our Indians were feeling the cold immensely, so that an hour afterwards we had to send them back with the plants collected and with the injunction to come again next day and fetch us down. After a hasty lunch we had a good stroll round, myself taking photographic views, Seyler collecting the various Orchids and many other curious-looking plants, which all seemed new to me, growing as they did at such an isolated altitude. Besides the *Utricularia* mentioned we found two other tiny white-flowering *Utricularias*, a curious-looking *Maxillaria*, a *Pleurothallis*, an *Epidendrum* and two or three *Habenarias*. We ascended one of these grotesque-looking stone pillars near the edge and gained from there the grandest imaginable view over the deep valley below into the far southern distance. We saw streams running in different directions, contributing to the three chief river systems of the

Atlantic side of South America, the Orinoco, the Essequibo, and the Amazon.

But by far the most astonishing, the most marvellous, sight one ever could behold was this conglomeration of the countless fantastic-looking stone formations which met our eyes everywhere, and which resembled more a disorderly gallery of gigantic stone monsters than anything else. The first impression was that of inability to understand these surroundings; the next, that one was entering some strange country of nightmares; for all round were rocks and pinnacles of rocks of the strangest fantastic forms.

(To be continued.)

NOMENCLATURE.

We extract the following from *The Field* of February 10th, 1912: "Sir Jeremiah Colman sent a new hybrid named *O. collieri*, quite a baby but full of promise—*Vanda teres*, var. *alba*, *Catasetum randii*, and a very good form of *Odontoglossum charlesworthii* were shown by Messrs. Charlesworth and Co., Haywards Heath. We have on more than one occasion protested against the absurdly long, discordant names given by fanciers to orchids. Here, for example, is one which has been officially branded on to a most beautiful *cattleya* shown by Sir George Holford. It was certainly the most admired plant in the show until its name was sought, and then the majority cried shame. Imagine any ordinary flower lover being told that the only name this orchid had was *Sophrolæliocattleya Marathon Vesuvius*! Yet *Cattleya Vesuvius* would serve all practical purposes, and we have a right to expect all horticulturists to be practical."

If every horticulturist is correct in his spelling, surely we may expect *The Field* to be acquainted with the elementary rules for Botanical Nomenclature adopted by the Vienna Congress, 1905. We must remind them that specific names taken from the names of persons are spelt with a capital letter.

The Royal Horticultural Society is, and

should be, the place where horticulturists may obtain the correct name for the various Orchids. Why then are we expected to be practical in the way suggested by *The Field*. To merely call the plant in question *Cattleya Vesuvius* would be to ignore all its generic history, and if the art of the hybridist is to be thus disregarded surely it is time others called out shame! We have a right to expect the work of all horticulturists to be correctly reported. Article 1 of the Rules of Horticultural Nomenclature adopted by the Sub-section on Nomenclature at the International Congress at Brussels, 1910, clearly states that "no one has the right to alter a name, or combination of names, without weighty reasons, founded upon a very thorough knowledge of the facts or upon the necessity of abandoning a nomenclature contrary to the rules."

CATTELEYA A. DIMMOCK.—This elegant and useful hybrid between *Cattleya aurea* and *Cattleya Lawrenceana* has recently flowered in the collection of Clement Moore, Esq., Hackensack, New Jersey, U.S.A. The flowers are not very large, but the colour is intense throughout, and although Mr. Moore possesses some of the finest hybrids he considers this ranks among his best. A cut flower has recently arrived from America in excellent condition, and should the plant flower annually at this period of the year, it will make a most excellent variety for cutting purposes. The spike partakes very much of the character of *C. Lawrenceana*, and comes well away from the apex of the bulb with a long stem bearing numerous flowers. The plant, which is a rampant grower, was recently awarded the First Prize for a hybrid Orchid by the Horticultural Society of New York.

ROYAL HORTICULTURAL SOCIETY.

February 6th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Sir Jeremiah Colman, Bart., and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, R. Brooman-White, W. Bolton, Walter Cobb, Gurney Wilson, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Cypher, T. Armstrong, A. McBean, C. H. Curtis, F. J. Hanbury, and R. A. Rolfe.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), exhibited *Sophro-Lælio-Cattleya Marathon* var. *Vesuvius*, having a spike of six beautiful rose red flowers with a rich ruby lip; *Cypripedium Helen II.* "Holford's variety," and *Odontoglossum Merlin* (see Awards).

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate, exhibited *Odontoglossum Collieri* (*Phœbe* × *ardentissimum*), a very distinct purple-blotched flower, petals slightly pointed, column and lip white, the latter having a few purple markings.

Francis Wellesley, Esq., Westfield, Woking, exhibited the scarce *Brasso-Cattleya Wellesleyæ* (*C. Mossiæ Wagneri* × *B. glauca*), an elegant pure white flower, slightly fragrant;

Cypripedium Duchess of Argyll (*Druryi* × *Leeanum*), a large flower of good shape and colour; *Cyp. Memoria Mostynii superbum* (*aureum surprise* × *Actæus*), a very distinct greenish-yellow flower with a white margin to the dorsal; *Cyp. Waterloo*; and *Cyp. Wellesleyæ* (*Venus* × *insigne* "King Edward")

J. Gurney Fowler, Esq., Glebelands, South Woodford, staged *Odontoglossum crispum Olive*, a prettily spotted variety, and the elegant *Odontoglossum Memoria Lily Neumann*.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Banksian Medal for some rare Orchids including *Catasetum Randii*, *Vanda teres alba*, *Odontioda Charlesworthii*, the new *Lælio-Cattleya Ixion*, and *Odontoglossum Doris*.

Messrs. James Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for a good group of *Cypripediums*; included in it were strong plants of *Bridgei* and *Beeckmanii*. Interesting species of *Masdevallia* and varieties of *Lælia anceps* were also shown.

Messrs. J. and A. McBean, Cooksbridge,

received a Silver Banksian Medal for an attractive group containing *Cattleya chocoensis alba*, *Odontioda Charlesworthii*, *Cymbidium Lowio-eburneum*, and its yellow variety *auriferum*, several excellent varieties of *Lælia anceps*, and a richly coloured *Brasavola* hybrid.

Messrs. Stuart Low and Co., Bush Hill Park, received a Silver Banksian Medal for a good group of various Orchids. Mention must be made of the elegant *Saccolabium bellinum*, *Cypripedium Lady Dillon*, a very fine flower, the dark *Pleurothallis Rœzlii*, the bright yellow *Oncidium cheirophorum*, and a distinct variety of *Cattleya Trianæ*.

Messrs. W. Baylor Hartland and Sons, Cork, received a Silver Flora Medal for a large group of *Odontoglossum* hybrids and good *Cypripediums*.

Mr. W. A. Manda, South Orange, New Jersey, U.S.A., and St. Albans, exhibited *Cattleya Trianæ* American Beauty with broad petals having a well-defined median streak of purple colour, C.-T. Abe Lincoln, a dark variety of good form, and a large plant of the same species with curiously-deformed flowers.

Messrs. Hassall and Co., Southgate, staged *Lycaste Skinneri alba*, a broad-petaled variety of excellent quality, *Odontoglossum Solon* (*ardentissimum* × *Adrianæ*), *Od. percultum*, *Cypripedium aureum lækense*, and *C. chrysoxum Victor*, a very fine variety.

From Tracy's Nursery, Twickenham, came a fine form of *Oncidium anthocrene*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum Merlin, from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, (gr. Mr. H. G. Alexander).—An extremely beautiful form. The flowers are $3\frac{1}{2}$ inches across, the glistening-white segments are very broad and handsomely marked with rose-purple blotches, the column having a very much darker blotch of purple. Although the parentage is uncertain there is little sign of hybridity, and the plant may not incorrectly be described as an excellent variety of *Odontoglossum crispum*.

AWARD OF MERIT.

Odontoglossum Memoria Lily Neumann (parentage unknown), from J. Gurney Fowler, Esq., Glebelands, South Woodford.—An attractive hybrid with good shaped flowers marked with claret-purple, the tips being white slightly tinged with rose.

February 20th, 1912.

MEMBERS of the Orchid Committee present :

J. Gurney Fowler, Esq. (in the chair), Sir Jeremiah Colman, Bart., Sir George Holford, and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, de Barri Crawshay, C. J. Lucas, R. Brooman-White, Gurney Wilson, J. S. Moss, R. A. Rolfe, Stuart Low, T. Armstrong, A. McBean, W. Cobb, J. Cypher, J. Charlesworth, J. E. Shill, W. H. Hatcher, A. Dye, C. H. Curtis, W. P. Bound, H. G. Alexander, W. H. White, and W. Bolton.

Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), received a Gold Medal for an extremely fine and beautifully arranged group of Orchids, many of the plants being large specimens. *Lælia anceps* and its numerous varieties were well represented ; *Cypripediums* included *Boltonii*, *Rossettii magnificum*, and the elegant *Alcibiades magnificum* ; *Lælio-Cattleyas* included *Tigris*, a very beautiful form, *Pizarro* (*L. Jongheana* × *C. aurea*), and other early spring flowering hybrids ; *Sophro-Lælias* were represented by the richly coloured *Orpetii* ; and the species by *Cattleya Percivaliana Charlesworth's* var., and *C. Trianæ Hydra*.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate, exhibited the handsome *Dendrobium Lady Colman*, D. Golden Ray (*Othello Colmanæ* × *signatum aureum*), a large yellow flower with a dark chocolate-brown throat, and a hybrid *Cymbidium* between *Lowianum* × *Hookerianum*, with greenish-yellow flowers.

W. H. St. Quintin, Esq., Scampston Hall, Rillington, York (gr. Mr. F. C. Puddle), showed *Dendrobium Cybele album* (see p. 122).

W. Cobb, Esq., Normanhurst, Rusper, staged *Cattleya Trianæ Cobbii*, a distinct variety, *Odontioda Bradshawii Cobb's* var.,

Cypripedium Euryades, and the pretty *Sophrone-Lælia Psyche* with many flowers.

H. Jennings, Esq., 42 Marlowes, Hemel Hempstead, exhibited *Cypripedium Winnifred* Jennings, a good hybrid, the suggested parentage being *ænanthum superbum* × *Harrisianum*.

Mrs. W. J. Joicey, Sunningdale Park, staged a wonderful specimen of *Lycaste Balliæ* with no less than 29 large flowers.

de Barri Crawshay, Esq., Rosefield, Sevenoaks, exhibited *Odontoglossum Valeria* (Edwardii × *Vuylstekei*), *Od. Voluminia* (*Hallio-crispum* × *Vuylstekei*), in which the *Hallii* predominated, *Od. Nærxes* (*Vuylstekei* × *illustre*), a promising hybrid with reddish-brown blotches, and *Od. Vulcan* (see Awards).

F. C. Godman, Esq., South Lodge, Horsham (gr. Mr. Giles), showed *Odontoglossum Godmanii* (Edwardii × *Rolfææ*), a richly coloured flower.

Sir Julius Wernher, Luton Hoo, Luton, received a Silver Banksian Medal for a good group of *Calanthes*.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver-gilt Medal for a grand group principally composed of *Odontodas*, the rich scarlet-red flowers of which are an attraction in every Orchid collection. Other choice plants included *Lælio-Cattleya Neleus*, with bright canary-yellow flowers, *Cattleya Francisæ*, *C. Trianæ alba* of extra quality, the richly coloured *Cattleya Octave Doin*, and a good selection of the beautiful *Odontoglossum armainvillierense xanthotes*.

Messrs. Armstrong and Brown, Tunbridge Wells, received a Silver Flora Medal for a large group containing the green flowering *Cœlogyne pandurata*, *Bulbophyllum galbinum*, the pretty *Cyp. Cupid*, *Cattleya Maggie Raphael alba*, *Lælio-Cattleya Ernestii* of a good yellow colour, *L.-C. Myra*, and several excellent varieties of *Sophroneitis grandiflora*.

Messrs. Mansell and Hatcher, Rawdon, Yorks., received a Silver Flora Medal for a choice group of various Orchids. Included in it were excellent forms of *Lycaste Skinneri*, *Calanthe Baron Schröder* with fine spikes of bloom, *Odontoglossum Vuylstekei*, and the pretty *Ionopsis paniculata*.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a large group containing many excellent specimens of *Phalænopsis Schilleriana*, the interesting and distinct *Cypripedium caudatum* Sanderæ, *Odontioda Graireana*, and a dark variety of *Dendrobium superbiens*.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Flora Medal for a group of choice *Cypripediums*, including the golden-yellow *chessingtonense*, a fine specimen *Angræcum sesquipedale*, *Phalænopsis Schilleriana*, the scarlet-red *Renanthera Im-schootiana*, and several botanical Orchids.

Messrs. J. and A. McBean, Cooksbridge, received a Silver Flora Medal for an extensive group of *Cymbidiums*, *C. eburneum* being a notable specimen, *Lycaste Skinneri*, several good *Digbyana* hybrids, a large plant of *Cattleya chochoensis alba*, and many choice varieties of *Lælia anceps*.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for an interesting group of various *Cypripediums*, *Lælio-Cattleyas* in variety, and many botanical species, several of which were of considerable rareness.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Banksian Medal for a good group of *Cypripediums*, notable plants being *aureum* *Ædipe*, *aureum* *Surprise*, and *Mousmé* (*insigne* *Harefield Hall* × *Leeanum Clinkaberryanum*). Several *Odontoglossum* hybrids were also shown in fine form.

Messrs. W. A. Manda, South Orange, U.S.A., and St. Albans, exhibited several large plants of good varieties of *Cattleya Schröderæ* and *Cattleya Trianæ picta*.

From Tracy's Nursery, Twickenham, came *Odontoglossum Pescatorei Floryi*, a curious form.

Mr. M. Mertens, Ghent, showed several handsome *Odontoglossum* hybrids.

AWARDS OF MERIT.

Calanthe Baron Schröder var. *alba* flora, from Baron Bruno Schröder, Englefield Green (gr. Mr. J. E. Shill).—A very beautiful form of this elegant hybrid.

Cattleya Brenda (*Dusseldorfei Undine* × *Gaskelliana alba*), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander.)--A very elegant and well-balanced flower with pure-white sepals and petals, the lip is broad, with open shoulders, and also white.

Odontoglossum Vulcan Crawshayanum (*crispum* × *Vuylstekei*), from de Barri

Crawshay, Esq., Rosefield, Sevenoaks. --A very large and handsome flower with broad petals marked with large blotches.

CULTURAL COMMENDATION

to Mrs. W. J. Joicey, Sunningdale Park, for a grand plant of *Lycaste Balliæ* with 29 large flowers.

MANCHESTER ORCHID SOCIETY.

January 25th, 1912.

MEMBERS of the Committee present:—Rev. J. Crombleholme (in the chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, F. K. Sander, and H. Arthur (Secretary).

W. R. Lee, Esq., Heywood, received a Silver-gilt Medal for a very fine exhibit of choice Orchids.

Z. A. Ward, Esq., Northenden, was awarded a Silver-gilt Medal for a good group of *Cypripediums* and *Odontoglossums*.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), received a Silver Medal for some very choice plants, several of which obtained awards.

Col. J. Rutherford, M.P., Blackburn, obtained a Silver Medal for a group of excellent Orchids, *Odontoglossums* being well represented.

J. McCartney, Esq., Bolton, was awarded a Silver Medal for a varied group containing many good *Cattleyas*.

W. J. Hargreaves, Esq., Burnley, received a Bronze Medal for a good group of *Cypripediums*.

G. H. Peace, Esq., Monton Grange, obtained a Bronze Medal for a small group of interesting *Cypripediums*.

Rev. J. Crombleholme, Clayton-le-Moors, was awarded a Bronze Medal for *Cypripediums*.

O. O. Wrigley, Esq., Bury, received a Vote of Thanks for a small group of very choice varieties of *Lycaste Skinneri*.

J. J. Holden, Esq., Southport, staged several excellent *Cattleyas* and *Cypripediums*.

J. H. Craven, Esq., Keighley, exhibited *Odontoglossums* and *Odontioda Corneyanum*.

R. Ashworth, Esq., Newchurch, staged *Cypripedium Earl of Tankerville*.

H. J. Bromilow, Esq., Rann Lee, exhibited several good *Cypripediums*.

F. A. Hindley, Esq., Bradford, staged *Cypripedium Hindleyanum*.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a choice group of *Cypripediums*.

Messrs. Charlesworth and Co., Haywards Heath, staged *Odontioda Wilsonii* and *Lælio-Cattleya Myrrah*.

Messrs. Hassall and Co., Southgate, exhibited some excellent *Odontoglossums*.

Messrs. Stuart Low and Co., Enfield, staged two seedling *Cypripediums* of *Beekmanii* parentage.

Mr. J. Evans, Congleton, and Mr. W. Shackleton, Bradford, exhibited various Orchids.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum Harmac (*crispum Graireanum* × *Vuylstekei*), flower of good shape, deep-claret colour, with white margin to the segments; *Odontoglossum miranda*, rose colour, with brownish markings; *Sophro-Cattleya Mrs. F. Wellesley* "Lee's var.," all from W. R. Lee, Esq.

Cypripedium Alcibiades "Gratrix's var.," from S. Gratrix, Esq., a very large flower of excellent shape, with dorsal sepal over 3 inches across. A Silver Medal was awarded in addition to the F.C.C.

AWARDS OF MERIT.

Cypripedium Lady Dillon magnificent (nitens × Mrs. Mostyn), from W. R. Lee, Esq.

Cypripedium Black Knight (Mrs. Mostyn × Thompsonii), and Cyp. Princess Wilhelmina (Sallieri aureum × Lceanum), both from S. Gratrix, Esq.

Odontoglossum "Prince Edward Ward's var.," Odontoglossum crispum "Eric," and O. ardentissimum "Norman," all from Z. A. Ward, Esq.

Odontoglossum crispum Luci-Masereel (Luciani × Franz Masereel), and Brasso-Cattleya Rutherfordii (Gaskelliana alba × B.-C. Queen Alexandra), both from Col. Rutherford.

Cattleya Holdenii "Purity" (Warneri alba × intermedia alba), and Odontoglossum George V., both from J. J. Holden, Esq.

February 8th, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, W. Stevens, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden, was awarded a Silver-gilt Medal for a group principally composed of Odontoglossums.

W. R. Lee, Esq., Heywood, received a Silver-gilt Medal for a good group of choice Orchids, one of which obtained a First-class Certificate.

R. Ashworth, Esq., Newchurch, was awarded a Silver Medal for a good group of Odontoglossums and Cypripediums.

Col. J. Rutherford, M.P., Blackburn, received a Silver Medal for a good exhibit of Odontoglossums and Cypripediums.

A. Warburton, Esq., Haslingden, received a Silver Medal for Odontiodas and Cypripediums.

J. McCartney, Esq., Bolton, was awarded a Bronze Medal for a group of Cattleyas and Lælia anceps.

Rev. J. Crombleholme, Clayton-le-Moors, received a Bronze Medal for a small group of Cypripediums.

W. J. Hargreaves, Esq., Burnley, staged a

small group of Cypripediums to which a Bronze Medal was awarded.

Wm. Thompson, Esq., Stone, exhibited good Cypripediums, several of which obtained awards.

J. J. Holden, Esq., Southport, exhibited Lycaste Mary Gratrix and Cypripedium birkdalense.

G. H. Peace, Esq., Monton Grange, staged Odontoglossum Phœbe "Monton Grange var."

H. Thorp, Esq., Rhodes, staged a variety of Cypripedium insigne.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a good group containing excellent species and hybrids.

Messrs. Sander and Sons, St. Albans, received a Silver Medal for an excellent exhibit of various Orchids.

Messrs. Hassall and Co., Southgate, staged several excellent Odontoglossums and Cypripediums.

Messrs. A. J. Keeling and Sons, Bradford, staged several good Odontoglossums.

Mr. W. Shackleton, Great Horton, staged a very fine variety of Odontoglossum crispum.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum percultum purpurascens, from W. R. Lee, Esq., a fine round flower with solid bronze-purple markings, the segments edged with white.

AWARDS OF MERIT.

Odontoglossum crispum Euterpe, from W. R. Lee, Esq.

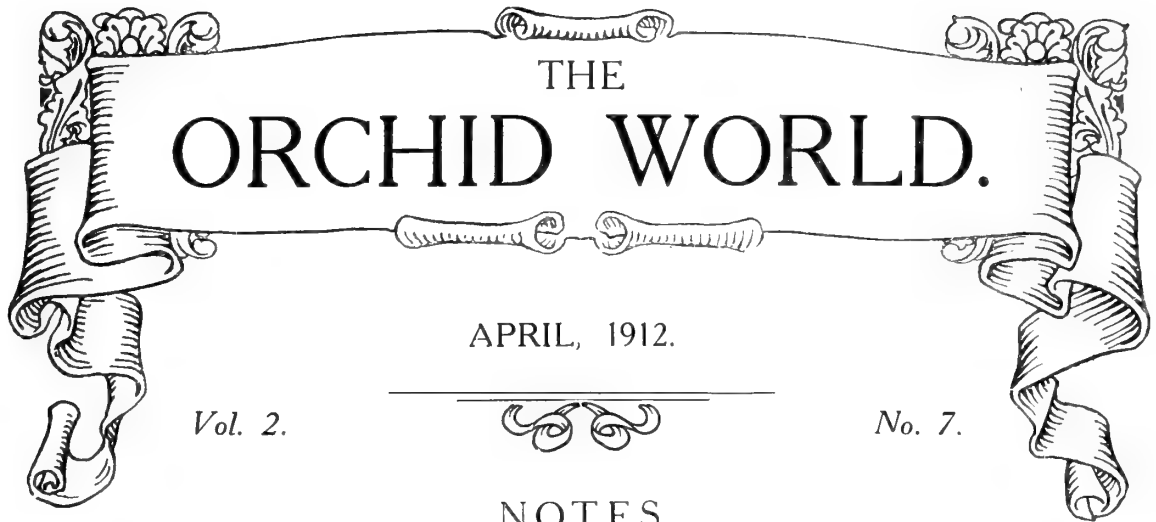
Odontoglossum Wilckeanum "Jasper"; O. Adrianæ "Vulcan"; and O. Jasper, all from Z. A. Ward, Esq.

Cypripedium birkdalense (insigne Sanderianum × Thalia magnificentum), from J. J. Holden, Esq.

Cypripedium Hercules (Vandyke × Sultan), Draco, and Nubia (Niobe × Thompsonii), all fine varieties from W. Thompson, Esq.

Odontoglossum Orphanum, from R. Ashworth, Esq.

Cypripedium Lucernale (chrysotoxum × Euryades), from A. Warburton, Esq.



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NOTES.

LYCASTE SKINNERI ALBA.—A grand specimen of this elegant Orchid with the large number of 31 flowers and buds was exhibited at the meeting of the Manchester Orchid Society, February 22nd, 1912, from the collection of O. O. Wrigley, Esq., of Bury.



OBITUARY.—We regret to announce the death of Mr. Herbert J. Adams, of Roseneath, Enfield. As an amateur cultivator of Orchids Mr. Adams was well known. He was a life Fellow of the Royal Horticultural Society and vice-president of the Gardeners' Royal Benevolent Institution.



ODONTOGLOSSUM EXIMIUM.—A very beautiful and remarkable variety of this hybrid has recently flowered in the collection of J. Gurney Fowler, Esq. It is, without doubt, the best shaped flower yet seen. The lateral sepals overlap to the extent of one-quarter of their diameter; the broad, almost circular petals nearly meet each other in front of the dorsal sepal; in fact, the dividing space is less than an eighth of an inch. The flower is handsomely marked with reddish-purple blotches.



SELENEPIDIUM TITANUM.—This rather scarce hybrid between *S. Lindleyanum* and *S. longifolium* grows with vigour in the collection of George B. Bennett, Esq.,

Sunbury, Purley. It was exhibited by Messrs. Sander and Sons at the Royal Horticultural Society, February 27th, 1900, and has also been raised by Mr. R. M. Grey, of North Easton, Mass., U.S.A., in the latter case under the name *S. Urgandæ*. Mr. Bennett writes to say that his plant produces a spike six to seven feet in height, with sometimes a branch or so, and blooms for about six months. At the present time the spike is two feet six inches, and is already half an inch in diameter.



CATTELEYA PERCIVALIANA CHARLESWORTH'S VARIETY.—A four-flowered spike of this elegant winter flowering species has been sent from the Westonbirt collection by Mr. H. G. Alexander. The flowers are much above the average size, the sepals and broad petals being delicately tinted, while the labellum, which is usually an attractive part of the flower of this species, is richly coloured with bright purple at the apex, the inner part being rich reddish-crimson, and the throat deep orange, this latter colour being also largely suffused on the reverse or outer side of the labellum. The column is white. The period of flowering and the remarkable coloration of the labellum make this species most useful for hybridising, but to obtain the finest results it should be crossed with flowers having broad, open labellums, for in this way the beautiful sunset colour is displayed to the fullest advantage.

CYMBIDIUM EBURNEUM.—This species was first described by Lindley in the *Botanical Register*, 1847, t. 67. It is common on the Khasia Hills, at an elevation of 3,000 to 4,000 feet. Although only one or two flowers are produced on a stem they are, nevertheless, very elegant, of a pure ivory-white colour, and have the merit of lasting a long time in perfection. The ridge on the lip is of a bright yellow colour, the column being sometimes tinged with pink. In a few examples the front lobe of the lip is slightly spotted with rose-purple, a form of this kind having been named many years ago as eburneum Dayanum. A good form of this latter variety, and also an unspotted one, has recently flowered in the collection of Capt. Robert Twiss, Bird Hill House, Bird Hill, Limerick. A very pretty and distinct form of *Cypripedium Leeanum* is also in the same collection, the flower having a somewhat unusually white background with purple lines and markings of more than the usual density of colour.



EULOPHIELLA HAMELINII.—In a useful new catalogue of Orchids just published by Mess. Th. Pauwels and Co., Meirelbeke, Ghent, several illustrations of meritorious plants are given. One depicts a large specimen of *Eulophiella Hamelinii*, which, with its mass of roots, is about seven feet in height. An accompanying note states: "This very rare species is the Queen of Orchids. Many attempts to introduce it have failed, in spite of the great expense and the care taken in collecting it. This year, thanks to the experience and devotion of the collector, we have introduced about thirty fine plants in perfect order. This wonder comes from Madagascar, where it grows on the stumps of the *Pandanus* in very damp places, rather exposed to the sun. For successful cultivation a temperature of 65 to 70 degrees is required. It should be cultivated with a mixture of polypodium, osmunda, oak, or beech leaves, and sphagnum moss. The plants should be placed in a damp house where a good light is obtainable. This superb Orchid produces one or two flower

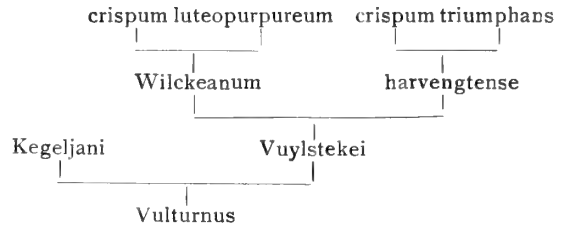
spikes about three feet in length, each one carrying from twenty to thirty flowers equal in size to those of a large *Phalænopsis Rimestadiana*. They are of a very bright rose colour, the labellum being of a deeper rose, stippled with golden-yellow."



CIRRHOPETALUM REFRACTUM.—This interesting and very distinct species is remarkable for its wide distribution, being one of the few epiphytic Orchids that inhabit both the Himalayas and Java. The resemblance of the spike of flowers, with their long lateral sepals, to the sails of a windmill has caused it to be known as the Windmill Orchid.



ODONTOGLOSSUM VULTURNUS.



Mr. Richard Ashworth follows his first Kegeljani hybrid (*ashlandense*) with another whose yellow ground is as brilliant as could be wished. It is a complete union of the two parents. Sepals and petals of rich Kegeljani tone yellow, two thirds covered by heavy bright brown small blotches and large spots. The lip in this particular variety (the first to open) is narrow and long, bearing a heavy blotch, as does the seed-bearing parent, and tends to somewhat roll inwards, as do some hybrids of Kegeljani; the lip in character is intermediate.

de B. Crawshay, February 24th, 1912.

DISA GRANDIFLORA.

THIS elegant South African terrestrial Orchid is found on the margins of streams on the Table Mountain, at an elevation of about 2,000 feet. Owing to the reckless manner in which some collectors have

gathered the plants the species is, unfortunately, not so common as formerly. It is, however, gratifying to know that it is also found in adjoining situations. The glorious scarlet colour of the flowers has caused it to be known in its native habitat as the Pride of Table Mountain.

Disa uniflora, the original name, was changed by Linnæus, the younger, who thought *Disa grandiflora*, more appropriate. As it is now so well known by the latter name we have felt obliged to maintain it, especially as only when the plant is very badly grown does it produce a single flower. On account of the beauty of the flower the plant well deserves the name "flower of the gods."

In its native home it is found growing in very moist black sandy peat, the atmosphere being always cool and very damp. Probably the greatest mistake in attempting its cultivation is to place the plants in too dry and too warm an atmosphere. A cool house or cold frame, in which the frost is excluded, has often produced the finest results.

Re-potting may be done as soon as the tubers commence their new growth, taking care to remove only the sour or decayed compost and disturbing the roots as little as possible. As the plants will require a large amount of water during the growing season, care must be taken that the drainage is very effective, otherwise any accumulation of surplus water will rapidly rot the bulbs and sour the compost.

The pots or pans should be filled about one-third full of crocks, on the top of which place the compost of fibrous peat, loam, sphagnum moss and coarse sand. Place the pots in a cool airy house, and water carefully for the first few weeks. The growths will make rapid headway and should, on all favourable occasions, be syringed about twice a day with rain water about the same temperature as the house. The plants must never be allowed to become dry at the roots, or serious trouble will result.

Some growers advocate giving considerable shade, while others use but little. We believe the best results are obtainable when only a slight shade is used during the middle

of the day. It must, however, be remembered that plenty of ventilation should be given, otherwise the foliage will be quickly burnt by the sun.

Correct cultivation has proved how inappropriate the name *uniflora* (one flower) is. At Hyde Park House, near Cork, some thirty or more years ago, a plant of *Disa grandiflora*, grown in a 12-in. pot, bore 19 flower stems, on which, in the aggregate, were 54 flowers, and three other plants produced 66 flowers, or a total of 120 flowers on four plants. These plants were grown at the east end of an airy house, where they obtained abundant supplies of water during their growing season, and always had plenty of air both day and night.

In the celebrated garden of Chatsworth, there was, in the year 1875, one of the finest plants which has probably ever been produced; on one spike it had twelve large bright scarlet-crimson flowers veined with pink. Mr. B. S. Williams, a noted Orchidist of that time, stated that it was worth a journey from London to Chatsworth to see it. The plant was grown in a cold Heath house, where there was always plenty of ventilation, both night and day.

In Mr. George's garden, Purdysburn, Belfast, this species was cultivated with considerable success. A small piece was, in a few years, grown into a remarkable specimen; when in a 20-in. pan it carried no less than 95 spikes of bloom each bearing from two to five flowers. An illustration of the plant was given in *The Garden*, December 13th, 1884.

Probably, owing to the discontinuance of cultivating Heaths and other hard-wooded plants, some difficulty is experienced in obtaining a suitable house for growing *Disa grandiflora*; we certainly do not, at the present time, see such remarkable specimens as formerly. This is regrettable, for there is no other Orchid possessing such an amount of scarlet colour in its flowers. In the variety known as *Barellii* a suspicion of orange colour is noticeable. It may be possible, one day, to discover a yellow variety; what a rarity it would be.



MILTONIA VEXILLARIA "MEMORIA G. D. OWEN."

BEAUTIFUL as all the varieties of *Miltonia vexillaria* are, not one equals the celebrated *M. v.* "Memoria G. D. Owen." The very remarkable blotch of colour in the centre of each bloom gives one the impression that a butterfly with outstretched wings has just alighted on the flower. This singularity is, in a lesser degree, also seen in the variety *Leopoldii*. Sir Frederick Wigan first exhibited *M. v.* "Memoria G. D. Owen" at the Royal Horticultural Society, June 9th, 1896, when it received a First-class Certificate. When shown by him on subsequent occasions it always received considerable attention. At the disposal by auction of Sir Frederick's collection in May, 1907, a plant, consisting of three bulbs and a strong growth, made the

large sum of 420 guineas; a second plant, of two bulbs and a new growth, made 390 guineas; and the remaining portion, two bulbs and a strong lead, made the remarkable figure of 500 guineas. The above illustration is one of four plants flowering in the establishment of Messrs. Duchesne and Lanthoine, Watermael, Brussels.

Miltonia vexillaria, and its varieties, require an even temperature in which to grow, this being best attained by placing the plants in the cool house during the summer months, and in a cool *Cattleya* house during the winter time. They are very liable to produce spot on the leaves if the atmosphere is overcharged with moisture. Careful attention must, therefore, be taken when applying water to the plants.

RULES OF HORTICULTURAL NOMENCLATURE ADOPTED BY THE SUB-SECTION ON NOMENCLATURE AT THE INTERNATIONAL CONGRESS AT BRUSSELS, 1910.

THE Royal Horticultural Society having adopted these rules, it is necessary to fully understand them, and also to see how far they will affect the nomenclature of Orchids. To make them more explicit we have given examples, and in many cases added certain remarks which will form matter for further correspondence.

Article I.—“Horticultural nomenclature is based upon the rules of Botanical Nomenclature adopted by the International Congress of Botany, held at Vienna in 1905. The Horticultural Congress accept all the principles, and rules, so far as they apply to names of species and groups of a higher order, but adopt the modifications and additions contained in the following Articles for horticultural varieties and hybrids of cultivated plants. Among the principles which serve as a basis of these rules it is particularly important not to lose sight of the following” :—

1. “In all schemes of nomenclature the essential principles are : (a) to aim at fixity of names; (b) to avoid or discourage the employment of forms or names which are liable to produce errors or uncertainties, or to bring about confusion; next (c) it is important to avoid the creation of useless names. Other considerations, such as absolute grammatical exactitude, regularity, or euphony in names, more or less in general use, consideration for persons (‘authority’), etc., notwithstanding their undisputed importance, are relatively subsidiary.”

2. “Any usage contrary to the rules may not be maintained if it entails confusion or error. When any usage of this nature is not greatly inconvenient, it may justify exceptional treatment; it is necessary, however, to guard against extending or imitating it. Finally, in default of rules, or if the application of the rule is doubtful, any established usage becomes lawful.”

3. “Each natural group of plants can only carry in science a single valid designation,

viz., *the most ancient*, provided it conforms with the rules of nomenclature.”

4. “The designation of a group by one or several names, has not for its object the expression of the characters or history of the group, but is to give a means of understanding one another when wishing to speak of it.”

5. “No one has the right to alter a name, or combination of names, without weighty reasons founded upon a very thorough knowledge of the facts, or upon the necessity of abandoning a nomenclature contrary to the rules.”

6. “Botanical and horticultural nomenclature commences at the year 1753 for all the groups of vascular plants.”

The above is reprinted from the Journal of the Royal Horticultural Society, and the following paragraphs, distinguished by quotation marks, are also taken from the same publication.

Article II.—“It is necessary in naming horticultural varieties of species and simple forms to employ the complete names of the species with the name of the author. The employment of Latin in naming horticultural varieties is authorised only when the character of the plant is expressed, *e.g.*, *roseum*, *guttatum*, etc. The use of Latin proper names for such varieties is proscribed. The names of horticultural varieties must always be written in Roman characters.”

Examples: *Odontoglossum crispum aureum*, *O. c. roseum*, and *O. c. punctatum* are correct, for the third word in each case expresses the character of the flower. But *Odontoglossum crispum Pittianum*, *O. c. Lindenii*, and *O. c. Sanderæ* would not now be correct, the use of Latin proper names being prohibited.

The probable reason for this method is not obscure. A specific name may be composed of either one or two words. We have, in the *Orchidaceæ*, *Odontoglossum crispum* and

Odontoglossum Uro-Skinneri. But suppose someone uninitiated in Orchidology were to search in a botanical library for *Odontoglossum crispum Pittianum*, he might reasonably conclude that this is a different species to *Odontoglossum crispum*, and, although the latter species might easily be referred to, there is little chance of him finding the former name, the reason being that *crispum Pittianum* is not a distinct species from, but only a variety of, *crispum*. By naming varieties of species in the vulgar tongue confusion will be reduced to a minimum, and in many cases entirely eliminated. Correct examples: *Odontoglossum crispum* Mrs. F. Peeters and *O. c.* The Kaiser.

Article III.—“When the names of varieties expressed in the vulgar tongue are transferred to other languages they must not be translated, but must be preserved in the language in which they were originally published.”

For example: *Odontoglossum crispum Roi d'Angleterre* must not be translated to *O. c.* King of England.

Article IV.—“The names of varieties should be expressed as far as possible in a single word; and the employment of not more than three words is permitted as a maximum. The same rule applies to the specific names of hybrids.”

Article V.—“The publication of a description of a variety in a dated horticultural catalogue is valid, but the mention of a variety without description in a catalogue, or in the report of an exhibition, is not valid publication, even if a figure is given. It is desirable that descriptions of new varieties published in horticultural catalogues, should also be published in periodical horticultural papers.”

The catalogue must be dated, otherwise it is impossible when the same hybrid is described under different names in two catalogues to determine which is the earliest publication. It should also be noted that valid publication dates from the date when the catalogue was published, and not from the date when the description was written.

Article VI.—“In order to be valid, the

description of a new variety, or of a new hybrid, must be drawn up either in English, German, French, Italian, or Latin.”

Article VII.—“Hybrids between species of the same genus, or presumably such, are designated by a name and a formula. The name is distinguished from the names of species by the sign \times placed before the generic name. The formula, placed between brackets, consists of the specific names of the two parents, connected by the sign \times , the name of the seed-bearing parent being placed first. The seed-bearing parent should be indicated by the sign ♀ .”

This article needs very careful consideration, for not only is it the most essential part of the whole scheme, but it is one which specially concerns horticulturists.

Hybrids between species of the same genus must be distinguished from the names of species by the sign \times placed before the generic name. For example: \times *Cattleya Iris*, not *Cattleya* \times *Iris*. The names of the parents are placed in brackets, but as the seed-bearing parent must be placed first, we fail to see the necessity of additionally distinguishing it by the sign ♀ . Example: \times *Cattleya Iris* (*C. aurea* ♀ \times *C. bicolor*).

But let us follow more closely the work of the hybridist, and see how this Article is workable with recent events. *Cattleya Iris* has been crossed with *Cattleya aurea*, the resulting hybrid being known as *Cattleya Venus*. The correct method of nomenclature would appear to be \times *Cattleya Venus* (\times *C. Iris* \times *C. aurea*). This is reasonably clear, but suppose the second parent happened to be a hybrid instead of a species, are we, therefore, to write— \times *Cattleya Rhoda* (\times *C. Iris* \times \times *C. Hardyana*); or is the parentage to be expressed in full— \times *Cattleya Rhoda* [\times *C. Iris* (*C. aurea* \times *C. bicolor*) \times \times *C. Hardyana* (*C. gigas* \times *C. aurea*)].

Article VIII.—“The specific name of a hybrid may be expressed in Latin or in any language that is written in Roman characters.” Examples: *Cattleya Mrs. Pitt* (*Harrisoniana* \times *aurea*) and *Cattleya Pittiæ* (*Harrisoniana* \times *Schilleriana*) are both correct.

The use of a proper Latin name for a variety of a species is not allowed (Article II.), yet for the specific name of a hybrid it is permissible, the reason being that as every name of a hybrid must have the sign \times prefixed, the hybrid nature of the plant is thereby at once indicated, and effectually prevents it being confused with any of the species. Any other distinction, either by a Latin or vulgar name, is consequently not then required.

Article IX.—“All hybrids obtained by crossing the same two species must carry the same specific name. All forms arising from the same cross, or from successive crossings of varieties of these two species, should be connected as varieties, with the same specific name.”

Thus all plants arising from the crossing of *Cattleya Bowringiana* and *Cattleya Schilleriana* must be called \times *Cattleya lucida* no matter how they may differ. The various forms will be given varietal names.

Article X.—“When the parents of a hybrid are transferred into another genus, or into a new one, the name of the hybrid follows, and the specific name is subject to the rules of priority, or others applicable to species under similar conditions, conforming with Article XLVIII. of the Rules of Botanical Nomenclature.”

Thus, for example, if we admit the genus *Paphiopedilum* \times *Cypripedium Vernætianum*, Rchb. f. in Gard. Chron., 1888, I., p. 712 (\times *C. Euryale* Veitch. Man. Orch., iv., p. 83, 1889), becomes \times *Paphiopedilum Vernætianum* and not *P. Euryale* Stein Orch., p. 466 (1892).

Article XI.—“The names of horticultural varieties of hybrids should always be expressed in the vulgar tongue.”

Example: *Cattleya Fabia Marie de Wavrin*. *Cattleya Fabia Goodsonii* is incorrect.

Article XII.—“Cross breeds (crosses between varieties or forms of a single species) and ternary hybrids or those of a higher order (crosses between species of the same genus) are designated by a name, or a formula, following the same rules as for ordinary

hybrids (Article VII.). For ordinary use, and in the case of the offspring of well-known hybrids, the formula may be omitted, and the name alone serve.

Article XIII.—“By-generic hybrids are also designated by a name and a formula. The generic name is formed by the combination of the generic names of the parents into a single word, composed as far as possible so that the names of the two genera entering into the composition of the hybrid are easily recognisable; it is preceded by the sign \times , and followed by a specific name. The specific name is subject to the same rules as are those of ordinary hybrids (Articles IV. and VIII.). The formula is written conformably with Article VII.”

The names of the two genera entering into the composition of the hybrid are to be easily recognisable. If this is done there seems little need for the sign \times . In any case, as the generic name of bi- or multi-generic hybrids can not possibly be anything else than a hybrid, why is the sign of hybridity needed?

Article XIV.—“Multi-generic hybrids receive a conventional generic name, preferably that of a distinguished man, to which is added the termination *ara*. A distinct generic name will be formed for each different combination of genera. Thus all combinations of the genera *Brassavola*, *Cattleya*, *Lælia*, and *Epidendrum*, no matter in what order they may be intercrossed, receive the same generic name which would be, for example, *Linneara*. As an exception, the names of the tri-generic hybrids *Brassocattlælia* and *Sophrocattlælia*, already in use, are retained.”

To this should also be added *Diacattlælia*.

Article XV.—“For a new hybrid to be considered as published it should be named according to the rules, the formula of its parentage, and a description of the hybrid itself being given. Publication is effected in the same manner as with horticultural varieties of species, as set out in Articles V. and VI.”

Article XVI.—“In any case, where the rules of horticultural nomenclature would be actually contrary to practice permitted or tolerated at present, they would not have a retrospective action.”

*Val Duchesse.*

The Val Duchesse Collection,

Auderghem, Belgium.

THE noble mansion of Val Duchesse is situated in a beautiful valley in the vicinity of Brussels. The Duchesse Aleyde de Bourgoyne chose this delightful spot for building a priory in the year 1262; from this fact the present name "Valley of the Duchesse" is derived. The edifice is a faithful reconstruction of that which was the priory in the 17th century, before the revolutionary turmoil. A large part is original and has simply been restored; the remainder has been rebuilt according to the plans on ancient documents.

From a wide boulevard, which extends along the estate for nearly a mile, a very picturesque view of the whole place may be obtained. A large lake, more than twelve acres in extent, lies at the bottom of the

valley, the opposite hills, thickly covered with venerable trees, being reflected in the water. A large piece of enclosed land is cultivated as a French garden; this extends to the lake, a monumental flight of steps leading down to the water.

From the lower part of the estate, near the principal entrance, an imposing view of the mansion may be obtained. The owner, Mons. Charles Dietrich, takes a great pleasure in describing to his friends the wonderful collection of works of art which it contains. The unique pieces of furniture, the superb Gobelin and Brussels tapestries, the pictures, the curios, the old china, and the numerous ancient pieces of parchment relating to the history of the priory, are alone worth a visit to Val Duchesse. The large

Gothic Hall and the Grand Saloon call for special admiration, for seldom is their equal seen.

Behind the mansion, on the left, and on a prominence, may be seen the ancient chapel of Saint Anne, the outline of which stands out well against the deep blue of the forest of Soignes. By means of rough stone steps this religious part of the historic priory may be reached. The earliest existing record of this chapel is dated 1251, but it was probably built in the early part of the eleventh century. Close by this ancient edifice the old garden has been reconstructed, for it was here that the chaplain frequently came to obtain rest from his duties and to read his breviary.

In the laying out of the grounds one notices, in the smallest details, the constant wish of M. Dietrich to create all things in dignity with the place, and to avoid everything which may be considered commonplace. In this work he is ably assisted by M. Louis

Breydel, the garden architect, who carries out his duties with commendable care and skill. The condition of the magnificent trees, the various shrubs, and the tasteful arrangement of the flower beds, is a proof that he is a man of great ability.

At the top of the garden a double flight of stone steps leads to the pavilion, or entrance hall, to the range of Orchid houses. This elegant building, of Louis XVI. style, contains in the lower part a spacious aquarium for the culture of fish. M. Dietrich, it should be noted, takes a great interest in piscology, and is President of the Central Society for the preservation of river fishing in Belgium.

The interior of the pavilion is decorated in French style, and is so arranged that a superb group of Orchids in flower may always be seen without entering the actual houses in which the plants are cultivated. By this means the uncomfortable heat of some of the houses on a hot summer's



M. Charles Dietrich.



Val Duchesse, a Charming View in the Garden.

day is avoided. Our illustration shows the centre of the large Cattleya house, the Orchids in flower being grouped in picturesque fashion on a staging decorated with ferns; the reflection of these plants in the water of the fountain at the foot creates a most enchanting picture.

On a table in the centre of this pavilion are arranged the portfolios containing the numerous paintings of all the best flowers,

The Cattleya house contains a grand selection of the best species. The flowers of *C. Trianae* are particularly welcome, for they are almost the first to be produced with the advent of early spring and longer days. Among the numerous varieties of this species which have recently been in flower the following are of special merit:—*Empress of India*, a fine flower of good shape; *Emile Guisset*; *Prince Leopold of Belgium*, noted



Val Duchesse, The Large Lake.

both species and hybrids. These reproductions have all been executed by M. Alphonse Goossens, who carries out the details of his work with faithful exactitude.

The cultivation of the plants is under the care of M. Eugene de Munter; the neatness of the houses, the good health of the plants, and his general knowledge of the various genera, species, and hybrids is amply shown in many ways.

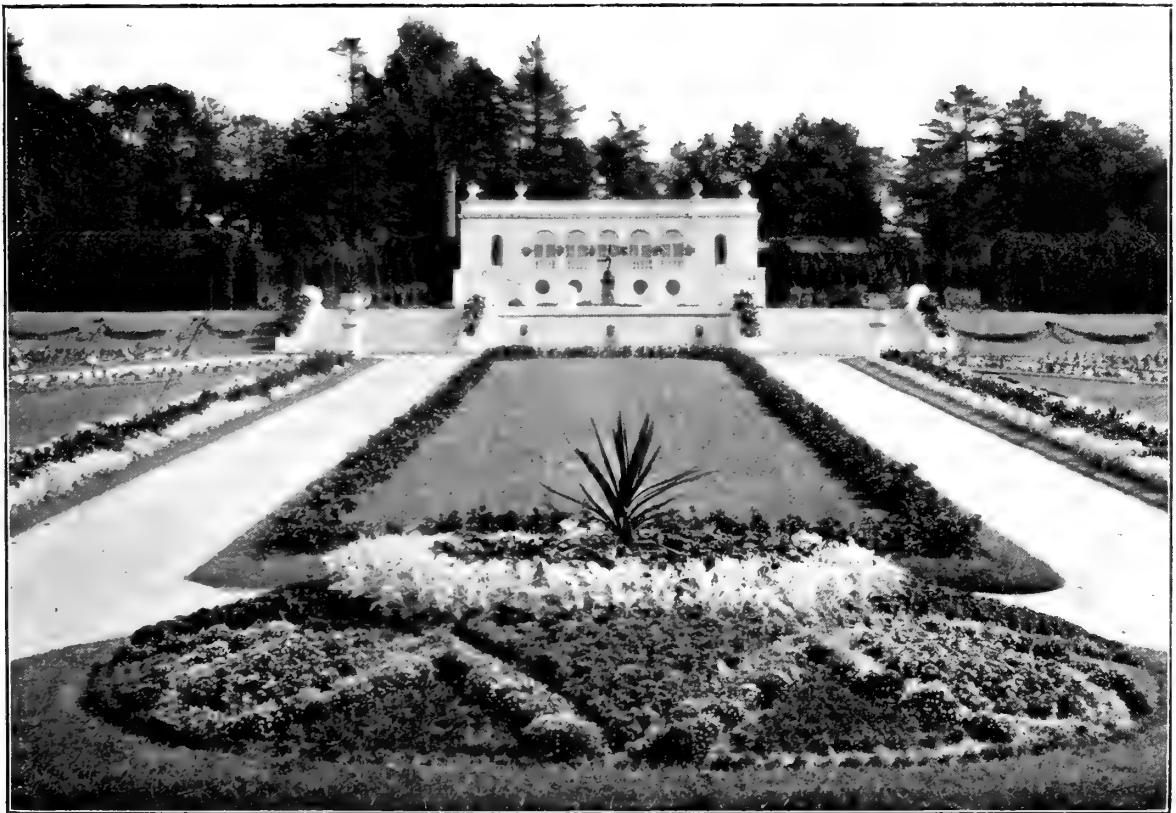
for its very dark labellum; and *Angelica*, a distinct form having a blue lip.

The autumn-flowering *Cattleya labiata* is well represented. A variety, known as *Isis*, having very large flowers which measure $3\frac{1}{2}$ inches across the petals and 9 inches from tip to tip of petals. This fine variety was awarded the 2nd Prize for the best *Cattleya* species in the great show held at Brussels in the autumn of 1910. The beautiful *labiata*

Cooksoniæ and the very dark form known as Peetersii are also to be seen in this house. A grand specimen of labiata, nearly six feet in diameter, produced last autumn no less than 132 fine flowers. Mention must be made of *C. Gaskelliana cœrulea*, a variety having a distinct bluish tinge.

There are many good varieties of *C. Schröderæ*, the principal ones including *Hermione*, *Proutii*, and *Val Duchesse*, the

The *Cattleya* hybrids include *Dietrichiana*, a grand flower produced by crossing *C. superba* with *C. Hardyana*, *Octave Doin*, *Souvenir de H. Dietrich*, the large flowering *Enid*, and the richly coloured *Empress Frederick*. In the albino section are strong plants of *Mrs. Myra Peeters*, *Hardyana joyau de Val Duchesse*, *Suzanne Hye de Crom*, *Fabia alba*, and a very beautiful variety of *Iris* known as *Perle de Woluwe*.



