THE ORCHID WORLD

THE ORCHID WORLD.

A Monthly Illustrated Journal entirely devoted to Orchidology.

EDITED BY

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

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NOTES.

PERISTERIA ELATA.—A very fine plant of this Central American species, often called the Dove Orchid, is in this collection. It flowered well this season, producing five spikes, one with 33 blooms, two with 32, and two with 29, making a total of 155 flowers.—*H. G. Levett, Boconnoe Gardens, Lostwithiel, Cornwall.*

SPECIMEN ONCIDIUMS.—As examples of good cultivation we give the particulars of two specimen Oncidiums which have been grown by Mr. E. Johnson, Orchid grower to Col. Stephenson R. Clarke, C.B., Borde Hill, Cuckfield, Sussex. The first, Oncidium luridum, has a large leathery leaf measuring 24 inches in length and 6 inches in width; the flower spike is 7½ feet long, has over 20 branches, and carries 340 blooms. The second, Oncidium oblongatum, has two spikes, one more than 6 feet in length, and the other only a few inches shorter; each spike bears about 200 flowers.

GHENT AWARDS.—In connection with the Exhibition organised by the Cercle Horticole Van Houtte at Ghent last August, Messrs. Th. Pauwels and Co., Meirelbeke, were awarded the Cup, value 500 francs, offered by the President, Count Jos. de Hemptinne, for the most meritorious group in the Exhibition.

MESSRS. FLORY AND BLACK.—The whole of the extensive collection of Orchids and the houses at Langley, recently owned by Messrs. James Veitch and Sons, Ltd., have been taken over, as from October 1st, by Messrs. Flory and Black, who will continue the cultivation and raising of Orchids. Mr. S. W. Flory has been connected with Tracy's Orchid Nursery for the last twenty-one years, and Mr. J. M. Black has been Orchid grower to Mr Richd. G. Thwaites during the last fifteen years. The retirement of Sir Harry J. Veitch gave reason to suspect that this historic collection would be dispersed, but we are glad to know that such will not now be the case. Mr. Black has received a handsome gold watch and chain, the gift of Mr. Thwaites.

LÆLIA CAULESCENS.—This species was described in the *Botanical Register*, 1841, from materials collected by Martius in the Serra de Piedale, Prov. Minas Geraes, Brazil. It was said to be very near L. cinnabarina, but with the flowers apparently purple, and the lip perfectly destitute of all elevations or inequalities. In 1842 Lindley considered L. caulescens to be synonymous with his L. flava, which had been described three years previously. The *Kew Bulletin*, 1913, No. 6, contains an article by Mr. R. A. Rolfe, giving the history and details of the plant, and concluding with the following: "It is quite clear that Lælia caulescens is distinct from L. flava, but the history of the former is still imperfect. The original specimen is taller

than those subsequently collected, being over two feet high, with the leaf five inches long and the scape bearing as many as twelve flowers. There is no note of their colour. Lindley's remark that the lip is destitute of elevations is erroneous, as was pointed out by Reichenbach. There are other Brazilian species from the same region with small flowers and a much crisped lip, but none that appear to have been confused with L. caulescens. It would be interesting if someone would re-collect these plants, paying particular attention to the conditions under which they grow and the colour of the flowers."

Miseries of Orchids.—At the present time there is no small amount of uncertainty regarding the merits of the smaller flowering species of Orchids. For some considerable period they have been classed as "Botanical," although no one seems fully certain whether the Orchid or Scientific Committees of the Royal Horticultural Society should take charge of them. They are now unfortunately wandering hopelessly about, and are sadly in need of some parental care. When the Orchid Committee was responsible for the "Botanical Certificate" many pleasing little gems were exhibited, but since the right of granting this certificate has been said to belong to the Scientific Committee fewer specimens have been shown. However, this may be only a slight reverse in the history of their cultivation, although not the first one, for they have before now been placed in the unpleasant condition of misery, as the following official report in the Society's *Journal* proves: "February 20th, 1866. From the garden of Mr. W. Wilson Saunders was brought up by his gardener, Mr. Green, a little group of what are sometimes called 'Miseries of Orchids'—minute flowering species, interesting only to botanists. Among them were a supposed species of Leochilus, of little beauty, but having a scent like that of heliotrope, especially when the sun shines on the flowers; Epidendrum Hormidium, the blossoms of which smelt like fresh gathered primroses; Pelexia triloba, remarkable for the beauty of its structure; Bletia teretifolia, Maxillaria pulchella, a Pleurothallis, an Eria from Assam, and some others. Most of these were fastened to thin slabs of wood or cork, on which they were found to succeed best. They require a continuous supply of moisture, not only in the atmosphere, but also about their roots; and this is obtained by wetting both sides of the wood on which they grow with a syringe."

Odontonia brugensis.—A choice variety of this new hybrid has recently been exhibited by Mr. J. Gurney Fowler, and awarded a First-class Certificate. It is the result of crossing O. Edwardii and M. vexillaria, and shows how the various genera are being connected by the hybridist. Although many flowers are produced on an Edwardii spike, the individual blooms are small, and we cannot therefore expect much more than this with its hybrids. The crosses between O. Edwardii and other Odontoglossums are numerous, and the flowers very similar in shape and colour. It is only when secondary hybrids are produced that we obtain an increased size of bloom, without losing too much of the rich purple pigment of Edwardii. But however satisfactory these Odontoglossum crosses may be they will never produce flowers larger than the type. Hybridists bearing this fact in mind, have now succeeded in crossing O. Edwardii with M. vexillaria, and have thus combined the rich purple colour of the one with the large size of the other. The result may be considered quite equal to expectations, the flowers of the hybrid being about two inches across, of a rose-purple colour, and the spike having the graceful bending habit of vexillaria, although slightly longer.

Orchid Catalogue.—Messrs. A. J. Keeling and Sons have issued a new illustrated catalogue of Orchids, comprising 1,432 items and special offers.

Odontoglossum crispum growing in a Tea-pot.

ORCHID IN A TEA-POT. — The above photograph shows a plant of Odontoglossum crispum flowering in a glazed tea-pot, in which it has been cultivated for the last four years. The plant was originally a very small imported piece, and first flowered in an ordinary pot, but was afterwards placed in this tea-pot, which is glazed both inside and out, and is without any holes in either the bottom or the sides. The drainage material consists of hard coke and charcoal, broken into pieces measuring from an inch upwards, and fills the tea-pot to within two inches of the top. The remaining space is occupied with a compost of osmunda fibre and sphagnum moss. I have never re-potted the plant during the four years it has been in this curious position, nor have I renewed the compost in any way. The most remarkable thing about it is that each new bulb is larger than the previous ones. It has flowered every year, each spike being stronger than the last. I give it very little attention, and only water it occasionally, and whenever there is any waste water in the bottom of the tea-pot I pour it out of the spout in quite the usual tea-table style. Now I will not say that every tea-pot will act as well. I chose this one in order to prove to my gardening friends that plants could be grown quite as well in glazed pots as in the ordinary porous ones. One can see by the photograph that the spout goes right down to the bottom of the pot, and this structure allows the air to pass through the drainage material, and thus keeps the plant in a healthy state. The plant has recently carried a spike of nine flowers.—*Henry G. Lloyd, gardener to Dr. Duncan Stewart, Battle Hill, Hexham.*

ADAGLOSSUM JUNO.—The Certificate of Appreciation granted by the Scientific Committee of the Royal Horticultural Society has been awarded to Messrs. McBean, of Cooksbridge, for their work in producing this new bigeneric hybrid. The parents are Ada aurantiaca and Odontoglossum Edwardii, both species being equally represented in the growth of the hybrid. The upright spike carried five flowers, of dusky crimson colour, obscurely spotted with dark purple; the lip light reddish-brown, and the crest yellow. Some segments of the flowers had an undecided method of coloration, the ground being light yellow on which were solid blotches of dark purple-brown, but this may be due to undevelopment of the spike, and will possibly disappear when the plant flowers again on a stronger bulb. The spotting of

the flowers suggests that the variety of Ada aurantiaca known as maculata was used. The plant forms a companion to Adioda St. Fuscien, an interesting hybrid between Ada aurantiaca and Cochlioda Nœzliana, first flowered by Mons. Graire, of Amiens.

FLOWERS FROM SOUTHPORT. — Choice Cattleyas are well represented in Mr. John J. Holden's collection at Southport, and several fine flowers have been received as examples. Of these, perhaps the best is Cattleya Hardyana "Countess of Derby," a very elegant form with creamy-white sepals and petals, and a rich ruby-crimson lip. The two golden-yellow blotches on the side lobes of the throat are characteristic of C. Warscewiczii, and prove the inclusion of this species in the parentage. Mr. Johnson, whose long experience with these plants allows him to obtain excellent results, also sends a good variety of Lælio-Cattleya Epicaste, which is another hybrid of C. Warscewiczii, the other parent being L. pumila, a species which, considering the comparative smallness of the plant, produces a large bloom, usually without a sheath. Hybrids of L. pumila are very useful plants, for as may be guessed by the name, denoting dwarfness, they may be cultivated in places where there is insufficient room to accommodate the large growing kinds. L. pumila, as well as L. præstans and L. Dayana, are best grown in a temperature slightly lower than that of the Cattleya house, and during the summer period of the year they thrive well in the Odontoglossum house, especially if suspended in shallow pans from the roof. It appears probable that many hybrids from these species may be grown in a lower temperature than that usually employed, and no doubt some growers have already discovered this fact. We might here mention how well the closely allied L. Jongheana thrives in a cool house during the summer months. From the same collection comes Cattleya Iris "Golden Queen," a beautiful variety with golden-yellow sepals and petals, and lip amethyst-purple.

OBITUARY.—We much regret to record the death of Mr. John S. Moss, which took place at his residence, Wintershill Hill, Bishop's Waltham, on September 11th, at the age of 54 years. Mr. Moss, who was a member of the Royal Horticultural Society's Orchid Committee, was keenly interested in Odontoglossums and allied hybrids. He was successful in flowering O. crispum Mossiæ from an imported plant, a portion of which was afterwards sold for £700. His name will also be commemorated in Odontioda Mossiæ, a seedling which he raised between C. Nœzliana and O. maculatum.

MILTONIA SPECTABILIS.—Almost every amateur is acquainted with the rich purple colouring of this Brazilian species, and if the variety known as Moreliana can be obtained in its true state, then there is hardly an Orchid to be found that can equal the extreme richness of purple colour in the broad, spreading labellum of this variety. More than one hybridist has attempted to carry this purple richness into the Colombian Odontoglossums, but all experiments have so far ended in failure, the apparent cause being some dissimilarity of the parents, which prevents the formation of good seed. There is, however, some hope that the near future will show that this difficulty may be overcome by crossing the Miltonia with an intermediate species, or, in other words, with a plant that is somewhat related, and that this resulting hybrid may subsequently be united to the Colombian species. A species which is apparently suitable and intermediate is O. cirrhosum, a native of Ecuador. Several years ago Messrs. Charlesworth produced Odontonia Ellwoodii by crossing O. cirrhosum with the Colombian M. Rœzlii, thus proving that an Odontoglossum would unite with a Miltonia of another country. This success led them to carry the work a step further by crossing O. cirrhosum with the Brazilian M. candida, success being obtained by flowering Odontonia Cybele, figured in Vol. III., p. 151. O. cirrhosum has also been crossed with M. spectabilis, and a plant successfully raised by Messrs. Charlesworth. Every hope that the interesting

seedling would flower this season has been turned to disappointment. Two spikes, one on each side of the last made bulb, made their appearance early in the summer, and have continued to grow until a length of about eighteen inches has been reached, but these spikes have produced leaves instead of flower-buds, and the apex of each is formed by a pair of small bright green leaves. The spikes have, in fact, become vegetative in habit, a transition thought by some botanists to be due to increased nutrition. Of course, it does not follow from this example that the same result will occur again next year, or that any other plants of this parentage will follow a similar habit. Flower-buds will no doubt be ultimately produced, and the uniting of this hybrid with the Colombian Odontoglossums will then be an apparently easy task.

NOMENCLATURE OF HYBRIDS.

ON the general question of how hybrids should be named in accordance with the species in their production (see Vol. III., p. 33), it always seems to me a pity to upset or confuse a recognised existing name of a cross having its own distinct connotation by calling a lot of similar things by the same name. Take Cypripedium aureum, it practically should guarantee that a plant sold as such should be one-half Spicerianum, one-quarter villosum, and one-quarter insigne. To suggest that all Cypripediums having different proportions of these species in them should be called aureum seems calculated to mislead greatly. The name aureum means either nitens × Spicerianum, the reverse cross, or possibly Leeanum × Lathamianum, having some proportion of the species, though differently arranged, might be permitted to be called aureum, but the probabilities are that some of the latter would be practically Leeanum, Lathamianum, or nitens, through two of the species alone combining, whereas in the true aureum Spicerianum would be bound to show, one side at least being pure.

If some such ending as "formis or eides" were added by some rule to be made, plants having practically the characteristics of some well-known type of hybrid could be called, say, aureiformis or Lathamiformis without conveying any guarantee as to the exact constituent of the plant, but simply suggesting that it was of the type of aureum or Lathamianum, being like the one or the other.

As things stand a person buying a plant as aureum at a sale, which has some other blood in it than the three species in the true aureum, may have all his calculations upset when his seedlings reach flowering stage, through some of them showing some hitherto concealed ancestry.

Another deceptive thing is the calling a plant by name, such as John Jones, etc., instead of Jonesi or Jonesianum. This is a proper noun and means an individual with people, and with plants should also mean an individual, or at least an identical variety from the same seed-pod, or the divisions of one plant. Otherwise, a person may buy something entirely different, and, on complaining, be told it is from the same cross, and therefore rightly named, when he assumed he was getting part of the original plant. For the clear name of the hybrid, whatever the variety, some ending like ianum, or ii, if from the raiser, is much better, however complex the ancestry.

Primary hybrids should no doubt be in Latin form, preferably really classical. Secondary or tertiary need not be so much so, but surely the calling of hybrids, as a class, by the name of individuals should be avoided. That is only needed for distinct individual plants. Let the names of crosses have a clear name and ending applicable to all falling under it.—*Eustace F. Clark, Evershot, Dorset.*

NEW HYBRIDS.

LÆLIO-CATTLEYA PERDITA.—A rather distinct hybrid between C. granulosa and L.-C. Tydea (pumila × Trianæ) was exhibited by Mr. H. T. Pitt, at the Royal Horticultural Society, August 26th, 1913. The flowers resembled the mother parent in shape and in the tawny-yellow colour, which had an overtint of rose-mauve.

ODONTONIA FARNESIANA.—An addition to the list of Odontonias, given on page 277 of our last issue, has already appeared. It is a hybrid between Odontoglossum Edwardii and Miltonia Warscewiczii, raised by Messrs. Sander and Sons, and named after Mr. S. Farnes, Orchid grower to Mr. Pantia Ralli, of Ashtead Park. The plant carried a crowded panicle of purple flowers, clearly showing the Warscewiczii influence, especially by the well-defined blotch of colour on the centre of the labellum.

LÆLIO-CATTLEYA RAINBOW.—A pretty and neat flowering hybrid between C. Iris and L.-C. Phryne. Of a yellow tint, with golden-yellow on the inner part of the throat, and with a bright purple blotch on the centre of the front lobe just below the column. Raised by Messrs. Armstrong and Brown.

ODONTIODA ISIS.—The result of crossing C. vulcanica with O. Rolfeæ, this new hybrid has been flowered in the Chessington collection, Streatham Hill It is somewhat similar to Odontioda Thwaitesii, but differs by the addition of Od. Pescatorei.

LÆLIO-CATTLEYA APHRONYSA.—Messrs. Armstrong and Brown have produced this hybrid by crossing L.-C. Aphrodite with L.-C. Nysa. The former parent is a hybrid between C. Mendelii and L. purpurata, and the latter between C. Warscewiczii and L. crispa.

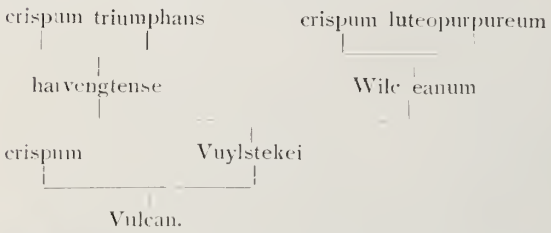
LÆLIO-CATTLEYA MRS. J. J. HOLDEN.—A very beautiful flower has been sent by Mr. Johnson, gr. to Mr. J. J. Holden, Albert Road, Southport. The parents are L.-C. Dominiana and C. Fabia, and the hybrid has the large size of the former and the rich colour and shape of the latter. The inclusion of aurea in both parents adds considerable brightness to the flower.

LÆLIO-CATTLEYA ARMSTRONGLE.—An elegant hybrid between the well-known C. Iris and L.-C. Geo. Woodhams (L. purpurata × C. Hardyana), raised by Messrs. Armstrong and Brown, and closely resembling C. Adula, but larger, owing to the inclusion of L. purpurata in the parentage.

CATTLEYA PRINCE JOHN.—The result of crossing C. Hardyana with C. Dowiana Rosita. The large flower has a very beautiful tessellated marking of rose-purple, the broad labellum with a large area of gold colour. Raised by Messrs. Armstrong and Brown, Tunbridge Wells.

LÆLIO-CATTLEYA JACOBUS.—A pleasing result has been obtained by Messrs. Armstrong and Brown, who raised this new hybrid between C. aurea and L.-C. Sappho (C. bicolor × L. purpurata). Several of the seedlings resemble C. Iris, but with wider flowers and a darker colour.

ODONTOGLOSSUM VULCAN.



THE above plan shows the parentage of Odontoglossum Vulcan, an interesting hybrid raised by Mr. de Barri Crawshay to elucidate the origin of blotched crispums.

The three parental species are all natives of Colombia, and although each may be said to have its own special district, yet they are frequently found growing together, so that hybrids are oftentimes produced. It is no usual event to bloom Wilckeanums and harvengtenses from importations of O. crispum; the chance, however, of finding a hybrid between these and crispum is somewhat more remote, and, of course, in a smaller proportion. Many apparently secondary hybrids have been bloomed undoubtedly from importations, and have been classed as primary. Since hybrids have been artificially raised in numbers analogous varieties to these wild hybrids have appeared, and prove them to have been mirum and hellemense, respectively, and so on, *ad lib.*, as time has, of course, multiplied the concomitant processes of hybridity and reversion.

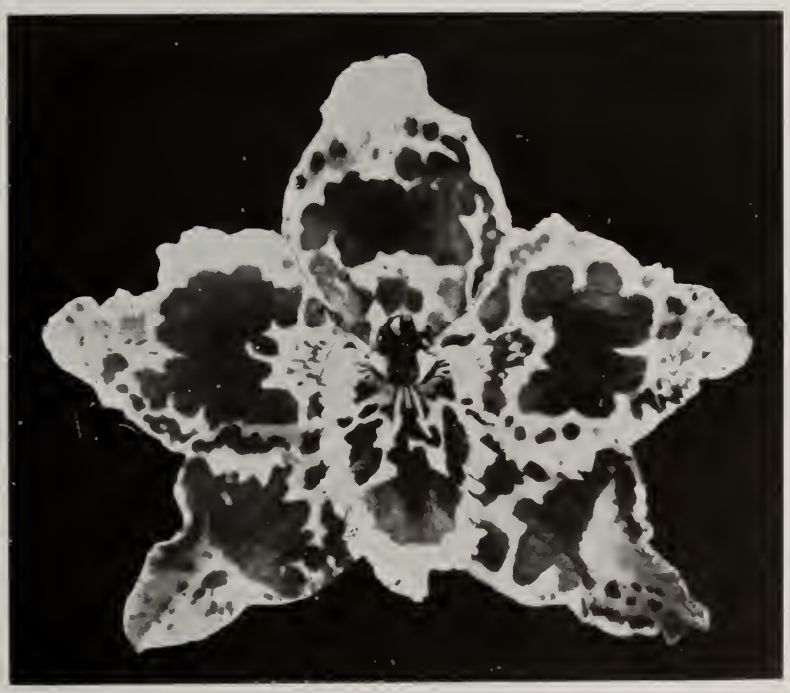
In large importations of crispum one or more blotched varieties have appeared. The demand for these special forms rapidly increased until fabulous sums were paid for handsomely blotched specimens. For many years their origin was a complete mystery, and baffled even the most experienced collectors.

About eleven years ago, however, Mr. Crawshay became certain, and stated his opinion, that blotched crispums were hybrids, and if we attempted to raise them from seed by the usual method of crossing one blotched variety with another we should not reproduce them as in the case of true species, for according to the laws of Nature reversion must take place, and we should also obtain ordinary white crispums, and, as has been recently shown, almost pure forms of triumphans and luteopurpureum. Of course, some blotched crispums did appear when large numbers of these seedlings were flowered, but their small number did not justify us in believing that any great numbers would always be obtained.

It will at once occur to everyone that the chance of any two blotched crispums being united in their native land must be extremely remote. Their great rarity seems to prove that this is almost an impossibility. Yet, as blotched crispums were being discovered which, by the small size of their bulbs, could not be more than a few years old, it was apparent that they were still being created. But how and by what means remained an unsolved mystery for many years.

To Mr. Crawshay is due some of the credit of attempting to prove the origin of these mysterious and beautiful flowers. Careful investigation on his part convinced him that the only way to produce blotched crispums was by similar methods to that of Nature. He accordingly set to work and raised numerous seedlings from the various crosses which perchance might take place naturally. The results clearly show that his theory was correct, and that time alone was necessary to give Nature an opportunity of producing in this country exactly what she had done in Colombia.

Our illustration shows a flower that is precisely what Orchidists years ago would describe as a blotched crispum of extraordinary merit, and one that would then have received the highest honours at an exhibition,



Odontoglossum Vulcan, Rosefield variety.

and created a record price if sold. But, to-day, we know this plant as Odontoglossum Vulcan, with the parentage as given above, and proving that it is one of the ways in which Nature made, and is making, the handsome, yet mysterious flowers which not so long ago created the biggest sensation the Orchid world has ever experienced.

Mr. Crawshay has bloomed Vulcan from more than one pod, having crossed various varieties of crispum with Vuylstekei in order to see the breaking up of the component parents. The Rosefield variety is the finest of all the seedlings from these pods, up to

the present time. It is stained deep rose upon a white ground. All the blotching is rich red-crimson, slightly brownish. The lip is white, with blotches similar in colour to those on the other segments. The column head is deep blood-crimson.

ORCHID SALE. — Mons. Ch. Maillard announces in our advertisement columns a public sale of Orchids on October 8th and 9th. The plants have obtained the highest awards when exhibited at Lille, Ghent and Paris.

The Vanilla Orchid, showing the seed-pods from which the well-known flavouring substance is produced.

THE VANILLA ORCHID.

VANILLA has long been used as a flavouring agent. Historians have stated that it was used by Mexicans as an ingredient of chocolate even before America was discovered by the Spaniards. Early in the 16th century, probably before the introduction of tobacco, it was used in Europe as a perfume. There are about twenty species, widely dispersed throughout the Tropics of the whole world.

Although this Orchid is of little account so far as its flowers are concerned, it has an attractive feature in the fruit, or pods, as they are more frequently called. Anyone having a house where a fairly high temperature and considerable moisture can be maintained will find no difficulty with its cultivation. Moisture in the air appears to be more necessary than in the soil, although one does not suggest that the latter should be allowed to become dry.

Established plants carrying several pods can often be procured from various trade

growers, although many amateurs may obtain greater pleasure by cultivating the plants from the earliest stage and thus be able to tell their friends that they have grown Vanilla entirely by themselves. A few strong portions of the new growth should be obtained, those having aerial roots being preferable, and inserted in a light compost of fibrous peat, sphagnum, and some broken crocks. These shoots soon commence to grow rapidly, often as much as 10 feet in a single season, and will continue doing so for several years. In their native country a length of 50 or more feet is frequently reached. The stems send forth numerous aerial roots which delight to affix themselves to any damp surface, and for this reason frequent syringing is very beneficial.

During the brightest of summer weather a light shading should be employed, but care should be taken that this is not used too frequently, for if the growths are not properly matured poor fruiting results will follow during the next season. The temperature may be as high as 100 degrees without doing any harm, but throughout the winter season a minimum of 60 should be aimed at.

In some countries the Vanilla flowers are fertilised naturally by insects, but this cannot be expected to occur when the plant is under artificial cultivation. As seed pods are rarely formed on any Orchid without pollination, it is necessary to carry out this method with the Vanilla before the interesting pods can be produced.

The pods vary from 6 to 12 inches in length when full size is attained, and are usually formed in clusters of from 6 to 9. After about eight or nine months' growth they commence to turn yellow, and are then ripe and ready to be dried for preservation. In tropical climates the plants usually commence to bear fruit in their third year, and continue for many seasons.

Our illustration is from a photograph by Mr. J. Gregory, and shows part of a fruiting plant cultivated by Mr. G. Wythes when at Syon House. One of the clusters contains no less than sixteen pods, a very unusual event, probably due to excellent culture. Some further notes on the cultivation of Vanilla occur in the ORCHID WORLD, Vol. III., page 222.

REGISTRATION OF NEW HYBRIDS

The following resolution, proposed by Mr. James O'Brien and seconded by Mr. J. Wilson Potter, was carried at the meeting of the Royal Horticultural Society's Orchid Committee, September 9th:—

"In view of the necessity of securing the earliest possible records of new hybrids, and to supplement the list of plants which have received awards, the Orchid Committee recommend that a new record, to be called the Hybrid Orchid Register, be established, and that Orchid exhibitors be asked to bring their new plants when in flower for the first time, even although they may not be sufficiently developed to enter for awards, and to enter the name, parentage, and name of the raiser of the plant, on a registration form to go before the Committee. After testing to prove that the name is in order it shall be entered on the Society's Hybrid Orchid Register, and once recorded, the name must be recognised for all crosses of similar parentage when subsequently shown, unless valid reason can be produced to prevent it."

ORCHID-HOUSE STAGING.

WHAT is the best kind of staging is a question now occupying the minds of many Orchidists. For some considerable time past there has been a growing desire to treat Orchids in such a way that the atmospheric condition of the house approaches as nearly as possible that of their natural home. By this means it is hoped to obtain results which will produce flowers in their finest shape and substance, and, also, success in cultivating such plants as have hitherto been regarded as difficult, or impossible.

A wide difference exists between those Orchids known as terrestrial and those called epiphytic. The former are usually found growing in damp places, where the leaves are

only a few inches from the moisture-laden soil, and, consequently, where little, if any, dry air is to be found. The latter are generally to be seen growing in well exposed positions, where there is a constant current of air, and little chance of a stagnant atmosphere existing. The cultivator should always carefully consider these essential points, and endeavour to place his plants where they may best succeed. It is no use blaming the compost or finding fault with the nature of the plant when the real cause of failure is the surrounding atmosphere.

Cypripediums are the best known examples of terrestrial Orchids, and usually grow very satisfactorily in houses which are quite moist and shady. This atmospheric condition is generally produced by the staging being constructed in such a way that a considerable quantity of moisture is at all times sustained. The surface is covered with either sand, broken coke, cinder-ash, or similar moisture-holding material, and the plants are placed directly on this, or elevated by being stood on inverted pots, or on a light upper staging composed of laths. By this means terrestrial Orchids are cultivated under very similar conditions to those of their native country, for in both cases the foliage has a damp bed beneath it, and is surrounded by a still, moisture-laden atmosphere.

It is, however, with the epiphytic section of Orchids that opinions and methods have altered. Formerly it was the custom to place Odontoglossums and kindred plants on staging similar to that described above, the general belief being that a cool, moist situation was alone sufficient for their needs. But having regard to the light and airy position in which they grow naturally, the cultivator is now endeavouring to construct the interior of his Orchid houses more with a desire to reproduce the light, mountain-like atmosphere in which these plants flourish so well in their native land. Of course, many can say they have already achieved this satisfactory position, but even with them there is no reason why still finer results should not be obtained with improved methods of stage construction.

There now exists a general desire to dispense with almost all under-stages in houses devoted to cool-growing Orchids, the only ones considered necessary being those placed directly over the hot-water pipes in order to counteract the dry and hot atmosphere which would otherwise be created in the house. In many of the large houses there is a centre staging, under which hot-water pipes are seldom placed, and even when they are, there is a great amount of space between them and the plants; it is on these stages that the healthiest Odontoglossums are generally seen. A free circulation of air round the plants is usually to be noticed when no under-staging is used, and it is this light, buoyant atmosphere which is so essential to the welfare of cool growing Orchids.

The thought may occur to some cultivators that without the under-stages it will be somewhat difficult to produce sufficient atmospheric moisture. This, however, is much easier than is generally imagined, for by judicious spraying the moisture in the air may be increased to almost saturation point. The real difficulty lies in being able to maintain this humid condition, for in most houses there are not sufficient means to regulate the varying climatic conditions to the fine degree that cultivators of the present day might wish. When once the atmosphere has been rendered sufficiently moist every care must be taken to prevent a too rapid evaporation by excessive ventilation, and a rise in temperature by insufficient shading. If these two important points can be kept under control there will not be much to complain of when the under-stages are done away with.

The amount of ventilation should be regulated according to the outside weather conditions. When the wind is cold and dry great care is necessary to prevent it obtaining direct access to the plants. It should first be warmed and made moist by passing near the hot-water pipes and over some moisture-holding material. During rainy weather, and when the outside temperature is not too low, abundant ventilation may be given to the cool houses with much benefit to the occupants.

ORCHIDS AT TUNBRIDGE WELLS.

THERE was a time, not many years ago, when large importations of Orchid species were cultivated for the express purpose of discovering the rarities and beautiful forms. Whole houses were devoted to one particular species, the number of plants being reckoned by thousands. This method of obtaining choice Orchids has gradually given place to that of the hybridist, who by his art and skill now creates flowers of greater beauty and more varied colour.

The establishment of Messrs. Armstrong and Brown, Sandhurst Park, Tunbridge Wells, is mainly devoted to the raising and flowering of hybrid Orchids. Although the first house was only erected about twelve years ago, the stock has increased so rapidly that thirteen large houses are now entirely filled with plants. The arrangement of the houses and potting sheds, all connected by suitable corridors, is excellent, and those who wish to see a model establishment would do well to visit this place. The electric light has recently been installed throughout all the buildings.

One house is devoted to the actual process of seed germination. It is somewhat narrow, with staging on both sides, and with twelve rows of 4-inch hot-water pipes to maintain a suitable temperature. There is no doubt that much of the success is due to rapid germination and growth in the primary stages. The seedlings then make clean, healthy growths, and continue doing so until the flowering stage is reached. The seed-pans are partly filled with a moss and fibre compost, over which a piece of coarse linen is placed, and above this some finely chopped sphagnum moss is firmly pressed. The seed is lightly scattered over the surface, and in a few weeks assumes a green appearance. Shortly afterwards green leaves commence to grow, when the seedlings are pricked off into other pans of light fibrous material. At the age of about twelve months they are sufficiently advanced to be placed singly in small pots. These pots are narrow, but somewhat deeper than those usually employed.

In the next house, which has a lower temperature, the young seedlings spend another year of their existence, being subsequently re-potted and moved into a third house. The re-potting and arrangement is continued as soon as the plants require it, and until they reach a size when flower-buds may be expected. At this state they are potted in firmer material and are treated in every way the same as other established plants.

Odontoglossums are somewhat different, and can only be successfully raised when the seed is sown on the surface of the compost contained in a pot wherein a seedling plant is growing. It is, perhaps, necessary to mention that heat does not encourage the germination of Odontoglossums. The best results are obtained when the temperature is equal to that of the ordinary Odontoglossum house. A very large number of seedlings have already been raised, and it will not be long before some of the best crosses commence to flower.

Messrs. Armstrong and Brown have constructed their houses with every means to save labour. On each side of the central path is a brick wall which absorbs a large amount of water, and thus assists in maintaining the atmosphere in a humid condition. The top ventilators are very small, but quite large enough to permit sufficient change of air without creating a draught and allowing the moisture to escape. It is usually found that damping the houses once in the morning is quite sufficient to last throughout the day, the reason being that very little moisture is able to escape. This humid atmosphere is not only suitable to the plants, but greatly assists in preventing thrip from obtaining a foothold in the house. There is also a saving in the cost of fumigating material.

The corridor proves an excellent growing place for Cattleyas, when suspended from the roof, and for Dendrobiums placed along the wall. A remarkable plant of Cattleya Trianæ

growing on the brick wall formed the subject of an illustration in the ORCHID WORLD, Vol. I., page 138. This specimen continues to grow, and will soon be in flower once again. Another interesting feature may be seen in Dendrobium nobile virginale, the pure white form, which has here been raised from seed. A very large number of these seedlings were flowered, the best varieties being carefully marked and grown on until large enough for propagation. There are now numbers of healthy little plants, all cultivated from selected varieties. Dendrobium seedlings, of various crosses, are also cultivated in small pans suspended from the roof of the Cattleya houses, while on the end staging are several strong specimens of D. Hookerianum, also known as D. chrysotis. This species has the peculiarity of growing from the apex of the portion of growth made during the previous summer, so that it is difficult to determine where one season's growth commenced or ended. Its large golden-yellow flowers have a deeply fringed lip, and are very attractive.

Cattleya Maggie Raphael alba is well represented; the majority produce flowers with creamy-white sepals and petals. Occasionally a variety is seen with a slight rose tinge on the segments, but, taken on the whole, they are a handsome batch of plants. Another good lot of seedlings is the result of crossing C. Fabia with C. Mantinii; many of the leaves show dark purple coloration, and this frequently denotes a richly coloured flower. C. Freya "Mrs. Fred. Sassoon" (Mantinii × aurea) is part of the fine variety which received an Award of Merit, Royal Horticultural Society, September, 1911. This plant has made three bulbs during the last two years, and is now in flower. Seedlings between it and C. aurea have already been raised; the influence of this latter species should make a further improvement by brightening the colour.

Lælio-Cattleyas occupy considerable space, the number of varieties being great and preventing anything like a correct idea being obtained from a few words in print. The earliest raised plants have now become grand specimens, and in this condition their beauty can be fully seen. One is able to guess from this what a grand sight will be created when the present-day hybrids are cultivated to the same degree of perfection. Even in their young state and first flowering we regard them as fine acquisitions, but they will be still further appreciated when grown into specimens. L.-C. Dreadnought, a hybrid between L.-C. Henry Greenwood and C. Mossiæ, is another gem in this collection. It was originally shown by Mr. J. McCartney at the Manchester Orchid Society, March, 1910, when it obtained a First-class Certificate and Silver Medal. L.-C. Daffodil is a charming yellow-flowering hybrid between L. Jongheana and L.-C. Mercia, and much resembles the flower from which its name is derived. Last, but not least, is L.-C. Thyone "Orchidhurst variety," a very beautiful hybrid between C. aurea and L.-C. Ophir, and with bright golden sepals and petals and crimson-purple labellum.

Although hybrids, as previously mentioned, occupy the main part of this collection, there are many very choice varieties of the well-known species, several of which have been used to carry seed-pods. Mention may be made of Cattleya Trianæ "The Premier," C. labiata "Mrs. E. Ashworth," and Lælia pumila alba. Cattleya Mossiæ Wagneri, the true albino form, has been raised from seed; and a promising hybrid results from C. O'Brieniana alba crossed with L. autumnalis alba. The seedlings from L. autumnalis alba and a white form of L. anceps have all produced coloured hybrids. One more deserving cross is Cattleya Lueddemanniana Stanleyi × C. aurea, which will probably make an albino form of C. Kienastiana. There are two fine specimens of Cattleya Skinneri alba, one of which has twelve strong leads.

The Cypripedium house will soon be gay with bloom. These autumn-flowering plants are particularly well represented, and include Elatior, Rossetti, Victory, Maudiæ, Lawrenceanum Hyeanum, Moonbeam, Bianca and many others. Needless to say, there are thousands of unflowered seedlings, all from the best parents. Miltonia vexillaria "G. D.

Owen" is making a remarkably strong growth, and M. v. Lambeauiana is noted for the pure whiteness of its flowers. Miltonioda Harwoodii (M. vexillaria × C. Nœzliana) is very attractive by reason of its scarlet-tinted flowers. The new Odontonia brugensis, a very pretty hybrid between Odontoglossum Edwardii and Miltonia vexillaria "G. D. Owen," at once draws the attention of the visitor; the second plant to flower shows the character of the Miltonia more than the first one did.

Cœlogyne pandurata grows with truly remarkable vigour. One plant has leaves seven inches in width, and this is no larger than several of the others. But few Orchidists fully know the beauty of this species until they have seen plants cultivated up to this standard. Other good specimens include Bulbophyllum Godseffianum, two

Messrs. Armstrong & Brown's group at Bristol, July, 1913.
Awarded the First Prize and Gold Medal; also the Royal Horticultural Society's Silver Cup.

large pieces of B. Ericsonii, the very curious B. grandiflorum, and Cirrhopetalum refractum, often called the Windmill Orchid on account of the manner in which the flowers are arranged on the spike.

A suitable growing place has been found for the pretty forms of Anœctochilus; the new leaves are formed very rapidly when the right treatment can be given. Eulophia guineensis is a rarity worthy of note, the flowers are large, with rose-purple sepals and petals, the lip purplish-magenta. Platyclinis filiformis is one of the prettiest of the small-flowering Orchids; the spikes are erect, but the upper portion, covered with numerous golden flowers, droops gracefully in pendulous fashion. It has received the name of the Golden Chain Orchid, and the specimens in this collection prove that the plant is well worthy of the name.

One spacious house is almost filled with Odontoglossum seedlings, the largest having just reached the flowering stage. Odontiodas also occupy considerable space, and include many choice varieties. An interesting hybrid is Odontioda Seymouræ, obtained by crossing O. Bradshawiæ with O. Charlesworthii; the flowers are brilliant scarlet-red, and of good shape. Sophronitis seedlings comprise several new crosses, beside a number of selected varieties of the early hybrids.

Messrs. Armstrong and Brown are frequent exhibitors at the principal shows, and have gained many valuable prizes. At the International Exhibition, 1912, they were awarded the handsome cup presented by Baron Bruno Schröder. A photograph of their latest exhibit is reproduced in this issue.

VANDA LOWII.—In the year 1885 there was at Ferrières a good specimen of this interesting plant. It stood 6 feet in height, and had 120 leaves, each about 27 inches long. There were 17 flower spikes, all over 8 feet long, while the total number of blooms was over 400.

CORSICAN ORCHIDS.

By W. HERBERT COX.

FROM its geographical position alone the most elementary student of flower lore would be able to guess that Corsica contains the flora of divers varying districts. Its position is such that it must have plants of both Europe and Africa, with a distinct possibility of some Asian ones. The flora of the Southern French coast differs considerably from that of Northern Algeria, whilst both differ from that of Tuscany; as Corsica stands between all three she naturally possesses examples of the flora of each. Moreover, her contours are so varied that the plants must of necessity vary with them, as those of the sun-baken sea coast are not suited to the high mountains or the humid plains by the Lagoons.

According to John Briquet's "Prodrome de la Flora Corse," some sixty-two kinds of wild Orchids grow on the island, of which five are extremely doubtful, and others so rare that they have only been found in one or two localities and in very small numbers. I myself, in spite of diligent search, was only able to find twenty of them, though perhaps twenty is hardly correct, as I also saw an Epipactis and the Twayblade, but as neither were blossoming I do not count them.

According to my invariable custom in these pages, I only propose to deal with the plants which I personally saw. The first to flower was Orchis lactea, under the olive trees, as early as February 8th. Honey scented, almost milk coloured, with a lip covered with purplish spots, and a hood all joined together, having frequent purple lines, it is a delightful thing to meet so early in the season.

Though the number of varieties may be limited, one thing may be said in favour of the Orchids which do grow on the island is that the number of specimens is enormous. By far the commoner and perhaps the most beautiful is the Pink Butterfly, O. papilionacea, with its big rose-violet fan-like lip, accordian pleated, and the chocolate perianth. So common is it that it is called

the Corsican Orchid. I myself found it on the east coast from Sisco in the far north down to Casamozza, on the west about Ajaccio, which is distinctly southern, and in the very centre of the island about Ponte Leccia. Almost as common is the green-winged Meadow, O. morio, with its purple blossoms and green veined hood. This, too, I saw in the same wide area, but not in quite such large numbers.

One of the most interesting Orchids it has been my luck to meet is O. Gennarii, whose parents are the two kinds just mentioned. This hybrid, which strongly resembles its father and its mother, being about half-way between the two, is fairly common with them in the Pietranera district. As a general rule all the Orchids seem happiest on the northern slopes of the Corsican hills, but this trio generally seems to prefer the full sun of the south, though it is by no means particular.

The Orchids are usually to be found in the *maquis*, that sweet-scented carpet of aromatic shrubs which covers about two-thirds of the entire island. Corsica has no Orchids entirely of its own, as it has of other genera. The nearest approach is O. insularis, which has also been found on the neighbouring islands of Sardinia, Elba and Girlio, but I believe nowhere else. It is a stately plant with clear yellow blossoms, but in Sardinia its flowers are purple. It is strange how the yellow kinds assume a purple tint in this part of the world. O. provincalis is another example. I have examined many thousands of specimens in Tuscany which have always been yellow, here the colour is just as frequently either purple or pink as the pretty primrose shade. It seems happiest when growing on dry, partially shaded stone walls.