The Pavilion, the Entrance to the Orchid Houses.

latter being very distinct. *C. Mendelii* Mdm. Charles Dietrich is the finest form of this elegant species in the collection. *C. aurea* Prince Albert is also a noted variety. *C. Mossiæ Reineckiana*, of which there are several excellent forms, and *C. Mossiæ alba superba* are highly prized. There are also pure white varieties of *C. Percivaliana* and *C. Harrisoniana*, the former having been discovered by M. Dietrich in an importation of the species.

The ever popular *Lælio-Cattleyas* are very numerous, the range in the colour of these hybrids being remarkable. The majestic *St. Gothard*, the large flowering *Dominiana magnifica*, *luminosa* *Ministre Jules Renkin*, a very remarkable form, *Orange Nassau*, *Golden Oriole*, *Yellow Prince* and a host of others, all producing attractive flowers of great beauty.

In another house are 2,000 seedlings, all raised from the best parents. A healthy

batch of *Sobralia macrantha alba* seedlings grow with vigour; those which have flowered are all pure white. The small seedling pots are buried in a bed of moss; this method prevents a too rapid evaporation of the moisture in the compost.

A similar house is entirely filled with larger seedlings, many of them strong enough to flower this season. The growth and habit of the primary hybrids allows one to detect in many of them the parents which have been used, but in the case of the

and *C. Leeanum* are grown on account of their flowers proving of great utility for decorative purposes.

The collection of *Cypripedium* hybrids embraces most of the noted plants, those finding special favour being: *Thalia Mrs. Francis Wellesley*, *Gaston Bulteel* and *Germain Opoix*. There is an interesting batch of albinos, and several of the best *bellatulum* crosses.

The *Miltonias* are a special favourite with *M. Dietrich*, so much so that a whole house



Cattleya labiata, a specimen with 132 flowers.

secondary hybrids this detection is almost impossible.

The *Cypripedium* hybrids occupy the greater part of another spacious house. The majority of these plants are unflowered, and considerable interest is taken in watching the development of the flower buds. The exhibition standard of these hybrids is very high, and a large number have to be flowered before a really good one is secured. *M. Dietrich* has, so far, obtained more than the average amount of success. A number of large plants of *Cypripedium Lawrenceanum*

is devoted to their culture; and it should be also said that the method of culture is suitable to this genus, for there are hardly any spots to be seen on the leaves. There are more than 500 large plants, and the varieties are so numerous that only the following very special ones can be mentioned: *Val Duchesse*, *Empress Augusta Victoria*, of an uncommon deep rosy-purple tint, *Queen Alexandra*, the handsome *Leopoldii*, and *Vuylstekeana*. An interesting seed-pod is *Miltonia Bluntii* × *Miltonia vexillaria*. The scarlet flowering *Miltonioda Harwoodii*, a



View of the Cattleya House, taken from the Interior of the Pavilion.

rare hybrid between *M. vexillaria* and *C. Nœzliana*, has been successfully raised, there are a number of healthy seedlings already well advanced. A promising seed-pod is *Miltonia Bluntii* × *M. vexillaria*.

Odontoglossums grow here with evident pleasure, the graceful sprays of flowers creating quite a floral display in the spring-time and early summer months. Crispums, as may be expected, occupy a large part of the house, the best variety of this species in the collection being "Surprise de Val Duchesse." The hybrid Odontoglossums grow with great vigour, especially those with *Harryanum* in the parentage. Many of the finest of these hybrids have recently produced their elegant flowers in great perfection. There seems no limit to the amount of variation in colour and marking which these cool house Orchids possess.

One of the most interesting sections of the Orchids is the unique collection of varieties of *Cochlioda Nœzliana*. This includes more than eighteen distinct forms. The following are the best: *aurantiaca*, *superba*, King Edward VII., and King Leopold. The hybridist has, therefore, every chance of selecting suitable plants for his progressive work.

Mention must also be made of the specimen *Phalænopses*, the robust growing *Phaius Norman*, which are now flowering well, the elegant *Renanthera Imschootiana*, and a very large representative collection of Orchids noted for their decorative properties.

From the above comparative short account of this important collection it will be seen how very interested M. Dietrich is in Orchid culture. Already eight large houses are completely filled with plants, and probably, before long, additional ones will be erected to contain the specimens which are being purchased to make the collection as complete as possible.

It remains to be said that M. Dietrich's energy and love for Orchids has brought him many honours. He is Vice-president du Cercle des Orchidophiles Belges, Administrateur de la Société Royale Linnéenne de Belgique, Chevalier de l'Ordre de Léopold,

Officier de l'Ordre de la Couronne, Officier de l'Ordre de la Légion d'Honneur, and Commandeur du Mérite Agricole de France, etc. G. W.

NEW HYBRIDS.

LÆLIO-CATTLEYA EURIPIDES [L.-C. GOLD-CREST (*L. COWANI* × *C. SCHRÖDERÆ*) × L.-C. MYRA (*L. FLAVA* × *C. TRIANÆ*)].—Another useful addition to the yellow section of Orchid flowers has been produced by Messrs. J. and A. McBean, of Cooksbridge. It is hardly expected that the flower would be equal in size to many of those of the purple section, but considering the narrow shape of the parents containing the yellow pigment this hybrid is certainly an advance in the right direction. The colour of this new hybrid is very bright orange-yellow.

ODONTOGLOSSUM VOLTINIA [(*HALLII* × *VUYLSTEKEI* (*WILCKEANUM* × *HARVENGTENSE*)]—The labellums of both *Hallii* and *luteo-purpureum* have very spiny crests; the combination of these two species has produced, in the hybrid, a decidedly attractive feature. The well-known triangular blotch of colour on the apex of the triumphant lip is largely inherited, and the broad, fringed labellum of *luteo-purpureum* is also in evidence. The flower of this new hybrid, which has been raised in the collection of de Barri Crawshay, Esq., has a golden-yellow ground colour, and is almost covered with large reddish-brown blotches, the tips of the sepals and petals remaining a bright yellow.

ODONTOGLOSSUM HUNIADÉS (*SCEPTRUM* × *HUNNEWELLIANUM*).—A flower of this rare natural hybrid comes from the collection of de Barri Crawshay, Esq., Rosefield, Sevenoaks. The sepals are a solid chocolate colour, the narrow petals blotched with the same colour on the outer halves and lightly spotted on the inner parts. The pandurate lip is fringed at the apex and bears in the centre a large triangular chocolate blotch; the sides curl over this and almost hide it from view. A somewhat remarkable feature in

this hybrid is the dark circle of colour at the base of the lip, exactly under the crest.

ODONTOGLOSSUM PALMERI.—This pretty new hybrid between *Odontoglossum crispum*-*Harryanum* and *Od. Lambeauianum* has recently flowered in the collection of Thos. W. Palmer, Esq., Woodlands, Walpole Road, Boscombe, Hants. Although the plant is not fully grown there is evidence in the flower that a most useful addition to the *Odontoglossum* hybrids has been made. The sepals and petals are almost white, the latter very broad and charmingly crisped at the margin, in fact, the shape of the whole flower resembles that of a good *crispum* more than the narrow petalled one of *Harryanum*. The *Harryanum* has, however, left its influence in the bright purple-red spots and markings which are neatly arranged over the whole of the flower, the only exception being the apex of the labellum, which is pure white.

The following new hybrid Orchids were included in the Gold Medal group exhibited by Lieut-Col. Sir George Holford, K.C.V.O., at the Royal Horticultural Society, March 5th,

1912. They have all been raised by Mr. H. G. Alexander.

LÆLIO-CATTLEYA VOLTAIRE (L.-C. C. G. RÖBLING × C. AUREA).—The former parent is a hybrid between *L. purpurata* and *C. Gaskelliana*. This robust-growing hybrid carried a spike of four creamy-white flowers, the magenta-purple lip being veined with gold at the base of the throat.

CATTLEYA MAGNET (MOSSLE × WHITEI).—*C. Whitei* is a hybrid between *Warneri* and *Schilleriana*. The form and colour of the variety exhibited resembled a small flowering *Warneri*, but, doubtless, other varieties will shortly appear.

LÆLIO-CATTLEYA GROLIER (LABIATA × MASSANGEANA).—The latter parent is a hybrid between *L. tenebrosa* and *C. Schilleriana*. The flower is of a reddish-copper colour, the lip somewhat darker and distinctly veined with purple.

LÆLIO-CATTLEYA ARGOSY (MOSSLE × INGRAMII).—The latter parent is a hybrid between *L. Dayana* and *C. aurea*. Flowers of medium size, of a bright rosy-purple tint, the distinctive feature being the large amount of bright gold in the throat and on the side lobes of the labellum.

CALENDAR OF OPERATIONS FOR APRIL.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

TEMPERATURES, generally speaking, should average from five to ten degrees higher than those advised for January, and even more on warm sunny days. An exception, however, should be made with the cool *Odontoglossum* house, a temperature ranging between fifty and sixty degrees should still be the aim, allowing, of course, a slight rise with sun heat. The temperatures should be kept as even as possible at night, and sufficient fire heat must be maintained to keep the different houses at their proper figures.

Atmosphere. With the increasing temperatures moisture may be distributed more freely, as evaporation will take place more quickly. The remarks made last month

respecting this matter are available for April, the only thing to bear in mind is that, as the days get longer, the sun has more power, and a hot, over-dry atmosphere must, above all things, be avoided.

Watering and ventilation during this month need a great deal of care and attention, and the remarks made last month under these headings apply also to this. Attention in these small matters makes all the difference between success and failure. An inattentive cultivator never reaches the highest position in his profession, and whoever wishes to become proficient in any form of plant culture must attend to the smallest details. This month we must push on with the re-potting of all those plants which need it, taking each

section in its proper season. We can safely surmise that we are now through the worst part of the season, and we can see the result of our practice in the way our plants have passed through the winter. If any have not passed through the ordeal as we would wish, the cause must be found, so that in the future we may have better results.

Cypripediums, as they pass out of flower, should have immediate attention by being thoroughly overhauled. Those that require re-potting should be done, using the compost as advised in a previous number. Varieties which it is desirable to increase the stock of may be divided, but to my mind one good plant is worth half a dozen little ones. When all have been done, the plants should be thoroughly cleaned and put in their summer quarters to make their growths, allowing them room to develop.

Coelogyne cristata, and its varieties, that have done flowering and are commencing to grow, may have attention as regards re-potting, should they require it. These plants grow and thrive for a very considerable time without being re-potted, and where a large quantity is grown a certain portion should be potted annually; in this way no great loss of flowers is experienced. The plants should be turned out of the receptacles in which they have been growing and be carefully divided, each separate growth having four to five pseudo-bulbs and as many roots as can be saved. Select receptacles according to the uses the plants are intended for, and well drain them, placing over this a good layer of sphagnum moss. The compost should consist of equal parts of peat, polypodium, osmunda fibre, and a good turfy loam, removing all the earthy particles possible, and sphagnum moss. The plants should be potted moderately firm, and the bulbs should be so placed that the leading growths go entirely round the plant. The plants, when finished, may have one good watering to settle the compost about the roots, allowing them to become dry before they receive another application.

Dendrobiums. The numerous species and hybrids of this genus have for some

considerable time past provided a pleasing display of flowers in the warm houses. Those plants which bloomed early will require attention as regards re-potting, an operation which is best done when the young growths are but a few inches high. At this stage the plants produce new roots, and these delight in a sweet, fresh compost. The plants may be grown suspended from the roof, or placed upon the stages, according to the amount of room at the disposal of the cultivator. When re-potting, very great care must be taken to prevent the roots being injured, and over-potting is detrimental to healthy growth. They will succeed in a compost of peat, *AI* fibre, polypodium, osmunda fibre, and sphagnum moss, the pots or pans to be well drained, and no water to be given them until the roots are seen to be travelling through the compost. A slight spraying over head will be beneficial on fine days, until they get established, when they may be syringed twice a day with advantage. Seedlings of this genus may also be re-potted at this season. A house of this beautiful class of plants, when well-grown and in full flower, makes a delightful picture.

Oncidium varicosum, *O. Forbesii*, and other late summer and autumn flowering species are starting new growths again after resting since their last flowering season. Young roots soon push forth from the base of the new growths, and when these are observed, fresh rooting material should be afforded to any plants that require it. The dwarf growing kinds are best cultivated in shallow pans; pots will answer the requirements of the others. A similar compost to that given for *Odontoglossums* is suitable also for this genus, and during the early stages of their growth water must be applied with caution; when the roots are ramifying freely through the new compost they must have a liberal supply of moisture. The plants delight in a humid position, in a cool intermediate house, where they can receive plenty of fresh air.

Cattleyas, *Lælias*, and *Lælio-Cattleyas*, as they pass out of flower, and are seen to be pushing roots, may be potted in the compost previously recommended for *Lælia anceps*.

Cattleyas and their hybrids comprise some of the most gorgeous and most beautiful flowers in existence. To many this is one of the most difficult classes of plants to cultivate, for what reason I can hardly understand. To my mind many of them are killed by being grown during the winter months in a damp, low temperature; again, others suffer in the same manner from an insufficient supply of water when in full growth and at other times.

The cultivation of this family of plants is too large to deal with in its entirety in a calendar of this description, but I hope to show from time to time how success may be obtained. The sorts that bloom during autumn and winter are just now commencing to push forth new roots, and with them new growths; fresh rooting material should now be given to any plants that require it. The sorts that flower late in winter should be re-potted as soon as possible after their flowering period is over, keeping the plant on the dry side until the roots are seen to be pushing through the new compost. This process gives the plant a natural rest, and the new growths push forth with renewed strength at their proper season. However carefully the operation of re-potting is performed the plants receive a check of a greater or less degree, and this must be kept in mind.

Healthy specimens which have plenty of roots and are in a root-bound condition should be placed into large receptacles without being disturbed more than is necessary. The loose compost should be carefully picked out and the old ball of compost be broken up as much as possible without damaging the roots; any roots that are dead must be carefully removed. Unless the decayed compost is removed each time the plant is re-potted, it is obvious that sooner or later the centre of the ball of compost becomes a decayed mass, and all the roots that come in contact with it die.

The size of the receptacle depends entirely on the habit of the plant; if it is a vigorous grower it may be placed in a larger one than would be advisable were it a less robust grower. The pots or pans must be well drained, and the base of the plant should be on a level with the rim of the plant. The

plants should be potted firmly, and staked up to prevent rocking. Any of the back pseudo-bulbs which are old and leafless should be removed during re-potting, as they are only parasites living on the front portion of the plant.

Any back bulbs having good eyes, removed from plants of rare and valuable kinds, may be potted up in small pans, and carefully labelled; in most cases they will start into growth and make valuable duplicate plants. These plants require careful watering at all seasons, and when in full growth the plant should be allowed to become dry between each operation; when at rest only sufficient water should be given to keep the leaves in a fresh condition and the bulbs from shrivelling.

Miltonia vexillaria and *M. Bleuana* pushing up their flower spikes should not be allowed to suffer for want of water, or else their flowers may come small and crippled. Before their flower spikes are far advanced it is advisable that they should be thoroughly cleaned and fumigated at intervals to prevent the ravages of thrip and other insect pests.

Odontoglossum citrosimum, having been well rested throughout the winter, will be pushing flower-spikes from the centre of the new growths, the plants so doing may be given more water. This species is always better grown suspended from the roof, where its drooping spikes have a most graceful appearance.

Epidendrum vitellinum is a great favourite, but is often grown too warm. This plant delights in the coolest part of the cool house. It may be re-potted in the usual compost; the autumn flowering variety at this season, the summer flowering one after blooming at mid-summer.

Maxillarias. Such plants as *M. grandiflora*, *M. venusta*, *M. picta*, and others should be examined as to their needs for more pot room or rooting material. Such species as *M. Sanderiana*, *M. fuscata*, *M. luteo alba*, and others that are now showing for bloom, should not be disturbed until they have flowered. The plants will succeed in the same compost as *Dendrobiums*, and delight in the cool house.



THE CHARLESWORTH CUP.

This Cup, value £100, is to be awarded to an Amateur exhibiting Orchids at the International Show, Chelsea.

General remarks. Means must now be taken to prevent direct sunshine entering through the sides and ends of the houses, therefore the usual methods of shading these portions must be used. This may be done

either by canvas-covered screens fastened to the ends of the houses, or the glass may be painted over with one of the many preparations for that purpose; this latter course is the one generally adopted.

ROYAL HORTICULTURAL SOCIETY.

March 5th, 1912.

MEMBERS of the Committee present: J. Gurney Fowler, Esq. (in the chair), and Lieut.-Col. Sir George Holford, Sir Jeremiah Colman, Bart., Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, Stuart Low, R. A. Rolfe, R. G. Thwaites, T. Armstrong, A. McBean, W. Cobb, J. E. Shill, J. Charlesworth, H. G. Alexander, J. Cypher, W. H. Hatcher, W. P. Bound, A. Dye, Clive Cookson, W. H. White, C. J. Lucas, J. S. Moss, and de Barri Crawshaw.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), received a Gold Medal for an exceedingly fine group of well grown Orchids. Many of the most noted varieties of *Cattleya Trianae* were included, *C.-T. Hydra* with 60 flowers being a noble specimen. The white *Cattleyas* included *Cattleya Dusseldorfei Undine* and its hybrid *C. Brenda*; the *Brasso-Cattleyas* were represented by many superior forms of these well known hybrids. *Laelio-Cattleyas* included the yellow flowering *Cranstouniae* "Holford's var.," and the elegant *Pizarro*. Among the *Odontoglossums* were the handsome *ardentissimum Norman Cookson*, and several excellent varieties of *Od. crispum*. Many spikes of the white flowering *Laelia anceps* and *Phalænopsis Schilleriana* with a spike of 84 flowers helped to finish a most effective group.

Messrs. Armstrong and Brown, Tunbridge Wells, staged a remarkable group for which a Silver-gilt Medal was deservedly awarded. Many of the best *Dendrobiums*, including the beautiful pure white *nobile*, were placed in the centre. *Laelio-Cattleya Ernestii*, of bright yellow colour, and *L.-C. warnhamensis*, of a rich purple-brown, were shown in good form. The *Cypripediums* included *hirsutissimum*

magnificum and a good form of *Victory*. *Brasso-Cattleya Mrs. J. Leemann*, *Lycaste Skinneri alba* and other excellent varieties of this species, and several fine varieties of *Miltonias*.

Messrs. Jas. Veitch and Sons, Royal Exotic Nursery, Chelsea, were awarded a Silver Flora Medal for a good group, the *Digbyana* hybrids being well represented. *Laelio-Cattleya Orama*, a new hybrid between *Dominiana* and *bletchleyensis*, *L.-C. bella*, a pretty variety of *Odontoglossum Dora*, the scarlet *Odontioda Diana*, and *Disa sagittalis* with eight spikes of flowers were conspicuous in the group.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for an interesting group containing many good *Dendrobiums* and *Cypripediums*. *Zygotepalum crinitum*, *Lycaste plana*, and the elegant *Angræcum citratum* were specially noticed.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Banksian Medal for a good group of *Phalænopsis* and *Cattleyas*. The rare *Houlletia Sanderi*, a specimen plant of *Cœlogyne flaccida*, *Eulophia lurida*, and several uncommon *Maxillarias* were of great interest.

Messrs. Stuart Low and Co., Bush Hill Park, received a Silver Banksian Medal for an effective group, many distinct forms of *Cattleya Schröderæ* being included. A specimen *Cœlogyne pandurata*, *Cymbidium Wigianum*, and the elegant *Dendrobium Brymerianum* were some of the meritorious plants.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for a splendid group of *Angræcum sesquipedale*. Good plants of *Laelio-Cattleya luminosa*,

Cattleya Empress Frederick, and *C. Mendelii* Diana, a good variety, with white sepals and petals and a slight pink tinge on the lip, were also shown.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate, was awarded a Silver Banksian Medal for an attractive group of *Dendrobiums*. *D. Lady Colman*, one of the finest hybrids, *D. speciosum fusiforme*, and *D. Golden Ray* were much admired.

Count Joseph de Hemptinne, St. Denis-Westrem, Belgium, exhibited *Cattleya Trianae* alba "Edelweiss," a very fine flower of excellent substance, and with broad, pure white petals.

Sir Trevor Lawrence, Bart., Burford, sent a large plant of *Cymbidium Colmaniae* "Edenside variety," with many flower spikes.

The Duke of Marlborough, Blenheim, showed a hybrid between *Cattleya Miss Harris* and *Lælia purpurata*.

Mr. E. V. Low, Haywards Heath, exhibited *Odontoglossum The Premier*, of unknown parentage, a handsome blotched flower.

Messrs. W. Baylor Hartland and Sons, Cork, exhibited a group of various Orchids. *Odontoglossum Braynum*, a new hybrid, said to be between *Groganiae* and *Harrynum*, was also shown.

Messrs. J. and A. McBean, Cooksbridge, exhibited a very dark form of *Odontioda Charlesworthii*, the elegant *Dendrobium amethystoglossum*, and several good *Odontoglossums*.

H. S. Goodson, Esq., Putney (gr. Mr. G. E. Day), sent *Odontioda Diana* "Goodson's var.," *Odontoglossum ardentissimum Dayanum*, *Od. eximium Harry Goodson*, and *Odontioda Henryi* (*C. Nœzliana* × *O. harvengtense*).

F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, showed *Cypripedium Hera rubrum*, *Odontoglossum Valerie*, a hybrid between *cirrhosum* and *ardentissimum*, and *Cyp. Ochre Queen*.

The Hon. Lady Neeld, Grittleton, sent *Odontoglossum percultum Carmania*, a large flower with purple spotting.

Messrs. Charlesworth and Co., Haywards Heath, exhibited *Miltonia Bleuana nobilior*,

the pure white *Brasso-Cattleya Queen Alexandra*, *Lælio-Cattleya Ixion*, of a bright yellow colour, and *Cattleya Octave Doin* of excellent form.

J. Gurney Fowler, Esq., Glebelands, South Woodford, sent *Cattleya Schroderæ Louisa*, a pleasing variety with a distinct crimson blotch on the lip.

AWARDS.

AWARDS OF MERIT.

Odontoglossum Jasper (*crispum* × *amabile*), from J. S. Moss, Esq., Wintershill House, Bishop's Waltham. A very pretty flower of good shape, neatly spotted with purple.

Dendrobium Golden Ray superbum (*Othello Colmaniae* × *signatum aureum*), from Sir Jeremiah Colman, Bart. A very effective and charming hybrid, the colour being particularly uncommon. The buttercup yellow flowers are tipped with rose-purple, the base of the lip being of a purple-crimson tint.

CULTURAL COMMENDATION.

To Mr. J. Carpenter (gr. to Fred. C. Stoop, Esq., West Hall, Byfleet) for a specimen *Angræcum sesquipedale* with twelve large flowers.

To Mr. Collier (gr. to Sir Jeremiah Colman, Bart.) for a well-flowered specimen of *Cymbidium grandiflorum*.

March 19th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, C. J. Lucas, Gurney Wilson, F. M. Ogilvie, T. Armstrong, A. McBean, W. Cobb, J. Charlesworth, J. Cypher, J. E. Shill, A. Dye, W. H. White, J. Wilson-Potter, J. S. Moss, W. Bolton, de Barri Crawshay, and H. G. Alexander.

H. S. Goodson, Fairlawn, Putney (gr. Mr. Geo. Day), received a Silver Flora Medal for a grand group of Orchids containing some splendidly grown plants of *Phaius Norman* and *P. Marthæ*, *Lælio-Cattleya Charlesworthii* Goodson's variety, and *Lycaste Skinneri* alba.

The *Odontoglossums* were very varied, and included *ardentissimum* Dayanum, *Rolfstekeæ*, and several good shaped *crispums*. Many excellent *Cypripediums* and other Orchids made a useful addition to this attractive exhibit.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for some specially good Orchids. These included the rare *Neo-Moorea irrorata* with 17 flowers, the graceful *Angræcum citratum*, *Odontoglossum Gladys*, with a large amount of yellow colouring, and *Lælio-Cattleya Creusa*, an orange-yellow flower of great merit.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a large group containing many rare Orchids, those of special merit being *Cymbidium Gottianum*, *Odontoglossum Groganiæ*, *Od. eximium* var. *Flambeau*, *Lycaste Imschootiana*, and a large selection of *Odontiodas*.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Banksian Medal for a group containing excellent *Brasso-Cattleyas*, the elegant *Bifrenaria Harrisoniæ*, *Sophronitis violacea*, and the pretty *Dendrobium chessingtonense* var. *J. M. Black*.

Messrs. Hassall and Co., Southgate, London, N., exhibited several attractive Orchids to which a Silver Banksian Medal was granted. A large variety of *Angræcum sesquipedale*, a well-flowered plant of *Masdevallia bella*, *Ansellia africana*, and some good examples of *Cattleya amethystoglossa*.

Messrs. J. and A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for several distinct varieties of *Cattleya Schröderæ*, a very fine *Odontoglossum nebulosum*, *Lælio-Cattleya Euripides*, and several excellent varieties of *Odontoglossum crispum*.

G. Hamilton-Smith, Esq., Church End, Finchley, received a Silver Banksian Medal for a pretty group of *Cymbidium* hybrids, and varieties of *Lycaste Skinneri*, the one named *Mrs. G. Hamilton-Smith* being particularly fine.

R. G. Thwaites, Esq., Streatham Hill, exhibited *Sophrö-Cattleya Atreus gloriosa*,

of a dark crimson-scarlet colour, and *Odontioda Sanderæ*, a broad lipped form of good colour.

E. H. Davidson, Esq., Borlases, Twyford, Berks., exhibited *Odontioda Cooksoniæ* var. *Eric*, a very richly coloured flower of great beauty, the bright yellow crest showing to advantage on the crimson-scarlet ground colour. *Odontoglossum crispum Clarissa*, a bold and remarkably thick textured variety was also shown.

H. T. Pitt, Esq., Stamford Hill, showed *Cymbidium Lady Colman Rosslyn* var., an elegant form with attractive flowers.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. Collier), staged several well grown and interesting Orchids. The *Odontiodas* were very well flowered, their spikes of many flowers being much admired. *Odontoglossum Queen of Gatton* (*triumphans* × *percultum*, *Eulophia Saundersii*, with four erect spikes, and the pretty *Maxillaria sanguinea* were also shown.

de Barri Crawshay, Esq., Rosefield, Sevenoaks, exhibited a very handsome form of *Cymbidium insigne*, *Odontioda bella* (*C. Noëzliana* × *O. bellatulum*), *O. excellens*, and *O. Saturnia* (*Lucasianum* × *Andersonianum*).

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury (gr. Mr. H. G. Alexander), exhibited a remarkable specimen of *Sophronitis grandiflora* with nearly 100 bright scarlet flowers of good shape; the plant has been in the collection about eleven years. *Lælio-Cattleya Alpha Westonbirt* variety, a pleasing flower of lemon-yellow colour was also shown.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt, exhibited *Cymbidium Colmaniæ Holmewood* variety, an elegant form with creamy-yellow, almost spotless flowers. A cut spike of *Cymbidium Lowianum* with 25 large flowers was also shown.

George W. Bird, Esq., Manor House, West Wickham, Kent, showed *Odontoglossum crispum Luciani*, a well-known variety, having handsome purple blotches.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed the elegant *Dendrobium*

chessingtonense var. J. M. Black, the plants being very well flowered, *Cattleya Ludde-manniana Stanleyi* in good form, and *Cypripedium aureum* surprise with 7 flowers.

Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea, exhibited a richly coloured hybrid between *Laelio-Cattleya bella* and *L. purpurata*.

Mr. James H. Hill, Burgess Hill, showed *Dendrobium Austinii* var. James H. Hill, a noble flower, of good size and shape, the blotch of colour in the centre of the lip being very dark.

Mr. C. F. Waters, Deanlands Nursery, Balcombe, showed *Lycaste Skinneri* Watersii, a very distinct variety.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum crispum Samuel Gratrix, from Samuel Gratrix, Esq., West Point,

Whalley Range, Manchester (gr. Mr. Brown).—A very beautiful variety, the large flower having petals of considerable breadth heavily blotched with scarlet-purple. In every respect a remarkable variety.

AWARDS OF MERIT

Cattleya Dirce (Miss Harris × *Warscewiczii*) from Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander).—A handsome flower of good substance, the rosy-purple segments being large and of excellent shape. The labellum shows the dark purple veining derived from *Cattleya Schilleriana*, one of the parents of Miss Harris.

Odontoglossum Queen of Gatton (*triumphans* × *percultum*), from Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. Collier).—A very handsome flower, the broad sepals and petals are dark yellow heavily blotched with brown, the labellum having bright rose markings.

MANCHESTER ORCHID SOCIETY.

February 22nd, 1912.

The meeting held on Thursday, February 22nd, was a joint meeting with the North of England Horticultural Society, the following constituting the Committee on the occasion:—Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, C. Parker, W. Thompson, A. Warburton, Z. A. Ward, W. Bolton, J. C. Cowan, J. Cypher, J. Evans, W. Hatcher, W. Holmes, A. McBean, A. J. Keeling, D. McLeod, F. K. Sander, W. Stevens, and H. Arthur (Secretary), with the Rev. J. Bernard Hall, Secretary of the North of England Horticultural Society.

The proposal to hold a joint meeting met with great success, there being no less than twenty groups staged and twenty-six exhibitors in all.

Z. A. Ward, Esq., Northenden, was awarded a Gold Medal for one of the finest groups which has been seen in the room, the

Odontoglossums being specially well-grown. A Gold Medal was also given by the North of England Horticultural Society.

O. O. Wrigley, Esq., Bury, was awarded a Gold Medal for a wonderful exhibit of *Lycaste Skinneri*, about fifty plants in all being staged. The variety *alba* carried thirty-one flowers and buds. The North of England Horticultural Society also awarded a Gold Medal to this group.

W. R. Lee, Esq., Heywood, received a Silver Medal for a good group of *Odontoglossums* and *Cypripediums*, etc. A Silver Medal was given by the North of England Horticultural Society.

R. Ashworth, Esq., was awarded a Silver Medal for a group consisting principally of *Odontoglossums*, several of which obtained awards. The North of England Horticultural Society awarded a Large Silver Medal.

R. le Doux, Esq., West Derby, received

a Silver Medal for *Odontoglossums* in variety. A Silver Medal was also granted by the North of England Horticultural Society.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), was awarded a Silver Medal for an excellent group. The North of England Horticultural Society awarded a Large Silver Medal.

A. Warburton, Esq., Haslingden, received a Silver Medal for a group of choice Orchids. A Silver Medal was also given by the North of England Horticultural Society.

J. McCartney, Esq., Bolton, was awarded a Silver Medal for an interesting group, including many good varieties of *Cattleya Trianae*. A Silver Medal was awarded by the North of England Horticultural Society.

Wm. Thompson, Esq., Walton Grange, was awarded a Silver Medal for a very interesting group of home-raised *Odontoglossums*. A Silver Medal was awarded by the North of England Horticultural Society.

W. J. Hargreaves, Esq., Burnley, received a Silver Medal for a good group of *Cypripediums*. The North of England Horticultural Society granted a Silver Medal.

Rev. J. Crombleholme, Clayton-le-Moors, received a Silver Medal for a group of *Cypripediums*. A Large Bronze Medal was given by the North of England Horticultural Society.

Col. J. Rutherford, M.P., Blackburn, was awarded a Bronze Medal for Orchids in variety. A Large Bronze Medal was awarded by the North of England Horticultural Society.

J. J. Holden, Esq., Southport, exhibited *Laelio-Cattleya amabilis*, *Odontoglossum Lambeauianum* Holden's var., and *Odontoglossum Radium*.

J. H. Craven, Esq., Keighley, staged *Odontoglossum Orpheus*, and a good variety of *Odontoglossum Rossii majus*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-gilt Medal for a splendid group of choice Orchids. A Large Silver-gilt Medal was granted by the North of England Horticultural Society.

Messrs. J. and A. McBean, Cooksbridge, was also awarded a Silver-gilt Medal for a

fine group consisting principally of *Odontoglossums*. The North of England Horticultural Society awarded a Silver-gilt Medal.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a good group of Orchids. A Large Silver Medal was awarded by the North of England Horticultural Society.

Messrs. Stuart Low and Co., Enfield, received a Silver Medal for an interesting group. A Silver Medal was granted by the North of England Horticultural Society.

Mr. Ed. V. Low, Haywards Heath, received a Silver Medal for a group of well-grown plants. The North of England Horticultural Society also awarded a Silver Medal.

Mr. W. A. Manda, St. Albans, was awarded a Silver-gilt Medal for a very fine group of *Cattleyas*. A Silver-gilt Medal was granted by the North of England Horticultural Society.

The Liverpool Orchid Co. were also awarded a Silver Medal. A Large Bronze Medal was given by the North of England Horticultural Society.

Messrs. Sander and Sons, St. Albans, exhibited some magnificent plants of *Phalænopsis Schilleriana* and various *Cattleyas*.

Mr. J. Evans, Congleton, exhibited several excellent Orchids. A Large Bronze Medal was awarded by the North of England Horticultural Society.

Mr. D. McLeod, Chorlton-cum-Hardy, exhibited several *Cypripedium* seedlings.

Messrs. A. J. Keeling and Sons, Bradford, received a Bronze Medal from the North of England Horticultural Society for several good Orchids.

Mr. W. Shackleton, Great Horton, exhibited a good blotched *Odontoglossum Vuylstekeæ*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cypripedium hybrid (*Thompsonii* × *Rupert*), from W. Thompson, Esq., a fine flower, bright colour.

Zygopetalum Mackayi Charlesworthii, the

albino form of the species; *Odontioda Cooksoniæ*, a fine form, from Messrs. Charlesworth and Co., Haywards Heath.

AWARDS OF MERIT.

Odontoglossum Zulu, *Od. Confidence*, and *Odontioda keighleyense*, all from Z. A. Ward, Esq.

Odontoglossum amabile Ashworth's var., *Od. Nubian*, and *Od. illustrissimum*, from R. Ashworth, Esq.

Lælio-Cattleya amabilis and *Od. Lambeauianum* Holden's var., from J. J. Holden, Esq.

Dendrobium Othello "West Point" var., from S. Gratrix, Esq.

Cypripedium Archimedes nigrum, from A. Warburton, Esq.

Brasso-Lælio-Cattleya Leeana (L.-C. *Hyeana* × B.-C. *heatonensis*), and B.-C. *Pocahontas albens*, from Messrs. Cypher and Sons.

Sophro-Lælio-Cattleya Marathon, var. *Salome*, from Messrs. J. and A. McBean.

Cypripedium Simonii, var. *The Mousmé*, from Mr. Ed. V. Low.

March 7th, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden, was awarded a Silver-gilt Medal for a group of *Odontoglossums* and *Cypripediums*.

W. R. Lee, Esq., Heywood, was awarded a Silver Medal for some fine varieties of *Odontoglossums*.

Col. J. Rutherford, M.P., Blackburn, staged a nice group, to which a Silver Medal was awarded.

J. McCartney, Esq., Bolton, was also awarded a Silver Medal for a group composed principally of *Cattleyas*.

Rev. J. Crombleholme, Clayton-le-Moors, had a small but effective group.

A. Warburton, Esq., Haslingden, was

awarded a Silver Medal for a group containing many notable Orchids.

O. O. Wrigley, Esq., Bury, exhibited a well-grown plant of *Cypripedium Rothschildianum* with four spikes, and other Orchids.

J. J. Holden, Esq., Southport, staged *Cattleya Cappei* and a very fine *Odontoglossum*, which obtained a First-class Certificate.

Wm. Thompson, Esq., Walton Grange, staged *Cypripedium Carola*.

H. Thorp, Esq., Rhodes, staged *Cypripedium aureum* surprise.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a good group.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Medal for an interesting exhibit.

Messrs. Charlesworth and Co., Haywards Heath, showed several excellent *Odontoglossums*.

Messrs. Hassall and Co., Southgate, staged several rare Orchids.

Mr. J. Evans, Congleton, exhibited three blotched *Odontoglossums*.

Messrs. A. J. Keeling and Sons, Bradford, staged some good *Cattleyas*.

Mr. W. Shackleton, Great Horton, exhibited several interesting plants.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum In Memoriam King Edward (parentage unknown), from J. J. Holden, Esq., a fine large flower of solid colour, with white tips to the segments.

AWARDS OF MERIT.

Cattleya Cappei (*Trianæ* × *Schroderæ*), from J. J. Holden, Esq.

Odontoglossum triumphans "Ward's variety," from Z. A. Ward, Esq.

Cypripedium Carola (*Hera* × *Thompsonii*), from Wm. Thompson, Esq.



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NOTES.

MANCHESTER ORCHID SOCIETY.—Owing to the date of the Annual Meeting of the Manchester Orchid Society clashing with the Royal International Show in London, the Committee have decided that there be no Meeting on May 30th, the date being altered to Thursday, June 6th, and on that day the Annual Meeting will be held. The Committee will sit at 12 a.m. as usual, and the Meeting will be held at 3 p.m.



BRASSO-CATTLEYA MRS. J. LEEMANN.—A very pretty flower of this well known hybrid has been raised in the collection of Capt. Robert Twiss, Bird Hill, Limerick. The edge of the petals is fringed after the style of that pertaining to the labellum, but not to such a marked degree. This is evidently an attempt to form a regular flower by the increase of the irregular portions, and thus a form of Reichenbach's term trilabellia, or in present day language irregular peloria.



SCHOMBURGKIA LUEDDEMANII.—This interesting Orchid, after having been lost sight of for nearly half a century, is the subject of an illustration in the April number of the *Botanical Magazine*. When flowering for the first time at Kew in 1911, it was identified with *S. Lueddemanii* of Prillieux. A flowering spike was sent to the Scientific Committee meeting of the Royal Horticultural Society, April 2nd, 1912, by Sir Frederick Moore, and

some discussion arose regarding its distinctness from *S. undulata*, but the Director of the Royal Botanic Gardens, Kew, to whom it was referred, stated that it was distinguished from that species by a bright yellow crest to the lip and other differences. Some difficulty is often experienced in flowering the species of *Schomburgkia*. Considerable heat and a good light are necessary, and after the bulbs are completed the plants should be kept in a fairly dry condition to encourage the formation of the flower spikes.



AN ELEGANT CATALOGUE.—Messrs. Charlesworth and Co.'s new Orchid Catalogue for 1912 surpasses anything previously published by this progressive firm. Consisting of 84 pages with nearly 2,000 items, it forms a book of considerable value to Orchidists. Faithful coloured illustrations are given of the richly coloured *Cattleya Rhoda illuminata* (*C. Iris* × *C. Hardyana*), the beautiful yellow *Odontoglossum Harwoodii*, and the Shrubbery variety of the same, *Lælio-Cattleya Sylvia*, the extremely pretty *Odontoglossum Jeanette* (*O. Rossii rubescens* × *O. amabile heatonense*), the very large form of *Odontoglossum Ossulstonii* known as the Shrubbery variety, *Sophrocattlælia Jeannette* (*L.-C. Martinettii* × *S. grandiflora*), one of the finest of the *Sophronitis* hybrids, *Odontioda Euterpe* (*C. Noëzliana* × *O. Uro-Skinneri*), and the very beautiful *Sophro-Cattleya Lotte Muller* (*C. Peetersii* × *S.-C. Nydia*).



NORTH OF ENGLAND HORTICULTURAL SOCIETY'S MEDAL.—The above reproduction of the medal designed by Mr. F. Ransom for the North of England Horticultural Society shows the figure of Mother Earth, known in Latin as Ceres, and in Greek as Demeter, one of the great divinities of the Greeks. She is bearing in her right hand, in strict accordance with Greek mythology, a bunch of poppies, and in her left hand a basket of assorted fruit. She is standing in a field of wheat, one half of which is growing, the other half is in sheaves. The treatment of the subject and the model is extremely happy, and the medal is considered by those best able to judge to be one of the finest that has been struck for some time. The manufacturers are Messrs. Fattorini and Sons, of Bradford.



BRASSO-CATTLEYA H. G. ALEXANDER.—This very remarkable hybrid between *Cattleya citrina* and *Brassavola Digbyana* produces large lemon-yellow flowers slightly larger than those of the *Cattleya* parent. The *Brassavola* species has added a pretty fringe to the edge of the labellum, and has somewhat stiffened the flower. Apart from the curious combination of specific characters this hybrid is of considerable utility in the production of a yellow *Cattleya*, for flowers containing a good yellow colour are very scarce. *Brasso-Cattleya H. G. Alexander* bears the name of its raiser, and when the plant was exhibited by Lieut.-Col. Sir George Hol'ord at the Royal Horticultural Society,

March 5th, 1907, it deservedly obtained an Award of Merit.



ORCHID SALE.—The remaining portion of the Oakdene Collection, formed by the late Mr. E. Rogerson, was sold by auction at Messrs. Protheroe and Morris' rooms on Thursday and Friday, March 28th and 29th. The following are some of the best prices: *Odontoglossum crispum* Oakdene Surprise, grand plant with four bulbs, 9 gns.; *O. c.* White's variety, four old bulbs and one new growth, 4½ gns.; *O. c.* Chesters Rogerson, 10 gns.; *O. c.* Pittianum, three old bulbs and one strong growth, 55 gns.; *O. c. virginale* The Queen, six bulbs, one strong break, 10 gns.; *O. c.* Louis Sander, seven fine bulbs, 23 gns.; *O. c.* Mabel Whateley, three bulbs, one strong lead, 13 gns.; *O. c.* Graireanum, five bulbs, 30 gns.; *O. c.* Lucianii, three old bulbs, one growth, 17 gns.; *O. c.* Britannia, five small bulbs, 5 gns.; *O. xanthotes*, var. Lord Lansdowne, four bulbs, 22 gns.; *O. crispum xanthotes* White's var., five bulbs, 6 gns.; *O. ardentocrispum* Rogersonii, four bulbs, 22 gns.; *O. c.* Karthousii, five bulbs, 8 gns.; *O. c.* Robert McVittæ, three bulbs, one lead, 16 gns.; *O. c.* Leonard Perfect, one bulb, one growth, 21 gns.; *Cattleya Warneri* Ardenholme var., four fine bulbs, 17 gns.; *C. aurea alba*, six bulbs, 20 gns.; *C. Mendelii* Mrs. A. Lees, two plants, 12 gns.; *C. Mossiæ* Reineckiana, two plants, 8 gns.; *Cypripedium nitens* Leeanum, var. Hannibal, two growths, 7½ gns.; *C. Corneyanum*, two plants, each three growths, 5½ gns.; *C. Hindeanum*, two plants, each two growths, 8 gns.; *C. lækense*, three growths, 6 gns.; and *C. Priam*, three growths, 4½ gns.



ANGRÆCUM CITRATUM.—Some twenty or more years ago a grand specimen of this pretty Madagascan Orchid was in Mr. Corning's collection. It was grown in a shallow pot suspended from the roof of the hot house, and only broken charcoal was used as a rooting material. On one occasion it carried no less than 21 spikes and 481 flowers.

ODONTOGLOSSUM HIS MAJESTY.—This handsome hybrid, of which the parentage is unfortunately unrecorded, received an Award of Merit at the Royal Horticultural Society, April 2nd, 1912, when exhibited by Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander), Westonbirt. The spike carried thirteen flowers, the lowest one of which is the subject of our illustration. The good culture imparted to this plant has produced flowers of thick substance on which the chocolate-purple blotches so much prized in the various *Odontoglossum* hybrids are developed to a high degree.

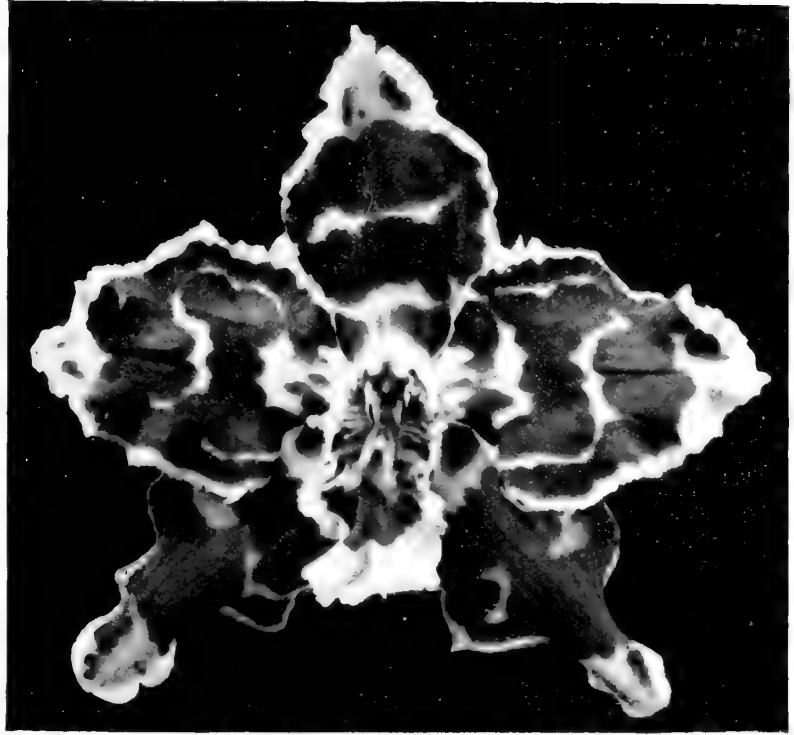


Photo by]

Odontoglossum His Majesty.

[F. Waldoek.



OPHRYS ARACHNITES.—I have had under observation for several years a plant of *Ophrys arachnites* growing in the south of France. I found the plant in 1908, and the flower spike of that year was sent to M. Camus, of Paris, who wrote that he intended to give a very detailed note upon it in his *Mono-graphie des Orchidées d'Europe*. On April 4th, 1909, the plant produced a very similar spike; the lowest flower never opened, the second had two lips, the third and fourth had each one lip and three anthers, the fifth and sixth had each one lip and two anthers. On March 25th, 1910, I found the plant with abnormal flowers, but it had not vigour enough to open them fully; perhaps this was owing to drought. It only carried three flowers, but I could see that each of them had three anthers. I did not see the plant in 1911, but this year it is apparently on the down grade, and only had two flowers, the lower of which had been eaten by a snail. The upper flower is unlike any borne by the plant in 1908, 1909, or 1910, for it has a broad dorsal sepal (?), and two anthers facing each other, but no

labellum. The plant is in a favourable position, and other normal specimens are flourishing close by, but it seems likely that this plant will not be able to flower at all next season.—*W. H. St. Quintin.*



OPHRYS ARANIFERA.—Of this, the Spider *Ophrys*, Darwin examined fourteen flowers, in none were both pollinia, and in three alone was one pollinium removed. Hence this species, he said, is but little visited by insects in England. In parts of Italy it is even less visited, for Delpino states that in Liguria hardly one flower out of 3,000 sets a capsule, though near Florence rather more capsules are produced. The flowers, however, must be occasionally visited and fertilised by insects, for Delpino found pollen masses on the stigmas of some flowers which still retained both their own pollinia. A curious flower spike of *O. aranifera* has been sent from the south of France to *W. H. St. Quintin, Esq.*, of Scampston Hall, who kindly forwards it on to us. The lower flower

contains two perfect labellums arranged in the position usually occupied by the lateral petals, which in this flower are entirely absent. The dorsal and ventral sepals are well developed. This abnormality is evidently a reduction from the trimerous to

a dimerous condition. The equilibrium of the third flower is entirely upset, one of the lower sepals has become fused with the labellum, and one of the anthers has strayed into a lateral petal where some of the pollen grains are visible.



Cœlogyne Foerstermannii flowering in the collection of E. H. Andriess, Esq., Java.

CÆLOGYNE FOERSTERMANNII.—This elegant *Cœlogyne* species is a native of Borneo, Sumatra, and Malacca. It is rather rare in collections, and somewhat shy flowering. The flowers, which are produced about twelve to fourteen on a spike, are almost the same size as those of *Cœlogyne asperata*, but not quite so broad in their segments. The labellum is streaked with yellow-ochre colour at the base and on the front lobe, the other portions of the flower being pure white. Our illustration is of an excellent specimen flowering in the collection of E. H. Andriess, Esq., Soember Telogo, Java.

THE BRITTLE SNAKE IN THE ORCHID HOUSE.—The brittle snake, or the slow-worm, is a native of Britain, common in England, though not in Scotland; when full-grown it is about twelve inches long, generally of a dark glossy colour, moves slowly, and has a beautiful snake-like head, with keen piercing eyes, is perfectly harmless, and can be made a pet. I find this snake a grand assistant to the green tree frog in the Orchid houses, as his principal food is snails. All Orchid growers hate snails, as they destroy flower-spikes and young bulbs. Some years ago a friend of mine purchased a rare *Phalænopsis* for ten guineas. Next morning,

when he went to look at the rare plant, he found to his disgust that a snail had made his breakfast off it—a most expensive breakfast, many will say. I would advise Orchid growers to give the slow-worm a trial. They can be purchased from any dealer in wild animals.—*Dr. Paterson*, in *The Garden*, January 28th, 1888.



TRADE NOTICE.—Mr. E. J. Seymour, who for the past nine years has been in the employ of Messrs. Stuart Low and Co., will in future act as representative for Mr. Sidney Flory, Orchid Nurseries, Amyand Park Road, Twickenham.



THE HIGHEST POINT OF CULTURE.—Of all the elements necessary to the proper development of the parts of Orchideous plants, none is of more importance than light. This may seem strange to young beginners, who will wonder, after this, why so much fuss is made about shading. Now in this it becomes the student of horticulture to make a nice distinction. The direct action of sunlight is one thing, its indirect or refracted action another; at least, as to its effects on the perspiratory organs of the plant. Nevertheless, I am persuaded that when these tribes are in good health, unshaken by capricious relapses in culture, they will endure, and enjoy much more sunlight than has hitherto been accorded them, especially when their early growth is nearly completed, or say, towards August and September. The present practice of suspending baskets over Orchids growing in pots is not quite the thing to promote the highest point of culture. To be sure they are grown so, and grown well, too: but this, I submit, is not the answer that will long satisfy a public eager for progress. The question will constantly recur in this, as in other things, can these things be still better done? Is there any room for further progress? Any person looking, for instance, at Mr. Rucker's splendid collection, so admirably managed by Mr. Mylam, might, at first sight, imagine that the very summit of perfection had been attained. It will not, however, be

found so in the vegetable kingdom, to which it would appear our gracious Creator has set no bounds in this respect; or if there be any bounds, I am at a loss to conceive in which of our vegetable productions it has become manifest.—*R. Errington*, 1850.

NEW ORCHIDS.

A recent issue of the *Kew Bulletin* contains a thirty-eighth Decade of New Orchids. The following species, with Latin descriptions by Mr. R. A. Rolie, are mentioned:—

PLEUROTHALLIS REPENS, from S. Brazil.—Found in a clump of *Lælia purpurata*, and flowered in the collection of Sir Frederick Wigan, Bart., in January, 1904. The sepals and petals are pallid, striped with purple-red, and the rest of the flower reddish-brown.

DENDROBIUM (CERATOBIMUM) IMTHURNII, from Solomon Islands.—A very robust species, allied to *D. antennatum*, to which its flowers bear a considerable resemblance, but far more robust in every respect. It flowered at Kew in August, 1911.

BULBOPHYLLUM (OXYSEPALÆ) CONGESTUM, from Burma and S.W. China.—Flowered in the Royal Botanic Gardens, Glasnevin, in September, 1910. It is markedly different from *B. odoratissimum* in its smaller flowers, much shorter sepals, and pale yellow, not brown lip, though in habit the two are much alike.

CIRRHOPE TALUM MICHOLITZII, from Annam.—Flowered at the Royal Botanic Gardens, Glasnevin, and with Messrs. Stuart Low and Co., in October, 1910. The lateral sepals are deep yellow, and the dorsal sepal and petals blotched with dark purple on a pale ground, or in one case the spots were confluent into lines, but identical in other respects.

POLYSTACHYA REPENS, from Tropical Africa.—A minute and very distinct species which flowered in the collection of Sir Trevor Lawrence, Bart., in November, 1911. The creeping habit is remarkable and apparently marks it as a much reduced member of the

group containing *P. superposita*. The sepals and petals are buff-yellow striped with brown, and the lip deep red-brown.

CHONDRORHYNCHA LIPSCOMBIÆ, from Panama.—Flowered in the collection of Mrs. Lipscomb, Wimbledon, in December, 1911. It was found by her son, Mr. Lancelot Lipscomb, when helping to clear some "bush" for rubber and cocoa planting, and was sent home with a good many others in 1910. The flowers are white with some light purple veins on the lip.

GONGORA TRACYANA, from Peru.—Introduced by Mr. H. A. Tracy, and flowered in the collection of Mr. J. S. Bergheim, in March, 1911, and shortly afterwards with the importer. The sepals and petals are greenish-yellow barred and blotched with brown, and the lip ivory-white with a few brown lines on the basal half.

ANGRÆCUM ANDERSONII, from Tropical Africa.—A curious leafless species, which flowered at the Royal Botanic Gardens, Glasnevin, in December, 1911, whence it was sent for determination by Sir F. W. Moore. The flowers are semi-pellucid white, with a broad emerald-green line on the sepals, a green centre to the lip, and a green column.

PHYSURUS VALIDUS, from Peru.—Flowered in the Royal Botanic Gardens, Edinburgh, in January, 1911. It resembles the Brazilian *P. roseus* very closely in habit and floral structure, but from the differently coloured bracts and flowers and the different habitat is probably distinct.

HABENARIA (CERATOPETALA) DAWEL, from Tropical Africa.—A fine species, of which the radical leaves and the upper part of the scape only were sent. The specimen was found in open grass land.

THE NAMING OF SPECIES AND HYBRIDS.

THE method of naming species, and also hybrids when Latin is used, is as recommended by the International Botanical Congress, held at Vienna, 1905.

The specific name should, in general, give some indication of the appearance, the characters, the origin, the history, or the properties of the species. If taken from the name of a person, it usually recalls the name of the one who discovered or described it, or was in some way concerned with it.

Names of men and women, and also names of countries and localities used as specific names, may be substantives in the genitive (*Mendelii*, *saharæ*), or adjectives (*Dominiana*, *dahuricus*). It will be well, in the future, to avoid the use of the genitive and the adjectival form of the same name to designate two different species of the same genus.

Specific names begin with a small letter, except those which are taken from names of persons (substantives or adjectives), or those which are old generic names (substantives or adjectives).

When a specific name is taken from the

name of a man, it is formed in the following way:—

When the name ends in a vowel, the letter *i* is added, thus *Cappei*, except when the name ends in *a*, when *e* is added, thus *Trianæ*.

When the name ends in a consonant, the letters *ii* are added, thus *Mendelii*, except when the name ends in *er*, when *i* is added, thus *Warneri*.

Syllables which are not modified by these endings retain their original spelling, even in the case of the consonants *k* and *w*, or groupings of vowels which are not used in classic Latin.

Letters foreign to the Latin of botanists should be transcribed and diacritic signs suppressed. The German *ä*, *ö*, *ü* become *æ*, *œ*, *ue*; the French *é*, *è*, *ê* become, in general, *e*.

When specific names taken from the name of a person have an adjectival form a similar plan is adopted.

The same applies to the names of women. These are written in the feminine when they have a substantival form.

AN ORCHID COLLECTOR'S TRAVELS THROUGH BRITISH GUIANA TO BRAZIL.

By ED. KROMER.

(Continued from page 139.)

BETWEEN these grotesque masses of rocks were ever so many shallow and deep pools, many of them connected by channels of smaller or greater width; one of the larger pools which I measured was 250 feet in width with hardly four inches depth of water. Of animal life the top of Roraima seems almost as good as bare, and the few specimens we observed during our short stay were all of an exceptionally diminutive size and of a uniform black or dark grey colour; we noticed a black butterfly, some small frogs in the shallow water, a small lively lizard, a few spiders, and, most curious of all, a small dark-coloured sort of a weasel, which on our approach gave a whistling sound and swiftly crept into a hiding-place amongst the rocks.

The next day at the early hour of ten o'clock a fresh gang of Indians arrived to take our collections and belongings down, staring at us in comical bewilderment to find us alive. Our companions of the previous day had quite enough of the one ascent. We hastened to complete our collection and after mid-day began the descent, not without, however, leaving in two securely sealed bottles the record of our experience behind for future travellers.

As in coming up we had to go over much of the ground by crawling on all fours, so in going down we passed much of the way by sliding in a sitting posture. The astonishment of the villagers at seeing us return sane and sound may better be imagined than described. As for ourselves, we felt as if having gained a great victory, being the first living men who had spent a night on the top of this mysterious mountain.

Having thus achieved the ends of our journey and leaving a record in the history of Roraima, our plans were now directed towards home, much as we should have liked to stay a longer time. But the growing scarcity of provisions, the even much more serious exhaustion of our barter goods, the

growing unrest of many of our party who were here amongst strangers, and the increasing symptoms of ill-health which Seyler, our interpreter Peter, and several more of the party had felt for some time, decided me in favour of a return homeward.

We hurried on with the process of packing the plants, which a favourable fine weather had dried sufficiently well; the Indians made us with marvellous facility a sort of wicker baskets, attaching a piece of broad fibre to the ends of each basket, and in carrying them put the fibre across their foreheads and bore the burden on their back. Seyler with the main bulk started off in the direction of Waibéna, while I, awaiting the arrival of some more carriers, followed two days afterwards on the 25th November.

My farewell to Roraima was made with curiously mixed feelings, for not often in a life-time does one come across such a place under such circumstances; for my part, to give, if only to some extent, an accurate description in adequate terms of such majestic splendour of nature would be almost a sacrilege; others, towers in the world of science, have tried it and *they* have failed; there are simply no words for it.

Having so far taken so much time up in illustrating our outward journey and our goings and doings at our destination, I will give a detailed description of our memorable homeward journey, which I am safe to say will never be forgotten by either of us, or any of the party for all our life.

(1) The continual difficulty in getting sufficient hands at the various stations; (2) The torrential rains for 25 days and nights, such as can only be witnessed in the tropics, with only an occasional hour's interruption; (3) The many and various accidents on the way; (4) The loss of our provisions and the privations we suffered therefrom with our large party during the last stage of our journey overland; and (5) the frequent unpleasant moments with our

carriers would in themselves afford material enough to be dealt with in a separate chapter, which, however, would not be pleasant reading. May it suffice, therefore, to give an extract from an original note of Seyler's, sent from the centre of Curubung mountain to me on Curubung landing-stage, where our misfortunes reached their climax; this paragraph

to some extent will give an idea how matters were standing with us: " — — —

Write to Mr. Barnard and tell him that I will be responsible for all he sends you. I hope the boat will arrive before time, but it is doubtful on account of the high water. Spare me half a tin of milk if you can, not more, as I have nothing left, and salt and pepper won't do for it. Things look awkward, but never mind, grumbling won't help us anything; we will have to worry through, and a little starvation won't amount to much. I gave William a piece of my mind, because he helped himself to Cassadabread without asking, so he seems annoyed and leaves again to-day with Frederick and the Roraima chap; if he wants to go let him go."

As an endorsement of the preceding, and

also as an illustration of the manner in which we reached our starting-point, Bartika Grove, I had better give here a short extract from another letter of Seyler's, which much later on he addressed to a leading firm of Orchid importers in England, respecting the collecting of *Cattleya Lawrenceana*, and in which he says: "We had the hardest trouble now

through the want of Indians to carry our loads. Besides this, the rainy weather set in and our loads suffered badly for all the care we took of them. Also, the Indians got disagreeable, having to go back several times to bring the remaining baskets. Nevertheless, we got as far as the Curubung Mountains. Up to this time we were more or less always starving; we procured a scanty supply of provisions, but lost nearly all of them in a small creek and what



*Ru-iméru Fall. The Cliff on the left was covered with *Cattleya Lawrenceana*.*

was saved was spoiling under our very eyes, it being then that the rainy season had fully started, drenching us from morning till night. It took us nine days to get our loads over the mountains, where our boat was to reach us. And we were for two and a half days entirely without food. Besides, the Indians had opened the baskets and partly thrown the

loads away, not being able to carry the heavy soaked-through baskets over the mountains, so making us lose the best of our plants.

Arrived at our landing we had to wait for our boat, which arrived a week later in consequence of the river being high and, of course, short of provisions. Still we got away with our loads until we reached the first gold placer, owned by a friend of mine, who supplied us with food. Thereafter we started for town. Half-way, at Capuri Falls (one of the most dangerous), we swamped down over a rock, and so lost some of our belongings; still we saved all our plants, though they lay for a few hours under water with the boat. After this we reached town in safety. There, having poisoned my leg through a rotten stump, which I ran my foot up against in the forests, I was laid up for four months suffering terrible pain."

So far Seyler's experience.

On the first of January, just as a glorious sun dropped like a golden apple below the horizon, our Bartika Grove friends welcomed us with their best New Year's greetings on our safe return. Three days later Seyler, myself and our faithful interpreter Peter, together with three stalwart Indians from Roraima, who ventured to accompany the white man to the finish, landed again in Georgetown after an absence of 106 days.

Now although one would think that the time for a well-earned rest and happiness had come, the worries are not over yet; there appears the strong arm of the law and demands payment for collecting Orchids for exportation, and on the top of that an export duty of two cents on each individual Orchid. You lodge a protest on the strength of having collected your plants in foreign or disputed territory—as, in fact, later events have proved—and having brought them in transit through the Colony; but your arguments are quickly torn to pieces on finding one fine morning the sage official interpretation: "that all products of the soil brought from the Interior shall be deemed to have been obtained on British territory." On the face of such argument the wise man gives way, he settles his account with the authorities, at

the same time being of opinion that this is the limit.

The packing up of the plants must now be done, but as this process does not occupy all our time, and the mail-boat for Europe only leaves in another fortnight, we found leisure to do, in the American style, the town and a few interesting sceneries in the neighbourhood.

NEW HYBRIDS.

ODONTOGLOSSUM EGERIA.—This hybrid, the result of crossing *Hallio-crispum* with *amabile*, has recently been raised in the collection of de Barri Crawshay, Esq., Rosefield, Sevenoaks. The dull yellow sepals and petals are almost covered with reddish-brown blotches. The yellow tips of both sepals and petals are reflexed and twisted in a manner often seen in *Hallii*. The creamy-white labellum is handsomely marked with purple at the base, the remaining half being somewhat broader and with an elongated apex. The spiny crest indicates the influence of both *Hallii* and *Harryanum*. The side wings of the column project forward.

LÆLIO-CATTLEYA RIGIDA.—Messrs. Sander and Sons have raised this new hybrid between *C. Lawrenceana* and *L. superbiana*. The flower partakes largely of the latter parent in shape and habit. The bright yellow centre of the throat is effectively marked with numerous purple veins.

BRASSOCATLELIA JOAN.—By crossing *Cattleya Octave Doin* with *Brasso-Lælia Mrs. Gratrix*, a pretty hybrid of amber-yellow colour has been obtained. The labellum has a conspicuous fringe of a slightly darker tint. Raised by Messrs. Charlesworth and Co., Haywards Heath.

LÆLIO-CATTLEYA ENDYMION.—*L. - C. luminosa* × *L.-C. callistoglossa* has produced this new hybrid in the collection of F. du Cane Godman, Esq., South Lodge, Horsham, where it has been raised by Mr. Giles. The large flower is reddish-purple, the labellum being of a rich ruby-purple. The bright yellow discs in the throat are very effective.



Lælia anceps Chamberlainiana, as grown by Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Tetbury, Glos.

Received Cultural Commendation when exhibited at the Royal Horticultural Society, January 31st, 1911.

SOME NOTES ON LÆLIA ANCEPS.

LÆLIA *anceps* has not received as much attention as it deserves; surely its graceful, long and erect spikes are of considerable utility for giving to Orchid groups that tasteful and finishing touch which is, except on rare occasions, only seen in the exhibits staged by professional hands of long experience. How often does one notice the heavy effect produced by a mass of large *Cattleyas*, or the staging, all on the same level, of numerous smaller flowering Orchids.

Specimen plants of *Lælia anceps* are particularly well adapted for placing at the back of large groups, for when so situated, the long flower spikes can be arranged to gracefully bend over the specimens which are staged in front, and thus add considerably to a natural effect being produced. To imitate nature is to have all things as nearly correct as possible; if the amateur strives to follow

nature's way of doing things he will speedily be recompensed for his trouble.

Hybridists would do well in the future to utilise the various varieties of *Lælia anceps*, and to endeavour to perpetuate their graceful method of flowering. On the other hand, the flowers have peculiarities all their own, and the possibilities of producing unique crosses are greater than with many of the species which in the past have partaken so much in the creation of our present day hybrids.

Until the recent flowering for the first time of *Lælio-Cattleya McBeaniana*, a hybrid between *C. Schröderæ* and *L. anceps Schröderiana*, who would not have expected anything so elegant and distinct from these two species. Primary hybrids, it has often been said, have nearly all been made, and little chance remains for a newcomer in the hybridising world to produce anything novel

by the use of species only. But in *L.-C. McBeaniana*, raised by Messrs. J. and A. McBean, Cooksbridge, we have a recent example of the uniting of two species which, for generations past, have been with us in an unconnected state. Is it not possible that many other equally promising hybrids remain as yet unthought of?

Lælia anceps, unlike the majority of *Cattleyas* and *Lælias* which only on rare occasions produce a white flower, may be collected in several different districts, some producing purple tinted, others almost pure white flowers, or with only a few purple lines in the throat. The only pure albino is that commonly known as "Bull's alba." The finest coloured forms are *Chamberlainiana* and *Crawshayana*.

Lælia anceps Dawsonii has a high reputation, but Mr. de Barri Crawshay, who has devoted considerable time to the study of these plants, considers it to be a local species and not a variety of typical *L. anceps*, for of many varieties that he has examined all have the same general form, although some slight variation is visible in the size of the flower, and also in the formation of the blotch of colour on the labellum. As many plants of *Dawsonii* have been collected in Mexico it cannot be true that the specimens in the various collections are portions of one original plant which has been propagated in this country.

Soon after the plants have finished flowering new roots will commence to push from the base of the last made pseudo-bulb; this is a favourable opportunity to do any necessary re-potting. For large specimens nothing equals osmunda fibre, but for smaller and weaker growing plants a mixture of osmunda, polypodium, and sphagnum moss will give excellent results. Replace the plants in such a way that the new growths will be formed towards the centre of the pot, allowing sufficient room for two or three new bulbs to be made. After re-potting keep the plants on the dry side for a few days, and if sunny weather prevails it will be advisable to lightly syringe them overhead to prevent the pseudo-bulb from shrivelling too much.

Lælia anceps does not like being disturbed, consequently the plants after re-potting will probably look a little unhappy, but as soon as the new roots enter the fresh compost rapid recovery will take place. The plants should be placed in a good light position, or, if possible, grown in a pan or basket suspended from the roof. Very little shading will be required, for these Mexican species are accustomed to much sunshine and plenty of air. Ventilation must be freely given to prevent burning of the foliage. Some growers have obtained excellent results by placing a thin canvas screen inside the house just under the glass. In the case of the small amateur's collection, where many different kinds of Orchids have to be grown in the same house, it will not be found possible to carry out these instructions without in some way interfering with the other occupants. Probably one end or even a corner of the house could be devoted to *L. anceps* and other Mexican Orchids; by so doing less risk will be incurred to the plants requiring a shady and cooler atmosphere.

Every attention must be given to encourage a healthy and strong growth during the summer months, for without this, flowering results are sure to be poor and disappointing. As soon as the newly made bulb is complete gradual resting of the plants should take place, and the longer the rest the better will be the substance of the flower. Resting, it should be mentioned, does not mean the total withholding of water and consequent risk of killing the plant, but is carried out by placing the plants in a cooler atmosphere and giving only sufficient water to prevent the bulbs from shrivelling and not enough to force them to commence a second growth during the dull autumn months.



Mexican Orchids are particularly liable to be attacked by insect pests; every means must, therefore, be taken to keep the plants clean by constant washing with a suitable insecticide, or else by frequent fumigation of the house. The smallest insect often does the greatest damage.

THE INTERNATIONAL EXHIBITION OF 1866.

THE advent of the great International Exhibition calls to mind the immense strides that have been made in the improvement and hybridisation of Orchids since the last exhibition, held in 1866. There are few Orchidists now living who were present at this event which, in its day, was looked upon with quite as much excitement and wonder as we regard the great show of 1912. In 1866 almost any Orchid was considered a rare specimen of vegetable life, a marvel to be owned by none but the wealthy, an exotic requiring the greatest cultural skill, and an example of the curious and varied forms of tropical vegetation from distant climes. How all this has changed.

At the Botanical Congress, held in the South Kensington Museum during the period of the exhibition, Mr. Robert Warner read a paper on "Cool Vinery Orchids," a subject at that time almost startling, for few realised the fact that a large number of Orchids could be grown in a comparatively cool atmosphere. Mr. Warner explained his methods and gave for the use of future generations many of the details of cultivation which time alone has proved correct. Hybrids, although not unknown, were of great rarity, and the groups were almost entirely made up of species and their various varieties.

The 1866 exhibition buildings cost £2,000, in addition to which must be added the cost of the glass sashes specially made for lighting the Orchid tent. These, however, proved unnecessary, the tent being light enough without them, and the glass, where it was used, had to be painted over. The Orchids covered a space of about 400 feet of the bank allocated for that purpose; the judges being Prof. Reichenbach, of Hamburg, Mr. Anderson, of Meadowbank, Mr. Lawrence, of Farnham, and Mr. W. Rollisson, of Tooting.

In the open class for 50 Orchids, any kind, in flower, Mr. Robert Warner was the only exhibitor and consequently secured the 1st Prize of £30. In the amateur's class for 20 Orchids, the 1st Prize of £25 was secured by Mr. Turner, of Leicester. Mr. W. Leaf,

of Streatham, Mrs. Treadwell, of Norwood, and Mr. Buller, of Exeter, secured the remaining prizes.

Class 29 was for 12 Orchids, distinct, in flower. The 1st Prize of £10 was won by Messrs. Veitch and Sons, Chelsea, the 2nd by Mr. B. S. Williams, and the 4th by Mr. William Bull, Chelsea; the 3rd Prize was withheld by the jurors. In the following class four money prizes were offered, Mr. Gibbs, of Regent's Park, being placed first, and Mr. William Marshall securing the second. Two other amateurs were also successful. Classes 31 and 32, each for six Orchids, enticed several entries.

Class 33 was for one new Orchid, shown for the first time in flower. The 1st prize, £3, was awarded to M. J. Linden, for *Ærides japonicum*; the 2nd prize, £2, was won by Messrs. Veitch, for *Angræcum citratum*. Other exhibitors in this class were Messrs. Backhouse, who showed *Oncidium concolor*, *Maxillaria leptosepala*, and an *Odontoglossum* species from Venezuela; Messrs. Veitch, who staged *Cypripedium lævigatum*; Mr. Robert Warner, who exhibited *Dendrobium Wardianum* and *Cattleya Mossiæ Marianæ*; Mr. B. S. Williams, who brought *Vanda cristata superba* and *Phalænopsis Ludde-manniana superba*; and Mr. James Bateman, who showed a variety of *Miltonia spectabilis*. With all these interesting plants before them the jurors thought fit to withhold the 3rd prize.

Class 34, for one Orchid in flower, encouraged the Duke of Northumberland, Mr. Robert Warner, Mr. A. Turner, Mr. James Bateman, and Mr. B. S. Williams to enter for the three prizes.

The class for ten variegated Orchids, including *Anœctochilus*, *Physurus*, *Macodes*, *Goodyera*, etc., induced several exhibitors to compete; in nearly every group the varieties of *Anœctochilus* formed the principal part. The 1st Prize of £5 was awarded to Mr. B. S. Williams, and the 4th to Messrs. S. Glendinning, Chiswick. Variegated Orchids are rarely seen in present day collections.

THE ORCHID CUPS AND MEDALS TO BE WON AT THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION, 1912.



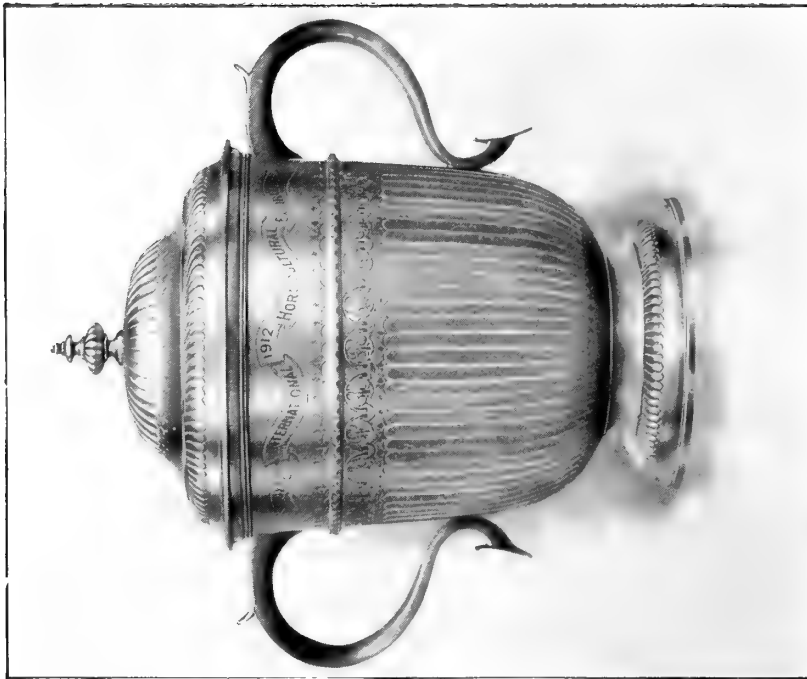
The Cup presented by His Majesty The King, to be awarded to the most meritorious exhibit in the show.



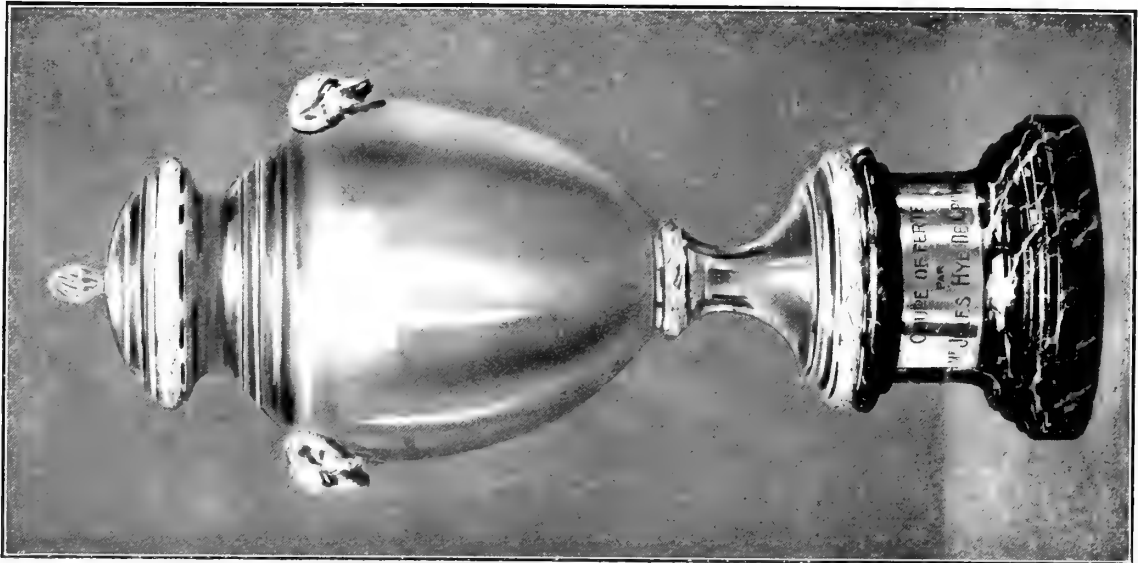
The Medal of the Royal International Horticultural Exhibition, 1912.



The Cup presented by Baron Bruno Schröder for the best group of Hybrid Orchids.



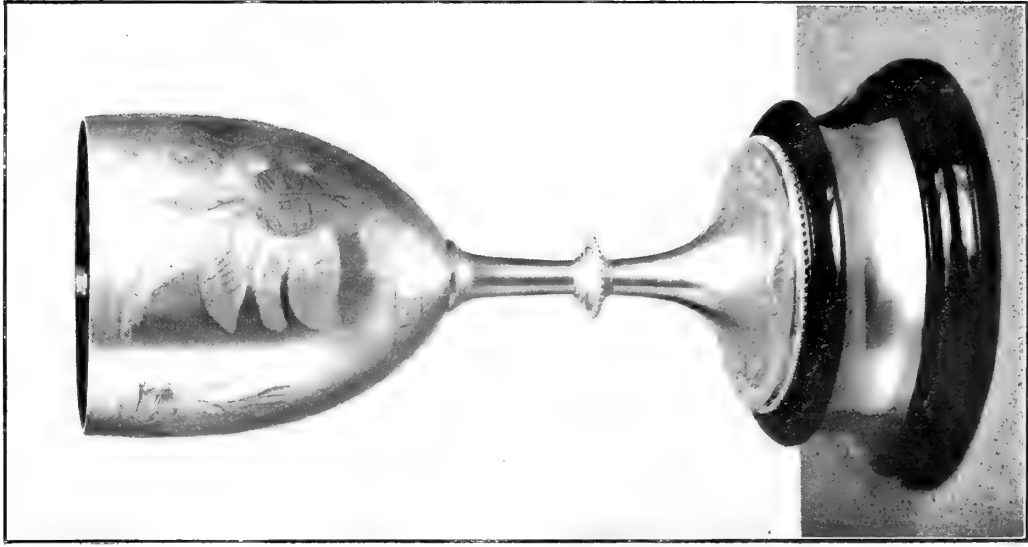
The "Standard" Cup presented by the Directors of the Exhibition.



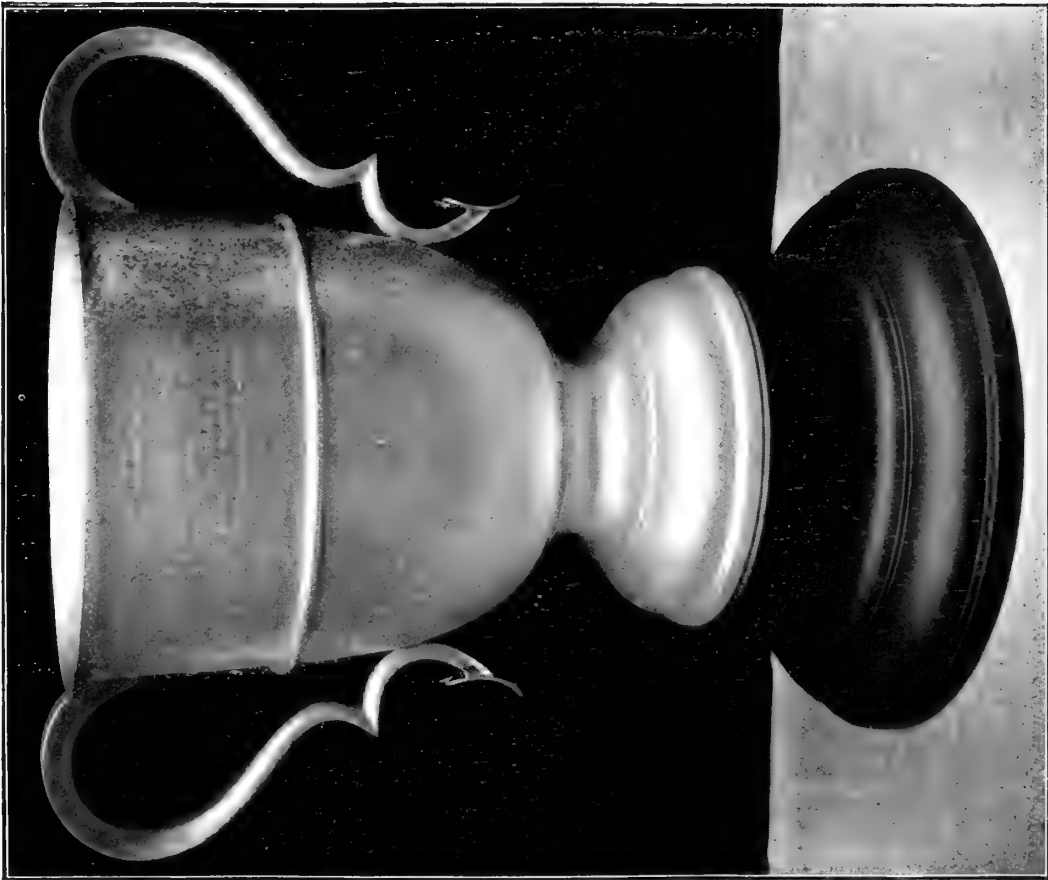
*The Cup presented by Mons. Jules Hye de Crom for the best *Miltonia vexillaria*.*



The Cup presented by Lieut.-Col. Sir George Holford for the best group of Orchids (Trade).



One of three Cups presented by Messrs. Bull & Sons for the best Odontioda, Hybrid Cattleya, and Hybrid Odontoglossum.



The Cup presented by W. Duncan Tucker, Esq., for a group of Orchids (Trade).

THE ORCHID JURY OF THE ROYAL INTERNATIONAL SHOW, 1912.

The following have accepted the invitation to act as Members of the Orchid Jury of the Royal International Horticultural Exhibition, 1912:—

Alexander, H. G., Westonbirt Gardens, Tetbury.	Kunz, Karl, Vienna, Austria.
Ashworth, E., Wilmslow, Cheshire.	Lambeau, Firmin, Brussels.
Beyrodt, Otto, Marienfelde, Berlin.	Lee, W. R., Heywood, Lancs.
Bolton, W., Warrington, Lancs.	Low, Stuart, Enfield, Middlesex.
Chapman, H. J., Oakwood Gardens, Wylam-on-Tyne.	Maron, Ch., Brunoy, France.
Charlesworth, J., Haywards Heath.	Moore, G. F., Bourton-on-the-Water, Glos.
Cobb, W., Rusper, Sussex.	O'Brien, James, Harrow-on-the-Hill.
Crawshay, de Barri, Sevenoaks.	Peeters, A. A., St. Gilles, Brussels.
Cypher, J., Queen's Road, Cheltenham.	Sander, Fred., St. Albans.
Davis, J., Glebelands Gardens, S. Woodford.	Shill, J. E., The Dell Gardens, Englefield Green.
de Crom, Jules Hye, Ghent.	Thompson, W., Walton Grange, Stone.
de Hemptinne, Count Joseph, St. Denis-Westrem, Belgium.	Thwaites, R. G., Streatham Hill, S.W.
Dietrich, Ch., Auderghem, Brussels.	Troyanowsky, J., Moscow, Russia.
Hanbury, F. J., Brockhurst, East Grinstead.	Vuylsteke, C., Ghent, Belgium.
Hurst, C. C., Hinckley, Leicestershire.	Wellesley, F., Woking, Surrey.
	White, W. H., Burford Gardens, Surrey.
	Wilson, Gurney, Haywards Heath.

CALENDAR OF OPERATIONS FOR MAY.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

Plants, in all departments, will now be making new growth, and every encouragement should be given to induce them to build up their growths quickly. Soft, sappy growth, although extremely large, does not always produce the most, or the best flowers; therefore we, as cultivators, should grow our plants under those conditions which enable them to solidify themselves as they grow, and so that they may be able to withstand any hardships they may have hereafter to encounter.

Temperatures. As an inducement to the various plants to make rapid growth, the summer temperatures should now be brought into operation. The figures given below should be maintained as nearly as possible, but should a spell of cold, inclement weather prevail, no harm will accrue from the temperatures being a few degrees lower than those given:—

Cool house, day 60 deg. to 65 deg., night 55 deg. to 60 deg.

Intermediate, Cattleya and Mexican houses, day 70 deg. to 80 deg., night 65 deg. to 70 deg.

Warm house, day 75 deg. to 80 deg., night 75 deg.

Speaking of temperatures, I do not wish to imply that the thermometer, or rather the degrees of heat in the various houses, should be riveted to a certain figure. Some discretion should be used according to the outside climatic conditions as regards the amount of fire heat used to maintain the various temperatures. An excessive amount of fire heat is harmful at any time, but at this season of the year it can be counteracted by atmospheric moisture.

Moisture. As the weather gets brighter and warmer, more moisture must be maintained in the houses to keep our plants in a healthy condition and as a preventive of insect pests. When the weather is hot the floors and staging of our houses cannot be

kept too wet, and spraying and syringing can be freely indulged in, but not indiscriminately.

Watering. The plants will now take up considerable quantities of water at the roots, but still all plants should be watered with caution, for the whole secret of plant cultivation depends entirely on the amount of intelligence brought to bear upon this branch of our practice. Care should be taken that every plant requires water before it is applied.

Shading. Considerable care and attention must be given to our plants as regards the amount of shade we give them; sunshine is life to some, and death to others.

Ventilation must still have great attention, as I am firmly convinced that a regular supply of fresh air is essential to good cultivation. Excepting for an hour or so when the houses are closed in the evening, I always have one or more ventilators open, according to the outside conditions and the different houses.

Cypripediums of the winter flowering section, as regards potting, should be brought to a conclusion as soon as possible, for the longer the season of growth the better for them. The summer flowering section, such as *C. niveum*, *C. Lawrenceanum*, *C. Godefroyæ*, *Curtisii*, and their various hybrids, should be cleaned and placed in their flowering quarters.

Cattleyas, *Lælias*, and *Lælio-Cattleyas* now coming into flower should be thoroughly cleaned and the flowering growths neatly staked up, and, if possible, a house should be entirely devoted to them where the atmosphere can be kept a little drier and the temperature somewhat cooler; this will be the means of the flowers lasting longer and the conditions more comfortable for those who wish to see the plants. Any plants that have passed out of flower and need re-potting should be done at once, providing they have commenced to push new roots, or are about to do so. *C. Mendelii*, *C. Mossiæ*, and *C. Schröderæ* should be grown in a house a few degrees lower than that in which *C. gigas* and many of the hybrids are cultivated.

Dendrobiums. *D. Phalænopsis Schröder-*

ianum, if not previously attended to, should have attention at once and new rooting material provided if necessary. The ever-green species and varieties which flower at this season are beautiful and attractive plants. *D. densiflorum*, *D. Farmeri*, *D. thyrsiflorum*, *D. chrysotoxum* and others, usually commence developing their flower spikes simultaneously, and by the time the flowers are faded the roots from the base of the young growths are somewhat advanced; at this stage any necessary re-potting should be done. The plants, when well established, should be grown well up to the light, using only sufficient shade to prevent scorching. *D. infundibulum* and *D. Jamesianum* succeed in a cool intermediate temperature, and when well grown are most beautiful and useful. The other kinds are best grown in the warm house. A similar compost as that advised for *Dendrobiums* last month should be employed for all the species. Exercise the usual care in watering all newly potted plants, and afford them extra shade on bright days.

Zygopetalum Mackayi and *Z. crinitum*, also such plants as *Bolleas*, *Pescatoreas*, and *Promenæas*, which, for cultivating purposes, may all be classed under one head, grow in dense shade, and where the atmosphere is very humid, and the temperature averages about 60 degrees. At the present time plants of these species are growing quickly. The foliage should be sprayed, especially on the under side, with tepid rain water three or four times a day, and sufficient water must be applied to keep the compost moist. These plants must also be protected from even weak sunshine. The present time is a favourable one for any necessary re-potting, using a compost suitable for *Odontoglossums*.

Odontoglossums of the *grande*, *Insleayi*, and *Uro-Skinneri* section which have commenced to push fresh roots from their new growth will need attention as regards re-potting. Up till now, these plants, since their last bulbs matured, have been kept on the dry side, but now that growth has recommenced root action will soon follow. This section may now be placed at the warm

end of the *Odontoglossum* house, which is a suitable place during the hot months. Cool house Orchids, which are very soon injured by heat, must now be kept as cool as possible. The temperature should be kept down during hot weather by heavy shading and the thorough damping down of every available space several times a day.

Cymbidium eburneum, *C. Lowianum*, *C. grandiflorum* (*Hookerianum*), *C. Tracyanum* and *C. giganteum*, also their varieties and hybrids, which have passed out of flower and are on the point of making new roots from their young growth are in a desirable condition for being re-potted. The compost I recommend is equal parts fibrous peat and loam, with a fair quantity of sphagnum moss and coarse silver sand. It should be used rather rough, and the plants should be potted moderately firm and much the same as ordinary plants. After re-potting special care must be given in applying water, as over-watering at this stage means absolute ruin; one good watering after the plant has been re-potted will suffice for a considerable time. *Cymbidiums* will thrive in a cool part of the intermediate house; they must be shaded from direct sunshine. The same compost will answer the requirements of any *Phaius* that require attention. These succeed in a warm, moist, shady corner of the *Cattleya* house, and when the pots are full of roots abundance of water must be given. A little liquid manure may occasionally be used.

Anguloas which have passed out of flower may also be re-potted, using the compost recommended for the green-leaved *Cypripediums*. The same remarks apply also to *Lycastes*; they both thrive in a shady place in the cool intermediate house.

Sobralias that are showing their flower spikes, especially if at all pot bound, will benefit by an occasional watering with weak liquid manure water; this will greatly assist them in developing their flowers. Manure water is beneficial to all terrestrial Orchids when in full growth, or when pushing up flower spikes, but it should never be used in an over strong state.

Stanhopeas, if they require it, may now

be placed in larger baskets. These should be shallow ones, and instead of crocks I prefer a layer of fern rhizome placed at the bottom in such a manner that the flower spikes can easily push through. A suitable compost is equal parts peat, *osmunda* fibre, and sphagnum moss. This mixture should be made moderately firm, and water should be applied with caution until the new growth is well advanced. *Stanhopeas* succeed in a shady position suspended from the roof of the warm house; they should be frequently sprayed overhead and under their leaves to prevent the attacks of red spider.

Cœlogyne pandurata. With many this Orchid often fails to grow satisfactorily. It requires plenty of heat and a shady position in the warmest house, and when a suitable position has been found for it, it is a most vigorous grower. The compost given last month for *Cœlogyne cristata* will answer its requirements, and the best time to do any re-potting is after its flowers have faded. *Cœlogyne*s at all times resent being disturbed at the roots, therefore this operation should be done with care, giving ample room for the plants to develop. The back pseudo-bulbs should be removed to two or three behind each lead, so that the plants may be placed in moderate size pans. *C. Dayana* and *C. asperata* will succeed under the same treatment. These plants when in full growth require an abundant supply of water and comprise some of the most thirsty Orchids in cultivation.

General remarks. In case insects should make an appearance just while the plants are making new growth fumigate at once, for these, if allowed to gain a foothold at this season, are difficult to eradicate. Cleanliness is one of the greatest aids to successful cultivation. The potting of the different plants will occupy the whole of our time and attention, and the sooner it is done the better. Keep the atmosphere of the houses sweet by the admission of air on all favourable occasions, as the health of our plants depends on their needs being satisfied, and a supply of fresh air is as essential as a supply of water.

ROYAL HORTICULTURAL SOCIETY.

April 2nd, 1912.

MEMBERS of the Orchid Committee present : J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, R. A. Rolfe, R. G. Thwaites, F. Sander, F. M. Ogilvie, T. Armstrong, A. McBean, J. Charlesworth, W. H. Hatcher, J. E. Shill, A. Dye, H. G. Alexander, W. H. White, J. Wilson Potter, Clive Cookson, W. Bolton, C. J. Lucas, R. Brooman-White, de B. Crawshay, J. S. Moss, and F. J. Hanbury.

Messrs. Sander and Sons, St. Albans, were awarded a Silver-gilt Medal for a large group containing many fine forms of *Cattleya Schröderæ*, a well flowered plant of *Miltonia St. Andre*, and a good selection of *Lælio-Cattleyas*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for some excellent Orchids. Mention must be made of *Lælio-Cattleya Feronia*, *Sarcophilus Fitzgeraldii*, the curious *Dendrobium senile*, and several good *Odontoglossum* hybrids.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Flora Medal for an excellent selection of *Dendrobiums* and bright yellow *Oncidiums*. Some good varieties of *Cattleyas Schröderæ*, and various *Cymbidiums* were also shown.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for some interesting Orchids. *Cattleya Trianæ Backhousiana*, *Odontioda Zephyr*, and *Cymbidium eburneum* were specially good.

Messrs. J. and A. McBean, Cooksbridge, received a Silver Banksian Medal for a very effective group containing an excellent variety of *Odontioda Charlesworthii*, the pretty *Phaius Norman*, the blue-lipped *Zygopetalum Perrenoudii*, and *Cattleya gigas*.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), exhibited a group of *Odontiodas* for which a Silver Banksian Medal was awarded. The varieties

included *Cooksoniæ*, *Sanderæ*, *Zephyr*, and *Charlesworthii*.

Lieut.-Col. Sir George Holford, Westonbirt (gr. Mr. H. G. Alexander), exhibited *Cattleya Olaf* "Westonbirt var."

Arthur Legge, Esq., Homefield, Worthing, exhibited seedling varieties of *Dendrobium nobile* of good shape and colour.

Sir Trevor Lawrence, Bart., Burford, Dorking, showed several very pretty *Masdevallias*, and a number of yellow flowering *Dendrobiums*.

Messrs. Armstrong and Brown, Tunbridge Wells, showed an excellent hybrid *Cypripedium* between *C. Prewettii* and *C. Germaine Opoix*, the broad dorsal sepal was greenish-brown flushed with purple. A well flowered plant of the elegant *Cœlogyne pandurata* was also shown.

de Barri Crawshay, Esq., Rosefield, Sevenoaks, exhibited a good rose tinted form of *Odontoglossum Lambeauianum*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed *Cattleya Trianæ Empress of India*, a good variety, *C. Schröderæ The Kaiser*, with an apricot-yellow throat, and the elegant *C. Luddemanniana Stanleyi*.

F. M. Ogilvie, Esq., The Shrubbery, Oxford, exhibited *Brasso-Cattleya Cliftonii magnifica*, an albino form of *Cypripedium Antigone*, and *Miltonia Bleuana rosea*, a very large form.

Mrs. Norman Cookson, Oakwood, Wylam, exhibited *Odontoglossum percultum pallidum*, *O. p. fuscum*, and *O. crispum nigrum*.

E. H. Davidson, Esq., Borlases, Twyford, Berks., exhibited *Lycaste Skinneri alba*, of excellent form.

Francis Wellesley, Esq., Westfield, Woking, showed *Cattleya Trianæ F. McBean*, a large light tinted flower, the lip being magenta-purple.

Messrs. Veitch and Sons, Chelsea, showed *Lælio-Cattleya Dominiana langleyensis*, and two others which obtained awards.

Mr. C. F. Waters, Balcombe, Sussex, showed good varieties of *Cattleya Mendelii*.

AWARDS.

April 16th, 1912.

FIRST-CLASS CERTIFICATES.

Cymbidium Pauwelsii "The Dell variety" (*Lowianum* × *insigne*), from Baron Bruno Schröder, The Dell, Egham (gr. Mr. J. E. Shill). A very attractive hybrid, the large flowers are creamy-white, with faint purple lines on the sepals and petals, the lip being blotched with red. The plant was well grown and carried a spike of 20 flowers.

Lælio-Cattleya Trimyra (*Trianae* × *Myra*), from Sir Trevor Lawrence, Bart., K.C.V.O., Burford. A beautiful orange-yellow flower of good size.

Lælio-Cattleya McBeaniana (*L. anceps Schröderiana* × *C. Schröderæ*). A remarkably distinct hybrid. The large flower has white sepals and petals of good form and size, the lip is marked with crimson-purple on the front, the throat being yellow.

AWARDS OF MERIT.

Odontoglossum His Majesty (parentage unknown), from Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. Alexander).—A noble flower, handsomely marked with chocolate-purple blotches.

Cypripedium Roger Sander (*Godefroyæ* × *glaucophyllum*).—A distinct hybrid intermediate in size and colour, the labellum spotted rose-purple.

Lælio-Cattleya Invincible var. *Orama* (*Dominiana* × *bletchleyensis*), from Messrs. Jas. Veitch and Sons, Chelsea.—A richly coloured flower, the lip being specially good.

Lælio-Cattleya Frederick Boyle "Veitch's variety" (*L. anceps Sanderiana* × *C. Trianae*).—A delicately tinted hybrid, the broad margin to the front of the lip is rose-purple. From Messrs. Jas. Veitch and Sons.

Odontioda Cooksoniæ "Cobb's variety" (*O. ardentissimum* × *C. Nœzliana*), from Walter Cobb, Esq., Normanhurst, Rusper.—One of the prettiest of the *Odontiodas*, of a deep red colour, margined with rose, the apex of the lip white.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, F. Sander, H. G. Alexander, H. J. Chapman, T. Armstrong, J. Charlesworth, W. H. Hatcher, J. E. Shill, W. P. Bound, A. Dye, W. H. White, F. Peeters, J. Wilson Potter, J. S. Moss, F. J. Hanbury, J. Cypher, C. J. Lucas, Stuart Low, R. G. Thwaites, and R. A. Rolfe.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. Chapman), received a Silver Flora Medal for an effective group of *Odontoglossums* and *Odontiodas*, many of the blotched flowers being of excellent shape and colour.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), showed *Cattleya Schröderæ* Empress, a fine specimen with eleven large flowers.

Francis Wellesley, Esq., Westfield, Woking, exhibited *Lælio-Cattleya Bertram* and *L.-C. Mrs. Henriques*, the latter a hybrid of *C. Hardyana*.

J. Gurney Fowler, Esq., Glebelands, South Woodford, exhibited two distinct varieties of *Cattleya Schröderæ* and two Orchids which obtained awards.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt, sent a well grown spike of *Cymbidium Lowianum* "Holmewood variety," with 24 flowers.

A. Warren, Esq., The Cedars, Epsom, sent a white form of *Ærides virens*.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, showed *Odontioda gattonensis*, of good form and colour.

E. H. Davidson, Esq., Borlases, Twyford, exhibited *Cattleya Schröderæ* alba "Borlases variety," one of the whitest forms, and of good shape.

F. D. Godman, Esq., South Lodge, Horsham, staged *Lælio-Cattleya Endymion* (*luminosa* × *callistoglossa*), *Odontoglossum Godmanii*, and *Pleione yunnanensis*.

Mons. Firmin Lambeau, Brussels, showed *Miltonia Hyeana* Vogelzang, a very large flower, almost pure white, with a slight rose flush on the base of the petals.

Messrs. A. Peeters and Sons, Brussels, staged *Miltonia vexillaria* Jurval, an elegant variety with rose flushing and a brownish-yellow disc.

Mons. F. Claes, Brussels, exhibited three plants of his very distinct variety of *Cattleya Mendeli*, and several good forms of *Cattleya Schröderæ*.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, staged a few plants, of which mention must be made of *Cypripedium Chapmanii* and *Lælio-Cattleya* Rosslyn.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a good group of various Orchids. Those of special merit included *Lælio-Cattleya* Cora var. *ignea*, the new *L.-C. rigida*, and some excellent specimens of *Dendrobium Devonianum*.

Messrs. J. Cypher and Sons, Cheltenham, staged an attractive group which received a Silver Flora Medal. In it were several good *Masdevallias*, *Miltonia stellata*, and a large form of *Dendrobium primulinum*.

Messrs. Hassall and Co., Southgate, were awarded a Silver Flora Medal for a group containing many good varieties of *Lælio-Cattleya* Olivia, the elegant *Trichopilia Backhouseana*, the pretty *Epidendrum Stamfordianum*, and many good *Cymbidiums*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Banksian Medal for some choice hybrids, including *Odontioda Charlesworthii*, *Brasso-Cattleya Queen Alexandra*, *B.-C. Digbyano-Warneri*, and *Brassocatlælia Joan*, a new hybrid between *C. Octave Doin* and *B.-L. Mrs. Gratrix*.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver Banksian Medal for a group containing many useful *Dendrobes*. A number of *Odontiodas*, *Odontoglossum*

hybrids, and the rare *Cymbidium Devonianum* were also shown.

Messrs. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a group of choice Orchids. Included in it were some very fine *Odontiodas* and *Odontoglossums*; *O. solon* and *O. ardentissimum* being specially good.

The Liverpool Horticultural and Nursery Co. received a Silver Banksian Medal for an effective group of hybrids, those of *Lælia cinnabarina* predominating.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum crispum Saga, from J. Gurney Fowler, Esq., Glebelands, South Woodford.—A remarkably fine *crispum* carrying a spike of 17 flowers of excellent shape and richly blotched with reddish-purple.

AWARDS OF MERIT.

Cattleya Mendelii Thule, from J. Gurney Fowler, Esq.—An almost pure white variety, the only colour being a slight blush tint on the labellum.

Lælio-Cattleya Bertram (*L.-C. Hopkinsii* × *L.-C. Cappei*), from Francis Wellesley, Esq., Westfield, Woking.—A very distinct hybrid of a golden-yellow colour, the sepals and petals being effectively flushed with crimson. The labellum is very dark ruby-red.

CULTURAL COMMENDATION

to Mr. Stables, gardener to de Barri Crawshay, Esq., Rosefield, Sevenoaks, for a magnificent plant of *Odontoglossum Souvenir de Victor Hye de Crom*. The spike was 6ft. 4in. in height and carried 21 flowers and buds.

MANCHESTER ORCHID SOCIETY.

March 21st, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. C. Parker, H. Thorp, A. Warburton, Z. A. Ward, J. Cypher, J. Evans, W. Holmes, A. J.

Keeling, D. McLeod, and H. Arthur (Secretary).

Silver-gilt Medals were awarded to Z. A. Ward, Esq., Northenden, and Samuel Gratrix, Esq., Whalley Range.