If once a particular kind of Orchid is found on the island it is afterwards usually to be seen in incredible quantities. Usually, but not always, for Bloody Fingers—I like our old English name O. mascula—I only found once under some huge beech trees in one of the side glens of the Asco valley. It appeared to be the variety speciosa, the most common form in the Mediterranean region, for it was very vivid in colouring and lacking in the unpleasant cat-like odour. The only other Orchis I found was the usual spotted O. maculata. Considering the fact that the Orchis is a very northern genus of plants and the Ophrys quite southern, I expected to find far more of the latter than the former, but my expectations were not realised. As shown, I found eight sorts of Orchis, but I only saw three kinds of the Ophrys.

Contrary to the usual rule that when once a kind is found it is afterwards seen in very large numbers was Ophrys fusca. I only saw one single specimen of this queer little plant, which was amongst the wild headlands of Cap Sagro on a particularly stormy day. Briquet, in his unfinished "Prodrome," is too apt to give fully detailed descriptions of the localities in which plants grow, but I found many other habitats besides those he mentions. For example, he says that O. bombylifera only grows in the extreme south and on Cap Corse, whereas I found it in large numbers towards the centre in the hills above the Biguglia Lagoon. This so-called Bumble Bee is one of the least apt in its impersonation of all the insect simulating kinds. Nor can I say that the Spider, O. aranifera, very strongly resembles the insect from which it is named; the form certainly does suggest an insect but not necessarily a spider. The variety atrata is fairly common, differing from the type, which does not appear to grow on the island, by the prominent protuberances on the lip.

The number of specimens of the Serapias is astonishing, but there are only four varieties. I found the very beautiful S. cordigera, large and heart-shaped, for which I heard a quaint local name, "Wolf's Throat;" the small flowered S. occultata, which grows into very large plants; the long-lipped S. longipetala; and the small Tongue Orchid, S. lingua. The pretty little Pectinea intacta is by no means uncommon on damp rocks. The usual colour is pink, in stripes, but here it is frequently of a creamy shade. The great purple Limodorum abortivum is quite a remarkable plant, being of one uniform shade of purple, growing about three feet high and quite leafless.

There are only three kinds more for me to mention. The charming white Cephalanthera pallens grows in goodly numbers in open situations, and not in its usual habitat under trees. The Green Man, Aceras anthropophora, is rather rare, but when found forms large patches generally. I also found the White Butterfly, Platanthera chlorantha, but in a locality not hitherto recorded, on Cap Corse, for Briquet says it is only to be found in the Forest of Aitone, many, many miles away. Many botanists know of the island's rich exotic flora, of almost tropical luxuriance, but not much has been written of Corsica's Orchids, so I hope these notes of what I personally noticed will be of use.

ORCHIDS FOR AMATEURS.

OCTOBER may well be called the month of Cypripediums, for they are now making their finest display. Of the first few plants purchased by amateurs one is almost sure to be a Cypripedium, and it would oftentimes be far better if these easily-grown plants formed the greater part of the collection during the first twelve months. Amateurs so often purchase plants that are difficult to cultivate, even in the hands of experts, and the failure that nearly always results is quite disappointing enough to so discourage the young beginner that the growing of Orchids is cast on one side as being both expensive and unsuitable, except to only a few possessing elaborate houses and plenty of labour.

Now Cypripediums are no more difficult to grow than ordinary greenhouse plants, and anyone having a small glass structure in which the atmosphere can be kept moist, and with fairly certain means of maintaining a genial temperature of about 50 degrees, will be fully rewarded for the small amount of trouble which he will find necessary to produce good results. Even in the severest weather these plants are safer than many others. With a night temperature as low as 40 degrees no harm will come to many a variety, and we may even go so far as to say that there are hundreds of varieties which will pass safely through a winter's night if only the frost is kept out of the house, and the atmosphere in not too moist a condition. This is more than can be said of many other greenhouse plants.

Of course, the writer is fully aware that there are many varieties of Cypripediums which require a minimum temperature of 50, or even more, degrees to keep them in the best of health, but there is no need for the amateur just commencing the cultivation of Orchids to purchase these heat-loving kinds, especially while there are numerous varieties quite suitable to his modest requirements.

Many remarkable specimens have been grown in vineries, fruit-houses, and ordinary greenhouses used for the wintering of general out-door bedding plants. One sometimes thinks that these structures are more suitable than specially built houses, but this may be on account of the large amount of moisture almost always to be found in them. Amateurs must not forget that Cypripediums are terrestrial in habit; that is, they grow naturally on the ground where there is usually plenty of moisture. The chief fault to be noticed when an amateur is just commencing Orchid culture is that he keeps his plants much too dry, and even when he has a house specially set apart for the cultivation of Cypripediums there is often the same defect. He is afraid to over-water the plants, and, consequently, they do not thrive so well as when grown along with geraniums, etc., in an ordinary house that is continually damp. Those amateurs who have gained further experience by visiting some of the large collections will recollect how moist the Cypripedium house was kept by frequent damping down of the floor and syringing the staging and in between the pots. Here again we may remark how much more may be learnt by practical experience than by pages of reading.

Our illustration shows a well-flowered plant of Cypripedium insigne carrying 26 blooms. That this plant is exceptionally well-grown will be readily admitted, but it is quite possible, and, in fact, no difficult task, for an amateur to produce similar specimens in

greenhouses of the ordinary type. Supposing, for instance, only half the number of blooms appeared, the plant would still be quite a picture in itself, and attract considerably more attention than the general occupants of the greenhouse.

The compost, or potting material, needs some consideration. Many a Cypripedium has been grown in ordinary earth, just such as is used for geraniums, but the results, though perhaps satisfactory to the young amateur, are not what they might be if a more suitable, and shall we say professional, mixture is employed. Loam forms the basis of the mixture, and care should be taken that this is fibrous and light; any material that is likely to become a sodden mass impervious to water must be refused. Some sphagnum moss, a few oak leaves, and peat or osmunda fibre should also be added, the whole being well mixed before using. This compost should be used very similarly to ordinary material for geraniums, etc., and be pressed down firmly, leaving a space at the top of one-half to an inch for the watering of the plant. During bright weather, say from March to September inclusive, the plants must be carefully shaded from the strong sunlight, and occasional spraying of the foliage with rain-water will prove beneficial.

Almost all Orchids of the Cattleya and Lælia section make their bulbs during the summer season. This is undoubtedly the most satisfactory method of culture to encourage, for as the bulbs are only made during one portion of the year the grower should so arrange matters that growth takes place during the most favourable atmospheric conditions. On the completion of the new bulb only sufficient water will be required to prevent the plant from shrivelling. The chief point for the amateur to consider is the best means for ripening the bulb so that it may withstand the varying changes of the winter climate, and produce at its proper season flowers of long lasting qualities.

Cypripedium insigne, a well-grown plant.

When the collection is considerable, many cultivators arrange their various plants in sections, according to the condition of growth. In this way every plant can receive proper attention, and those that have finished their season's growth can have the treatment necessary to ensure proper ripening. But with amateurs who may possibly have but one

house this method cannot be arranged so nicely, nor can the atmosphere be varied very much when several kinds of Orchids are grown. The best plan is to watch carefully for all plants that have completed their bulbs, and to suspend such from the roof of the house. In this position they will receive plenty of light and air, and are not so liable to be over-watered, which often happens when they are kept intermixed with other plants. The result of over-watering is often the production of a second growth which scarcely ever has time to finish before the dull weather; consequently an unsightly plant is produced. One must also remember that too much water rots the roots, and the general health of the plant suffers greatly by such bad treatment.

At this time of the year many Cattleyas and Lælias, more especially the late flowering hybrids, are best kept suspended from the roof, or in some equally safe place, until the flowers open. Only those who have experienced the damage done by slugs and other pests know the disappointment caused when the flower spikes are discovered severely damaged, generally beyond hope of recovery. Prevention is better than cure is an old saying worthy of being remembered.

CATTLEYA WARSCEWICZII ALBA, "MUESSER'S VAR."

THIS very rare albino form of the species was collected by M. Arthur Muesser, Orchid importer and grower, Brussels, and brought home with a fine lot of C. Warscewiczii and C. aurea. The plant was nearly dead when it arrived, and had to be carefully nursed, but being a robust grower it soon recovered, and produced a spike of two flowers on one of its strong leading growths. The flowers are seven inches across, of good substance, and pure white with the exception of a faint pearl blush on the front lobe of the lip. The labellum is much crimped, and rather narrower than the average form. The two yellow discs, typical of the species, are in their usual position on the inner part of the side lobes; although albino flowers are formed by the elimination of the purple tints, the yellow usually remains. This rarity forms a companion to the beautiful C. Warscewiczii alba "Firmin Lambeau," the first albino of the species to be recorded, and one of the very few Orchids to which the Gold Medal of the Royal Horticultural Society has been awarded.

The discovery of new varieties, more especially those equal in importance to the above, gives fresh material for the hybridist to work upon, and allows him the chance of producing many of the older hybrids in albino form, although no one can yet say with any amount of certainty whether the results will be equal to their expectations, of course, so far as whiteness is concerned.

Consider, for example, Cattleya Carmen, a hybrid between Warscewiczii and Luedde-manniana raised by Messrs. Veitch in 1905. There is now the possibility of obtaining both these parental species in the albino form, the latter in the elegant albino variety known as Empress. Also C. amabilis, an uncommon hybrid between Warscewiczii and labiata, which should certainly make a useful autumn flowering hybrid when in the albino form. Many others can be mentioned, including C. Mendelii alba and C. Dusseldorfei Undine.

It is doubtful whether much would be gained by using either of the two albino forms of C. Warscewiczii in conjunction with flowers having purple or crimson coloured lips, as, for instance, C. aurea and hybrids containing this species in their parentage. The more plentiful variety of C. Warscewiczii known as Frau Melanie Beyrodt, with white sepals and petals, but a coloured lip, appears more suitable for this purpose, and will in most cases be better, for the ambition of hybridists is to produce flowers of well-defined coloration. Ordinary light mauve and muddy-looking blooms do not appeal to the Orchidist. If a flower with white sepals and petals has any colour in the labellum, then the darker this colour is so much the more meritorious may the variety be considered.

Cattleya Warscewiczii alba, "Muesser's variety."

Cattleya Warscewiczii, Low's variety. (R.H.S. Journal.) A very dark form, which received F.C.C., R.H.S., July 19th, 1910, when exhibited by Lieut.-Col. Sir George Holford, K.C.V.O.

MESSRS. JAMES VEITCH & SONS: ORCHID SPECIES.

(*Continued from Vol. III., page 280.*)

EPIDENDRUM WALLISII.—Introduced through Gustav Wallis in 1874, from New Grenada, where it grows in light situations at an elevation of 4,000-7,000 feet. It is of horticultural value on account of its flowers, which, considering the genus, are comparatively large, being about two inches across, of a yellow colour with purple spots and streaks. It is the parent of E. Endresio-Wallisii, a well-known hybrid.

HOULLETIA BROCKLEHURSTIANA.—This species first flowered in the collection of Mr. Brocklehurst in the year 1841, but was very scarce until William Lobb found plants on the Organ Mountains, and sent some to Exeter in 1842.

LYCASTE LOCUSTA.—An interesting species with dull green flowers having a white fringe extending round the front of the lip. Found by Walter Davis in Peru, and first flowered at Chelsea in 1879. Subsequently lost sight of, but during recent years it has been re-discovered.

MASDEVALLIA HARRYANA.—This very fine flower, really a variety of M. coccinea, was discovered by Chesterton in 1871 on the eastern side of the Cordillera, near Sogamosa, where it has a vertical range of from 7,000-10,000 feet. The flowers are extremely variable in colour, almost every shade from deep crimson-purple, through magenta-crimson, crimson-scarlet, orange, yellow, to cream-white being represented.

MASDEVALLIA DAVISII.—This species, remarkable for its size and the colour of its flowers, was discovered by Walter Davis near the city of Cuzco on the eastern Cordillera of Peru, and flowered for the first time in England, August, 1874. It is found in the crevices of rocks on the slopes of the mountains at an immense elevation, probably not less than 10,500 to 12,000 feet, but within a restricted area, extending a few miles only along the flanks of the mountains, and within the vertical limits above mentioned.

MASDEVALLIA POLYSTICTA.—This species flowered for the first time in England at Chelsea in the spring of 1875, and is a native of Peru. The specific name refers to the spotted perianth.

MASDEVALLIA SIMULA.—Introduced in 1874 from New Grenada through Chesterton. It is a tufted, minute plant, but producing very small flowers of exquisite beauty, especially when viewed through a magnifying glass.

MASDEVALLIA VEITCHIANA.—This was discovered in the lofty Andes of Peru by Pearce in 1866, and successfully introduced by him. A few years later it was re-discovered in the same locality by Davis, who states that it grows in the crevices and hollows of the rocks with but little soil, at an altitude of 11,000 to 13,000 feet. The large flowered form, grandiflora, may usually be distinguished by having the upper sepal densely and uniformly covered with purple papillæ, while in the lateral two this covering is confined entirely to the outer half, the inner being of the purest orange-scarlet and destitute of papillæ.

MILTONIA ENDRESII.—This species was originally discovered by Warscewicz in 1849, in restricted numbers, growing in only two localities on leguminous trees. Twenty-two years later it was re-discovered by Linden's collector, Wallis, who tried to introduce it, but failed. In 1873 it was found by Endres in Central America, and through him, after several attempts, Messrs. Veitch succeeded in introducing it. The first flowers were produced at Chelsea in 1875.

MILTONIA VEXILLARIA.—This beautiful Orchid was probably discovered by the unfortunate Bowman, when collecting in New Grenada. Subsequently found by Wallis, and again later by W. Roezl; both sent home plants, which arrived dead or in a dying condition. Chesterton, however, succeeded in bringing a consignment home, the first plants flowering at Chelsea in June, 1873.

ODONTOGLOSSUM BLANDUM.—This Odontoglossum was first discovered by Blunt in 1863-5 in New Grenada, but the plants perished during transmission to Europe, and later consignments met with a similar fate. It was at Stevens' auction rooms that living plants were purchased by the Royal Horticultural Society, one of which flowered at Chiswick in 1871. It remained very scarce until Kalbreyer sent a small importation of plants in 1879.

ODONTOGLOSSUM CORONARIUM, VARIETY DAYANUM.—This was introduced from Peru, and flowered for the first time in September, 1875, with Mr. Day, of Tottenham. The sepals and petals are yellow marbled with brown, and are distinct from the type, not only in colour, but in having three conical acute warts each side of the crest.

(To be continued.)

ROYAL HORTICULTURAL SOCIETY.

September 9th, 1913.

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

Messrs. Armstrong and Brown, Tunbridge Wells, received a Silver-gilt Medal for an extensive and elegant group. The specimens included Lælio-Cattleya Geo. Woodhams, L.-C. Armstrongiæ, and L.-C. Rainbow. Cattleyas comprised fine forms of Iris, and the new Prince John (Hardyana × Dowiana Rosita). A beautiful hybrid was to be seen in Lælio-Cattleya Baroness Schröder "Orchidhurst var." Miltonioda Harwoodii and Kefersteinia laminata were also shown, the latter receiving a Botanical Certificate.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an excellent group which contained a large plant of Oncidium incurvum, with numerous spikes; the curious Bulbophyllum grandiflorum; the scarce Calanthe violacea; Epidendrum costaricense, with 12 white flowers; many excellent Cattleyas, and pretty hybrids.

Messrs. Hassall and Co., Southgate, were awarded a Silver Banksian Medal for a neat group in which were several good forms of Cattleya iridescens, C. Nestor (Harrisoniana × Iris), the scarce Odontoglossum bictonense album, Brasso-Cattleya Queen Alexandra, and a well-grown plant of Cœlogyne pandurata.

Messrs. J. and A. McBean, Cooksbridge, exhibited the new Adaglossum Juno (Ada aurantiaca × Odontoglossum Edwardii); Odontioda Lambeauiana, of very bright colour; Dendrobium Dearei; a distinct variety of Cattleya Mrs. Pitt; and good Odontoglossums. Brasso-Cattleya Digbyano-Mendelii "Distinction" carried a large white flower with a purple line on the centre of the labellum.

R. G. Thwaites, Esq., Christchurch Road, Streatham, showed the new Odontoglossum Chieftain (Vuylstekei × Rolfeæ), of excellent shape and colour; Lælio-Cattleya Euphrasia, with a very dark lip; Cattleya Gaskelliana alba; and Miltonia vexillaria Leopoldii.

H. T. Pitt, Esq., Stamford Hill, staged a neat group, in which were two good plants of Cattleya Hardyana "Countess of Derby," one with a spike of four flowers. Brasso-Cattleya Pittiana, Cattleya Thayeriana alba, and C. Source d'Or were also shown.

Francis Wellesley, Esq., Westfield, Woking, exhibited Lælio-Cattleya Mrs. Donald MacMaster (L.-C. luminosa × C. aurea), with Indian yellow sepals and petals, the lip crimson-brown.

Pantia Ralli, Esq., Ashtead Park, Surrey, sent Lælio-Cattleya Athenla (L.-C. Phryne × C. Warscewiczii), with bright canary-yellow sepals and petals, the lip rose-purple with a narrow margin of light yellow. The plant carried a spike of four flowers.

E. H. Davidson, Esq., Twyford, Berks, staged Sophro-Cattleya Saxa "Orchid Dene var.;" S.-C. Thwaitesii, of salmon tint; and Odontoglossum Ceres, a pretty variety.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, exhibited a fine variety of Lælio-Cattleya Lustre, the flower showing much of the Lueddemanniana parent.

Sir Jeremiah Colman, Bart., Gatton Park, exhibited Spathoglottis Zebrina (Fortunei × plicata), with graceful erect spikes of bloom.

Messrs. Sander and Sons, St. Albans, showed Lælio-Cattleya Phœnix, Catasetum macrocarpum, and Angræcum infundibulare.

Messrs. Swan and Price, St. Albans, exhibited Cypripedium Swanii (bingleyense × Swanianum), with a broad dark dorsal; C. Olga Bagshaw, C. W. R. Lee, and C. Schillianum. A good variety of Cattleya Hardyana was also shown.

Awards of Merit.

Lælio-Cattleya Geo. Woodhams (C. Hardyana × L. purpurata), from Messrs. Armstrong and Brown, Tunbridge Wells.—A very useful and beautiful hybrid of free-flowering nature. Sepals and petals bright mauve-purple, the broad labellum claret-crimson, with gold veining.

Odontioda Seymouræ "Orchidhurst var." (Charlesworthii × Bradshawiæ), from Messrs. Armstrong and Brown.—A very fine result. The broad segments of an intense vermilion-scarlet, the crest yellow.

Cultural Commendations

To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., for a well-flowered Zygopetalum maxillare and for a grand specimen of Zygopetalum maxillare Sanderianum.

To Mr. G. B. Lees (gr. to E. de Quincey, Esq., Oakwood, Chislehurst) for Bulbophyllum Medusæ, a well-grown specimen with 17 flower spikes.

September 23rd, 1913.

Members of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Sir Harry J. Veitch, Messrs. R. G. Thwaites, F. J. Hanbury, A. McBean, T. Armstrong, C. H. Curtis, W. Cobb, J. Charlesworth, J. Wilson Potter, W. H. Hatcher, J. Cypher, J. E. Shill, H. G. Alexander, A. Dye, W. H. White, S. Flory, W. Bolton, C. J. Lucas, R. A. Rolfe, and Gurney Wilson.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an attractive exhibit, including Epidendrum vitellinum autumnale, the pretty Oncidioda Charlesworthii, good varieties of Lælio-Cattleya callistoglossa, and a strong plant of the rare Angræcum infundibulare.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a group of autumn-flowering hybrids, the best being Lælio-Cattleya Phœnix, Brasso-Cattleya Mrs. J. Leemann, and Miltonia St. André. The scarce Angræcum Eichlerianum and the new Odontonia MacNabianum (Edwardii × Bleuana) were also shown.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Flora Medal for a fine exhibit of Cattleya hybrids, C. Suavior (Mendelii × intermedia) and C. Marquis de Wavrin being well represented. Lælio-Cattleya Cantiana (C. Harrisoniæ × L.-C. Geo. Woodhams) was a new hybrid of special merit. Cypripediums were another feature.

H. S. Goodson, Esq., Fairlawn, Putney, was awarded a Silver Flora Medal for a very pretty exhibit of various species and hybrids, the latter including Cattleya Iris and C. Venus, "Goodson's variety." Numerous examples of Lælio-Cattleya bletchleyensis, Odontoglossum Rolfeæ, and good Cypripediums were also shown.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for a group containing several excellent forms of Cattleya Hardyana, a dark variety of C. Thurgoodiana, the pure white Brasso-Cattleya Queen Alexandra, various Cypripediums, and Cattleya iridescens. Distinct forms of Cattleya aurea were also shown.

Messrs. J. Cypher and Sons, Cheltenham, secured a Silver Banksian Medal for a pleasing exhibit, in which were the handsome

Habenaria Susannæ, the curious Bulbophyllum grandiflorum, Miltonia Phalænopsis, Oncidium incurvum album, and excellent Cypripediums.

R. G. Thwaites, Esq., Chessington, Streatham Hill, was awarded a Silver Banksian Medal for a very attractive exhibit of Cattleya Iris and Adula, both having dark purple labellums, which made a pleasing contrast to the buff-yellow sepals and petals. Cattleya Roupelliana (superba × Hardyana) was represented by an excellent dark form.

W. R. Lee, Esq., Plumpton Hall, Heywood, exhibited Cypripedium Niobe Leeana, a large flower with the dorsal sepal flushed with rose-purple.

W. Cobb, Esq., Normanhurst, Rusper, staged Cypripedium villoso-Rothschildianum, a large plant with four flowers, quite intermediate between both parents.

George Bird, Esq., Manor House, West Wickham, Kent, exhibited Cattleya Freya var. Miss Willis (Mantinii × aurea), with bright rich purple flowers, the lip broad and veined with gold.

Mrs. Temple, Leyswood, Groombridge, showed Cypripedium Ashburtoniæ, a specimen plant with 43 flowers.

Messrs. Mansell and Hatcher, Rawdon, showed Odontioda Joan, Rawdon varicty, a reddish-scarlet flower with rose tint on the edge of segments, the lip yellow-brown.

E. H. Davidson, Esq., Twyford, exhibited the elegant Odontoglossum Woodroffeæ, O. Ceres, O. Twyford Gem, the pretty Sophro-Cattleya Doris and S.-C. Blackii, the latter a particularly large and beautiful flower, quite the best form so far seen.

Awards of Merit.

Lælio-Cattleya Amada (L.-C. luminosa × C. fulvescens), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—A broad flower with buff-coloured sepals and petals, the large labellum crimped at the margin, and with bright purple mottling

Cattleya Cybele, Davidson's variety (Gaskelliana × Lueddemanniana), from E. H. Davidson, Esq., Twyford.—A large flower of light rose tint, the lip having a centre blotch of violet-purple.

Cultural Commendation

To Messrs. Armstrong and Brown, Tunbridge Wells, for an elegant specimen of the Peruvian Oncidium corynephorum with a trailing spike of 35 flowers.

MANCHESTER ORCHID SOCIETY.

August 21st, 1913.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, E. H. Davidson, A. G. Ellwood, A. Hanmer, A. J. Keeling, D. McLeod, W. Shackleton, H. Thorp, Z. A. Ward, G. Weatherby, A. Warburton, and H. Arthur (secretary).

A Silver-gilt Medal was awarded to R. Ashworth, Esq., Newchurch, for a good group of Odontoglossums, Cattleyas and Cypripediums.

A Silver Medal was granted to A. Warburton, Esq., Haslingden, for a fine group of Cypripediums; and to the Rev. J. Crombleholme, Clayton-le-Moors, for choice Cypripediums.

Mr. D. McLeod, Chorlton-cum-Hardy, staged Odontoglossum crispum "Reine Blanche," and Mr. J. Birchenhall, Alderley Edge, exhibited Cypripedium Mars.

First-class Certificates.

Odontoglossum Woodroffeæ (Rossii rubescens × Queen Alexandra), the best of all the Rossii hybrids; and Cattleya Harrisonæ alba, a fine form of the albino type, from E. H. Davidson, Esq.

Odontoglossum crispum virginale "Ashlands var.," well-formed flowers of good substance, from R. Ashworth, Esq.

Award of Merit.

Cypripedium Muriel Hollington, a pleasing variety with large flowers, from the Rev. J. Crombleholme.

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NOTES.

HONOUR FOR BELGIAN ORCHIDISTS.—M. Emile Duchesne, of Watermael, Belgium, has been promoted to the rank of Officier du Mérite Agricole de France; and M. Georges Lanthoine, his partner, has been appointed Chevalier of the same order. M. Duchesne has explored the Congo State for new Orchids, and M. Lanthoine has travelled in Colombia with the same object. Many excellent exhibits have been staged by them at the principal shows.

PROFESSOR BATESON.—Professor William Bateson, M.A., F.R.S., who has been chosen as President of the British Association for the Congress to be held next year in Australia, is director of the recently established John Innes Horticultural Institution at Merton Park, Wimbledon, Surrey. Born in 1861, and subsequently educated at Rugby School, where he held the Balfour Studentship from 1887 to 1890, he received the Darwin Medal of the Royal Society in 1904, and was Professor of Biology at Cambridge in 1908-9. The last Genetic Conference of the Royal Horticultural Society, July, 1906, was held under his presidency.

CHANGE OF ADDRESS.—Miss M. Walters Anson has recently removed to "The Studio," 91, Lewin Road, Streatham, where all communications should be addressed in future.

A NEW COMMITTEE.—Owing to the fact that the work of the Royal Horticultural Society's Orchid Committee mainly consists of awarding Medals and Certificates, many questions of a technical nature, which from time to time arise in connection with its work, remain unsettled.. In order to overcome this difficulty Messrs. J. Gurney Fowler, de Barri Crawshay, R. A. Rolfe, and Gurney Wilson have been nominated as members of a new committee, which will meet, as necessity arises, to consider the points at issue.

POLLEN THIEVES.—Messrs. McBean, of Cooksbridge, have recently lost a considerable amount of pollen, and first investigation gave no satisfactory clue to the means by which it had disappeared. Several hundred flowers were attacked during the course of a few days, and although a careful watch was kept, and all the doors securely fastened, yet the pollen continued to disappear. One remedy only remained, and that to guard the actual plants by close vigilance. This proved successful. It was not long before numerous mice appeared on the scene, and quickly climbed to the tops of the plants in order to secure the pollen. Not content with securing all they could obtain from the open flowers they next visited the largest buds, and by breaking through the segments were able to extract the pollen. Since the capture and due punishment of the mice no further loss of pollen has been experienced.

MESSRS. STUART LOW AND CO.—During the past year the extensive stock of Orchids belonging to Messrs. Stuart Low and Co., has been removed from Bush Hill Park to their new branch establishment at Jarvisbrook, Crowborough, Sussex. The new nursery is situate some eight minutes' walk from Crowborough station; further particulars will be found in our advertisement columns.

AUTUMN ORCHID SHOW.—The Council of the Royal Horticultural Society have decided to postpone the intended Orchid Show until another year, probably 1914. We have received numerous enquiries as to the date on which it was expected to be held this year, and one and all will be greatly disappointed on hearing that it will not take place. Considering the great success of last year's exhibition, and the large number of visitors which it attracted from the northern counties and abroad, it is sincerely to be hoped that the Council will not fail on another occasion to allow Orchidists the same privilege as is allowed fruit growers and other sections of horticulturists. These enthusiasts all have their annual exhibition, and it seems only fair that Orchidists who support the Society throughout the year by staging groups should also be considered. A suggestion has been put forth that the ordinary fortnightly meetings are too valuable to be given up to one section of the Fellows, but we are quite sure that if Orchidists are given the chance of making an exhibition on a date specially set apart for them they will not fail to take every opportunity of ensuring success to the enterprise.

REJECTED CYPRIPEDIUMS.—The Manchester Orchid Society has an arrangement which in many ways may be considered excellent, inasmuch as it tends to encourage exhibitors to include meritorious plants in their groups. Plants which have been certificated during previous years may be shown again and receive Confirmed Awards, to which half the usual number of points are allowed towards the various competitions. Time, however, has proved that many Cypripediums are now unworthy of this honour, so the Society has wisely published a list of about 170 kinds, which have been rejected for future Confirmed Awards.

BULBOPHYLLUM LOBBII.—A grand specimen plant of this species, bearing between 40 and 50 flowers, is the subject of a photograph received from Mr. D. Schaap, Jnr., of Kandangan, Madioen, Java. This species was discovered by Thomas Lobb, when collecting in Java, and first flowered in England in the year 1846. It was described by Dr. Lindley in the *Botanical Register* of 1847, with the remark: "We have named this fine plant after Mr. Lobb, whose zeal and ability, as a botanical collector, are beyond all praise, and whose dried specimens are unrivalled for beauty and admirable selection." The movable lip is so perfectly balanced that the least wind causes it to swing backwards and forwards. Any insect alighting on this organ causes it to hang in a downward position, but as soon as the insect crawls towards the upper portion the balance is upset, with the result that the insect is thrown violently into the part of the flower where the stigma and pollen are situated. Such a contrivance as this can only be designed by nature to assist fertilisation. The flower spikes carry single blooms, about four inches in diameter, of a yellow colour, the sepals and petals marked with lines of small purplish red spots. The back portion of the segments is heavily spotted with the same colour. A variety known as siamense was considered by Reichenbach to be a separate species, but the only difference appears to be in the leaves, which are considerably longer. A variety known as Henshallii has much smaller flowers, and of paler colour. It was imported by Messrs. Rollisson, of Tooting, from Java, through their collector, John Henshall, and first flowered in the spring of 1849. A third variety, with much larger flowers, is known under the name Colossus, and flowered in the Royal Botanic Gardens, Dublin, during the year 1895.

An Albino Result. — Mr. Chas. J. Phillips, of The Glebe, Sevenoaks, has recently flowered an albino form of Cattleya Rhoda, the sepals and petals being creamy-white, the lip flushed with rose, and streaked with yellow on each side of the isthmus. This hybrid Cattleya is the result of crossing C. Iris and C. Hardyana, so it contains both yellow and light purple colours, which when suitably combined are believed to produce albino results.

Epidendrum vitellinum autumnale.— During the last month this very bright orange-red flowering species has been making an attractive feature in many collections, and judging by the flower spikes with their numerous buds as yet unopened there will be a continuation of bloom for several ensuing weeks. There are few Orchid flowers that will keep fresh in water so long as these do; a month is quite the usual period for spikes which have not been left on the plant for too long a time. The autumnal variety is quite distinct from the spring-flowering form, and comes from the Pacific side of Central America. The imported bulbs have an extended nature, somewhat resembling a flask, the upper part tapering almost to a point. This, however, rapidly changes in the new bulbs made under cultivation, which are globular and much larger. The spring-flowering form invariably has the imported bulbs of globular shape, but they never have the vigour, nor do they grow as large as those of the autumnal variety. The constitution of the spring-flowering form is very poor, so much so that it is rarely seen in healthy condition in any collection. As a matter of fact, several growers have given up its culture as being unprofitable, while in not a few instances it has entirely failed to make headway. Such, however, is not the case with the autumn-flowering variety, which has remarkable vigour and is of a very floriferous nature. The plants are easily propagated by dividing strong established pieces. Imported plants are not brought to perfection under three years, and for that reason the amateur would be well advised to purchase only established plants; that is, of course, supposing he requires many-flowered spikes without unnecessary delay and trouble.

Registration of Hybrids.—Referring to the proposal of the Royal Horticultural Society that a Hybrid Orchid Register be established (see page 9 of October issue), without doubt some central authority should take in hand the naming of hybrids, and even varieties. Confusion upon confusion is already on us, and what it will be even in the near future one dreads to think of. Take an example. I name one of my crosses Black Prince. Six or nine months afterwards someone else does the same, neither of us having any knowledge of the other's doing. Neither of us can be accused of doing anything wrong under the present condition of affairs, and yet the result is confusion. Another instance of the same cross having been differently named by different raisers occurs to my mind, but I don't think I need labour the point that the present system is a poor one, and ought, if possible, to be amended. I say "if possible," because since one began to investigate the matter it appears much more difficult than at first glance. To begin with, the Royal Horticultural Society, in my opinion, should tackle the job, and it ought to be done somewhat on the following lines:—No name to be recognised unless certified by voucher from the central authority, who would, I suppose, charge a small sum for registering same. But then the difficulties begin. Would the plant bearing the flower always have to be sent to them? This would be both expensive and risky, especially in winter time, and would the owners take this trouble? Of course, a voucher from the authority would be valuable, and make the plant, I should think, of more value, and this might perhaps compensate. Anyway, these, and no doubt other questions, want thinking about and thrashing out before any action is taken. But surely it should not be beyond the wit of man to devise some scheme to reach the point aimed at.—*Richd. Ashworth, Newchurch, Near Manchester.*

Importation of Orchids to America. —The Horticultural Board, Washington, has ruled that Orchids are included in the definition of nursery stock, and cannot, therefore, be imported without a certificate of freedom from disease. The importation of plants by post has been prohibited by the United States Government.

Orchids at Hounslow. — Miltonia spectabilis grows exceedingly well with me. It gets plenty of light, moisture, and air; in fact, Cattleya requirements suit it. Each bulb makes two breaks every year. With reference to growing too many kinds of plants in the one house. I have about 400, including Odontoglossums, Lælias, Cattleyas and their hybrids, Cypripediums, cool and warm, Dendrobiums, Cymbidiums, Phalænopses, Calanthes and Vandas, and every one is doing well. It seems to be entirely a question of finding suitable positions for the plants. Odontoglossum crispum I do not put myself out to cultivate, but notwithstanding the fact that a warm sunny day will run the house temperature up to 95 degrees, they thrive, making good bulbs, stiff leaves, and plenty of bloom. The house is frequently without any attention during the greater part of the day, and I often think that the dry atmosphere, comparatively, is more natural.—*Henry R. Sterrett*, "*Elgin*," *Alexandra Road, Hounslow.*

THE MAKING OF A CRISPUM.

I have written and said at various times a great deal hereon, but I think I have not previously written upon the form known as crispum roseum. For a long time past the rose colour was somewhat more unexplainable than the blotching, but I had no doubt that it was also the ultimate result of hybridity.

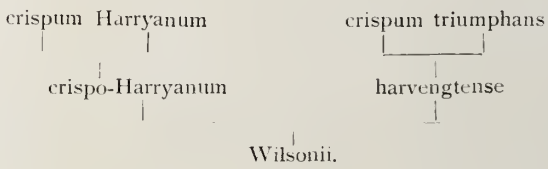
I have now in bloom a seedling raised upon a fine round white form crossed by crispum Crawshayanum (which is a heavily blotched open form; its blotches cover two-thirds of its area). Neither of the parents have any rose in the ground of the petals, but this seedling is distinctly rose shaded all through the area where are the big blotches of the pollen parent, and on the backs of the petals is tracery in the veins of the form of the blotch.

The sepals have a small "Bonnyanum" spot with a good deal of rose on the backs. The lip is white like those of both parents, but has the usual blotch. In form it is fine and oblong, whereas that of the pollen parent is very long and spear shaped. The column head and wings are very deep burnt sienna-crimson.

There seems no doubt that the rose in a crispum is the result of the degradation of the blotches, but how the deep brown of luteopurpureum and Lindleyanum became *rosed* is matter for further investigation. Sunlight appears to do it, but the chemist can help us hereon.

de B. Crawshay, October 11th, 1913.

ODONTOGLOSSUM WILSONII.



A plant bearing this name and parentage was raised at Walton Grange and shown at the Manchester Orchid Society, January 19th, 1911. I have lately bloomed one of the same parentage, and a more remarkable case of a hybrid being "half and half" of each parent I have rarely seen.

The sepals and petals are those of harvengtense, deep yellow, blotched, as usual, with dark brown, the only deviation being some purplish-brown shading at the bases of the petals. The lip is that of crispo-Harryanum, but more pointed, light cream-yellow, spotted at the sides, having a small purplish-brown blotch in the centre. The crest and channel are those of harvengtense, slightly modified, the column almost that of Harryanum.

de B. Crawshay, Rosefield, October 22nd, 1913.

ORCHIDS AT MILLFIELD, GRIMSBY.

AN interesting collection of Orchids has been formed by Mr. R. Leslie Cook, at Millfield, Grimsby, where several excellent examples of plant cultivation may be seen. The stove house is 12 feet in length and contains various kinds of Aerides, Saccolabiums and Phalænopses. The Cattleya house is 18 feet in length, and in it a very general collection of species and hybrids suitable to the temperature is cultivated. There is also an intermediate house some 12 feet long, and a cool house of equal size.

The necessary attention, including potting and watering the plants, and stoking the fire, is managed entirely by Mr. Cook and his brother, who obtain considerable success, as

Odontoglossum citrosmum.

Burlingtonia fragrans.

is proved by the two reproduced photographs of Odontoglossum citrosmum and Burlingtonia fragrans, both of which plants have been cultivated by them. The Burlingtonia has been grown in the Cattleya house, where it obtains an atmosphere similar to that of its native home in Brazil. The flowers are deliciously fragrant, the perfume resembling that of the hawthorn. A very pleasing variety of Brasso-Cattleya Digbyano-Mossiæ, and a strong plant of Cypripedium Fairrieanum bearing twin-flowered spikes, are the subjects of two other photographs.

The plant of Odontoglossum citrosmum produced four good flower spikes, two on each of the two new growths. This species was first imported by Mr. George Barker, of Birmingham, from Mexico, and given to Mr. Thomas Brocklehurst, who exhibited it at one of the meetings of the Horticultural Society at Chiswick in 1842 The beautiful pendulous nature of the flower spikes caused it to be the chief attraction of the show.

In the year 1843, Dr. Lindley figured it in the *Botanical Register*, with the following interesting note: "Although such plants as this seem as if they weakened the genus

Odontoglossum, on account of their similarity in habit to Oncidium, yet in truth they rather confirm that genus by showing that although the appearance of Oncidium may be assumed, yet the main points of structure remain unaffected One of the most important of these points is the partial parallelism of the base of the labellum with the column, and the presence of a pair of parallel raised plates at that part. This occurs in the original Odontoglossum, and runs through all the numerous species, published and unpublished, with which I am acquainted; and it does not occur in any Oncidium."

NOMENCLATURE OF ALBINOS.

THE albino varieties of Cattleyas, both species and hybrids, may be divided into two sections, the first including those having entirely pure white flowers, of course not counting the yellow in the throat, and the second comprising the flowers with white sepals and petals, but with a coloured labellum.

In Cattleya Mossiæ we have two well recognised types of albinos, known respectively as Wageneri and Reineckiana, the former being the true albino, the latter having a coloured labellum. It is, however, somewhat strange that while in nearly every other species the pure white flower is termed alba, we should in this instance use the word Wageneri. No doubt the original white form of Mossiæ received this name, and it has ever since been applied to every other white variety of the species, although, as almost everyone knows, the various plants in cultivation are mostly different, and not divisions from the one original. It would much simplify matters if the word alba were brought into use, as with other species, and in that case Wageneri would become a varietal name of the albino form. Hassall's variety, Sanderæ, and superba are all certificated albino forms of equal importance to Wageneri, and, therefore, should not really be described as varieties of it.

With regard to the coloured lipped varieties known as Reineckiana, we have in this varietal word a generally understood meaning that the flower is not white in all its segments. It is a word which Orchidists interpret as "colour in the labellum," although, at the same time, the sepals and petals may be absolutely pure white. We thus see that the two distinct albino varieties of Mossiæ have been separated into two well-known and easily recognised sections, the one as Wageneri, the other as Reineckiana.

Now let us pass on from species to hybrids. During the last few years many very beautiful albino results have been produced, and these, like the species, require separating into two sections. The alba section should only include those which have all their segments pure white, the following being a few examples:—Cattleya Dusseldorfei Undine (intermedia alba × Mossiæ Wageneri), C. Ashtonii (Harrisoniana alba × Warscewiczii), Mrs. Myra Peeters (Gaskelliana × Warneri alba), and C. Suzanne Hye de Crom (Mossiæ Wageneri × Gaskelliana alba).

There are many flowers in which the purple tint is so very weak that they appear to belong more to the albino than to the coloured section, and there is no doubt that many such tinted flowers have been recorded as alba, thereby causing considerable trouble, both scientific and commercial. All these tinted varieties, however small the amount of coloration may be, should be placed under the term albescens, a word which has long been in use, even by the great Orchidologist Dr. Lindley, who, in his "Introduction to Botany, 1832," gives the meaning as "turning white, changing to a whitish cast from some other colour."

We must now consider the flowers, more especially hybrids, which have white sepals and petals, yet coloured labellums. Examples are numerous and include C. Hardyana alba, C. Maggie Raphael alba, L.-C. Canhamiana alba and L.-C. Wellsiana alba. These, as everyone knows full well, are not white in all their segments, and on that account are not entitled to the word alba.

During the present year many of these hybrids have appeared before the Orchid

Committee of the Royal Horticultural Society, and in nearly every instance they have been described as alba. Several members of the Committee have recently come to the conclusion that this is a matter requiring supervision, with which we quite agree. As an example of the point at issue, we may mention C. Hardyana alba, with either white or cream-coloured sepals and petals and a crimson-purple labellum. Now it has been suggested, and there is a certain amount of truth in the statement, that no one will ever produce a true alba form of Hardyana, for the reason that all the varieties of C. aurea so far seen have coloured labellums, therefore, the name alba may just as well be applied to the purest albino flower that it will ever be possible to produce. But true as this may be to-day we cannot tell what the future will bring. At one time no one ever expected that an albino variety of C. Warscewiczii would be discovered, yet we now have this in more than one good plant.