Silver Medals were awarded to W. R. Lee,

Esq., Heywood, Col. J. Rutherford, Blackburn, and J. McCartney, Esq., Bolton.

A Bronze Medal was granted to Rev. J. Crombleholme, Clayton-le-Moors.

Mrs. S. Gratrix, Whalley Range, staged *Lycaste Susan*, a natural hybrid.

O. O. Wrigley, Esq., Bury, exhibited a plant of *Lycaste Skinneri alba* with 26 flowers fully open.

A. Warburton, Esq., Haslingden, C. Parker, Esq., Preston, H. Thorp, Esq., Middleton, and H. Arthur, Esq., Blackburn, exhibited various Orchids.

Messrs. Sander and Sons, Charlesworth and Co., A. J. Keeling and Sons, and Stuart Low and Co., were among the trade exhibitors.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontioda Charlesworthii "Ward's var.," flowers not very large but intensely dark, from Z. A. Ward, Esq.

Odontioda Schröderi var. *Leeana*, a very fine flower, three inches across.

Cymbidium Parishii "Rutherford's var.," pure white flowers with purple markings on the lip, from Col. J. Rutherford.

AWARDS OF MERIT.

Lycaste Susan, from Mrs. Gratrix; *Od. amabile* var. *Monarch*, *Od. crispum* *Ethel*, *Odontioda splendens*, and *Cyp. The Chairman*, from Z. A. Ward, Esq.; *Cattleya Suzanne Hye* "Gratrix's var.," and *Cyp. Prince Albert* var. *Alport Derby*, from S. Gratrix, Esq.; *Lælio-Cattleya bella* *Lecana*, *Odontoglossum Cobbiæ*, and *Dendrobium nobile* *Leeana*, from W. R. Lee, Esq.; *Cymbidium Pauwelsii*, from Col. J. Rutherford; *Od. Rossii immaculatum*, from H. Arthur, Esq.; *Cattleya Schröderæ enfieldensis*, from Messrs. Stuart Low and Co.

CULTURAL CERTIFICATE AND BRONZE MEDAL

to Mr. Brown (gr. to S. Gratrix, Esq.), for a plant of *Odontoglossum crispum* *Samuel Gratrix* carrying a magnificent spike.

The plant of *Odontoglossum Delhi* (F.C.C.) exhibited by J. J. Holden, Esq., Southport, on January 11th, 1912, has been entered on the records of the Society as *Odontoglossum promerens* var. *Delhi*.

April 4th, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, C. Parker, H. Thorp, Z. A. Ward, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to Z. A. Ward, Esq., Northenden.

Silver Medals were awarded to Col. J. Rutherford, M.P., Blackburn; Rev. J. Crombleholme, Clayton-le-Moors; and J. McCartney, Esq., Bolton.

Other exhibitors included W. R. Lee, Esq., Heywood; J. J. Holden, Esq., Southport; A. Warburton, Esq., Haslingden; R. le Doux, Esq., West Derby; Samuel Gratrix, Esq., Whalley Range; Mr. J. Birchenhall, Alderley Edge; and Mr. J. Evans, Congleton.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya Osiris (*Enid* × *Octave Doin*), a magnificent flower of good form and colour; *Odontoglossum ardentissimum plumptonense*, a very round flower of almost solid colour, and with a white margin to the segments, both from W. R. Lee, Esq.

Odontoglossum MacNabianum (*Wilckeanum* × *Harryanum*), a magnificent flower, of rich solid colour, 4 inches across, broad flat lip, from Z. A. Ward, Esq.

Cymbidium Pauwelsii (*Lowianum* × *insigne*), creamy white flowers with colour on the lip, from Col. J. Rutherford, M.P.

AWARDS OF MERIT.

Cattleya Trianae var. *Iris*, and *C. Schröderæ* var. *Ænone*, both from W. R. Lee, Esq.

Brasso-Cattleya Mariæ var. *Maggie* (*Warneri alba* × *B. Digbyana*), and *Cattleya Schröderæ* var. *Luminos*, both from J. J. Holden, Esq.

Odontoglossum Telemachus, parentage unknown, from Z. A. Ward, Esq.

Odontoglossum crispum Madouxianum, from A. Warburton, Esq.

Cattleya Trianæ var. *Ada le Doux*, from R. le Doux, Esq.

April 18th, 1912.

MEMBERS of the Committee present: Messrs. Z. A. Ward (in the chair), R. Ashworth, J. Bamber, C. Parker, H. Thorp, A. Warburton, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, F. K. Sander, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden, was awarded a Silver-gilt Medal for a fine group of miscellaneous Orchids, the *Odontoglossums* being a special feature.

R. Ashworth, Esq., Newchurch, received a Silver-gilt Medal for a splendid group containing many fine *Odontoglossums*.

Col. J. Rutherford, M.P., Blackburn, was awarded a Silver Medal for an effective group of *Cattleyas*, and others.

J. McCartney, Esq., Bolton, received a Silver Medal for a good group composed principally of *Cattleyas*.

A. Warburton, Esq., Haslingden, received a Bronze Medal for a small group of *Odontoglossums*.

O. O. Wrigley, Esq., Bury, staged a nice batch of *Cypripediums* and *Oncidium*s.

J. J. Holden, Esq., Southport, exhibited several choice Orchids.

J. Leemann, Esq., Heaton Mersey, staged choice hybrids.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a good group.

The Liverpool Orchid Co. received a Silver Medal for a nice exhibit, *Cattleyas* being a feature.

Messrs. A. J. Keeling and Sons, Bradford, exhibited many choice *Dendrobium*s.

Messrs. Stuart Low and Co., Enfield, staged several choice Orchids.

Messrs. Hassall and Co., Southgate, exhibited some interesting *Cattleya* hybrids.

Mr. W. Shackleton, Bradford, staged a good form of *Od. crispum*.

Mr. J. Evans, Congleton, exhibited *Odontoglossum harvengtense aurum*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum crispum xanthotes "Lady of the Snow," one of the best albinos yet seen, a well grown plant carrying a spike of over a dozen flowers.—From A. Ashworth, Esq.

Odontoglossum eximium xanthotes, a beautiful albino with very round flowers having pale orange spots on all the segments—From A. Warburton, Esq.

AWARDS OF MERIT.

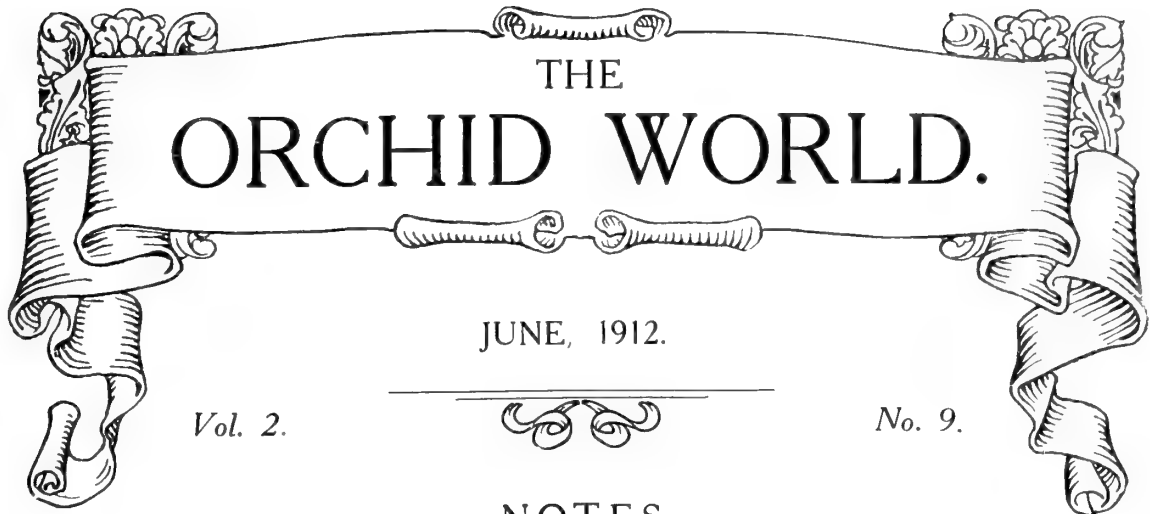
Odontioda Hyeantum var. *Willie*; *Od. crispum* var. *George*; *Od. The Moor*; all from A. Warburton, Esq.

Odontoglossum crispum Leeana, *Odontioda Diana* "Ashworth's var."—Both from R. Ashworth, Esq.

Odontoglossum eximium "The Premier."—From J. J. Holden, Esq.

Soprocotlælia Sandhage (*C. Enid* × *S.-L. heatonensis*), and *Brasso-Cattleya Cliftonii*, both from L. Leemann, Esq.

ROYAL CALEDONIAN SOCIETY'S EXHIBITION.—Orchids, as may be expected, had the place of honour at the Royal Caledonian Society's Horticultural Exhibition held on the 10th and 11th of April. It was the opinion of those present that Orchids had never been previously seen in such perfection at Waverley Market Hall, Edinburgh, where the show was held. The 1st Prize was a cup and three guineas presented by Messrs. Sander and Son, St. Albans, for the best group of Orchids, variety, quality, and effective arrangement to be considered. This prize was won by R. Brooman-White, Esq. (gr. Mr. J. Smith), Arddarroch, and the 2nd Prize was secured by James Wood, Esq. (gr. Mr. F. Henderson), Wallhouse, Torphichen, Bathgate. Messrs. Sander and Son, Messrs. Stuart Low and Co., and Mr. D. Macleod also exhibited interesting Orchids. The Marquis of Tullibardine performed the opening ceremony, and during the afternoon and evening a selection of music was played by the band of the Black Watch.



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NOTES.

CALANTHE VEITCHII.—A very prolific bulb of *Calanthe Veitchii* with no less than fifteen new growths springing from its base is the subject of a photograph which has been taken by Mr. T. W. Carr, Orchid grower to W. D. Sloane, Esq., Elm Court, Lenox, Mass., U.S.A. These new growths are regularly arranged completely round the bulb; certainly a remarkable means of rapid propagation.



BRASSOCATLÆLIA AUREOLE.—This new hybrid between *Lælio-Cattleya luminosa* and *Brasso-Lælia Mrs. Gratrix* has been raised in the collection of W. H. St. Quintin, Esq., Scampston Hall, Rillington, Yorks., by Mr. F. C. Puddle. The large bright orange-yellow flower is nearly six inches in width; the segments somewhat narrow, the petals slightly suffused with cinnabar. The labellum is distinctly three-lobed, crisped at the margin, white at the base. Ovary long, as in *Brassavola Digbyana*. A very useful hybrid containing the specific characters of *Cattleya aurea*, *Lælia tenebrosa*, *Lælia cinnabarina*, and *B. Digbyana*.



ORCHIS MASCULA ALBA.—An albino variety of this pretty species, commonly known as the Early purple Orchis, has been discovered by Mr. G. Botting in Mid-Sussex. The typical species is found growing in almost every kind of soil and situation. The flowers vary in colour from rich, deep purple

to a very light rose tint, but the pure white form "alba" is very rarely seen. The Orchis genus produces the nutritious matter known as salep, that produced from *O. mascula* being regarded as the best.



EUROPEAN ORCHIDS.—Of remarkable interest and beauty are many of the European Orchids growing in the garden of W. H. St. Quintin, Esq., Scampston Hall, Rillington, York. A varied selection of these has been kindly sent by Mr. F. C. Puddle, who states that some 67 different species are grown, the majority having been personally collected by Mr. St. Quintin in various parts of Europe. As examples of these pretty flowers, mention may be made of *Ophrys scolopax* with its singular representation to an insect, and the beautiful sky-blue colour of its conspicuous sepals; *Ophrys atrata*, with its dark, downy labellum; *O. aranifera*, so much resembling a spider; *O. apifera* with its bee-like labellum, and the curious hook-shaped appendage at the end of its column; and *O. lutea* with its flowers of bright greenish-yellow colour. Not less elegant are the various species of *Serapias*, that known as *S. lingua* having a likeness to an animal hanging out its tongue. *Serapias cordigera* is a robust and richly coloured species with flowers somewhat larger than those of its relations, while *S. longipetala* and *S. neglecta* are both worthy of culture. It is somewhat surprising that these interesting and mimicing Orchids are so seldom cultivated in gardens.

THE ORCHID JURY OF THE ROYAL INTERNATIONAL SHOW, 1912.

The following is a complete list of the respective members of the six sections of the Special Orchid Jury:—

NON-COMPETITIVE CLASS.

President, Count Joseph de Hemptinne,
Westrem, Ghent.

Reporter, Gurney Wilson, Haywards Heath,
Sussex.

J. Cypher, Queen's Road, Cheltenham.

W. R. Lee, Plumpton Hall, Heywood,
Lancs.

James O'Brien, Marian, Harrow-on-the-
Hill.

CLASSES 65, 66, AND THE LAMBEAU GOLD MEDAL.

President, Firmin Lambeau, Brussels, Bel-
gium.

Reporter, James O'Brien, Harrow-on-the-Hill.
H. G. Alexander, Westonbirt Gardens,
Tetbury, Glos.

C. Beranek, Rue de Babylone, Paris.

C. Maron, Brunoy, France.

W. H. White, Burford Lodge Gardens,
Dorking.

Gurney Wilson, Haywards Heath,
Sussex.

CLASSES 68, 70, 80, 85, AND MESSRS. WM. BULL AND SON'S 3 CUPS.

President, C. Dietrich, Auderghem, Brussels.

Reporter, de Barri Crawshay, Rosefield,
Sevenoaks.

Walter Cobb, Rusper, Horsham.

J. Davis, Glebelands Gardens, South
Woodford.

F. A. Wellesley, Westfield, Woking.

CLASSES 83, 84, AND 86.

President, J. Troyanowsky, Moscow, Russia.

Reporter, H. Chapman, Oakwood Gardens,
Wylam-on-Tyne.

E. Ashworth, Wilmslow, Cheshire.

J. Charlesworth, Haywards Heath,
Sussex.

S. Graire, Amiens, France.

Prince Metschersky, Station Dougino,
Russia.

Fred. Sander, St. Albans.

CLASSES 75, 76, 77, AND M. JULES HYE DE CROM'S CUP FOR THE BEST MILTONIAS.

President, O. Beyrodt, Marienfelde, Berlin.

Reporter, R. Thwaites, Streatham Hill, S.W.
W. Bolton, Wilderspool, Warrington.

A. A. Peeters, St. Gilles, Brussels.

J. E. Shill, The Dell Gardens, Englefield
Green.

W. Thompson, Walton Grange, Stone.

CLASSES 89, 90, 91, 334, 335, AND 336.

President, Jules Hye de Crom, Ghent,
Belgium.

Reporter, C. C. Hurst, Hinckley, Leicestershire.

F. J. Hanbury, Brockhurst, East Grin-
stead.

Stuart Low, Bush Hill Park, Enfield.

G. F. Moore, Chardwar, Bourton-on-the-
Water, Glos.

C. Vuylsteke, Loochristi, Ghent, Belgium.

The Members of the Jury met punctually at 7.30 a.m. on the opening day of the Show and completed their task about eleven o'clock the same morning. After the departure of the King and Queen the judges were entertained to luncheon in a large marquee. The Duke of Portland presided, and there was a large number of Colonial and Foreign representatives. At the conclusion of the luncheon Sir George Holford and Mr. Harry Veitch were vigorously cheered for the important part they had taken in the welfare of the Show.



Photo by]

[Underwood & Underwood.

*The Chairman of the Royal International Horticultural Exhibition (J. Gurney Fowler, Esq.) admiring a specimen Orchid in his group. The plant is *Odontoglossom illustre Europa*, and was awarded the Cup presented by Messrs. Wm. Bull and Sons for the finest *Odontoglossom* hybrid in the Show exhibited by an amateur.*



Photo by

[F. Wallock.

Lælio-Cattleya Bedouin, a specimen Orchid in Sir George Holford's group at the International Show.

THE ROYAL INTERNATIONAL HORTICULTURAL EXHIBITION, 1912.

CHELSEA, so eminently suitable for the present Show, has long been famous for its association with horticulture. So long ago as 1670 the Society of Apothecaries founded the Chelsea Physic Garden, Dr. Lindley, the great Orchiologist, holding the position of Hortus Prefectus from 1836-1867.

The great Show of 1912 was formally opened by the King and Queen, who were accompanied by Princess Mary, Princess Victoria, Princess Christian, and Princess Louise of Schleswig-Holstein.

The Royal Party was received by the Duke of Portland and the Directors of the Exhibition. Among those present were the

French, Austrian, Japanese, Italian, Russian, and United States Ambassadors, and the Netherlands, Chilian, Swedish, Belgian, and other Ministers, the Duke and Duchess of Somerset, and the Rt. Hon. Walter Runciman, President of the Board of Agriculture.

The Duke and Duchess of Portland gave an "At Home" at 3, Grosvenor Square, to welcome the representatives of foreign countries and the Colonies, May 21st.

Mr. Leopold de Rothschild invited the foreign and other members of the Jury to dinner at Gunnersbury Park, May 23rd.

The Royal Horticultural Society gave a banquet to the Foreign and certain members of the Jury at the Society's Hall, May 24th.



Photo by]

[Underwood & Underwood

Preparing for the International Show in the great Orchid Tent, 250 ft. in length and 70 ft. in width. Messrs. Sander's group, which had a frontage of 78 ft., may be seen on the left of the photograph.

Sir Trevor Lawrence, Bart., gave a luncheon and garden party at Burford, May 25th.

Sir Frank Crisp held a reception at Friar Park, Henley, May 26th.

There were also special visits arranged to the Royal Gardens, Windsor, Kew Gardens, and many of the large private gardens and principal trade establishments.

During the Exhibition the King conferred the honour of knighthood upon Mr. Harry J. Veitch, the father of English horticulture. Mr. Veitch is well known to all Orchidists for his early work in raising seedling Orchids.

The outstanding feature of the show was the magnificent group of Orchids staged by Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt. Not only was it the most admired subject in the Show, but it was the grandest and most elaborate exhibit of Orchids ever displayed in the history of Orchid cultivation. Mr. H. G. Alexander proved himself equal in every way to the great task which he undertook, and his work will long stand in the memory of all those who attended the great event of 1912. Both Sir George Holford and Mr. Alexander deserved every one of the very numerous enthusiastic congratulations which they received when it became known that they had secured the King's Cup for their group of Orchids—the most meritorious exhibit in the long to be remembered great Horticultural Exhibition of the year 1912.

The large Orchid tent measured 250 feet in length and 70 feet in width, the canvas rising to a height of 50 feet. Sir George Holford's exhibit, which extended across one end of this huge construction, covered an area of over 1,100 square feet, and never before have Orchidists beheld a more entrancing and gorgeous sight. The judges awarded it the King's Cup for the most meritorious exhibit in the Show, the Exhibition Large Gold Medal, the Cup presented by Mons. Jules Hye de Crom for the best *Miltonias*, and the Cup presented by Messrs. Bull and Sons for the best *Cattleya* hybrid exhibited by an amateur. Several Certificates were granted by the Orchid Committee of the

Royal Horticultural Society for special plants, particulars of which will be found in the list of Awards. The background was draped with material specially tinted to harmonise with the plants, and in front of this several immense palms rose to a height of 40 feet. The back row of plants consisted of specimen *Dendrobiums*, the varieties including *nobile nobilius*, *n. virginale*, the golden *Ophir* with 60 flowers, *Dalhousieanum luteum* with over 200 flowers, well grown plants of *Brymerianum*, and *Wardianum album*. At suitable places long sprays of bright-yellow *Oncidiums* hung gracefully over the rich purple flowers of the plants beneath, the whole scheme of coloration being skilfully arranged and adding greatly to the appearance of the huge Orchid tent. The *Lælio-Cattleyas*, for which the Westonbirt collection is so noted, played a prominent part, a very large number of distinct hybrids giving to the group that stately and dignified appearance which only Orchids, "the aristocracy of plants," can impart. The *Lælio-Cattleyas* included *Goldcrest*, one of the best yellow hybrids, *Golden Glory*, one plant of which carried three spikes with 23 flowers, the Westonbirt variety of *Britannia*, *Lustre* variety *Buddah*, and *Lustre* variety *Lavingo* being specially good, and one of the finest selections of *Canhamianas* which has ever been seen. The *Brassavola* hybrids were of the finest quality, the Westonbirt variety of *B.-C. Digbyano-Mossiae* having as many as 16 large flowers of an elegant colour. *B.-C. Queen Alexandra*, and *B.-C. The King* were two of the finest and most admired plants in the group. *Cattleyas*, as may be expected, occupied considerable space, the albino varieties being very select. Mention must be made of *Cattleya Mendelii* *Queen Mary*, which obtained a First-class Certificate, *C. Skinneri* Temple's variety with 52 flowers, and the white form of the same with 80 blooms. The chaste *C. Dusseldorfei* *Undine* was also well shown. *Cypripediums* were visible in many parts of this important exhibit, a good example being *callosum* *Sanderæ* with 16 flowers, and an equally fine specimen of *Maudiae*. The *Odontoglossums* bestowed a



Photo by]

[F. Haddock.

Brassia-Cattleya Digbyano-Mossiae, Westlonbirt variety. A specimen plant in the large group exhibited by Lieut.-Col. Sir George Holford, K.C.V.O., Westlonbirt, Telbury, Glos. (gr. Mr. H. G. Alexander).

light and fairy-like appearance to the front part of the group, some 300 large plants of *Od. crispum* and a large number of hybrids were used. *Miltonia Memoria Baron Schröder* and *Miltonia Memoria G. D. Owen* were two of the finest and most noteworthy specimens of this useful decorative Orchid. Mention must also be made of *Miltonia*

Renanthera Imschootiana, and along the front row was a varied selection of Botanical Orchids, many of great rarity.

Messrs. Charlesworth and Co., Haywards Heath, staged a wonderful exhibit, having a frontage of 78 feet and covering a space of 700 square feet. It won the handsome Cup presented by Lieut.-Col. Sir George Holford,



Cattleya Lawrenceana Mary Regina.

A rare albino exhibited by Messrs. Charlesworth & Co. at the International Show.

vexillaria Westonbirt variety with 33 flowers. *Cymbidiums*, including *Parishii*, hybrids of *insigne*, and *Alexanderi*, were very much admired, some of the species being noble specimens. Touches of scarlet were visible in many places by the inclusion of *Sophranitis* hybrids and well-flowered plants of

the Exhibition Large Gold Medal, and the Large Gold Medal presented by Mons. Firmin Lambeau for the group of Orchids containing the most interesting hybrids raised by the exhibitor. The centre was occupied by a mass of *Cochlioda* hybrids, over 20 distinct ones being noticed, over which hung elegant



Photo by]

[F. Waldock.

Miltonia Memoria Baron Schröder.

Exhibited at the International Show by Lieut.-Col. Sir George Holford, K.C.V.O.

sprays of the white *Phalænopsis Rimestadtiana*. This group contained more than 100 distinct hybrids, probably a record number for one exhibit, the coloration and form being remarkable. The *Brassocattleyas* were represented by specimen plants of vigorous habit, the *Cattleyas* by a very fine variety of *Empress Frederick*, and the *Soprocattlælias* by some richly coloured *Marathons*. Nearly 20 *Lælio-Cattleya* hybrids of distinct parentage and about 40 different *Odontoglossum* hybrids were included, besides many *Odontonias*, *Odontocidiums*, and *Miltoniodas*, the whole forming a most interesting display of the hybridist's art and the future possibilities of hybridisation. A plant of great rarity was the elegant *Cattleya Lawrenceana Mary Regina*, the only albino form of the species yet discovered. Another extremely interesting plant was *Eulophiella Hamelinii* with a spike of rose-purple flowers; the *Eulophiella Elisabethæ* being also represented by a good specimen. *Odontioda Queen Mary* was awarded a First-class Certificate, and *Odontoglossum Her Majesty* received a similar award. A very

beautiful crispum of thick substance was to be seen in a variety called *White Star*, and a new hybrid in *Lælio-Cattleya Ulysses* (*L.-C. Fascinator* × *C. Mossiæ*), the latter being shown in two varieties, one having a slight purple spotting on the labellum, the other pure white. As a record of the hybrids exhibited at this show will be of considerable importance and utility in future years we shall give, as far as possible, a complete list.

Messrs. Sander and Sons, St. Albans, exhibited a marvelous selection of rare species and hybrids, the whole occupying an area of 700 square feet. It gained the large Wiltshire Cup and the Large Exhibition Gold Medal. Included in it were superb specimens of *Ærides*, *Vandas*, *Saccolabiums*, and many excellent specimens collected in Burma and the surrounding country. Two prominent stands were gaily decorated with *Phalænopsis Rimestadtiana* and the scarlet-flowering *Renanthera Imschootiana*, and in recesses were numerous botanical Orchids, their small, but highly interesting flowers being much admired. The front part of this wonderful group was covered with emerald-green moss,



Photo by]

[F. Waldock.

Lælio-Cattleya Gladiator.

A grand specimen plant exhibited by Lieut.-Col. Sir George Holford at the International Show.

the specimen Orchids being staged on pedestals and thus showing to great advantage. A rare plant was to be seen in *Odontoglossum crispum solum*, and a very complete selection of *Odontiodas* attracted considerable attention. *Odontoglossum amabile* Duke of Portland and *Od. eximium* King George were two of the finest hybrids; both gained First-class Certificates from the Orchid Committee. *Od. majesticum* James W. Whitton and *Od. amabile* Princess Mary obtained Awards of Merit. *Od. eximium* Sir B. Scott was a beautiful flower richly marked with claret-purple. *Cypripedium* Charles Sladden, one of the best varieties, *Cyp. Parishii*, and *Cyp. callosum* Sanderæ, were among the finest of these elegant flowers. The background contained a large specimen of the Vanilla Orchid, several distinct varieties of *Cymbidiums*, *Sobralia macrantha alba*, *Stanhopeas* in variety, and many *Epidendrums*.

F. Menteith Ogilvie, Esq., The Shrubbery,

Oxford (gr. Mr. Balmforth), won the First Prize, Messrs. Sander and Sons' Cup and £10, for the best exhibit shown by an amateur in a space of 500 square feet. This highly meritorious group contained no less than 300 fine varieties of *Odontoglossum crispum*. A pleasing effect was obtained by massing several dozen large plants of *Dendrobium chessingtonense*, and also by the mass of dark emerald-green produced by *Cypripedium callosum* Sanderæ. Many excellent varieties of *Cattleya Mossiæ*, some richly coloured forms of *Cattleya Mendelii*, including *C. M. Pearl McBean*, filled up the middle rows. In prominent positions we noticed the rare *Odontoglossum Harwoodii*, the very large *Od. Ossulstonii* The Shrubbery variety, and excellent varieties of *Od. illustrissimum*. *Lælio-Cattleya Canhamiana* was well represented, about 60 spikes of flowers adding a good effect to the group. There were also numerous *Cypripedium* hybrids, *Cymbidiums*,



[Underswood's Underswood.

Miltonia vexillarias in Messrs. Charlesworth's group at the International Show, Chelsea.

Photo by]



Photo by]

The wonderful group of Orchids shown by Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Gos., at the International Show. It was awarded the Cup presented by His Majesty the King for the most meritorious exhibit in the Show, the Exhibition Large



[Underwood & Underwood.]

Gold Medal, and the Cup presented by Mons. Jules Hye de Crom for the best Miltonias. The portraits of the "Non-competitive Jury" are, from left to right, Mr. Wm. R. Lee, Count Joseph de Hemptinne, Mr. J. Cypher, Mr. J. O'Brien, and Mr. Gurney Wilson.

and interesting Botanical Orchids, the whole forming one of the finest groups ever staged by Mr. Ogilvie.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. Collier), secured the Charlesworth Cup and £7 for an exceedingly well-arranged exhibit containing many of the

The *Odontoglossums* were particularly well grown and included the handsome *Queen of Gatton*, *Rolfæ*, about 20 strong plants of *Thompsonianum*, and numerous *Harryanum* crosses. About 30 plants of *Cattleya* *William Murray*, some 20 specimens of *Epidendrum Boundii*, and a comprehensive collection of



[Photo by]

[F. Waldock

Cypripedium Maudiae. A specimen exhibited by Lieut.-Col. Sir George Holford, at the International Show.

excellent *Dendrobiums* for which Gatton Park is so justly celebrated. The centre of the group consisted almost entirely of *Cochlioda* hybrids. These included 25 plants of *O. Bradshawiae* and many others of great merit.

other well known hybrids. The very attractive *Spathoglottis Colmanii*, *Cymbidium Colmanæ*, and *Odontioda Papilio gattonensis* were much admired.

J. Gurney Fowler, Esq., Glebelands, South

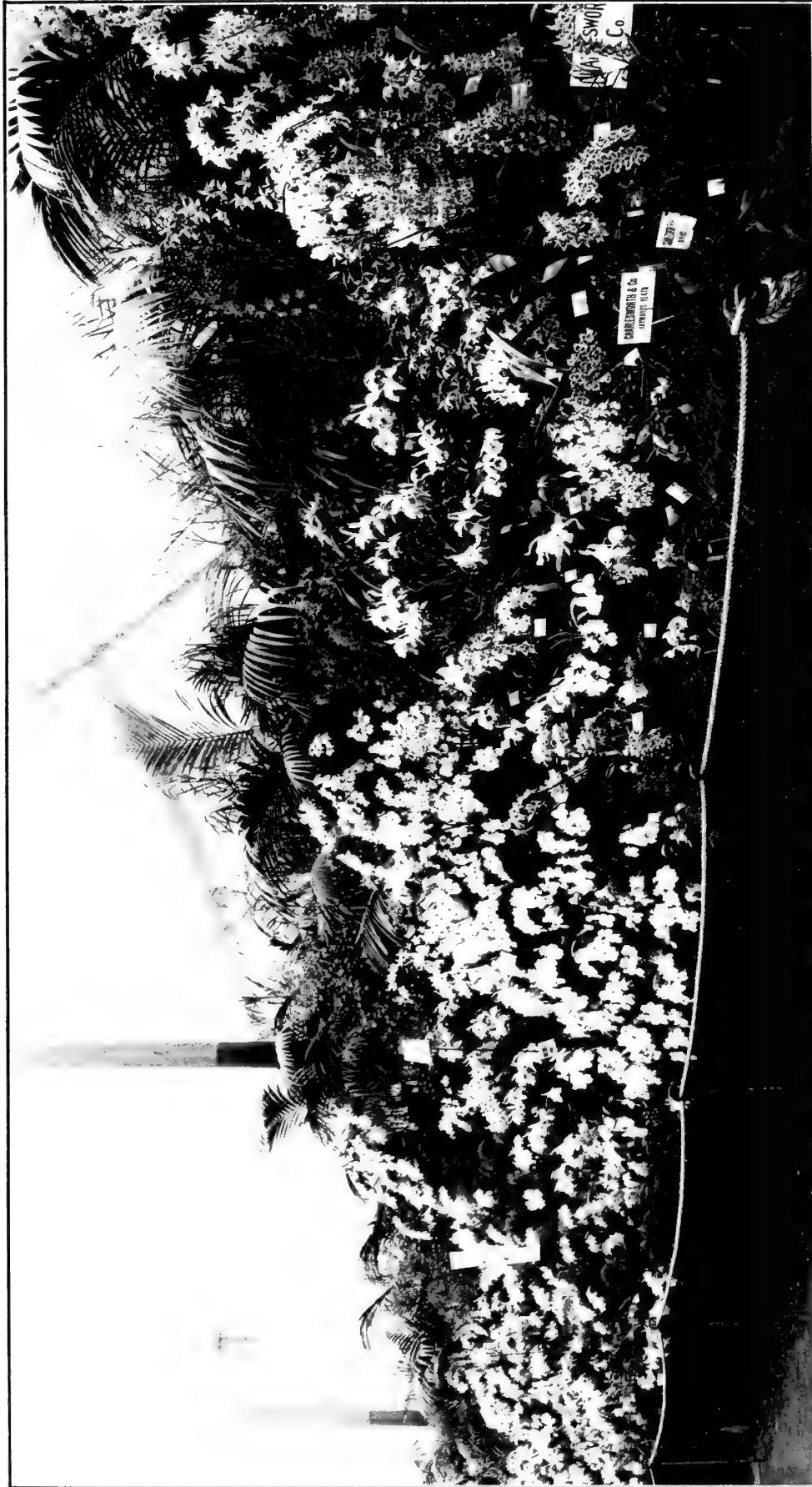


Photo by]

Messrs. Charlesworth & Co.'s superb group of Orchids at the International Show. It was awarded the Cup presented by Lieut.-Col. Sir George Holford for the best trade group of Orchids, the Exhibition Large Gold Medal, and the Firmin Lambeau Gold Medal for the most interesting hybrids raised by the exhibitor.

[Underwood & Underwood.

Woodford (gr. Mr. Davis), was awarded the Cup presented to the Exhibition by the county of Hertfordshire, and a Gold Medal for a well arranged and unique group of Selaginellas and Orchids. The latter included *Odontoglossum illustre* Europa, a magnificent variety with a spike of 10 flowers almost entirely covered with a blueish-purple blotch. This plant won the Cup presented by Messrs. Wm. Bull and Sons for the finest *Odontoglossum* in the Show exhibited by an amateur. The group also contained the extremely rare *Od. crispum solum* with a spike of seven flowers, *Od. illustrissimum* of excellent form, the beautiful *Cymbidium Woodhamsianum* Fowler's variety, with its apricot-yellow flowers, and *Cymb. Lowio-eburneum*.

Leopold de Rothschild, Esq., Gunnersbury Park, Acton, received a Gold Medal for a magnificent exhibit of *Vanda teres*, the splendid specimens bearing a total of over 700 spikes. The foreground was occupied with *Odontoglossum crispum* effectively arranged with the use of Maidenhair ferns. This very beautiful exhibit was greatly admired by a constant stream of visitors.

Mons. Firmin Lambeau, Brussels, received the First Prize, a Gold Medal, for the best exhibit of 50 Orchids in not less than 25 kinds, shown by an amateur. The selection included *Odontioda Coronation*, awarded the Cup presented by Messrs. Wm. Bull and Sons for the best *Odontioda* in the show exhibited by an amateur; *Miltonia Hyeana*, a splendid variety with a very pretty centre; *Odontioda Ajax*, of very rich colour; *Cattleya Mossiæ Wagneri*; and several very good *Brassavola* hybrids.

Mons. Ch. Dietrich, Val Duchesse, Brussels, was awarded a large Silver Cup for an excellent non-competitive exhibit of Orchids. The finest plants were *Odontioda Maeterlinck* with 35 large flowers almost entirely covered with scarlet-red blotches; a grand variety of *Cattleya Mendelii*; *Cattleya Schröderæ alba* with 12 flowers; *Lælio-Cattleya Fascinator*; *L.-C. Aphrodite*; and a fine selection of *Miltonias*.

Mons. Jules Hye de Crom, Ghent, Belgium, was awarded a Silver Cup for a group of

Odontiodas and *Miltonias*. The latter included *Miltonia Duchess of Portland*, a beautiful rosy tinted flower with a reddish-purple blotched centre having radiating lines of the same colour. Also *Miltonia Jules Hye de Crom*, a grand variety which obtained a First-class Certificate from the Orchid Committee of the Royal Horticultural Society.

E. H. Davidson, Borlases, Twyford, Berks, received a Silver Cup for a very well arranged and effective group. Excellent examples of *Lycaste Skinneri alba*, *Lælia purpurata* in several varieties, *Odontoglossum Uro-Skinneri*, *Cattleya Mossiæ* in fine form, and a varied collection of special crispums were much admired.

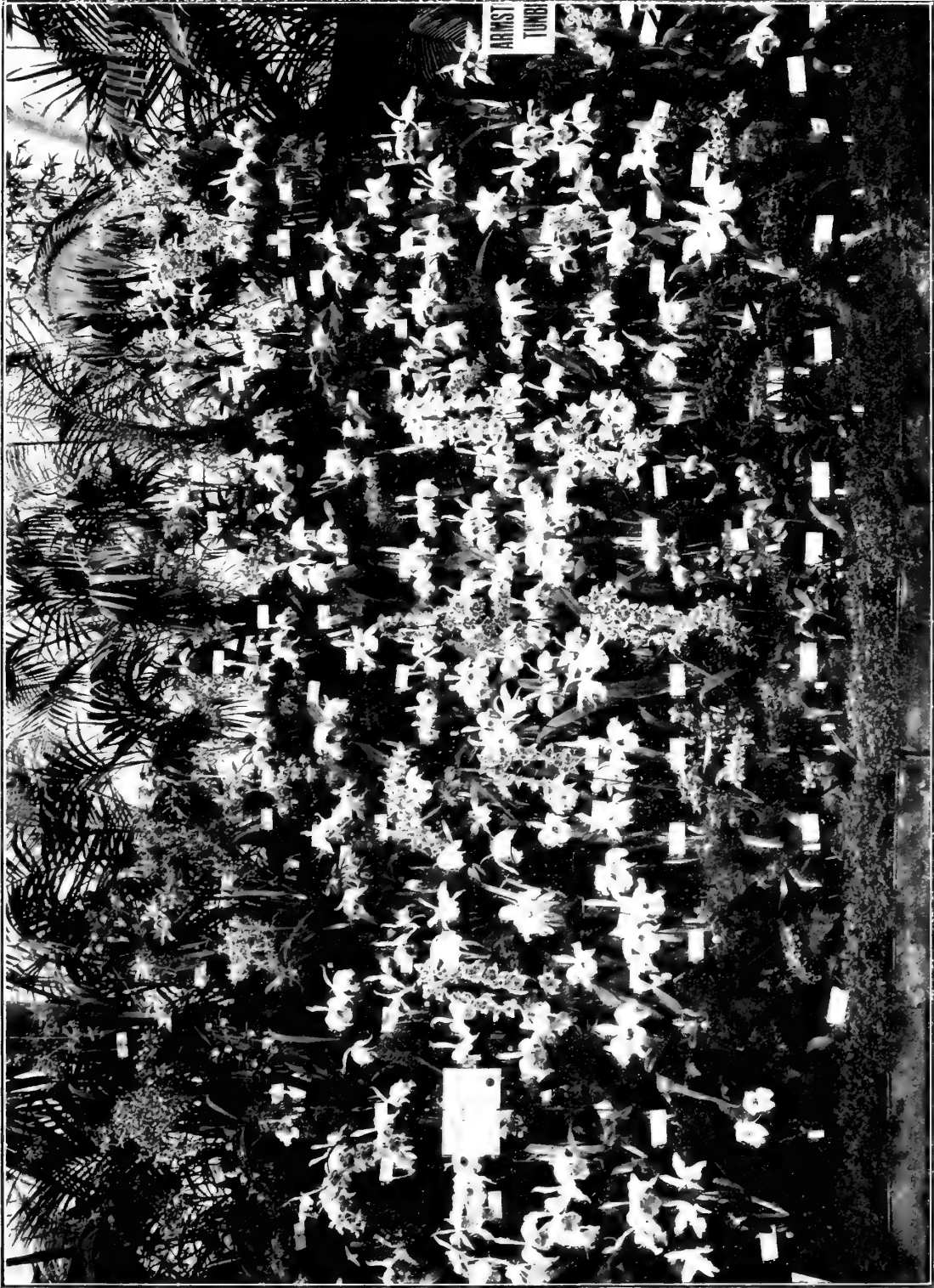
Mons. Vacherot, France, received a Silver Cup for a group of Orchids and Carnations.

Mons. Alex. Regnier, Fontenoy, France, received a Silver Medal for an interesting group of hybrid *Habenarias*.

Mons. A. Goossens, Brussels, was awarded a Silver Medal for an excellent collection of Orchid paintings.

Messrs. Mansell and Hatcher, Rawdon, Yorks., secured Mr. Duncan Ducker's Cup for a very grand group occupying a space of 350 square feet and containing a large selection of species and distinct hybrids. Special mention must be made of *Odontioda Cleopatra* (*Lairessei* × *C. Nœzliana*), a bright flower with white segments spotted with chocolate-red, *Odontioda Bradshawiæ*, *Od. crispum Black Prince*, a very good selection of *Lælio-Cattleya Fascinator*, large masses of the scarlet *Renanthera Imschootiana*, *Vanda teres* and choice *Cattleyas*. This group was noted for the number of interesting Botanical Orchids which it contained. Hybrid *Odontoglossums*, such as *Dora*, *percultum*, and *ardentissimum*, were well shown. Several choice varieties of *Miltonia vexillaria* and some elegant *Brasso-Cattleyas* were much admired. One of the largest and best groups ever staged by this Yorkshire firm.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded Baron Bruno Schröder's Cup for the finest exhibit of Orchid hybrids in a space not exceeding 200 square feet. *Brasso-Cattleya Shillii*, a new hybrid between



[Underscored & Underscored]

Messrs. Armstrong & Brown's group of hybrid Orchids. It was awarded Baron Bruno Schröder's Cup for the finest group of hybrid Orchids in a space not exceeding 200 sq. ft. The photo only shows one-half of the exhibit.

Photo [61]

B.-C. Digbyano-Mossiaë and C. Mossiaë, was shown in fine form; B.-C. Thorntonii and several other excellent varieties of Brassavola hybrids occupied a prominent place. There were also many distinct varieties of Lælio-Cattleya Canhaminana, L.-C. Aphrodite, and the graceful flowering Odontoglossum Thompsonianum. Cyripediums included the beautiful Holdenii, and special mention must be made of Cymbidium Woodhamianum. This exhibit was much admired for the remarkably healthy condition of the plants, and the excellent high standard of all the varieties.

Messrs. J. Cypher and Sons, Cheltenham, were awarded the Second Prize, a Silver-gilt Cup, for the next best exhibit in the above class. One noticed many superb Dendrobiums, Lælio-Cattleyas, such as Hyeana, Wellsiana, and Fascinator, several very pretty Cyripediums, select Brasso-Cattleyas and Brasso-Lælias, and several specimens. Lælio-Cattleya Wellsiana carried no less than 15 flowers.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded the First Prize, a Gold Medal, for the best exhibit of species and varieties of species in a space not exceeding 200 square feet. The species included Cattleya Mossiaë alba, Cattleya Mendelii in many excellent varieties, Calanthe veratrifolia, the pretty Bifrenaria Harrisoniaë, Cyrtopodium Andersonii, and several interesting Masdevallias.

Messrs. Cypher and Sons, Cheltenham, were awarded the Second Prize, a Silver-Gilt Cup, for a good exhibit of species and varieties of species in a space not exceeding 200 square feet. Included in it were specimen plants of Cattleya Mendelii, excellent forms of Cattleya Mossiaë, a good selection of Botanical species, and many others, all of special merit.

Messrs. Ch. Maron and Sons, Brunoy, France, obtained the First Prize, a Silver Cup, for the best group of 25 plants, Lælias, Cattleyas, and Brassavolas, their varieties and hybrids. The selection included Epi-Cattleya striata (C. Mossiaë × E. fragrans), Epi-Cattleya distincta (L. harpophylla × E.

atropurpureum), a very bright flower of Brasso-Cattleya Vilmoriniana, and B.-C. Orpheus variety Juliette Wallet.

Mr. Sidney Flory, Tracy's Nursery, Twickenham, received a Silver Cup for an excellent exhibit of Orchids. Mention must be made of good varieties of Cattleya Mendelii, Mossiaë, and Skinneri, and of some finely-flowered Odontoglossum crispum. The Odontiodas and Oncidium were much admired, and the numerous varieties of Miltonia vexillaria and the highly interesting Botanical Orchids made up an effective group.

Mons. H. Graire, St. Fuscien, Amiens, France, was awarded a Silver-gilt Medal for a very interesting group of Odontiodas and Odontoglossums. The former included Euterpe, St. Fuscien, and chelsiense variety St. Fuscien; the latter Sappho, very dark, eximium, Othello with a many flowered spike, and a good hybrid between triumphans and Rossii. The group was very effectively staged with the assistance of Maidenhair ferns.

Sir Jeremiah Colman, Bart., Gatton Park, secured the First Prize, a Silver-gilt Medal, for a group of Botanical Orchids, not necessarily in flower, in a space not exceeding 20 square feet. The wonderful construction and the curious forms which many of these interesting plants possessed caused considerable attention and elicited many appreciative remarks from the visitors to the Exhibition.

Messrs. Armstrong and Brown, Tunbridge Wells, secured the First Prize, a Gold Medal, for the best exhibit of 100 Orchids, in not less than 25 varieties. The specimens included Odontoglossum crispum solum, with a good spike, the rare Miltonia vexillaria G. D. Owen, Cattleya Suzanne Hye de Crom, Cœlogyne pandurata with a spike of 13 flowers, Cattleya Skinneri alba with over 50 flowers, Cymbidium Lowianum concolor, and Cyripedium Lawrenceanum Hyeanum.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded the Second Prize, a Silver Cup, for an exhibit of 100 Orchids in not less than 25 varieties. These included Odontioda Bradshawiaë, Lælio-Cattleya G. S. Ball, L.-C. Dusseldorfei Undine, Cyripedium Maudiaë, and Miltonia vexillaria.



Oncidium phymatochilum. A specimen plant in the Gold Medal group exhibited by Mr. H. Dixon, Spencer Park Nursery, Wandsworth Common.

Mr. H. Dixon, Spencer Park Nursery, Wandsworth Common, was awarded the First Prize, a Gold Medal, for the best exhibit of 50 Orchids in not less than 25 species, varieties or hybrids. The selection included *Odontioda Charlesworthii* of excellent colour, *Odontioda Vuylstekeæ*, *O. Diana*, *O. Bradshawæ*, a good plant of *Oncidium phymatochilum* with four spikes having a total of 323 flowers (see illustration), and a specimen *Cœlogyne pandurata*. This exhibit was well arranged and gained considerable praise.

Mr. W. A. Manda, South Orange, New Jersey, U.S.A., and St. Albans, secured the Second Prize, a Silver Cup, in the above class.

Messrs. A. A. Peeters and Sons, St. Gilles, Brussels, were awarded a large Silver Cup for an excellent exhibit, the back of which was filled with specimen *Renanthera Imschootiana*;

the foreground contained a number of remarkable varieties of *Miltonia vexillarias*, many of great beauty.

Mons. Ch. Vuylsteke, Loochristi, Belgium, received a Silver-gilt Medal for some very beautiful hybrids. *Odontioda Queen Mary*, with a pinkish-white ground, heavily blotched with scarlet; *Odontoglossum azureum*, of a bright violet-blue colour; and *Od. illustre exquisitum*, a large dark red flower with a narrow white margin to all the segments.

Mr. C. Birchenall, Alderley Edge, Cheshire, was awarded a Silver Medal for a good group containing *Cattleya Unique magnifica*, a good hybrid between *Schröderæ* and *Mendeli*, and several excellent forms of the latter species.

J. McCartney, Esq., Hey House, Bolton, secured the Second Prize, a Silver-Gilt Cup for 12 specimen Orchids. The best were *Vanda tricolor* and a specimen *Cattleya Mossiæ*.

Mr. W. A. Manda, South Orange, New Jersey, U.S.A., secured the Second Prize, a Silver Cup, for six specimen Orchids. These included *Cattleya gigas* with 14 flowers, *C. Mendeli*, *Dendrobium infundibulum*, and *D. Wardianum*.

Mr. W. A. Manda won the Second Prize, a Silver-gilt Medal, for a specimen Orchid: *Cattleya gigas* with 26 flowers.

J. McCartney, Esq., Hey House, Bolton, secured the Third Prize, a small Silver-Gilt Medal, for a specimen Orchid: *Oncidium sphacelatum*.

J. McCartney, Esq., was awarded the Second Prize, a Silver Medal, for *Lælias*, *Cattleyas*, and *Brassavolas*, 12 plants. The specimens included *Cattleya Dusseldorfei Undine*, *C. Mossiæ Arnoldiana*, *C. Mendeli*, *Brasso-Cattleya Digbyano-Schröderæ*, *Lælia purpurata Amie Louise*, and *L. cinnabrosa*.

Mr. W. A. Manda secured the First Prize for a new Orchid species, *Cymbidium Mandaianum*, very similar to *Cymb. l'Ansonii*, flowers creamy-brown with dark brown markings.

Mr. W. A. Manda also won the First Prize for a variety of a species by showing a good broad form of *Cattleya Mendeli* with six flowers. He also staged *C. gigas Mandaiana*,

a distinct form with soft rose-coloured flowers suggesting the influence of *C. aurea*, and thus a form of *Hardyana*.

J. McCartney, Esq., Bolton, exhibited *Odontoglossum Holmesii* in the class for one hybrid.

Francis Wellesley, Esq., Westfield, Woking, exhibited *Cattleya Mossiæ* Graham White, and *Lælio-Cattleya The Sultan* (*Iona nigrescens* × *L.-C. blechleyensis*), an extremely dark flower.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, exhibited *Odontoglossum Lambeauianum* Brockhurst variety, a fine variety with a good spike carrying 17 flowers.

Awards made by the Orchid Committee of the Royal Horticultural Committee.

Members present: Baron Bruno Schröder, Chairman, and Messrs. Jas. O'Brien, hon. sec., Gurney Wilson, J. Cypher, H. G. Alexander, W. H. White, H. Chapman, E. Ashworth, J. Charlesworth, de Barri Crawshay, W. Cobb, R. G. Thwaites, W. Bolton, J. E. Shill, W. Thompson, F. J. Hanbury, Stuart Low, G. F. Moore, and Sir Fred. Moore.

FIRST-CLASS CERTIFICATES.

Cattleya Mendelii Queen Mary, from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A very beautiful flower with pure white sepals and petals of good shape, the labellum having a slight rose flush of colour. The spike carried three flowers.

Brasso-Cattleya The King, from Lieut.-Col. Sir George Holford.—An enormous flower of unrecorded parentage, but probably having a considerable amount of *Cattleya Mossiæ*.

Dendrobium Dalhousieanum luteum, from Lieut.-Col. Sir George Holford.—A well grown plant carrying a number of creamy-yellow flowers with dark maroon blotches on the side lobes of the labellum.

Cattleya Dirce magnifica, from Lieut.-Col. Sir George Holford.—A very richly coloured purple flower of good shape and thick substance, with the petals slightly splashed at the tips with a darker shade of purple. The plant carried a spike of four flowers, and was also awarded the Cup presented by Messrs.

Wm. Bull and Sons for the finest *Cattleya* hybrid in the Show exhibited by an amateur.

Lælio-Cattleya Lustre variety *Lavingo*, from Lieut.-Col. Sir George Holford.—A good hybrid between *C. Lueddemanniana* and *L.-C. callistoglossa*.

Lælia purpurata Schröderiana, from Baron Bruno Schröder (gr. Mr. Shili).—A very distinct variety of this Brazilian species.

Miltonia Hyeana Vogelzang, from Mons. Firmin Lambeau, Brussels.—A very large creamy-white flower with a slight amount of rose-purple in the centre.

Odontioda Miss Ogilvie (*Od. amabile* Royal George × *Odontioda Vuylstekeæ*, from F. Menteith Ogilvie, Esq., The Shrubbery, Oxford).—A large flower with white ground heavily blotched with scarlet-red.

Odontoglossum eximium variety *Excelsior* (*ardentissimum* × *crispum*), from Mons. Ch. Vuylsteke, Loochristi, Belgium.—One of the best forms of this handsome hybrid.

Odontoglossum Her Majesty, from Messrs. Charlesworth and Co., Haywards Heath.—A very fine flower, of good shape and of a rich purple colour, the labellum being specially well developed.

Odontioda Queen Mary (*O. Vuylstekeæ* × *Od. eximium*), from Messrs. Charlesworth and Co.—A very remarkable and handsome hybrid. The centre and larger part of all the segments is a solid scarlet-red blotch. A marginal line of the same colour runs round the sepals and petals.

Odontoglossum amabile variety *Duke of Portland*, from Messrs. Sander and Sons, St. Albans.—A large flower of rose ground colour handsomely blotched with purple.

Odontoglossum eximium variety *King George*, from Messrs. Sander and Sons.—One of the finest *Odontoglossum* hybrids. The broad sepals and petals being almost entirely covered with purple blotches. Labellum white at the apex and pandurate in shape. Column very dark.

Miltonia Jules Hye de Crom (*Hyeana* × *vexillaria*), from Mons. Jules Hye de Crom, Belgium.—A beautiful, pure white flower with a rich purple blotched centre, having radiating lines of the same colour.

AWARDS OF MERIT

Odontoglossum ardentissimum variety *Carmen*, from F. Menteith Ogilvie, Esq., The Shrubbery, Oxford.—A fine variety carrying a spike of about 20 round flowers heavily spotted with purple

Cattleya Mossiæ variety *Madame Jules Hye*, from Mons. Firmin Lambeau, Brussels.—A beautiful and distinct variety of this spring-flowering species.

Odontioda Bradshawiæ variety *Vogelzang*, from Mons. Firmin Lambeau.—A good spike of 10 pinkish-white flowers blotched with scarlet-rose. A pretty rose margin is on all the segments.

Lælio-Cattleya Lustre variety *Buddah*, from Lieut.-Col. Sir George Holford.—A large flower of good shape and substance, the labellum speckled and blotched with rose-purple.

Lælio-Cattleya Gladiator, from Lieut.-Col. Sir George Holford.—A large flower of unrecorded parentage having an immense purple blotched labellum.

Odontoglossum amabile *Princess Mary*, from Messrs. Sander and Sons, St. Albans.—A good flower with white sepals and petals blotched with reddish-purple, the labellum very broad.

Odontoglossum crispum James McNabb, from Messrs. Sander and Sons.—A fine variety with handsome blotching, after the style of the well-known variety *Franz Masereel*.

Odontoglossum majesticum James W. Whitton (*eximium* × *percultum*), from Messrs. Sander and Sons.—A very pretty hybrid of good shape with the margins of the petals crisped and toothed. The purple markings arranged as in a good variety of *amabile*.

Lælio-Cattleya Ulysses (*L.-C. Fascinator* × *C. Mossiæ Reineckiana*), from Messrs. Charlesworth and Co., Haywards Heath.—Flowers of good shape and substance, the petals being more erect than often seen in *L.-C. Fascinator*. Flowers pure white with a slight speckling of purple on the inner side lobes of the labellum.

Lælio-Cattleya Ulysses alba, from Messrs. Charlesworth and Co.—A pure white variety of this elegant hybrid.

Odontioda Chancler, from Messrs. Charlesworth and Co., Haywards Heath.—A large flower of solid scarlet-red colour, much resembling an immense variety of *Cochlioda Noëziana*.

Zygopetalum Armstrongæ, from Messrs. Armstrong and Brown, Tunbridge Wells.—A very handsome hybrid with elegant sepals and petals, the labellum crimson-purple.

CALENDAR OF OPERATIONS FOR JUNE.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

THE temperatures given last month are also suitable for the present one, and the general conditions, as regards ventilation, atmospheric moisture, and watering are also applicable. It is desirable during the summer months, especially should the weather be extremely hot, to admit air at night by the bottom ventilators, but this should not be done to the extent of seriously reducing the temperatures. It should always be remembered that the conditions of the atmosphere play a most important part in the cultivation of Orchids.

Cattleyas. Plants of *Cattleya gigas*,

whether showing flower sheaths in the young growths or not, should now be placed in the lightest position possible, and should be elevated close to the roof glass of the house. The potting of these plants is best deferred until after they have flowered and the new pseudo-bulbs have fully developed, and are seen to be pushing new roots from their base. *C. Mossiæ*, *C. Mendelii*, and others, as they pass out of flower and are seen to be pushing new roots, may have attention as regards re-potting, should it be a necessity, using a compost as previously advised for this class of plant. *C. Dowiana*, and its

variety *aurea*, having started well into growth, should be placed at the warmest end of the *Cattleya* house, and be carefully supplied with water until the flowers open, and when these fade the plants should be moved to cooler conditions where they can be gradually exposed to more air and sunshine. *C. Lueddemanniana*, or *C. speciosissima* as it is known by some, may be re-potted after the plants have flowered, and are seen to be pushing new roots, keeping the compost on the dry side until the roots enter it freely. The white varieties of this plant are amongst the most choice and desirable.

Lælias. A great many *Lælias* succeed precisely under the same conditions as *Cattleyas*, but there are exceptions, namely, the Mexican *Lælias* which are sun-loving plants and should only be shaded sufficiently to prevent scorching. Now that the plants of *L. anceps* are becoming active more water may be applied at the roots. *L. albida*, *L. Gouldiana*, *L. autumnalis*, and its variety *alba*, may be grown in pans suspended from the roof of a house where a cool intermediate temperature is maintained. These Mexican *Lælias* resent being disturbed at the roots, and, therefore, should not be turned out of their receptacles unless they have become overgrown or require new compost. Those requiring re-potting may be done, using a compost as for *L. anceps*. If the house in which these plants are grown is kept light and well ventilated, good, firm pseudo-bulbs will be formed capable of producing strong flower spikes.

Lælia harpophylla. This is a plant one does not see so much as it deserves, on account of its colour. As a rule it is not a strong growing species, but, nevertheless, healthy plants will grow freely. This plant requires a long rest after flowering, the young growths then come away more evenly, and

the bulbs flower more regularly. The plants are best grown in pots filled two-thirds full with potsherds for drainage, above this the compost as for *L. anceps*. Care should be taken to fix the plants firmly, and they should be slightly elevated above the rim of the pot, but they must not be potted too firmly. They delight in a humid atmosphere, and require plenty of water at the roots when in full growth: this must pass quickly through the compost, or much harm will accrue. A shady position in the cool intermediate house will answer their requirements.

Miltonia vexillaria. As the summer flowering section of this most useful Orchid has passed the flowering stage, the plants should be induced to take a short period of rest; they should, however, not be allowed to suffer for the want of water, only sufficient being given to develop the growths. After the flower spikes are removed the plants do not take up the same quantity of water they previously did, therefore much less will suffice.

Masdevallias of the *Chimæra* section, which have been growing in the cool intermediate house, should at once be removed to a shaded position in the cool house. These plants require a plentiful supply of water during hot, dry weather, and they should be sprayed every day with clean tepid rain-water to prevent attacks of red spider, which are very partial to them.

Calanthes. These plants should now be making headway, and may have more water applied; those that have not rooted freely through the compost should still be kept on the dry side. Care should always be taken that the water used for this class of plant is of the temperature as the atmosphere of the house in which they are grown. Many cases of spot are attributable to this oversight.

ROYAL HORTICULTURAL SOCIETY.

April 30th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair); and Messrs. Jas. O'Brien (hon. sec.), Harry J.

Veitch, de B. Crawshay, Gurney Wilson, W. Thompson, Stuart Low, R. G. Thwaites, J. S. Moss, F. J. Hanbury, F. M. Ogilvie, T. Armstrong, A. McBean, W. Cobb,

J. Cypher, J. Charlesworth, W. H. Hatcher, J. Wilson Potter, W. P. Bound, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, W. Bolton, and R. Brooman-White.

Mr. S. Flory, Tracy's Nursery, Twickenham, received a Silver Flora Medal for a large and effective group of various Orchids.

Messrs. Stuart Low and Co., Bush Hill Park, received a Silver Banksian Medal for a good group containing interesting *Dendrobiums*.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Banksian Medal for a good exhibit of *Cattleyas*.

Messrs. Charlesworth and Co., Haywards Heath, obtained a Silver Banksian Medal for a select group of hybrids.

Messrs. J. and A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a selection of *Cattleyas* and other excellent Orchids.

Messrs. J. Cypher and Sons, Cheltenham, secured a Bronze Banksian Medal for an attractive group containing many good *Brassavola* hybrids.

Messrs. Hassall and Co., Southgate, were awarded a Bronze Banksian Medal for various Orchids, all in excellent form.

J. Gurney Fowler, Esq., Glebelands, South Woodford, exhibited *Odontioda* Royal Gem, the distinct *Cattleya Schröderæ* "Glebelands var.," and the rare *Cymbidium tigrinum*.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, exhibited *Brassocatlaelia* Triune, and a very fine variety of *Odontoglossum* Uro-Skinneri.

Mrs. Gratrix, West Point, Whalley Range, Manchester, sent *Odontoglossum crispum* Mary Gratrix, a fine white form.

W. R. Lee, Esq., Plumpton Hall, Heywood, exhibited *Odontioda* Leeana, a fine flower of deep red colour.

F. M. Ogilvie, Esq., The Shrubbery, Oxford, sent *Odontoglossum Lambeauianum* Vallerie, and the elegant *Cypripedium* Mary Beatrice.

G. P. Walker, Esq., Heatherwood, Putney Heath, exhibited *Odontoglossum* Royal Purple, a fine violet-purple flower.

Francis Wellesley, Esq., Westfield, sent

Cattleya Mendelii Chief Justice, a white flower with a violet-purple lip; *C. Mossiæ* Lady Northcliffe; and the elegant *Lælio-Cattleya* Mrs. Henriques.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate, exhibited *Dendrobium acuminatum* Colmanæ carrying a large spike of rose-tinted flowers.

FIRST-CLASS CERTIFICATES.

Odontoglossum Uro-Skinneri "Burford variety," from Sir Trevor Lawrence, Bart., K.C.V.O., Burford.—A magnificent variety with a broad labellum nearly two inches across.

Cattleya Schröderæ "Glebelands variety," from J. Gurney Fowler, Esq., Glebelands, South Woodford.—A delicately tinted flower having the labellum extremely well coloured with rich orange-yellow.

May 14th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, R. Brooman-White, W. Bolton, de Barri Crawshay, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Cypher, W. Cobb, A. McBean, T. Armstrong, R. G. Thwaites, F. J. Hanbury, C. J. Lucas, J. Wilson Potter, C. Cookson, and Sir Fred. Moore.

Mr. H. A. Tracy, Orchid Nursery, Twickenham, received a Silver Flora Medal for a large group of Orchids shown in excellent form.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, was awarded a Silver Flora Medal for a very effective group, the varieties of *Miltonia vexillaria* being specially good.

de Barri Crawshay, Esq., Rosefield, Sevenoaks, was awarded a Silver Banksian Medal for a very interesting exhibit of *Odontiodas*, the most distinct being *O. Carmen* (*O. Nœzliana* × *O. nebulosum*). *Odontoglossum* Valeria, *O. Volutella* (*elegans* × *Vuylstekei*), and *O. Honolului* (*Hunnewellianum* × *harvengtense*) were also shown.

Messrs. Hassall and Co., Southgate, received

a Silver Banksian Medal for a good group containing many excellent hybrids.

R. G. Thwaites, Esq., Chessington, Streatham Hill, was awarded a Silver Banksian Medal for a good exhibit of *Odontoglossums* and distinct hybrids.

Messrs. J. and A. McBean, Cooksbridge, Sussex, were awarded a Silver Banksian Medal for an exhibit of specially fine varieties of *Odontoglossum crispum*. Several good *Cattleyas* were also shown.

Mrs. Norman Cookson, Oakwood, Wylam, staged *Odontoglossum Solon* var. *Roland*, and a good blotched form of *crispum*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cymbidium Woodhamsianum Fowler's variety (*eburneo-Lowianum* × *Lowianum*),

from J. Gurney Fowler, Esq., Glebelands, South Woodford.—A very beautiful and distinct hybrid with apricot-yellow flowers. The labellum is white at the base, with red spots on the side lobes; the front lobe has a chestnut-red blotch.

AWARD OF MERIT.

Lælio-Cattleya Apollo (*C. Schröderæ* × *L.-C. Warnhamensis*), from C. J. Lucas, Esq., Warnham Court, Horsham.—A pretty flower of delicate salmon-pink colour, the labellum veined with rose.

CULTURAL COMMENDATION

to Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., for a well flowered plant of *Dendrobium Loddigesii*.

MANCHESTER ORCHID SOCIETY.

May 2nd, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. C. Parker, H. Thorp, A. Warburton, Z. A. Ward, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary.)

Z. A. Ward, Esq., Northenden, was awarded a Silver-gilt Medal for an excellent group of *Odontoglossums*, etc.

Col. J. Rutherford, M.P., Blackburn, received a Silver Medal for a nice group of *Odontoglossums* and others.

J. McCartney, Esq., Bolton, was awarded a Silver Medal for a group consisting principally of *Cattleyas*.

H. Thorp, Esq., Rhodes, secured a Silver Medal for a group of Orchids.

O. O. Wrigley, Esq., Bury, exhibited many excellent specimens.

J. J. Holden, Esq., Southport, staged *Brasso-Cattleyas* and *Cypripediums*.

A. Warburton, Esq., Haslingden, staged several excellent forms of *Od. crispum*.

Rev. J. Crombleholme, Clayton-le-Moors, exhibited *Cypripediums*.

Messrs. Cypher and Sons, Cheltenham; Messrs. Charlesworth and Co., Haywards Heath; Messrs. Keeling and Sons, Bradford; Mr. W. Shackleton, Great Horton; and Mr. D. McLeod, Chorlton-cum-Hardy, also staged interesting exhibits.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontoglossum crispum Perfect Gem, a large flower of excellent shape, with blotches on the sepals and petals. A Silver Medal was also awarded to this plant.—From A. Warburton, Esq.

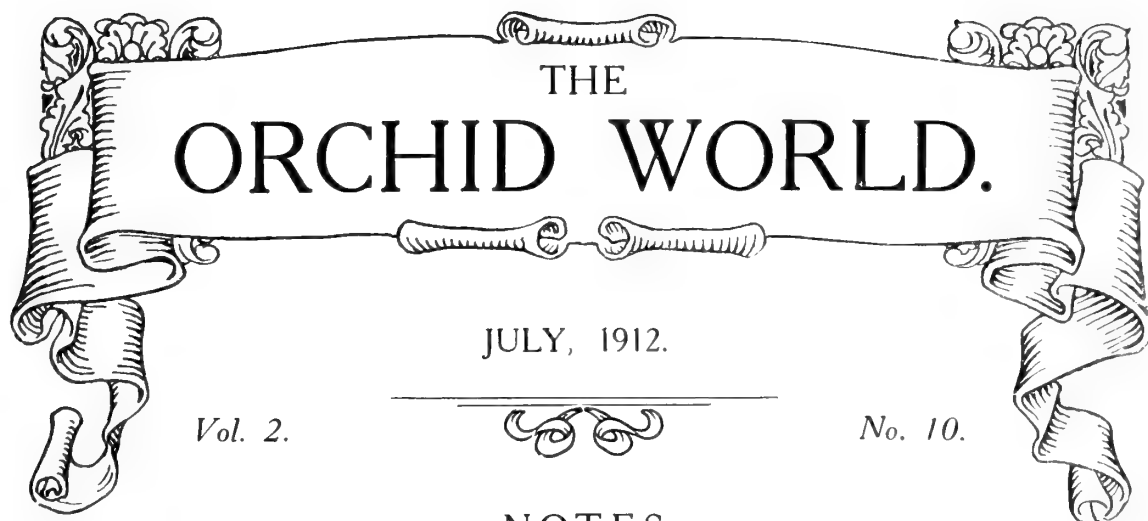
Brasso-Cattleya Mariæ var. *Maggie*, a very fine form, almost white, from J. J. Holden, Esq.

AWARDS OF MERIT

Odontoglossum St. Peter var. *Hilda* and *Od. amabile*, from Z. A. Ward, Esq.

Odontoglossum eximium *Rutherfordianum*, from Col. J. Rutherford.

Cypripedium Greyi *claytonense*, from the Rev. J. Crombleholme.



NOTES.

VANILLA AROMATICA.—Between three and four hundred flowers have recently been borne upon a specimen plant of this species in the establishment of Messrs. Julius Roehrs Co., Rutherford, New Jersey. This collection now occupies seventeen large houses.



DENDROBIUM IMTHURNII.—Sir Everard im Thurn has informed the *Kew Bulletin* that this plant was found near the Erakor Lagoon, Efate Island, New Hebrides, and not, as stated in error, in the Solomon Islands. The species is allied to *D. antennatum*, but is more robust in every respect.



SPHAGNUM MOSS.—Many interesting species and varieties were included in the 33 pans of growing mosses which Mr. Hugh Danton exhibited at the recent International Show. The Sphagnum moss, so necessary to Orchid growers, which thrives so luxuriantly in many of the western counties of our island, is rare in Hertfordshire, and imported specimens show their aversion to the climate, for try which way he could, Mr. Danton was unable to make it grow in a satisfactory manner.



ODONTOGLOSSUM GRANDE.—This is the largest of the many species of *Odontoglossum* and, with the possible exception of *Od. crispum*, the most beautiful of the whole genus. A batch of well-flowered plants is a sight worth seeing. The individual flowers

measure from 5 to 7 inches across the petals, and are of a rich golden yellow with chestnut-brown markings on the basal half of the sepals and petals; the lip is creamy-white marked more or less with brown. The thick yellow crest of the lip looks like a tiny wax doll from which the plant has derived the popular name of "Baby Orchid." *Horticulture, U.S.A.*



ORCHID CULTURE IN AMERICA.—Orchids were never more popular than they are at present; this is due, state Messrs. Lager and Hurrell, of New Jersey, to the fact that they are, without question, the handsomest, the strangest, and the most lasting flowers in all the vegetable kingdom. Most private collections have some representative of this queenly class of plants, while the florists are well convinced of the fact that, to keep pace with the times, they must grow Orchids, the demand for which is daily increasing. The climate of the United States is more favourable for some species of Orchids than that of Europe, as a whole, notably for Orchids found in Central and South America. Cattleyas, such as *Trianae*, *Mendelii*, *chocoensis*, and *Percivaliana* will finish their growth and start another, sometimes two, all of which will be fully developed and ready for the flowering season. European growers would look astonished at such culture; here it is necessary and profitable. Messrs. Lager and Hurrell have recently issued an attractive and well illustrated Orchid catalogue.

LÆLIO-CATTLEYA LUCIA.—This useful spring-flowering hybrid is eminently suitable for decorative work, the strong and erect flower stems holding the blooms well above the plant. The parents are *L. cinnabarina* and *C. Mendelii*, and, as may be expected, the seedlings have inherited much of the *Lælia* habit of growth. Mons. Henri Vacherot, Boissy-Saint-Léger, France, has raised a large number of these hybrids, the range in colour being remarkable. Those with yellow flowers produce many on a stem, while those having violet-purple labellums generally bear two and three on a spike. The majority are intermediate, being of a reddish-purple colour with segments somewhat larger than the *Lælia* parent. At the recent International Horticultural Show a number of excellent specimens of this hybrid were staged by Mons. Vacherot, who was awarded a Large Silver Cup for his exhibit.



OPHRYNS MUSCIFERA.—This very abundant English Orchid, which produces its fly-resembling flowers during the months of June and July, is the subject of the following interesting note by Jas. Bateman in his "Orchidaceæ of Mexico and Guatemala." "A remarkable circumstance connected with *Ophrys muscifera* has twice occurred in the garden of the Rev. T. Butt, of Trentham, whose devotion to the Orchidaceæ of Europe and North America is fully equal to that of some of his contemporaries for those of the torrid zone. The flowers of *O. muscifera* bear, it is well known, a striking resemblance to a certain (and that an uncommon) species of fly, and some years since one of this description was observed by Mr. Butt to settle for days together on a blossom of the unconscious plant, no doubt under the impression that it was enjoying the society of one of its own kind. For several summers afterwards, although the Orchids continued to flower, the fly was nowhere to be seen; last year, however, it was again observed at its post, where it remained, as before, for several days in succession."

DENDROBIUM FIMBRIATUM.—*Paxton's Magazine of Botany* for 1840 contains the following:—Our London subscribers will perhaps feel desirous of profiting by Messrs. Loddiges' well-known liberality to visit their collection at this period, in order to see and admire a magnificent specimen of *Dendrobium fimbriatum*, on which about eight hundred surpassingly splendid blossoms have just reached perfection.



NEW HYBRIDS.

LÆLIO-CATTLEYA CINNABAL (*CINNABARINA* × *G. S. BALL*).—The flower is an improved *Lælia cinnabarina*, large and more open in the lip, but four of the pollen masses were large and four not quite so large, thus differing from both *Lælia* and *Cattleya*. Raised and flowered by E. F. Clark, Esq., Evershot, Dorset.

LÆLIO-CATTLEYA BEDOUIN.—A grand specimen of this new hybrid between *L. purpurata* and *L.-C. Hyeana* was exhibited by Lieut.-Col. Sir George Holford at the International Show. The plant carried 23 flowers.

LÆLIO-CATTLEYA HENRIETTÆ.—A new hybrid resulting from the crossing of *L.-C. Henry Greenwood* with *C. Lueddemanniana*. The large flowers are of a dark rosy-purple colour; the lip having a broad front lobe of dark purple. Exhibited by Messrs. Maron and Sons at the International Show.

BRASSO-CATTLEYA LEONARDI.—One of Messrs. Maron's hybrids obtained by crossing *B.-L. Helen* with *C. Mossiæ*. A large pinkish rose flower, the labellum light rosy-purple, the throat greenish-yellow.

LÆLIO-CATTLEYA MARION.—By crossing *L.-C. Martinettii* with *L.-C. Clive* Messrs. Armstrong and Brown have obtained a good flower of rich rosy-carmine colour with a reddish-purple labellum. The plant was exhibited at the International Show, and will grow into a still finer result.

BRASSO-CATTLEYA SCHILLII.—A large flowering hybrid obtained by crossing *B.-C.*

Digbyano-Mossiaë with *C. Mossiaë*. The additional influence of the *Cattleya* species has greatly broadened the petals, and given extra colour to the flower. Exhibited by Messrs. Armstrong and Brown at the recent International Show.



ODONTIODA ROLFEL—This new primary hybrid between *C. vulcanica* and *O. Hunnelli* has been raised in the Chessington collection by Mr. J. M. Black. The dark rose colour of the *Cochlioda* parent is almost hidden by solid brown blotches on the sepals and petals. The reflexed labellum is very broad shouldered, constricted in the middle, and of a light rose colour with a few brown markings. Crest and column almost white.

DENDROBIUM SUPERBIENS.

THE following interesting letter has been received from Mr. W. Micholitz while Orchid collecting for Messrs. Sander and Sons in the Torres Strait Islands.

"I arrived at Thursday Island with a good number of *Dendrobium superbiens*, mostly fine plants. I have also some *D. bigibbum* and *D. Johannis*; the latter seems to be a most floriferous thing and well worth cultivation. There are very few plants of *D. superbiens* found on the other islands, and the plants have become far too expensive, because boat, men, and their feeding cost so much that the few plants one finds would cost far more than their value. Besides, with half a gale blowing, and a great deal of rain, it is very disagreeable, and one cannot anchor near the small islands. I have labelled the plant of *D. Goldei* which I have found.

"*D. superbiens* seeds very seldom. I have not seen more than half-a-dozen seed pods, but, curious'y enough, nature has given them another means to propagate. One very rarely finds a plant which does not have a number of adventitious bulbs on the top of the regular bulbs, which frequently in their turn again produce adventitious bulbs, so that one sometimes finds them three and four

growths long. The result is that one generally finds, especially among rocks, a whole nest of the plants.

"*D. bigibbum* also does not fertilise freely, though far more so than *superbiens*, but here also we have the tendency to produce adventitious bulbs, though much less than in *D. superbiens*. We observe the same thing in the Burmese *D. Brymerianum* which seeds very, very rarely, but freely produces adventitious bulbs.

"I am sorry I have not got more, but all the collecting had to be done by my own men. Only Badu, in Mulgrave, and Molu, in Banks are inhabited, the other islands are mostly without water.

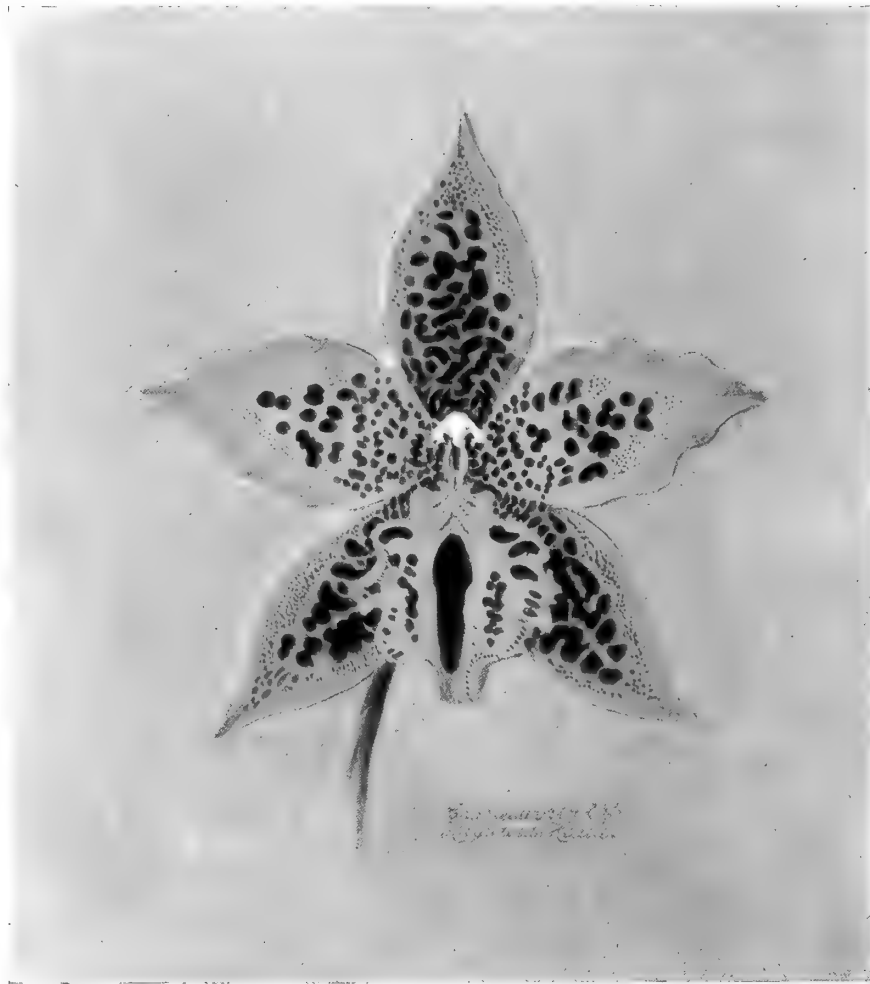
"*D. superbiens* is very scarce indeed. Some time ago a party were here who took a lot of Orchids, but they were all *D. bigibbum*. There are no natives living on the islands, and the few Malays and other coloured people on Thursday Island earn money far more easily than by hunting for Orchids, to do which a good size boat is required; this they do not generally possess.

"I visited these islands, and they did not produce more than 50 or 60 plants. The plant grows mostly on rocks in the jungle, and also on trees. It is an awful job to collect it, the jungle is so dense and full of creepers; these, in addition to the rock-covered ground, make it toilsome and weary work.

"I have found a few *D. Goldei* among the *D. superbiens*. *D. bigibbum* is plentiful, a fine type, and plants very large. It is a lovely thing.

"Here, it is no picnic; the south-east wind is howling through the rigging, the dinghy in which one lands is a mere nut-shell, and at ebb tide one has a quarter of a mile or more of coral reef to wade and clamber over. The beach is mostly strewn with rocks and huge boulders. But worst of all is the continual tossing and rolling of the craft when at anchor.

"*D. superbiens* occurs more or less on most of the islands, also on the mainland, but to every 500 *D. bigibbum* one finds only two or three plants of *D. superbiens*."



ODONTOGLOSSUM HARWOODII.

(*O. maculatum auriferum* × *O. Wiganianum*)

F.C.C. R.H.S. January 31st, 1911.

This plant forms one of the gems of Mr. C. J. Phillips' collection at "The Glebe," Sevenoaks, where a short time hence will be found many more gems. Mr. Phillips is collecting in a very systematic manner, acquiring fine varieties from which to raise finer ones, the commencement of which latter fascinating pursuit has taken place and, with all other factors and time added, the result is pretty certain to reward him.

It now remains to explain the dedicatory name. Mr. Phillips has made a collection, probably second to none, of county history, and Kent forms the centrepiece in his library. He intends to couple his two hobbies in "pair horse harness" and drive them together. Therefore, he adopts the Kent authors' names as his plants' dedications. This system will

identify his plants to Orchidologists (if they be up in Kentish lore), and enable him to connect his plants grown and raised in Kent with time honoured names of "Men of Kent."

Lambarde was the great "Perambulator" of the country in 1576, and his history is known to bibliophiles the world over.

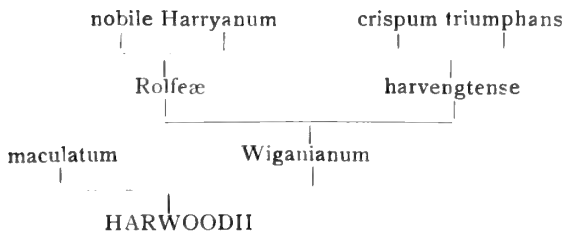
It is a far cry from Lambarde in 1576 to Od. Lambardeanum in 1912, but Mr. Phillips has made a happy connecting link in thus making the great county historian known to another large section of the workers of present and future times.

It is a pleasure to me, after 31 years Orchid growing here, to find I have at last a keen "companion in arms," and to publish his first new Orchid.

de B. Crawshay, June 7th, 1912.

ODONTOGLOSSUM HARWOODII.

(See Coloured Plate).



This might be shortly described as a *very* glorified *maculatum* with a most remarkably altered and peculiarly marked lip.

Having looked down the parentage of the plant it is very easy to see how the markings have become what they are in the sepals and petals, but any explanation of the peculiar central line of brown in the lip can only be found by the fact that *maculatum* has a copiously spotted lip in a circular arrangement and the lips of the other brown and yellow parents have usually solid brown blotches. The result is that the blotch has been broken up by the spotted lip of *maculatum*, but the colour has been thickened all along the midrib.

Analogous to this central line of colour in the lip is that of Od. Eleanor (*cirrhosum* ×

Uro-Skinneri), and the same result has been produced by the spotted lip of *Uro-Skinneri*, which is a near relative of *maculatum*.

It may be a property of spotted lipped Central American *Odontoglossums* which is exercised upon their Colombian relatives, and it is worth noting, and doubtless will be further proved later on.

There are only two garden hybrids that have bloomed from *maculatum*, and both are remarkable. The other is *maculatissimum* (*ardentissimum* × *maculatum*) shown at Ghent, April, 1908, by Mons. Vuylsteke.

Mr. Charlesworth raised *Harwoodii* with a fine variety of *maculatum*, and from that day to this *maculatum* has been in demand instead of being a despised thing at 1s. 6d. a plant.

Hybrids from all Central American *Odontoglossums* seem far harder to raise than those of Colombia, and, therefore, more attention should be paid to them so that we can get a series of "new breaks," for at present the average hybrid *Odontoglossums* are "very much of a muchness," and a great many could be almost produced by one pair of parents.

Odontoglossum Harwoodii is now in the

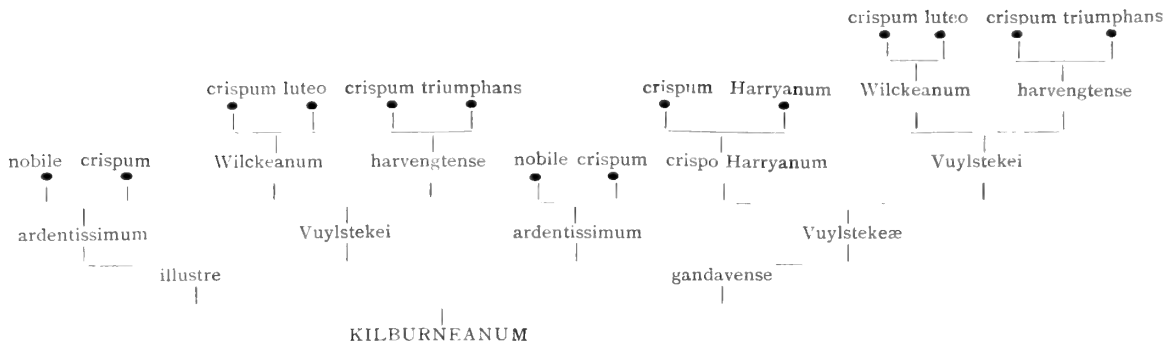
rich collection of F. Menteith Ogilvie, Esq., by whom it was exhibited at the Royal International Horticultural Exhibition, 1912.

Many Orchidists will wonder what the dedicatory name has to do with Orchids. They

will not be astonished at the connection when they know it bears one of the christian names of Mr. H. H. Smith of the firm who raised it.

de B. Crawshay.

ODONTOGLOSSUM KILBURNEANUM.



Here again, by a lengthy process of deduction, we have a very mixed up ancestry containing all the factors of *Lambardeanum* but coupled in different manner, and, therefore, producing a different result.

In this we have almost a similar arrangement of colour in the sepals and petals, but in the former there are distinct traces of the recent *Vuykstekei* influence, there being indistinct marblings and very small breaks in the great overlay of colour which is of a more lustrous bluish hue though much of the same class, and almost impossible to describe.

The lip stands out quite clearly and is different to our former subject, being pure

white with a shining crimson-brown blotch. This shining of the brown is always traceable in descent from *Vuykstekei* through *illustre* as the remains of *triumphans*. The column is here also crimson-brown.

The component species in this are: 7 *crispum*, 2 *nobile*, 2 *luteo*, 2 *triumphans*, and 1 *Harryanum*, making 14 in all.

This is but a small plant and blooming for the first time, and when grown into a large one will be a remarkably fine thing.

It is named after Kilburne, a noted Kentish historian, who published his "History" in 1659, and forms a bright spot in Mr. Phillips' collection

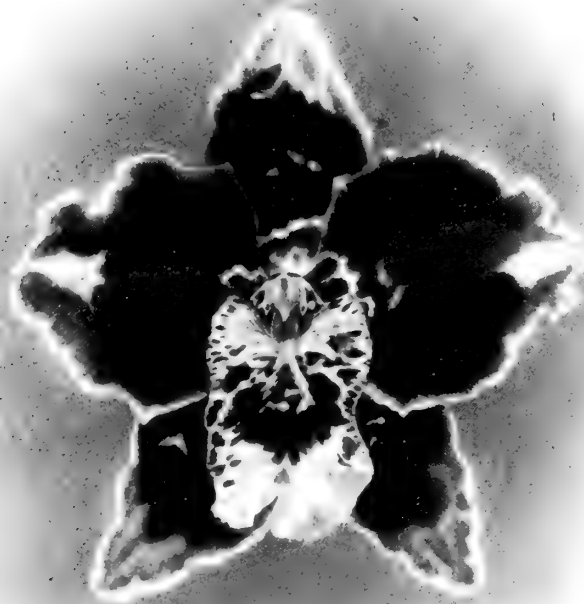


Odontoglossum Kilburneanum.

at The Glebe, Sevenoaks.

de B. Crawshay, June 7th, 1912.

The Plumpton Hall Collection,
Heywood, Lancs.



Odontoglossum illustrissimum. F.C.C., M.O.S., September 8th, 1910.

PLUMPTON Hall, the residence of Wm. R. Lee, Esq., is well known to all Orchid amateurs. The rich collection of Orchids contained in its garden is the third which has been formed by Mr. Lee, the original one having been commenced some thirty-two years ago. The *Odontoglossums* which have lately been

acquired are among the finest in the country, many of the *Cypripediums* are extremely rare, and the collection of *Cattleyas* embraces some remarkable varieties.

The Orchid houses are well supplied with hot-water piping, over which are fixed iron troughs containing water. The staging is so constructed that an undershelf contains a

large quantity of decaying leaves, which give off certain beneficial gases, and also assist in maintaining a moist atmosphere. Extensive tanks are provided for the storage of rain-water, and there is every convenience for damping down the houses. The large area of open space beneath the staging allows a

flowering Orchids. Many of the plants are large specimens, while others consist of propagated pieces in smaller pots. The foliage is clean and of a healthy green colour, and the roots grow with vigour. The varieties include Antinous, part of the Westonbirt plant which obtained a First-class



Odontioda Schröderi var. *Lecana* (*Odontioda* × *Bradshawia* × *Od. crispum*).

very buoyant atmosphere to be produced. There is no doubt that the correct condition of the atmosphere at all times maintained in the various houses is mainly responsible for the healthy state of every plant.

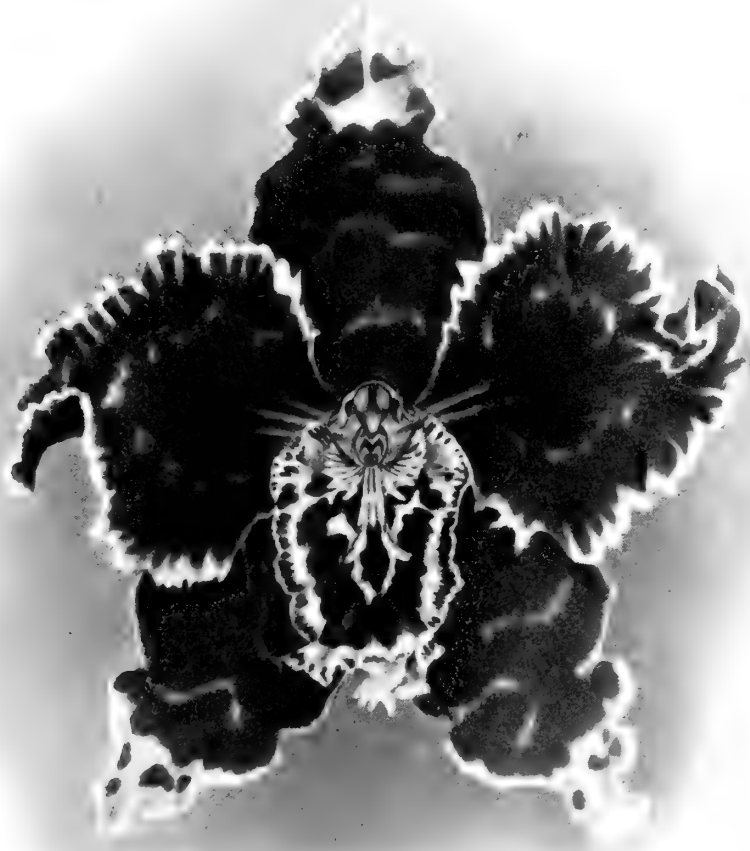
The Cypripedium house contains a most interesting collection of the various hybrids now so much esteemed by lovers of autumn-

Certificate at the Royal Horticultural Society, Dec. 22nd, 1908; Moonbeam, F.C.C., R.H.S., Dec. 31st, 1907; Shogun, F.C.C., R.H.S., Sept. 27th, 1910; Actæus Durbar, a very beautiful form; Priam, probably the largest flowering variety; and the Plumpton Hall variety of Iris.

Cypripedium Holdenii, the pure white Boltonii, Faire-Maude (F.C.C., M.O.S.), Cary

Batten, and Rossettii var. W. R. Lee, are noted plants in this house. There are also good specimens of Dora Crawshaw, Venus, Queen of Italy, and last, but not least, Cypripedium W. R. Lee, a hybrid produced

vigorous growth, and has recently carried two flower spikes. The collection also contains good plants of Thalia Mrs. Francis Wellesley, bellatulum album, and niveum Grange variety, a pure white flower with a golden-yellow



Odontoglossum Ajax. F.C.C., M.O.S., December 15th, 1910.

by crossing Rothschildianum with superbiens; it obtained an Award of Merit when exhibited by Mr. Lee at the Royal Horticultural Society, August 14th, 1894.

Cypripedium Parishii, by many considered a difficult subject to cultivate, maintains a

spot in the centre of the throat; it obtained a F.C.C., M.O.S., July 12th, 1906

The Cattleya house contains a most representative collection of South American and other species. Amongst the most noted are Cattleya aurea alba, Lueddemanniana

Stanleyi, and a pure white variety of the same known as Empress, gigas Frau Melanie Beyrodt, a large plant with four new growths, and gigas Low's variety, a very dark form of great beauty. *Cattleya Schröderæ* W. R. Lee

petals and a slight blush tint on the labellum, alba regina purissima, and alba McBean's variety, the latter being of great beauty.

The varieties of *Cattleya Trianæ* include Britannia, The Premier, Edgar Knight, and



Odontoglossum Thais. F.C.C., R.H.S., November 21st, 1911.

and C.S. plumptonensis are two remarkable varieties of this spring-flowering species. *C. labiata* Gilmouria, C.I. leucochila, a great rarity, and C.I. W. R. Lee, with white sepals and petals, are three valuable plants. The varieties of *Cattleya Mendelii* include Queen Mary, a grand form with white sepals and

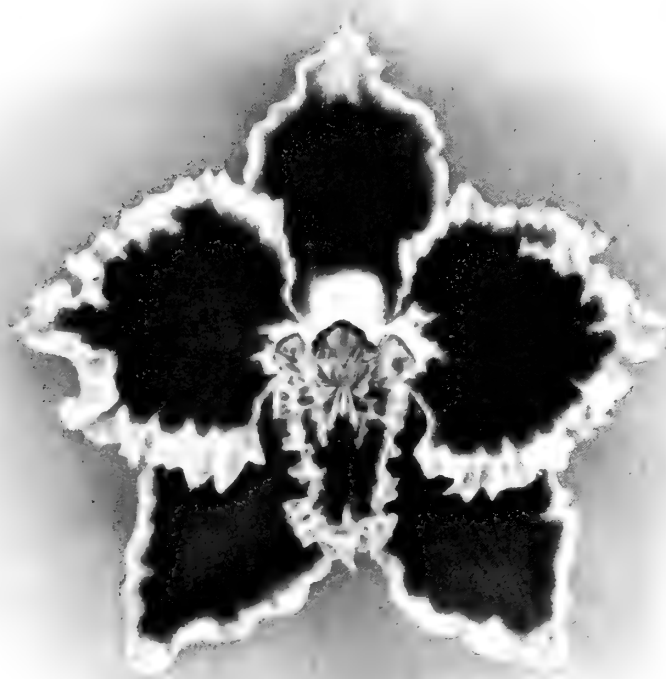
Perfection, the latter represented by a large specimen. *Cattleya Mossiæ* Wagneri nobilior is of extra good shape, and there are several plants of *Mossiæ* Reineckiana. The pretty *Gaskelliana* alba, purpurata alba, and *Gouldiana* must also be mentioned.

Hybrids grow with considerable vigour at

Plumpton Hall. It is interesting to note that Mr. Lee was the first to exhibit *Lælio-Cattleya Aphrodite alba*. It obtained the First Prize, a 10 guinea Cup, for the best hybrid Orchid at the Manchester Orchid Society, May 31st, 1895. L.-C. *Clive superba*, and the Plumpton Hall variety of the same

the scarce *Lælia Bella* (*purpurata* × *majalis*), *L. pumila alba*, and *L. præstans* var. *Snow Queen* are all worthy of special notice.

The *Miltonias* include all the noted varieties, strong growing plants being seen in *Queen Alexandra*, *vexillaria Plumpton Glory*, and *Leopoldii*. *Cœlogyne cristata*



Odontoglossum Charmian. F.C.C., M.O.S., June 15th, 1911.

are fine plants. L.-C. *callistoglossa* The Sultan, L.-C. *Bella alba*, and L.-C. *Haroldiana*, a very dark variety, are all worthy of notice. *Cattleya Iris Cæsar*, C.I. *Ixion*, and C.I. *Corianda*, are three remarkable forms of this popular hybrid. *Cattleya Thurgoodiana*, many beautiful varieties of *C. Fabia*, one called *Imperator* being of excellent colour,

Lemoniana and the *alba* variety produce an abundance of flower in the spring time.

The *Dendrobium* house is one of the attractions at Plumpton Hall. It faces due south and thus obtains a large amount of sunshine during the middle part of the day, the temperature frequently rising to 120 degrees. The plants are grown in small pots

and receive only a slight shade between the hours of twelve and three. Frequent syringing of the plants and the staging maintains a very moist atmosphere, and greatly assists the plants in making their new bulbs. Many specimens have made bulbs twice the size of those formed in the preceding year.

A very unique collection of *Dendrobium Phalænopsis* is grown in this house, Mr. Lee being a great admirer of their graceful flowers. Of the many excellent varieties mention must be made of two albino forms, one having a pink tinge in the throat, and the other having a greenish throat. *Dendrobium Sanderae* finds a comfortable growing place in this house, and the rare *D. Ashworthiæ* seems equally at home. Besides *D. Wardianum album* there are many good plants of the ordinary type from a recent importation. *D. nobile Hardyana* is a large specimen. The yellow flowering *Dendrobies* include *chessingtonense* and *Dalhousieanum luteum*. *D. plumptonense* is a hybrid with very large flowers of a rich purple colour. The Gold Medal of the Manchester Orchid Society was awarded to Mr. Lee, March 15th, 1892, for a magnificent collection of *Dendrobiums*.

The collection of *Odontoglossums* is of a very high standard, Mr. Lee having lately added several unique specimens. The elegant *Od. Ceres magnificum* was the subject of a coloured illustration in the *ORCHID WORLD*, February, 1911. The Plumpton Hall variety of the same is equally distinct and beautiful. *Od. illustrissimum*, a hybrid between *Lambeauianum* and *ardentissimum*, is of a very bright colour; it obtained a First-class Certificate at the Manchester Orchid Society, Sept. 8th, 1910. *Od. Rouge Dragon*, obtained by crossing *Phœbe* with *ardentissimum*, is a large flower which has inherited the long-tailed petals of *cirrhosum*. *Od. Thais* is a very remarkable flower of thick substance; it obtained the high honour of a First-class Certificate at the Royal Horticultural Society, Nov. 21st, 1911. *Od. Chione*, equally good, received a similar award on the same day. *Od. Ajax*, probably the largest flower yet obtained, was awarded F.C.C., M.O.S., Dec. 15th, 1910. One of the finest varieties is to

be seen in *Od. Charmian*, the rich reddish-purple blotches being of excellent form. *Od. crispum White Star* is a very beautiful white flower of thick substance and lasting qualities. The above are only a few of the choice hybrids in the *Odontoglossum* house at Plumpton Hall. The others, too numerous to mention, have been greatly admired whenever exhibited at the principal horticultural Societies.

Odontiodas, now so popular on account of their scarlet-red flowers, are well represented. In *Odontioda Schröderi*, obtained by crossing *Bradshawiæ* with *crispum*, we have one of the most recent advances in the production of a large scarlet *Odontoglossum*. It obtained a F.C.C., M.O.S., March 21st, 1912. *Odontioda Queen Mary*, a remarkably fine hybrid which obtained a First-class Certificate when exhibited by Messrs. Charlesworth and Co., at the Royal International Horticultural Exhibition, has since been added to the Plumpton Hall collection.

Sophronitis hybrids include two plants of a very bright coloured S.-C. Mrs. F. Wellesley, and most of the well-known varieties. *Sophronitis* seedlings although difficult to raise frequently produce more than one new growth from the same bulb, and propagation is often practised by dividing the plant. Many of the plants in other collections are propagated pieces from some scarce original seedling.

Of the many trophies won by Mr. Lee for the excellence of his Orchids, mention must be made of the 100 guinea "Robson" Cup, won for the second time, and now his property; the superb "Charlesworth" Cup, figured in the *ORCHID WORLD*, July, 1911; Mr. Ashworth's Silver Trophy, and many Gold and Silver-gilt Medals.

Mr. Lee is also a lover of horticulture in many of its branches. Besides the Orchid houses, so capably managed by Mr. Branch, there is an extensive garden and a range of glass houses devoted to the culture of plants and fruit, the whole forming a most interesting and pleasurable pursuit. Mr. Lee was one of the Orchid Jurors at the Royal International Horticultural Exhibition, 1912.

G. W.



Odontioda Queen Mary.

A remarkably fine hybrid, exhibited by Messrs. Charlesworth and Co., Haywards Heath, and awarded a First-class Certificate at the Royal International Horticultural Exhibition. The plant has since passed into the noted "Plumpton Hall" collection.



Photo by

[F. Wallock.]

Dendrobium nobile, Berkeley's variety. A specimen plant exhibited by Lieut.-Col. Sir George Holford at the recent great International Show.

DENDROBIUM NOBILE.

OF the first dozen Orchids purchased by an amateur one is invariably a *Dendrobium*, and the species, on most occasions, is *nobile*. Early in summer, from the base of the last made bulb, a new growth becomes visible, this rapidly enlarges and ultimately becomes the bulb from which the flowers are produced during the later part of the following winter and early spring.

This Indian and Chinese species requires a fairly high summer temperature and a plentiful supply of water at the roots and in the atmosphere during the growing season. Comparatively little shade is required, only suffi-

cient to break the fiercest of the sun's rays during the brightest part of the day. It was formerly considered necessary to maintain a day temperature of at least 80 degrees, but recent experience has shown that equal, if not better, results are obtained by a minimum of 65 degrees during the growing season, with a considerable rise during bright sunshine. The night temperature must be about 5 degrees less, it being unnatural for the two to be equal.

Dendrobium nobile, as well as some other species of the genus, is one of the few Orchids whose flowering season may be retarded by keeping the plants in a cool and dry

condition. The flowering season may be extended from January to June if a number of plants are brought into heat successionaly.

For the production of many flowers the bulbs must be well ripened by exposure to air and sunshine during late summer and autumn months. A continual shady and moist treatment will cause the nodes to produce young plants instead of flowers, and, unless a special desire exists to increase the stock of the plant, this often gives considerable disappointment to the amateur who has

patiently waited through the long winter months for floriferous results.

This species is not very particular as to its compost, a mixture of peat, osmunda, and sphagnum giving excellent results. By syringing the plants on favourable occasions a check will be given to thrip and other insect pests. The subject of our illustration is *Dendrobium nobile*, Berkeley's variety, named in honour of Major-General E. S. Berkeley, an enthusiast of the genus, who died in December, 1898.