This reasoning may be equally applied to all hybrids of which C. aurea is a parent, but there are other hybrids in this section which will certainly be produced in pure albino form, consequently the term alba must be reserved for these all-white varieties.

From the foregoing remarks one can only arrive at the conclusion that a new term is required for varieties having pure white sepals and petals and a coloured labellum, for they are neither entitled to the word alba, nor can they be classed in the somewhat inferior albescens section.

A suitable word appears to be albida, meaning whitish, which has for long been associated with Lælia albida, a Mexican species having white sepals and petals, but a coloured labellum.

The following example will make the suggested arrangement quite clear:—Cattleya Enid, a hybrid produced by crossing Warscewiczii and Mossiæ; C. Enid albescens, a very light tinted variety, not pure white; C. Enid albida, with pure white sepals and petals, but a coloured labellum; C. Enid alba, the true albino flower, all the segments absolutely pure white.

CATTLEYA MOSSIÆ AND C. HARRISONIANA.

It would be almost impossible to discover an Orchid collection which did not contain several representatives of these beautiful spring and summer-flowering Cattleyas. There may be one or two amateurs who, by specialising entirely in cool house Orchids, have not any plants actually under their care, but these individuals, like many of the admiring visitors to the great shows, are fully acquainted with the decorative value of both species.

One of the most interesting of present-day facts concerning C. Mossiæ is that the collection of Mrs. Moss, of Otterspool, near Liverpool, in which it first flowered about the year 1838, has ever since been maintained, first by her son Sir Thomas Moss, and subsequently by her grandson Sir John Edwards-Moss, Bart., of Roby Hall, Torquay. In Warner's celebrated work the *Orchid Album*, 1882-93, Mrs. Moss is referred to as one of the earliest Orchid growers, while Messrs. Veitch, in their *Manual of Orchidaceous Plants*, 1887-94, state "the Orchid collection at Otterspool is still maintained by her son. Sir Thomas Moss, it is thence one of the oldest in the country." Although it is probable, but by no means certain, that the original plants actually owned by Mrs. Moss are not now in existence, the fact remains that the present collection is one of the oldest in the country.

C. Mossiæ was figured in the *Botanical Magazine* of 1839, with the following description by Sir Wm. J. Hooker:—"We wish our plate could do justice to this most magnificent of all Orchideous plants. The flowers are very considerably the largest yet known in any of this superb family; the colour is equally striking, with which no art of the pencil can attempt to vie, and we may add that the fragrance is most powerful, resembling that of Gymnadenia conopsea, but it is much stronger. I am indebted to the kindness of Mrs. Moss, of Otterspool, near Liverpool, for the noble specimen here figured, which was accompanied with a folio

sketch of the entire plant from her pencil; and I know of no name more appropriate for it, as suggested by my friend Mr. Parker, than that of the lady in whose stove it has, by the care of her skilful gardener, Mr. James, been brought to such high perfection. This is the third lady of Liverpool who has taken advantage of the commercial facilities of that flourishing town, and, by its intercourse with the New World, to import from thence its most beautiful botanical productions. The present plant was introduced through the medium of Mr. George Green, of Liverpool, in September, 1836, from La Guayra, a country which, were it probably investigated, would amply reward a collector by many other novelties."

The two other "ladies of Liverpool who took advantage of the commercial facilities" were Mrs. Horsfall and Mrs. Arnold Harrison. In those days there was a very large West Indian trade in Liverpool. The Gladstones, Moss's, Tinnés, Sandbachs, Harrisons, and many others, were all owners of sugar estates in Demerara, and no doubt captains of the ships brought home tropical plants as presents to the flower-loving wives of owners. Owing to the comparatively slow journey but few plants survived, and even these were not all successfully established. Still, a few survived, and Cattleya Mossiæ was one.

Mrs. Arnold Harrison, of Aigburth, Liverpool, received, in 1823, from her brother at Rio de Janeiro a plant of Bifrenaria Harrisoniæ, which Hooker figured in his *Exotic Flora*, from a drawing made by Mrs. Harrison, and remarking that he could not do better than honour it with the name of an individual who had not only introduced it, but many other new and rare plants, to our gardens, and who cultivated them with great success.

Mrs. Harrison's name is perhaps best commemorated by Cattleya Harrisoniana, first recorded in the year 1836, and figured two years later in *Paxton's Botany* with the following interesting account:—"Among cultivators of Orchideæ, this superb plant has long been known as Mrs. Harrison's variety, having been considered merely a variety of the well-known species C. Loddigesii; but after repeated observations on these two plants when both in a high state of flowering, we feel satisfied that we have not done wrong in considering it in the light of a distinct species, and therefore have named it in compliment to the late Mrs. Harrison (the name it has gone under as a variety), of Aigburth, Liverpool. The points wherein these two plants differ have been for such a length of time so perfectly constant, that the greatest reliance may with safety be placed upon them. They are chiefly to the following effect:—The stems of C. Loddigesii are more rounded, invariably stronger, and shorter than those of C. Harrisoniana, which always appear more delicate, are less bulky, and five or six inches longer; in the leaves also there is a striking difference, those of the former being firmer, broader, and always of a darker texture; but perhaps the most obvious disagreement will be found in the flowers, for while those of the former have the sepals and petals considerably reflexed downwards, and freckled as it were over every part, except the lip, with small dark purple spots, those parts of the latter are scarcely at all bent, and entirely free from spots. In a word, so strikingly different is the aspect of these two plants, even when not in flower, that anyone seeing them side by side would not for a moment question the propriety of considering them distinct species upon the grounds set forth above.

"When the plant from which our drawing was taken was in full flower in the Orchideæ house at Chatsworth, in the autumn of the present year, we must say that there are few known vegetable displays that could surpass it in beauty, the colour being almost inimitable; it is second only to the noble plants of C. labiata in the collection of Earl Fitzwilliam, at Wentworth, when in their greatest gaiety, with from twelve to sixteen large dazzling blossoms. The plant this season has made no less than twelve good shoots, nine of these have flowered mostly with five good blossoms, which remained more or less perfect for upwards of two months."

Lælio-Cattleya Martinetii "The Prince," a beautiful specimen in the Westonbirt collection.

LÆLIA TENEBROSA AS A PARENT.

THE rapid advance made by hybridists in the production of secondary and tertiary hybrids allows one to form some opinion of the immense number of hybrids that will have to be recorded in the future. There is a general desire among hybridists, more so with the amateur section, to combine as many species as possible, no doubt with the belief that the greater the amount of varying specific characters they can unite in their hybrid so much the better will it be. But older and more experienced hybridists are well acquainted with the fact that the name, however long and multiple it may be, by no means assures the raiser that all the species mentioned in the parentage will be represented in either the plant or the flower.

The successful hybridist of the present day carefully considers the parental characters before deciding upon any definite cross. In this matter he has considerable advantage over the early workers in the same field. Much has been learnt since the days of Dominy, who, although securing several excellent results, had no idea of the immense variation in colour which could be obtained in Orchids.

Lælia tenebrosa has been very successfully used in creating hybrids of varying bronze tints. The flowers of this species are so different to the usual type of mauve and purple colours that one sometimes wonders why they have not been still more appreciated by the hybridist. In Lælio-Cattleya

Lælio-Cattleya luminosa "Canary," a distinct variety, with canary-yellow sepals and petals. Raised by Mr. H. G Alexander, in the Westonbirt collection.

Martinetii, the result of crossing L. tenebrosa with C. Mossiæ, we have one of the finest results from the use of this Lælia. Our illustration shows an excellent specimen flowering in the Westonbirt collection. The variety is that known as The Prince. Although the labellum is purple there is little of this colour to be seen in either the sepals or petals, which are rich bronze with varying tints of orange-red.

Of equal value from a decorative standpoint is L.-C. luminosa, a well-known hybrid between L. tenebrosa and C. aurea. This, also, is quite distinct in coloration; the purple tints, so common in other hybrids, being almost absent in the sepals and petals. A further advance took place in the production of L.-C. Mrs. Donald MacMaster (aurea × luminosa), shown by Mr. F. Wellesley, September, 1912.

In the Walton Grange variety of L. tenebrosa we have an albino form with citron-yellow sepals and petals. Although this variety has been known for more than twenty years, it is only recently that we have seen evidence of its great value as a parent plant. Our reproduced photograph shows L.-C. luminosa "Canary," a beautiful hybrid raised by Mr. H. G. Alexander in the Westonbirt collection, and resulting from L. tenebrosa "Walton Grange variety" crossed with C. aurea. The sepals and petals are canary-yellow, the labellum with reddish-purple markings.

Another meritorious hybrid is L.-C. La France, first flowered by Mons. Mantin in 1898. It is the result of crossing L. tenebrosa with C. bicolor, the influence of the latter species proving very helpful in maintaining an erect position of the petals. During recent years Mr. F. C. Puddle, of Scampston Hall Gardens, has raised hybrids between L.-C. La France and C. aurea. These, known as L.-C. scampstonensis, have flowers with a beautiful copper-red colour in the sepals and petals, and bright purple-crimson in the labellum. They make a complete change from those of the labiata type of colour, and have the additional advantage of being very useful to the hybridist for future work in raising distinct types of autumn flowering plants.

CATTLEYA GROSSII.

FROM the time when this plant was first introduced it has always been surrounded by much mystery. In 1897 it was described by Kranzlin as a supposed natural hybrid between bicolor and guttata, the plant having previously flowered in the Royal Botanic Garden, St. Petersburg.

On October 15th, 1901, Mr. Tracy exhibited at the Royal Horticultural Society a spike of a supposed hybrid between bicolor and Leopoldii. On November 26th of the same year Messrs. Hugh Low and Co. showed C. Grossii, a supposed natural hybrid from Brazil, much resembling bicolor, but with a trace of spotting on the petals.

Messrs. Low received the importation from Rio de Janeiro, and in due course flowered about 60 of the plants, all of which differed greatly from the typical bicolor. In Grossii the lip is much larger, with a very broad front lobe, while there are minor differences in the shape of the sepals and petals, especially in the stronger undulations of the latter segments. The colour is darker, being of a coppery or olive-brown.

It has more than once been suggested that Grossii may be a natural hybrid between bicolor and Leopoldii, the occasional spotting on the flower certainly giving one the impression that this latter species was one of the parents. But there are certain facts which seem to prohibit this theory. The first being that an importation of many plants was received, all showing the distinct characteristics in the large labellum, yet we do not hear of any plants of the old type of bicolor or of Leopoldii being found in the same consignment, which one would reasonably expect if Grossii is a natural hybrid between the two.

Then, again, Leopoldii has very prominent side lobes to the lip, which are never present in Grossii, and it would indeed be a strange and almost impossible event for these to be entirely suppressed in the hybrid. From these facts one can only conclude that Grossii is either a distinct geographical form of bicolor, or else a plant worthy of being called a separate species.

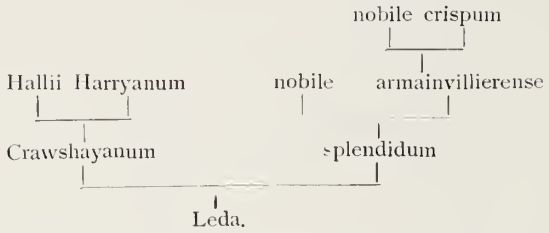
During the last season or so many remarkable hybrids resulting from the use of Grossii have been seen, all of which seem to prove that we must in future regard it as quite distinct from the old bicolor. At the meeting of the Royal Horticultural Society, October 7th, 1913, two superb hybrids came before the Orchid Committee. The first was C. Adula "Glebe variety," exhibited by Mr. Chas. J. Phillips, of Sevenoaks. This was raised from Grossii and Hardyana, the influence of the former parent being remarkable. The immense broad lip and the beautiful glowing colour of the whole flower immediately securing for the plant the high honour of a First-class Certificate. It is undoubtedly the finest variety of Adula ever seen.

The second hybrid was named C. Iris "Prince Arthur," with rich crimson-bronze flowers having broad lips, exhibited by Mr. E. V. Low. This latter plant differed so much from the usual type of Iris that some members of the Committee considered it a very fine variety of Adula, under which name they would have proposed an award, but for the superior "Glebe variety" which had just received a First-class Certificate. Other members, however, stated that they had seen varieties of Iris with similar coloration and with the lip equally well developed, all of which had been created by the use of Grossii, and they were therefore convinced that the plant before the Committee was a hybrid between aurea and Grossii, and consequently could not be an Adula. We thus have good evidence that bicolor and Grossii make two very distinct hybrids when crossed respectively with aurea.

It is interesting to note that the hybrid shown as C. Iris "Prince Arthur" has since passed into Mr. Phillips' collection, and we feel quite certain that if the plant is regarded as distinct from either Adula or Iris, as indeed it should be, then it is well worthy of receiving an award, for it is undoubtedly an exceptionally fine result.

NEW HYBRIDS.

ODONTOGLOSSUM LEDA.



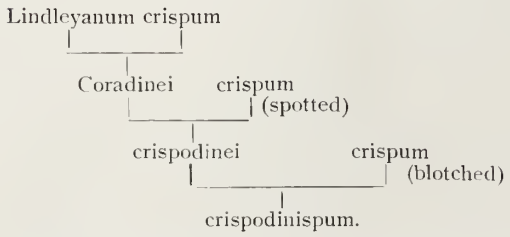
The first plant of this cross to bloom shows a very strong reversion to the preponderating influence of nobile, as would be expected, the ground colour being white with the slightest shade of creamy lightest yellow in it, spotted in a somewhat linear arrangement, caused by Hallii, somewhat heavier in the sepals than in the petals, much in the way of the Crawshayanum which was the seed parent. The lip is oblong, somewhat reniform at the apical half, pure white, having two "eye" spots only.

All spotting on sepals, petals and lip is of a lilac-brown shade, also the result of nobile's spotting. The crest is light yellow and much like those of the secondary Harryanum hybrids. The column is white with deep brown wings.

The form is similar to that of the variety of Crawshayanum that carried the pod, the sepals and petals not meeting at the shoulders. In this case the prepotency of the white ground has proved too strong for the yellow, the reverse generally taking place in the suffusion of the white by the yellow.

de B. Crawshay, October 11th, 1913.

ODONTOGLOSSUM CRISPODINISPUM.



Had this plant bloomed from an importation in the nineties, few would have questioned it being a "pure crispum." Sepals and petals heavily blotched light rosy-brown on a rosy-white ground, lip triangular, almost covered by a light brown shining overlay blotch. Crest yellow, the central keels being strongly divergent (showing the Lindleyanum ancestry). Column mostly white, but having a deep crimson back and some of the same colour running down the lacerate wings.

This cross may be called a step-ladder to making a blotched crispum. The Coradinei used was an average one from an importation. It was crossed by a sparsely spotted crispum; the resulting crispodinei had a *bright yellow* ground with two heavy whorl blotches on sepals, and one large and two small ones on petals. The lip was triangular, with one heavy blotch so often found on Coradinei.

This plant being the first to bloom of the cross we may expect further interesting variation, but it incontestably proves what many of the "blotched crispums" of days past were, viz., hybrids.

de B. Crawshay, October 11th, 1913.

CYMBIDIUM FLORINDA.—This new hybrid between giganteum and erythrostylum has been raised by Sir John Edwards-Moss, Bart., of Roby Hall, Torquay, and is believed to be the first hybrid resulting from the use of the latter species. The plant carried two spikes, one with two, the other with four blooms. The flowers are creamy-yellow, tinged with light brown, and marked with rose-crimson lines, the margin of the lip spotted with crimson-red, the inner portion of the side lobes marked with crimson-red lines, the front lobe yellow, the crimson column having a creamy-white anther cap.

LÆLIO-CATTLEYA XANTHO. — This, the result of crossing L.-C. Ophir and C. Iris, has been raised in the collection of Mr. Richd. G. Thwaites, Streatham. The medium-sized flower has pale chrome-yellow sepals and petals, the side lobes of the labellum marked with lilac.

ODONTONIA MACNABIANA. — A beautiful addition to the Odontonias has been raised by Messrs. Sander and Sons. The parentage

is O. Edwardii × M. Bleuana, and the habit intermediate, although when the plant becomes stronger there will be an increase in the height of the spike. The colour is violet-purple, the lip having a dusky yellow crest around which is a zone of dark purple markings.

LÆLIO-CATTLEYA CANTIANA. — Messrs. Armstrong and Brown have raised this pretty hybrid between C. Harrisoniæ and L.-C. George Woodhams. The flower is of good substance and shape, the lip openly displayed and effectively marked with bright purple spots round the outside edge.

CATTLEYA WILLIAM SMITH.—C. Thayeriana (intermedia × Schröderæ) and C. Gaskelliana are the parents of this new hybrid recently raised by Messrs. Sander and Sons. The combination of these three species should make a useful summer flowering plant.

LÆLIO-CATTLEYA SANDHURSTIANA.—The large flower of this hybrid has light buff sepals and petals, the broad and open labellum with a wide purple band round the margin, the centre and throat gold. Raised by Messrs. Armstrong and Brown.

ODONTIODA MINERVA. — This pretty hybrid between Odontoglossum Edwardii and Odontioda Bohnhofiæ (C. vulcanica × O. cirrhosum) has been raised by Messrs. J. and A. McBean. The branching spike carried numerous flowers of bright crimson colour, the crest on the lip being bright gold.

ODONTIODA BRUNETTE.—A very remarkable result obtained by crossing Odontioda Bohnhofiæ with Odontoglossum Harryanum. The flower may best be described as blackish-crimson in colour, and is probably the darkest hybrid yet produced. Raised by Messrs. Charlesworth and Co.

BRASSO-CATTLEYA IRIS.—A very distinct hybrid between C. Iris and B.-C. Thorntonii. The large flower bright rose in colour, with the lip purplish-rose, the disc pale yellow. Raised by Messrs. J. and A. McBean.

BRASSOCATTLÆLIA ERIC.—A very large flower of light mauve colour, the parents being B.-C. Mdme. Chas. Maron and L.-C. C. G. Roebling. Shown by Messrs. Flory and Black at the Royal Horticultural Society, October 7th, 1913.

ODONTIODA SEYMOUR.E.—This new hybrid was raised by Messrs. Armstrong and Brown, Tunbridge Wells. The parents are Odontioda Charlesworthii and Odontioda Bradshawiæ, the plant thus having a large amount of the red influence, and being very suitable for future hybridisation.

ODONTOGLOSSUM DIOSCORIDES. — By crossing crispo-Harryanum with Ruckerianum this pretty hybrid has been flowered in the Rosslyn collection, where it was raised by Mr. Thurgood. It may be considered a greatly improved Ruckerianum, the whole batch of seedlings being very regular in the coloration and markings of the flower.

RARE ORCHIDS AT THE GLEBE, SEVENOAKS.

ONE of the most promising collections, and indeed one of the healthiest, is that owned by Mr. Chas. J. Phillips, of The Glebe, Sevenoaks. Only the finest varieties are cultivated, many of which are now carrying seed pods, some for the second and third time. The production of superior hybrids is the main object, and the large number of seedlings already raised shows that much of the initial work has been accomplished in a successful manner.

An interesting plant is Cattleya labiata cœrulea, originally in Sir Fred. Wigan's collection. This variety has a bluish blotch of colour on the lip, and the other segments are distinctly tinted with the same colour. The flower has been self pollinated, the intention being to accentuate this colour in the next generation. C. labiata "King George V." is a very large and dark variety, and C. labiata alba is entirely white in the labellum. There is also a good plant of C. labiata Mrs. G. B. Wilson.

C. aurea The Glebe variety and C. Trianæ The Premier are two beautiful species which seem certain to carry forward their good qualities into the next generation. C. Harrisoniana alba and L. pumila alba are

both high-class albinos. One of the largest plants of C. Dowiana Rosita is in this collection. It has eight strong bulbs.

A very dark variety of C. Loddigesii has just been added to the collection; this species and the closely allied C. Harrisoniana make most useful parents when thick texture and erectness of petals are required. C. Fabia alba, in several varieties, and C. Lord Rothschild, one of which has received an Award of Merit, have recently been in flower. Needless to remark, these fine flowers were quickly used for further hybridisation.

In the Lælio-Cattleya section mention must be made of L.-C. Orion, which has been honoured by a First-class Certificate; L.-C. George Woodhams, a very distinct form with much yellow colouring on the lip; and L.-C. bletchleyensis The King, the latter from the well-known Müller-Abeken collection.

In the Odontoglossum house may be seen the certificated plant of O. Uro-Skinneri album, and also the fine form known as splendens. O. Georgius Rex, which received an Award of Merit at the last great Chelsea Show; O. Theodora (Rossii rubescens × triumphans), a rare hybrid which obtained a First-class Certificate, April, 1909; and O. grande Pittianum, an albino form of the species, are only a very few of the choice plants in The Glebe collection. Odontiodas include Bradshawiæ Cookson's variety, and the very distinct form of Madeline (Charlesworthii × crispum) known as Prince of Orange; the flowers are orange-red in colour.

This collection is in every way arranged on model principles. The seedlings are placed in groups according to their various sizes, and additional houses have already been planned for erection as soon as more space is required. All the practical part is under the care of Mr. Bucknell, who carries out his work with praiseworthy attention, as the general good health and condition of the plants fully proves.

Reference to this collection was made in our issue of August, 1912, and its fast growing importance will induce us to again refer to it in the near future.

LÆLIA PRÆSTANS, L. PUMILA, AND L. DAYANA.

BY the use of the above species a very pretty section of Lælio-Cattleyas has been produced, many of which bear extremely beautiful and richly coloured blooms, but owing to these Lælias being dwarf growers, the resulting hybrids are considerably reduced in size when compared to such a plant as L.-C. callistoglossa. However, they flower freely and take up little room, and a few representatives should be included in every Cattleya collection. The following are some of the best:—

Alwyn, præstans × Fabia; Clive, præstans × aurea; Cornelia, pumila × labiata; Epicaste, pumila × Warscewiczii; Kathleen Jones, præstans × Maggie Raphael; Rubens, pumila × Hardyana; Sheila, præstans × Percivaliana; Tydea, pumila × Trianæ; Wilsonæ, Dayana × labiata.

These Orchids require a cooler temperature than that usually afforded Cattleyas, and the coolest end of the Cattleya house is best suited for their accommodation. During the summer months they may be transferred to the warmest end of the cool house. A light position is necessary for their development, the best results being obtained when the plants are suspended a few inches from the roof. Care must, however, be taken that they are never allowed to be scorched by the rays of the sun.

Plenty of air is essential to success, and damp atmospheric conditions whilst in full growth. Throughout their period of activity a fair amount of water will be required, but when at rest only sufficient to keep the compost slightly moist should be given. Care is especially needed during the winter months to avoid over-watering, otherwise the new growths will turn black and probably cause the death of the plant.

These hybrids being comparatively small growers it is harmful for them to have much compost about their roots, hence shallow Orchid pans are best suited for their reception. Re-panning will usually be needed every alternate year, and is best done when

fresh root action takes place after flowering. The compost must be chopped finely, and should consist of polypodium and osmunda fibres, sphagnum moss, and a few small pieces of charcoal to keep the whole sweet. Careful watering is necessary for a time after re-panning.

White scale is sometimes a source of much trouble, clinging with tenacity to the rhizome and under the tissues of the bulbs. Sponging with some approved insecticide is the best remedy.

If the new growths are weak it will be found advisable to remove the flowers as soon as they are expanded. If healthy plants are obtained, and grown with care, they may be relied on to produce their richly coloured blossoms annually. Unflowered seedlings require much care, and amateurs will do well to procure strong plants that will flower during the same year.—

Alwyn C. Harrison.

ORCHIDS FOR AMATEURS.

THE cultivation of Orchids during the dull days of winter is not so difficult a task as one imagines, although it must be said that in those collections situated in the heart of a manufacturing town there is a deficiency of light which often renders the foliage yellowish-green in colour. The cultivator should always endeavour to obtain strong, healthy foliage, and to do this without actually burning the leaves by too much direct sunshine requires careful attention. Well-ripened foliage will withstand much varied treatment during the winter months; consequently the good cultivator need not have much to fear when the unsuitable weather of winter arrives. But there are many collections, as previously mentioned, which are situated in a smoky atmosphere, and on that account have but little chance of obtaining a sufficient quantity of bright light. Plants that are unripened have sickly-looking bulbs, yellowish leaves, and weak, drooping flowers. And, unpleasant to relate, there are many such plants to be seen in amateurs' collections.

Now much can be done to assist these plants in obtaining a healthier nature. In the first place, they often receive the same amount of water as a vigorous specimen, although the amateur seldom considers whether they require it or not. The pot in which they are growing is usually much too large, while the compost rapidly turns sour, and the roots suffer in consequence. How can a plant surrounded by such unsuitable growing conditions be expected to survive even the summer months, much less those of winter?

The most satisfactory treatment consists in keeping the plant in a light, airy position, either suspended from the roof, or placed upon a pedestal, and allowing the compost to become almost dry, only just enough water to prevent the bulbs from unduly shrivelling. In course of time new roots will be formed in order to seek a further supply of nutriment to sustain the plant. This is a sure sign that a favourable opportunity for repotting has arrived. In country places where the winter light is good there is nothing to fear, and the operation may take place at any time, but in smoky atmospheres the work is much better left until the advent of spring weather. There is nothing to be gained in potting plants when no new roots are being made, although in some instances where there is a large number to be done the plants are potted and left without water until new roots make their appearance. If water is given before the roots commence growing there is much likelihood of the compost becoming sour through there being nothing to absorb the water. A light syringing of the foliage will prove quite sufficient to keep the plants fresh.

Orchids are frequently placed in pots which are much too large for their requirements; no doubt the young amateur imagines that the more compost he gives the plant so much the more food will it have to live upon, and a rapid increase of growth is expected. But such will not be the case. All roots must have a chance to breathe. It is the frequent experience of successful cultivators to find that the strongest roots

are those made in contact with the inside of the pot, where they obtain a supply of air through the porous material. The application of water to the compost always carries some of the nutriment to these roots, and on account of their healthy and vigorous condition they are at once able to absorb it for the general good of the plant.

Sphagnum moss forms one of the best guides to the amount of moisture in the compost. A few living heads should always be visible on the surface. When the compost becomes dry the moss assumes a whitish nature, and when water is applied it rapidly turns to a bright green colour.

Although fresh air is very needful, care must always be taken to ensure protection from draughts. There is always the chance of suspending plants too near one of the roof ventilators, and thereby placing them in direct contact with the outside air, which is either too cold or else too dry for their welfare. The same remarks apply to those houses constructed with side ventilators above the staging. A good method of avoiding these direct currents of cold air is to cover the opening with tiffany, or other material used for summer shading. This prevents sudden gusts of cold air entering the house, yet at the same time allows sufficient ventilation. Very strong and well-ripened plants can withstand much ventilation, and, in fact, greatly benefit by its reasonable use, but small and sickly plants require it less frequently and in a smaller degree. In practice it will be found much better to allow a continuous, yet small ventilation, rather than a sudden change created by opening all the ventilators at the same time. Excessive ventilation allows too much of the atmospheric moisture to escape, while insufficient ventilation causes the moisture to condense on the roof and sash-bars, with the result that drops of cold water are continually falling upon the plants and doing much damage.

Many growers use the blinds on the houses during the whole of the year, and on all cold winter nights place them over the glass to prevent a loss of heat, and thus save some of the fuel.

ORCHID SALE.—Duplicate plants from Mr. Wm. Bolton's collection were sold by auction by Messrs. Protheroe and Morris, at Warrington, October 17th, 1913. The following prices are of interest: Odontoglossum ardentissimum Doris, three bulbs, one lead, 10 gns.; O. crispum The Nyzam, four bulbs, one growth, 8 gns.; O. crispum Marie, 7 gns.; O. crispum Luciani, 10 gns.; Miltonia vexillaria chelseaensis, one bulb, one growth, 4 gns.; M. vexillaria alba Bolton's var., one bulb, one strong growth, 7 gns.; Cattleya Souvenir de Queen Victoria, five large bulbs, 16 gns.; C. Warscewiczii Frau Melanie Beyrodt, five bulbs, 5 gns.; C. Suzanne Hye de Crom, four large bulbs, in sheath, 10 gns.; Cypripedium Dreadnought, one old and one new growth, 5 gns.; C. Boltoni, one old and one new growth, part of the original certificated plant, 14 gns.; a similar plant showing flower, 15 gns.; and C. Lion, two strong growths, 5 gns.

MAXILLARIA LUTEO-ALBA.—Our illustration on next page shows a remarkable specimen of Maxillaria luteo-alba flowering in Mr. Walter Cobb's collection at Normanhurst. Many of the Maxillarias are well worthy of more care and interest being given them than they usually receive, and their attractiveness, when grown to the high state of perfection as the illustration shows, is a strong point in their favour.

DENDROBIUM DEAREI.—The illustration on page 42 shows Dendrobium Dearei, McBean's variety, an exceedingly fine form, which received a First-class Certificate, July 15th, 1913, when exhibited by Messrs. J. and A. McBean. This plant has since passed into Mr. O. O. Wrigley's noted collection at Bridge Hall, Bury. We are indebted to the *Gardeners' Magazine* for kind permission to use the block.

Maxillaria luteo-alba, a grand specimen with 70 flowers, grown in the collection of Walter Cobb, Esq., Normanhurst, Rusper, Sussex.

Dendrobium Dearei, McBean's variety. Received First-class Certificate, July 15th, 1913, when exhibited at the Royal Horticultural Society, by Messrs. J. & A. McBean, Cooksbridge.

MESSRS. JAMES VEITCH & SONS: ORCHID SPECIES.

(*Continued from page 21.*)

ODONTOGLOSSUM KRAMERI.—A native of Costa Rica, where it was discovered by Carl Kramer, and introduced through him in 1868. This rare plant is said to be restricted to a single locality on the mountain slopes near the Pacific coast, and is believed to be well-nigh exterminated owing to the destruction of the forests for agricultural purposes.

ODONTOGLOSSUM CORADINEI.—Introduced in an importation of Od. crispum in 1872. Reichenbach, who named the plant, suggested that it was probably a natural hybrid between triumphans and some species of the odoratum group. It has now been proved that crispum and Lindleyanum are the real parents.

ODONTOGLOSSUM PESCATOREI, VARIETY VEITCHIANUM.—A superb variety which appeared in an importation of the species. The plant first flowered in England, March, 1882, and subsequently passed into the celebrated collection of Baron Schröder.

ODONTOGLOSSUM RETUSUM.—A rare species, discovered by Hartweg in 1841 on rocks in the mountains of Saraguru, near Loxa, Ecuador, and first flowered at Chelsea in 1882. In habit and inflorescence it resembles O. Edwardii, but the flowers are orange-red in colour with a green line at the base of the sepals and petals.

ODONTOGLOSSUM URO-SKINNERI.—Sent to Chelsea from Guatemala by Mr. Ure-Skinner in 1854, but not flowered until 1859, a delay probably due to the defective treatment cool Orchids then received.

ONCIDIUM CURTUM.—Introduced from the Organ Mountains, Brazil, through William Lobb, in 1841-2. A well-known cool house Orchid.

ONCIDIUM METALLICUM.—Introduced from New Grenada, where it was discovered by Wallis. The flowers are of a rich chestnut-brown colour with a distinct metallic hue.

ONCIDIUM SUPERBIENS.—A native of the forests of Venezuela and New Grenada, where it was discovered at about the same time by Fünck and Slim, in 1847, and by Purdie in the province of Ocaña. It was introduced to this country in 1871, and first flowered at Chelsea in the spring of 1872.

PACHYSTOMA THOMPSONIANA.—This elegant species, now known as Ancistrochilus Thomsonianus, was introduced through Kalbreyer, by whom it was discovered on the mountains of Old Calabar, West Tropical Africa, and dedicated at his request to the Rev. George Thomson, for many years a missionary in that part of the world.

PHAIUS CALLOSUS.—A native of Java, first flowered in March, 1848, the specific name, "thick-lipped," being derived from the prominent callus which passes from the lip down the tube. The flowers are reddish-brown in colour, tipped with dingy-white.

PHAIUS PHILIPPINENSIS.—Discovered by David Burke on the slopes of the hills at 3,000 to 4,000 feet elevation, in the island of Mindanao, and interesting as being the first species of the genus Phaius to be discovered in the Philippines. It flowered for the first time at Chelsea in 1889, and as a species is remarkably distinct.

PHALÆNOPSIS AMABILIS.—This very beautiful species was known as far back as 1750, in which year Rumphius figured it in his *Herbarium Amboinense*. It was introduced into British gardens by Thomas Lobb, who sent plants from Java to Exeter in 1846, which flowered for the first time in England in September of the following year. All collectors in that region since Lobb mention P. amabilis, and agree in reporting it as growing near the seashore. Burbidge found it in Labuan and North Borneo, Curtis detected it in North Celebes, and Burke met with a small variety in South-west New Guinea.

PHALÆNOPSIS INTERMEDIA.—Introduced by Thomas Lobb in 1852 among an importation of Phalænopsis Aphrodite. Later a

French traveller, named Porte, brought two more plants from the Philippine Islands, after which thirteen years elapsed before a further addition was made by Messrs. Low and Co. Lindley was the first to state that this plant might be a natural hybrid between P. Aphrodite and P. rosea, and in 1886 Seden proved him correct by flowering P. intermedia which he had produced by crossing these two species.

PHALÆNOPSIS MACULATA. — Introduced from Sarawak, in Borneo, in 1880, through Curtis, by whom it was discovered growing on the limestone hills at an altitude of 1,000 to 1,500 feet, on damp, almost bare rocks, under the shade of trees. It is one of the smallest of the genus, the flowers being little more than half-an-inch in diameter.

PHALÆNOPSIS MARIÆ.—Discovered by Burbidge when in the Sulu Archipelago in 1878, and dedicated by him to his wife. It was subsequently detected by David Burke on the hills near the south-east coast of the island of Mindanao, plentiful on the trunks and branches of trees in dense shade.

PHALÆNOPSIS ROSEA.—Introduced from Manila through Thomas Lobb in 1848. One of the commonest of the Philippine Island Phalænopses, and is found in abundance in the hot valleys and along the streams in the neighbourhood of Manila.

PHALÆNOPSIS VIOLACEA.—Originally discovered by Teijsman near Pelambang, in Sumatra, in 1859, and sent by him to the Botanic Garden at Leyden, where it first flowered in Europe in 1861. Nothing more was heard of the plant until Mr. Murton, of the Botanic Garden at Singapore, sent plants to Mr. W. H. Williams, of Tredrea, in Cornwall, and to Chelsea, in both of which establishments it flowered in 1878. It remained rare in European collections until 1880, when Curtis sent a consignment from Sumatra.

PLEIONE HUMILIS.—Originally discovered by Dr. Buchanan Hamilton, and afterwards by Griffiths, this plant was first introduced into British Gardens in 1849 through Thomas Lobb, who found it at Sanahda on the Khasia Hills. The lip is beautifully fringed, and the flowers vary much in colour.

PLEIONE LAGENARIA.—Introduced through Thomas Lobb, who sent plants from the Khasia Hills, Northern India, to Exeter in 1849. It has always been a favourite with amateurs on account of its beautiful flowers freely produced in the autumn months.

RENANTHERA MATUTINA.—First discovered by Blume in 1824, growing on trees at the foot of Mount Salak, Java, from which locality it was introduced twenty years later through Thomas Lobb.

SPATHOGLOTTIS AUREA.—Originally introduced in 1849 from Mount Ophir in Malacca through Thomas Lobb, who discovered it growing near Nepenthes sanguinea. Only a few plants arrived, and these gradually died out after once flowering. Nothing more appears to have been heard of it in a living state until 1886, when it was offered for sale at Stevens' rooms.

THUNIA BENSONIÆ.—Discovered by Colonel Benson in the neighbourhood of Rangoon in 1866, and flowered for the first time in this country in the Royal Gardens, Kew, and Chelsea in July, 1867.

VANDA BENSONI.—This Vanda was sent to Messrs. Veitch by Colonel Benson, who discovered it in Lower Burmah in 1866. It flowered shortly after its arrival at Chelsea in the summer of the same year.

VANDA CŒRULEA. — Although originally discovered by William Griffith, in November, 1837, it is interesting to note that Thomas Lobb sent home plants from the Khasia Hills to Exeter, where one of them flowered for the first time in December, 1850.

VANDA CŒRULESCENS.—This was also discovered by Griffith, who collected specimens of the plants, but nothing more appears to have been heard of the plant until Benson re-discovered it in 1867, and sent plants the following year to Chelsea, where it flowered for the first time in February, 1869.

VANDA DENISONIANA. — Discovered by Colonel Benson on the Arracan Mountains, and sent to Chelsea in 1868, where it flowered for the first time in England, April, 1869.

VANDA HOOKERIANA.—This superb Orchid was seen by several travellers, including Thomas Lobb, and was known in

herbaria for some time previous to its introduction. In 1879 a correspondent in Labuan sent to Messrs. Veitch living plants which were immediately acquired by Lord Rothschild. One of these flowered for the first time at Tring Park, in September, 1882.

VANDA INSIGNIS.—Introduced to Chelsea from the Moluccas by Hutton in 1866, and flowered for the first time in 1868. It remained scarce until re-imported through Curtis, who in 1882 was collecting in the Malay Archipelago. The variety Schröderiana appeared in Curtis's importation, and may best be described as an albino form.

VANDA SUAVIS.—Introduced from Java through Thomas Lobb, and for many years one of the rarest Vandas in cultivation. It was first exhibited in flower on April 4th, 1848, the ground colour being white.

VANDA TRICOLOR.—This was introduced from Java in 1846 through Thomas Lobb, who discovered it in the western part of the island, at 1,500 to 2,500 feet elevation, growing chiefly on large trees. The ground colour is pale yellow.

ZYGOPETALUM BURKEI.—Introduced in 1881 through David Burke, by whom it was discovered on Roraima in British Guiana. It inhabits rocks in the swamps, at elevations of about 6,000 feet. The colouring of the flower is very striking. The sepals and petals are green with seven to nine longitudinal chocolate-brown stripes, which sometimes become broken up into dots. The lip is milk-white, irregularly dentate along the margin, with about thirteen violet-purple ribs, and the column is yellow streaked with purple.

ZYGOPETALUM BURTII. — Originally discovered by Endres in 1867 in Costa Rica, and shortly afterwards imported from that country. A plant obtained by Messrs. Veitch flowered for the first time in Great Britain in the collection of Mr. Burnley Hume, in the summer of 1872.

ZYGOPETALUM DAYANUM. — Discovered by Gustav Wallis in New Grenada, introduced in 1873, and named in honour of John Day, of Tottenham.

ROYAL HORTICULTURAL SOCIETY.

October 7th, 1913.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. James O'Brien (hon. sec.), Sir Harry J. Veitch, Messrs. W. Bolton, Gurney Wilson, R. B. White, S. W. Flory, W. H. White, A. Dye, J. E. Shill, W. H. Hatcher, J. Charlesworth, W. Cobb, C. H. Curtis, A. McBean, T. Armstrong, R. G. Thwaites, Stuart Low, F. J. Hanbury, F. Sander, and R. A. Rolfe.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver-gilt Flora Medal for a group of elegant autumn flowering hybrids, the best being Odontioda Brewii (Charlesworthii × Harryanum), O. Brunette (Bohnhofiæ × Harryanum), Lælio-Cattleya Virginea, L.-C. Dominiana, and L.-C. St. Gothard. Several strong plants of Epidendrum vitellinum autumnale and the scarce Lycaste hybrida were also shown.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Flora Medal for a very effective group, containing dark forms of Cattleya Fabia, the elegant Cœlogyne pandurata, Bulbophyllum Ericsonii, fine varieties of Lælio-Cattleya Geo. Woodhams, several distinct varieties of Cattleya Iris and Adula, and the pretty Lælio-Cattleya Sandhurstiana, a new hybrid shown for the first time.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for an interesting group, in which were Cœlogyne brunnea, the scarce Oncidium bicallosum aureum, Eria Mooreana, and the pretty Stenoglottis longifolia. A very handsome variety of Cattleya Mrs. Pitt was also shown, and there was a wide selection of autumn flowering hybrids.

Messrs. Stuart Low and Co., Bush Hill Park, received a Silver Banksian Medal for a well-staged group in which were good plants of Dendrobium superbiens, a fine variety of Vanda cœrulea, several good forms of Cattleya Iris and C. Hardyana, and Brasso-Cattleya Pocahontas alba, a pleasing flower with white segments. The rare Lælia Dayana

delicata, a light mauve flower with dark purple ridges to the labellum was also included.

Messrs. Hassall and Co., Southgate, were awarded a Silver Banksian Medal for an exhibit of attractive hybrids, including Cattleya Mrs. Pitt, C. Adula, C. Mantinii, C. Hardyana, and the charming C. iridescens. Rare Orchids included Cattleya Harrisoniana alba and Cirrhopetalum appendiculatum.