The extensive group of Orchids exhibited by Messrs. Mansell & Hatcher, Ltd., at the International Show, 1912. Awarded the Special Large Silver Cup presented by Mr. W. Duncan Tucker.

CALENDAR OF OPERATIONS FOR JULY.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

THE general treatment as recommended for last month should still be continued. There must, of course, be instances where a slight departure from the general rule is advisable, but this should be left to the cultivator, who alone must judge of its desirability. No practice is perfect, and in the cultivation of all plants there is, undoubtedly, still some progress to be made, and the person who thinks for himself will make greater strides in the profession than the one who follows a hard and fast line,

year by year. Even the most successful have many failures to record before they reach the height of their ambition, and failures are often most efficient instructors.

Plants at this season of the year must have a sufficient supply of water both at the roots and in the atmosphere, and every inducement must be given them to make clean, strong growths. Shading must have careful attention, for the sun's power will soon scald the plants if they are left unprotected.

Cattleyas, Lælio-Cattleyas, and others of

this family as they pass out of flower should be kept on the dry side. By this I do not mean that drastic treatment one often sees put into practice of shrivelling the plant, and thereby undermining the constitution, which more often than not ends in the loss of the subject so treated. As soon as the plants are seen to be pushing forth new roots they may have fresh rooting material should they require it. This family has become so extensive that, at this season of the year, there are always some that require attention, and should the compost show signs of decay it is always advisable to give them new material. The different species and hybrids of this gorgeous family are in various stages of growth, some in flower, some in sheath, and some just commencing to grow, therefore discretion must be used, and the different plants, or rather species, should be treated individually.

Cattleya Warscewiczii (gigas) will flower during this month and next. As soon as the flowers are over the plants should be placed in cooler and more airy quarters until they commence to make new roots, when they should be repotted if necessary. The plants if kept on the dry side and only given sufficient water to keep them plump get nicely established before the winter months, and rarely fail to give an excellent crop of flowers the following season. The general routine of treatment is adaptable to the whole of this family, with the single exception that some require a warmer position than others, which the cultivator will soon observe for himself. Should any plant not succeed as you would wish, try it in fresh positions until it does. Difficulty in growing plants is all summed up in the words—want of knowledge.

Cypripediums of the following species: *C. Rothschildianum*, *C. Curtisii*, *S. Stonei*, *S. callosum*, *C. Lawrenceanum*, and their varieties and hybrids, will have finished flowering for the season. It is now advisable to examine each plant to ascertain if additional rooting space is needed, remembering that they must not be allowed to remain in a pot-bound and half-starved condition. They should be potted in the same way as recom-

mended for the winter-flowering section, using the same compost, with the exception that the loam is discarded in the tessellated leaved section. Plants of the *C. niveum* section having passed out of flower may also receive any necessary repotting. Care must be taken in turning the plants out of the pots that the roots are not broken; in most cases it is advisable to break the pots they are growing in, and pick each piece away carefully, removing the crocks in the same way. All decayed and loose compost should be carefully removed before the plant is placed in its new pot, which should be well drained and large enough to hold it comfortably. These plants succeed in a compost of the following nature: one half best fibrous loam from which all the fine particles have been taken, the other half made up of equal parts peat, osmunda fibre, and sphagnum moss. The plants should be grown in the warmest house, close to the roof glass, and must be watered with care until they get re-established. Plants of the *Se'nenepedium* section, as they pass out of flower, may also have attention, using the same compost as for the green-leaved *Cypripediums*. The whole of this section succeed in the intermediate house; they must not be potted too firmly or exposed to the direct rays of the sun.

Lælia anceps. In the *Cattleya* or Mexican house, plants of *L. anceps*, its numerous varieties, and hybrids, are now growing and rooting freely, and towards the end of the month many *L. anceps* will be developing flower-spikes with the new growths. Now is the time to afford these plants copious supplies of water at the root and in the atmosphere. Remove the roof shadings early in the afternoon, damp well between the pots and under the staging, and spray the plants overhead with clean tepid water. Maintain a warm, moist atmosphere during the evening, and the last thing at night open the bottom ventilators. If the weather permits the top ventilators may also be slightly opened. Early in the morning the ventilators should be closed, and the house thoroughly damped down. As the temperature rises air should be admitted by the top and bottom

ventilators. The treatment of this plant is best described in the words: warm days and cool nights, with air at almost all times.

Cool growing *Lælias*, such as *L. pumila*, *L. præstans*, and *L. Dayana*, are now developing new growths. If a light position can be found for them in the cool house they may remain there until their flowers show, when they are best removed to the intermediate house. These plants may be afforded fresh rooting material whenever they begin to make roots. They are best cultivated in shallow pans that can be suspended close to the roof glass. The *Cattleya* compost will answer their requirements.

Lælia purpurata. Plants of this species that have recently passed their flowering stage should, until growth recommences, be placed in the coolest part of the house, and in a position where they can obtain plenty of fresh air. Sufficient water only should be given them to keep the roots alive and the bulbs from shrivelling, for plants which commence to grow at this season very rarely produce flower sheaths. They should be kept in a dormant state as long as possible, the growth will then break away much stronger than it would if allowed to rush into growth straight away. The young growths of this species when a few inches long send out a number of large fleshy roots that will readily enter and appreciate new rooting material. Use a compost as for the preceding, and take each plant as it reaches the desired state, for the roots, if allowed to extend to any length, are sure to be injured during the operation. The same remarks are also applicable to plants of *L. grandis* and its variety *tenebrosa* after they have finished flowering.

Many *Lælio-Cattleyas*, *Brasso-Cattleyas*, and *Brasso-Lælia* hybrids which have recently finished flowering should be placed in a similar position to enjoy as long a period of rest as possible. Repotting may be done with the same material as advised for *Cattleyas*.

Thunias having ceased to flower should be given a position in a well-ventilated house where they can be exposed to full

sunshine, and be syringed twice or thrice daily. After flowering, until the leaves fall, *Thunias* are often allowed to take care of themselves, and are put in any out of the way position. After taking the trouble to produce fine healthy growths it is a great mistake to allow the plants to exhaust themselves by such careless treatment. The main factor in the production of abundance of bloom the following season is the thorough ripening of the old pseudo-bulbs. Water should be freely afforded to the roots whenever the plants become dry. When the leaves begin to decay in autumn the amount must be gradually reduced until the foliage has all fallen; the plants should then be rested in a light, dry position in a cool house, and no more water should be given them.

Oncidiums. The members of this extensive genus are all evergreen plants with flowers of great beauty. They vary from large growing and gross feeders to small, delicate, close growing members of the order. The majority possess pseudo-bulbs, but in one section these swollen stems are absent, their place being taken by large thick leaves growing from a hard rhizome. With plants varying so much in habit the mode of culture naturally varies. In the case of species not possessing pseudo-bulbs, as represented by *O. luridum*, *O. Lanceanum*, and others, all of which flower during the late spring and autumn months, the plants should be placed in the warmest house in a position where they may enjoy plenty of light without actual sunshine. They may be grown either in pots or pans placed on the staging.

Plenty of drainage material should be afforded, for when in full growth they require copious supplies of water, and overhead syringing may be practised on bright days. The plants may be slightly elevated above the rim of the pots, and should be firmly fixed into the compost, although they must not be potted too firmly. A compost as advised in previous issues for this genus may be used. This section of *Oncidiums*, on account of having no pseudo-bulbs, is not the easiest to manage when at rest during the winter months. The plants should never be allowed

to suffer from drought, only sufficient water should be given to keep their leaves plump.

Oncidium ampliatum majus, another fine species which produces its flowers in spring, should be accommodated in the warmest house as it delights in a high temperature and exposure to sunlight early in the afternoon. It is best grown in shallow teak baskets suspended from the roof. Only a thin layer of compost is required, but plenty of good drainage material should be used. If the plants are treated liberally during the growing season they seldom fail to produce good pseudo-bulbs with foliage of a thick and leathery texture, and handsome spikes of golden-yellow flowers.

Odontoglossum pulchellum. In the rather cooler temperature of the intermediate house plants of this pretty, white species are commencing to grow. In repotting afford plenty of drainage material, using a compost as previously advised for *Odontoglossums*.

Lycaste Skinneri and its varieties, also *L. Balliæ*, *L. costata*, and, in fact, the whole genus are cool, moisture-loving plants. Every care should be taken not to overwater them at this season. Do not allow water to lodge in the centre of the partially developed growths or they will be likely to decay.

Dendrobiums. In this large genus of plants there are many which succeed in the cool house, and the following species are examples: *D. Kingianum*, *D. delicatum*, *D. speciosum*, *D. Hillii*, *D. teretifolium*, *D. glomeratum*, *D. japonicum*, *D. Victoria Regina*, and several others. Any of these plants now starting to grow may have fresh rooting material afforded them, the compost as advised in previous calendars for *Dendrobiums* will answer their requirements. All of them are best grown in a strong light, suspended close up to the roof glass. *D. teretifolium* is best grown on a teak raft, with a little compost packed closely between the bars, and under the base of the plant, the raft should be suspended in such a manner that the foliage hangs down naturally. *D. Victoria Regina* prefers a shady and more humid position, and succeeds best in teak wood baskets with a compost in which

sphagnum moss preponderates. These cool growing *Dendrobiums* should be well supplied with water at the roots when established and growing freely, but they require to be kept on the dry side after their growth is completed.

The young growths of the deciduous and semi-deciduous *Dendrobiums* are now developing fast, and as the plants get rooted in the new compost the amount of water at the roots must be increased. As the growths advance in length, they should be tied or looped up to the suspenders or stakes put into the pot for the purpose so that the light and air can circulate freely amongst them. If this is not attended to many of the strongest and best growths may get broken or damaged.

Chysis bractescens is a noble Orchid when its flowers are produced in large trusses. This only occurs when the pseudo-bulbs are large, and the plants are well-established. It is an easy species to succeed with when newly imported, but it will deteriorate if not given treatment meeting its requirements in a reasonable degree. It should be grown with the *Dendrobiums* when making its growth, and rested in the same manner. It is best accommodated in suspended pans, and delights in a liberal supply of moisture when growing.

General Remarks. Attend to all those small matters of detail which lead to success, such as cleanliness of the plants and their surroundings. Push on with the potting of all plants as they reach the desired condition, and be content to let every plant take its natural course. Do not try to force any unduly into growth, for if any liberties are taken with plant life nature will retaliate in more ways than one. This month, like the last, will be one of the busiest in the whole year, and plenty of work will be found with the potting and the cleaning of the plants. Cleansing the plants not only improves their appearance, but clean plants also thrive much faster than dirty ones; every effort should be made to keep them in a flourishing condition. Orchid growing, like many other things, is only a question of attention to detail, given at the right time, and in the right way.



Photo by
The Gold Medal Group of Orchid species and their varieties exhibited by Messrs. Armstrong & Brown at the recent International Show.
Underwood & Underwood

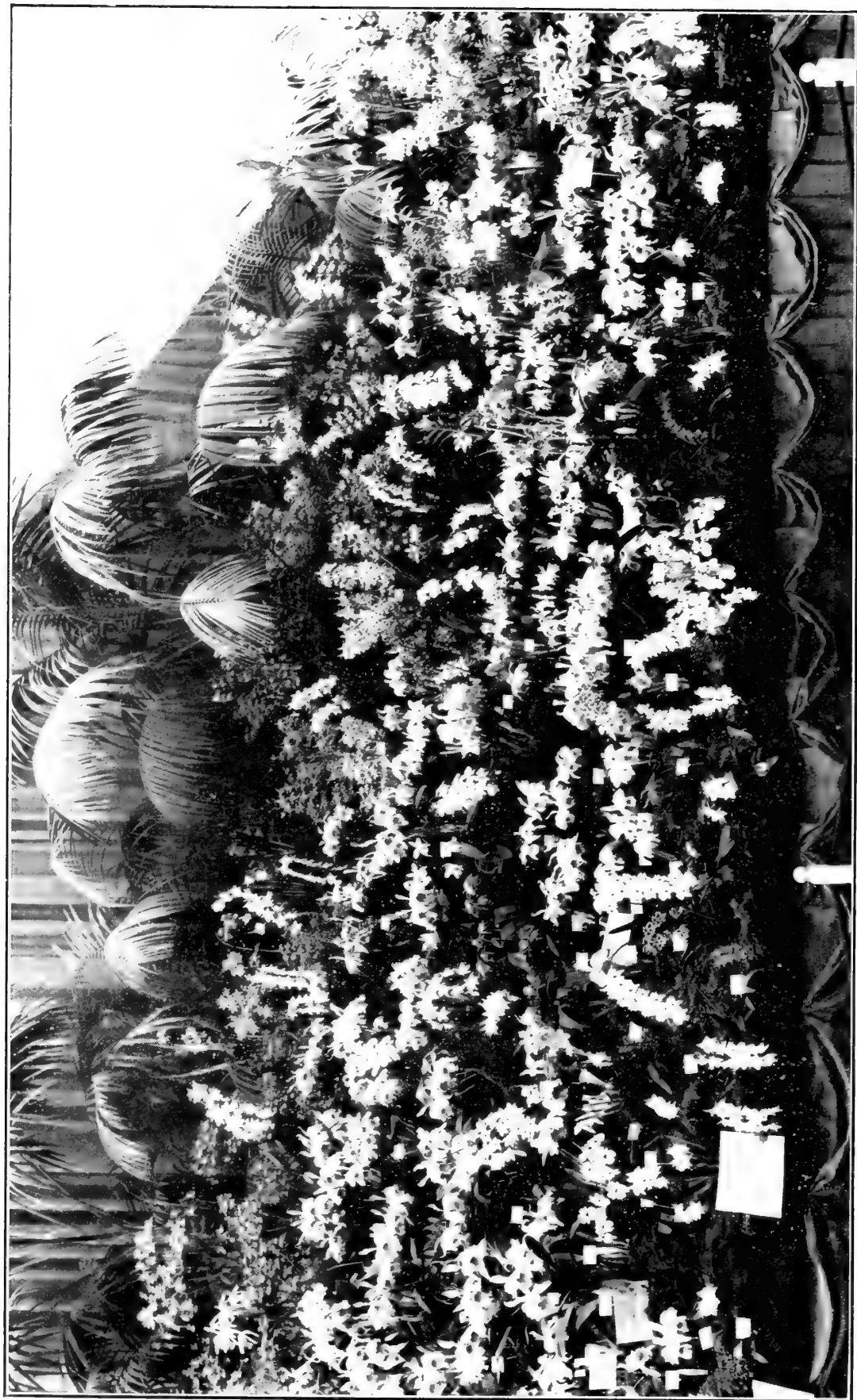


Photo (13)

Part of the wonderful group of Orchids shown by Lieut.-Col. Sir George Holford, K.C.V.O., at the International Exhibition.

Underwood & Underwood.

ROYAL HORTICULTURAL SOCIETY.

June 4th, 1912.

MEMBERS of the Orchid Committee present : Sir Harry J. Veitch (in the chair); and Messrs. Gurney Wilson, Richd. G. Thwaites, F. Sander, Fred. J. Hanbury, A. McBean, Walter Cobb, J. Cypher, W. H. Hatcher, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, J. Wilson Potter, W. Bolton, de Barri Crawshay, and C. J. Lucas.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), was awarded a Gold Medal for an extremely fine exhibit of specimen Orchids. The Lælio-Cattleyas included Aphrodite, Martinettii The Prince (a magnificent variety bearing 15 flowers), Canhamiana with 25 to 30 good flowers, and the elegant luminosa "Canary." Of the specimen Dendrobiums which occupied the back rows, mention must be made of Euterpe, chrysotoxum, and the yellow-flowering capillipes. A feature of the group was the collection of specimen varieties of Miltonia vexillaria which were placed along the front row. These included two plants having respectively 51 and 67 flowers, M. v. Snowflake (a large plant with 73 flowers), and M. v. Empress Augusta Victoria, of which eight specimens were shown. The Cattleyas included special varieties of Mendelii, Warscewiczii with five spikes carrying 20 flowers, and Mossiæ Wagneri "Westonbirt variety."

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. Day), was awarded a Silver-gilt Flora Medal for a well-arranged group containing many meritorious specimens. In the centre was Odontoglossum Goodsonii with a spike of 12 flowers, and the distinct O. crispum Lady Jane. Other good Odontoglossums were eximium Leopoldii, Lambeauianum St. David, and blotched crispums. Several excellent varieties of Miltonias, the large flowering Brassocatlælia Veitchii, and Cattleya Mendelii H. A. Tracy were shown in excellent form.

Messrs. Sander and Sons, St. Albans, obtained a Silver Flora Medal for a large group. In the centre was Cattleya Mendelii

alba, a magnificent form with pure white flowers, the throat being chrome-yellow veined with white. Along the back row were good plants of Thunia Veitchii superba, Oncidium macranthum and Dendrobium superbiens. Cochlioda hybrids were well represented. Maxillaria Sanderiana and Ornithocephalus grandiflorus, with its greenish-white flowers, were well shown, and a strong plant of Dendrobium Goldei received an Award of Merit.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an excellent exhibit of Lælio-Cattleyas, including Aphrodite, Fascinator, and Canhamiana, and numerous Odontoglossum hybrids. The rare and interesting Bulbophyllum virescens, Sobralia Cliftonii with its delicate flowers, and the elegant Trichopilia Backhouseana were also shown in good form. The centre of the group was composed of many excellent plants of Phalænopsis Rimestadiana and numerous Cochlioda hybrids.

Messrs. J. and A. McBean, Cooksbridge, received a Silver Banksian Medal for a group containing fine plants of Miltonia vexillaria, a distinct form of M. Bleuana, and the scarce M. Phalænopsis. A very beautiful hybrid between M. Bleuana and M. Hyeana was also shown. The group contained excellent specimens of Cattleya Mendelii and other species.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for an interesting exhibit of distinct varieties of Cattleya Mossiæ, one named Reineckiana vestalis being very beautiful.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Bronze Banksian Medal for a good group. Included in it were some fine forms of Vanda teres, many excellent varieties of Miltonia vexillaria and the pretty Cypripedium Maudia.

Mr. S. Flory, Tracy's Nursery, Amyand Park Road, Twickenham, was awarded a Bronze Banksian Medal for a good group containing the interesting Liparis Ugandæ,

Cattleya Mendelii with white sepals and petals, *Disa luna*, and many useful species of *Dendrobium*.

The Liverpool Orchid Co. obtained a Bronze Banksian Medal for an excellent group of hybrid Orchids. Included in it were distinct varieties of *Lælio-Cattleya Cowanii* (*cinnabrosa* × *Mossiaë*), and L.-C. *Oberon* (*Mendelii* × *Jongheana*).

Mr. A. W. Jensen, Lindfield, Haywards Heath, was awarded a Bronze Banksian Medal for a good group of *Cattleya Mendelii* and *Odontoglossum crispum*.

de Barri Crawshay, Rosefield, Sevenoaks (gr. Mr. Stables), exhibited *Odontioda Carmen* (*C. Næzliana* × *O. nebulosum*), *O. Devossiana* with a spike of richly-coloured flowers, *Od. rosefieldiense* with two spikes having a total of 34 flowers, and *Od. Leonidas*, a good hybrid with golden-yellow flowers marked with reddish-brown.

W. Waters Butler, Esq., Southfield, Norfolk Road, Edgbaston, exhibited *Cattleya Mossiaë* The Queen, a good plant with seven pure white flowers having a slight rose tint on the labellum, and *Lælio-Cattleya Martinettii*, of amber-yellow colour with a purple veined lip.

Walter Cobb, Esq., Normanhurst, Rusper (gr. Mr. Salter), exhibited *Odontoglossum Leonard Cobb*, a good hybrid of the *eximium* section, with a spike of eleven flowers handsomely blotched with claret-purple.

E. D. Quincey-Quincey, Esq., Oakwood, Chislehurst (gr. Mr. G. B. Lees), exhibited a good form of *Odontoglossum Fascinator*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Miltonia vexillaria Snowflake, from Lieut.-Col. Sir George Holford, K.C.V.O., Westons-birt (gr. Mr. H. G. Alexander).—A very beautiful variety with large, white flowers of excellent shape. The specimen carried 13 spikes with a total of 73 flowers.

AWARDS OF MERIT

Odontoglossum Lambeauianum Princess Mary, from H. S. Goodson, Esq., West Hill,

Putney (gr. Mr. G. Day).—A distinct variety, with pure white sepals and petals, the labellum marked with purple.

Odontoglossum Thais Glebe var., from C. J. Phillips, Esq., The Glebe, Sevenoaks (gr. Mr. R. J. Bucknell).—An excellent hybrid, with good shaped flowers handsomely marked with reddish-purple. The spike carried 19 flowers.

Lælio-Cattleya Aphrodite Cowan's variety, from the Liverpool Orchid Co.—An excellent hybrid, with erect petals of good substance, the labellum having the front lobe heavily blotched with purple.

Dendrobium Goldei, from Messrs. Sander and Sons, St. Albans.—A very elegant Australian species, with terminal spikes of dark claret-purple flowers.

CULTURAL COMMENDATIONS

To Mr. H. G. Alexander, Orchid Grower to Lieut.-Col. Sir George Holford, for a grand specimen of *Miltonia vexillaria* Snowflake.

To Messrs. Armstrong and Brown, Tunbridge Wells, for a remarkable plant of *Cœlogyne pandurata* with a spike of 16 flowers.

June 18th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), R. A. Rolfe, Gurney Wilson, F. Sander, J. Wilson Potter, F. J. Hanbury, T. Armstrong, A. McBean, W. Cobb, J. Charlesworth, J. E. Shill, H. G. Alexander, W. P. Bound, A. Dye, W. H. White, C. Cookson, W. Bolton, S. Low, C. H. Curtis, de B. Crawshay, J. S. Moss and C. J. Lucas.

Messrs. Sander and Sons, St. Albans, received a Silver-gilt Flora Medal for an extensive group containing many excellent varieties of *Cattleya gigas*, the scarce *Cattleya* Mrs. Myra Peeters, *Anguloa Ruckeri*, *Dendrobium Goldei*, and *Miltonia vexillaria*s. A good example of *Lycaste peruviana* and *Cœlogyne asperata alba* were also shown.

R. G. Thwaites, Esq., Chessington, Streatham Hill (gr. Mr. J. M. Black), was awarded a Silver Flora Medal for an interesting group of

hybrid Orchids, the best being *Cattleya Mossiæ Wagneri* and *Odontioda Thwaitesii*.

E. H. Davidson, Esq., Borlases, Twyford, received a Silver Flora Medal for an effective group of *Cattleyas* and *Lælio-Cattleyas*. A good variety of *Odontoglossum hibernicum*, *O. Aireworth*, and *O. eximium* were well staged.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Flora Medal for a group containing a very fine variety of *Lælio-Cattleya Martinettii*, a well-grown plant of *Odontoglossum Williamsianum*, *Miltonia vexillaria virginalis*, and the pretty *Oncidium leucochilum*.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Banksian Medal for a select group of various Orchids. Included in it were *Odontoglossum citrosmum roseum*, *Cattleya Mossiæ Wagneri*, and *Vanda Charlesworthii*.

The Liverpool Orchid Co. were awarded a Bronze Banksian Medal for a good group of *Lælio-Cattleyas* and other hybrids.

Mr. E. V. Low, Vale Bridge, Haywards Heath, exhibited *Cattleya Mendelii alba* "The Queen," the rare *Cattleya Harrisoniana alba*, and the interesting *Cœlogyne burfordiense*.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), exhibited *Odontoglossum crispo-Wiganianum*, a good yellow hybrid, *O. Goodsonii*, and the richly-marked *O. Eleanor*.

W. Waters Butler, Esq., Southfields, Edgbaston, sent *Lælio-Cattleya Martinettii* "Southfields var.," a distinct variety with lemon-yellow sepals and petals.

Mr. W. A. Manda, St. Albans, staged *Cattleya Warscewiczii Mandaiana*, a distinct coloured form.

F. Evelyn-Jones, Esq., Whyteleaf Grange, Warlingham, sent a good variety of *Lælio-Cattleya Canhamiana*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Lælio-Cattleya Baroness Emma (L.-C. *eximia* × *C. Hardyana*), from Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill).—A well-grown plant carrying a spike of large flowers of excellent shape and colour. The broad front lobe of the lip is a solid blotch of crimson-purple.

Odontioda Cooksoniæ "Fowler's variety" (*O. ardentissimum* × *C. Nœzliana*), from Messrs. Charlesworth and Co.—A remarkable hybrid with broad segments of a rich blood red colour. The white labellum is blotched with crimson at the base; the crest being bright yellow.

AWARDS OF MERIT.

Miltonia Bleuana Rising Sun, from Baron Bruno Schröder (gr. Mr. J. E. Shill).—A large clear-white flower with brownish-orange markings at the base of the lip.

Odontonia St. Alban (*Miltonia Warscewiczii* × *Odontoglossum Pescatorei*), from Messrs. Sander and Sons, St. Albans.—A new hybrid with a branching spike of white flowers prettily marked with chocolate-red.

Lælio-Cattleya Ganymede "Southfields var." (L. *Latona* × *C. Schröderæ*), from W. Waters Butler, Esq., Southfields, Edgbaston.—A bright orange-yellow flower with a slight cinnabar tint on the sepals and petals. The broad lip ruby-crimson.

MANCHESTER ORCHID SOCIETY.

May 16th, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, C. Parker, H. Thorp, Z. A. Ward, J. C. Cowan, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (Secretary).

A. Warburton, Esq., Haslingden, was awarded a Silver-gilt Medal for a choice group of *Odontoglossums*.

Col. J. Rutherford, M.P., Blackburn, was awarded a Silver Medal for a good group of *Cattleyas* and hybrids.

Z. A. Ward, Esq., Northenden, received a

Silver Medal for a meritorious group of *Odontoglossums*.

J. McCartney, Esq., Bolton, was awarded a Silver Medal for a nice exhibit of *Cattleyas*.

H. Thorp, Esq., Rhodes, received a Silver Medal for a group of *Odontoglossums*.

J. J. Holden, Esq., Southport, exhibited *Cattleya Dusseldorfei* Undine, *Brasso-Cattleya Marie*, and others.

W. R. Lee, Esq., Plumpton Hall, staged *Odontoglossum Wilckeanum plumptonense* and *Cattleya Mossiæ Reineckiana*.

Rev. J. Crombleholme, Clayton-le-Moors, exhibited good *Cypripediums*.

F. A. Hindley, Esq., Bradford, staged *Cypripedium hortonense*.

Messrs. Hassall and Co., Southgate, were awarded a Silver Medal for a choice group of *Odontoglossums* and *Cattleya* hybrids.

Messrs. Keeling and Sons, Bradford,

exhibited *Oncidium*s and three good forms of *Cypripedium bellatulum*.

Mr. J. Birchenhall, Alderley Edge, and Mr. J. Evans, Congleton, exhibited various select *Cattleyas*.

AWARDS

FIRST-CLASS CERTIFICATE.

Brasso-Cattleya Digbyano-Mossiæ var. *Luptonii*, a large flower of even colour, and well balanced, from Col. J. Rutherford, M.P.

AWARDS OF MERIT.

Brassocatlælia beardwoodensis (L.-C. C. G. Rœbling × *B. Digbyana*), from Col. J. Rutherford.

Odontoglossum Wilckeanum plumptonense and *Cypripedium Annie Measures* var. *Diabolus*, from W. R. Lee, Esq.

Cypripedium hortonensis (*Victor* × *Beeckmanii*), from F. A. Hindley, Esq.

BIRMINGHAM BOTANICAL & HORTICULTURAL SHOW.

June 12th, 1912.

W. Waters Butler, Esq., Southfields, Edgbaston, was awarded a Gold Medal for an extensive and beautiful exhibit of Orchids, the *Miltonias* and *Lælio-Cattleyas* being specially good.

Mr. E. V. Low, Vale Bridge, Haywards Heath, obtained a Silver Medal for an excellent exhibit of various Orchids.

Messrs. J. and A. McBean, Cooksbridge,

Sussex, obtained a Silver-gilt Medal for a meritorious exhibit of well-grown Orchids.

AWARDS.—First-class Certificate to *Lælio-Cattleya Martinettii* "Southfields var.," from W. Waters Butler, Esq. A very distinct form with lemon-yellow sepals and petals.

Awards of Merit to *Miltonia radiola* and *M. Hypatia*, from Messrs. J. and A. McBean; and to *Cypripedium Goweri magnificum* "Schofield's var.," from Mr. E. V. Low.

YORKSHIRE GALA.

June 19th, 1912.

Messrs. J. Cypher and Sons obtained the First Prize for a table furnished with Orchids arranged for effect; Messrs. Mansell and Hatcher were awarded the Second Prize; and Messrs. Hassall and Co. secured the Third Prize.

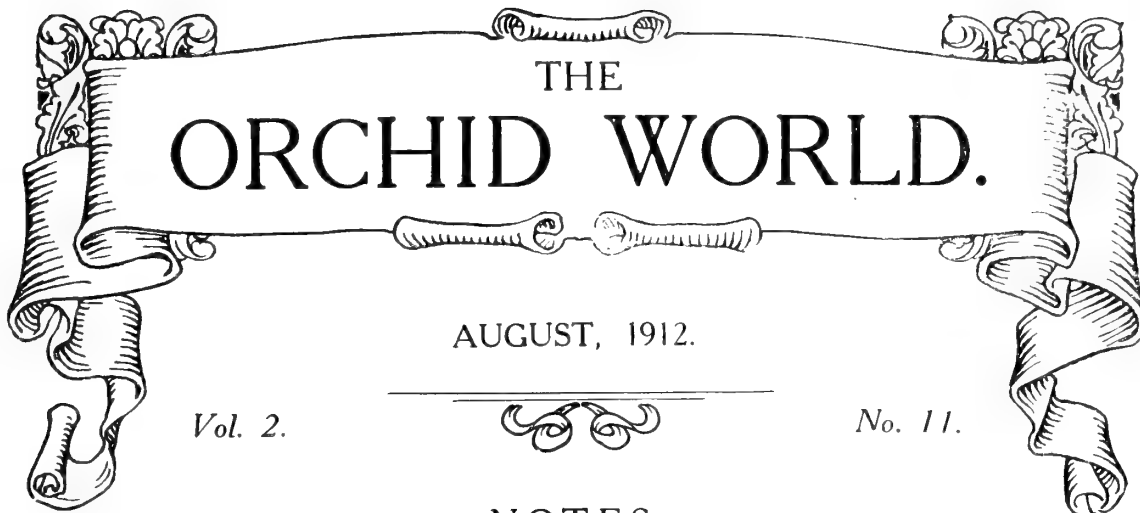
In the class for 10 distinct Orchids in bloom, Messrs. Cypher and Sons obtained the First Prize; W. P. Burkinshaw, Esq. (gr. Mr. Barker), was awarded the Second Prize; and Messrs. Hassall and Co. obtained Third Prize.

Keen competition was experienced in the

class for six distinct Orchids, the First Prize going to W. P. Burkinshaw, Esq.; the Second, Messrs. James Cypher and Sons; and the Third, Messrs. Hassall and Co.

The best specimen Orchid, *Miltonia Bleuana Hessle* var., was shown by W. P. Burkinshaw, Esq.; and the second best, *Odontoglossum percultum*, was exhibited by Messrs. Cypher and Sons.

For three Orchids in bloom, Messrs. Cypher and Sons were first; and Mr. Burkinshaw obtained prizes for the best exhibits in the classes for three Orchids, and also for six.



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NOTES.

ODONTOGLOSSUM BLACK PRINCE VAR. MARIETTA.—This pretty hybrid is the result of crossing Rolfeæ with Lambeauianum, and the variety Marietta is in the collection of J. S. Moss, Esq., Bishops Waltham, who kindly sends a photograph of a 15-flowered spike. The broad sepals and petals are rose colour evenly marked with light-brown spots, the lip white at its apex, purple spotted at its base.



MILTONIA VEXILLARIA ALBA.—Mr. E. Hill, of Lynford Gardens, Mundford, Norfolk, has recently flowered an albino form of this Colombian species. The plant was only imported last season, consequently the blooms are not developed to their full extent. The flowers and pedicels are pure white, the base of the labellum and its crest being light yellow, with radiating lines of almost a greenish-yellow tinge.



VANDA CŒRULESCENS LOWIANA.—Sir Fred. W. Moore, Royal Botanic Gardens, Glasnevin, kindly sends an inflorescence of this rare and very pretty species. It was originally described by H. G. Reichenbach in the *Gardeners' Chronicle*, 1877. Give a *Vanda cœrulescens* Boxallii an amethyst-coloured middle segment of the lip, and a little amethyst dot at each end of the sepals, and you have this nicety dedicated to Mr. Low, who was so lucky to introduce it.

THE AUTUMN ORCHID SHOW.—The Royal Horticultural Society has arranged to hold an Autumn Show of Orchids on November 5th and 6th, 1912, at Vincent Square, Westminster. Mr. E. H. Davidson, Borlases, Twyford, Berks., has kindly promised a Silver Cup for competition at the above, and the Committee will be pleased to hear from others who desire to offer prizes for this event. A copy of the Schedule will be found in the advertisement pages of this issue.



CATTLEYA WARSCEWICZII MANDAIANA.—We grow and flower freely many thousands of this species in the United States. From my personal observation I am positive that this is a pure species, and that there is no trace of *Cattleya aurea* either in the bulb, the growth, or the flower. The only vital distinction is the colour of the flower, which is unique, and to my mind as rare and valuable as the white form. It will be especially valuable to the hybridiser, for the enormous large flower, devoid of any purple pigment, will, if used with either a red or yellow flower, produce the first large red-flowering *Cattleya*, which has always been the aim of the hybridiser. There is not the least trace of anything but pure rose-red in the whole flower, the lilac and purple colour of the large flowering *Cattleya* being entirely eliminated.—*W. A. Manda, South Orange, U.S.A.*



Miltonia Phalænopsis alba.

MILTONIA PHALÆNOPSIS ALBA.—Considerable attention is now being devoted to Miltonias, their large flowers almost equalling the Odontoglossums in gracefulness and utility. A recent and interesting acquisition is *M. Phalænopsis alba* which flowered with Messrs. Lager and Hurrell, New Jersey, for the first time in March, 1912; the plant was rather small and only produced two flowers. The labellum of this species is, as is well known, heavily blotched and spotted with crimson-purple, but in the unique *alba* variety this colour has been entirely eliminated, leaving only a bright yellow blotch and lineal markings. The other portions of the flower are pure white. This is probably the first recorded instance of an albino variety of the species.



MIMICRY IN ORCHID FLOWERS.—When I was a very young boy I remember seeing a picture of the devil in a book, entitled "A History of His Satanic Majesty." The

appearance of the devil's face as therein represented has never been quite effaced from my memory. He was represented by a very long chin and beard, an open, ugly mouth, and four horns. You can imagine my surprise the other morning upon finding in my house an Orchid in bloom, *Stenia fimbriata*, the flower of which bears a striking resemblance to the face of Mephistopheles as represented in the book referred to. Many of my friends who have seen the flower have been highly amused with the supposed likeness to the "Old Gentleman."—ALEX. PATERSON, *The Garden*, Sept. 23rd, 1882.



CATTLEYA MOSSIÆ ALBINOS.—Reichenbach, in 1856, described in "Bonplandia" a form of *Cattleya Mossiæ* having pure white sepals and petals and an amethyst-purple labellum, this he named *Reineckiana*, in honour of Reinecke, gardener to Herr Decker, in whose collection the plant first flowered. He also described and figured in "Xenia Orchidacea" a pure white variety, entirely devoid of purple pigment, under the name *Wagneri*, which was discovered by Herr Wagner, in Caracas, May, 1851. To this day Orchid growers have used the two names as a means of distinguishing the two forms of albinism, and although this creates a somewhat lengthy form of nomenclature the system certainly assists us in our classification. From the well-known collection of J. Leemann, Esq., West Bank House, Heaton Mersey, comes *Cattleya Mossiæ Reineckiana Sheila*, without doubt the finest form of this albino. The broad pure white sepals and petals are thick textured and hold themselves in erect style. The labellum is mottled and veined with unusually bright amethyst-purple; the orange colour in the throat is also very bright. C. M. R. Hardy's variety does not possess quite such broad segments, and the purple colour on the labellum is inferior to that of the previous variety. A good form of *Cattleya Mossiæ Wagneri* is also sent from the same collection, the only colour being the orange-yellow in the upper part of the throat.

ORCHIDS IN 1855.

THE disposal, by order of the Council, of part of the Horticultural Society's collection of Orchids in 1855 realised a sum of £554. A copy of the sale catalogue, with prices obtained for each lot, is still in existence, and allows one to form an idea of the value of certain Orchids at that period.

In the first portion, consisting of 150 lots, the following prices are interesting:—*Angræcum virescens*, £7 15s.; *Trichopilia coccinea* and *Saccolabium guttatum*, £19; *Lælia acuminata*, £3 10s.; *Aerides Roxburghii*, the Ceylon var., £5; *Aerides quiquevulnerum*, £19 10s.; *Cattleya maxima*, £5; *Lælia anceps* and *Renanthera coccinea*, £6 15s.; *Sophranitis cernua*, £3 7s 6d.; *Oncidium ampliatum*, £4 10s.; *Vanda tricolor*, magnificent specimen, £11.

Lot 150 was the most interesting, being the magnificent specimen of *Phalænopsis Aphrodite* which Mr. Fortune, when sent out by the Horticultural Society in search of new plants, procured in the island of Luzon. Mr. Fortune arrived at Manila in the beginning of January, 1845, and in giving an account of his travels said: "After some trouble I discovered the locality of the beautiful *Phalænopsis*, and procured a large supply of the plants for the Society. As my visit here was a secondary object, I had very little time to spare, and therefore took every means in my power to make the most of my time. I was in the habit of making an Indian's hut in the wood my headquarters for a certain time, where I held a sort of market for the purchase of Orchidaceous plants. The ground in front of the hut was generally strewn with these plants in the state in which they had been cut from the trees, and often covered with flowers. The *Phalænopsis*, in particular, were very beautiful at this time. I was most anxious to get large specimens of this plant, and offered a dollar, which was a high sum in an Indian forest, for the largest specimen which should be brought to me. The lover of this beautiful tribe of plants will easily imagine the delight I felt when I

saw two Indians approaching with a plant of extraordinary size, having ten or twelve branching flower-stalks upon it, and upwards of a hundred flowers on it in full bloom. 'There,' said they, in evident triumph, 'is not that worth a dollar?' 'You have gained the dollar,' said I, as I paid them the money and took possession of my prize. This fine specimen realised the high price of £68 5s., the purchaser being Mr. Edmonds, gardener to the Duke of Devonshire."

The second portion included *Epidendrum myrianthum*, most rare and magnificent, £4 15s.; *Masdevallia coccinea*, most rare and beautiful, £6; *Cattleya Skinneri*, £9; *Lycaste Skinneri*, £8 10s.; *Cœlogyne cristata*, £8 10s., and *Lælia anceps*, £10.

The last lot, No. 300, was *Lælia superbienis*, described as "the finest specimen in Europe of a living Orchid. It has 220 pseudo-bulbs, and is 17 feet in circumference. It is still attached to the block of wood on which it was found growing in the forests of Guatemala." The plant was purchased by Mr. Fairrie, of Liverpool, for £36 15s.

Other purchasers were the Bishop of Winchester, Messrs. Bennett, Smith, Rucker, Forsyth, and Sir Joseph Paxton, who purchased the plant of *Cœlogyne cristata*. Some of the lots were disposed of at comparatively low prices, thus three unnamed *Stanhopeas* were purchased by Mr. Fairrie for six shillings.

 PHALÆNOPSIS AMABILIS.

FOR more than 160 years *Phalænopsis amabilis* has been known to Orchid Collectors, and during recent years a fine variety of the species, known as *Rimestadiana*, has been received from Java. The Indian Butterfly-plant, as Dr. Lindley called it, requires for its successful cultivation a hot-house where a very moist atmosphere can be constantly maintained. Although the plants are without pseudo-bulbs to support them through a period of drought, the thick, fleshy leaves contain a considerable amount of moisture and nutritive material.



Photo by]

Phalaenopsis amabilis, a specimen plant grown by Mr. H. G. Alexander, and exhibited by Sir George Holford at the recent International Show.

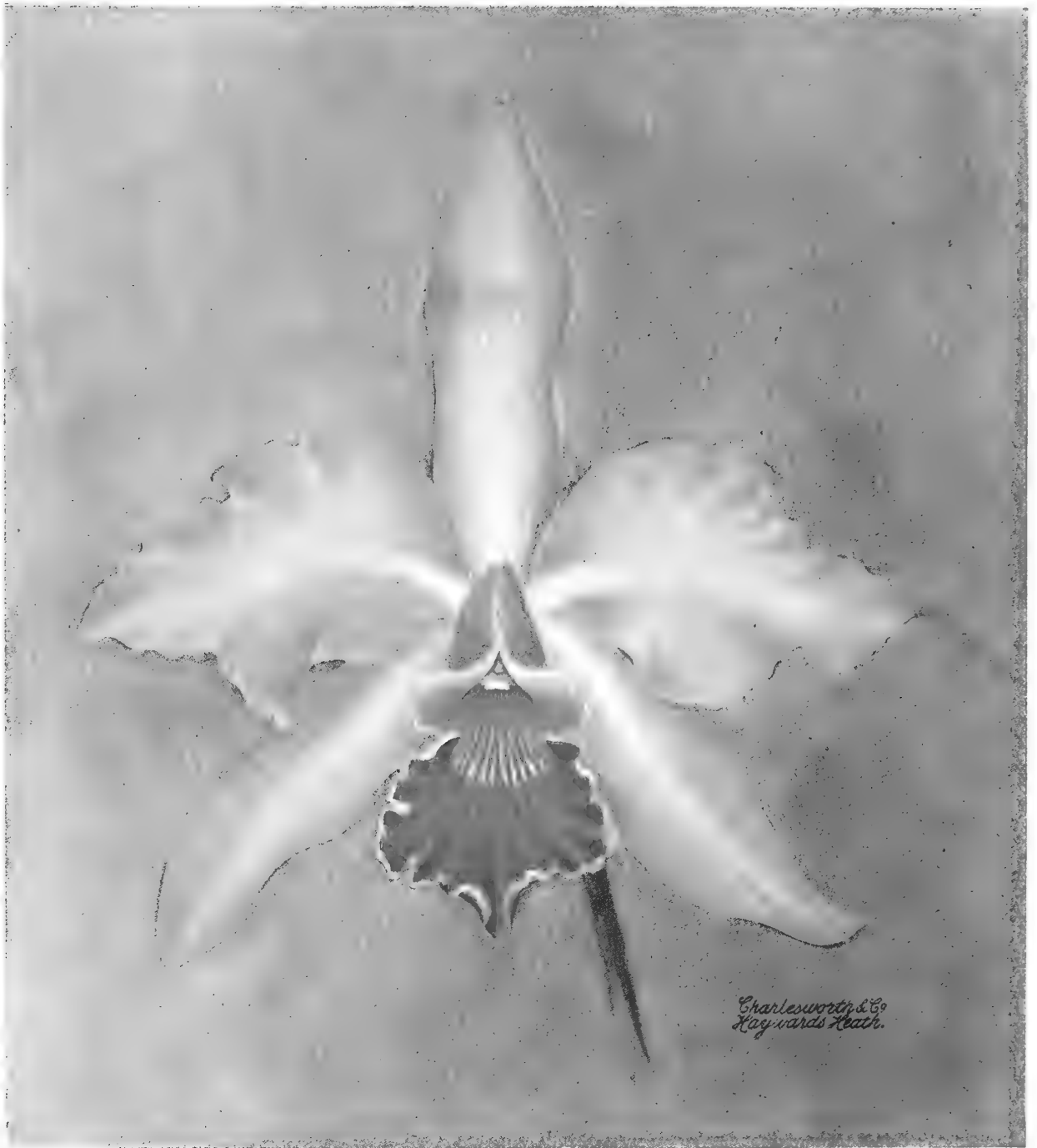
[F. Waldock.

Successful importers have obtained the best results by semi-establishing the plants on small blocks of wood before packing them in the strong boxes in which they travel to Europe. When the plants are unpacked on arrival at their destination all the treatment that is required for the first few weeks is an occasional damping with warm rain-water; this is quickly absorbed by the semi-established roots, and the plants soon recover and assume a plump, healthy appearance. When the roots show signs of activity the plants should be placed in teak-wood baskets or shallow pans, and the roots surrounded with a compost of peat, or other fibre, and sphagnum moss.

The roots of *Phalaenopsis* delight in having something to which they may attach themselves. A good cultural method is to place the pan or basket upon a large pot or, as is sometimes used, an unglazed drain-pipe placed in an upright position. In this way the plant may be moved without fear of damaging its roots, an event which frequently takes place when the pan or basket is placed directly on the staging.

The growing season extends from spring to late autumn, during which time every attention should be given the plant to enable it to create the strength necessary for the formation of its handsome spike of many pure white flowers. An excess of water, especially if stagnant, causes the leaves to become spotted and assume a yellow appearance. This may also occur when the compost is sour, the quickest remedy being immediate repotting with fresh, sweet material.

Phalaenopsis do not often succeed well in proximity to large manufacturing towns; apart from the frequent unsuitable chemical condition of the atmosphere there is usually a considerable amount of fog and, consequently, deficient light during the winter months. It does not, however, follow that *Phalaenopsis* require as much sunshine as *Cattleyas*; they are, in fact, shade-loving plants which delight in an atmosphere made warm by the sun's rays in preference to heat artificially obtained from hot-water pipes. Except during winter months direct sunshine is to be at all times carefully avoided, an effectual shading being coarse, rather thick



LÆLIO-CATTLEYA SYLVIA

(L.-C. Hippolyta × L.-C. Ascania)

F.C.C., R.H.S., July 4th, 1911.

canvas or tiffany blinds. Where lath-roller blinds are in use it will also be found advisable to whitewash the glass during the brightest of the summer weather.

During the resting season, which may roughly be stated to extend from October to February, the temperature of the house may be lowered to 65 or 70 degrees. On frosty nights 60 degrees will be safe if the atmosphere is proportionally drier; a high temperature with a dry atmosphere is always conducive to the welfare of thrips, and these, as cultivators know only too well, do considerable damage to the foliage of Orchids.

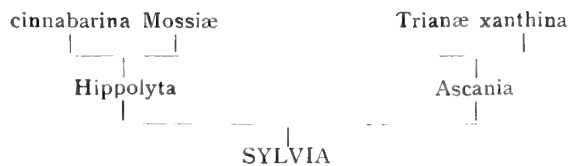
NEW HYBRIDS.

CATTLEYA FELICITY (MISS HARRIS × AUREA).—The former parent of this hybrid is the result of crossing *Cattleya Schilleriana* with *Cattleya Mossiæ*, an example receiving a First-class Certificate at the Royal Horticultural Society, September 17th, 1889. It is often confused with *Cattleya Vulcan*, a hybrid between *C. Gaskelliana* and *C. intermedia*, and first shown in 1905. In the new *C. Felicity* recently exhibited by Messrs. Mansell and Hatcher, the flower has inherited much of the rich crimson-purple of *C. Schilleriana*, the labellum showing the broad lip of this species and also the rich colour derived from *C. aurea*. The flower is of thick texture and likely to prove of long-lasting properties. It is an improvement on the well-known *Cattleya F. W. Wigan*.

BRASSO-CATTLEYA FAITH (B. PERRINII × C. LEOPOLDII).—A very useful small-flowering hybrid in which both parents are equally shown. The narrow greenish sepals and petals are spotted with red, the roundish labellum of a soft-rose colour with lineal markings of purple spots. This fragrant primary hybrid has been raised in the collection of F. J. Hanbury, Esq., Brockhurst, East Grinstead, where it finds a companion in B.-C. Joan (B. Perrinii × C. Warscewiczii) first flowered by Mr. Hanbury, August, 1909. B.-C. *belærensis* (B. Perrinii × C. *guttata*) is a very similar hybrid to B.-C. Faith.

LÆLIO-CATTLEYA SYLVIA.

(See Coloured Plate.)



LÆLIO-CATTLEYA HIPPOLYTA, the seed-bearing parent of this bright-coloured hybrid, has been a popular plant for the last twenty or more years. The reverse cross, *Mossiæ* × *cinnabarina*, originally named *Lælio-Cattleya Phœbe*, has been known for almost as many years, but as all hybrids resulting from the crossing, in whichever way, of the same two species must bear but one name, and that the earliest, the name *Phœbe* is suppressed in favour of *Hippolyta*.

Lælio-Cattleya Ascania, the result of crossing *Cattleya Trianae* with *Lælia xanthina*, first appeared in 1893. *C. Trianae* in its typical form has sepals and petals of a very light rose-purple tint, and *L. xanthina* has yellow, or greenish-yellow flowers. Several of the hybrids between these two species have produced yellow-coloured flowers, and it was from one of these that *Lælio-Cattleya Sylvia* was raised.

As four species are included in the parentage various varieties of L.-C. *Sylvia* are certain to occur, the form and colour will rarely be exactly alike in any two flowers. The one of which we give a coloured illustration was raised by Messrs. Charlesworth and Co., and received a First-class Certificate when exhibited by them at the Royal Horticultural Society, July 4th, 1911. Yellow-flowered Orchids are particularly scarce, and anyone who carefully examines a large group of flowers for this colour will prove the truth of this statement.

This rare hybrid is now in the important collection of F. M. Ogilvie, Esq., The Shrubbery, Oxford, where it grows happily in company with many other Orchid gems.






The Glebe Collection,

Sevenoaks.






THE comparatively short time in which the numerous specimens have been obtained, the excellent high standard of the varieties, and the recently erected extensive glass-houses, foretell the future notoriety which the Orchid collection of C. J. Phillips, Esq., will soon attain. Sevenoaks possesses a most suitable atmosphere, and the elevated position on which the houses are placed proves an ideal spot for Orchid cultivation.

A spacious conservatory contains several specimen plants of *Cymbidium Lowianum* and its variety concolor; these are of great value for decorative purposes, one plant having carried a spike of flowers which remained fresh for more than four months. This same spike now carries two seed pods, one the result of using the pollen from *Phaius flavus*.

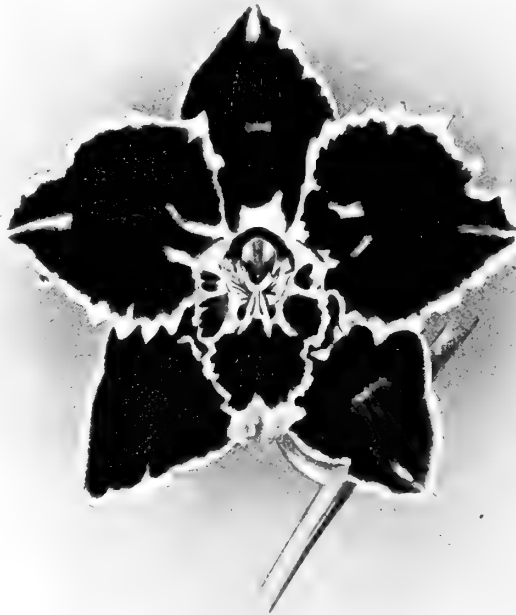
The *Odontoglossum* house is constructed with every device for maintaining the cool moist atmosphere so essential for the welfare of these ever popular species, the hybrids of

which are now so numerous. The centre of this house contains a large rain-water tank of sufficient size to provide a constant supply. This is very essential, for in many districts

the water from the company's road supply is unsuitable for Orchid culture. Above this tank is a pine-wood staging of sufficient height to keep the plants well up to the light. Staging is also erected round the side of the house, and underneath are numerous ventilators for the admission of fresh air. All the Orchid houses are fitted with electric light.

The collection includes *Odontoglossum Jasper*, of good shape and colour; *Uro-Skinneri*, with a

broad shouldered labellum; the charming *ardentissimum album*; the large flowering *Williamsonianum*; *Oncidium Kramerianum*, with its attractive butterfly-like flowers; and several plants of *Epidendrum vitellinum* with their erect spikes of orange-red blossoms. *Odontoglossum Eleanor*, a scarce hybrid between *Uro-Skinneri* and *cirrhosum*,



Odontoglossum eximium var. *Princess Mary*.

produces a flower with its lip minutely spotted and having a vertical line of purple-brown in the centre. *Od. illustrissimum*, with broad petals handsomely blotched with purple, and the apex of its lip pure white, is also a beautiful variety.

Mr. Phillips is always searching for rosy varieties of *Od. Rossii* for the production of

Odontonia Lairesseæ (*M. Warscewiczii* × *O. crispum*), and a very dark form of *Odontonia Louise*, a new hybrid between *M. Warscewiczii* and *O. Ossulstonii*.

The *Odontiodas* include many of the best of these scarlet and red-flowering hybrids; *O. Thwaitesii*, with its deep rose flowers being a notable exception of colour. *Phaius*



Odontoglossum Aglaon (*eximium* × *Vuylstekeæ*).

good hybrids, but they are very scarce and difficult to procure. *Od. Aurora*, a hybrid between *Rossii rubescens* and *Lambeauianum*, is particularly attractive and will be made use of for hybridising purposes. The *Rosslyn* variety of *Odontoglossum citrosimum* is superior to all others, its pendulous spike being always interesting and pretty. This house also contains a distinct variety of

Norman grows with evident pleasure, and a large plant of *Cymbidium insigne Sanderi* has no less than 15 leads. *Maxillaria Sanderiana* is represented by a large specimen; it is strange that this elegant species is not more often seen, for its cultivation is by no means difficult. *Oncidium incurvum album*, with its tall spikes, must also be mentioned.

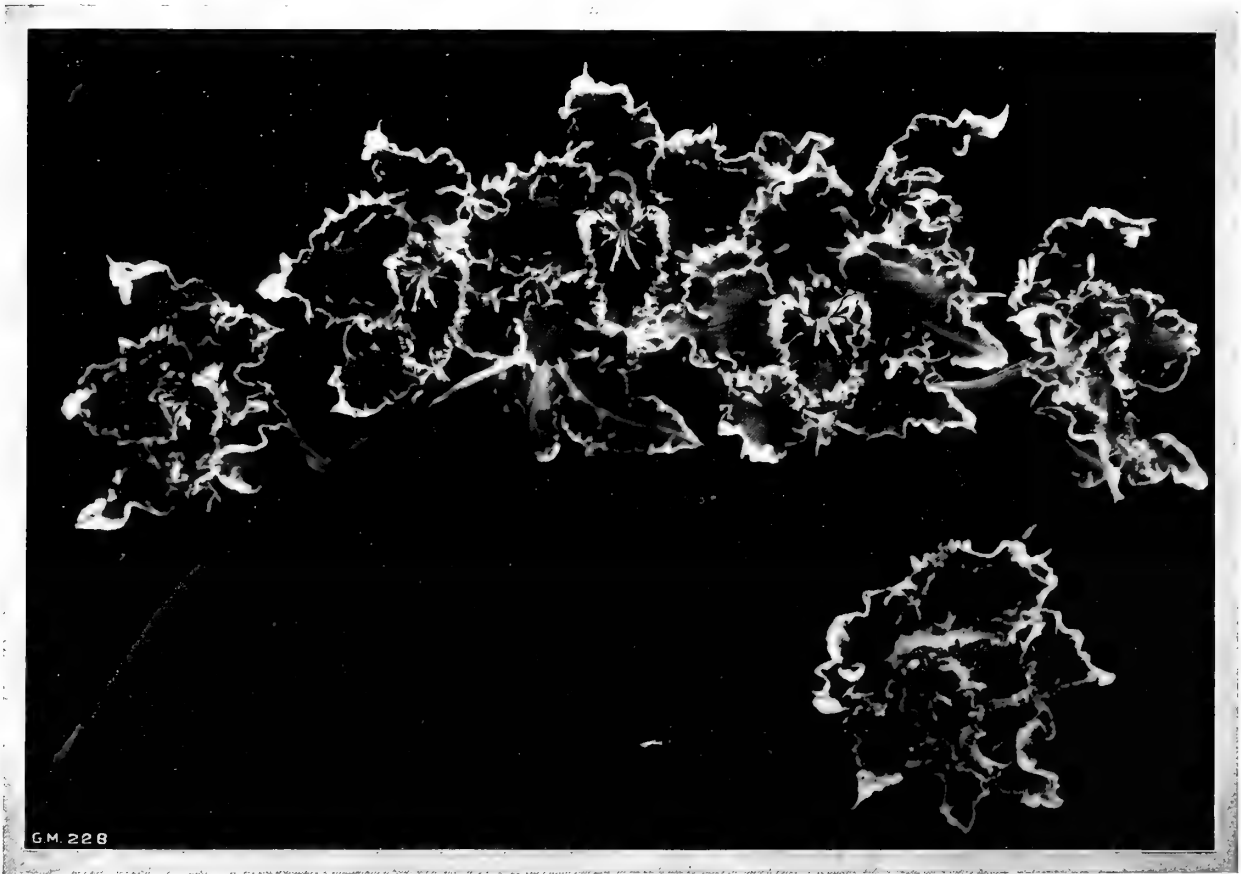
Many small pieces of the noted varieties of

Odontoglossum crispum have been procured; they are quickly growing into flowering size. *Maxillaria nigrescens*, a distinct Colombian species with port-wine coloured sepals and petals and a blackish-purple labellum, is now producing 21 flowers.

A very useful house, formerly used for melon growing, now contains a large number of small pots filled with minute seedlings, mostly *Cattleyas* and *Laelio-Cattleyas*; the

violet-blue labellum, and a strong plant of *Z. Mackayi* will prove useful for hybridising purposes. *Chondrorhyncha Chestertonii* and *C. fimbriata* are two elegant species which should be seen in collections more frequently.

The *Cypripedium* house contains a most representative collection of these autumn-flowering plants, and there are large numbers of the various *Cattleya* species and their various hybrids.



Odontoglossum Her Majesty, an elegant hybrid in the Glebe Collection. Received F.C.C. at the Royal International Horticultural Exhibition, May, 1912.

Odontoglossums have only lately been taken in hand, it is, therefore, premature to expect many at this early date. An interesting cross is *Cymbidium Tracyanum* × *Cymbidium Pauwelsii*, and *Lycaste Skinneri* carries a seed pod resulting from the pollen of *Cymbidium Wigianum*.

Zygopetalum Brewii, a new hybrid between *Z. Perrenoudii* and *Z. rostratum*, has a

Odontoglossum crispum solum stands alone, as its varietal name denotes, no other variety of *crispum* equalling it in point of distinctiveness. The illustration shows part of the spike as it flowered recently in the Glebe collection. The curious adventitious large blotch of colour appears on a different sepal in each flower, while that on the lip and column almost covers their entire surface.



Odontoglossum crispum solum, a portion of the flower spike.

Odontoglossum Aglaon is the result of crossing *eximum* with *Vuystekeæ*, the handsome symmetrical markings being of a rich purple colour. It will receive a place of honour in the new *Odontoglossum* house which is soon to be constructed.

Odontoglossum Her Majesty, one of the latest and best additions to the collection, received a First-class Certificate at the Royal International Horticultural Exhibition when exhibited by Messrs. Charlesworth and Co. The large flowers are deep red purple on a pale rose ground, the lip being particularly well developed and almost entirely covered by a solid blotch of colour.

Such rich gems as the above will surely

produce progeny of a most interesting kind, and, almost needless to remark, many of the finest quality. Mr. Phillips keeps complete records, by means of the card index system, of all his special plants, and the various ways in which they have been hybridised, failures and successes being both recorded. It is by this means, and it alone, that the best results in the near future will be achieved.

The collection is fast assuming an important place in the history of Orchidology, and we may expect with a considerable amount of certainty that it will reap its due share of awards whenever specimens are exhibited at the great horticultural meetings.

G. W.

DWARF-GROWING DENDROBIUMS.

DENDROBIUM PYGMÆUM. The specific name of this *Dendrobe* suggests its dwarf-growing habit. The globular pseudo-bulbs are only about one-half to three-quarters of an inch in height, usually having a dry and hard sheath, and bearing two terminal narrow leaves varying from an inch and a half to three and a half inches in length. The terminal racemes are usually shorter than the leaves, and not more than one inch long. The small flowers have narrow, white sepals and petals, and a pale brown lip veined with a darker tint of the same colour, its front lobe and anther being amethyst. It is found growing at the base of the Sikkim hills, at elevations of about 1,000 feet, and flowers during the cold weather.

D. porphyrochilum also grows on the Sikkim hills, but at an elevation of from 5,000 to 7,000 feet. The thin bulbs are only one-half to one inch in height, and carry from one to three narrow leaves obliquely notched at the apex. The solitary nodding racemes bear from six to ten flowers having pale green sepals and petals veined with red, and a dull brownish-purple lip edged with pale green. The column is white with purple spotting. In its native country it flowers during April and May.

D. aggregatum, with its angled bulbs rarely exceeding two inches in height, grows in quantity along the base of the Sikkim-Himalaya, where it flowers from March to May. Several flowers are borne on a drooping raceme, the lip being very much larger than the sepals and petals. When first opening the flowers are primrose-yellow, but afterwards assume an orange tint, the lip having a dark patch near its base. *D. Jenkensis*, with deep yellow flowers, is a well-known variety of the above.

D. pumilum, with its crowded pseudo-bulbs not exceeding an inch and a half in height, and its dark green leaves usually less than an inch long, bears small, white or yellow-flushed flowers. It is common in Singapore, Chittagong, Pegu, and Tenasserim.

D. terminale is a native of the tropical valleys in Sikkim, where it flowers during September and October. The slender flattened stems are from four to six inches in height, and the fleshy leaves rarely exceed three-quarters of an inch in length and one quarter of an inch in breadth. The small flowers vary in colour from white to pale pink. The lip has a thickened yellow line running along the middle of its upper surface from base to apex. It is a curious looking plant rarely seen in cultivation.



Cœlogyne pandurata,
a 16-flowered specimen, grown by
Messrs. Armstrong & Brown, Tunbridge Wells.

CŒLOGYNE PANDURATA.

IT is not often that a plant producing green flowers may be considered elegant, yet in *Cœlogyne pandurata* the colour is of such a bright yellowish-green as to be at once attractive and interesting. This species takes its name *pandurata*—fiddle shaped—from the curious resemblance which the lip has to that musical instrument. Most of the *Cœlogyne* species are handsomely marked on the labellum with numerous black, wart-like tubercles.

Sir Hugh Low, when exploring in the Bornean province of Sarawak during the year 1852, discovered the species growing on the

trunks of trees in the swampy lowlands adjacent to the coast and river banks. The rainfall at certain seasons of the year is so excessive that the utmost difficulty is experienced in collecting the plants.

Cœlogyne pandurata is not a difficult plant to cultivate, and when its requirements are fully understood small pieces quickly attain sufficient size to produce an arching raceme of several flowers. This, and other species requiring similar treatment, grows well where a hot, moist atmosphere can be constantly maintained. A suitable house should have thick brick walls, a substantial staging with

plenty of moisture-holding material, and a requisite amount of hot-water piping. The greater the amount of internal brickwork the better for the plant, for it is this material which retains the heat and moisture and effectually prevents a too rapid fluctuation of either. A house of this description is most likely to suit those Orchids which grow

naturally in a tropical moisture-laden atmosphere, and *Cœlogyne pandurata* is a good example. The excellent specimen, of which we give an illustration, was grown by Messrs. Armstrong and Brown, Tunbridge Wells, and when exhibited at the Royal Horticultural Society, June 4th, 1912, it was deservedly awarded a Cultural Commendation.



Odontoglossum crispum flowering in the establishment of Messrs. J. & A. McBean, Cooksbridge, Sussex.

ODONTOGLOSSUM CRISPUM.—This species has long been a speciality in the establishment of Messrs. J. and A. McBean, Cooksbridge, where many thousands of plants are grown. The above illustration depicts one of three houses, each 100 feet by 16 feet, which are entirely devoted to their cultivation. The photograph, taken May, 1912, gives but a poor idea of the grand sight which may be seen every spring time; the two other houses produce an equally abundant supply of bloom. This Colombian species easily holds its own against any other for giving a large quantity of flower, the long sprays being very useful for cut-flower decorative purposes. The principal groups at the Temple and other important shows always contain many specimen plants, and where large numbers are grown, as at Cooksbridge, a supply of bloom may be obtained during

every week of the year. Sussex atmosphere, it has often been stated, is mainly responsible for the vigour of the plants and the extra quality of the flowers, but whether this be true or otherwise very much depends on the actual method of cultivation. Messrs. McBean have certainly mastered the essential principles of potting, watering, heating, and ventilation.

AN ELEGANT BOUQUET.

The Bouquet of Orchids grown at Rosefield, Sevenoaks, Kent, and presented to Her Majesty the Queen by Mr. de Barri Crawshay on the occasion of Their Majesties the King and Queen visiting Hirwain, June 27th, 1912, is illustrated on page 253.



EULOPHIELLA HAMELINII, OR PEETERSIANA.

By Dr. P. FERKO, Milan, Italy.

EULOPHIELLA HAMELINII was introduced into cultivation during the years 1892 to 1896, and flowered for the first time in Europe, at Paris, in 1899. During four years I have been greatly interested in the study and importing of this noble Orchid, but it was only during the last two years that really good plants were despatched to England. I, however, kept one specimen and cultivated it in my Orchid house at Milan, where it grew very well, and last year produced two fine flower spikes, one with 20 blooms.

Eulophiella Hamelinii very often produces two spikes simultaneously, each about four feet in length. My plant made a flowering growth, and produced, some two months later, a spike with 23 flowers. Some three weeks afterwards, when the first flower spike began to fade, a second one with 18 flowers was produced. This plant, very curiously, did not make any leaves or flower spike during the following November; I certainly thought it would do so during the winter months. But, this spring, a new flower spike was produced in perfect condition, and the plant, as it appears in the illustration, was purchased by Messrs. Charlesworth and Co., and was included in their exhibit at the Royal International Show at Chelsea. The plant is a very robust grower and is already making a new bulb. Under cultivation it has produced in all three flower spikes. It is of interest to note that when the specimen was recently repotted two nice little seedling *Eulophiellas* were discovered growing on the mass of roots and fibre.

This species of *Eulophiella* grows exclusively on the crowns of the *Pandanus*, usually at a height of 20-25 feet from the ground, the long rhizomes of the Orchid clinging to and winding themselves round its stem. Old specimens of the *Pandanus*, or common screw-pine, frequently have about 20 crowns, and on such specimens as these one can often find two or three plants of *E. Hamelinii*, each plant consisting of from eight to ten bulbs.

The distance between the bulbs is from four to eight inches. The upper portion of the bulbs is furnished with ribbed leaves of a leathery texture, about three feet in length, and of a clear green colour. The old bulbs are always entirely without leaves.

The large leaves of the *Eulophiella* together with the *Pandanus* crowns make such a dense bush that considerable difficulty is experienced in finding the actual Orchid. Generally the plants can only be discovered when in flower, for it is then that the tall flower spike, about three feet in height, shows itself above the tangled mass of foliage.

On one specimen which I imported last year there were no less than 36 flower buds on a spike, and the plant travelled so well that on arrival in Europe all these buds developed into good flowers.

In Madagascar, its native home, *E. Hamelinii* terminates its season of growth during June and July, and as soon as the bulb is completed the flower-spike commences to grow, this usually measuring about four feet in the month of September. The spike, at first, does not grow very fast, but when it reaches the height of two feet rapid growth takes place and the flowers open during the month of September. This Orchid, in its native habitat, is exposed to the full tropical sun, without any shade whatever. Sometimes it is found growing near the sea coast, but one usually discovers it growing some three days' journey in the interior, between Tamatave and Vohemar, where there are immense numbers of *Pandanus* trees growing in the swamps. The atmosphere is very hot and saturated with moisture. At night time much of this atmospheric moisture condenses on the plants in the form of a heavy dew, this being very beneficial to them. The bulbs are seven to eight inches in height and require a large amount of sunshine and nutritive material from which to draw their food supply.

In Madagascar it rains for nine months out of the twelve, and *Eulophiellas*, as well as *Angræcums*, *Grammatophyllums*, *Cymbidium*s,



Eulophiella Hamelinii, a specimen plant in flower.

and Phaius are, therefore, exposed to a considerable quantity of moisture. It is of interest to note that the four last-mentioned

Orchids are found growing on various kinds of trees and places, but that *Eulophiella Hamelinii* grows exclusively on the Pandanus.



The Flower-spike of Eulophiella Hamelinii.

The cup-like receptacles formed at the base of the Pandanus leaves are usually full of water, into which the upper branching roots of the Eulophiella find their way, and thus obtain their supply of moisture, the lower roots freely enter the large mass of fibrous material surrounding the Pandanus stem. There is, therefore, much truth in the statement that this Orchid grows with its feet in

the water and its head in the sun. It is worthy of note that the Ravenala, Musa, and Pandanus all form these water-holding receptacles, yet it is on the latter tree, and that alone, that the Eulophiellas are found growing.

The plants which I most successfully imported were those sent home while still firmly attached to the clumps of the trees on which they were found growing in their native

home. They were afterwards placed in large baskets with a compost of sphagnum, polypodium and leaves, the whole being kept constantly damp. When the new growths produced fresh roots from their under-side some fresh sphagnum moss was placed over them, and this was kept damp by frequent applications of warm rain-water.

The normal temperature in Madagascar is 75-85 degrees F., never less. In my house the plants have always had this temperature, with the exception of a few cold days in winter, when the thermometer went down to 60 degrees F.

The flower buds are at first green, then yellowish, afterwards assuming a rose colour, which becomes darker when the plant receives extra sunlight. At mid-day the flowers have

a slight perfume resembling that of the flowers of the field.

Eulophiella Hamelinii is very difficult to import. The only possible way of obtaining success is to bring the plants home while still attached to the *Pandanus*; failure has always occurred when importers have omitted this precaution. Considerable danger is attached to gathering the plants for numerous scorpions hide themselves amongst the *Pandanus* leaves.

The plants must also travel as quickly as possible, a proceeding by no means easy through such an uncultivated country, and owing to the very bad ground and the dangerous swamps progress is extremely slow. Very large packing cases are required for the plants, the total weight often being over three hundred pounds.

SOME NOTES ON MADAGASCAR.

COMPARATIVELY little is known of the Orchids from the vast interior of Madagascar. Mr. Baker, in a paper which he read at the meeting of the British Association at York, in 1881, showed that there is a close affinity between the flora of Madagascar and that of Tropical Africa, on the one hand, and the flora of the central elevated parts of the island with those of the Cape and the mountains of Central Africa, on the other. The Rev. Richard Baron, in a paper read before the Linnean Society, November, 1888, stated that there is probably a closer alliance between the flora of Tropical Africa and that of the Western region of Madagascar than with the floras of the central and eastern regions. Mr. Baron, in considering the flora of Madagascar as a whole, was struck by the immense antiquity of the island. About three-fourths of the species and a sixth of its genera of plants are endemic. This, he remarks, is as it should be; the genera have for the most part survived the untold ages that have elapsed since their first appearance, while the species have been subjected to enormous modifications. Such a very large amount of

specific differentiation seems to point in the clearest manner to long isolation.

It has been roughly estimated that Madagascar contains an area of 30,000 square miles of forest-covered country. From this forest large pieces of *Pandanus*, the common screw-pine, with strong plants of *Eulophiella* species firmly attached have recently been imported. There is also a species of *Pandanus* having leaves about four feet in length and eight inches in width, and these, on account of their rain protecting qualities, are frequently used for covering the packages of goods that are carried to and from the interior of the island.

Of all the forms of vegetable life in Madagascar none is more remarkable than the "traveller's tree," *Ravenala madagascariensis*. The 25 to 30 large leaves are arranged on the top of the stem in the form of a gigantic fan. The water in the large cup-like sheaths of the leaf stalks is eagerly sought for by travellers to allay their thirst. The blade of the leaf in its young state is used as a substitute for spoons and plates, and when matured it is largely used by the natives in building their slender huts. An essential oil is also formed from the edible seeds.

LÆLIA ALBIDA.

IT would be difficult to find a more useful winter flowering species of Orchid than *Lælia albida*; in fact, history states that it was the first white-flowering *Lælia* to be discovered. The plant is comparatively small-growing, the roundish pseudo-bulbs are smooth when in the young stage, but become ribbed as age creeps upon them, and they bear one, or a pair of narrow green leaves of a leathery texture.

The scape is produced from the top of the bulb, as in all other species of *Lælia*, and bears from four to eight long-lasting flowers which are delicately fragrant with the odour of primroses. The sepals and petals are wax-white, the latter slightly recurved at the tips, the lip is of a soft rosy hue, streaked with yellow around the three lamellæ or crests, whilst the inside of the lateral lobes is often veined with reddish-pink.

It is regrettable that this elegant Mexican Orchid is so little seen in present day collections; possibly the difficulty experienced in its cultivation had much to do with its decline in popularity. This difficulty was due to insufficient knowledge of the climatic conditions of its natural home. The plants, on arrival in this country, were generally placed in a hot moisture-laden atmosphere, more suitable for Javan and Bornean Orchids than for those from Mexico, and little, if any, sun was allowed to reach the plants; no wonder that failure so often occurred.

The very remarkable specimen, of which we give an illustration, was grown by Mr. J. Smith, when Orchid grower to the Right Hon. Joseph Chamberlain, at Highbury, Birmingham. The plant is a grand example of cultural skill and amply proves that the treatment accorded it was correct in all details. There are few present-day Orchid amateurs who have had the pleasure of seeing such a superb specimen; they will, therefore, be interested in the method of culture adopted by Mr. Smith.

The plant was grown in a rather low span-roofed house with its sides facing north and

south, and containing a central path with staging on each side. No shading, either by means of blinds or whitewash on the glass, was used, but during the summer months sheets of tissue paper were placed for a short time during the middle part of the day over those plants most exposed to the sun.

The staging and floor were frequently syringed and damped down, and the utmost use was made of the top and bottom ventilators, both being regulated to suit the weather conditions at the time prevailing. The top ventilators were entirely closed for about an hour each afternoon in order to accumulate the heat of the sun, they being afterwards opened and left in that condition throughout the night. During the winter and at other times when the plant was in a dormant condition, ventilation was given when the weather permitted it. Only sufficient water was given to prevent shrivelling of the pseudo-bulbs, and the floor was damped down when extra fire heat was used on the few occasions when sharp frost prevailed.

Lælia albida bella is a variety with larger flowers, and the spikes are somewhat stronger. The sepals and petals are creamy-white, tipped with rosy-lilac, and the lip is yellow, with a broad band of magenta around the middle lobe, and an orange-yellow throat.

L. albida Marianæ is a pretty variety in which the sepals and petals are flesh-coloured, changing to salmon; the lip is mauve with buff-coloured stripes.

L. albida Stobartiana has the tips of the sepals and petals blotched with purple. It is an old variety, and was named in honour of Mr. W. C. Stobart, of Darlington.

L. albida sulphurea is distinguished by having sulphur-coloured sepals and petals, and an orange-tinted crest.

In former days the cultivation of this species was frequently attempted by fastening the plants on a block of wood in imitation of their native habit. Success was never achieved, the chief reason being the lack of moisture in the dead wood.



Laelia albida, a specimen plant grown by Mr. J. Smith, and flowering in the collection of the Right Hon. Joseph Chamberlain, Highbury, Birmingham.

CALENDAR OF OPERATIONS FOR AUGUST.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

THE recent dull, sunless weather, a great contrast to that which we experienced last year at this season, has not been ideal for heat loving Orchids. The cool section has benefited, undoubtedly, by the moisture laden atmosphere and the abundant supplies of fresh air that it has been possible to give the plants.

Everything must be done to encourage the plants that are in full growth to develop as speedily as possible. It is always advisable during a period of sunless weather to admit more air and to maintain the temperatures in the warmer houses by a little fire heat; this causes a nice buoyant atmosphere in which all plants appear to revel. In the cool house this is not a necessity, the object being to maintain as low a temperature as possible. No plant must be allowed to suffer for the want of water at this season; it is astonishing how much well established plants will absorb. Spraying and syringing may be done if the weather remains favourable, but do not allow water to stand in the centre of the new growths.

Cattleyas, Lælio-Cattleyas, and others of this large family, should all be taken in hand as soon as they require new rooting material. The best time is when new roots commence to push forth, for it is then that the plant is least likely to receive the slightest check. Where a large collection of these most beautiful plants are grown some repotting will be necessary in almost every month of the year. One of the greatest aids to the cultivation of this class of plant is to keep the rooting medium thoroughly sweet and healthy, for no plant can thrive in a sour and worn out compost.

Cypripediums of the winter flowering section, which were potted as advised early in the year, will now have filled their pots with roots, and may be copiously supplied with water, but an excessive supply must be carefully guarded against. Towards the end of the month many will be pushing up their flower spikes; these,

as soon as they are long enough, should be carefully and neatly tied up to stakes of suitable length, for if allowed to hang over the sides of the pots many will become crooked, and it is a difficult matter to again get them upright.

Deciduous *Calanthes* of the *vestita* and *Veitchii* sections are now growing vigorously and well established plants require an abundance of water at the roots. Care must still be taken in the application of water to those of the *Regnieri* and later flowering section, for these have not as yet filled their pots with roots. Well established plants may now have frequent waterings with weak liquid manure.

Dendrobiums, especially those of the *nobile* section, will have completed their growths towards the end of the month. It will be necessary to frequently examine them in order that those which have ceased growing may be removed to a cooler and drier atmosphere, where they will receive the benefit of extra light. They should be gradually exposed to full sunshine in order to thoroughly mature the newly-made growths. To retain a vigorous and healthy constitution the plants should only be allowed to make one set of growths each year. The plants will be quite safe for some little time in a place where the night temperature does not fall below 60°. Later on they may be removed to a cooler and drier atmosphere.

Miltonia vexillaria. Towards the end of this month the earliest flowering plants of this species will commence to grow actively. Any necessary repotting may be done when the plants commence to push forth new roots from the base of the young growths. Large specimen plants showing signs of exhaustion should have the old material removed, and all useless bulbs cut away, leaving only two or three behind each lead. The compost recommended is equal parts peat, *osmunda*, and *polypodium* fibre, sphagnum moss, and clean sifted half-decayed oak leaves, all thoroughly mixed together. The plants must not be

potted too firmly, and until they become established in the new compost water must be given with extreme care.

Miltonia Bleuana and *M. Hyena* may, from a cultural standpoint, be treated in the same manner; they are, however, more irregular in their flowering season, sometimes producing two distinct batches of flowers. These remarks are also applicable to *M. Roezlii* and variety *alba*. These plants are best repotted every season, therefore over potting must be avoided. A well-grown batch of these plants will maintain a house gay with flowers during the greater part of the summer months.

Renanthera Imschootiana having passed out of flower will be pushing new roots and may have fresh compost, if necessary. When growing, this plant succeeds best in a warm intermediate house, and when at rest, a slightly lower and drier atmosphere is beneficial. The condition under which *Vanda cœrulea* thrives will answer its requirements. This plant, now so easily obtainable, is worthy of extended cultivation on account of its colour.

Bulbophyllums and *Cirrhopetalums*. Any of these botanical curiosities that have passed out of flower and are making new growths may have attention if repotting is necessary. The compost recommended for *Miltonias* will answer their requirements, and they are best grown in shallow pans or baskets suspended from the roof. They need plenty of light, but should be shaded from strong sunlight. In their season of active growth a warm moist atmosphere should be maintained, but when

at rest the plants should be removed to the intermediate house; on no account should they be subjected to a low temperature or a continuous drought.

Stanhopeas succeed best when grown in shallow teak wood baskets suspended from the roof at the warmest end of the *Cattleya* house. Although the flowers of this genus are very showy, and many of them have a wonderful perfume, they do not find much favour with the majority of Orchid growers. The plants are easily cultivated and are very free blooming, but unfortunately the flowers are of short duration. Although a clear light is beneficial, bright sunshine injures the foliage, and the syringe must be used daily in order to keep down the attacks of red spider and other pests. When growth is finished the plants should be allowed a rather long period of rest in a lower temperature, and only sufficient water should be given to prevent the bulbs from shrivelling.

Odontoglossums. Plants of the dwarf habited members of this genus, such as *Rossii*, *Cervantesii*, *Oerstedii*, and their hybrids which have growths sufficiently advanced to allow of repotting may now be done. The plants grow best when suspended from the roof in well drained shallow pans.

The *Cochlioda* genus does not contain many species, but the hybrids which have been raised from them comprise some of the most beautiful and useful Orchids in existence. They all thrive in a cool, airy, and moist atmosphere, and for cultivation may be treated in the same way as *Odontoglossums*.

ROYAL HORTICULTURAL SOCIETY.

July 2nd, 1912.

MEMBERS of the Orchid Committee present: Sir Harry J. Veitch (in the chair), and Sir Jeremiah Colman, Bart., Messrs. Jas. O'Brien (hon. sec.), W. Waters Butler, A. McBean, C. Cookson, W. Thompson, G. F. Moore, H. G. Alexander, E. Ashworth, R. G. Thwaites, W. P. Bound, T. Armstrong, Stuart Low, Walter Cobb, R. A. Rolfe, J. Wilson Potter, Gurney

Wilson, W. H. Hatcher, W. Bolton, and H. J. Chapman.

Sir Jeremiah Colman, Bart., Gatton Park, was awarded a Gold Medal for a most interesting and well arranged group of Orchids. Included in it were select *Odontiodas*, well-grown *Cattleya* hybrids, many rare botanical specimens, and a large number of elegant species.

J. Gurney Fowler, Esq., Glebelands, South Woodford, received a Gold Medal for an excellent exhibit of Selaginellas and Orchids. The latter included *Odontoglossum ardentissimum* with a branched spike of 50 flowers, the brightly coloured *Anguloa Cliftonii*, and albino *Cattleyas*.

E. H. Davidson, Esq., Borlases, Twyford, Berks, was awarded a Large Silver Cup for a very effective group containing several fine *Odontoglossum* hybrids, *Cattleya Mossiæ Wagneri*, a beautiful form of *Lælio-Cattleya Aphrodite* and *L.-C. Rubens* var. The Kaiser, a grand hybrid which obtained an Award of Merit.

Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander), Tetbury, Glos., received a Silver Flora Medal for a magnificent specimen of *Cattleya Warscewiczii* Low's variety, with six spikes bearing together 22 flowers. *C. Warscewiczii* Othello, a grand form, and *C. Artemis* (*Iris* × *Gaskelliana*) were also shown in excellent style.

Messrs. Charlesworth and Co., Haywards Heath, received a Gold Medal for the finest trade exhibit. In the centre were numerous specimen plants of *Phalænopsis Rimestadiana*, their graceful spikes of white flowers showing to advantage over a mass of the red-flowering *Epidendrum vitellinum*. Besides many excellent hybrids there was a strong plant of *Grammangis Ellisii* with a spike of 24 flowers, the scarce *Oncidium Clæsonianum*, the interesting *Peristeria elata*, and *Sobralia macrantha alba*.

Messrs. Mansell and Hatcher, Rawdon, Yorks, were awarded a Silver Cup for a well-arranged exhibit of Orchids, the *Lælio-Cattleyas* being of great beauty. *Saccolabium Blumei* with two long drooping flower spikes, *Dendrobium Lowii* with its bright-yellow flowers, and the curious *D. revolutum* were staged in good form. A new Orchid, *Cypripedium* Chas. J. Catt (*Godefroyæ leucochilum* × *Chamberlainianum*), and *Lælio-Cattleya bletchleyensis* King George were much admired.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver-gilt Flora Medal for an extensive and very effective

exhibit of various Orchids. It contained the rare *Lælia tenebrosa* Walton Grange var., a well-flowered *Chysis bractescens*, several very dark varieties of *Cattleya gigas*, the white *Cattleya* Mrs. Myra Peeters, and the scarce *Broughtonia sanguinea*.

Messrs. Jas. Veitch and Sons, Chelsea, had many Orchids in their superb group of foliage plants which was awarded the "Coronation" Challenge Cup. The varieties included *Brasso-Cattleya* Marion, *Cattleya Mossiæ Wagneri*, *Disa luna*, and the elegant *Lælio-Cattleya Canhamiana alba*.

Messrs. Sander and Sons, St. Albans, exhibited the curious *Catasetum tenebrosum*, *Lælio-Cattleya Martinettii* Vesuvius, of excellent colour, the blue flowering *Bollea Lalindei*, and *Miltonia vexillaria Lambeauiana* with numerous flowers.

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged some well-grown Orchids, all excellent varieties. *Cypripedium callosum* Sanderæ, *C. l'Ansonii*, a good *Cattleya Mossiæ Wagneri*, and the elegant *Cœlogyne pandurata* were much admired.

Mr. H. A. Tracy, Orchid Nursery, Twickenham, received a Silver Flora Medal for a good group containing the pretty *Odontoglossum Eleanor*, *Cypripedium niveum*, several excellent varieties of *Cattleya Mendelii*, and various botanical Orchids.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, was awarded a Silver Flora Medal for a well arranged exhibit consisting of good varieties of *Cattleya gigas*, *Odontioda Floryi*, *Cattleya Mossiæ Wagneri* with several good flowers, and various *Odontoglossum* hybrids.

Messrs. Armstrong and Brown, Tunbridge Wells, exhibited a well-flowered plant of *Promenæa citrina*, the pretty *Cypripedium Vipanii*, and a hybrid between *C. Youngianum* and *Fairrieanum*.

Messrs. J. and A. McBean, Cooksbridge, showed *Miltonia vexillaria Rotundia*, a very elegant variety, and *Cattleya Warscewiczii Gladiator*, a very large flower of good colour.

F. M. Ogilvie, Esq., The Shrubbery, Oxford, exhibited *Odontoglossum percultum* King George, a large flower handsomely marked

with lilac-purple; *Odontioda Lambeauianum*, of a solid red colour; *Odontonia Lairesseæ*, with a branching spike of many flowers; and *Odontoglossum crispum* Queen Empress with a 13 flowered spike.

J. S. Moss, Esq., Bishop's Waltham, showed a pretty hybrid between *Odontoglossum crispum* and *O. Othello*.

Mr. W. J. Biggs, North Enfield, exhibited *Cattleya Mossiæ alba* Biggs' variety, one of the largest and finest forms of this pure white flower.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya Artemis (*Iris* × *Gaskelliana*), from Lieut.-Col. Sir George Holford, K.C.V.O. (gr. Mr. H. G. Alexander).—A beautiful and very distinct flower of salmon-pink colour, the front of the lip ruby-crimson, the throat having a large yellow disc.

Miltonia Hycana Le Conquerant, from Mons. Jules Hye de Crom, Ghent.—A fine large variety with a purple blotch on the lip.

Cattleya Dupreana The Dell variety (*Warneri* × *Warscewiczii*), from Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill).—A very large flower of good substance. The sepals and petals of deep rose colour, the lip having a bright yellow disc.

AWARDS OF MERIT.

Lælio-Cattleya Rubens "The Kaiser," from E. H. Davidson, Esq., Twyford.—A very richly coloured hybrid, the large flowers being deep rose, the labellum intense crimson-purple.

Odontoglossum percultum King George, from F. M. Ogilvie, Esq., Oxford.—A large flower handsomely marked with lilac-purple blotches.

Brasso-Cattleya Marion, from Messrs. James Veitch and Sons.—A very large flower of lilac tints, the labellum lined with purple.

Cattleya Thurgoodiana Apollo, from Messrs. Stuart Low and Co.—A very distinct flower of excellent colour, sepals and petals rose-red, lip dark purple.

CERTIFICATE OF APPRECIATION.

Odontonia Edna (*M. Warscewiczii* × *O. Wilckeanum*), from Messrs. Charlesworth and Co.—A pretty hybrid with a branching spike of flowers blotched with yellowish-brown.

July 16th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair); and Messrs. Jas. O'Brien (hon. sec.), W. Bolton, J. Wilson Potter, C. H. Curtis, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, J. Charlesworth, T. Armstrong, F. Sander, W. Thompson, Gurney Wilson, W. H. White, Stuart Low, and F. J. Hanbury.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Flora Medal for a well-arranged group containing good varieties of *Cattleya Mendelii*, the scarlet *Disa grandiflora*, the interesting *Bulbophyllum Ericsonii*, *Cœlogyne asperata*, and the elegant *Stanhopea tigrina*.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), received a Silver Banksian Medal for an interesting group of *Odontiodas*, the richly coloured *Lælio-Cattleya Rubens*, *Odontoglossum Rolfeæ*, and good *Miltonias*.

Messrs. Charlesworth and Co., Haywards Heath, exhibited several choice specimens, including the elegant *Habenaria Susannæ*, *Dendrobium amethystoglossum* with four spikes, and the pretty *Eulophia gumeensis*.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, exhibited *Eria rhyncostyloides* with three spikes of flowers, and *Lælio-Cattleya Adolph-Harrisoniæ* having creamy-white flowers spotted with violet-purple.

Baron Bruno Schröder (gr. Mr. J. E. Shill) showed *Cattleya Hardyana* The Dell var., a remarkably good form with bright purple colour on the lip.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, exhibited *Brasso-Cattleya Faith*, a new hybrid between *B. Perrinii* and *C. Leopoldii*.

Messrs. Sander and Sons, St. Albans,

staged *Odontoglossum crispum* Formidable, a very grand variety with a spike of 15 large flowers slightly spotted with rose-purple.

Messrs. Hassall and Co. staged *Lælio-Cattleya* Rubens, of very dark colour, a distinct variety of *Cattleya Thurgoodiana*, and a good variety of *C. Harrisoniæ*.

Mons. Mertens, Mont St. Amand, Ghent, exhibited *Miltonia* Queen Alexandra, and two blotched *Odontoglossum* hybrids.

AWARDS.

FIRST-CLASS CERTIFICATE AND GOLD MEDAL.

Cattleya Warscewiczii alba var. Firmin Lambeau, from Mons. Firmin Lambeau,

Brussels.—A most lovely pure white flower of large size and good substance. The plant carried a spike of three blooms.

AWARDS OF MERIT.

Zygopetalum Brewii (*Perrenoudii* × *rostratum*), from Messrs. Charlesworth and Co., Haywards Heath.—An interesting hybrid with greenish sepals and petals tinged with purple; lip rosy-carmine with white margin, crest pale blue.

Odontoglossum Epicaste (*Clytie* × *crispum*), from Messrs. Charlesworth and Co.—A good advance in the *Edwardii* section of hybrids. The rose coloured flower almost covered with large blackish-chocolate blotches.

MANCHESTER ORCHID SOCIETY.

June 6th, 1912.

MEMBERS of the Committee present:—Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, J. C. Cowan, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, C. Parker, F. K. Sander, Z. A. Ward, A. Warburton, and H. Arthur (Secretary).

Silver-gilt Medals were awarded to Col. J. Rutherford, M.P., A. Warburton, Esq., and Messrs. Charlesworth and Co.

Silver Medals were awarded to Mrs. Wood, Z. A. Ward, Esq., J. McCartney, Esq., Messrs. Hassall and Co., and the Liverpool Orchid Co.

Votes of Thanks to O. O. Wrigley, Esq., W. R. Lee, Esq., R. le Doux, Esq., and Mr. J. Birchenall.

FIRST-CLASS CERTIFICATE.

Odontioda Queen Mary (*Vuylstekeæ* × *eximium*), from W. R. Lee, Esq.

AWARDS OF MERIT.

Odontoglossum crispum White Star, and O. c. White Queen, both from W. R. Lee, Esq.

Aerides Houlettiana magnifica, from Mrs. Wood.

Lælio-Cattleya Martinetti var. John Lupton, from Col. J. Rutherford.

Cattleya Cowanii magnifica, and *Odontoglossum* Mrs. Carlisle, from R. le Doux, Esq.

At the Annual Meeting the Balance Sheet was adopted. The Rev. J. Crombleholme was re-appointed Chairman, with Z. A. Ward, Esq., Vice-chairman; R. Ashworth, Esq., Hon. Treasurer; H. Thorp, Esq., Hon. Auditor; and H. Arthur, Esq., Secretary.

The Prizes were presented to the successful exhibitors as follows:—

Robson's Gold Cup to W. R. Lee, Esq.; W. R. Lee's Silver Trophy to Z. A. Ward, Esq.; W. R. Lee's Gold Medal to J. McCartney, Esq.; Cypher's Gold Medal to Z. A. Ward, Esq.; Sander Prizes to Mr. Lupton, Mr. Weatherby, and Mr. Holmes; E. V. Low's Silver Vase to J. J. Holden, Esq.; Stuart Low Prizes to J. McCartney, Esq.

The Society's Gold Medal (Amateurs) to G. H. Peace, Esq.; Silver-gilt Medal to A. Warburton, Esq.; Gold Medal (Amateurs without a gardener) to W. Hargreaves, Esq.; Silver-gilt Medal to F. A. Hindley, Esq.; and Silver Medal to H. Arthur, Esq.

A Gold Medal, given by a Member of the Society, was presented to the Rev. J. Crombleholme, for his meritorious exhibits during the session.



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NOTES.

OPHRYS APIFERA.—Throughout the summer season a continuous exhibition of Sussex wild flowers is held at the Brighton Museum, specimens being received from all parts of the county. It is of interest to note that the varieties of *Ophrys apifera* from the sandstone of the Forest Ridge are larger flowering than those usually found on the chalk. The somewhat scarce *Herminium monorchis* has also been exhibited.



BRITISH ORCHIDS.—A recent issue of the *Nature Photographer*, the official organ of the Nature Photographic Society, contains some notes by Mr. E. J. Bedford on British Wild Orchids. The author has been engaged for several past seasons in obtaining a series of photographs, stereoscopic if possible, of the plants in their natural position, the collection now including thirty-one species. Last year the rare *Orchis hircina* was discovered in East Sussex, and a reproduction of its photograph, taken June 22nd, 1911, appears in the above publication.



LYCASTE BARRINGTONIÆ.—The genus *Lycaste* contains about forty species, all natives of tropical America from the West Indies and Mexico to Peru. The island of Jamaica possesses but one species, and that *L. Barringtoniæ*, a flower of which has been sent by Mr. J. Harris, Orchid grower to Col.

Henty, Avisford, Arundel, Sussex. The drooping olive-green flowers are about two inches in length; the lip light buff in colour, with a fringed margin, and a deeply furrowed callus. It is found growing on rocks and trees, and usually flowers from April to June. A spike of *Epidendrum anceps* with its light greenish-brown flowers crowded almost into a head also comes from the same collection. This species is very widely distributed, but the actual specimen in the Avisford collection was obtained from Jamaica.



A REAL BIRD'S-NEST ORCHID.—The roots of *Neottia Nidus-avis* are so crossed and entangled as to resemble, in miniature, a crow's nest, hence its popular name, the Bird's-nest Orchid. But reality is better than fancy. During the present summer some wrens obtained access to the Orchid house of Mrs. Payer, Alexandra Park, Nottingham, and built a cosy nest in a large specimen *Ada aurantiaca*. Six eggs were hatched, and the young birds successfully reared and taken away by their parents, thus making a most interesting and unique occurrence. In the same collection is an exceptionally strong plant of *Stanhopea tigrina*; it fills a 16-inch basket and has recently carried 14 spikes, each one having two large flowers. Another excellent example of good culture is a large specimen *Cœlogyne Dayana* which carried no less than 32 long pendulous spikes, each having from 20 to 22 well developed flowers.

CYMBIDIUM PENDULUM.—This summer-flowering species is not often seen in present day collections. A plant in the possession of the Rev. J. C. B. Fletcher, Mundham Vicarage, Chichester, has recently produced a spike with no less than 40 well developed flowers. The white flowering *Aerides virens* Sanderae and *Epidendrum prismatocarpum* with 23 spikes are two other Orchids in this collection that have produced floriferous results during the last few weeks.



CYPRIPEDIUM FRANCHETII.—A recent issue of *Horticulture* contains a photographic illustration of this new introduction from the Thibetan borderland where it was discovered by Mr. E. H. Wilson when on an expedition for the Arnold Arboretum during the year 1910. This species, which was named in honour of the distinguished French botanist, the late M. A. Franchet, in a general way resembles the Siberian *C. macranthum*, but differs chiefly in its more hairy foliage and other details. Mr. Wilson states that it is a native of upland regions and requires a moist, shady situation and a compost rich in decaying leaves.



THE FERTILISATION OF ORCHIDS BY INSECTS. —M. Felix Plateau occupied himself, several years ago, by studying the fertilisation of flowers by insects, and more especially by the way insects are attracted by the flowers. His experiences, which he communicated to the Royal Academy of Belgium, lead him to adopt the following conclusions:—The form of the flower or inflorescence has no influence, or, at any rate, a very secondary influence, with regard to the attraction of insects by plants. Nothing proves that insects distinguish colours in the same way as the human eye. The sense of smelling is often extremely developed in certain animals. Many of them are almost entirely guided by this sense in their search for food, and they perceive smells which do not affect the human olfactory organ. Neither the form nor the bright colours of the flowers

seem to have any influence whatever on insects; they visit the inflorescences which are not mutilated, but which are hidden by green leaves. So that insects do not seek flowers for the form and coloration our eyes appreciate, but appear to be guided towards them by some other sense than that of seeing.



OPHRYS ARANIFERA.—This species possesses a broad lip marked with various shades of brown, from which a fancied resemblance to a spider is obtained. The flower has been made emblematical of adroitness or skilfulness, in allusion to the insect it resembles.

“The spider’s touch, how exquisitely fine!

Feels at each thread, and lives along the line.”

This species is very similar to *O. apifera*, but differs in not having the anther beak hooked, and in flowering during the months of April and May, whereas *O. apifera* usually produces its flower stems in July. Cultivation is by no means difficult, the plants generally giving good results when planted in a rather dry elevated position of the rock-work, and where the soil consists of gravelly loam with a slight addition of chalk. Many of these interesting little gems will amply repay one for careful cultivation.



ORCHIDACEOUS PLANTS.—In these, beyond the striking nature of their habits, which are not much regarded, it is the extraordinary size, loveliness, variegation of hue, outline, conformation, and fragrance of their flowers, which prove so enchanting to their admirers; and the endless multiplicity of all those traits, their singular versatility in the same species, the strange associations, contrasts, and varieties which they sometimes present, with the seeming boundlessness of the stores of novelty yet lying hidden in the recesses and forests of a large division of the globe, but inviting to be opened up and rifled by European research; compose the throng of considerations that has obtained for them the favour to which they have lately been advanced.—*Paxton’s Botany*, 1840.

ARACHNANTHE ANNAMENSIS.

The genus *Arachnanthe* is not a large one, but nearly all the species are curious and interesting, as well as beautiful. Sir Frederick Moore, of the Royal Botanic Gardens, Glasnevin, when looking through an importation of Orchids sent to Messrs. Sander and Sons from Annam, selected one from a number of distichous-leaved plants. It flowered the following year, June, 1905, and proved to be *Arachnanthe annamensis*, a very remarkable species. The plant, which has flowered several times since, is not a very vigorous grower; in fact, several of these Annam plants seem rather fastidious as to the right temperature in which to be grown.

The leaves are narrow and rather short, but the inflorescence is stout and erect, well elevated above the head of the plant, and the flowers are large and showy. The segments are narrow, the two lateral sepals and the two lateral petals are bent in a falcate manner, giving a weird appearance to the inflorescence of eight to ten flowers. The single flowers are over five inches, by three to three and a half broad. The red ground colour, on which are transverse bars of yellow produces a very bright and attractive addition to the Orchid house. Our illustration is reproduced from a photograph of the plant as it flowered with Sir Frederick



Arachnanthe annamensis.

(*R.H.S. Journal.*)

Moore, at the Royal Botanic Gardens, Glasnevin. The white aerial roots with their bright green tips are plainly visible.

NEW HYBRIDS.

BRASSO-LÆLIA MAD. G. PUTZYS.—At the horticultural meeting held at Brussels, July 16th, 1912, this new hybrid was exhibited by M. G. Putzys. The parentage is *Brassavola Digbyana* × *Lælia præstans*.

ONCIDIODA CINNABARINA.—This interesting hybrid between *Oncidium monachicum metallicum* and *Cochlioda Noëziana* has been recently flowered by Messrs. Charlesworth and Co. The tall, somewhat erect, spike carries many reddish-brown flowers.

ODONTIODA MADELINE.—A beautiful hybrid, the result of crossing *Odontioda Charlesworthii* with *Odontoglossum crispum*. Flowers of good size and shape and of a deep red colour slightly tinted with a golden hue. Raised and flowered by Messrs. Charlesworth and Co. The specimen exhibited by them at the Royal Horticultural Society, July 30th, 1912, has since passed into Mr. E. H. Davidson's collection, Borlases, Twyford, Berks.

CATTLEYA SOURCE D'OR.—This, the result of crossing *Forbesii* with *Pittiana*, has amber-brown sepals and petals, the latter slightly undulated at the margin, and a purple veined lip with an orange-yellow disc. The *Forbesii* parent largely predominates. Shown by Mr. H. T. Pitt, Royal Horticultural Society, July 30th, 1912.

LÆLIO-CATTLEYA MAURETANIA.—Messrs. Sander and Sons have raised this new hybrid by crossing *L.-C. Martinetti* with *L.-C. Canhamiana*. The large flower is of a rosy purple colour, the broad petals are formed in a much more erect style than often seen in *Canhamiana*, and the labellum is well developed.

BRASSO-CATTLEYA THETIS.—*Brassavola Digbyana* and *Cattleya Aclandiae* are the two parents of this rare hybrid recently flowered by Messrs. Jas. Veitch and Sons, Chelsea. The result is a fairly large greenish-yellow flower with a broad fringed labellum tinged with rose on the front lobe. The purple spotting of *C. Aclandiae* has been almost eliminated, a not uncommon occurrence with hybrids of this species.