Messrs. Flory and Black, Orchid Nursery, Slough, staged some elegant hybrids, the best being Brassocattlælia Eric (B.-C. Mdme. Chas. Maron × L.-C. C. G. Roebling), see "New Hybrids," and Brasso-Cattleya Ilene (C. Dowiana × B.-C. Mdme. Chas. Maron). A good dark variety of Cattleya Atalanta and a promising Cypripedium hybrid were also shown.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Geo. E. Day), exhibited the elegant Cattleya Rhoda illuminata, see Coloured Plate in ORCHID WORLD, Vol. III., page 20, Lælia pumila alba, and Odontoglossum Ceres "Goodson's variety."

R. G. Thwaites, Esq., Streatham, showed excellent examples of Cattleya Iris, C. Fabia, and C. aurea.

W. Waters Butler, Esq., Southfield, Edgbaston, staged Cattleya Dietrichiana Southfield variety, and a very elegant form of C. Hardyana, with white sepals and petals and a crimson-purple lip.

Pantia Ralli, Esq., Ashtead Park, Surrey (gr. Mr. S. Farnes), exhibited Odontonia brugensis Distinction, with light rose sepals and petals, the purple lip having a narrow white margin to the apex. Lælio-Cattleya Maqueda (L.-C. Geo. Woodhams × C. Lord Rothschild) was represented by a highly-coloured variety, and Odontoglossum ardentissimum Johnsonii was in good form.

Sir John Edwards-Moss, Bart., Roby Hall, Torquay, sent a flower of a new Cymbidium hybrid, the parents being giganteum and erythrostylum.

Messrs. J. and A. McBean, Cooksbridge, exhibited the beautiful Vanda Sanderiana, the new Odontioda Minerva, O. Euterpe, of rich red colour, Cattleya Wavriniana, the very pleasing C. Lord Rothschild albescens, and Brasso-Cattleya Iris, which secured an Award.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed Cattleya Iris Prince Arthur, with reddish-bronze sepals and petals and purple labellum, in every way a grand form.

E. H. Davidson, Esq., Twyford, showed Odontoglossum Smithii, of rose tint, O. crispum Louise, and Sophrocattlælia Sandhage.

First-class Certificate.

Cattleya Adula Glebe variety (bicolor Grossii × Hardyana), from C. J. Phillips, Esq., The Glebe, Sevenoaks.—The finest form yet seen of this popular hybrid, the very broad sepals and petals of bright rose-crimson, the immense pandurate lip bright purple.

Awards of Merit.

Odontoglossum Crawshayanum superbum (Hallii × Harryanum), from Pantia Ralli, Esq., Ashtead Park, Surrey.—A large flower with bright yellow ground colour, the lip very wide. The spike carried 10 flowers.

Cattleya Fabia Prince of Wales, from Messrs. Sander and Sons, St. Albans.—One of the best forms. Flowers large and of rich magenta-rose colour.

Brasso-Cattleya Iris (C. Iris × B.-C. Thorntonii), from Messrs. J. and A. McBean, Cooksbridge.—A large bright rose flower, the broad and open lip being purplish-rose, with a pale yellow disc.

October 21st, 1913.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. James O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Sir Harry J. Veitch, Messrs. W. Bolton, Gurney Wilson, R. A. Rolfe, W. Wilson Potter, F. Menteith Ogilvie, F. J. Hanbury, A. McBean, C. H. Curtis, W. Cobb, J. Cypher, W. H. Hatcher, G. Hunter, J. Charlesworth, W. P. Bound, J. E. Shill, A. Dye, W. H. White, S. Flory, C. J. Lucas, and Richd. G. Thwaites.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded a Silver Flora Medal for an extensive group containing several

plants of the new hybrid between Odontoglossum Edwardii and O. illustrissimum, the brightly coloured Cattleya Venus, C. Acis (Maronii × aurea), good forms of C. Fabia, and the dark variety of C. Freya known as Mrs. Fred. Sassoon. Cypripediums were also well shown and included Gaston Bulteel, Arthurianum giganteum, Baron Schröder, and others.

W. R. Lee, Esq., Plumpton Hall, Heywood, secured a Silver Banksian Medal for an effective exhibit of Cypripediums, the best being Bianca, Queen Alexandra, Royal Sovereign, Pallas Athene, and Dreadnought. In the centre of the group was a very fine form of Lælio-Cattleya St. Gothard.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, received a Silver Banksian Medal for a neat exhibit of choice Orchids. Lælio-Cattleya luminosa "Canary" and L.-C. Neleus represented the favourite yellow forms, while L.-C. Sulla and Cattleya Fabia were excellent examples of the purple section. Odontoglossum Vivien, a round flower, with white ground and dark blotches, was a pretty hybrid. The very large Westonbirt variety of Oncidium varicosum was shown in excellent style.

Messrs. Sander and Sons, St. Albans, secured a Silver Banksian Medal for a group of interesting plants, the best being Dendrobium Cœlogyne, with a very dark lip; Chysis aurea, the handsome Catasetum Imperiale and Cœlogyne fuliginosa maxima. Several excellent varieties of Cattleya Fabia and C. Mantinii, together with the pretty Pleione præcox, completed the exhibit.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Banksian Medal for a neat exhibit, containing several excellent plants of Vanda cœrulea, well-flowered pieces of Oncidium varicosum, Dendrobium Phalænopsis in several varieties, including the pure white form, and Cattleya Gaskelliana alba.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for a good group, the principal plants of merit being a very dark variety of Cattleya Bowringiana, C. Peetersii, Miltonia cuneata, the scarce Masdevallia angulata and numerous Cypripediums, of which mention should be made of Minos Youngii and Triumphans.

Messrs. Hassall and Co., Southgate, were awarded a Silver Banksian Medal for an exhibit of Cattleya Fabia, C. Hardyana, C. Minucia, the new C. Moira (Fabia × Mantinii), and Lælio-Cattleya Ophir. A good variety of Brasso-Cattleya Mrs. J. Leemann was also shown, together with Cattleya Dusseldorfei Undine.

Messrs. Charlesworth and Co., Haywards Heath, staged Cattleya Fabia alba, Lælio-Cattleya Jessica (C. Dowiana Rosita × L.-C. Clive), Oncidium crispum "The Glebe var.," a very large flower, the interesting Polycynis muscifera, and Trichopilia fragrans.

H. S. Goodson, Esq., Fairlawn, Putney, staged Cattleya Maggie Raphael, of rich purple colour, C. Mrs. Pitt "Goodson's var.," and an interesting selection of Sophronitis grandiflora hybrids.

H. T. Pitt, Esq., Stamford Hill, exhibited Odontoglossum grande Pittianum, an albino form with 10 flowers borne on two spikes; also Lælio-Cattleya Amecia (Mantinii × Wellsiana) and Cattleya Thela (Mrs. J. W. Whiteley × Hardyana).

Francis Wellesley, Esq., Woking, staged Cattleya labiata The Empress, a pleasing variety with white sepals and petals and a slight pink tinge on the lip, and Lælio-Cattleya Capt. Starkie, with a bright purple lip.

Pantia Ralli, Esq., Ashtead Park, Surrey, exhibited Cattleya Chapmanii albescens (C. Trianæ alba × C. Hardyana alba) with white sepals and petals and a coloured lip.

The Duke of Marlborough, Blenheim Palace, Oxford, showed Cypripedium Norah (Fairrieanum × Standard), with dark crimson veining on the dorsal sepal.

Wm. Bolton, Esq., Wilderspool, Warrington, exhibited Cattleya Alfred Fowler (granulosa × Trianæ), with broad petals of light rose colour, the lip amethyst-purple.

C. J. Phillips, Esq., Sevenoaks, staged Cattleya Graniris (granulosa × Iris), C. labiata Mrs. G. B. Wilson, a very dark form,

and Lælio-Cattleya Hon. Mrs. Astor (xanthina × Gaskelliana alba) with creamy-white sepals and petals, the lip flushed with purple.

Richd. G. Thwaites, Esq., Streatham Hill, staged Odontoglossum Meredithæ (Rossii rubescens × venustulum), with brown spotting on the sepals and petals, the lip violet-rose with a crimson blotch beneath the gold crest. Various Odontiodas were also shown.

Messrs. Flory and Black, Slough, exhibited Cattleya Lord Rothschild, a distinct variety, with bright yellow in the throat and upper part of the lip; Cypripedium Thalia, a very good variety, and C. Idina, a large flower.

Awards of Merit.

Cypripedium Queen Alexandra (Lathamianum × Charlesworthii), from W. R. Lee, Esq., Plumpton Hall, Heywood.—A large flower with the broad dorsal flushed with purple-brown.

Oncidium varicosum "Westonbirt var.," from Lieut.-Col. Sir George Holford, K.C.V.O.—An immense flower of bright golden-yellow colour, the plant being well-flowered and shown in fine form.

Odontoglossum Vivien, from Lieut.-Col. Sir George Holford, K.C.V.O.—A beautiful hybrid, with broad, white segments, blotched with crimson-purple.

Sophrocattlælia Laconia (L.-C. callistoglossa × S.-L. heatonensis), from Messrs. Charlesworth and Co.—A neat flower of rose-crimson colour, the lip dark crimson, the throat yellow, with the same colour on the outside of the tube.

Cattleya Graniris (granulosa × Iris), from Chas. J. Phillips, Esq., Sevenoaks.—A large flower of reddish-bronze colour, the broad open lip crimson, the column straw colour. A very distinct result.

Cattleya Empress Frederick "Avia Clifton," from Pantia Ralli, Esq., Ashtead Park, Surrey.—A very broad, flat flower with white sepals and petals, the large golden lip flushed with rose on the margin.

Cultural Commendation

To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart., for Cypripedium picturatum, a noble specimen with 25 flowers.

MANCHESTER ORCHID SOCIETY.

September 25th, 1913.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, J. Cypher, A. G. Ellwood, J. Evans, D. McLeod, W. Shackleton, H. Thorp, Z. A. Ward, G. Weatherby, and H. Arthur (Secretary).

A Large Silver Medal was awarded to R. Ashworth, Esq., Newchurch, for a good group of various Orchids; and a similar award to A. Warburton, Esq., Haslingden, for an exhibit of Cattleyas, etc.

A Silver Medal was granted to W. Thompson, Esq., Walton Grange, for excellent Cypripediums; and a Special Vote of Thanks was accorded to O. O. Wrigley, Esq., Bury, for an exhibit of Cypripedium Maudiæ (20 plants), and Epidendrum vitellinum autumnale (13 plants). The good cultivation of the latter won for Mr. Rogers, the gardener, a Cultural Certificate and Bronze Medal.

Large Silver Medals were also awarded to Messrs. Cypher and Sons, Cheltenham, and to Messrs. Charlesworth and Co., Haywards Heath, for excellent exhibits.

Silver Medals were granted to Messrs. Sander and Sons, St. Albans, and to Messrs. Hassall and Co., Southgate, for meritorious exhibits.

First-class Certificates.

Cattleya Rhoda "Queen Alexandra," one of the best of the type, from R. Ashworth, Esq.

Cœlogyne Mooreana, a large white flowering species from Annam, closely allied to C. cristata, from Messrs. Sander and Sons.

Awards of Merit.

Sophro-Cattleya Blackii, Odontoglossum xanthotes "Ashlands var.," O. eximium "Ashlands var.," and O. crispum Tetrarch, all from R. Ashworth, Esq.

THE
ORCHID WORLD.
Vol. 4. DECEMBER, 1913. No. 3.

NOTES.

DIVERSE POLLINATION.—In an article on the Physiology of Fertilisation, which appeared in the ORCHID WORLD, Vol. III., page 198, it was explained how more than one kind of hybrid could be produced from the same seed pod by applying various kinds of pollen to the stigma of the flower. Practical proof of this has already been obtained, although the following example shows in a clear manner the method and result. About five years ago Messrs. Hassall, of Southgate, selected a flowering plant of Cattleya Harrisoniana and placed upon the stigma two pollen masses, one taken from Cattleya Warscewiczii and the other from Brassavola Digbyana. Several of the seedling plants have recently flowered, and prove, as was expected, that two distinct hybrids have been produced. Some of these are Cattleya Ashtoniana (C. Harrisoniana × C. Warscewiczii), while others are B.-C. Madame Jules Hye (C. Harrisoniana × B. Digbyana). No hybrid has flowered which exhibits the characteristics of all three parents, this event being regarded as an impossibility.

VARIATION OF SPECIES.—Several varieties of Cattleya labiata have been flowered in the collection of Mr. W. H. St. Quintin, of Rillington, York, all of which originated from the same seed-pod, the object being to raise superior forms and to test their variation. Examples of these variations have been sent by Mr. F. C. Puddle who has charge of the collection, and who remarks: "As you know, seedlings of species, as a rule, are slower growing in the early stages than hybrids. A remarkable exception is a batch of pure Cattleya aurea, which are growing as freely and vigorously as hybrids sown at the same time. The plants are now 18 months old." From the same collection comes a variety of Cattleya Bowringiana, the rose-purple colouring being uniformly distributed over the whole flower, which makes it distinct from those forms in which the front lobe of the labellum is much darker than the other segments.

ANIMALS AND ORCHIDS.—Only recently we alluded to the fact that considerable damage had been done to Orchids by mice, who showed a particular liking for the pollen which they quietly stole. Now we hear that an American banker, wishing for some eccentric idea, gave a supper party, the guests including chattering monkeys who, during the evening, distinguished themselves by tearing up valuable Orchids. It is said that talking parrots were perched on the branches of real orange trees arranged round the room. Evidently the human guests present on this occasion had a realistic vision of tropical life.

CATTLEYA CHAPMANII.—Hybrids between autumn and spring-flowering plants are comparatively rare, although occasionally one or both of the parents flowers out of its usual season, and allows the hybridist to make a cross which in the ordinary course of events he would be unable to effect. C. Chapmanii is the result of crossing C. Hardyana and

C. Trianæ, the former usually flowering in the autumn, the other in the late winter or early spring. It was first shown and named by Mr. N. C. Cookson, January 9th, 1906. At the meeting of the Royal Horticultural Society, October 21st, 1913, an interesting example of this hybrid was shown by Sir Trevor Lawrence, Bart., but under the name Cattleya formosa. In our report of this meeting we corrected the name to C. Chapmanii, but by an error stated that the plant was shown by Mr. Pantia Ralli, of Ashtead Park.

ORCHIDS OF SOUTH AFRICA.—The third volume of this important work by Dr. Harry Bolus has just appeared. It contains 100 plates, 36 of which have already appeared in the "Orchids of the Cape Peninsula," published in 1888, and now out of print. Of the remainder, 9 were drawn from the living plants by Mr. F. Bolus, the other 55 are the finished, or more or less finished, drawings left by the author. In the latter cases additions of various kinds were made to complete the plates by Mr. F. Bolus. The Preface is written by Mr. H. M. L. Bolus, Curator Bolus Herbarium, South African College, Cape Town, who remarks: "It is our intention to proceed with the drawing of African Orchids, and in order to achieve this end we must rely very considerably on those who are interested in this study and have opportunities for collecting and transmitting living specimens. These will be most gratefully received, and labels for postage can be sent to all who desire them." The descriptive matter is in Latin as well as English, and the species figured and described principally belong to the following genera:—Ceratandra, Disa, Dispersis, Eulophia, Habenaria, Holothrix, Pterygodium, and Satyrium.

CATASETUM MACROCARPUM.—At the Scientific Committee meeting of the Royal Horticultural Society, November 18th, Mr. R. A. Rolfe exhibited, from the collection of Mr. G. Rae Fraser, Letchmore Heath, Herts, an inflorescence of male flowers of C. macrocarpum. Female flowers from the same plant have been twice before the Committee, in October, 1910, and in November, 1912. During the interval the plant made two futile attempts to flower, but this year it has produced the male inflorescence above mentioned, thus enabling the species to be certainly identified. Both inflorescences are being preserved at Kew, and the plant has now been presented to the collection, Mr. Fraser having another plant.

CYPRIPEDIUM WITH THREE LIPS.—Mr. Rolfe also exhibited, from the collection of Mr. Albert Pam, Wormley, Broxbourne, a twin flowered scape of Cypripedium insigne, in which the upper flower was normal, but the lower had three lips, representing the condition of the well-known variety Oddity. In this case the two lateral sepals were developed separately and diverge laterally, and the dorsal is reduced in breadth, while the petals are metamorphosed into lips, which clasp the normal lip.

CHELSEA SHOW, 1914.—With reference to the exhibits at this show we have heard that the Chelsea Show Committee have revised the regulations respecting the staging of Orchids, as follows:—The first or front tier of the staging to be a height of 2 feet, the group rising to an average height not exceeding 7 feet from the ground level. Seven feet is laid down as being the average of the extreme permissible limit of the height of the highest flowers, etc. (not pots or plant stems), as beyond that height few people can profitably see them. Palms and light foliage plants used as decoration are not subject to this limit of 7 feet. Where groups occupy "island" positions they must be arranged so as to have a frontage all round.

[These regulations have given the greatest dissatisfaction to exhibitors, and unless speedily withdrawn there will be few Orchids at Chelsea in 1914.]

Collecting Vanda cœrulea.

VANDA CŒRULEA.—Some of the finest forms of this popular blue-flowering Orchid have been imported by Messrs. Sander and Sons through their collector, Mr. Micholitz, from the Southern Shan States. Our illustrations are from actual photographs taken by this successful traveller, and show various stages of securing the plants. V. cœrulea is accustomed to a wide range of temperature in its native home. During the cool season hoar-frost is frequently to be seen on plants growing near the ground, but owing to the drying winds which prevail little harm is done. The failure of many amateurs to successfully cultivate this species may be due to the fact that their plants are kept in a too humid and even temperature. The foliage requires to be well-ripened in order to prevent the disfiguring spotting of the leaves, and one of the best means of securing this object is ample ventilation of the house. The freshly collected plants are brought by natives, both men and women, to a convenient depôt, where they are cleaned and packed in baskets ready for the first part of their journey. Our illustration shows a long line of oxen slowly wending their way to Bhamo, an important town, where the plants are more securely packed before commencing their long journey to England and other countries. The Orchid collector's life is interesting and often exciting, although very different to the comfortable abode of the amateur who is made happy by cultivating and flowering the plants when living in a civilised country.

Vanda cœrulea, bringing in the Plants.

Vanda cœrulea, a collecting depot.

Vanda cœrulea, Oxen laden with Plants.

NOMENCLATURE OF ALBINOS.

THE word albino as applied to Orchids seems to be accepted as a description of the nearest approach to white in each particular class, and the varietal name alba is attached to such Orchids irrespective of their being white. I wish to draw a distinction between an "alba" and an "albino," and, at the same time, between "albinism" and albinoism," albinism being the state or condition of an alba, and albinoism the state or condition of an albino.

Albinos originally referred to the white negros met with on the coast of Africa. They are described as having a preternaturally white skin, white hair, and a peculiar redness of the iris and pupil of the eye. This description of albinos appears to be generally accepted. White rabbits, white mice, etc., having white hair, but pink eyes, are termed albinos. Therefore, I see no great objection to the term albino being applied to an Orchid flower having white sepals and petals and a coloured labellum, but I am distinctly opposed to it being described as an alba.

Whether a flower having white sepals and petals and a coloured labellum is entitled to the description alba is perhaps a question of expediency rather than of fact. Logically, I think it is an albino because of yellow in the labellum, that is to say, it is not entirely white. Cœlogyne cristata alba and Cattleya intermedia alba are true albas, without yellow. With our advancing knowledge, and albinos of species least expected coming forward in Nature, it is not impossible that one day we may get true albas to displace those having yellow labellums, and at present bearing this description.

In speaking of albas it is the white portions we are concerned with, and we *ignore* the yellow, and although we go on calling them albas because of established records and custom, still, they are logically only albinos.

Those flowers which are blush-white may have their imperfections pointed out by terming them albescens, but to my mind this class of flower, through just failing to be good, fails entirely, and reminds me of the Indian gentleman seeking employment who advertised in an Indian newspaper that his qualifications were "Failed, B.Sc., Lond."

For all practical purposes I should like to see the method suggested in the article on page 30 adopted, as exampled by Cattleya Enid. If a true Enid alba should ever be produced it must carry a varietal name.

Richd. G. Thwaites.

PELORISM AND ALBINISM.

MANY instances of regular and irregular peloria in Orchids have from time to time been recorded, and some notes have previously appeared in these pages (Vol. II., p. 75). The present example, however, differs from those usually seen, inasmuch that albinism is correlatively concerned.

Messrs. Hassall and Co., Southgate, have in their possession an albida form of Cattleya labiata, or, in other words, a variety which produces, when in a normal state, flowers having white sepals and petals and a coloured labellum. This autumn the plant has flowered again, although the bloom on this occasion has not only been formed in regular peloriate style, but it has also been produced as a true albino, none of the segments showing any trace of colour.

Now regular peloria implies a condition of the flower in which the labellum assumes the form of the two lateral petals. The flower reverts to the regular condition which ancestral Orchids probably possessed. The flower fails to present its most recently acquired development. Regular peloria, therefore, is an arrest of development.

The apical bloom of a many-flowered Odontoglossum or Cattleya spike is frequently produced in a peloriate state—the labellum assumes the form of the petals. There has been insufficient nutritive material to complete these apical buds, and their diverse condition to others on the same spike is due to arrest of development.

A similar occurrence is caused by an attack of thrip, or other destructive insects, on the flower spike when in its young state. Many of the buds thus receive a check, and although they may become flowers in due course a peloriate condition is frequently exhibited, the real cause being arrest of development. Similar examples occur on weak plants that are insufficiently supplied with nutritive material.

Returning to Messrs. Hassall's specimen in which the coloured labellum has assumed the form of a petal, as well as lost its purple coloration, the question arises is the albinism of this "labellum" produced by the same cause that brings about the petal-like or peloriate nature, viz., arrest of development. The future behaviour of the plant will be watched with interest, and may possibly assist in the elucidation of the problem.

ORCHID NAMES.

ALMOST every amateur is anxious to raise a new hybrid Orchid in order to have the pleasure of naming it himself. A few, however, do not wish for the trouble and time which the raising of a seedling takes, but much prefer to purchase a new and unnamed plant from one of the various trade growers. It matters little which method of procuring the plant is adopted, the amateur having the same privilege in either case. There is a wide difference between a new hybrid and a new variety. The former is produced by a combination of parents not previously effected, the latter applies to any variation differing from those already known or recorded.

Now the name of a hybrid is the word applied to a certain combination of species, and is therefore known as the specific name. It is of far greater importance than that given to a variety, and consequently requires considerably more care in its selection. Every time a variety is mentioned the specific name must always be repeated. The following are examples:—Cattleya Fabia var. Miss Williams, C. Fabia var. Emily R. Smith, and C. Fabia Stone House var. The specific name in this instance consists of but one suitable word, and its repetition is by no means objectionable.

The specific name of many hybrids consists, unfortunately, of more than one word, sometimes three, and the repetition of such long, unsuitable names is extremely awkward, as the following example proves:—Dendrobium Mary Jane Brown var. Miss Smith, D. Mary Jane Brown The Red House var., and D. Mary Jane Brown var. Sarah Ann Jenkins. Amateurs who take the responsibility of naming a new hybrid should always consider the other growers who in due course will produce plants with similar parentage, and who, by the rules of nomenclature, are bound to adopt the earliest specific name. These later hybrids are, of course, distinguished by a varietal name, which follows the specific one in a way similar to the name and variety of a species.

From the preceding remarks anyone will readily see the advisability of selecting a single word for the specific name of a new hybrid. Classical names are much to be preferred, although the name of the owner or raiser may be used in the Latin form. Varieties of species and hybrids can only be named in Latin when the character of the plant is expressed. Odontoglossum crispum roseum and Cattleya Holdenii alba are both correct, the latter word in each case expressing the character of the flower. But Odontoglossum crispum Smithii and Cattleya Holdenii Robertsii are incorrect, the use of Latin proper names for horticultural varieties being proscribed by the Brussels Congress of 1910.

ORCHIDS AT MAIDSTONE.—A recent issue of the *Kent Messenger* gives some interesting details of how successful Mr. and Mrs. Ed. Clement, of The Nook, Ashford Road, Maidstone, have been with the cultivation of Orchids. They have produced plants which must be the envy of many professional gardeners, and they have shown how a hobby of this kind can be run at a small cost.

THE TRIALS OF ORCHID COLLECTING.

TO the Great Falls of Guiana and Beyond is the subject of an article in the November issue of *Harper's Magazine*, by Dr. H. E. Crampton, who had the good fortune to make the journey in the pursuance of scientific investigation under the auspices of the American Museum of Natural History.

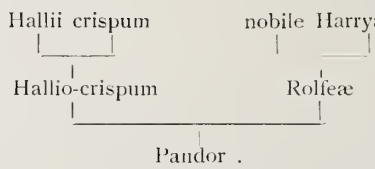
"The dawn following the first night in the 'bush,'" states the author, "was ushered in by the calling of the howling monkeys. These little animals, about the size of a terrier, possess a throat structure which enables them to emit roars quite as loud as those of lions and jaguars. In the early morning when they come down to the river-bank to drink, a small group of them is equivalent in vocal accomplishment to a menagerie at feeding-time."

Those amateurs who have long wished for the exciting experience of an Orchid collector's journey may gain some idea of its hardships from the following extract describing the passage through the dense forests covering the terraced mountains that intervene between Chenapown and Brazil:—

"Almost incessant rains collected upon the dense canopy of the tree-tops, to pour in rivulets upon the matted roots of the forest floor, which was deceptively covered by a thick carpet of leaves, continually renewed throughout the year. In the half-gloom the traveller stumbles along, up steep and slippery slopes or across the hollow of a stream, until every muscle aches painfully and further progress seems well-nigh impossible. The senses were strained and tense, for every foot of the vague trail must be scrutinised for fear of the snakes which abound in this region. Here lives the little labaria, which, though rarely over two feet in length, is as deadly as the rattlesnake; here, too, is the far more dreaded bush-master, which often attains a length of seven or more feet, and whose only rival in strength of venom is the cobra of India. This reptile is coloured like the mottled surface of the ground itself, so that a traveller's vigilance must never relax for a minute. One learns to rest in a standing posture, for the wayside log or stone may harbour centipedes and scorpions, whose sting may not be directly fatal, though it may so reduce one's resistance as to constitute a real danger. When camp is pitched it must sometimes be in a place where the ground is covered with several inches of mud, so that even then comfort is far off and unattainable."

Such is the experience of one who undertook this troublesome journey through Guiana towards the wonderful mountain called Roraima, at the foot of which and about the surrounding country Cattleya Lawrenceana grows

ODONTOGLOSSUM PANDORA.



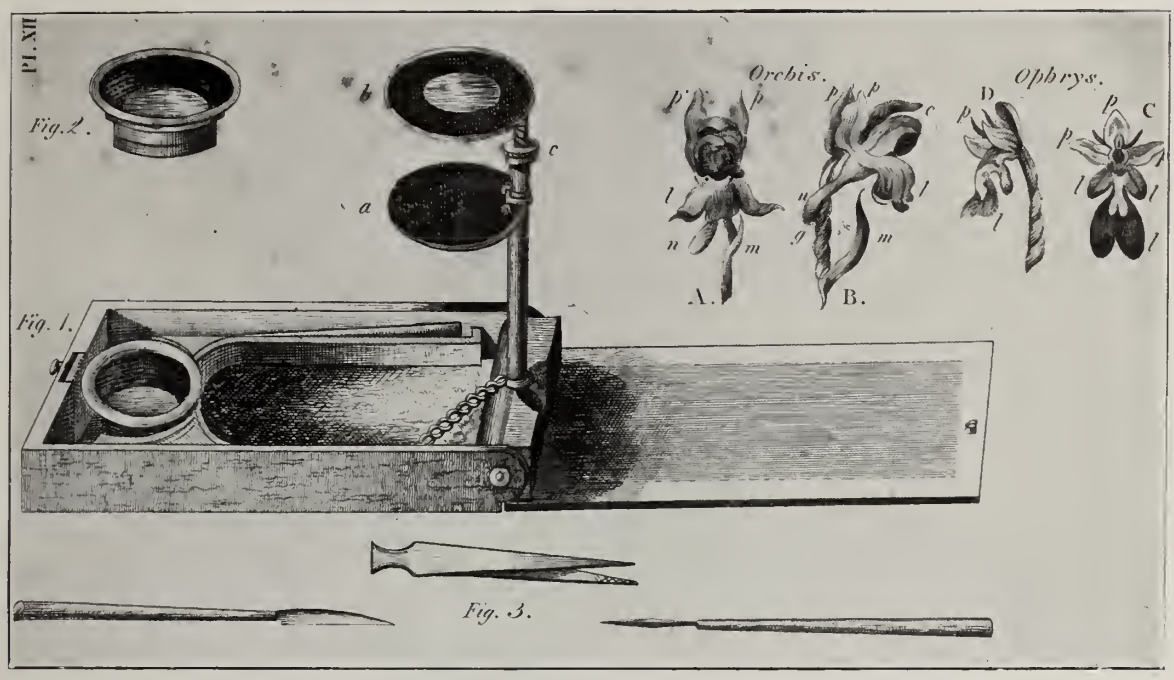
This hybrid was raised by Messrs. Armstrong and Brown, of Sandhurst Park, Tunbridge Wells, and included in their group at the Royal Horticultural Society, November 4th, 1913. It is a very pleasing cross, but to many who go for great value or size it would be "without the pale."

The ground colour is a bright rich yellow, deepening with age; the whole flower has this characteristic. The spotting of the sepals is of the usual arrangement of Hallio-crispum, a heavy blotch at the outer whorl and linear marks at the two lower ones.

The petals have a loose linear arrangement of small spots, the lip, which is broad and oblong, having three or four small irregular central marks. Column head unspotted, but the wings are brown, as also is the crest, but the two central keels are uncoloured.

Hallio-crispum is very powerful, and up to the present invariably overpowers the other parents by giving its form as a legacy to the result. The point I admire most is the rich yellow, which, I am glad to say, Orchidists are once more finding is a beauty in a flower.

de B. Crawshay, Roseficld, Nov. 7th, 1913.



An Early Microscope, from an illustration published in 1796.

AN EARLY MICROSCOPE.

IN these days of advanced science it is always interesting to look back to the time when students were commencing the study of a particular subject. Our illustration carries us back to the year 1796—an early date in the history of Orchidology—when William Withering published the third edition of his "Arrangement of British Plants," the preface stating that "the progress of botanic knowledge is so rapid, and the discoveries so numerous, both at home and abroad, that this may be regarded as a new work than as a republication of an old one." Several copper plates were included in the work, one of which, reproduced above, and which did not occur in either the first or second editions, represents the Botanical Microscope "in its present improved state," and also shows that at that date the interesting structure of Orchid flowers was receiving microscopical attention.

Figure 2 is a magnifying glass, "to be held in the hand, and applied close to the eye, whilst the object to be examined is brought immediately under it, at such a distance as shall be found to give the most distinct vision. Figure 3 shows the dissecting knife, the triangular needle, and a pair of small pliers. These instruments are useful in the dissection of flowers, even when the plants are so large as not to require magnifying."

"When the parts in question are very minute, and require a nice and careful dissection, the botanist should place the microscope upon a table, so that the eye may be applied with ease immediately over and close to the glass. Lay the object to be examined on the dark stage, and turn the screw until the object upon the stage is perfectly distinct. With the needle in the left, and the knife in the right hand, the elbows resting on the table, proceed in the dissection at the same time that the eye is applied to the glass."

The wonderful contrivances by which the fertilisation of Orchids is effected have always attracted the close attention of botanists. Even in the eighteenth century various views were expressed regarding the structure of the column and the means by which the pollen influenced the ovules. All present-day Orchidists are well acquainted

with the fact that the pollen must be removed from its position and placed on the stigmatic surface before fertilisation can take place, an occurrence which is effected naturally by insect agency. But many botanists in the early days believed that the pollen could fertilise the ovules while still remaining in its natural position, and several curious ideas were put forth as means by which this could be done.

SOPHRONITIS HYBRIDS.

ALTHOUGH the hybridist has effected great and astounding improvements in practically every genus of the Orchidaceæ, it is doubtful whether his successful efforts have been better rewarded than by the use of the brilliant Sophronitis grandiflora in the production of bigeneric hybrids, known as Sophro-Cattleya, Sophro-Lælia, and Sophrocattlælia.

These Orchids produce the most brilliantly coloured flowers imaginable, the scarlet of the Sophronitis parent being usually retained, but the flowers are greatly enhanced by deriving from the Cattleya parent its beautiful lip and gorgeous colouring.

No collection of Orchids should lack a few of these charming plants, and I append a list of some of the best, most of which can be procured at moderate cost.

Sophro-Cattleyas.

Doris, S. grandiflora × C. aurea.
Marcus, S.-C. Calypso × C. Enid.
Queen Empress, S. grandiflora × C. Mossiæ.
Thwaitesii, S. grandiflora × C. Mendelii.
Mrs. F. Wellesley, S. grandiflora × C. labiata.
Blackii, S. grandiflora × C. Hardyana.

Sophro-Lælias.

heatonensis, S. grandiflora × L. purpurata.
Orpetii, S. grandiflora × L. pumila.
Psyche, S. grandiflora × L. cinnabarina.

Sophrocattlælias.

Marathon, S.-L. Psyche × C. Empress Frederick.
Nestor, S.-L. Gratrixiæ × C. aurea.
Olive, S.-L. Psyche × C. Enid.
Pandora, S.-L. heatonensis × C. aurea.
Thalia, S. grandiflora × L.-C. Cappei.

A light position at the coolest end of the Cattleya house suits these plants to perfection, suspending them near the roof glass, where they will be found to thrive much better than if grown on the staging. The usual treatment given to Cattleyas in regard to shading, ventilation, moist atmosphere and temperature will be found suitable, but watering demands special care.

These plants do not often possess a very strong constitution, and the following will give a rough idea as to how to water. During the dull winter months give only enough water to prevent the compost from becoming dust dry, but from late spring to early autumn enough must be given to keep the surface moss green and living.

Be very careful never to let any drops of water lodge in the young growth, or this will immediately turn black and rot away. Overwatering when at rest, or in winter, will also have the same effect. Overhead syringing must not be practised in the growing of these Orchids. But where the grower studies the plants and observes their wants, the watering and general culture of these beautiful Sophronitis hybrids will present no difficulties, although they cannot be recommended for amateurs who have had no previous knowledge of Orchid culture.

Re-panning is usually needed every other year, and this must be carefully performed, removing the plant from the pan and picking out the old soil being a delicate performance.

For fresh compost use a mixture of A1, or Polypodium fibre and green heads of sphagnum moss. The only time when re-panning can be performed is when the plants begin to root again after resting. They should be kept slightly drier and more shaded until re-established. Frequent sponging of the leaves is much appreciated, and weak plants must not be allowed to carry their flowers for too long a period.

C. Alwyn Harrison.

ORCHIDS FOR AMATEURS.

THE Orchid house is always an attractive part of the garden, and no matter what the season of the year may be there is something of interest to be seen or done. Many a spare hour in winter time may be occupied with cleaning the plants, one of the most important parts of good cultivation, and one frequently neglected by amateurs. In days gone by, when as many plants were imported during a month as there now are during a year, considerable time was needed to properly cleanse them. Various kinds of insects not only travelled in the packing cases, but fixed themselves on to the bulbs and leaves with considerable tenacity. The present time is mainly one of seedlings raised in this country under cleaner conditions. There is much less attention required, the plants grow in neater habit, and are not likely to be affected with tropical complaints.

The most frequent enemy that Orchidists have to deal with is thrip, a small, almost invisible insect, which propagates rapidly and does considerable damage. These insects are particularly fond of getting on the flower-buds and in the folds of the young leaves, which soon assume a brown or rusty appearance. Soft soap and water, or one of the nicotine washes, will be found very suitable for their eradication. After the wash has been used care should always be taken that the new growths are not left with any water in them, for should a cold night occur there is considerable chance of the plant receiving a chill, resulting in the death of the new growth, and probably the whole plant. A good method is to hold the plant upside down, and carefully press the water out of the growths.

Cypripedium Læanum, a well-flowered specimen.

Prevention is better than cure. A bad attack of thrip can generally be prevented by fumigating the house at regular intervals, say, twice a month during the summer, and less frequently during the winter. Fumigation is most effectual when the atmosphere of the house is fairly dry, and when there is an absence of wind.

Cattleyas and allied plants are frequently subjected to attacks of mealy bug and scale. These pests delight to work their way beneath the skin of the newly-made bulbs,

where they remain, hidden from view, until no small amount of damage has been done to the vitality of the plant. When the bulb has almost completed its growth the outside skin assumes a dry and whitish appearance, and can be easily removed without damaging the plant. Any insects that have taken shelter beneath this skin can thus be easily discovered and removed. Another favourite hiding-place is the apex of the bulb, just where the old flower spike and sheath have been removed. At this point many injurious insects can often be found, and soon destroyed by means of a stiff brush or sponge which has previously been dipped in a suitable insecticide.

Cymbidiums are often attacked by insects, especially the under part of their long leaves. All plants should be periodically examined, and in this way kept free from injurious pests. The real amount of damage done by one small insect may be very little, but when hundreds, and sometimes thousands, of them attack the same plant then it must be considerable.

Cypripediums are probably the least liable to insect pests, and consequently are very suitable for amateurs, who require plants which flower during the winter months when bloom is highly appreciated. Occasionally thrip will attack the centre part of the new growth and sometimes spoil the flower-bud, but it is soon noticed and easily washed off with suitable insecticide. The plant shown in our illustration is one of the easiest grown and best flowering hybrids. Known as Cypripedium Leeanum, and resulting from a cross between insigne and Spicerianum, it produces an abundance of long, lasting flowers every autumn. Only ordinary greenhouse treatment is necessary, a temperature of about 50 degrees being quite suitable, while the compost should consist of fibrous loam, with a little rough peat and sphagnum moss. No resting or drying off is required, the plant continuing to grow almost the whole year through. This, then, is one of the reasons why Cypripediums are such favourites with amateurs.

A plant similar to the one figured may be described as a noble specimen, but there is no reason why, if amateurs otherwise desire, it may not be divided into a dozen or more separate plants. Some growers pride themselves in obtaining immense specimens, while others take equal delight in producing large numbers of smaller ones. Soon after the plant has finished flowering is a suitable time to repot the specimen, or to divide it into as many pieces as may be thought necessary. The only apparent damage will be the loss of a few leaves, but this will be more than compensated by the extra new growths which make their appearance a few weeks after the operation. Although these plants require to be kept damp throughout the year, amateurs must always remember that they are not bog plants, and therefore a sour, saturated soil is injurious.

There are very few Orchids that are benefited by the application of manure in any form. All the food they require is fully supplied in the compost advised for the various kinds, and any manure, in either a dry or wet state, is highly injurious. Sometimes the plant makes additional growth for a few weeks, but the after effect is usually disease and rapid death. The only exceptions are a few of the terrestrial growing kinds, including Cymbidiums and Cypripediums. When these plants have assumed large proportions, and the pots are full of roots, so much so that the food supply of the compost is exhausted, then a weak solution of manure water may be given about once a month. This, however, is only of temporary assistance to the plant, and no really healthy growth will be made until the plant can be repotted into fresh compost, where the roots can obtain a further supply of natural food. Manure for Orchids is like a whip to a tired horse, it only induces further energy for a very short period, the subsequent effect being greater weakness instead of increased strength. The practice of sprinkling manure water on the ground and staging was once a common one, but, thanks to a better knowledge of the plants' requirements, this has fallen into disuse. It is hardly possible to imagine anything more distasteful to a visitor than an Orchid house smelling strongly of manure.

EULOPHIELLA HAMELINII.

By Dr. P. FERKO, Milan, Italy.

RETURNING to the remarks made in the ORCHID WORLD, Vol. II., p. 254, I should like to add a little more on the culture of the above Orchid. Another plant, considerably smaller than the one previously described, finished up a bulb the size of a pigeon's egg, and was crowned with four leaves. It soon commenced to push forth a new growth, which in three months' time had developed to a length of 8 inches, and projected far over the edge of the basket. This necessitated a second basket being fixed so that the growth, which showed a number of roots, could firmly establish itself therein. At the same time the bulb began to develop, and several large leaves were produced.

Eulophiella Hamelinii.

Eulophiella Hamelinii, on account of its rapid growth, requires a copious supply of water. In its native habitat the plant grows on the stems of the Pandanus, and uses the water which is stored in the sheathing of the leaves. Exposure to the full rays of the sun is very beneficial. In July and August the sun was so fierce that the leaves of some Cattleyas, which happened to be near this plant, were scorched in a few hours.

By the end of November the plant had finished its bulb and leaves. The former was 8 inches in height and had a circumference of 6 inches. The latter, 11 in number, measured from 20 to 40 inches in length. The flower spike began to show itself near the lowest leaf, even before the bulb was fully developed. At a temperature of 65-70 degs., Fahr., rapid growth was maintained, and one could observe a daily growth of about three - quarters of an inch. After six months the flower spike reached a height of about 5 feet, and showed buds as large as a hazel-nut.

In Madagascar the spikes reach to a height of 8 feet, and carry about 50 flowers. It is an imposing sight to view these gigantic spikes majestically towering above the leaves, and some idea of this may be gained from the plant seen in the illustration. The flowers of this plant have a much deeper colour than others, being rosy mauve, which harmonises splendidly with the glistening white lip and its yellow crest. The first

flower opened on January 5th, and they were all in full bloom by February 10th.

The period of rest is short. As soon as the spikes are removed the growth begins anew. The large eye at the base of the bulb soon begins to swell, and the new growth exceeds the previous one considerably. By good cultivation it is possible to produce bulbs of enormous size, strong enough to carry four spikes, such as I have observed on imported plants. The new growth starts forth in a certain direction, and all attempts to alter its course, even by turning the plant to the light, prove useless. Eventually one has to assist the plant by adding extra basket room and potting material. This disadvantage, however, is compensated by the fact that this wonderful plant resists low temperatures, as well as occasional dryness or too much moisture.

It is possible to have Eulophiella Hamelinii in flower every eight or ten months. A potting compost much liked by this plant is sphagnum, polypodium, and decomposed beech-leaves in equal parts. Messrs. Charlesworth and Co., and Messrs. Th. Pauwels and Co., have also had excellent results by this method.

It is deplorable that the importing of Eulophiella Hamelinii in large quantities presents such great difficulties, for after the plants are once established they are comparatively easy to maintain in good condition, and are as easy to grow as Lycaste Skinneri. The plant illustrated has made rapid and strong growth during the past season, and, all being well, will produce an abundance of flower about Christmas time.

CULTURE OF ONCIDIUM VARICOSUM.

BEING only an amateur Orchid grower of five years' standing, I have some diffidence in airing my experiences. Nevertheless, as my results have been very favourably commented upon by at least two friends who are somewhat of the character of specialists, I am encouraged to publish some cultural notes which seem particular to the methods I have adopted after close observation of my plants' progress. Although my remarks may not be strictly novel, yet I believe they will bear repetition, and will, at least, emphasise the treatment some plants require to obtain a healthful life.

I will begin at the beginning—the potting process. When the plants are first received in the dry state they must be plumped-up by remaining on wet moss for three or four weeks. If established plants are to be repotted, then they must be thoroughly cleaned—bulbs, leaves, and roots. This is obvious, so I need not further comment on it.

The clean pots ought to be crocked so that perfect drainage and ample ventilation is ensured. This is best done by selecting sufficiently large pieces and standing them vertically in the bottom of the pot, which is a better practice than merely throwing in a small quantity of crocks that choke the ventilation. The compost should contain a good proportion of broken oak leaves, say one-third, and the remainder made up of cut-up fibre. This should be neatly packed in with the roots well spread out, and will make an excellent start for after results. If the potting is finished off with a little chopped moss all will be in good trim for a year's growth.

Oncidium varicosum is one of the few epiphytic Orchids that benefits by the application of manure. I find, after growth is robust and promising, that weak cow manure, twice a week until the flower-buds are opening, is highly beneficial to the plants. But at the flowering stage the manure treatment should be discontinued.

During spring and summer a decided rest is necessary, and very little moisture, compatible with non-shrinkage of the bulbs, is required. A lower temperature is also beneficial. This treatment also refers to Oncidium Forbesii. When the spike has attained a couple of inches growth, transference of the plants to a temperature of

about 60 degs. in the daytime will be comfortable for them. At night time it may drop to 55 degs. Plenty of atmospheric moisture is also a necessity.

Another essential worth emphasising is fresh air. If plants enjoy fresh air in the daytime, why prevent them getting it in the night? The air is naturally brisker and fresher in the night and early morning, so why shut the house up and debar the plants from it? Consequently, I recommend a top ventilator to be always a little open. The bottom ventilators should be open every day, remaining so until the early evening. Of course, one must exercise reason and judgment in this, and be governed by the outside weather. If frost is about a little air should still be given, and the temperature be maintained by additional fire heat. No direct cold air should ever reach the plants, but a gentle, warm circulation is beneficial.

Although Oncidiums are generally considered difficult plants to cultivate for several successive years in this climate, I can speak from my own experience, based on the routine culture mentioned, there is no reason why deterioration should occur. I have the same plants of O. varicosum after several years' culture, and they have done better this year than ever, one plant having 155 good-sized flowers, and others with spikes supporting over 100 flowers. The O. Forbesii also flourish well, and have spikes with from 30-40 large flowers, which are particularly handsome by reason of the polished surface of the petals.

Oncidium varicosum, one of several examples flowering in the collection of Alf. J. Paine, Esq.

It is usually considered necessary to cut off the spikes after a short time, but I leave them on generally until they begin to wither. Why should not a healthy plant be able to look after its own spike? Of course, if an indifferent plant is doing its utmost to flower

miserably it is best to relieve it of the strain.

One other point in regard to the cultivation of Oncidiums which I should like to mention is that when the plants get to, say, the four bulb stage they do better in boat-shaped rafts suspended from the roof. I am making the experiment of shifting the plants from pots into these receptacles, doing so at the potting season. Oncidiums I find are impatient of division. I am sure I did wrong in dividing some of mine, but my anxiety to increase the number was my only excuse.

Much the same treatment suits Lycaste Skinneri and L. Deppei, although these being of a terrestrial nature it is natural for them to receive some manurial aid, but I do not recommend persistent applications. A proportion of good fibrous loam in the compost is necessary, and Lycastes do not require such a severe or dry rest during the summer time as the Oncidiums.

I may mention that I have Cattleyas, Lælias, Lycastes, Cypripediums, Oncidiums, and several others, all looking very comfortable and happy in the same house. The chief reason for their good health is, I fully believe, that the house is always being refreshed by the open top and bottom ventilators. Shading in the summer is done by tiffany sheets, removable by hand.

Alf. J. Paine, Athenlay, Wanstead, Essex.

NEW HYBRIDS.

ODONTOGLOSSUM MEREDITHÆ. — This pretty hybrid is the result of crossing Rossii rubescens with venustulum (crispo-Harryanum × ardentissimum). The rose-tinted flower has the sepals and petals spotted with brown, the rose labellum having a crimson blotch just beneath the golden crest. Raised by Mr. Richd. G. Thwaites, Chessington.

CATTLEYA MOIRA.—Messrs. Hassall and Co., Southgate, have produced this effective flower by crossing Mantinii with Fabia. It is an improvement on the former parent, being larger, without losing much of the dense colour so often seen in the best forms.

LÆLIO-CATTLEYA SULLA.—By crossing C. Mendelii with L.-C. Antigone (purpurata × Schilleriana) Mr. H. G. Alexander has added another new hybrid to the Westonbirt collection.

CATTLEYA GRANIRIS.—The name of this hybrid is derived from its parents granulosa and Iris. The flower has reddish-bronze sepals and petals, the broad, open labellum being crimson, the column straw colour. Flowered in the Glebe collection, Sevenoaks.

LÆLIO-CATTLEYA AMECIA.—Raised by Mr. Thurgood in the Rosslyn collection, and resulting from the crossing of C. Mantinii and L.-C. Wellsiana.

CATTLEYA THELA.—The result of crossing Cattleya Mrs. J. W. Whiteley with C. Hardyana. A promising hybrid, raised in Mr. Pitt's collection, Rosslyn, Stamford Hill.

LÆLIO-CATTLEYA MOYRA.—Mr. F. C. Puddle has raised this new hybrid in the Scampston Hall collection, Rillington, York. The parentage is C. Warscewiczii × L.-C. Clonia, the latter being a hybrid between Warscewiczii and L.-C. elegans. The flower much resembles a typical bloom of the former parent, but is not quite so wide in the petals. The rich colour in the lip is an attractive feature.

CATTLEYA PURITY.—This hybrid between labiata "Harefield Hall" and Warneri alba was exhibited by Mr. Richd. Ashworth at the Manchester Orchid Society, October 16th, 1913. The large flower had white segments.

LÆLIO-CATTLEYA EXCELSIS.—This hybrid was exhibited at the Manchester Orchid Society, October 16th, 1913, by Mr. Richd. Ashworth. The parentage is L.-C. Haroldiana and C. Hardyana, the flower having a deep maroon lip.

CYPRIPEDIUM STELLA.—Messrs. Sander and Sons have raised this interesting hybrid between Godefroyæ and Fairrieanum. The characteristics of both species are equally represented, the flower being flushed with rose and marked with numerous lines of purple-brown spotting.

CATTLEYA THOMASII.—A promising hybrid between C. Bowringiana and C. Peetersii (labiata × Hardyana) has been raised in the collection of Mr. Fred. J. Hanbury,

Brockhurst, East Grinstead. The former parent will give the desired shape, while the latter will add the rich colour.

BRASSO-CATTLEYA MATTHEWSII.—This is the result of crossing C. Hardyana with B.-C. Mariæ (Digbyana × Warneri), the first plant to bloom clearly showing the Digbyana influence. Raised in the collection of Mr. Fred. J. Hanbury, East Grinstead.

CATTLEYA ESTHER.—Mr. H. G. Alexander has raised this hybrid in the Westonbirt collection, the parentage being C. Gaskelliana × C. Cleopatra (superba × aurea); the distinctly coloured lip of the superba is well inherited.

CYPRIPEDIUM OLYMPUS.—A very fine result has been achieved by crossing Alcibiades with Leeanum Clinkaberryanum, the flower having a flat dorsal sepal 3½ inches in width, the upper half white, the lower flushed with green. Raised by Mr. H. G. Alexander in the Westonbirt collection.

BRASSOCATTLÆLIA PURITAN.—By crossing Lælio-Cattleya Ascania (C. Trianæ × L. xanthina) with Brassavola Digbyana Messrs. Flory and Black have produced a pretty hybrid with a fringed lip. The flower is pure white with the exception of a rose tint on the column.

CATTLEYA AJAX. — Several excellent varieties of this hybrid between Armstrongiæ (Loddigesii × Hardyana) and aurea have been flowered by the raisers, Messrs. Armstrong and Brown, Tunbridge Wells. The Loddigesii species gives considerable texture to all the segments of the flower.

LÆLIO - CATTLEYA FAVONIUS. — The parents of this hybrid are L.-C. G. Woodhams (L. purpurata × C. Hardyana) and C. Fabia. Messrs. Armstrong and Brown, who raised the cross, find considerable variation, but many are of splendid coloration.

ODONTOGLOSSUM ELISSA. — Another addition to the Edwardii hybrids has been raised by Messrs. Armstrong and Brown, this one being by the use of illustrissimum. The long spikes carry numerous purple blooms, the bright yellow crest showing to advantage.

ODONTOGLOSSUM MENIER.—This new hybrid between gandavense and amabile was shown at the meeting of the Royal Horticultural Society by Mr. Ernest G. Mocatta, Woburn Place, Addleston. The plant carried a spike of 15 purple-brown flowers.

CATTLEYA MRS. PERCY BIGLAND.—By crossing C. Harrisoniana with C. chocœnsis alba Mr. F. J. Hanbury has raised this hybrid in his collection at Brockhurst, East Grinstead. The flower is a light rose tint, the wide lip having yellow colouring, the column rose flushed.

BRASSO-CATTLEYA VANESSA.—By crossing C. Trianæ with B.-C. Mariæ (B. Digbyana × C. Warneri) a very pleasing hybrid has been raised in Mr. W. H. St. Quintin's collection, Scampston Hall, Rillington, York. B.-C. Mariæ is one of the best coloured of its section, and this rose-purple has been largely inherited in the new seedling. As with all hybrids of B. Digbyana the labellum is more or less fringed, and widely open.

BRASSOCATTLÆLIA PAPHIA.—An interesting addition to this section has been raised by Mr. F. C. Puddle in the Scampston Hall collection. The parents are L.-C. Gottoiana (L. tenebrosa × C. Warneri) and B.-C. Warneri (B. Digbyana × C. Warneri), so there is a large chance of the rose-purple Cattleya species appearing in the progeny. The Lælia species frequently imparts a bronze tint to hybrids of which it is a parent, although in this case its power will not be so strong.

LÆLIO-CATTLEYA XANTHO.—The hybrid described under this name on page 36 as a new one is in reality a variety of L.-C. Neleus (L.-C. Ophir × C. Iris), first flowered by Messrs. Charlesworth and Co. in the early part of 1911.

LÆLIO-CATTLEYA SANDHURSTIANA.—The parentage of this hybrid, mentioned on page 37, is C. Hardyana × L.-C. Ophir.

WATFORD SHOW.—At the Fourth Annual Show, held at the Clarendon Hall, Oct. 29th, Mr. Alwyn Harrison secured the first prize for six Orchids, and Mr. C. H. Waterlow secured the second.

ORCHIDS AT LANGLEY, SLOUGH.

THE Orchid Nursery of Messrs. Flory and Black, Langley, Slough, is quite modern in its arrangement and structure, consisting of eight houses, four running from each side of a corridor. The houses are about 50 feet each in length, six of them being 12-14 feet wide, while two are large houses with centre and side stages. They are strongly built, amply provided with heating equipment, and being in an open district, and on a fine healthy soil, they are admirable "growing" houses. A well-adapted potting shed is attached, so that the whole block is self-contained and complete.

The first house entered is where the work of raising the warmer kinds of Orchids is carried on. It is full of seedlings in various sizes of growth up to two or three bulbs, and composed of Cattleya, Lælia, Cypripedium, and Sophronitis hybrids, the majority of which are secondary crosses, many being from Brasso-Cattleyas, but it is impossible on this occasion to go into details of the parentage. Seed is germinating quite freely both in and out of a close case, and Mr. Black is confident of abundant results in this house. It is possible to get almost any temperature without there being any "fiery" smell, and the same can be said of all the other houses. From the roof of this house a good plant of the rare Cirrhopetalum Rothschildianum is suspended.

The next house is full of Cypripedium hybrids, flowering for the first time, among which are very many beautiful varieties. An interesting plant in flower is C. niveum × T. B. Haywood, largely partaking of the niveum in form. Several very fine varieties of C. Idina were noted, and a good many worthy things that are to be grown until stronger.

Another house is filled with Odontoglossums and Disas, many O. crispums of a fine type being in flower. There are several hundred Odontoglossum hybrids, Odontiodas, etc., in this house, a good solid-coloured percultum being in flower. The Disas form an interesting collection and succeed exceedingly well in this house. There is a vigorous batch of D. luna, probably the best in the country, and also D. grandiflora, which has been raised from seed. These should make an excellent show when in flower. There is also a number of seedlings raised between these two, the stronger of which may flower next year. Some Odontoglossum seed had just been sown, and there is every confidence that it will germinate freely in this house. Several Odontiodas carrying pods were noticed.

The next two houses are filled with the larger plants of the collection, and include many secondary hybrids of L. purpurata, Brassavola Digbyana, batches of Lælio-Cattleya Canhamiana, L.-C. callistoglossa, and L.-C. Dominiana, the latter being well represented by the variety langleyensis. A plant of Lælio-Cattleya Nella is in bud and shows much promise. Much is expected from this, as the only other plant of the small batch to flower received a First-class Certificate two years ago. It is a hybrid between L.-C. Dominiana langleyensis and C. labiata. The fine L.-C. Invincible var. Orama, which received an Award of Merit, April, 1912, is now in sheath, and should flower well. The parentage is L.-C. Dominiana and L.-C. bletchleyensis. These two houses contain several hundred plants in sheath, and on the vigorous plants a fine display of bloom will be seen in the spring time. A plant of L.-C. Bola (labiata × callistoglossa) was in flower, the lip being deep-purple and self-coloured, while the sepals and petals were of excellent shape, little trace of the Lælia parent being in evidence.

A number of albino Cattleyas were noted, including C. Mossiæ Wageneri, C. Gaskelliana alba, C. Mrs. Myra Peeters, C. labiata alba, C. Trianæ alba, C. Dusseldorfei Undine, C. Skinneri alba, and Lælia pumila alba. In the next two houses, which are also filled with Lælio-Cattleyas and Cattleya hybrids, many interesting and important crosses were noticed, to which we hope to refer another time. Amongst those in flower was a fine Cattleya Oriel (Mantinii × Hardyana), of

splendid shape and rich colour, with two yellow eyes on the labellum, so characteristic of C. Warscewiczii. Also in flower were good Cattleya aurea, a hybrid resembling C. Mendelii, but of unknown parentage; L.-C. Amecia (L.-C. Wellsiana × C. Mantinii), resembling a good C. Portia; L.-C. Charmian (C. Trianæ × L.-C. bletchleyensis); and many other good things were showing above the sheaths, so that a succession of novelties is assured.

The transference of the Hybrid Orchid establishment of Messrs. Jas. Veitch and Sons, Ltd., to Messrs. Flory and Black is a really important event in the Orchid world, and one that, considering the personality of the firm, is sure to be of much importance in the future. The partners are well-known and highly esteemed. Mr. Sidney W. Flory entered the nursery of the late H. A. Tracy, his uncle, when a boy, and was active manager of this for many years before Mr. Tracy died. Mr. Flory has since carried on the business on his own account, and proposes still to do so. He is a member of the Orchid Committee of the Royal Horticultural Society, and an excellent judge of Orchids.

Mr. J. M. Black, who has recently taken up his residence at Slough, and upon whom will develop the growing and production of new hybrids in the collection, is eminently suited to the work. He emerged at Streatham into one of our foremost raisers, and is an interesting and well instructed writer on the subject of Orchid hybridisation. Mr. Black spent some of his earlier years on the Continent, and is quite conversant with the German and French languages, an acquirement that cannot fail to be of much assistance in a commerce that is essentially international in its character.

Old Sale Catalogue.—On June 9th, 1851, Mr. Stevens sold by auction the collection of Orchids formed by Mr. Blandy. A copy of the catalogue giving the prices realised has recently been brought to light. The sale was described as "The most important collection ever offered to public sale." The 307 lots realised £1,052. The following particulars are of interest: Aerides odoratum, £6 6s.; Aerides maculosum and Dendrobium chrysanthemum, £13 10s.; Aerides quinquevulnerum, £11; Cattleya Mossiæ, £15 10s.; C. Skinneri, £23; C. Harrisoniæ, £10; C. superba, £7 15s.; Phalænopsis amabilis, £23 2s.; Dendrobium Dalhousieanum, £12 12s.; Vanda teres, £6 6s.; V. violacea, £13; V. Batemanii, splendid specimen, £69 6s.; Epidendrum verrucosum, £6; Saccolabium guttatum, £19 10s.; Cattleya labiata picta, figured in "Paxton's Flower Garden," October, 1850, £12 10s.; and another plant of the same, £16. Although the catalogue only comprised 307 lots, the sale proceedings occupied two days.

ORCHIDS AT LEEDS.

At the North of England Horticultural Society, held in the Corn Exchange, October 9th and 10th, Orchids were shown by Messrs. Mansell and Hatcher, Rawdon, who received a Silver-gilt Medal for a group containing Cattleya Mrs. J. W. Whiteley, Miltonias, Cypripediums, and Lælia pumila alba, the latter receiving a Second-class Diploma.

W. P. Birkenshaw, Esq., Hessle, was awarded a Large Silver Medal for an exhibit including Cypripedium Boltonii, carrying three blooms on one spike, and awarded First-class Diploma; Cattleya Queen Mary, Cypripedium Lord Ossulston, with ten blooms, and C. Maudiæ.

John Hartley, Esq., The Knowle, Morley, sent a small collection to which a Silver Medal was granted. Included in it were well-grown plants of Cattleya Hardyana, considered by some growers to be one of the finest forms of this hybrid, and awarded First-class Diploma; C. Fabia exquisita, fine bloom of good colour; C. Iris; Cypripedium Gaston Bultel, rich colour; Odontoglossum grande, fine spike; and Oncidium Forbesii.

Messrs. A. J. Keeling and Sons, Bradford, received a Bronze Medal for a few choice varieties.

Maxillaria scurrilis, a well-cultivated specimen in the collection of Sir Trevor Lawrence, Bart., Burford, Surrey.

ORCHID SALE.

CHOICE Orchids from the Plumpton Hall collection were, by order of Mr. W. R. Lee, sold by auction by Messrs. Protheroe and Morris, at the Coal Exchange, Manchester, Nov. 12th, 1913. The total amount realised was about £900, the following figures being of interest:—Odontioda Queen Mary (Odontioda Vuylstekeæ × Od. eximium), three bulbs and a strong growth, 120 gns., figured in the ORCHID WORLD, Vol. II., p. 229; Odontoglossum Ceres magnificum (Rossii rubescens × Rolfeæ), four bulbs, 20 gns., figured in the ORCHID WORLD, Vol. I., p. 97; Od. Ceres Plumpton Hall var., four bulbs, 16 gns.; Cypripedium Antinous, one old growth, three growths showing flower, and two new growths, 17 gns.; Cyp. Goliath, two strong unflowered growths, 28 gns.; C. King George V., one strong growth in spike, and one lead, 30 gns., figured in the ORCHID WORLD, Vol. I., p. 44; C. Alcibiades Illustrious, one strong unflowered growth and break, 20 gns.; C. Rosettii Leeanum, one old and two flowering growths, and one new growth and break; the dorsal sepal of this variety measures just over three inches across, 14 gns. C. Hermes, one old and two flowering growths, two strong breaks, 22 gns.; C. Queen Alexandra, one flowering and two strong new growths, 14 gns.; C. Boltonii, one old and one flowering growth and three young growths and break, 10 gns.; C. Idina, two strong unflowered growths, 9½ gns.; C. Dreadnought, two strong new growths and break, 9½ gns.; C. Goliath, one strong unflowered growth and a good break, 20 gns.; C. Actæus Bianca superbum, one old flowered and two young unflowered growths, 30 gns.; C. Shogun, see illustration, one old flowered and three strong new growths, 21 gns.; another plant of same, one old and two new growths, 17 gns.

MEDALS FOR ORCHIDS.—At the Chester Paxton Society, November 18th and 19th, a Gold Medal was awarded to Mr. A. Hamner, and a Silver Medal to Mr. W. Richardson Moss. At Liverpool, November 12th and 13th, Gold Medals were granted to Messrs. Mansell and Hatcher, Messrs. Stuart Low and Co., and a Silver Medal to Mr. Richd. le Doux. At Maidstone, November 11th and 12th, Mr. Ed. Clement staged an excellent exhibit of Orchids.

Cypripedium Shogun.

"THE HORTICULTURAL RECORD."—We learn that Mr. Reginald Cory has received the gracious permission of the King to dedicate the volume, entitled "The Horticultural Record," which is to be published next month by Messrs. J. and A. Churchill. The work contains 117 coloured plates, reproduced from photographs taken at the Royal International Horticultural Exhibition, 1912, and 67 half-tone plates. Several well-known writers contribute articles on the progress of horticulture since the first International Exhibition in 1866. The book contains the official report of the 1912 Exhibition, including the papers contributed to the Science and Education Conference. This work should be interesting as well as a record of the great event, and we trust will meet with the success it deserves.

ROYAL HORTICULTURAL SOCIETY.

November 4th, 1913.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. James O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Sir Harry J. Veitch, Messrs. W. Bolton, Gurney Wilson, S. W. Flory, W. H. White, A. Dye, H. G. Alexander, J. E. Shill, G. Hunter, W. H. Hatcher, J. Cypher, J. Charlesworth, C. H. Curtis, A. McBean, T. Armstrong, F. J. Hanbury, R. G. Thwaites, R. A. Rolfe, and de B. Crawshay.

Lieut.-Col. Sir George Holford, Westonbirt, exhibited the new Cattleya Esther (Gaskelliana × Cleopatra), Odontioda Latona Westonbirt var., with reddish blotches; and the noble Cypripedium Olympus.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey, showed a pretty group of the lilac-blue Cattleya Portia, obtained by crossing C. labiata cœrulea with C. Bowringiana violacea. The best flower was C. Portia Lady Colman, the segments being broad and of rich colour.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, exhibited Cattleya Fabia, with numerous flowers; Vanda Kimballiana alba; the handsome Cypripedium Vogelzang maculatum; and others.

His Grace the Duke of Marlborough, Blenheim, showed Cypripedium Lord Ossulston Blenheim variety, the broad dorsal sepal having a large white area.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-gilt Flora Medal for a rich collection of species and hybrids, the best being Catasetum macrocarpum aureum, the pretty Paphinia cristata, Maxillaria abbreviata, Cattleya Tityus and C. Enid.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Flora Medal for an effective group, in which were good forms of Cattleya Fabia, C. Armstrongiæ, and C. Mrs. Pitt. Cypripediums included Mrs. Spender Clay and Chas. Rickman, and Lælio-Cattleyas were well represented by Berthe Fournier and Maqueda.

Messrs. Stuart Low and Co., Jarvisbrook, Sussex, were awarded a Silver Flora Medal for an interesting exhibit of Cattleya labiata, the varieties including glauca, Cooksoniæ, and the true alba. Several excellent plants of Vanda cœrulea and the rare Dendrobium Phalænopsis album were also shown.

Messrs. Sander and Sons, St. Albans, secured a Silver Banksian Medal for a good group, containing Cypripedium Zampa (hirsutissimum × Leeanum), a pleasing hybrid; Cattleya Mantinii Sander's var.; C. Fabia, of excellent colour; and Lælio-Cattleya Sapphirata, with bluish veining on the labellum. An excellent selection of Odontoglossum hybrids was also shown.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for a neat group, in which were large forms of Cypripedium Niobe, Cattleya Bowringiana sanguinea, C. Minucia, of good shape, and various other well-flowered hybrids.

Messrs. Flory and Black, Slough, exhibited Cattleya Fabia, with white sepals and petals, Cypripedium Mary Lee, and the new Brassocattlælia Puritan (L.-C. Ascania × B. Digbyana), a pretty result, the flower being white except a slight rose tint on the column. A good variety of Odontoglossum crispum was also shown.

Messrs. Hassall and Co., Southgate,

exhibited dark varieties of Cattleya Fabia and C. Mantinii, the pretty C. Sylvia (aurea × Fabia), C. Hassallii (labiata × Empress Frederick), and C. Clarkiæ, of good form.

Messrs. J. and A. McBean, Cooksbridge, staged good examples of Cymbidium Doris, various Odontiodas and Brasso-Cattleyas, and several excellent species.

Eustace F. Clark, Esq., Evershot, Dorset, sent cut flowers of Lælio-Cattleya Bryan (crispa × Gaskelliana), which had prettily flushed petals and dark crimson lips.

W. R. Lee, Esq., Plumpton Hall, Heywood, Lancs., exhibited the elegant Cypripedium King George V. and Odontoglossum crispum xanthotes "Golden Star," a beautiful variety with yellow spotting.

Pantia Ralli, Esq., Ashtead Park, Surrey, exhibited Odontoglossum Ashteadense, with reddish-crimson flowers, the rose-white lip blotched with crimson.

W. Waters Butler, Esq., Southfield, Edgbaston, sent Cattleya labiata Southfield var., a pleasing form; C. l. Minnie, very dark; and C. l. Hector, a good typical variety.

E. H. Davidson, Esq., Twyford, sent the pretty Odontioda Red Riding Hood (Rossii rubescens × Bradshawiæ).

C. J. Phillips, Esq., Sevenoaks, exhibited a handsome variety of Cattleya Hardyana, with white sepals and petals; also Oncidioda Cooksoniæ, a strong plant with numerous rich red flowers.

F. du Cane Godman, Esq., South Lodge, Horsham, sent Cattleya Mantinii, a young plant with a lavender-blue flower.

Richd. G. Thwaites, Esq., Streatham Hill, sent Cattleya labiata alba, raised from seed; Odontoglossum Meredithæ, a pleasing hybrid; and Lælio-Cattleya Rubens, of excellent form and colour.

Mr. Harry Dixon, Wandsworth Common, showed Odontioda Cupid (O. ramossisimum × C. Nœzliana); the flowers open red, but change to a rose tint.

Francis Wellesley, Esq., Westfield, Woking, showed Cypripedium Little Gem Westfield var., a great improvement on the original form.

Awards of Merit.

Cypripedium Olympus (Alcibiades × Leeanum Clinkaberryanum), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—A noble flower, the large flat dorsal sepal being $3\frac{1}{2}$ inches across, the upper part white, the lower flushed with green. Sepals and petals dusky-yellow, tinged with red.

Odontoglossum crispum xanthotes Westonbirt var., from Lieut.-Col. Sir George Holford.—A very pretty form with broad segments spotted with bright yellow.

Lælio-Cattleya Olenus Blenheim var. (L.-C. bletchleyensis × C. aurea), from His Grace the Duke of Marlborough.—A very grand result, in which the large flower is of a rich crimson-purple, the lip slightly darker, and veined with gold. The plant does not appear to have attained full strength, so even better results may be expected.

Cattleya Drapsiana McBean's var. (C. Dowiana aurea × C. Mrs. Pitt), from Messrs. J. and A. McBean, Cooksbridge.—A hybrid of great merit, the whole flower being covered with a glowing rose-purple tint. The much crimped labellum ruby-purple, with the open throat golden-yellow.

Sophrocattlælia Niobe (L.-C. Gottoiana × S.-L. Felicia), from Messrs. Charlesworth and Co.—The segments of this flower are very broad, rosy-plum colour, while the lip is reddish-crimson.

Cypripedium Stella (Godefroyæ × Fairrieanum), from Messrs. Sander and Sons.—A very pleasing hybrid, with a creamy-white flower slightly tinged with rose and having lines of purple spotting.

Cultural Commendation

To Mr. J. E. Shill (gr. to Baron Schröder), for a magnificent plant of Odontoglossum crispo-Harryanum The Dell var., with a spike of 14 large flowers.

To Mr. W. H. White (gr. to Sir Trevor Lawrence), for grand specimens of Sigmatostalix radicans and Cœlogyne frimbriata.

November 18th, 1913.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. J. O'Brien (hon. sec.), Sir Harry J. Veitch, Messrs. Gurney Wilson, F. Sander, R. G. Thwaites, F. J. Hanbury, C. H. Curtis, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, J. Shill, H. G. Alexander, A. Dye, W. H. White, S. W. Flory, W. Bolton, C J. Lucas, R. Brooman-White, de Barri Crawshay, T. Armstrong, A. McBean and W. Bound.

Messrs. Charlesworth and Co., Haywards Heath, secured a Silver Flora Medal for an excellent group, containing Lælio-Cattleya Bola, L.-C. St. Gothard, the bright L.-C. Aureole, and the pretty L.-C. Smilax. Miltonia Bleuana, the rare Angræcum recurvum, many good Cypripediums and bright-yellow Oncidiums were also included, as well as Cattleya Vulcan and a yellow variety of C. Antiope.

Messrs. J. Veitch and Sons, Chelsea, were awarded a Silver Flora Medal for an attractive group of Calanthes, including Harrisii, Veitchii and vestita. Cypripediums included insigne Sanderæ, Maudiæ, and Leeanum virginale; and there were several promising Odontoglossum hybrids.

Messrs. Cypher and Sons, Cheltenham, secured a Silver Banksian Medal for an interesting exhibit of Cypripediums, the best being Tityus, Corona, Boltonii, and Thalia. The white-flowering Masdevallia tovariensis and several well-grown Calanthes completed the group.

Messrs. Stuart Low and Co., Crowborough, were awarded a Silver Banksian Medal for an attractive exhibit, which included a very fine form of Brasso-Cattleya Mad. M. Fournier (B. Digbyana × C. labiata), the elegant Cymbidium erythrostylum, Cattleya Dowiana with a spike of four flowers, several good Cypripediums, and some excellent forms of Vanda cœrulea.

Messrs. Hassall and Co., Southgate, obtained a Silver Banksian Medal for a neat group, in which were good forms of Cattleya Portia, C. Sylvia, C. Hassallii (labiata × Empress Frederick), Cypripedium insigne Harefield Hall, C. i. Chantinii Lindenii, C. i. Gladys, and pleasing Odontoglossums.

Messrs. Flory and Black, Langley, were awarded a Silver Banksian Medal for a good exhibit of Cypripediums, the best being Idina, Mary Lee, and Thalia. Cattleya lucida, C. Portia, L.-C. Voltaire (C. G. Roebling × aurea) were also shown in excellent form.

Messrs. Baylor, Hartland and Co., Cork. received a Silver Banksian Medal for an exhibit of Cypripediums and Cattleya hybrids.

O. O. Wrigley, Esq., Bury, exhibited Vanda cœrulea Wrigleyi, a very beautiful variety, with whitish sepals and petals, the lip magenta-pink. The plant carried a spike of ten flowers, and is almost a similar variety to that certificated as Rochfordiana.

Lieut.-Col. Sir George Holford, K.C.V.O., showed Cattleya Portia Westonbirt variety, with three spikes and 21 flowers; and Cypripedium Gulliver (Mrs. Mostyn × Sultan), which much resembled the former parent in the area of coloration on the dorsal sepal, although in the new hybrid it is crimson-purple.

Francis Wellesley, Esq., Woking, staged Cypripedium Royal George, a bold flower, previously awarded a First-class Certificate, and Lælio-Cattleya Lady Oliphant, a pretty hybrid with buff-yellow sepals and petals and light purple lip.

Ernest Mocatta, Esq., Woburn Place, Addleston, exhibited the new Odontoglossum Menier (gandavense × amabile), with a spike of 15 purple-brown flowers, and Od. Maud, a pretty hybrid with claret-purple flowers. A noble specimen of Vanda Sanderiana with two spikes of bloom, and several Odontoglossum hybrids were also shown.

Mrs. Cookson, Oakwood, Wylam-on-Tyne, showed Cypripedium Chapmaniæ (Fairrieanum × Calypso), with a purple flushed dorsal, Odontioda Hippolyta (Bradshawiæ × amabile), a beautiful result, and Odontioda oakwoodiensis.

Mrs. Temple, Groombridge, exhibited Cattleya Mdme. Charlier (Mantinii × labiata), a bright purple flower of good shape.

C. J. Lucas, Esq., Warnham Court, Horsham, exhibited Brasso-Cattleya Digbyano-Mendelii "White Queen," a very large and beautiful

flower with broad segments, pure white, the lip having a yellow centre.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, showed Brassocattlælia Triune, with a broad rich purple lip.

Messrs. Sander and Sons, St. Albans, exhibited Lælio-Cattleya Mauretania (Martinettii × Canhamiana), of good shape; Cypripedium Royal Monarch (bingleyense × Leeanum Clinkaberryanum), with a very broad dorsal, flushed with rose; and Cyp. insigne Louis Sander (insigne Harefield Hall × insigne McNabianum), a bold flower with dark spotting.

Messrs. Armstrong and Brown, Tunbridge Wells, showed Odontoglossum promerens var. Bristowianum, handsomely blotched, and Cypripedium Arthurianum Orchidhurst variety, a very elegant and distinct form, different from all others of its kind, the flower taking more after the insigne parent.

E. H. Davidson, Esq., Twyford, staged a distinct and pretty hybrid between Sophro-Lælia Marriottiana × Lælia cinnabrosa; Odontoglossum nigrescens, previously given an Award of Merit; Odontioda Red Riding Hood (Od. Rossii × Odontioda Bradshawiæ); and several excellent Odontoglossum hybrids.

Awards of Merit.

Cypripedium Cyclops (Actæus × Alportense), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—A well-balanced flower, with the broad dorsal incurved at the base, light greenish-yellow, the upper part white, and with brown spotting. The petals very broad.

Lælio-Cattleya Feronia Charlesworth's var., from Messrs. Charlesworth and Co.—A beautiful result, the spike carrying 5 large flowers with broad segments of a rose-purple colour.

Angræcum recurvum, from Messrs. Charlesworth and Co.—An elegant specimen of this Madagascan species, carrying 13 pure white flowers.

Miltonioda Harwoodii The Shrubbery var., from Messrs. Armstrong and Brown, Tunbridge Wells.—The finest form of this very attractive hybrid between Miltonia vexillaria and Cochlioda Nœzliana.

Cypripedium Baron Schröder var. Kentore, from Messrs. Armstrong and Brown.—A very dark and distinct form of this well-known hybrid between œnanthum and Fairrieanum.

Dendrobium Leeanum Langley var., from Messrs. Flory and Black, Slough.—An unusually fine variety, with dark purple flowers carried on arching spikes.

Cultural Commendation

To Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George Holford, for Cattleya Portia Westonbirt var., a strong plant with three spikes, having an aggregate of 21 large flowers.

MANCHESTER ORCHID SOCIETY

October 16th, 1913.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, C. Parker, W. Shackleton, Z. A. Ward, G. Weatherby, A. Warburton, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to R. Ashworth, Esq., Newchurch, for a fine exhibit of various Orchids.

Large Silver Medals were awarded to A. Warburton, Esq., Haslingden, and to Z. A. Ward, Esq., Northenden.

Silver Medals were granted to Wm. Thompson, Esq., Walton Grange; Messrs. Cypher and Sons, Cheltenham; Messrs. Sander and Sons, St. Albans; and to Messrs. A. J. Keeling and Sons, Bradford.

Other exhibitors included O. O. Wrigley, Esq., Bury; the Rev. J. Crombleholme, Clayton-le-Moors; Mr. W. Shackleton, Great Horton; and Messrs. Charlesworth and Co., Haywards Heath.

First-class Certificates.

Lælio-Cattleya Excelsis (L.-C. Haroldiana × C. Hardyana), of even colour, with deep-maroon lip; Cattleya Purity (labiata "Harefield Hall" × Warneri alba), large flower, white segments, both from Richd. Ashworth, Esq.

Cypripedium Troilus "Impregnable," a large well-set flower, from Wm. Thompson, Esq.

AWARDS OF MERIT.

Lælio-Cattleya Colmaniana, and Odontoglossum grande superbum, the latter having been in the owner's collection for 16 years, from Richd. Ashworth, Esq.

Cypripedium Arthurianum "Walton Grange var.," from Wm. Thompson, Esq.

October 26th, 1913.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, W. H. Hatcher, J. Howes, J. Lupton, D. McLeod, C. Parker, W. Shackleton, H. Thorp, Z. A. Ward, G. Weatherby, A. Warburton, and H. Arthur (Secretary).

A Large Silver-gilt Medal was awarded to R. Ashworth, Esq., Newchurch; and Silver-gilt Medals to A. Warburton, Haslingden, and W. R. Lee, Esq., Heywood, for excellent groups of meritorious Orchids.

A Large Silver Medal was granted to Z. A. Ward, Esq., Northenden; and Silver Medals to Wm. Thompson, Esq., Walton Grange; Rev. J. Crombleholme, Clayton-le-Moors; Messrs. Cypher and Sons, Cheltenham; and Messrs. A. J. Keeling and Sons, Bradford.

A Special Vote of Thanks was accorded O. O. Wrigley, Esq., Bury, for a meritorious exhibit; and Col. J. Rutherford, M.P., also staged interesting plants.

FIRST-CLASS CERTIFICATE.

Cattleya Iris "Walton Grange var.," a very round flower, of even colour, with bright lip, from Wm. Thompson, Esq.

AWARDS OF MERIT.

Cypripedium Actæus leucoxantha, Odontoglossum ardentissimum Violette, and Od. Plotinum (Graireanum × luteopurpureum), all from Wm. Thompson, Esq.

Odontoglossum Ne Plus Ultra, a well-grown plant, with two spikes of large flowers, to which a Cultural Certificate and Bronze Medal were awarded the gardener, and Cattleya Armstrongiæ Jasper, both plants from Z. A. Ward, Esq.

Cattleya Isidor (Mantinii × Warscewiczii), from A. Warburton, Esq.

Odontoglossum amabile var. Bella Donna, from R. Ashworth, Esq.

Cypripedium Tracyanum virginale and Oncidium bicallosum, both from A. J. Keeling and Sons.

November 13th, 1913.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, H. Bell, J. Cypher, J. Evans, J. Howes, F. K. Sander, W. Shackleton, H. H. Smith, W. Thompson, G. Weatherby, and H. Arthur (Secretary).

A Large Silver-gilt Medal was awarded to Messrs. Cypher and Sons, Cheltenham; a Silver-gilt Medal to R. Ashworth, Esq., Newchurch; Large Silver Medals to A. Warburton, Esq., Haslingden; and Messrs. Charlesworth and Co., Haywards Heath.

Silver Medals were granted to Z. A. Ward, Esq., Northenden; and Wm. Thompson, Esq., Walton Grange. Other exhibitors included O. O. Wrigley, Esq., Bury; Messrs. A. J. Keeling and Sons, Bradford; Mr. W. Shackleton and Mr. H. Arthur.

FIRST-CLASS CERTIFICATE.

Odontoglossum eximium Rubrum, of beautiful shape, crimson, with white edges; Od. Helius, a large flower of similar colour, large square lip, showing traces of Harryanum parentage, both the property of Wm. Thompson, Esq.

Cattleya labiata La Vierge, a large well-shaped flower, white, with purple markings on lip; Miltonia ashlandensis (superba × G. D. Owen), a good flower, with excellent colour on the lip, both the property of R. Ashworth, Esq.

AWARD OF MERIT.

Odontioda Bradshawiæ Aurora, Cattleya Phrygia, C. labiata Athene, Cypripedium Estella, and C. San Actæus, all from Wm. Thompson, Esq.

Odontoglossum percultum Brunette, the property of R. Ashworth, Esq.

THE
ORCHID WORLD.
Vol. 4. JANUARY, 1914. No. 4.

NOTES.

ORCHID COMMITTEE.—We understand that the constitution of the Royal Horticultural Society's Orchid Committee will remain the same. There will be no new members for the current year.

CHELSEA SHOW, 1914.—We are glad to be able to state that the objectionable restrictions imposed upon Orchid exhibitors at the forthcoming Chelsea Show have been withdrawn. The groups will probably be arranged along one end of the large tent, and the staging will be about seven feet in width, exhibitors having the privilege of staging their plants to almost any desired height.

AN ALBINO RESULT.—Messrs. Stuart Low and Co. have lately flowered a hybrid between Cattleya Gaskelliana alba and C. labiata Purity, the result being pure white, with the usual yellow in the throat. This beautiful hybrid, previously recorded as C. Alcimeda, has since passed into the noted collection of Mr. Chas. J. Phillips, of Sevenoaks.