CATTLEYA NOBILIS.—The result of crossing *Cattleya granulosa* with *Cattleya Warneri* has produced a large flower, the distinctive feature being the dark marginal band of colour which runs completely round every segment. The well developed labellum is rich purple in colour, and the isthmus is much elongated. Raised by Messrs. Sander and Sons, St. Albans, and exhibited by them at the Royal Horticultural Society, August 27th, 1912.

LÆLIO-CATTLEYA ARGUS.—This, the result of crossing *Cattleya intricata* with *Lælio-Cattleya Ingramii*, has been raised in the Rosslyn collection by Mr. Thurgood. The flowers, as may be expected from such a mixed parentage, vary much in form and colour, no two being alike. The parental species include *C. intermedia*, *C. aurea*, *C. Leopoldii*, and *L. Dayana*.

ODONTOGLOSSUM ETHELREDA.

(*Edwardii* × *triumphans*.)

This, like all *Edwardii* primary hybrids, has the usual characteristics of deep purple segments tipped by a lighter shade of almost lilac; the sepals and petals being almost equal. The lip is somewhat different to others in its class, showing a certain amount of recurving at the sides and a somewhat "varnished" appearance in the brownish purple of its base.

I first showed it at the Royal Horticultural Society, July 30th, 1912, this being the first appearance of the hybrid at a Show, and duly recorded before the Orchid Committee.

In the *Orchid Review*, p. 238, of this month, August, which did not appear till after *Od. Ethelreda* had "made her bow to the public," Mr. Harrison speaks of *Od. Harrisonii* of this parentage, and in correspondence states he bloomed the plant last winter but never published it.

His name being only in private personal knowledge to himself, therefore, does not rank as the prior one, and perforce is subsequent owing to an inadvertence on his part to publish it at once.

de B. Crawshay, August 19th, 1912.

ANÆCTOCHILI AND THEIR CULTURE.

THE genus *Anæctochilus* was founded by Blume in 1825, the principal characteristics of the flowers being the spreading apex of the lip, from which the generic name is derived. The genus *Zeuxine* is very closely allied, but differs in not having the long toothed or comb-like mesochile of the lip.

The flowers, although very interesting so far as their construction is concerned, do not equal in beauty or floral effect those of other Orchids. The chief attraction is the beauty of their leaves, the wonderful colour and tracery of which rival the glowing colours of an autumn sunset. Well may the poet have written, "Who can paint like Nature." Some species have foliage of the richest olive colour, or of purple velvet, and covered with a network of gold. In others, the leaf is vivid green with silver tracery, while a few have varied tints which seem to mock the rainbow of the sky, or attempt to blend its many tints in even more artistic style.

Why do we not see more of these little treasures? Surely there are a few amateurs who could reserve a place for their care. Of late years all attention has been paid to our showy flowering Orchids, while those with ornamental foliage have been quite forgotten, and to many are even still unknown.

Many of the best *Anæctochili* are found in Eastern India, consequently a warm temperature is required for their cultivation, from 70-75 degrees F. in summer and from 60-65 degrees F. in winter. They should never be exposed to the sun's rays, but must be kept rather heavily shaded. The atmosphere must be well supplied with moisture, and reasonable ventilation should be given whenever circumstances admit.

Formerly the custom was to place the plants under bell-glasses, with but little ventilation; this method frequently made the plants too tender, and the slightest sudden change of atmosphere often gave them a check and resulted in their death. A better method is to place the pots in a small frame, surrounding

them with living sphagnum moss, and cover them with loose panes of glass which may be more or less arranged to allow of sufficient ventilation being given.

About the end of February, or as soon as weather conditions will allow, propagation may be effected by means of cuttings. The stem should be cut about half-way through, just below a joint, and be covered with sharp sand and sphagnum moss, when it will speedily send out new roots. The young plant may then be carefully severed and placed in a small pot or pan, using a compost composed of fibrous peat, sharp sand, and chopped sphagnum moss. The surface may be entirely covered with moss only, thus adding to the effect given by the brightly coloured leaves. During the following few weeks a moist, somewhat close atmosphere will greatly assist the young plant.

Moisture, although very essential to the welfare of the plant, should not be allowed to settle on the leaves in the form of drops, more especially is damage likely to occur when water remains for any length of time on the young, unfolded leaves. In order to obtain specimen plants the flower spikes should not be allowed to remain on the plant for more than a few days; some growers advise their removal when in the early stage of formation, while others are of opinion that the plant should be allowed to take its natural course. But whichever way is considered correct, the fact remains that the chief point of attraction is the beautiful foliage, and not the flowers, however interesting they may be to the botanist.

The cultivation of *Anæctochili* is certainly difficult. The plants may grow luxuriantly in one collection and fail altogether in another. A successful cultivator may find, much to his dismay, that what he could grow in one part of the country he is quite unable to in another. All these difficulties, great or small, only encourage many of us to go on and persevere, for success when gained too easily can never be regarded as truly praiseworthy.

SACCOLABIUMS.

THE *Saccolabium* genus contains between 50 and 60 species, all natives of Eastern Asia, where they are found growing on the branches of trees. The flower spikes, some erect, others pendulous, frequently produce many elegant and highly interesting blooms of various colours. They enjoy considerable heat and moisture when growing, but a decided rest is necessary to produce the finest flowering results. The majority are best accommodated in baskets suspended in a good light position, or in pots which are elevated fairly close to the glass. Sphagnum moss and plenty of crocks will be found sufficient for their culture, although several growers have obtained excellent results by including a small quantity of good fibrous peat or *osmunda* in the compost; this latter method is more likely to prove the better of the two, for it produces a mixture of longer lasting property.

The temperature from March to the end of October should be 70 to 75 degrees during the day, allowing it to rise to 80 or even 85 degrees in sunny weather. During the winter months a minimum temperature of 60 degrees should be maintained. On all bright days the plants will enjoy plenty of atmospheric moisture, and the foliage may be frequently sprayed with rain-water of the same temperature as the house. During the dull winter months a considerable decrease in the moisture of the atmosphere should be allowed to take place, for any excess is likely to produce the much dreaded disease known as spot.

Propagation of the species is comparatively slow, and very seldom undertaken, it being much better to purchase strong plants which will give good flowering results every year. However, there are instances when the duplication of a rare specimen is desirable, and very often profitable. The stems should be cut into suitable lengths, allowing each piece to have several leaves and one or more good living roots. These should then be placed in a shady and moist part of the house, or they may be suspended, and frequently syringed.

After a few weeks young growths will appear from one or more of the eyes on the stems, which were previously dormant, and, unless the old stem is exceedingly strong, it will be advisable to only allow one young plant to be produced. As soon as new roots are produced this may be placed in a small pot or basket and given a growing place along with other members of the genus.

Old specimens, which have become too tall, or have lost their bottom leaves, should have the lower portion of the stem removed and be potted in fresh compost, the new roots produced from the upper portion of the stem will then be more likely to enter the compost, and increased vigour will be the result.

S. ampullaceum is very floriferous, so much so that the spikes should not be left on too long for fear of the plant exhausting itself. The flowers are coloured various shades of magenta-pink, the sepals and petals somewhat equal in shape, the lip with a spur longer than the sepals. The leaves are invariably mottled with brown. This Indian plant is found growing wild at Sylhet and Sikkim.

S. bellinum produces long-lasting flowers which open during the months of February and March. The oblong sepals and petals are straw-coloured, blotched with large patches of dark brown; the saccate lip is fleshy, white with mauve-purple spots, having on each side a number of filiform processes. One of the best Orchids.

S. curvifolium has a short erect stem from six inches to one foot in height, with narrow deflexed leaves, and an erect spike of crowded cinnabar-red flowers. A free flowering species from the East Indies. The variety *luteum* has clear yellow flowers, and is extremely rare.

S. Hendersonianum, a small compact growing species from Borneo, produces spikes with numerous small bright rose-coloured flowers, the lip and spur almost white. It does not appear to have any certain flowering season.

S. dasypogon has bright yellow sepals and petals spotted with brownish purple, the lip white except a patch of yellow with minute

brown spots near the apex and a purple line round the edges of the sac; the column is pink. In its native country it flowers during the months of November and December. This species is closely allied to *S. calceolare*, with which for many years it has been confused. The two plants, state King and Pantling in "Orchids of the Sikkim-Himalaya," although much alike, are not really difficult of separation. In the first place they live at different elevations and flower at different seasons. *S. calceolare* is found between 4,000 and 6,000 feet, and flowers during March and April; while *S. dasypogon* is found at or below 1,000

feet and is in flower during November and December. The leaves of *S. dasypogon* are broader, and the apical notch is less deep than is the case in the leaves of *S. calceolare*, and the stem of *S. dasypogon* is shorter. The coloration of the flower of *S. calceolare* is constant; but in that of *dasypogon* the perianth may be pale or deep yellow, and either without spots or with numerous spots. Finally, the lips of the two differ. In *S. calceolare* the sac is smaller; the apical lobe is papillose-hairy; while in *S. dasypogon* the apical lobe has deeply lacinate edges and its upper surface is perfectly smooth.

THE CHÂTEAU DE ST. CROIX COLLECTION.

WITHIN a short distance of Bruges, Belgium, one may see many interesting Orchids growing in the collection of Count Henri Visart de Bocarmé. In the centre of a thickly wooded park several spacious Orchid houses have been erected, these being connected by a wide corridor which also acts as a show house for those plants which require a drier atmosphere when in flower. At the present time there are several excellent specimens of *Stanhopea oculata*, one with seven flowers on a spike, suspended from the roof of this corridor. *S. insignis* with its pale yellow flowers spotted with purple is another elegant species. *Chysis bractescens* and many *Cypripediums* are represented by strong specimens.

The hot house contains a remarkable collection of rare and curious flowering species, almost all growing in small pans, many of which are suspended from the roof. Mention must be made of *Cirrhopetalum refractum*, commonly known as the Windmill Orchid, *C. Thourasii*, a yellow flowering species from Manila, *C. Roxburghii*, and *C. robustum*, the latter a very elegant and strong growing Orchid. *Polystachya bracteosa*, *Bulbophyllum galbinum*, *B. Lobbii* Calossus, and *B. congoensis* are all healthy plants.

Several plants of *Vanda Sanderiana* and a varied selection of *Angræcums* are growing

with evident pleasure, and the same may be said of *Houlettia Sanderæ* and the tropical American *Isochilus linearis*. *Anguloa Ruckeri* and *Trichosma suavis* must also be mentioned.

Numerous varieties of *Lælia anceps* occupy another house, but owing to its north aspect very little flower is obtained. *Odontoglossum crispum* may be seen in thousands, and all the well-known species of *Cattleya* are grown in large quantities. At one end of the large *Cattleya* house is a remarkable specimen of *Dendrobium superbiens*, the recently made bulbs being of immense size. *Cœlogyne Mayeriana*, *Nanodes Medusæ*, and *Eria polybulbon* must not be forgotten. *Odontoglossum citrosmum* carries a seed pod the result of being crossed with *Od. cordatum*.

Masdevallias include many most interesting species, and numerous seed pods have been produced by uniting the species of the different sections of the genus. Quite a large number of *Masdevallia* hybrids have already been raised, the little seedlings all growing well in small pans. Of late years little interest has been taken in these plants; it is, therefore, especially pleasing to see a large part of one house devoted to their culture, and it is to be hoped that the interesting work of hybridisation will be carried on for many years to come.

LÆLIA ANCEPS SANDERIANA.

LÆLIA ANCEPS was imported from Mexico by Messrs. Loddiges, and first flowered in their collection in December, 1834, when a drawing of it was made for the *Botanical Register*. A few years later a plant flowered in the collection of James Bateman; it was the subject of a coloured plate in *Paxton's Magazine of Botany*, 1838, with the remark, "It is impossible to convey a faithful idea of the exquisite richness of the flowers of this valuable plant, for the extreme delicacy of the texture of the sepals and petals, and the rich deep glowing purple of the lip defy description; and we do not hesitate to say that they are equal, if not superior, to any thing known among the Orchideous tribe."

Dr. Lindley, the eminent Orchidologist, has remarked, "When we say that this plant is equal in beauty to any of the Cattleyas; that it has a far more graceful mode of growth, in consequence of the length of its slender scaly stems, from the point of which the flowers spring; and that it diffuses an agreeable fragrance, we shall have said that it is one of the most interesting of the tribe that has yet made its appearance."

During the winter of 1867-8 Mr. Dawson, of Meadowbank, Glasgow, flowered a pure white variety with the lip blotched and lined with purple; it still bears the name *Lælia anceps Dawsonii*. This variety was really discovered by Mr. Tucker when collecting for Mr. Low, of Clapton. When, after a few years, new localities were discovered in which *Lælia anceps* was growing it was hoped that other forms equal to *Dawsonii* would be found. Such, however, was not the case, the nearest variety, in point of colour and beauty, being *L. a. Sanderiana*.

Benedict Rœzl, a keen observing collector, was sent out by Messrs. Sander and Sons to a district in Mexico on the Pacific Coast which had hitherto been unexplored. Amongst the wonderful treasures of the Mexican forests he discovered *Lælia anceps Sanderiana*, at the present time one of the most popular and free-flowering varieties of the species.

Lælia anceps is found growing on trees on the outskirts of virgin forests, but occasionally on rocks, fully exposed to sun and air. The plants cling to the rocks by means of their roots, and these are nourished by decayed moss and detritus. Wherever the plants grow fully exposed their bulbs and leaves assume a ruddy tinge, while those in partial shade are green, and do not flower so abundantly. The rainy season extends from May to October, during which period the plants are drenched with rain for several hours daily, and remain saturated throughout the night. Early in the morning a cold drying wind blows and dries the plants, which are afterwards fully exposed to the fierce sun until the storm drenches them afresh.

In November, after the rainy season has ceased, and when the newly made bulbs are firm and ripened, the flowers are produced. During the next few months the plants are at rest, owing to the dryness of the atmosphere. About the end of February the new bulbs send out fresh roots, and these are encouraged by the fine mist and slight showers which prevail at this season, but which in no way equal the amount of moisture that occurs during the long rainy season.

The remarkable specimen of *Lælia anceps Sanderiana* illustrated in the present issue was grown by Mr. J. Smith when Orchid grower to the Right Hon. Joseph Chamberlain, Highbury, Birmingham. In the year 1899 this plant produced 27 spikes bearing an aggregate of 108 flowers, and the following season 31 spikes with, strange to state, exactly the same number of flowers. *Lælia anceps* was well represented in the Highbury collection, the various varieties producing no less than 722 blooms. This large quantity of flower in no way appeared to weaken the constitution of the plants, for the following season they produced the increased number of 795 blooms. The varieties included *Barkeriana*, *blanda*, *callistoglossa*, *Percivaliana*, *Sanderiana*, and *Chamberlainiana*, the latter still being the finest form of *Lælia anceps*.

Mr. J. Smith grew this superb specimen in



Lælia anceps Sanderiana, a specimen with 108 flowers, in the collection of the Right Hon. Joseph Chamberlain, Highbury, Birmingham.

a rather low span-roofed house with staging on both sides. No shading either by means of blinds or whitewash on the glass was used, but during the few hours in the middle of the day, when the sun's rays were very fierce, sheets of tissue paper were placed over those plants most exposed. Frequent syringing of the floor, staging, and between the pots was carried out on all suitable occasions. Each afternoon the ventilators were closed for an

hour or more in order to accumulate the heat of the sun, but at all other times a free circulation of the air was maintained. During the winter time only sufficient water was given to prevent shrivelling of the bulbs. The excellent cultural result obtained by Mr. Smith not only proves what really choice and magnificent plants Orchids are, but gives every encouragement to others to follow in his footsteps.



Lælio-Cattleya Aphrodite, a specimen in the Westonbirt Collection.

LÆLIO-CATTLEYA APHRODITE.

LÆLIO-CATTLEYA Aphrodite should be represented in every collection, however small it may be. The two parental species, *Lælia purpurata* and *Cattleya Mendelii*, are known throughout the horticultural world, and for beauty and usefulness it would be difficult to find their equal. It is, therefore, not surprising that L.-C. Aphrodite should prove of such immense assistance in the formation of floral displays during the spring months. The noted Temple Show held during the latter part of May always contains many extensive Orchid groups exhibited by the largest amateur and trade growers of this country, and in many prominent positions L.-C. Aphrodite is always to be found.

Hybrids possess an amount of vigour far

exceeding that contained in any species, and on this account have very much taken their position. With ordinary care they increase rapidly in size, and make large specimens in a comparatively short space of time. There is the additional advantage that almost all the back "eyes" will produce young growths, and this is more than can be said respecting imported species whose "eyes" either turn black and rot during transit, or are eaten out by insects in their native country. The propagation of hybrids is, therefore, more easily effected, and as young propagated pieces usually have one or more living roots attached their establishment takes place at a rapid pace.

The specimen L.-C. Aphrodite illustrated above was grown by Mr. H. G. Alexander,

Orchid grower to Lieut.-Col. Sir George Holford, Westonbirt, and carried no less than 34 flowers, all of good substance and quality. Apart from being a very fine variety, this plant forms an excellent example of the

possibilities of a *Lælio-Cattleya*, the flowers all being open at the same time, creating an object of great beauty. This plant made its flowering bulbs when grown in a 12-in. pot which it completely filled with roots.

MESSRS. SANDER & SONS' ESTABLISHMENT AT BRUGES.

BRUGES has long been celebrated for its horticultural interests; so long ago as 1651 a society held exhibitions with some degree of regularity. To-day Bruges is known the world over for the extensive establishment of Messrs. Sander and Sons, and the celebrity of its bay trees.

It is, however, the Orchids in which we are interested at the present time. The scarlet flowering *Renanthera Imschootiana* is represented by thousands, one large house being completely filled with well-leaved healthy plants. *Vanda Watsonii*, *V. Parishii*, and *V. Batemannii* also occupy considerable space, and the new and rare *Houlletia Sanderæ* is represented by several good specimens. *Lælia Gouldiana*, until recently extremely scarce, grows happily in baskets suspended from the roof.

Renanthera Lowii, one of the most elegant and interesting Orchids, may be seen in a large specimen which Mr. Sander has carefully cultivated for over 30 years. A smaller plant, exhibited at the Bruges Horticultural Show, carried three long spikes of flowers, a very unusual occurrence for such a comparatively small piece. This was a propagated plant having a somewhat knotty and constricted base to its stem, which may account for its free-flowering nature.

A large span-roofed house is completely filled with specimens of *Phalænopsis Schilleriana*; the plants are grown in baskets suspended from the roof, and their elegant silvery mottled leaves create a fine effect. *P. Rimestadiana* is also largely grown. *Angræcum Sanderianum* and *Vanda Sanderiana* are two beautiful Orchids that bear the name of their enterprising discoverer.

Dendrobium Sanderæ, a recent introduction,

produces very strong growths, the compost mainly consisting of the bark of Fir trees, for it is on these trees alone that the plants are found growing in their native country. *D. Dearei*, a closely allied species, is also well represented. A large house is entirely devoted to the cultivation of *D. superbienis*. An article on this species appeared on page 219 of the present volume.

The *Cattleya* houses are immense, several being 250 feet in length, and proportionally broad. They contain huge quantities of *C. Mossiæ*, *Mendelii*, *Percivaliana*, *labiata* and *Gaskelliana*, the latter species being a type with an unusual amount of purple colour on the labellum.

Seedlings are being raised by tens of thousands, and even these will not be too numerous, for the difficulty of obtaining a really first-class variety is becoming greater every year. A very promising batch of hybrids, which has just reached the flowering stage, is *Cattleya Mrs. Pitt* × *Cattleya Loddigesii*, the colour of the flowers being particularly rich.

One large span-roofed house is completely filled with *Odontoglossum* hybrids, and another, of equal size, contains numerous specimen plants of the true *Pacho* type of *Odontoglossum crispum*, now so seldom seen. *Cymbidium insigne Sanderæ*, a very superior variety to the original type, grows exceedingly well at Bruges, the pretty, grass-like foliage being in itself of decorative value.

It is impossible to describe the multitude of interesting Orchids in this vast establishment, but anyone wishing to study the various species and their culture will be amply rewarded by paying a visit to Messrs. Sander and Sons at Bruges.

THE ORCHID AS A RESERVE FUND.

From the "Financial News."

The Possibilities of Huge Profits in the Raising of Rare Specimens.

EVERYONE knows that diamonds, if judiciously bought, may constitute an excellent investment; but, so far, Orchids, as "improving properties," have been quite overlooked. The magnificent flower show in the gardens of the Temple and the record of the prices paid for some particularly choice examples of *Cypripediums* and *Odontoglossums* have directed attention to the enormous value set by connoisseurs on unique plants. The payment of 400 guineas for a single specimen in a 3-inch pot may make the uninitiated gasp; but such prices are of common—one might say everyday—occurrence in the trade. The first individual fortunate enough to raise or obtain a pure white *Cypripedium* will certainly not part with his treasure under 1,000 guineas if he is wise.

IS IT A CRAZE?—It will probably occur to many that Orchid-growing has become a craze, and that, like all other crazes, it will some day pass out of fashion. Those who understand the business pooh-pooh the idea, however. Some years ago fabulous prices were paid for tulips—a single bulb of a black bloom, raised by a Dutch grower, fetched at auction £400 and large prices have been paid for single specimens of plants of other families. The day of the tulip is, however, gone. Not long ago continental florists issued lists wherein scores of bulbs—tulips, hyacinths, and daffodils chiefly—were priced at upwards of 10 guineas apiece. Roses and dahlias, of new forms and colourings, have also brought substantial sums to their raisers; but it has never been possible to keep prices of easily-propagated species high for long. Immediately the raiser loses possession of a single bud of a choice rose, for example, the value of his property is gone absolutely. The variety will soon be propagated by hundreds, and will then be put on the market by every nurseryman. The reason of this is obvious.

If there were only one bush of *Marechal Niel* or *La France* or *Her Majesty* in the world, and no ingenuity could increase the stock, the price of that bush would run into several figures. The connoisseur wants something no one else has got, and very frequently cares very little for beauty of form or intrinsic merit.

THE SPECIMEN REMAINS SOLITARY.—The great value of an Orchid with a unique bloom lies in the fact that the chances are a hundred to one against its being propagated or reproduced. Orchids in cultivation, for the most part, do not seed, and few families besides the *Dendrobiums* can be successfully reproduced by cuttings. During recent years the hybridisers—of whom the pioneer was Mr. Dominy—have achieved great successes in cross-fertilisation; but of the several thousand species known, a mere handful have yielded to the hybridiser's art. Many families sternly refuse to be crossed at all, and in some cases attempts have been abandoned as hopeless. This question of the fertilisation of the Orchid is one of the most interesting and difficult which confronts the botanist or naturalist. It fascinated Darwin, who devoted much attention to the subject, and it has fascinated hundreds of botanists and gardeners since.

THE MILLIONAIRE'S FLOWER.—The Orchid is always spoken of and regarded as "the millionaire's flower"; and to some extent it justifies the title. The poor man who has ambitions in Orchid-growing will very likely find himself in *Carey Street* one day. Anthony Trollope held that the most miserable of creatures was the man with a taste for Burgundy and an income of £500 a year. The man with a taste for rare Orchids and anything under £5,000 per annum will at least find it difficult to achieve happiness in this world. Some amateurs' collections have been valued at £30,000 or £40,000 outright;

and the upkeep of houses, gardeners, etc., in many instances runs into thousands per annum. Perhaps the most famous is Mr. Chamberlain's collection at Highbury; but, though a fine one, it is very far from being the best, or even among the best. Of recent years the culture of the Orchid has made immense strides all over the world—principally, perhaps, in America and in Belgium, where new theories of treatment have successfully been demonstrated. It is noteworthy that one hundred years ago only a dozen species of exotic Orchids were known to botanists; to-day they are numbered by hundreds. Many syndicates, and even some private individuals, have collectors searching the uttermost ends of the world for new specimens; and the expense of maintaining these collectors in the field must be enormous.

A FIELD FOR SPECULATION.—The comparatively speaking poor man is not, however, altogether out of the running. London is the centre of the world for the Orchid trade, and here come for sale plants collected in Burma, Brazil, Mexico, and many other countries. As many of these are unflowered at the time of sale their worth is altogether unknown; and it is quite within the bounds of possibility that in a batch of half a dozen dry roots picked up for a few shillings in an auction-room may be one worth naming which will eventually sell for several hundreds of pounds. This has actually occurred time and again, and it is said that one of the gems of Mr. Chamberlain's collection—a *Cypripedium*—was originally bought for half a crown in Cheapside. But it is altogether a matter of luck. No matter how expert the eye may be, it is impossible to say what a plant will do until it has actually flowered. The picture-hunter or the curio-collector relies on his judgment; but the Orchid-buyer is in the hands of the Fates. This, perhaps, only adds to the excitement, and gives a gambling element to the pursuit. It is certainly stimulating to think that for half a crown you may get something worth £500. Even the best of South African shares will never yield so heavily as that. It is also worth remembering that some of the most

valuable specimens are "cool-house" species, which call for no great expense or skill in culture. It is quite a mistake to think that all Orchids need great heat. Many *Odontoglossums*, *Dendrobiums*, and *Cymbidiums*—the former family certainly the most beautiful of all—are grown excellently in houses out of which the frost is only just kept in the winter.

YET TO BE EXPLOITED.—As a field for investment the Orchid has not yet, perhaps, been properly exploited. Diamonds, as has already been pointed out, are commonly bought as a "lock-up" of capital; in China many rich men systematically put their money into furs. Now that the market for Orchids has become so wide, and the cult is established in many countries, rich men might do worse than consider the possibilities of investing in Orchids. If they bought judiciously and nursed their "stock" assiduously, they would no doubt find the investment an excellent one. The day might even come when the capitalist in want of a few thousands in "ready" could stroll into his bank and ask for an overdraft against his collection of *Odontoglossums*! At present we are afraid the average bank manager would politely, but firmly, refuse the security, and that the fall in the temperature of his office as a result of his coolness would put the plant in imminent danger of its existence.

The North of England Horticultural Society held a show at Harrogate, August 8th and 9th. Messrs. Mansell and Hatcher, Rawdon, were awarded the cup presented by Mr. H. Webster, Chairman of the Harrogate Local Management Committee, for the best exhibit from Yorkshire, and a Gold Medal from the Orchid Committee.

A First-class Certificate was granted to *Cattleya Gaskelliana alba magnifica*, and a Second-class Certificate to *Lælio-Cattleya Ivernia Muriel Wilson*, both shown by W. P. Burkinshaw, Esq. (gr. Mr. J. T. Barker).

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Medal for a very choice selection of Orchids.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By J. T. BARKER, The West Hill Gardens, Hessle, E. Yorks.

THE temperatures must be maintained in all the warm houses, and every inducement must be given the plants to make up their growths as quickly as possible. In order to withstand the vicissitudes of the winter season the new bulbs must be thoroughly ripened and hardened by the admission of light and air. The blinds should only be used whenever there is a danger of scorching, but the plants must, nevertheless, be gradually inured to the new conditions.

As the days shorten ventilation will require more attention, and no favourable opportunity should be lost to admit air in all departments. Fresh air is indispensable in the cultivation of all plants grown in glass structures. The amount of atmospheric moisture must be gradually reduced in all the houses; owing to the amount of moisture in the outside atmosphere evaporation inside the houses will become much less.

Watering of the plants from now onwards will require much more judgment and attention than when the plants were in active growth. The wants of the various species and the conditions of the growths of the plants must be taken into consideration and the treatment varied accordingly. To successfully cultivate any class of Orchid it is essential to treat them individually.

The climatic conditions this season have been all that could be desired for the inmates of the cool house. The growing season is fast advancing and the winter quarters for the plants must be prepared. All the houses should be thoroughly cleaned, inside and out, and the plants should be carefully examined for insect and other pests. Plants that are partial to any position should be allowed to remain in it, for if removed the results may not be so satisfactory.

The late autumn and winter flowering Cypripediums are now pushing up their flower spikes with great freedom; these should be carefully tied up to neat stakes. The plants should be elevated close up to the glass in

order that they may receive all the light possible during the dull days of winter. Continue to give liberal supplies of water to the roots, whenever required. Plants that are root bound may even have occasional applications of weak liquid manure until the flowers commence to expand. Summer flowering Cypripediums, as they pass out of bloom, may be repotted. The present is also a suitable time to repot any seedling Cypripediums that are in need of it.

Dendrobiums must be examined at intervals, and those which have completed their growth placed in drier quarters. Those in full growth must not be allowed to suffer for the want of water, either in the atmosphere or at the root. *D. formosum* and *D. Phalænopsis* that are in flower should be placed in a warm and dry position, where they will last a considerable time in perfection. These plants should not be submitted to a low temperature at any time.

The potting of *Lælias*, *Cattleyas*, and their hybrids should be done whenever the opportunity occurs, and the plants are in the requisite condition.

Miltonias. Plants of either *M. vexillaria*, or *B. Bleuana*, and hybrids of these most useful plants, that were not ready for repotting last month should be done as soon as possible.

Odontoglossums. When these plants are cultivated in quantity, and especially where many species and hybrids are included, there will always be some that require attention at all seasons of the year. The early autumn is generally regarded as the most suitable season to renew the compost of any that require it. A commencement should be made with those that are in a forward condition. Whenever the young growths are seen to be pushing new roots is the proper time for repotting. No hard and fast rules can be laid down, either as regards compost or in the manner of potting. Over potting must be strictly guarded against, for a pot full of roots produces better results than one only half full.



Cypripedium Fairrieanum, flowering in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury.

The usual precautions as regards affording water to newly-potted plants must be strictly adhered to, for it is at this stage that very many plants are seriously injured by the application of water in too large a quantity.

Masdevallias. The species of this most interesting genus are not so popular or so extensively grown as they once were, yet they include many beautiful and curious plants. Few Orchids produce flowers of such brilliant colours as *M. Veitchiana*, *M. Harryana*, *M. ignea*, and others of this class. Those characterised by the singularity and quaintness of their flowers include *M. elephanticeps*, *M. Mooreana*, *M. Chestertonii*, and *M. macrura*. The majority of these plants are of easy cultivation, essential points being an open, sweet compost, protection from strong light, and that they do not suffer from drought at any season. The present is a good time to overhaul any that have passed out of flower, and where a house is devoted to their culture it should be thoroughly cleansed before the plants are replaced in their winter quarters. The compost they best succeed in is a mixture of one part each of osmunda, peat, polypodium, and sphagnum moss. The strong growers may have a small quantity of fibrous loam, from which all the earthy particles have been taken, mixed with the compost. The plants should be potted moderately firm, keeping the base of the plant on a level with the rim of the pot. The plants must not be placed in pots that are too large. Plants that are exhausted, or have lost their centres, may be broken up and placed in smaller pots, and when re-established may be made up again and placed in one receptacle. The critical time with Masdevallias is during the first three months after disturbing them at the root. *M. tovariensis*, *M. Davisii*, and those that flower in the winter months are best left until February, when they will be making new roots. The plants should be kept on the dry side during the winter months, but in no case should they suffer for the want of water, having no pseudo-bulbs to sustain them. They are all best accommodated at the warm end of the cool house, and delight in a supply of

fresh air at all seasons. The *M. Chimæra* section should not be disturbed at this season, but held over until the early spring.

Oncidiums. Amongst the many beautiful and free blooming species in this genus few can surpass *O. varicosum*, and none can excel it for autumn flowers. In the case of newly imported plants, or those which from any cause are weak, the flower spikes should be removed. Even established plants should not be allowed to carry flower spikes for too long a period. The spikes should be protected from slugs and other insect pests.

Pleiones. Such species as *P. maculata*, *P. lagenaria*, *P. præcox*, and *P. Wallichii* have completed their pseudo-bulbs. They should be well exposed to the light, and as the leaves commence to turn yellow the supply of water must be gradually reduced, the soil being kept just moist enough to encourage the flowering growths. Immediately the foliage has fallen the flower buds will appear, and as they commence to open the compost should be kept comparatively dry, and the plants removed to a cooler and drier atmosphere where they will last much longer in bloom than if left in the humid atmosphere in which they were grown.

Chysis. Every inducement should be given the members of this genus to finish their growth as quickly as possible by placing them at the warm end of the Cattleya house. The plants require plenty of water until the leaves begin to change colour. When the bulbs are well matured the plants should be placed in the resting house with the Dendrobiums, and only sufficient water should be given to prevent shrivelling.

General remarks. Preparations must now be taken to place every plant in its winter quarters; each one should be so placed that it receives the maximum amount of light, and a temperature that suits its requirements. The heating apparatus should be carefully examined, all leaky joints made good, and everything placed in readiness for the coming winter. It is also wise to thoroughly examine the roofs of the houses for cracked squares, for these are often the cause of harmful drip during bad weather.

CATTELYA WARSCIEWICZII.

THIS noble Colombian species, generally known in gardens under the name *Cattleya gigas*, produces its large and handsome flowers during the months of July and August. The new bulbs make rapid growth during the early summer, and on completion usually bear from one to four large flowers. On rare occasions, when the bulbs are particularly strong and well ripened, exceptional spikes are produced. The adjoining illustration is from a photograph of an eight-flowered spike on a plant growing in the well-known collection of Clement Moore, Esq., Hackensack, New Jersey, U.S.A. The bright light of the United States is specially favourable for species that are accustomed to much sunshine, and *Cattleya gigas* and the numerous hybrids of *Brassavola Digbyana* may be given as two important examples.



MAXILLARIA SANDERIANA.—This species is one of the finest discoveries of Edward Klaboch, who was sent out to Peru by Messrs. Sander and Sons to search for new Orchids. He found it growing on the mountains at elevations of about 4,000 feet, from which we may judge that the cool house treatment is most likely to suit its requirements. The first



Cattleya Warscewiczii, an eight-flowered spike.

flowering of this elegant Orchid in Europe was on the occasion of the Orchid Show and Conference, held by the Royal Horticultural Society at South Kensington, May, 1885, when it was exhibited by Baron Schröder, and received a First-class Certificate, being regarded as the most important novelty in the exhibition. The thick sepals are ivory-white with their lower halves heavily stained with port-wine colour; the two lateral petals are also stained with the same colour, but more lightly, and there are usually a few spots of similar pigment; the lip is fleshy, ivory-white, with the sides stained blood-red. In every way the finest species of the genus.

BRUGES INTERNATIONAL EXHIBITION.

THE historic city of Bruges looked its best during the eight days of its great horticultural exhibition. The marketplace, said to be the largest of its kind in Europe, was secured for the occasion, the large open courtyard of the belfry buildings being also used, while the numerous halls were completely filled with Orchids and other tender plants. The members of the Jury were received in the Hall of the Provincial Government, where luncheon was also served; in the evening a grand banquet was given in the Hotel du Commerce. During the opening ceremony of the exhibition the great festival bell in the famous belfry was rung, and a concert on the wonderful peal of 48 bells was given. The members of the Orchid Jury were: Mons. Firmin Lambeau, J. Crombleholme, Ch. Dietrich, M. Verdonck, Gurney Wilson, C. H. Curtis, Jules Hye and C. Vuylsteke. A complete printed list of exhibitors and the awards made by the Jury was ready before the opening of the exhibition, and the enterprise of the citizens may be judged by the fact that large photographs and picture postcards were on sale at most of the shops during the first day of the show. The schedule contained no less than 416 classes.

The Orchid exhibits included a grand group shown by Mons. Firmin Lambeau, who received a Large Gold Medal. The specimens included *Cattleya Baron Delbeke*, a richly coloured hybrid between *C. Pittiana* and *C. aurea*; *Cattleya intertexta* var. *Julietta*, a very beautiful pure white flower obtained by crossing *Cattleya Warneri* alba with *Cattleya Mossiæ Wagneri*, and carrying a seed pod resulting from the use of pollen from the valuable *Cattleya gigas* alba which obtained a Gold Medal when exhibited at London. The scarlet flowering *Miltoniodes Harwoodii*, with a spike of eight flowers; *Catasetum splendens album*, and *Catasetum Lindenii*; *Odontioda heatonensis*, and *Vanda cœrulea* were also shown in good form.

Mons. Ch. Dietrich, Auderghem, Brussels, received a Gold Medal Diploma for an excellent group containing *Cattleya Comet*, a

beautiful hybrid between *Warneri* and *aurea*; *Miltonia Bleuana*; *Cattleya lucida*, a grand flower of intense purple colour, and several excellent examples of the blue flowering *Vanda cœrulea*.

Messrs. Sander and Sons received the First Prize, a Work of Art and a Large Gold Medal, for the finest trade exhibit. Included in it were numerous specimens of *Dendrobium superbiens*; *Lælio-Cattleya Phoenix* var. *Purple Emperor*, a rich ruby-crimson flowering hybrid between *Cattleya aurea* and *L.-C. Henry Greenwood*; *Cattleya Gaskelliana* alba; *Lycaste spectabile*, a hybrid between *Skinneri* and *aromatica*, with soft rose flowers having a yellow centred lip; a wonderful specimen of *Phalænopsis violacea*; *Ærides Sanderianum ampliatum*, a very showy plant; and *Anguloa eburnea*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Gold Medal for a good group of various Orchids; those of special merit being *Odontoglossum crispum Golden Gem*, a beautiful yellow spotted variety; *Cypripedium Daisy Barclay*; *Cattleya F. W. Wigan*; *Cattleya Rhoda*, of excellent colour; and good examples of *Cattleya Iris*.

Mons. Jules Hye, Ghent, received a Gold Medal Diploma for a large group of *Miltonias*, including *Hyeana* var. *Argus*, a good shaped white flower with rose flushing on the base of the petals, and an almost black disc with radiating lines on the labellum. Also a hybrid between *M. Hyeana* and *M. Phalænopsis*, with dark rose flushed petals and distinct mask on the lip. A large specimen *Cattleya gigas Frau Melanie Beyrodt* was also shown, and *Miltonia vexillaria alba* was awarded a Silver-gilt Medal.

Mons. Ch. Vuylsteke, Loochristy, received a Gold Medal Diploma for an extensive group of *Miltonia vexillarias*, the plants being very well flowered.

Mons. Vincke-Dujardin, Bruges, received a Gold Medal Diploma for a large and varied group of hybrids, many derived from *Cattleya granulosa*. *Miltonia Moreliana* and numerous

hybrids of *Lælio-Cattleya callistoglossa* were also shown.

Messrs. Sander and Sons also received a Gold Medal for the finest group of *Cattleyas*, *Lælias*, and their hybrids; a Gold Medal for the best group of *Cypripediums*; a Silver-gilt

Medal for the best *Cypripedium* specimen (Lord Derby); a Silver-gilt Medal for the finest *Phalænopsis* (*P. violacea*); and a similar award for the most noteworthy *Cypripedium* seedling raised by the exhibitor.

ROYAL HORTICULTURAL SOCIETY.

July 30th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Sir Jeremiah Colman, Messrs. J. Charlesworth, W. H. Hatcher, J. E. Shill, A. Dye, W. H. White, Gurney Wilson, de B. Crawshay, F. J. Hanbury, R. G. Thwaites, F. Sander, T. Armstrong, and C. J. Lucas.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, received a Silver Flora Medal for an effective group of excellent *Cattleyas* and *Cypripediums*. *Angræcum Scottianum* and several botanical specimens were also shown.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Flora Medal for an extensive group of various Orchids, noticeable plants being *Odontoglossum Uro-Skinneri album* and *Disa grandiflora*.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Banksian Medal for some interesting plants, the best being *Odontioda Madeline*. A fine specimen of *Grammangis Ellisii* was also exhibited.

E. H. Davidson, Esq., Borlases, Twyford, Berks, was awarded a Silver Banksian Medal for a group of excellent Orchids, the most noteworthy being *Vanda Sanderiana* "Borlases" variety, and several *Odontoglossum* hybrids.

de Barri Crawshay, Esq., Rosefield, Sevenoaks, exhibited *Odontoglossum Ethelreda* (*Edwardii* × *triumphans*) with brownish-red flowers, and an excellent variety of *Od. Jasper* with broad rose-coloured sepals and petals.

Messrs. J. and A. McBean, Cooksbridge, received a Silver Banksian Medal for a very good group of choice Orchids. A good *Cattleya Gaskelliana alba*, *Odontioda Diana*,

and *O. Charlesworthii* were shown in fine form.

Messrs. Jas. Veitch and Sons, Royal Exotic Nursery, Chelsea, showed *Brasso-Cattleya Thetis*, a new hybrid between *B. Digbyana* and *C. Aclandiae*.

Messrs. Sander and Sons, St. Albans, staged *Lælio-Cattleya Mauretania*. See "New Hybrids."

Mr. Sidney Flory, Tracy's Nursery, Twickenham, showed some interesting specimens, including *Bulbophyllum cocoianum* with three spikes, and *Anguloa eburnea* Tracy's variety.

CULTURAL COMMENDATION

to Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., K.C.V.O., for a grand specimen of *Cypripedium* *W. R. Lee* (*Rothschildianum* × *superbiens*) with 5 spikes and 13 flowers.

August 13th, 1912.

MEMBERS of the Committee present: J. Gurney Fowler, Esq. (in the chair), and Jas. O'Brien (hon. sec.); Sir Harry J. Veitch, Messrs. Gurney Wilson, W. Bolton, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, W. P. Bound, W. H. Hatcher, W. Cobb, T. Armstrong, A. McBean, and W. Thompson.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, exhibited several interesting species, including *Theodorea gomezoides* with ten spikes of greenish flowers, a large plant of *Lælia monophylla*, *Dendrobium glomeratum* with 65 rose flowers, and *Brasso-Cattleya Joan*.

E. H. Davidson, Esq., Borlases, Twyford, received a Silver Banksian Medal for a good

group containing the elegant *Lælio-Cattleya Feronia*; *Odontioda Thwaitesii*, a very large form; *Lælio-Cattleya Venus* var. *Golden Queen*, a good form with very bright yellow sepals and petals; a very dark variety of *Odontioda Schröderi*, and other hybrids.

Messrs. Charlesworth and Co., Haywards Heath, exhibited *Vanda Sanderiana*, the rare *Stanhopea convoluta*, *Cypripedium Rosettii*, and the pretty golden flowered *Platyclinis filiformis*.

Mr. Sidney Flory, Tracy's Nursery, Twickenham, staged *Cattleya Gaskelliana alba*, *Dendrobium regium*, and a distinct variety of *Brasso-Lælia Helen*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Lælio-Cattleya Glaucus (*L. purpurata* × *L.-C. Rubens*), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A very bright and elegant hybrid of dark rosy-mauve colour, the lip ruby-crimson. The finest variety of this hybrid.

Lælio-Cattleya Godmanii (*C. Iris* × *L.-C. callistoglossa*), from F. du Cane Godman, Esq., South Lodge, Horsham.—A very large and richly coloured hybrid. Sepals and petals dark purplish-rose, lip ruby-crimson, with well defined yellow discs.

AWARDS OF MERIT.

Lælio-Cattleya luminosa var. *Mandarin* (*L. tenebrosa* Walton Grange variety × *C. Dowiana aurea*), from Lieut.-Col. Sir George Holford, Westonbirt.—A very distinct flower with bright chrome-yellow sepals and petals, the lip claret-purple.

Brasso-Cattleya Ilene (*C. Dowiana* × *B.-C. Mdme. Chas. Maron*), from Messrs. Jas. Veitch and Sons, Chelsea.—A beautiful flower with broad erect sepals and petals of a clear rose colour. The wide fringed lip light rose with yellow centre.

Odontoglossum Empress Eugenie (parentage unrecorded), from E. H. Davidson, Esq.,

Borlases, Twyford.—A good large flower of excellent form and substance. Sepals and petals light rose with a few purple spots.

Odontoglossum Fletcherianum nigrescens (*Edwardii* × *cirrhosum*), from Messrs. Jas. and A. McBean, Cooksbridge.—The darkest *Odontoglossum* hybrid yet obtained. Sepals and petals velvety black, lip bronzy-chocolate with white tip and very bright yellow crest.

CULTURAL COMMENDATION

to Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George Holford, for a magnificent plant of *Cattleya Tacitus* (*bicolor Grossii* × *Germania superba*) with a tall spike of nine flowers.

August 27th, 1912.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Sir Harry J. Veitch, de Barri Crawshay, W. Bolton, Gurney Wilson, A. Dye, H. G. Alexander, J. E. Shill, W. H. Hatcher, W. Cobb, A. McBean, T. Armstrong, F. J. Hanbury, Stuart Low, and R. A. Rolfe.

E. H. Davidson, Esq., Borlases, Twyford, Berks, was awarded a Silver-gilt Flora Medal for an extensive group of excellent Orchids. Included in it were strong plants of *Cattleya aurea*, *C. Lord Rothschild alba*, *Lælio-Cattleya Colmaniana*, a very beautiful variety with distinct dark-purple veining, and several *Miltonias*. *Odontoglossum Rolfeæ*, *Od. Ceres*, with beautifully tinted flowers, and *Cypripedium Hassallii* were also noticed.

H. T. Pitt, Esq., Stamford Hill, N., was awarded a Silver Banksian Medal for a very effective group containing *Cypripedium Wootonii*, *C. Charles Rickman*, *C. Felicity*, and *C. Baron Schröder ardens*. Interesting species were represented by *Catasetum fimbriatum* and *Brassia brachiata*. The elegant *Houlletia Brocklehurstiana* and several new hybrids were in prominent positions.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a large group of rare species and other Orchids. The

rare *Bulbophyllum galbinum*, *B. virescens*, *B. congoensis*, and *Dendrobium Dartoisianum* were in good form. *Lælio-Cattleya Fabius*, a very dark variety, *Cattleya suavior alba*, and *C. luteola* var. *Rœzlii* were also shown.

Messrs. Charlesworth and Co., Haywards Heath, secured a Silver Banksian Medal for a very select group of species, including the scarce *Miltonia Schröderiana*, the elegant *Houlletia Wallisii*, and *Angræcum japonicum*. A large specimen *Aerides Sanderianum* with three well developed spikes, *Calanthe violacea*, the interesting *Polycycnis muscifera*, and a good variety of *Cattleya Gaskelliana alba* were also noticed.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, secured a Silver Banksian Medal for an effective group, in the centre of which was a grand specimen *Lælia crispa* with no less than 45 flowers and buds. The handsome *Anguloa Ruckeri*, *Bifrenaria tetragona*, and *Sobralia xantholeuca* were also shown.

Messrs. J. and A. McBean, Cooksbridge, Sussex, staged a number of excellent Orchids, those of special merit including *Cattleya Dowiana*, a large specimen *Maxillaria grandiflora*, and a beautiful plant of *Vanda Sanderiana* with two good spikes of large flowers.

J. J. Neale, Esq., Lynwood, Park Road, Penarth, exhibited *Epidendrum laterale*, with two spikes of light greenish-yellow flowers. The specimen was obtained from Central America.

Messrs. Mansell and Hatcher, Ltd., Rawdon, Yorks., staged *Trichopilia laxa*, the elegant *Acineta densa*, and *Brassia caudata*.

J. S. Bergheim, Esq., Belsize Court, Hampstead, exhibited the interesting *Bulbophyllum nudiscapum* and *Angræcum O'Brienianum*.

Messrs. A. J. Keeling and Sons, Westgate, Bradford, staged *Vanda cœrulea*, the pretty *Eria rhyncostyloides*, *Cypripedium Penelope*, and *Cattleya Harrisoniæ violacea*, a very dark variety.

J. Gurney Fowler, Esq., Glebelands, South Woodford, showed *Cypripedium Daisy Barclay*, a very elegant hybrid which has already received a First-class Certificate.

Messrs. Armstrong and Brown, Tunbridge Wells, exhibited *Cypripedium Clara Arm-*

strong (*Germaine Opoix* × *Prewettii*), a very good hybrid, the dorsal sepal being well developed.

AWARDS.

AWARDS OF MERIT.

Odontioda Euterpe, Davidson's variety, from E. H. Davidson, Esq., Borlases, Twyford, Berks.—A great improvement on the original plant. Flowers of good size, rich scarlet-red, the labellum prettily marked with light rose.

Lælio-Cattleya amabilis, Borlases variety, from E. H. Davidson, Esq.—A large, well-formed flower with very broad petals, of light rose colour, labellum dark purple with bright yellow side lobes.

Odontoglossum Helène, from E. H. Davidson, Esq.—A handsome hybrid. Flowers of very good shape, handsomely blotched with wine-purple; apex of lip broad and pure white.

Lælio-Cattleya Golden Fleece (L.-C. Golden Gem × *Dowiana aurea*), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A very bright golden-yellow flower, the labellum marked in the throat with crimson.

Angræcum O'Brienianum, from J. S. Bergheim, Esq., Belsize Court, Hampstead. An elegant example of the genus. The plant carried five spikes of medium sized white flowers.

CULTURAL COMMENDATION

to Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George Holford, for a magnificent plant of *Cattleya Euphrasia* with a spike of ten well-developed flowers.

BRUSSELS EXHIBITION.—An exhibition of Floral Art and Horticultural Produce will be held at Brussels, October 26th, 27th, and 28th, 1912. Division I. of the Schedule contains three classes for decorated tables of cut Orchid flowers, and Division III. includes nine classes for various Orchid species and hybrids.

MANCHESTER ORCHID SOCIETY.

July 11th, 1912.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, H. Thorp, J. C. Cowan, D. McLeod, J. Bamber, C. Parker, Z. A. Ward, A. J. Keeling, W. Holmes, A. Warburton, and H. Arthur (Secretary).

R. Ashworth, Esq., Newchurch, was awarded a Large Silver Medal; Col. J. Rutherford, Blackburn, received a Silver Medal; J. McCartney, Esq., Bolton, was awarded a Silver Medal; Rev. J. Crombleholme, Clayton-le-Moors, received a Bronze Medal; R. le Doux, Esq., West Derby, Messrs. Charlesworth and Co., and Messrs. Stuart Low and Co., staged interesting groups.

AWARDS.

FIRST-CLASS CERTIFICATE.

Lælio-Cattleya callistoglossa Marlfield variety, from R. le Doux, Esq.

AWARDS OF MERIT.

Odontoglossum Miss Arline King (parentage unrecorded), and *Lælio-Cattleya Purple Queen* (L.-C. Iona × *C. granulosa*), both from R. le Doux, Esq.

Cattleya Gaskelliana delicata, from J. McCartney, Esq.

Sophrro-Lælia Leda, from Messrs Stuart Low and Co.

COMPETITIONS FOR 1912-13.

The President's Cup (S. Gratrix, Esq.), and a Prize to the gardener, for groups and individual plants.

O. O. Wrigley's Gold Medal and a Silver-gilt Medal to the gardener, for *Cypripediums*.

Z. A. Ward's Gold Medal and a Prize to the gardener, for *Lælias*, *Cattleyas*, and their hybrids.

Cypher's Gold Medal, for general excellence, and Sander Prizes, for groups.

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