OBITUARY.—We much regret to record the death of Dr. Giovanni Piccinelli, of Seriate, Italy, who was an enthusiastic amateur cultivator of Orchids.

SALE OF MEXICAN LÆLIAS.—Messrs. Protheroe and Morris have recently sold by auction the remaining portion of the collection of Mexican Lælias formed by Mr. de Barri Crawshay. Several of the plants were small propagated pieces, and there was a good demand for them, the following prices being of interest:—Lælia Schröderæ Theodora, 2 gns.; L. Schröderæ Crawshayana, 18s.; L. Schröderiana Crawshayana, £2 10s.; L. Hollidayana rosefieldiensis, 35s.; L. Hollidayana Theodora, 37s. 6d.; L. anceps Crawshayana, 32s. 6d.; Odontoglossum waltoniense, 3½ gns.; O. crispum Mrs. de B. Crawshay, 8 gns.; and Odontioda Vuylstekeæ Crawshayana, 8½ gns. This well-known collection, commenced in the year 1882, has always been the finest of its kind, and the dispersal of the remaining portion marks the termination of a long period of careful study and interest taken in the plants by Mr. Crawshay. The site occupied by the house in which they were cultivated has been used for the erection of a new Odontoglossum house.

FLOWERS IN SEASON.—If any proof is wanted that Orchids may be had in flower during every week of the year, we have it in a selection of Odontoglossums kindly sent by Mr. Jas. Smith, Orchid grower to Mr. R. Brooman-White, at Garelochhead. Flowers in mid-winter are always pleasing, and if any one species of Odontoglossum has assisted more than another in making pretty flowers it is Harryanum. These examples include Od Prince Edward of Wales (crispo-Harryanum × Rolfeæ), a pretty variety with the spots very evenly distributed; Od. venustulum (crispo-Harryanum × ardentissimum), with reddish-purple blotching; Od. Aireworth

(crispum × Lambeauianum), a singularly attractive flower with deep-rose ground colour, spotted with purple-red, and with the edges of the petals nicely serrated. As a contrast to these hybrids several excellent varieties of Od. crispum are also sent, one named gloriosa being of extra size. Odontioda Vuylstekeæ, with rose-pink colour on the outer portion of the segments and light red markings on the inner parts, is rendered valuable for future work by reason of its good shape and texture. The Arddarroch collection has always been noted for excellent forms of Odontoglossum species, and its reputation has recently widened into the hybrid section. No doubt the good species have much to do with the fine results already achieved in hybridisation.

WICKEN FEN.—In 1911, the late Mr. G. H. Verrall, the well-known entomologist, bequeathed to the National Trust his property in Wicken Sedge Fen and St. Edmund's Fen, amounting to nearly 240 acres. These places are about the last remaining portions of the great undrained and uncultivated fens of the Eastern counties. They lie about seven miles south-east of Ely and about $3\frac{1}{2}$ miles of Soham in Cambridgeshire. The Fen cannot, however, be preserved in its natural condition without a considerable annual expenditure. The most crying need at the moment is that of a permanent guardian or watcher who should be able to do something to check the indiscriminate "collecting" done by unscrupulous persons, which has gone far towards exterminating the rarer plants, etc. The botanist will appreciate the value of Wicken Fen when he realises that here are to be found, among many other plants, the very rare Liparis Lœselii, known as the Fen Orchid, and the only representative of the genus in England, and Epipactis palustris, the Marsh Epipactis, a by no means common species. The Council of the Trust is now appealing to all those who are interested in the preservation of wild life for the necessary funds to maintain this unique property.

HELLEBORINE VIRIDIFLORA.—In the work being undertaken in connection with the preparation of a Flora of South Lancashire, considerable attention has been paid to the Orchids, a dozen species of which occur on the sandhills of the South Lancashire coast. Local botanists have hitherto known one plant as Helleborine latifolia, Druce, but the December number of the *Journal of Botany*, contains an exhaustive article by Mr. J. A. Wheldon, F.L.S., and Mr. W. G. Travis, pointing out the many differences between this and Helleborine viridiflora (Epipactis viridiflora, Reichb.), and it has now been proved that the latter is the correct name for the species in question. The authors of the article had long thought that the plant known locally as H. latifolia differed considerably in appearance from the inland plant in some not readily definable way, but until last summer had never compared fresh examples of the true form with the dune plant, or made a critical examination of the latter. "This comparison," state Messrs. Wheldon and Travis, "of flowering specimens was rendered a matter of some difficulty by the fact that, when the coast plant was in flower, the inland plant was only in bud, and by the time the flowers of the latter plant were sufficiently developed, we found it difficult to get flowering examples of the coast plant, and had to pay several visits to different localities before securing a few belated blooms. The result of our comparisons led us to the conclusion that the dune plant was certainly not ordinary H. latifolia, and, in fact, it did not seem to agree with anything described in British Floras."

SATYRIUM BICALLOSUM.—Of this interesting South African Orchid Dr. Bolus has remarked:—"In the structure of the column this species differs from any other known to me. The anther, instead of hanging vertically under the rostellum with its glands pointing forward, as is the typical structure in the genus, appears as if pushed up against the apex of the column, so as to be nearly horizontal, with the glands turned to the back

of the flower, and the stigma completely covered and hidden from view." While of Disa neglecta he has written:—"The early closing of the flowers by the falling inwards of the lip and the erection of the side sepals is very curious, and I have not observed it in any other species."

MASDEVALLIAS.—Interesting and valuable as these plants once were to many growers, both trade and private, it is difficult to realise the full extent to which they were esteemed. About thirty years ago an Orchid collector named Maw visited Colombia, where he saw several thousand plants of Masdevallia

Odontoglossum crispum F. McBean.

ODONTOGLOSSUM CRISPUM F. MCBEAN.—The adjoining illustration shows this very handsome blotched variety which appeared in an importation of the species several years ago. The width and rich colour of the segments make it one of the finest forms of these highly interesting flowers, and although the hybridist has been at work producing somewhat similar results, there is never quite the same amount of surprise attached to their flowering as when a really good blotched variety appears in an importation of the plants

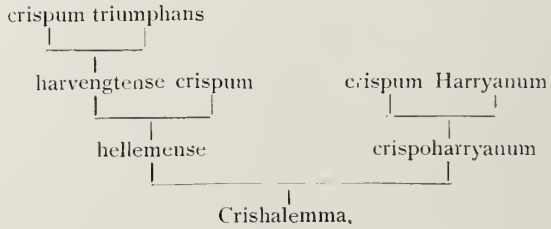
Harryana in flower. Instead of collecting them in a careless manner, he selected only the finest varieties, taking care on each occasion to affix a dried flower of the same to the prepared plant. Some 400 plants were thus consigned to London, where, at an auction sale, the best realised from four to six guineas each. The whole importation made about £400. Masdevallias comprise some of the brightest coloured flowers, and their popularity may once again return. There is fashion in all things.

The Lawrence Medal,

THE LAWRENCE MEDAL.—On February 13th, 1906, Sir Trevor Lawrence, Bart., completed the twenty-first year of his presidency, and to celebrate this event the Council of the Royal Horticultural Society invited all Fellows to subscribe towards having his portrait painted, and also to establish in perpetuity a large Gold Medal, to be called "The Lawrence Medal," to be awarded to exhibits of a specially meritorious character at the Society's meetings, the want of such a medal having been felt for a very long time. It is only struck in gold, and is awarded independently by the direct vote of the Council, who will, as a rule, confine themselves to not more than one medal a year. Lieut.-Col. Sir George Holford and Sir Harry J. Veitch have both received this medal, and now we have the pleasure of announcing that Mr. G. F. Moore, of Chardwar, Bourton-on-the-Water, Glos., has received it for his excellent exhibit of Cypripediums, comprising more than 250 specimen plants, at the Society's Hall, on January 7th, 1913. Mr. G. F. Moore has cultivated Orchids to a very high state of perfection, and on one occasion he filled the whole of one end of the Society's Hall with specimen plants from his collection. It is particularly pleasing to all Orchidists that this medal, the highest award the Society can bestow, has again been granted to an Orchid cultivator, and in making Mr. Moore the recipient widespread satisfaction has been given.

ORCHID SALE.—Valuable Orchids, mostly in flower, from Mr. J. J. Holden's collection at Southport, were sold by auction at the Coal Exchange, Manchester, December 17th, by Messrs. Protheroe and Morris. The following figures are of interest:—Cattleya labiata Amesiæ, fine plant, 7½ gns.; C. May Queen, six bulbs, 7½ gns.; C. Mrs. Myra Peeters, five bulbs, 8 gns.; C. Lueddemanniana Stanleyi, grand plant, 20 gns.; C. labiata alba, in flower, 10 gns.; C. Suzanne Hye de Crom, six bulbs, 14 gns.; Cypripedium Actæus Bianca, Westonbirt var., four growths, 19 gns.; C. Alcibiades Illustrious, two growths, 11 gns.; Odontoglossum Memoria King Edward, four bulbs, in spike, 40 gns.; O. crispum Holdenii, pure white, 14 gns.; O. crispum Lucianii, two old bulbs, one new growth, 14 gns.

ODONTOGLOSSUM CRISHALEMMA.



When the ancient Greeks made their Mythology they did not foresee the needs of Orchid raisers, or surely they would have created a Nymph with this name. As they were so shortsighted we have made the plant and the name.

The first plant to bloom of this cross, by which I hoped to procure a bright yellow-grounded crispoharryanum, has proved its correctness. The whole of the sepals and petals are light bright yellow evenly spotted with small bright brown spots, here and there coalescent, but principally separate "little islands" on the clear ground colour. The lip is white, but still has a creamy shade all over it. One more cross with a "yellow" will make a very pretty result.

de B. Crawshay.

Rosefield, Dec. 17th, 1913.

SOPHRONITIS HYBRIDS.

I WAS much interested in reading in your last issue Mr. Alwyn Harrison's article on Sophronitis hybrids. They have always been especial favourites of ours, and much time and thought have been given to them here because we think some of the most beautiful hybrids possible will come out of them.

I do not agree with him as to their not possessing good constitutions. We think them very strong. They inherit, from the Sophronitis parent, the habit of breaking freely and making many leads, which we call the Sophronitis habit. We have a plant of Sophronitis grandiflora we bought last year with three leads which now has seven. They multiply rapidly on this account, in spite of the fact that with us almost every bloom that appears on them is fertilised, and they often carry two pods at the same time.

We only had seven plants of Sophro-Cattleya Doris to begin with, and almost all our plants of it have been divisions of these. Sophro-Cattleya Thwaitesii, S.-C. Blackii, and others, are equally good for divisions. In many instances this fine trait of breaking freely seems to be carried forward to the next generation. I notice particularly one batch of seedlings from S.-C. Thwaitesii × C. Fabia, they are only about 2½ years old, and a good many of them have already two leads, and a few even three. A plant of C. Adula × S.-C. Felicia made four leads when quite young.

We find Sophronitis seedlings very free to flower, beginning to bloom on quite small plants, and not stopped by pod bearing. We bought a plant of Sophrocattlælia Marathon last July, in flower, we podded it, but the pod having failed the plant was divided; it has grown well, and the same piece that flowered in July is in bud now, December.

Of course, their pods are tiny, and the seed small, and sometimes it is rather difficult to raise, but certain crosses have germinated very freely, and once started they grow very rapidly. Someone told me that Cattleya Schröderæ seedlings were difficult to raise. We have two nice little batches with secondary Sophronitis crosses, and I expect great things from them.

We are trying a few experiments, making certain crosses both ways, to see if any differences appear in using a large and small flower together, as pollen parent and seed parent. Cattleya aurea × Sophronitis grandiflora and S. grandiflora × C. aurea seem to produce just the same, and others too; but from S. grandiflora × C. Mendelii we had all seedlings with the larger lip, nearer Mendelii; while from the reverse cross, with Mendelii as the seed parent, *all* the seedlings had the smaller lip, nearer the Sophronitis.

I have sometimes fancied the pollen parent has more influence over the shape of the resulting seedling, but we shall know more about that a little later on. Taking them altogether, I look upon Sophronitis seedlings as long-suffering plants, which will do well with anything like fair treatment.

Emily Thwaites.

HABITS OF BRAZILIAN PARASITES.—The following note, taken from Walsh's "Notices of Brazil," appeared in the *Botanical Register* for the year 1839: "The destruction of a tree in these woods does not lessen the abundance of vegetable life. On every blasted stem which had lost its own bark and leaves a crop of parasites had succeeded, and covered the naked wood with their no less luxuriant leaves and flowers. Of these, the different species of air-plants and Tillandsias were most remarkable. The first were no less singular than beautiful; they attach themselves to the dryest and most sapless surface, and bloom as if issuing from the richest soils. A specimen of one of these, which I thought curious, I threw into my portmanteau, where it was forgotten; and some months after, in unfolding some linen, I was astonished to find a rich scarlet flower, of the gynandrous class, in full blow; it had not only lived, but vegetated and blossomed, though so long secluded from air, light and humidity. Every withered tree here was covered with them, bearing flowers of all hues, from bright yellow to deep scarlet."

MOSCOW ORCHID SOCIETY.

THE first Annual Meeting of the Moscow Orchid Society was held on Dec. 4th, 1913. The proceedings were opened by the President, Dr. J. Troyanowsky, making an official speech of reception, after which the Secretary, Mr. Woronin, reported that the Society had displayed considerable vitality and energy during the first year of its existence, and now consisted of 40 members. Seven scientific communications have been made at its meetings, and a special committee has edited the beautiful work on the culture of Orchids, written by the President.

Dr. Troyanowsky then read the greetings of Russian and foreign Societies, also the fraternal greeting from the Manchester Orchid Society, sent through its Secretary, Mr. H. Arthur, which was received with particular pleasure. Hearty congratulations were also received from Messrs. Charlesworth, F. Sander, H. Graire, E. Bohnhof and O. Beyrodt.

The following were chosen as Honorary Members of the Society:—Sir Trevor Lawrence, Bart., K.C.V.O., Lieut.-Col. Sir George Holford, K.C.V.O., Sir Harry J. Veitch, Mons. Firmin Lambeau, Dr. R. Schlechter, Mr. J. Charlesworth, Mr. F. Sander, and Mons. H. Graire.

An exhibition of Orchids also took place, about 100 specimens, all of the best culture and in beautiful variety, being staged by various members. Mr. A. Warjenevsky, the learned botanist, presided over the committee, and First-class Diplomas were awarded to Mr. K. T. Prove, for a beautiful group; to Dr. J. Troyanowsky, for an extra fine variety of Odontoglossum illustrissimum; and to Mr. Braschnin, for Cypripedium M. Braschnin (M. le Curte × beechense).

The President exhibited cut flowers of the best kinds of Orchids, which had been sent specially for the annual meeting by Messrs. Charlesworth, Sander, E. V. Low, and others. The Society expressed its gratitude for the kindness shown by these friends.

The meeting was a success in every way, and we sincerely hope the Society may continue in the same prosperous manner.

CYPRIPEDIUM BELLATULUM.

ALTHOUGH the name of this Siamese species signifies pretty, there is far more in the flower than one usually expects when this descriptive word is applied. Not only is C. bellatulum elegant as well as quaint, but it has many of the essential points of an exhibitor's type of Cypripedium, the chief of which are solidity and general roundness.

Its nearest relations are niveum, concolor and Godefroyæ, although this latter one is generally believed to be a natural hybrid between niveum and bellatulum. Compared with other Cypripediums the subject of our illustration is comparatively dwarf in its manner of flowering, although the texture and strength of the marbled foliage suggests that a taller flower spike might be produced. Still, anyone who is an enthusiast of the genus cannot help being fascinated with the plant's singularity and attractiveness.

Many methods of cultivating this species have been practised, and although they differ in some respects one from another, almost every successful grower places the plants in shallow or well ventilated pans suspended from the roof of a warm house. The specimen illustrated, as well as about a dozen other equally fine plants, were cultivated at Westfield by Mr. Hopkins, who deservedly received Cultural Commendation from the Royal Horticultural Society. His cultural method consisted in placing the plants in pans having several large holes around the side, and using a compost of loam and crocks. These were suspended from the roof of a hot seedling house, where they received an abundant supply of water.

Many growers will wonder whether success can really be gained by keeping the plants so continually moist, but the secret evidently lies in the high temperature of the house in which the plants were placed. A considerable amount of moisture when the temperature is at a low point will certainly bring about discouraging results, and probably cause the death of the plant.

With such a distinct and interesting species

Cypripedium bellatulum, flowering in the collection of Francis Wellesley, Esq., Westfield, Woking.

with which to work it is not surprising to find that the hybridists have created a multitude of new hybrids, almost all of them showing very clearly the characteristics of the flower, foremost of which are the extremely broad petals with their handsome spotting, and the cup-like shape which these and the dorsal sepal together make.

C. bellatulum, like many other species, has its poor and good varieties, which vary greatly in value. The true albino variety was extremely valuable when first discovered, but slowly came down in price until hybridists saw in it the possibility of creating albino results, when a rapid rise occurred. Of these, there has not been sufficient time to see many results, although numerous seedlings are in various stages of growth. Other varieties include roseum, Dulcote, Hardy's, and Exhim's, the latter one of the darkest forms yet seen.

In cultivating this worthy species various methods have been adopted, most of which give excellent results. To assist the amateur and to interest the practical trade grower, we invite Orchidists to send us particulars of their methods of culture. In many collections it has been found impossible to grow this species, but the fault evidently lies with the treatment given, and not, as is usually supposed, with the adverse construction of the house.

Angræcum rectum, a rare Madagascan species.

ANGRÆCUM RECTUM.

THIS Angræcum is one of the beautiful Madagascan species that have proved so difficult and costly to import, and although obscurely known to botanists ever since the year 1822, it is very doubtful whether another plant has ever before been seen in flower in this country. The above illustration shows the plant as flowered by Messrs. Charlesworth and Co., by whom it was discovered some three years ago in an importation of various species received direct from Madagascar, but, unfortunately, it was the only one of its kind in the consignment. When exhibited at the Royal Horticultural Society, November 18th, 1913, it received an Award of Merit, under the name Angræcum recurvum.

The pure white flowers are carried on slender pedicels produced, not from the axils of the green leaves, but from the older and leafless portion of the thick stem, and in this peculiar manner of flowering it differs from the great majority of other Orchids. This fact alone is sufficient to induce interest being taken in the plant.

The specimen illustrated was cultivated in a position where the bright light only reached one side of the plant, consequently all the flowers are attracted in one direction; and although some of the higher ones appear to be produced from among the upper leaves, they have, as a matter of fact, been brought

to this position by carefully training the long slender stalks in order to show as much as possible of the plant's singular beauty.

The flowers of Angræcum rectum and A. recurvum are very similar, and this no doubt accounted for the error in naming the above specimen. There is, however, a very marked difference in the habit of the plants, and a careful consideration of the facts leads one to the conclusion that the plant certificated by the Royal Horticultural Society as A. recurvum is in reality A. rectum.

In 1822 du Petit-Thouars published his "Orchids of Madagascar," in which both plants are figured. In that of A. rectum the flowers are produced from the old leafless portion of the main stem, which is thick and erect; but in A. recurvum the only flower depicted is produced from the axil of a green leaf, while the main stem is thinner and shown in a bending position. Richards, in 1828, mentions Thouars' figure of A. recurvum, and considered it a variety of A. rectum.

About the year 1880 the Rev. Wm. Deans Cowan brought home from the east and centre of Madagascar a good collection of dried Orchids as well as many coloured drawings, these now being in the herbarium of the British Museum at South Kensington. This material was fully investigated by Mr. H. N. Ridley, who identified one drawing as A. rectum and another as that of A. recurvum, while in the *Journal of the Linnean Society*, Vol. XX., p. 329, is a report of a paper read by him, June 7th, 1883, describing Deans Cowan's plants. Of A. rectum he states: "Ankafana. A very powerful perfume at night; grows erect on branches and on rocks in the more open part of the forest." And of A. recurvum: "Low down on trees or rocks; a long straggling plant; flowers early in January."

Angræcum rectum is evidently rare, for in a description of the Orchids of Madagascar, *Jour. of the Linn. Soc.*, Vol. XXI., p. 477, Ridley remarks: "I have seen no specimen resembling Thouars's figure of A. rectum; but there is among Deans Cowan's drawings, besides a very good figure of A. recurvum, Thouars, a coloured drawing somewhat resembling Thouars's figure of A. rectum. It differs from the other species in the much closer leaves, blunter sepals and petals, the lateral sepals being recurved and not thrown forward, the more angular lip, and more irregularly and slightly bent green spur."

The culture of these Angræcums is by no means difficult, and so long as a fairly high temperature is maintained, together with considerable atmospheric moisture during the growing season, the plants make rapid progress. The specimen of which we give an illustration was grown along with various Phalænopses, the giant Eulophiella Hamellinii, and its relation E. Elisabethæ, Phaius tuberculosus and P. simulans, and other Angræcums, of which, perhaps, A. sesquipedale is the best known.

PLEIONES ON BLOCKS.

An interesting and successful manner of growing Pleiones on blocks is described by M. H. J. Clayton in a recent issue of the *Journal of Horticulture*. "For more than twenty years," writes Mr. Clayton, "we grew a batch of these dainty October-flowering Indian Crocuses on wood blocks, and found them very interesting. Mr. Taylor, gardener to Sir John Ramsden, Byram Park, grows them very successfully in the same way.

"The blocks are formed of Elder wood, from four inches to five inches in diameter, cut into lengths of about one foot, then split in their centres. The bark surface is covered with a mixture of equal parts loam and peat fibre, the dormant bulbs or corms being worked in an inch or two apart, the whole being affixed with very thin wire. Not much water is needed until the growths from the base of the bulbs are fully developed, though the material should not get dry at any time.

"The blocks can be put on their flat side in any ordinary plant stove, or, if preferred, can be hung from the roof by driving a small staple at each end. Shade is needed in hot weather. As the bulbs ripen less water is required. It is not really necessary to re-block every year, though the old material should be picked out and some fresh added."

THE ORCHID COMMITTEE.

DURING the present year the Orchid Committee of the Royal Horticultural Society will complete the first twenty-five years of its existence, and although a few members have been closely associated with it throughout its useful career, there may not be many present-day cultivators of Orchids who are conversant with its early history and development.

In the Society's early days all the Orchids were placed before the Floral Committee, which at that time worked satisfactorily, and considering the comparatively small number of plants exhibited the Committee was able to give careful consideration to the matter. In course of time, with the increase of the exhibits and the work which hybridists were producing, it was found difficult to keep pace with the advance and to fully understand the plants. No one realised this difficulty more than Sir Harry Veitch, who promptly set matters right by establishing a committee of experts to deal specially with these plants. At first, this body of Orchidists was known as the Orchid section of the Floral Committee, but soon after it assumed its present name. Several members were selected from the Floral Committee, and many other well-known amateurs and trade growers were nominated.

The Orchid Committee was established March 26th, 1889, and the following is the first official list of its members:—Chairman: Sir Harry J. Veitch. Vice-chairmen: J. Douglas, Dr. Masters. Honorary Secretary: James O'Brien. Members: T. Baines, H. Ballantine, L. Castle, de B. Crawshay, N. C. Cookson, S. Courtauld, John Dominy, T. B. Haywood, E. Hill, W. B. Latham, Sir Trevor Lawrence, R. Lindsay, F. Moore, F. A. Philbrick, C. Pilcher, H. M. Pollett, F. Sander, Baron H. Schröder, H. J. Smee, F. G. Tautz, and H. Williams.

On the occasion of the first sitting Sir Trevor Lawrence occupied the chair, and thirteen members were present. A large number of Orchids were staged by various exhibitors, the awards including First-class Certificates to Oncidium superbiens and Dendrobium micans; Awards of Merit to Dendrobium melanodiscus, Cattleya Schröderæ alba and C. Trianæ var. Bruce Findlay; Botanical Certificates to Masdevallia Chestertonii and M. triangularis; Cultural Commendations to Odontoglossum Stevensii, O. crispum, Oncidium macranthum and Cymbidium eburneum; while Votes of Thanks were accorded for Cattleya citrina, Cyrtopodium Saintlegerianum and Odontoglossum triumphans. A Cymbidium and Cyrtopodium species were referred to the Scientific Committee.

The Award of Merit. The year 1889 also saw the inauguration of the Award of Merit. The annual report of the Society for the year 1888 included the following paragraph:—"It is also thought very desirable to give greater value to the First-class Certificate of the Society, and, with this object in view, the Council have constituted another order of Commendation, to be called the Award of Merit, in the hope that the committees will be able by its use to discriminate between what is really a first-class introduction, or novelty, and what is simply a meritorious advance on, or variation of, some well-known and established plant." The first Orchid, according to the Society's official report of the time, being Odontoglossum Pescatorei, Jackson's variety, although in recent editions of the Society's "Orchid Awards" a First-class Certificate is stated to have been given.

Interesting Exhibits. During the year 1889 many notable Orchids were exhibited. These included some finely grown plants from the Royal Gardens, Kew, Diacrium bicornutum with ten sprays being considered "a marvel and a triumph of good culture of this difficult plant." Many terrestrial Orchids were also shown from Kew. It is to be regretted that the practice of showing plants from these gardens has been discontinued.

On April 23rd, 1889, Mr. R. Brooman-White sent a handsome pearly-white form of Cattleya Mendelii, named Arddarroch variety. It was described as being near to the plant known in gardens as C. Mendelii Bluntii. From the collection of Mr. F. G. Tautz came

Sir Harry J. Veitch, F.L.S., V.M.H.

The Originator of the Royal Horticultural Society's Orchid Committee.

We are indebted to the Editor of Möllers Deutsche Gärtner-Zeitung, Erfurt, for kind permission to reproduce the above illustration.

Cattleya Lawrenceana concolor, a variety wholly of a pale lilac, although a Vote of Thanks was the only result.

On the same day Mr. T. Lange, of Heathfield Lodge, Gateshead-on-Tyne, sent a fine specimen of his fixed sport from Dendrobium nobile, known as Heathfield variety, and from which came the plants which Professor Reichenbach named for Mr. N. C. Cookson, D. nobile Cooksonii, and which was afterwards certificated as such by the Society. The Heathfield name not having been published, the Committee decided that it must bear the published and certificated name D. nobile Cooksonii.

The event of the year occurred on May 14th, when Messrs. J. Veitch and Son exhibited Brasso-Cattleya Digbyano-Mossiæ, raised for them by John Seden. This, the first hybrid of Brassavola Digbyana with the large flowering Cattleyas and Lælias, caused considerable excitement, the result being considered a marvellous advance in the art of hybridisation, for nothing like it had previously been seen. A First-class Certificate and Medal were justly awarded. However, the Council evidently thought otherwise, for at the meeting on June 11th, Mr. O'Brien stated that, as Secretary to the Orchid Committee, he had received from the Secretary of the Society a notification that the Council referred back to the Orchid Committee for reconsideration the First-class Certificate recommended for Odontoglossum egregium, and the Medal recommended for Brasso-Cattleya Digbyano-Mossiæ, at the meeting on May 14th. After some discussion, the Committee decided that, seeing that now all the awards were qualified by the number of votes for and against being published, they could not alter their decision, but left the matter in the hands of the Council.

The meeting of October 8th was noted for the appearance of two albinos, Lælia autumnalis alba and Lælia præstans alba, the former shown by Messrs. Veitch and the latter by Mr. Wm. Bull. Both these fine white-flowered varieties of coloured species attracted considerable attention. Their appearance was all the more unexpected as both Lælia autumnalis and Lælia pumila, to which L. præstans is closely allied, had been imported for more than fifty years, and no white forms of either had previously appeared.

Orchid Nomenclature. The first year of the Orchid Committee brought with it the topic of nomenclature. On June 11th a discussion arose as to the proper course to be pursued in naming and rendering recognisable fine varietal forms of Orchids, and it was the opinion of the Committee that an Orchid Nomenclature Conference should be convened. It was also deemed advisable to secure the identification of certificated plants by means of drawings.

Professor Reichenbach. During the year 1889 the Orchid world lost its greatest authority and adviser. We cannot do better than quote the following paragraph from the *Gardeners' Chronicle* for May 18th:—"Reichenbach was possessed of remarkably distinct individuality, which was as remarkable as his curiously crabbed handwriting, which few could decipher. Short and massive in stature till his recent illness, with a keen, penetrating glance and an aquiline nose, his features revealed something of the impetuous temper of the man and his occasional biting sarcasm. His devotion to Orchids amounted to a consuming passion; not a scrap, nor a note, nor a drawing, however rough, came amiss to him if it related to an Orchid. To him meals and clothes were necessary evils, but his herbarium was a prime necessity of existence. The amount of his work was prodigious. Of its quality the botanists of the future will judge better than we. One thing, however, is obvious, and especially to those who have had the opportunity of comparing his work with Lindley's. In Lindley's time Orchids were, it may be said, counted by the score, while in our time the estimate has to be made by the hundred if not by the thousand. Lindley, with his clear perception, logical mind, and relatively small material, was able to trace sharply defined, expressive characters in few words, arranged with rare skill. Reichenbach, with a totally different frame of mind, was overburdened

with the ever-increasing mass of material. His descriptions and comparisons were often singularly felicitous, his knowledge of detail enormous, but lacking co-ordination and precision. He never gave us in a compendious form a complete synopsis of the genera and species. It is greatly to be hoped that his immense collections and notes will fall into competent hands, at Kew if possible, for collation and revision—a task that will, however, require years of concentration, for his publications are not only extremely numerous, but scattered through a wide range of publications in almost all European languages."

The Orchid world was startled when the Professor's Will was published, for in it he stated:—"My herbarium and my botanical library, etc., accrue to the Imperial Hof Museum in Vienna, under the condition that the preserved Orchids and drawings of Orchids shall not be exhibited before twenty-five years from the date of my death have elapsed. Until this time my collection shall be preserved in sealed cases."

Some idea of this immense collection of valuable material may be gained from the fact that no less than three days were occupied in taking it to the railway station, and it filled four large waggons. No less than 59 cases, of which 26 were filled with the dried specimens and 33 for the books, were used. There were also 134 large boxes filled with various materials, and 1,149 packets of printed notes and manuscripts accompanied the dried Orchids.

ODONTOGLOSSUM EDWARDII AND ITS HYBRIDS.

ODONTOGLOSSUM EDWARDII was discovered by Edward Klaboch, in whose honour it was named by Reichenbach during the year 1878. It is a native of the high Andes of Ecuador, where it grows at an elevation of about 7,000 feet in a damp and cool atmosphere. One of the most easily recognised of all the Odontoglossums, it at once becomes a favourite with every lover of the cool-house section of plants. The erect, tall spikes carry numerous, one might almost say hundreds, of small violet-purple flowers having a yellow crest in the centre. Taken individually the flowers are insignificant, but when viewed in hundreds, as they are often seen on well-cultivated plants, the effect is excellent.

Very few plants are so easily cultivated and flowered as this species, and when the hybridist commenced the raising of hybrid Odontoglossums he was more than satisfied with the rapid and vigorous manner in which the seed germinated. This remarkable specific strength is beneficial so far as its power of imparting rapid growth is concerned, but the hybrids have produced flowers of a smaller nature than was originally anticipated, although when one really considers the smallness of an Edwardii bloom the result is not so surprising.

The ambition of the hybridist is to carry forward the rich Edwardii colour into future generations, and to do this as well as produce a large flower is no easy accomplishment. This ideal flower will require many years of patient waiting and skilful work before it is satisfactorily created. The first generation of hybrids shows but little variation, owing to the overpowering influence of the Edwardii, and it will not be until subsequent ones have been produced that we shall see the real value and effect of their component species.

The following is a chronological list of all the Edwardii hybrids. The majority of them have been created by using Edwardii as the seed-bearing parent; as a pollen parent it has been practically useless. It does not therefore follow that the parents mentioned below are in any particular order, for although the Edwardii is placed first, as the mother parent generally is, there may be a few instances in which it has acted as the pollen parent. However, the list gives both parents, and the names of the various raisers or

exhibitors, together with the earliest date when the hybrid flowered.

Odontoglossum Thompsonianum,

O. Lairessei (Edwardii × Cervantesii), Lairesse, March, 1905.

O. Thompsonianum (Edwardii × crispum), Thompson, April, 1905.

O. Fletcherianum (Edwardii × cirrhosum), Sander, July, 1906.

O. Aliceæ (Edwardii × crispo-Harryanum), Fowler, January, 1907.

O. Clytie (Edwardii × nobile), Charlesworth, March, 1908.

O. Zenobia (Edwardii × Hallii), Crawshay, August, 1908.

O. Groganiæ (Edwardii × Uro-Skinneri), Grogan, November, 1908.

O. atropurpureum (Edwardii × sceptrum), Colman, February, 1910.

O. Dixoniæ (Edwardii × luteopurpureum var. hystrix), Dixon, October, 1910.

O. Godmanii (Edwardii × Rolfeæ), Godman, January, 1911. This and the following hybrid are figured in the ORCHID WORLD, Vol. I., p. 110.

O. Ashworthianum (Edwardii × Ossulstonii), Charlesworth, February, 1911.

O. Valeria (Edwardii × Vuylstekei), Crawshay, February, 1911.

O. Sabini (Edwardii × luteopurpureum), Charlesworth, February, 1911. Most botanists now regard luteopurpureum and hystrix as being identical, and on that account O. Sabini must be considered synonymous with O Dixoniæ, previously recorded.

O. ramos-Edwardii (Edwardii × ramosissimum), Lawrence, April, 1911.

O. Ganymede (Edwardii × elegans), Crawshay, May, 1911.

O. Sappho (Fletcherianum × crispum), Graire, May, 1911.

O. Brayanum (Groganiæ × Harryanum), Hartland, March, 1912.

O. Epicasta (Clytie × crispum), Charlesworth, May, 1912.

O. Antiope (Edwardii × Rossii), Charlesworth, May, 1912.

O. Ethelreda (Edwardii × triumphans), Crawshay, July, 1912.

O. nigrescens (Edwardii × cirrhosum), McBean, August, 1912. This must be regarded as synonymous with O. Fletcherianum, the parentage being identical.

O. Dema (Thompsonianum × cirrhosum), Goodson, June, 1913.

O. Atalanta (Edwardii × armainvilliérense), Sander, August, 1913. This was originally recorded as O. Hermione, but, on account of the name having been previously used, it was altered to O. Atalanta.

O. Hyperion (Fletcherianum × nobile), Sander, August, 1913.

O. Elissa (Edwardii × illustrissimum), Armstrong, December, 1913.

O. Junora (Edwardii × pulchellum), Dixon, December, 1913.

O. Gundreda (Edwardii × Hunnewellianum), Dixon, December, 1913.

ODONTIODAS.

O. Devossiana (Edwardii × Nœzliana), Graire, October, 1907.

O. Daphne (Edwardii × heatonensis), Charlesworth, September, 1910.

O. Vulpecula (Edwardii × vulcanica), Charlesworth, August, 1912.

O. Eric (Clytie × Bradshawiæ), Davidson, November, 1912.

O. Constance (Clytie × Bradshawiæ), Charlesworth, December, 1912. The parentage of this is similar to O. Eric, of which it must be considered a variety.

O. Minerva (Edwardii × Bohnhofiæ), McBean, October, 1913.

ODONTONIAS.

O. Boadicea (Clytie × Warscewiczii), Charlesworth, August, 1912.

O. brugensis (Edwardii × vexillaria), Sander, June, 1913.

O. McNabiana (Edwardii × Bleuana), Sander, September, 1913.

ODONTOCIDIUM.

O. Edwardatum (Edwardii × serratum), McBean, April, 1913.

ORCHIDS FOR AMATEURS.

IF I grow Orchids how much attention will they require? This is a frequent question amongst amateur gardeners who desire to cultivate something more attractive than the ordinary greenhouse plants, and without spending an excessive amount of money. Almost every lover of flowers, and their number is countless, desire something not only interesting and beautiful, but something that will raise the dignity of his greenhouse to a higher level than that of his neighbour. Orchids are the acknowledged aristocratic flowers, and he who enters upon their study and cultivation finds that as his collection and knowledge of the plants increase so does his pleasure and ambition multiply in like proportion. Most amateurs will willingly agree with the statement concerning the loveliness of Orchids, yet there are a few who believe that their cultivation is a trouble; in fact, to use a common expression, the game is not worth the candle.

Now too much enthusiasm is often as detrimental to the welfare of Orchids as considerable inattention. Very often the amateur retires from the honourable position of an Orchidist for no other reason than the plants require too much attention and occupy more of his leisure time than he cares to spend. This, however, is only his opinion, and if the truth were known it would be discovered that the plants had received more than the necessary attention. The care bestowed upon them had made their surroundings quite different from that of their natural climate, so much so that instead of benefitting accordingly they have shown signs of deterioration. To put the whole matter in a nutshell, they have been killed by excessive kindness.

It has often been said that the plants in a large trade establishment owe their healthy and vigorous existence to the fact that their great number prevents the owner from continually upsetting their growth, or rest, as the case may be, by unnecessary attention. But this statement, true as it is, does not mean that general neglect is to be encouraged, but rather that the enthusiastic amateur, wishing to give the plants every possible aid to growth, meddles with them so much that their very existence is frequently imperilled.

Nature has given all plants a certain power of adapting themselves to the surrounding climatic conditions, not to the wide extent sometimes imagined, but just sufficient to enable them to withstand the various atmospheric changes. When an Orchid is cultivated in a shady and excessively damp position the bulbs and leaves are produced in a soft and tender state, and they will remain so as long as these atmospheric conditions last. To suddenly expose such a plant to the strong light of direct sunshine would cause considerable damage, resulting in the burning of the tissues, as well as other defects. This is one of the evils which amateurs have to guard against. In their anxiety to assist the plants by frequently removing them to other positions they often unconsciously place them in a totally different atmosphere, and the sudden change is detrimental to the plants' welfare. Of course, when the plant has

completed its season's growth, then it is advisable to ripen it by gradually, not suddenly, allowing it more light and air, but to change the atmospheric conditions several times during the growing season frequently has a detrimental effect. When once a suitable position has been found for the plant it should either be left there or else removed to similar growing conditions until its season's growth is completed.

Another case where too much attention is sometimes harmful is the tying up of the plant's bulbs and leaves during its growing season. Every plant arranges its leaves so that the rays of light fall upon them in a beneficial way. Careful observation will show that the light usually shines on only one side of a leaf, or, in other words, the leaf assumes a position in which one side faces the strongest light. Now an amateur frequently fails to notice this important event, and in his excessive kindness to assist the plant by carefully tying up the leaves to a central stake he usually so fixes them that the rays of light fall upon the reverse side of the leaf, and the side once accustomed to face the brightest light now has only the shade to look upon. How can this unnatural position be really helpful to the plant's existence. The amateur's kindness is misapplied when he attempts to reverse the methods of Nature.

Cleaning the plants is a necessity in every collection, no matter whether it be situated in town or country. The leaves are frequently marked with the sediment from the water used in syringing, and various insect pests, with which we are too well acquainted, spend their existence in a detrimental manner upon the surface of the plant. Now the removal of these defects is often done in far too careless a manner, so much so that sometimes the remedy is worse than the complaint. All plants require careful handling in order to prevent damage being done to their skin By the use of suitable insecticides insects are easily killed and all dirt removed during the same washing. Much damage is often done by using a hard brush or by unnecessary scraping with a knife.

CULTURE OF MILTONIA VEXILLARIA.

THERE is no finer species of the Miltonia genus than vexillaria for giving a display of bloom during the spring months of the year. To obtain the best results good cultivation is absolutely necessary, and on this account a few notes on the subject may prove useful to those amateurs contemplating the purchase of a few plants, or to those who have hitherto been disappointed with the results of their labours.

The first thing to consider is the receptacle in which the plants are to be grown. To many amateurs this may appear a very unimportant point, but experience proves that there is more in it than is generally supposed. The nature of the root system of a plant must always be known before any definite method of culture can be adopted. M. vexillaria produces a number of fine roots that delight to penetrate the upper portion of the compost where they can obtain access to the atmosphere. On this account success is obtained by placing the plants in shallow pans, or else in pots that are at least half-full of crocks. The compost requires keeping in a light, porous condition, and the surest method of doing this is by the aid of ample drainage material.

A suitable compost consists of selected fibre, either good peat, fine osmunda, or A1, or a mixture of all three is often recommended, and a few chopped-up leaves as well as a liberal quantity of sphagnum moss. No definite proportion of each constituent material can be given, the cultivator must use his own discretionary powers, always remembering that small plants require a softer compost than the large ones. On this account slightly more moss and leaves may be used when potting young plants. The more vigorous plants that are expected to carry numerous flowers of long lasting quality will need a substantial compost, and one that will ensure them producing well-ripened bulbs.

Another needful reminder concerning the culture of M. vexillaria is that the roots are formed in lateral fashion, and consequently

require comparatively wider pots or pans than those plants which send down their roots in vertical style. This fact should not be neglected, and the shallowness of the compost must always be equalised by greater width. Hence it will be found necessary to allow M. vexillaria several inches of space between the outside of the plant and the rim of the pot.

This species is a restless plant and needs a fairly regular temperature during the whole year through. This is best managed by placing the plants in the cool house during the summer time, and removing them to the intermediate house for the winter. By so doing they will always be in a temperature of about 50-60 degrees. Wide fluctuations in the temperature are believed to cause the disfiguring spotting of the foliage.

The best period to repot is when the growths are a few inches in height, and this will usually happen during the month of March. Although specimen plants have a noble effect and give great credit to the grower, there is much satisfaction to be obtained from well-grown plants of five or six bulbs. These are more easily managed, and can be placed in various parts of the house in order to give a decorative effect. During the process of potting large plants can be divided, should the owner so wish, and the portions with leading growths be placed in separate receptacles. The back, or older, bulbs may be placed in pots with only crocks surrounding them until new growth is plainly visible. One can never tell the exact point at which growth will recommence from these old portions, consequently it is useless to attempt potting them in any permanent method. Sometimes growth will manifest itself at a point much below the usual surface line of the compost, and if this occurs when the material is in too moist a state there is every likelihood of the young growth being killed.

In the giving of water the cultivator must always use his careful discretion. No definite directions can really be laid down, so much depends on the season of the year and whether the plant is in vigorous growth or resting. During fine weather light spraying of the foliage will prove beneficial, although no water should be allowed to remain for long on the actual flowers, as they quickly become spotted when any excess of moisture is present.

ODONTOCIDIUMS.

ONE might naturally suppose that the hybridist would create many crosses between the two closely allied genera Odontoglossum and Oncidium, yet notwithstanding the many attempts which have undoubtedly been made Odontocidiums still remain comparatively rare. The many failures tend to show that the two genera are more widely separated botanically than most growers imagine.

So far, the results include Odontocidium Fowlerianum (Od. cirrhosum × On. Forbesii), O. Hebe (Od. cirrhosum × On. incurvum) and Od. Edwardatum (Od. Edwardii × On. serratum). These are certainly successes so far as skill is concerned in producing a hybrid between the two genera, but from a horticultural and decorative standpoint they are very inferior to other bigeneric crosses. Still, one should remember that all things must have a beginning, and these early results will surely be followed by others of greater merit.

The possibility of producing hybrids between two species of different genera must first be proved, although the time occupied in so doing is often a serious loss, and might be otherwise spent to better advantage. Few growers care to risk their best Orchids for experimental purposes. They much prefer to discover the possibilities by using ordinary and invaluable specimens. This, therefore, may be one reason why we have not yet seen Odontocidiums equal in merit to other hybrids.

Another important factor to be considered is the growth constitution of the seedling. Many hybridists have before now experienced the difficulty of stimulating growth. The seed germinates and grows sufficiently to produce one or more small leaves, after which it remains in a semi-dormant state, and often

dwindles until death results. This, unfortunately, is only too true with Odontocidiums, thousands of seeds have been sown, and an almost equal number of tiny plants have died.

Although the two Odontoglossums previously mentioned, cirrhosum and Edwardii, are both natives of Ecuador, there appears good reason to believe that their Colombian relations will also prove suitable for mating with the Oncidiums, the latter including species from Brazil, Peru, Colombia, and adjoining countries.

There are many Oncidium species that are very similar to the Odontoglossums, such as On. crispum and On. Forbesii, and there appears to be little doubt that before long we shall see flowering hybrids resulting from their intercrossing. Perhaps the most pleasing and interesting would be a hybrid between the two crispums. Those students of nomenclature who like to see the parental names represented in the name of the offspring will be well satisfied if the hybrid is christened Odontocidium crispum. May this be so.

Probably the most popular Oncidiums are those with the bright yellow flowers. These species seem so characteristic of the genus, and make a clear dividing line of separation from the Odontoglossums, in which yellow is a very scarce colour, that one wonders what influence they will have. The majority of the yellow-flowering Oncidiums have extremely large labellums; in fact, this segment of the flower is the chief point of attraction, for the other segments have dwindled to such a small state that one would not be surprised if they become smaller and smaller, or are eventually entirely suppressed, just in the same way that the petals of most Masdevallias are nearly invisible. There is much uncertainty regarding the most suitable Odontoglossums to work with. The Mexican maculatum and cordatum, as well as nebulosum, must be considered, and so, also, the many-flowered species, such as Edwardii and Lindenii. A vast field is open to all who are fond of experimental work, and although many failures will surely be encountered, a few successful results will amply balance the scales.

NEW ORCHIDS.

A RECENT issue of the *Kew Bulletin* contains the 41st decade of New Orchids, with botanical descriptions. The following species are enumerated:—

Megaclinium ugandæ, from Tropical Africa. The plant was sent by Mr. J. O'Brien to the Royal Botanic Gardens, Glasnevin, where it flowered, March, 1912. The rachis is heavily dotted and marbled with purple-brown on a light green ground. The sepals and petals are light green, the lip dull purple, and the column whitish-green with numerous purple dots.

Eulophia Watkinsonii, from South Africa. The specimen which flowered at Kew, February, 1913, was sent by Mr. H Watkinson, of the Transvaal Forest Department, and has bright yellow flowers with a little brown outside the sepals. Allied to E. hians.

Eulophia ugandæ, from Tropical Africa. First flowered in the collection of Sir Trevor Lawrence, March, 1913, the plant having been sent by Mr. E. Brown, who also sent dried material to Kew. "The climbing habit is remarkable, the new bulbs being regularly produced from above the base of the old one, and sending down a strong root, thus recalling a mangrove in habit."

Lissochilus uliginosus, from Tropical Africa, where it grows in grassy fresh-water swamps in savannah forest.

Polystachya coriacea, from British Central Africa. Flowered in the collection of Mr. James Bush, Bryn Asaph, Romilly Road, Cardiff, in March, 1913. It produces flowers of a deep yellow colour.

Xylobium elatum, from Peru. Introduced by Messrs. Sander and Sons, by whom it was flowered, May, 1913. The plant has a tall habit, with large leaves, and the scape three feet in height. The flowers are dull pale green, heavily marbled with brown on the back of the segments; the prominent tubercles on the lip are dark brown.

Xylobium ecuadorense, from Ecuador. Sent to Kew by Mrs. Lipscomb, who received it from Ecuador in 1911. The flowers are uniformly light yellow in colour.

Trichocentrum panamense, from Panama, where it grows on bush-covered hills east of the Canal. The light green flowers have a white lip, at the base of which is a red-purple blotch. The very short spur is yellowish, and there are a few small purple dots on the column wings.

Sigmatostalix bicornuta, from Peru. Imported by Messrs. Sander and Sons, and flowered in the Royal Botanic Gardens, Glasnevin, January, 1912. The yellow flowers have a deep purple-red stripe on the dorsal sepal and petals. The specific name refers to the two fleshy conical horns on the petals.

Saccolabium glomeratum, from Borneo. First flowered in the collection of the Hon. N. C. Rothschild, October, 1913. The yellow flowers are spotted with brownish-red on the sepals and petals, the side lobes of the lip being striped with the same colour.

The extensive group of Orchids exhibited by Messrs. Th. Pauwels & Co., Meirelbeke, Ghent, at the recent Ghent Exhibition. Awarded 1st Prize for the most varied and meritorious trade exhibit of Orchids, and 1st Prize for the most beautiful lot of 200 plants cultivated for cut flowers.

NEW HYBRIDS.

ODONTOGLOSSUM JUNORA.—An interesting hybrid between Edwardii and pulchellum has been flowered by Mr. Harry Dixon, of Spencer Park Nursery, Wandsworth Common. The characteristic fragrance of pulchellum is carried forward in the hybrid, which has a shorter inflorescence than usually seen in hybrids of Edwardii.

ODONTOGLOSSUM GUNDREDA.—Edwardii and Hunnewellianum are the parents of this hybrid flowered by Mr. Harry Dixon. The remarkably strong influence of the small flowering latter parent is clearly seen in the resulting hybrid, and it gives another proof that some of the small-flowering species have greater specific strength than many of the larger ones.

CYPRIPEDIUM ESTELLA.—On page 62 we recorded a hybrid between Godefroyæ and Fairrieanum under the name Stella, but on account of this name having been previously used Messrs. Sander have renamed their new hybrid Estella.

SOPHRO-LÆLIA SUNRAY.—A very distinct and prettily tinted hybrid has been flowered by Mr. E. H. Davidson, Twyford, Berks. The parents are S.-L. Marriotii (S. grandiflora × L. flava) and L. cinnabrosa (L. cinnabarina × L. tenebrosa). The stellate flower is yellow, almost covered with reddish-brown markings, the lip being dull purple.

CYPRIPEDIUM MRS. J. LEA-SMITH.—An attractive hybrid between Cyp. Edmund Lord and aureum virginale. The white dorsal sepal has a small green area at its base and a median purple streak. The influence of the aureum virginale is seen in the whitish upper part of the lateral petals. Raised by Mr. Fred. J. Hanbury, Brockhurst, East Grinstead.

ODONTOGLOSSUM JUPITER.—Mons. Graire, of Amiens, has made a speciality of nebulosum hybrids, and his latest addition is one between ardentissimum and nebulosum. The influence of this latter species and that of Pescatorei, one of the parents of ardentissimum, has created a very broad and well-developed labellum. The flower is rendered attractive by several reddish spots.

CYPRIPEDIUM CASSIUS.—This pretty hybrid has been flowered by Messrs. Flory and Black. The parentage is niveum × T. B. Haywood, the latter being a hybrid between Druryi and superbiens. As may be expected, the flower shows much of the niveum characteristics, but it is improved by many spots.

CYPRIPEDIUM FRENCHAY.—This elegant hybrid has been flowered by Mr. W. Hewitt, of Newlands, Frenchay, Bristol. The parents are bellatulum and Lawrebel (Lawrenceanum × bellatulum), the flower having a very pretty broad dorsal sepal, with rose-purple colour, the broad petals effectively spotted.

ODONTOGLOSSUM CARPATHUS.—Messrs. McBean, of Cooksbridge, have raised this hybrid between cirrhosum and amabile. The large flower shows the characteristic form of the cirrhosum parent, while the elongated labellum has the centre portion of bright yellow, making an attractive feature. The ground colour of the whole flower is rose tinted, with a few purple spots.

CYPRIPEDIUM FLORYI.—A very pretty result has occurred by crossing Niobe (Fairrieanum × Spicerianum) with Countess of Carnarvon (villosum × Hera). Flowered by Messrs. Flory and Black, Slough.

ODONTIODA OAKWOODIENSIS.—An addition to the red-flowering cool-house Orchids has flowered with Mrs. Norman Cookson. The parentage is Oda. Bradshawiæ × Odm. percultum, the rosy bloom being spotted light brown.

LÆLIO-CATTLEYA MANTINIOSA. — By crossing C. Mantinii with L.-C. luminosa an excellent result has been obtained. Messrs. Th. Pauwels and Co., Meirelbeke, Ghent, are the raisers, and they have recently flowered a wonderful variety, certainly the darkest crimson so far seen The flower is of perfect shape, and was exhibited at the Brussels Meeting, November 16th, 1913.

CYPRIPEDIUM SANDHURST.—The result of crossing concolor Regnieri with Fairrieanum. The former parent differs from concolor in having longer and narrower leaves, and the flowers are a deeper yellow. In the hybrid the flower is prettily marked with bright crimson spots arranged in neat lines. Raised by Messrs. Armstrong and Brown.

A portion of our Gold Medal Group at the Holland House Exhibition, July, 1913.
Awarded also the Coronation Cup for the best Exhibit at the Show.

A NOTABLE EXHIBIT.

THE coloured plate included in this issue shows part of the magnificent group staged by Messrs. Sander and Sons at the Holland House Show, July, 1913, and which gained a Gold Medal and the Coronation Cup for the finest exhibit in the show. Naturally, this fine exhibit commanded the utmost attention and delight, mainly on account of its great charm, both in the arrangement and in the splendid quality of every plant.

The central feature was exceedingly imposing, with upwards of forty superb spikes of Phalænopsis Rimestadiana. These glorious inflorescences of massive wax-like blossoms hanging over a mass of the best varieties of Miltonia vexillaria, which included M. v. chelseaensis, M. v. Invincible, and the new M. Sanderæ, the latter receiving the Society's First-class Certificate, formed a spectacle of beauty that won everyone's admiration. The combination was exquisite, and although the characters of these standard bearers and moth Orchids are so entirely dissimilar, yet they attracted everyone by their beauty, and plaudits of praise were heard on every side by the visitors to the exhibition.

The groups of Cattleya Warscewiczii Sanderiana, too, were very much commented upon, this species being free flowering, and one of the most beautiful of all the family. Numbers of these plants were staged in masses on mounds at each end of the group.

In the recesses were large numbers of lovely Odontiodas in variety, splendid Oncidiums and Cypripediums, Dendrobium Dearei, hybrids of Miltonia Warscewiczii, including Odontioda St. Alban, O. Magali Sander, and O. Lælia Sander. Various rare species and a great number of very beautiful hybrid Odontoglossums made up this grand and memorable display.

ROYAL HORTICULTURAL SOCIETY.—All Fellows' tickets issued on or after January 1st, 1913, are available until February 1st, 1914. Next Meetings, January 13th and 27th.

ROYAL HORTICULTURAL SOCIETY.

December 2nd, 1913.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Gurney Wilson, de B. Crawshay, W. Bolton, S. W. Flory, W. H. White, H. G. Alexander, J. E. Shill, W. P. Bound, W. H. Hatcher, J. Cypher, W. Cobb, A. McBean, T. Armstrong, F. J. Hanbury, R. G. Thwaites, R. A. Rolfe, Stuart Low, and A. Dye.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), showed a well-grown plant of Odontoglossum crispum Leonard Perfect, with a spike of 16 large flowers; Brasso-Cattleya Digbyano-Mossiæ The Dell variety, an excellent flower with pure white segments; and Cattleya O'Brieniana alba, with a spike of five flowers.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), showed Lælio-Cattleya Nella (Dominiana × labiata), with a spike of four flowers, of rich purple; Cypripedium Artemis aureum (nitens × Fairrieanum), of greenish-gold colour, with a few dark hairs; and Lælio-Cattleya Golden Beauty, which secured Cultural Commendation.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, sent the rare Angræcum Montroei, with two spikes of wax-like flowers.

Messrs. Sander and Sons, St. Albans, secured a Silver Flora Medal for an attractive exhibit of hybrids and rare species. Lycaste lanipes and Bulbophyllum Careyanum were in excellent form. The hybrids included Brasso-Cattleya Thorntonii, Lælio-Cattleya Minnie (exoniensis × aurea), Cypripedium Troilus var. Lord Nelson, and the beautiful Cattleya Dusseldorfei Undine.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for a pleasing exhibit of Cypripediums, including Boltonii, Standard, Thalia, and good varieties of Lceanum. Many attractive Masdevallias were also shown.

Messrs. Stuart Low and Co., Crowborough, secured a Silver Flora Medal for some good

specimens of Vanda cœrulea, one especially dark, the white Phalænopsis amabilis, Houlletia Brocklehurstiana, several excellent Dendrobium species, and well-flowered plants of Oncidium pulvinatum.

Messrs. Flory and Black, Slough, were awarded a Silver Flora Medal for an extensive group, containing Lælio-Cattleya Nella, a very handsome hybrid with rich purple flowers; Cattleya Fafner (Trianæ × Enid), a pretty result; Cypripedium Cassius and C. Floryi, both new hybrids of merit; and Cyp. Snowdon, like insigne Sanderæ, but having a larger area of white on the dorsal.

Messrs. Hassall and Co., Southgate, received a Silver Banksian Medal for an interesting exhibit of hybrids. Mention must be made of Lycaste Tunstillii, a very beautiful flower; Cypripedium Minos Youngii, in good form; Cattleya Maggie Raphael albida, Lælio-Cattleya Rubens, and several excellent Odontoglossums.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, was awarded a Silver Banksian Medal for a neat and pretty group of various Odontoglossums, Cattleyas and other hybrids. A fine plant of Cymbidium Tracyanum, with several many-flowered spikes, was also shown.

Messrs. Charlesworth and Co., Haywards Heath, exhibited some well-cultivated and interesting Orchids, including Aerides Lawrenceæ, the golden-yellow Lælio-Cattleya Thyone, Odontoglossums Ceres and Aireworth, a fine variety of Sophronitis grandiflora, and a large form of Oncidium varicosum.

Mons. H. Graire, Amiens, showed a selection of Odontoglossum nebulosum hybrids, which included O. Saturne (crispo-Harryanum × nebulosum), the variety flavescens having a bright-yellow centre to the labellum, the variety violaceum being prettily spotted; O. Jupiter (ardentissimum × nebulosum), with reddish markings, and Od. Neptune (crispum × nebulosum).

Francis Wellesley, Esq., Westfield, Woking, showed Cypripedium Delhi (Earl of Tankerville × insigne Harefield Hall), a chubby flower with the upper part of the wide dorsal pure white.

Messrs. J. and A. McBean, Cooksbridge, staged a selection of excellent Orchids, the best being Cymbidium Schlegelii, Cattleya Fabia, Lælio-Cattleya autodoin, Odontoglossum Aliceæ, and Cypripedium Kathleen, a promising hybrid.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cypripedium l'Ansonii, a fine variety with a spike of three large flowers.

W. R. Lee, Esq., Plumpton Hall, Heywood, showed Cypripedium Arachne, with a rich brownish flower, Odontoglossum Chione, and others which received awards.

W. Hewitt, Esq., Newlands, Frenchay, Bristol, exhibited Cypripedium Frenchay (bellatulum × Lawrebel), with a rose-purple dorsal sepal. A very pretty hybrid.

Crofton Black, Esq., Cranham Holme, Upminster, exhibited a well-grown plant of Odontoglossum grande, with eleven flowers carried on two spikes, both produced from the same bulb.

First-class Certificate.

Cattleya Maggie Raphael The Dell variety, from Baron Bruno Schröder (gr. Mr. J. E. Shill).—A beautiful hybrid with creamy-white sepals and petals, the handsome lip veined with gold and margined with a broad band of bright rose-purple.

Awards of Merit.

Cypripedium Goliath (insigne Harefield Hall × Romulus var. Amy Moore), from W. R. Lee, Esq., Plumpton Hall, Heywood.—A bold flower resembling the former parent, but slightly finer in size and colour.

Cypripedium Alcimeda var. Strelsa (insigne Harefield Hall × Alcibiades), from W. R. Lee, Esq.—An excellent hybrid, with the broad dorsal sepal marked with dotted lines of purple.

Odontioda Latona Goodson's variety (crispo-Harryanum × Bradshawiæ), from H. S. Goodson, Esq. (gr. Mr. G. E. Day).—A handsome flower, resembling the latter parent, but differing by the inclusion of Harryanum in the parentage.

Lælio-Cattleya autodoin (L. autumnalis × C. Octave Doin), from Messrs. J. and A.

McBean, Cooksbridge.—A great improvement on L. autumnalis. The spike carried eight large flowers.

Lælio-Cattleya Mrs. Temple (L.-C. Henry Greenwood × C. Mossiæ), from C. J. Phillips, Esq., Sevenoaks.—A very handsome result, the large flowers being rose-purple, with bright crimson-purple mottling on the broad labellum.

Odontoglossum Saturne violaceum (nebulosum × crispo-Harryanum), from Mons. H. Graire, Amiens.—A pretty flower, evenly spotted with red on a rose ground, and an improvement on previous varieties.

Cultural Commendation

To Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George Holford, for Lælio-Cattleya Golden Beauty, with two spikes, one having 15 flowers.

December 17th, 1913.

Members of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Messrs. Gurney Wilson, W. Bolton, de B. Crawshay, A. McBean, W. H. Hatcher, T. Armstrong, J. Charlesworth, A. Dye, J. Shill, W. H. White, Stuart Low, R. A. Rolfe, H. G. Alexander, S. W. Flory, R. G. Thwaites, W. Cobb and Fred. J. Hanbury.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, showed Cypripedium Swallowtail (Mons. de Curte × Fairrieanum), a pleasing hybrid with dark spots arranged in linear style; also Cyp. Troubadour, of unknown parentage, a chubby flower, with a broad dorsal, white at the top, green at the base, and with bright purple spotting.

Fred. J. Hanbury, Esq., Brockhurst, East Grinstead, showed Cypripedium Hanburyanum, Brockhurst variety. The parentage given was Leeanum giganteum × Maudiæ, but the flower much resembled a bold and good form of Alcibiades.

Baron Bruno Schröder, Englefield Green, staged Odontoglossum ardentissimum Ebor, a beautiful variety with bright crimson blotches on a whitish ground.

E. R. Ashton, Esq., Broadlands, Tunbridge Wells, showed Odontioda Royal Gem (Oda. Vuylstekeæ × Odm. ardentissimum), a distinct flower of yellow colour with reddish-brown blotches. A compact grower.

Sir Trevor Lawrence, Bart., Burford, showed Habenaria Rœbelenii, with vermilion coloured flowers. A native of Annam.

Earl Stanhope, Cheveney Park, Sevenoaks, exhibited an interesting series of forms of Calanthe Sedenii, including Sunrise (vestita rubro-oculata × Veitchii) with whitish flowers and a rose centre; Sunbeam (Veitchii × vestita lutea), white, with cream centre; Sunset (Veitchii × vestita rubro-oculata), deep rose; and Starlight (Veitchii × vestita oculata), with white flowers.

Messrs. Charlesworth and Co., Haywards Heath, staged some well-cultivated plants, including Odontoglossum eximium augustum, a very fine variety with a spike of 18 flowers; Od. eximium xanthotes, with a spike of 12 white flowers having yellow spots on the sepals and streaks on the petals; also Lælio-Cattleya Britannia var. Melanie (C. Warscewiczii × L.-C. Canhamiana), an attractive flower.

Messrs. J. and A. McBean, Cooksbridge, showed Lælia anceps Schröderæ, McBean's variety, a broad and richly coloured flower; Odontioda Vuylstekeæ and Oda. Bradshawiæ, both pleasing varieties; and Odontioda Euterpe, McBean's variety, one of the best yet seen, the spike having 10 rich red flowers.

Mr. E. H. Davidson, Twyford, Berks, exhibited Sophro-Cattleya Saxa, of light rose-pink colour, and Odontoglossum Doris, a handsome blotched form.

Messrs. Armstrong and Brown, Tunbridge Wells, showed Cypripedium Sandhurst (concolor Regnieri × Fairrieanum), the whole flower being prettily marked with bright crimson spots arranged in neat lines.

First-class Certificate.

Cattleya Percivaliana, Lady Holford, from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—A magnificent albino form of the species. The large flower having broad segments, pure white, except the wide labellum which has a large area of orange in the throat. The finest albino form yet seen of this winter-flowering Orchid.

Awards of Merit.

Cypripedium Charlesianum smaragdinum (Leeanum aureum × nitens Hyeanum), from Fred. J. Hanbury, Esq., East Grinstead.—A very interesting result, the whole flower being a uniform emerald-green, which colour the varietal name signifies. There are a few black hairs around the base of the column, and a white margin on the dorsal.

Cypripedium Bourtonense (insigne Harefield Hall × Blanche Moore), from G. F. Moore, Esq., Bourton-on-the-Water, Glos.—An immense flower, the dorsal sepal very broad, yellowish-green, with a little spotting. The ventral sepal is almost as large and similarly coloured. Petals light brown.

Odontoglossum Cleopatra, Rosefield variety, from de Barri Crawshay, Esq., Sevenoaks.—An elegant hybrid between Carmania and Vuylstekei, and having large thick textured flowers of reddish-brown colour, the large white lip having a central crimson blotch.

Odontonia Langowoyi (Od. Uro-Skinneri × Mil. Schröderiana), from Messrs. Charlesworth and Co.—A very interesting hybrid with rich reddish-brown sepals and petals, the white labellum marked at its base with crimson-purple. An illustration of the Miltonia parent appears in Vol. III., p. 153.

Odontonia Langowoyi.

MANCHESTER ORCHID SOCIETY.

November 27th, 1913.

Members of the Committee present:—Rev. J. Crombleholme (in the chair), Messrs. J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, W. H. Hatcher, J. Howes, D. McLeod, C. Parker, F. K. Sander, W. Shackleton, W. Thompson, H. Thorp, A. Warburton, Z. A. Ward, G. Weatherby, and H. Arthur.

A Large Silver-gilt Medal was awarded to R. Ashworth, Esq., Newchurch, for a very fine group. Large Silver Medals were granted to A. Warburton, Esq., Haslingden; Wm. Thompson, Esq., Walton Grange; and Messrs. Cypher and Sons, Cheltenham.

A Silver Medal was awarded to H. H. Bolton, Esq., Newchurch; and other exhibitors included Z. A. Ward, Esq., Northenden; the Hon. Lady Neeld, Grittleton, Wiltshire; O. O. Wrigley, Esq., Bury; Messrs. A. J. Keeling and Sons, Bradford; Messrs. Charlesworth and Co., Haywards Heath; and Mr. W. Shackleton, Bradford.

First-class Certificates.

Cypripedium mirum (Hera "New Hall Hey var." × Alcibiades), a very large flower, the well-set square dorsal marked with crimson-purple spots; a Gold Medal being also awarded. Exhibited by Wm. Thompson, Esq.

Cypripedium Queen Alexandra "Walton Grange var.," the best of this variety yet seen; Cyp. Hermes, round dorsal, well spotted; Cyp. San Actæus "Our Queen," an excellent flower of good shape, the green tinted dorsal devoid of spots; Odontioda Queen Mary "luminosa," round flower, very distinct markings and good lip. All from Wm. Thompson, Esq.

Awards of Merit.

Cypripedium Draco Grittleton variety, from the Hon. Lady Neeld, a very attractive form of this hybrid between Hera and insigne.

Cypripedium Lathamianum Thompson's variety, from Wm. Thompson, Esq.

Odontoglossum amabile "Ruby Gem," the property of Z. A. Ward, Esq.

Lælio-Cattleya Thyone, from R. Ashworth, Esq.

THE
ORCHID WORLD.
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NOTES.

ORCHIDIST HONOURED.—Mr. Richard Ashworth, J.P., of Newchurch, near Manchester, has been elected an Honorary Member of the Moscow Orchid Society.

NEW COMMITTEEMAN.—Mr. Eric H. Davidson, of Twyford, Berks, has recently been elected a member of the Royal Horticultural Society's Orchid Committee.

ROYAL HORTICULTURAL SOCIETY.—During the present year the meetings of the Society will remain open for an hour longer than hitherto. The time of closing will accordingly be as follows:—February to October inclusive, 7 o'clock; in November and December, 6 o'clock.

ALBINISM.—A rather unexpected result has occurred with Messrs. Flory and Black, who have recently flowered several seedlings of Cypripedium insigne Sanderæ, obtained by self-fertilising a selected plant. The majority have proved to be true insigne Sanderæ, but one has appeared of a much lighter shade of yellow, and without any of the small spots always to be seen on the central area of the flower. In this respect it resembles insigne Sanderianum, but differs from it by having a much broader white area on the apex of the dorsal sepal. It will be distinguished by the varietal name Purity.

ORCHIDS OF MADAGASCAR.—Under the title *Orchidaceae Perrierianae madagascariensis*, and forming an extract of the "Annales du Musée colonial de Marseille," Series III., Vol. I., 1913, Dr. R. Schlechter has published some interesting notes on a collection of Orchids made by M. H. Perrier de la Bâthie, the indefatigable explorer of Madagascar. Dr. Schlechter remarks that the collection of Orchids which has been confided to him for determination contains about fifty species still unknown, from which it is evident that we have still to expect very important contributions to the study of the flora of Madagascar.

ORCHIDS OF NIGERIA.—An interesting contribution to the flora of the Oban District of South Nigeria has been published by the Trustees of the British Museum. In reality it is an account of the plants collected in that country by Mr. and Mrs. P. Amaury Talbot, in the years 1909-1912. The collection of Orchids contains 70 species, of which 20 are new, and fully described by Dr. Rendle, who remarks:—"Their affinity is almost exclusively West Tropical African, and, as might be expected, a large proportion occur also in the Cameroons, 17 species being hitherto known only from that area. Among these is the genus Auxopus, recently described by Dr. Schlechter from a single locality. Nineteen species have a wider distribution through the region bordering on the Gulf of Guinea from Sierra Leone to Gaboon, including Prince's Island and the Island of St. Thomas; Habenaria barrina has hitherto been known only from St. Thomas. A smaller number, seven, are more generally West Tropical African, extending southwards to the French

Congo or Angola. The new species chiefly belong to the genera Bulbophyllum, Polystachya, and Angræcum."

ORCHIDS AT ROBY HALL, TORQUAY.—Two beautiful varieties of Cattleya Trianæ come from Sir John Edwards-Moss, Bart., who recently obtained some imported plants from Messrs. Sander and Sons. The first is a large and bold flower of delicate mauve, the petals having an attractive venation of light rose; the lip is broad, finely crimped round the margin, and with the front lobe entirely covered with purple. The second flower, though not so large, is even more distinct from the usual type, being much darker, with broad, almost orbicular petals, and much purple-crimson round the entire margin of the labellum. The whole of the throat is marked with purple lines, suggesting the influence of another species, which, however, is not the case, for it cannot be anything else than C. Trianæ, and of that a most unusual variety. Mexican Lælias are also favourite Orchids at Roby Hall, and of these Sir John remarks:—"I have never seen such a year for Lælia anceps. I have a small plant (white variety) with two spikes, one with five, the other with six blooms, while the common L. anceps are coloured as if they were special varieties, almost worthy of special nomenclature, but I know them of old, and they are quite ordinary except in this year, which I therefore think must be exceptional for them."

BRASSO-CATTLEYA ST. ALBAN.—A photograph of this interesting hybrid between B. Digbyana and C. Schilleriana comes from Mr. E. Baxter Cox, of Adelaide, South Australia, who remarks:—"This bigeneric hybrid has thick, leathery, olive-green sepals and petals slightly flushed and veined mahogany. Lip very large, white veined with pale magenta and deeply fringed. The side lobes are very highly developed. The narrow isthmus of the lip, so characteristic of C. Schilleriana, is coloured yellow. The flower measures six inches across. The whiteness of the lip is due to the fact that C. Schilleriana alba was used." This latter variety is very rare, and was figured by Reichenbach in his *Xenia Orchidacea*. In this the flower is shown with a white lip having rosé veining. Mr. Baxter Cox has applied the name Adelaide to his distinct variety. The first record of this hybrid is in September, 1908, when it was flowered by Messrs. Sander and Sons and named B.-C. St. Alban.

CYPRIPEDIUM HITCHINSIÆ.—An excellent example of this pretty hybrid between Charlesworthii and insigne comes from the collection of Capt. Robert Twiss, of Bird Hill, Limerick. The broad dorsal sepal is white, slightly flushed with rose, the upper part folded and incurved, while on the central area are numerous rose-purple spots. The petals are very characteristic of Charlesworthii, being horizontal, reticulated with brown, and incurved at their extremities. A distinct feature is the yellow tooth on the centre of the staminode. Considered generally, the flower is exceedingly neat and attractive, and although not so large as the more recent productions it forms a useful addition to a collection of these long-lasting flowers. This hybrid is named after a daughter of Mr. A. S. Hitchins, of Clyton, St. Austell, in whose collection it flowered during the year 1899. Ever since then Hitchinsiæ has remained the popular name for this cross, although seedlings of similar parentage flowered at an earlier period in the collections of Capt. Twiss, Major-General Berkeley and M. Duval, the latter being recorded as Elmireanum, which may possibly be the earliest and, consequently, the correct name from a technical aspect.

CYPRIPEDIUM SAN-ACTÆUS.—Cypripedium Leeanum (insigne × Spicerianum) crossed with insigne yields Actæus, and when this result is crossed once again with insigne the progeny is known as San-Actæus. In the

original creation of this latter cross insigne Sanderæ was used, hence the name San-Actæus. Examples of this hybrid are now in several collections, and from Mr. Francis Wellesley, Woking, come two excellent flowers of the Westfield variety, a very neat and attractive form. In these the influence of Spicerianum is strongly visible, more especially in the broad orbicular dorsal sepal, which has two-thirds of its area pure white, the remaining basal portion being yellowish-green. Distributed over the larger part of this organ are numerous spots of various sizes, derived from the insigne species. These spots are only on the surface, and can be easily shaved off by means of a razor. In colour they are bright purple, and as such they appear when situated on the white portion of the dorsal, but those on the basal part seem to be of a brownish colour, although in reality they are also bright purple, the apparent change being caused by the yellowish-green under pigment.

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HYBRID DENDROBIUMS.—Considering the ease with which these beautiful Orchids can be grown, and their remarkable floriferousness, it seems very strange that they have been somewhat neglected of late, for there are no others which give a greater wealth of bloom in return for the trouble expended upon their culture. It was formerly urged that Dendrobiums deteriorated, and it must be confessed that this is still true in the case of some species, but the hybridist has of recent years produced a great number of excellent hybrids which have partaken of the good qualities of the parent species and, at the same time, are of much stronger constitution. The cultivation of hybrid deciduous Dendrobiums is not difficult. It may be briefly summed up as follows:—A warm house temperature of 65-90 degrees during the growing season, with plenty of atmospheric moisture, a drier and cooler temperature during the resting period, with a position near the roof glass, and repotting every alternate year.—*C. Alwyn Harrison.*

DENDROBIUM CULTURE.—In hastening the flowering of these plants everything possible should be done to prevent the new growths from developing too quickly. Regulate the temperature so that the conditions are not too warm, and afford water sparingly at the roots and overhead; also supply fresh air whenever possible. An excess of heat or moisture may cause the flower-buds to turn yellow and fall off. It is advisable to expose the plants to all the light possible, as even the lightest position we can afford them is poor in comparison to that of their habitat.—*J. T. Barker, Journal of Horticulture.*

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ORCHID CULTURE.—A knowledge of the different habitats of the various species is essential to the careful grower, in order that he may, as far as his means permit, place them in circumstances similar to those in which they make their natural growth; and it is, perhaps, to inattention on this point that the want of success in the culture of some Orchidaceous plants, by even the most successful of our cultivators, is to be attributed.—*B. S. Williams, 1862.*

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ODONTIODA ROSEFIELDIENSIS. — When Odontiodas first appeared the chief attraction was the scarlet and red colours, previously unknown in the Odontoglossums, and but few growers anticipated the great decorative value that hybrids derived from Cochlioda Nœzliana would have. A recent example is Odontioda rosefieldiensis (Odm. triumphans × C. Nœzliana) in Mr. Crawshay's collection. This plant has produced a grand spike, with six branches, carrying a total number of 39 flowers. In hybrids of Odontoglossum Pescatorei this number would not be uncommon, but with O. triumphans the result is surprising and proves the immense utility of hybrids. From the same collection comes a flower of Od. Huniades (sceptrum × Hunnewellianum), described in Vol. II., p. 158. It is a rare natural hybrid, and we do not appear to have any other record of its existence under cultivation.

ODONTOGLOSSUM NÆVIUM.—Like many other species O. nævium is now becoming exceedingly scarce. In days gone by, before the advent of hybrids, it was frequently met with, and Messrs. Sander at one time cultivated over a thousand plants, these making a most fascinating sight when flowering during the month of May. It has more than once been confused with odoratum and gloriosum, from which it chiefly differs in having a white ground. The following interesting note occurs in Sander's *Reichenbachia*:—"There is a great mistake attached to the introduction of Odontoglossum nævium. It was without doubt brought to Europe about the year 1845, and no other plants arrived until we received an importation in 1885, so for some forty years the plant was lost. We think it was originally introduced by Rollissons, and it probably came home from a correspondent in Columbia. After an ineffectual search during a period of twenty years we were at last rewarded for our labours, resulting in the successful importation of a large number of these plants. An error, easily explained, arose through the fact that in a dried state O. nævium much resembles O. odoratum album, and we believe that neither Funck nor Wallis, or any other collectors who sent home dried specimens, ever saw the true plant, but simply sent home the white form of O. odoratum. We will not say that Lindley was purposely guided wrong when he gave his description of the plant, but certain it is that no majus form of nævium exists, and that what he describes as such was simply O. odoratum album. Nor could Sir Robert Schomburgk have ever seen this Orchid, as he did not travel near the only spot where it has ever been collected, and Sir Robert, therefore, cannot have been the sender of the plant which flowered with Messrs. Loddiges." Only two hybrids have been artificially produced from this species, and both are in the Rosefield collection. Mr. Crawshay has kindly sent flowers of each, the first O. Waltraute (nævium × Harryanum), of which only a single plant exists; and the second O. Nerissa (nævium × crispum). Both hybrids happen to be in flower during the same period, and there is little chance of mistaking the nævium influence.

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DENDROBIUM CRUMENATUM.—Mr. H. N. Ridley, in the *Journal of the Asiatic Society*, 1900, in a paper of the flora of Singapore, gives the following interesting account of this species:—"Very few plants have a definite flowering month. A large number flower more or less regularly throughout the year. Others flower at regular periods three or four times a year, almost every plant of a given kind flowering simultaneously in the district. This is best known in the case of the Pigeon Orchid, Dendrobium crumenatum. In this plant the flowers are produced at periods of a little over a month or two months. The exact day differs in different parts of the peninsula, but in each district they all appear on the same day, and it is remarkable that plants brought to Singapore, even from as far north as Siam, open their flowers on the day for Singapore, and not for that of Siam. It is not rare, however, to find certain plants of Pigeon Orchid which do not flower on the regular day, but have a distinct day, which they appear to keep with equal regularity. A curious fact is that another species of Dendrobium (D. criniferum) invariably flowers in Singapore on the day preceding that of D. crumenatum, whenever that happens to be. It might be thought that the weather in the district in which the plant was growing was the influencing agent, but this appears to have but little effect on the Orchids. On one occasion, December 5th, 1893, the Pigeon Orchids developed their flowers so far that they were obviously ready to open them on that day, but an extraordinarily heavy rain retarded them and the flowers opened the next day; but, in cases like this, the weather previous to the flowering does not seem to make any difference to the date of the flowering. It can easily be understood that it is very important to a plant that all should open on the same day, in order that they may be cross-fertilised by the insects that visit them, and this is

especially the case in plants in which the flowers last but a single day, as is the case of the Pigeon Orchid, but it is difficult to see how this is brought about."

MANCHESTER ORCHID SOCIETY.—During the present month Exhibitions and Committee meetings will be held on Thursdays, February 12th and 26th.

Cattleya Percivaliana alba "Lady Holford."

CATTLEYA PERCIVALIANA.

CATTLEYA PERCIVALIANA was first brought under public notice in the year 1882, when Messrs. Sander and Sons imported it from Venezuela. It belongs to the labiata section of Cattleyas, and although originally described as a variety of labiata, it is now fully recognised as a distinct species. When the first flower opened in this country, late in the autumn of 1882, considerable controversy arose regarding its botanical position. Many columns were contributed to the horticultural press by the leading Orchidists of that time, and anyone who cares to read the correspondence cannot help noticing how much we have learnt since then and what a change has taken place in the selection of our Orchidaceous plants.

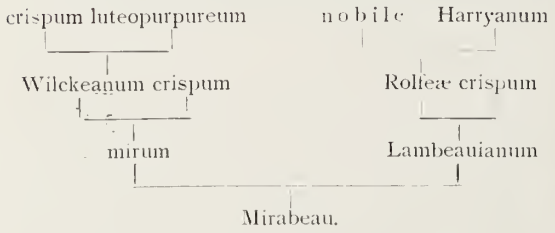
While some growers of thirty odd years ago considered C. Percivaliana to be a late flowering variety of C. labiata, others regarded it as an early flowering form of C. Mossiæ, and it was even suggested that it might be a hybrid between the two. No doubt such a hybrid would prove of immense value for winter flowering use, yet, probably on account of the difficulty experienced in obtaining both species in flower at the same period, no record of this interesting cross can be traced. This is one of the few remaining chances of making a new primary hybrid.

Named in honour of Mr. Percival, at that time a noted amateur grower of Southport, this species has produced several charming varieties. Of these, the best are the albino forms, the first of which appeared in the Percival collection within a year or so of the introduction of the species. In this matter C. Percivaliana has treated us generously, for with other species we have been kept anxiously waiting during many years before the anticipated albino has appeared.

The subject of our illustration is the beautiful albino variety known as Lady Holford. In the large size of the flowers and their pure whiteness are those qualities which allow this variety to stand alone in its excellence, while the orange area in the throat contributes to its chastely enchantment.

ODONTOGLOSSUM MIRABEAU.

Width of flower $3\frac{5}{8}$ inches.



It is a remarkable thing that the influence of nobile when carried through Lambeauianum should be almost invariably the cause of a good resultant. Taken on balance the hybrids of nobile and Harryanum are finer than crispum and Harryanum.

Mirabeau conforms to this theory, and is a really massive thing, as shown by the accompanying block. Sepals and petals white ground tinted with rose, more so on the former than on the latter; the heavy markings are all chocolate-brown on the sepals, those on the petals containing much more purple in the compounding shade of colour. Peculiarly enough, the brown and white of the blotches and ground colour reverse themselves in the sepals and petals. Lip tinted white with shining brown markings and marginal spotting. Crest and channel chrome-yellow. Column-head deep burnt crimson-brown.

The resulting progeny of this plant some years hence will be very interesting as I have made a couple of peculiar crosses with it.

de B. Crawshay, Rosefield, Jan. 14th, 1914.

ODONTOGLOSSUM CLEOPATRA ROSEFIELD VAR.

(Carmania × Vuylstekei), A.M., R.H.S., Dec. 16th, 1913.

This particular variety has proved the finest of the cross, and has assumed almost all the various characters of the complex parentage, but in an improved manner by combination of the good qualities and rejection of the worse ones. Size, colour, form, substance are all here; weediness, dull tints, puny form and shape are all rejected. The exact measurement of the flower across the petals is $3\frac{5}{8}$ inches.

Almost the entire surface is of a rich, slightly purplish Venetian red, the tips of the sepals and petals are light yellow, the lip

pure white, with basal markings of rich purple. Carmania being a hybrid from a white-lipped Lucasianum gives the lip to the hybrid. The usual forms of it are heavily marbled on the sepals and petals, as in most Harryanum descendants, but this one has assumed the ground colour of that species. The heavy colouring of Vuylstekei has overlaid it and produced the solid mass of colour.

Vuylstekei, containing almost all good species' qualities, I consider one of the finest that we have of the early hybrids for working with for a future. M. Ch. Vuylsteke deserves our gratitude for raising it so soon.

de B. Crawshay, Rosefield, Jan. 15th, 1914.

Cypripedium bellatulum.

CYPRIPEDIUM BELLATULUM.

THE above illustration shows one of many excellent plants of this handsome Cypripedium flowering in the collection of Col. Stephenson R. Clarke, C.B., Borde Hill, Cuckfield, Sussex. The plants are under the care of Mr. E. Johnson, who sends the following interesting note:—

"In my opinion, the ideal place for this elegant subject is suspended from the roof of the Cattleya house, at the coolest and shadiest corner, preferably over the side staging, where it can easily be attended to. The receptacles should be ordinary shaped pots, with small holes for inserting wire suspenders. There will then be room for a good depth of compost with ample drainage material. The compost should consist of two-thirds fibrous loam, the remaining third made up of equal parts chopped osmunda fibre and sphagnum moss. If limestone is used I prefer it broken rather small, as large pieces cause an unevenness in the moisture retaining properties of the compost.

"I am inclined to think that under artificial cultivation these plants require much more water than we are told they receive in their native habitat. When the compost is almost covered by the foliage of the plant, and any doubt arises as to whether it requires water, a sure and safe test is to slightly bend the leaves upwards. If dry a number of wrinkles will appear in the bend, these being entirely absent when the leaves are sufficiently supplied with moisture.

"My interest in Cypripedium bellatulum commenced during my term of employment with the late Foster J. Alcock, in whose collection the celebrated Exhim's variety then flowered. This was one of the darkest and most densely spotted varieties ever seen, and it was cultivated under very similar conditions to those stated above."

MANCHESTER NOTES.

THE recent meetings of the Manchester Orchid Society have been very consoling to its members. For more than a year meeting after meeting has been successful. On December 18th, when one is thinking more of vegetation being in its sleep than at its best, over 1,000 well-grown Orchids appeared to greet the arrival of the members who fortnightly come to the Coal Exchange to feast on their favourite flowers.

The Lancashire Orchid growers have been accused of commercialism, but without justification. Where does the commercial spirit find root in those amateurs who month after month spend their money and time in putting up large groups of their choicest Orchids without any further reward than the edification and gratitude of their fellow members who attend the meetings? It cannot be the gate-money, for there is none. Nor do

admiring crowds of the fashionable public of Manchester do homage to the cult.

In connection with this phase, what splendid devotion has Mr. Wrigley, of Bury, shown. He is always represented by some choice Orchids at every meeting, while two or three times a year huge groups are put up from his greenhouses, reminding one of a miniature Temple Show. He has no further ambition, as he often states, than to know that he is giving pleasure to his fellow Orchidists. Would that his health would allow him to personally visit the meetings and witness the glow of admiration that his exhibits enkindle.

The Lancashire princes are good and plucky buyers; the best of everything finds its way north, first into the collections, and then on to the Committee's table. The new varieties of Odontoglossum and Odontioda that have recently been submitted for awards are bewildering in their glorious kaleidoscopic tracery of colour. So plentiful have these beautiful varieties of almost solid colour become that the sweet round-flowered xanthotes and virginale forms are a relief to the eye. What a wealth of the newest varieties Mr. Thompson must now possess!

The Committee should have a critical eye, and a critical eye it has indeed, when a Cypripedium, the favourite Orchid of the North, appears on the table. It is balanced and turned about, and handled with tender hands; its form, outline, and its colour are carefully measured, its qualities discussed. There is no hurry. There is no human respect. Its faults are condemned, its merits commended. The voting is open, by show of hands, and no one is afraid of voting "straight."

It may be that the very love they have for their favourite Cyp., its pet name, is partly the reason that Manchester has the reputation of being easier than the Royal Horticultural Society in its awards of merit. They cannot bear to see a plant relegated that appears to be an improvement on existing types, though the advance be slight. Such a plant deserves recognition, which is the raiser's and exhibitor's encouragement.

ORCHIDS AT BORDE HILL, CUCKFIELD.

IN the extensive and rapidly increasing collection of Orchids at Borde Hill, Cuckfield, Sussex, the residence of Col. Stephenson R. Clarke, C.B., are several specimen plants which not only remind us of days long since past, but prove conclusively that Orchids, so long as they are given atmospheric conditions resembling their natural climate, may be cultivated for an indefinite period; to them the proverbial life-span of three score years and ten remains unknown.

Among the interesting plants is Cattleya Trianæ Clarkeana, now represented by a vigorous specimen. It originally belonged to Col. Clarke's father, in whose honour it was named, and in whose collection at Croydon it frequently received more than usual recognition, and more than once was commented upon in the Press. This fine variety was imported by Messrs. Rollison and Sons, of Tooting, who in the year 1876 received a consignment of the species, said to have been selected in their native country with great care. The plant was purchased as an unflowered imported piece, and first bloomed in this country in the Croydon collection, whence it was subsequently removed to the present collection at Borde Hill.

Another interesting remembrance of the past is Aerides crispum Warneri, a strong healthy plant, abundantly supplied with foliage. This was figured in the *Orchid Album*, during the year 1888, with the following note by Mr. B. S. Williams:—"The first appearance in this country of Aerides crispum Warneri was a specimen exhibited by us at the last show held by the Horticultural Society at Chiswick, June, 1857, before the Society's South Kensington Gardens were in existence, but we cannot find that it has been either figured or described in any publication. The specimen referred to above had been grown by myself in the collection of the late Mr. C. B. Warner, at Hoddesdon, in whose honour the plant was named. At the time it was exhibited Dr. Lindley designated

it as a very distinct and brilliantly coloured new Aerides, remarking that it was quite distinct both in foliage and flower from A. crispum, with a plant of which species A. crispum Warneri was staged. Since that time plants have occasionally been imported, and we believe they have come from the neighbourhood of Bombay.

"A. crispum Warneri is an evergreen, erect in growth, bearing dark green leaves which are ascending, not horizontal as in A. crispum, from five to six inches in length, and about two inches in breadth, the stem and base of the leaves being purplish black. It is a prolific bloomer, and the large flowers are deliciously fragrant; indeed, it possesses every good quality to be desired in a plant. The sepals and petals are white, flushed with rose, the lip deep rosy purple. The flowers are produced in May and June, and continue in beauty three or four weeks."

A new Odontoglossum house has recently been erected, and another house specially devoted to Dendrobiums. We hope in the near future to give further details of the most interesting plants.

OBITUARY.

BY the death of Sir Trevor Lawrence, Bart., which took place on December 23rd last, the Orchid world has lost one of its most prominent and highly esteemed members. With many amateurs a definite date of commencing the cultivation of Orchids can be given, but with Sir Trevor it is not so, for he was practically brought up in close connection with them. His mother, Mrs. Lawrence, of Ealing Park, was a celebrated cultivator of these plants, and although he may have inherited much of her love for gardening, there is no doubt that Orchids appealed to him in his early days by reason of their aristocratic nature, their quaintness, and their exquisite beauty.

Sir Trevor was born on December 30th, 1831, and was the only son of the first Baronet, Sir William Lawrence, F.R.S. He studied medicine at St. Bartholomew's Hospital, and subsequently served in the Indian Medical Service. In 1885 he was elected President of the Royal Horticultural Society, and remained in office until failing health compelled him to retire in the early part of 1913.

At an early date Sir Trevor commenced the purchasing of valuable Orchids, and the continued eagerness with which he built up the collection, as well as his close application of an intimate knowledge of the plants, soon made it one of the finest in existence. In 1881 he purchased for 140 guineas the rare and elegant Cypripedium Stonei platytænium, a propagated piece from Mr. Day's original plant. Perhaps the most noteworthy addition to the collection was made in September, 1883, when at an auction sale he paid 235 guineas for Aerides Lawrenciæ, a new species named by Reichenbach in honour of Lady Lawrence.

Not only did Orchids of high commercial value attract the attention of Sir Trevor, but rare species, whose flowers were oftentimes neither beautiful nor interesting, found a comfortable home in his extensive glass-houses at Burford. As an exhibitor at the Royal Horticultural Society he received many awards, and to give but one example of the complete way in which Orchids were cultivated by him we may instance the genus Polystachya, of which no less than thirteen species have been awarded the Society's Botanical Certificate. Sir Trevor also exhibited many new hybrids, and when naming them he always endeavoured to make a combination of the parental words, so that a ready reminder of their parentage might be available. A good example is Lælio-Cattleya Trimyra (C. Trianæ × L.-C. Myra).

As the worthy President of the Royal Horticultural Society for the long period of twenty-eight years he accomplished an immense amount of good work towards the encouragement and improvement of horticulture, and in this his excellent judgment and life-long experience allowed him to be greatly respected and honoured by many thousands of horticulturists, both in his own and other countries.

CAGED ORCHIDS.

VISITORS at the Royal Horticultural Society during last month were in no small manner surprised on discovering a cage-like structure erected in the portion of the Hall usually reserved for choice Orchids. Exhibitors who arrived early for the purpose of staging plants were not slow to express their indignation at the supposed negligence shown by those responsible for removing the cages of a recent cat show. Enquirers soon ascertained that this cage-like structure was specially erected for the convenience of Orchidists, wherein their valuable plants might be safely placed, and away from the reach of pollen hunters.

Although the authorities intended this structure for the inclusion of epiphytes accustomed to dwell on trees, it resembled more closely a huge bird cage wherein songsters of the forest might be imprisoned for the benefit of mankind. One of the first occupants of the cage was a plant labelled Odontoglossum Canary, which, notwithstanding its canary-like form and colour, caused great disappointment to an eager audience by refusing to break forth into song or even move its yellow lips. An elderly lady overhearing the word canary asked a youthful attendant to show her the bird, but on receiving the reply that it was really an Odontoglossum she pleasingly remarked: "Oh, yes, don't they blossom."

The second arrival destined for inclusion in the cage proved to be a purple faced cat, technically known as Cattleya Blackii. No wonder, then, that the canary refused to sing. The attendant in charge did his best to prevent an accident by keeping the two widely separated, but despite the attractive sunlight the purple faced individual never ceased to keep a black eye firmly fixed upon his prey. It was not until the shades of night were falling fast that the owner removed the ties that so long had secured this yellow bird-like form to its upright wooden perch.

It is rarely that we see the Dove Orchid (Peristeria elata) exhibited at these meetings, but here is a safe place found at last. How nice it will look comfortably seated in a corner of the cage with the Pigeon Orchid (Dendrobium crumenatum) to talk to, while overhead might the Bird's Beak Orchid (Oncidium ornithorhynchum) be carefully suspended. If the Society could expend a little extra money in the purchase of a small pond a realistic effect could be given, more especially to the Swan Orchid (Cycnoches chlorochilon) and the rare Lizard Orchid (Orchis hircina).

Perhaps at some future date we may have a stronger cage erected for the safe keeping of the Tiger Orchid (Stanhopea tigrina), who will find good company with a few specimens of the Leopard Orchid (Odontoglossum leopardinum). A useful addition would be the Bull-headed Orchid (Dendrobium taurinum), and with such dangerous specimens as these we are certain that few pollen thieves will venture their hands inside the cage.

Another cage, of smaller size, with some finer netting might be found useful for an entomological collection. And here we could place the Butterfly Habenaria (H. bifolia), the nasty stinging Bee (Ophrys apifera), as well as the Spider Ophrys and the Fly Ophrys, while a charming effect could be given by the inclusion of some tropical Butterflies, such as Oncidium Papilio.

How such a Wonder Zoo as this would have amused Jas. Bateman, who in the year 1843 published the following note:—"Accustomed as we are to look upon the animal and vegetable kingdom as altogether distinct, an astonishment may well be awakened when we see the various forms of the one appropriated by the flowers of the other; and yet such encroachments are but a part of the liberties which these Orchidaceæ are perpetually taking, for, as if it were too simple a matter to imitate the works of Nature only, they mimic, absolutely mimic the productions of art. But after having, like Shakespeare, 'exhausted worlds,' like him, too, they seem to have 'imagined new,' and thus we find their flowers exhibiting a variety of strange and unearthly objects, such as bear no resemblance to created things, nor yet to many of the works of man."

Cattleya Trianæ, a beautiful variety in the collection of Clement Moore, Esq., Hackensack, N.J., U.S.A.

Cœlogyne Dayana, flowering in the garden of D. Schaap, Esq., Madioen, Java.

CŒLOGYNE DAYANA.

HOWEVER representative an Orchid collection may be it rarely contains more than a small plant of any particular species. Quite naturally the owner wishes to include as much as is possible in the comparatively small area of his glass structure, and although much real interest is obtained from this limited method of cultivation there is little, if any, chance of ever obtaining a real idea of the plant's possibilities of growth, or of fully realising the grandeur and beauty that is only revealed when the plant is surrounded by its natural climatic conditions.

Cœlogyne Dayana may well be taken as an example. The reproduced photograph shows a noble specimen flourishing in the garden of Mr. D. Schaap, Junr., of Kandangan, Madioen, Java. The plant has been eight years in cultivation, and is growing in

a compost of leaf mould and a little charcoal. There are 78 pendulous flower-spikes, and as each one carries about 50 blooms the total number of flowers approaches 4,000, truly a magnificent specimen.

The writer once visited an amateur's collection in which a small starved plant of Cœlogyne Dayana was suspended from the roof of a poorly kept greenhouse. "That," proudly remarked the owner when pointing to the plant, "is Cœlogyne Dayana." In applying this name to the miserable plant he was correct; but if he wished to imply that his specimen showed the potentialities of the species he was indeed in error, as a reference to our illustration will prove to one and all. It is only when the plant is seen in such nobleness and grandeur have we the right to say, "*That* is Cœlogyne Dayana."

CULTURAL NOTES.

MOST of the various varieties of Lælia anceps have finished flowering for this season, and may now receive attention regarding their need of additional compost. About this time of the year the plants produce a cluster of new roots from the base of the last made bulb, and every endeavour should be made to encourage these roots and to make sure that they enter the compost. Many of the L. anceps have a tendency to extend the rhizome in a slightly ascending position, consequently every additional bulb is further away from the surface of the compost, and the roots frequently get broken off or are eaten by slugs before they can gain protection by entering the compost. There is also the chance, which very often happens, of the plant extending itself over the edge of the pot, and this is another instance of how the new roots fail to find their way into the food giving compost.

The general routine of the plant is to gather up as much nutritive material as possible during the growing season and to expend this in the formation of the flower spike. It will not require much forethought to determine that the plant is in a weak state at the conclusion of its flowering period. For this reason we see the great necessity of assisting Nature in the way she provides for the immediate recuperation of the plant by the formation of new roots by which to gather in fresh nutritive material.

The amateur is often placed in a position of having to decide whether the whole compost requires renewing or if a little additional material round the most recently formed portion of the plant will suffice. Mexican Lælias do not require such an abundant supply of water as many other Orchids, consequently the compost remains fresh and sound for a considerable period, usually through two growing seasons. Whenever this is the case repotting should only be carried out when really necessary, for nothing is gained by unduly disturbing the roots, especially the older ones that have a much branched system and are firmly attached to the pot. A careful hand, with the use of a small pointed stick, will be able to pick out some of the old compost from beneath the newly rooting portion of the plant, and in this cavity may be placed fresh material that will form an attraction to the new roots and give them a good start in their necessary work of collecting nutritive material.

In those cases where total repotting is required it will be found necessary to remove almost every particle of the old compost, and to cut off many of the older and disused portions of root. This method allows the plant to be divided, if thought necessary, and gives the owner a good chance of bringing the overhanging portions of the plant back into a reasonable position in the pot, or basket, as the case may be. Care is always necessary in repotting plants that have made much progress with their new roots, or the tender tips will be broken.

Mexican Lælias require considerable sunlight to ensure a strong healthy growth that will flower well during the winter months. In the hottest part of summer a little artificial shading may be necessary, but even this should only be used during the middle part of the day. Many of the finest

specimens have been cultivated by an almost total absence of shading, the only material used being thin muslin, or similar material, suspended from the roof inside the house. By this means the heat of the sun is still procured in the house, although its fiercest rays are prevented from reaching the plants.

Cypripediums of the late flowering kinds will also require attention. If the compost used for these plants is of good lasting nature it will keep sound for two or three years. Then some of the plants may be selected for repotting each year, and the result will be better than if the whole batch is potted during the same period. If a few plants can be cultivated into specimens, the best way will be to cut off the flower-buds as soon as they appear, and thus throw all available strength into the making of new growth. After two or three years of this treatment the plant will be in a very vigorous condition, and when carrying a large number of flowers will make a fine exhibition subject.

One-third of the compost should consist of good turfy loam, the remaining two-thirds may consist of a mixture of lumpy peat, sphagnum moss, coarse sand, and some leaf mould. The pots must be well crocked to prevent the material from being washed away when copious supplies of water are given during the summer months. In order to allow plenty of water being given in a short space of time the top of the compost should be about half an inch with small pots, and one inch with large ones, below the rim of the pot.

Lycaste Skinneri requires very similar compost to that of Cypripediums, both being terrestrial in habit. It is one of the easiest Orchids to grow and can be well recommended to amateurs. Although a damp atmosphere is beneficial to the plant when growth is being made, care should be taken to prevent water remaining on the flowers, for they soon spot and are badly disfigured even by an excess of atmospheric moisture when the nights are cold. These matters are easily overcome by the amateur who really loves his plants, and who strives to obtain the best results.

DENDROBIUM CULTURE.

MANY Dendrobiums are now showing their flower-buds, and will need careful attention regarding the application of water and the sustainment of a slightly higher temperature. All plants with shrivelled bulbs will require gradual plumping up, so that there may be an ample supply of material to nourish the developing buds. This process must be carried out slowly, any undue or sudden excitement may transform the buds into vegetative growths, which are only required when an increase of stock is necessary to replenish worn out specimens.

Success in producing a large number of fine blooms will much depend on the good judgment of the cultivator. If the compost is kept too dry a check is given to the whole plant, and should this occur during the development of the flowers their size will be considerably reduced. Too low a temperature when the plant is in an active state, either of growth or producing blooms, will also mean a check, varying in intensity as the deficiency of warmth increases.

Dendrobiums can withstand a fairly low temperature during the winter months, so long, of course, as they remain in a dormant condition, but when once the formation of the buds has commenced then the temperature must be increased accordingly. No great change should occur suddenly, everything in nature takes place gradually, therefore an increase of a few degrees each week until a day temperature of about 60 degrees is reached will be found very beneficial. Some amateurs erroneously believe that because a Dendrobium can just exist in a certain low temperature there will be no need to increase it when the flowering season arrives. There is a vast difference between the minimum and optimum temperature. In the former the plant just exists, and no more; in the latter it flourishes at its best. In the application of water and the sustainment of certain temperatures we have two powerful growth stimulants, and so long as the practical grower fully understands their importance considerable success may be achieved.

It is a rare event indeed to find every Dendrobium in exactly the same condition of growth, some will have their flower-buds just pushing forth from the bulbs, while others are so far advanced that but two or three days are required to see them in full bloom. To many amateurs this is an appreciated advantage, for the more the flowering season can be extended so much the more does the decorative value of the plant increase. For the furtherance of this object a few of the most forward plants should be selected and placed in a position where they can obtain a warmer and moister atmosphere, which will much accelerate the progress of the flower-buds.

There are, however, occasions when a grand display is required on a definite date, and every available plant will then have to be seen in its best attire of full bloom. Considerable care is needed to arrange the plants in positions where they may obtain the treatment necessary to produce this result. Two or three times a week the cultivator will need to look over the plants and rearrange them as his skill directs. The backward ones will require every encouragement in the way of moisture and heat, while the forward ones will need to be retarded as much as possible, without at the same time checking their growth so severely as to cause permanent damage.

Dendrobiums, in common with all other plants, lose much of their strength during the flowering period, and at the time when their last flowers have withered their vitality will have reached its lowest state. Every care will be required to resuscitate the plant, and any indiscretion, such as premature potting, will invariably produce an ill effect on its health. In many cases the plant has produced a new growth of several inches in height during its period of flowering, and, also, during the time that the compost has been kept comparatively dry. This renewal of growth is a great temptation to give an immediate supply of water to assist its development, but such must not be done, for the sudden change from a long period of dryness to one of moisture often brings about the damping-off of the growth. There is still plenty of nutriment left in the old bulbs to supply this new growth with food for several weeks, and when in due course new roots are formed only then may water be applied with any degree of safety.

It is surprising how small an amount of compost Dendrobiums really require. Young plants placed in small pots with some sweet compost make rapid headway, and frequently produce larger bulbs than the parent plants. During their summer growth a plentiful supply of water is beneficial, but only in those instances where small pots are used. In specimen plants the large amount of compost holds a comparatively larger amount of water, and any excess causes a sodden nature and consequent rotting of the roots situated in the centre of the pot.

On many of the older plants small growths may be seen pushing forth from the unflowered portions of the bulbs. These form a ready means of increasing the stock, and if they have one or more roots their removal may take place on any desired occasion. In the case of rare varieties one of the young plants is placed in the centre of a suitably small pot, but when the variety is plentiful then three or four may be placed in a pot in order to ensure a specimen plant being rapidly produced. In those cases where the young plants have not yet produced roots it will be found advisable to cut up the old bulb into suitable portions, allowing several inches to each growth. These portions should either be laid on damp moss until new roots are formed, or else placed in small pots and kept moist by occasional syringing. The portion of old bulb will supply nutriment to the young growth until it is able to maintain itself by means of its own roots. Some varieties are not very free in producing young growths, and in these cases an old unflowered bulb should be severed from the plant and laid on some damp moss, when in due course growth will appear at many of the previously dormant buds. The chief secret in the production of easily flowered Dendrobiums is the annual creation of fresh healthy plants.

NEW HYBRIDS.

CYPRIPEDIUM J. CROIL MEEK.—This pretty and useful hybrid is the result of crossing Mastersianum with Hera (Boxalli × Leeanum). Messrs. Sander and Sons, St. Albans, are the raisers.

CYMBIDIUM NADA.—An elegant hybrid resulting from crossing eburneum with Lowio-grandiflorum. In colour greenish-yellow with red markings on the lip. Raised by Mr. H. G. Alexander in the Westonbirt collection.

CYMBIDIUM CONINGSBYANUM. — An attractive hybrid between grandiflorum (Hookerianum) and insigne, recently flowered by Mr. G. Hamilton Smith, of Church End, Finchley. The plant carried a spike of nine flowers, creamy-yellow, slightly flushed with rose, the large lip spotted with red-brown.

ODONTOGLOSSUM LUMINOSUM.—By crossing armainvilherense with Fascinator many pleasing hybrids with branched spikes of spotted flowers have been obtained. Raised by Messrs. Sander and Sons.

ODONTOGLOSSUM LUCIDUM.—Ossulstonii and triumphans are the parents of this new hybrid, recently named by Messrs. Sander and Sons. The former parent is a hybrid between crispo-Harryanum and nobile.

LÆLIO-CATTLEYA TAGUS.—Messrs. Flory and Black have flowered a pretty hybrid between L.-C. Dominiana and L. Latona. The flower has the sepals and petals of a peculiar yellow tint, the lip crimson with shades of purple.

LÆLIO-CATTLEYA BELLONA.—A useful late autumn flowering hybrid has been raised by Messrs. Sander and Sons. It is the result of crossing L. autumnalis with C. Lord Rothschild. The former parent is a well-known Mexican species, and the latter a hybrid between Gaskelliana and aurea.

LÆLIO-CATTLEYA AUREALIS. — A new primary hybrid. The parents are L. autumnalis and C. aurea, the result being a useful addition to the autumn flowering section. Raised by Messrs. Sander and Sons.

LÆLIA EVERSHOTENSIS. — This hybrid between xanthina and Iona (tenebrosa × Dayana) has been raised by Mr. Eustace F. Clark, Evershot, Dorset. A yellowish-green flower with a crimson veined lip, mainly taking after the seed parent in the shape and colour of the sepals and petals, but with more purple veining in the lip, derived from the pollen parent. The habit is dwarf, and the bud emerges from the nearly completed growth, as in Iona and Dayana. The cross was made September, 1902, and the seed ripened in May, 1903.

CYPRIPEDIUM CENTAUR. — Thalia and Alcibiades, both parents of note, have yielded some very promising seedlings, which will still improve as they gain in strength. Messrs. Sander and Sons are the raisers.

CYPRIPEDIUM EREBUS.—Hera var. Euryades × Milo (insigne × œnanthum) is the parentage of this new Cypripedium recently flowered by Messrs. Sander and Sons.

CYPRIPEDIUM PAN.—A pretty hybrid, of which the parents are Clive and Corona. Raised by Messrs. Sander and Sons.

ODONTOGLOSSUM NEPHELE.

(nævium × luteopurpureum,)

Had this bloomed in the eighties from an importation, if that had been possible, it would have commanded a great amount of interest, as did Cookeanum (blandum × triumphans), to which it has a family likeness.

Having a fine plant of the variety known as nævium majus (Bateman's Monograph), I made some experimental crosses for scientific proof. They have proved interesting, and are also elegant, and if those who have this variety put very fine things to it no doubt some very pretty things will be produced.

Nephele's whole flower is uniformly light yellow, the light brown markings on the sepals and petals being scattered. The lip is that of a very narrow luteo with the blade and apiculus extended more than usual by the influence of nævium; there is one small blotch under the keels, and a few spots below on each side. Column almost exactly as in nævium, but yellowish-white.

de B. Crawshay, Rosefield, Jan. 18th, 1914.

Dendrobium Rubens, a specimen in the Westonbirt collection.

DENDROBIUM RUBENS.

(Ainsworthii × nobile.)

DENDROBIUM AINSWORTHII, the result of crossing aureum with nobile, was first raised in the collection of Dr. Ainsworth, of Manchester, where it flowered in the year 1874, having taken seven years to reach maturity. Some five years later Messrs. Veitch flowered a similar hybrid, which received the name D. splendidissimum.

In 1881 a Dendrobium with similar parentage flowered in Mr. Leech's collection at Manchester, and was named Leechianum by Reichenbach, who remarked, "It deserves a name of its own on account of its peculiarities." Present-day methods of nomenclature refer all hybrids with identical parentage to the earliest recorded name, consequently splendidissimum and Leechianum are now regarded as varieties of Ainsworthii. Many other later names for this hybrid can be mentioned, but they are insufficiently known to need repetition.

Early in 1893 Mr. Cypher exhibited D. Rubens, obtained by crossing Leechianum (=Ainsworthii) with nobile, the plant being very floriferous and combining the characters of both parents. A week or so later in the same year Messrs. Veitch flowered a hybrid

between Ainsworthii and nobile, the name Euryalus being applied In 1894 Baron Schröder exhibited dellense, while the following year Mr. Cypher flowered Apollo, both plants being the result of crossing nobile and splendidissimum (= Ainsworthii).

Our illustration shows a specimen plant of D. Rubens, commonly known in gardens as D. Apollo, flowering in the collection of Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, Glos. The total number of blooms is 210. They are of a creamy-white colour, the centre blotch on the labellum being dark crimson-purple.

Orchid Propagation: Odontoglossums in the Linden House collection.

ORCHID PROPAGATION.

THE propagation of Orchids is always an interesting subject, and often a matter of necessity. The above illustration shows four plants of Odontoglossum Jasper in the Linden House collection, Stanwix, Carlisle. The owner, Sir Benjamin Scott, has obtained great success with the cultivation of Orchids, and he very kindly sends the following interesting remarks on the propagation of Odontoglossums from back bulbs:—

I imagine that the great bulk of back bulbs are thrown away by gardeners, who look upon them as exhausted and useless, but this is far from being the case. My gardener, Mr. George Accleton, has for some years back made careful experiments, and he finds that they all have life in them, and if they are detached from the parent plant, potted in a small pot and hung up to the light, at least 90 per cent. will reward all the trouble by growing into vigorous plants. I must say that personally I have been surprised to find

some withered and yellow looking bulbs display such vitality, but it must, however, be noted that it is the garden hybrids that have this vitality. I do not find that the species respond to the treatment to the same extent.

To watch the growth of the young plant is interesting. I repot all my Odontoglossums every year, after the flowering season is over. My gardener removes the back bulb of all plants that he cares to duplicate, and in the course of two or three years he has a fine vigorous plant. The young shoot begins to sprout from the base of the bulb about three months after potting.

The photograph shows a very fine Odontoglossum Jasper (Linden House variety) which I bought unflowered in the Spring of 1911. It is the first plant on the left side. The next plant is the product of this, and was produced from a back bulb in the spring of the same year. It is now an equally good plant and carries, for the first time, a strong flower spike. The third plant in the photograph, consisting of two bulbs, was taken off the original plant in the spring of 1913, and has a vigorous growth appearing between the two bulbs. The fourth plant is a back bulb taken off the specimen now in spike during the spring of 1913. The young growth can be seen coming from the right hand side of the bulb. This last plant is, therefore, the result of a back bulb taken from a plant grown from a back bulb.

The propagation of choice plants in this manner is, to my mind, more satisfactory to an amateur grower than the raising of a lot of seedlings, the great bulk of which may have to be thrown away. With the knowledge that a good variety can be reproduced encouragement is given to spend more money than one would otherwise on the purchase of choice specimens, an ample supply of which is being continually produced by the big growers. I do not in any way deprecate an amateur raising seedlings if he has accommodation for so doing, but I can strongly recommend this method to those who have not that convenience and who like to see their collection continually improving.

ORCHIDS AT STANWIX, CARLISLE.

AT Linden House, Stanwix, the home of Sir Benjamin Scott, who has been an ardent cultivator of Orchids for the past twenty years, a beautiful show of bloom may be seen at almost every month of the year. The greenhouses are built on up-to-date principles, the most recent addition being one for the cultivation of Odontoglossums.

During the last two or three months a magnificent show of Cypripediums has caused great interest to be taken in the houses during the dull winter season. The plants include specimens of insigne Sanderæ with from 12-15 flowers, Minos Youngii with 15 growths and 7 blooms, Leeanum Clinkaberryanum, a fine plant with 12 flowers, while other specimens almost equally good are Thalia Mrs. F. Wellesley, triumphans and Leeanum Corona. Cypripedium bellatulum is represented by a home raised batch of vigorous plants with richly coloured flowers, and there are specimen plants of Euryades magnificum and New Hall Hey variety, all in perfect health and carrying many substantial flowers.

At this time of the year interest is passing to the Odontoglossum house where many notable varieties are coming into flower. One of the best is Od. Sir Benjamin Scott, a grand hybrid. Od. Royal Purple is a large flower of good shape and wonderful colour, as its name implies. Od. Jasper, Linden House variety, is equally fine and attractive. There is also a strong plant of Od. Dora and Od. Edenense, the latter resembling a fine variety of crispum, and having handsome claret-purple blotches

Odontiodas are also well represented, the best hybrids in this section being seen in Charlesworthii, Chantecleer, Diana, Lambeauiana and rosefieldiensis. Cattleyas and Lælio-Cattleyas comprise many notable varieties and fine specimens, and now that the hybridist has extended their flowering season there is scarcely a week in which some of the plants are not in flower. A special feature is a number of robust plants of Cattleya aurea

that have been grown at Linden House for the past thirteen years.

The practical part is under the care of Mr G. Accleton, who has just reason to be proud of this valuable collection and the successful manner in which he carries out his duties.

LINNEAN SOCIETY.

At a meeting of the Linnean Society, held at Burlington House, January 15th, 1914, Mr. G. Claridge Druce, M.A., F.L.S., read a paper on a Marsh Orchis for which he proposed the name Orchis prætermissa (a Latin description being given), and contrasted it with the true flesh-coloured O. incarnata of Linnæus, as described by C. B. Clarke in *Journ. Linn. Soc.* XIX. (1881) 206, showing how it differed in the shape of the flowers and in other characters from that plant. O. prætermissa is the crimson-flowered plant which has a wide distribution through South and Central England. A beautiful painting of it has been executed by Miss Trower from a seedling raised by Mr. B. Savile Ogle, who had collected the parent plant before 1903 on the borders of Berks and Hants. The seedlings obtained from it resembled each other and the parent in all the stages of their growth. The parent was figured as incarnata in the "Report of the Ashmolean Natural History Society of Oxfordshire" for 1904.

Mr. Druce himself collected the plants in Nottinghamshire in 1878, in Oxfordshire in 1882, in Berks and in Norfolk.

Mr. P. M. Hall and Mr. R. B. Ullman, who have studied the Orchids from round Winchester with great assiduity, came independently to the opinion that it was a distinct species (a note on it appears in the curtailed "Report of the Winchester College Nat. Hist. Society"), and found it abundantly in Hampshire. A photograph by Mr. Bedford showed that it occurred near Lewes in Sussex.

Reference was made to another and as yet undescribed form from the Coast Sands of Britain, as well as to a northern plant, but these await further investigation.

ROYAL HORTICULTURAL SOCIETY.

January 13th, 1914.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Messrs. W. Bolton, Gurney Wilson, S. W. Flory, W. H. White, C. Cookson, A. Dye, W. P. Bound, J. E. Shill, H. G. Alexander, W. H. Hatcher, J. Cypher, C. H. Curtis, A. McBean, T. Armstrong, Stuart Low, R. A. Rolfe, and J. Charlesworth.

Mrs. Raphael, Castle Hill, Englefield Green, exhibited a splendid group of Cypripediums and Calanthes, extending across the end of the Hall. A Silver-gilt Flora Medal was awarded.

Messrs. Flory and Black, Slough, secured a Silver Flora Medal for an excellent group of well-grown Orchids, including Lælio-Cattleya Tagus (Dominiana × Latona) with yellow sepals and petals; a dark form of L.-C. Lucasiana; Cattleya Maggie Raphael; the distinct Brasso-Cattleya Pyrrha (B. glauca × C. labiata); a very large form of Brasso-Lælia Helen; and many excellent Cypripediums.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for an attractive group of Lælia Gouldiana. Some 80 plants, carrying over 200 spikes, each having 5-8 flowers, were staged. Cattleya Percivaliana Albatross, a white form, and several good hybrids were also shown.

Messrs. Armstrong and Brown, Tunbridge Wells, received a Silver Banksian Medal for a neat exhibit of Odontoglossum hybrids and Cypripediums, the latter including Holdenii Orchidhurst var., a lighter form than previously seen, but a grand flower; and Helen II. Armstrong's var., a cream-white flower with slight spotting. The attractive Odontioda wickhamiensis, with rose-pink flowers, and some extra choice forms of Cattleya Maggie Raphael were also shown.

Messrs. J. Cypher and Sons were awarded a Silver Banksian Medal for a good selection of Cypripediums, the best being Boltonii, Rossettii, Archie Nield, and triumphans.

Several choice Masdevallias, good Calanthes, and a specimen Sophronitis grandiflora also attracted attention.

Mr. G. W. Miller, Wisbech, secured a Silver Banksian Medal for a group of Cypripediums.

Messrs. W. Baylor Hartland and Sons, Cork, were awarded a Silver Banksian Medal for a group of Cypripediums.

Messrs. Hassall and Co. exhibited the scarce Lycaste Tunstillii, Cymbidium Wiganianum, with large flowers, a fine example of Brasso-Cattleya Menda, and Lælio-Cattleya Cecilia.

His Grace the Duke of Marlborough, Blenheim Palace, showed Cypripedium Iona (bellatulum × Fairrieanum), a charming flower, which had previously received an Award of Merit.

Lieut.-Col. Sir George Holford, K.C.V.O., showed Cymbidium Nada (eburneum × Lowio-grandiflorum), a large greenish-yellow flower with red markings on the lip.

Baron Bruno Schröder, The Dell, Englefield Green, showed a well-grown plant of Cypripedium Moonbeam, C. Maudiæ giganteum, an exceedingly fine flower, and Odontioda Lambeauiana The Dell var.

A. J. Hollington, Esq., Enfield, sent Cypripedium Mrs. W. R. Lang, a hybrid of Leeanum.

Pantia Ralli, Esq., Ashtead Park, Surrey, showed Cymbidium Schlegelii punctatum, a very pretty variety, Cattleya Blackii, and Odontioda keighleyensis Firefly var., with a branched spike of crimson-red flowers.

E. H. Davidson, Esq., Twyford, showed Odontoglossum Jasper, a heavily spotted variety, and a beautiful richly blotched crispum hybrid.

First-class Certificate.

Cypripedium Julian (Vandyke × aureum), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—A strongly built hybrid, with the dorsal sepal very broad, white at the upper half, with a vertical purple line, the almost horizontal petals tinged with purple, and with a dark streak along the middle portion.

Awards of Merit.

Odontioda Royal Gem Westonbirt var. (Oda. Vuylstekeæ × Odm. ardentissimum), from Lieut.-Col. Sir George Holford.—A pleasing flower of good shape, of rose-copper colour, the broad large lip much darker. An unusual result, though very pretty.

Odontoglossum illustrissimum The Dell var., from Baron Bruno Schröder. A very dark flower of claret-crimson colour, the large white lip having dark red blotches.

Odontoglossum Canary (oakwoodiense × ardentissimum), from Pantia Ralli, Esq., Ashtead Park.—Flowers large, of good shape, clear canary-yellow, with a few dark spots.

Cymbidium Schlegelii punctatum (insigne × Wiganianum).—A handsome flower, cream-yellow with rose flushing, the lip spotted with dark red.

Cymbidium Coningsbyanum (grandiflorum × insigne), from G. Hamilton-Smith, Esq., Killoran, Church End, Finchley.—The plant carried a spike of nine large flowers, greenish-white, the broad and open lip showing in a marked way the characteristics of grandiflorum.

January 27th, 1914.

Members of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Sir Jeremiah Colman, Bart., Messrs. de B. Crawshay, W. Bolton, Gurney Wilson, F. Sander, F. J. Hanbury, R. G. Thwaites, Waters Butler, T. Armstrong, A. McBean, W. Cobb, A. Chapman, J. Cypher, J. E. Shill, W. P. Bound, H. G. Alexander, J. Charlesworth, A. Dye, W. H. White, and S. Flory.

Messrs. J. and A. McBean, Cooksbridge, were awarded a Silver Flora Medal for an extensive and very beautiful display of Cymbidium hybrids, no doubt the finest exhibit yet seen of these popular plants. They included Wiganianum (eburneum × Tracyanum) with yellow flowers; Alexanderi (insigne × eburneo-Lowianum), Gottianum (insigne × eburneum), ivory-white with pink spots on lip; Pauwelsii (insigne ×

Lowianum), creamy-yellow; Holfordianum (eburneum × grandiflorum), Schlegelii (insigne × Wiganianum), and Doris (insigne × Tracyanum).

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Flora Medal for an attractive exhibit, including the new Odontoglossum sandhurstiense (coronarium × Edwardii), with bright solid crimson flowers of thick texture, an interesting hybrid. Cypripediums were well shown, and comprised Holdenii, Dreadnought, Minos Youngii, and a new one between Hera and Bassano, of great promise. Cattleya Maggie Raphael albida and Cymbidium Woodhamsianum "Orchidhurst var." carried good flowers.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for an exhibit containing excellent specimens of Phalænopsis Aphrodite, Oncidiums lamelligerum and Sanderianum, good forms of Odontoglossum eximium, Odontioda Diana, and the brightly coloured Lælio-Cattleya Ernestii.

Messrs. Charlesworth and Co., Haywards Heath, obtained a Silver Flora Medal for a small group of choice Orchids, including Oncidium splendidum aureum, Lælio-Cattleya Marcus (Trianæ × Andromeda), Cattleya Octave Doin, a well-flowered plant of Vanda Amesiana, and several charming Odontoglossum hybrids.

Mrs. Norman Cookson, Wylam, was awarded a Silver Flora Medal for a very pleasing exhibit of hybrids raised in her garden. The best were Odontioda Vivienne (Oda. Cooksoniæ × Odm. crispum); Odontioda Marion, a hybrid of Bradshawiæ, with rose margin to the petals; Odontoglossum Telemachus (excellens × harvengtense); and Cypripedium Venus, a specimen with six large flowers.

Messrs. Stuart Low and Co., Crowborough, secured a Silver Banksian Medal for a neat group of Cypripediums in variety, well-flowered plants of Cattleya Percivaliana, Dendrobium Wardianum album, Oncidium splendidum with many-flowered spikes, and the bright orange-red Lælio-Cattleya Cappei.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for a pleasing exhibit of Cypripediums, all well-grown, and including Beeckmanii, Bridgei, Charlesianum, and Hera. Some Calanthes and varieties of Lælia anceps were also included.

Messrs. Flory and Black, Slough, obtained a Silver Banksian Medal for a neat group, in which were Brassocattlælia Ariel (L. purpurata × B.-C. Mrs. Leemann), with broad lip; Brasso-Cattleya Cecilia (B. glauca × C. aurea), cream-yellow with broad rose lip; Cattleya Trianæ, good shape and colour; and various Cypripediums of merit.

Messrs. Hassall and Co., Southgate, exhibited Brasso-Cattleya Menda, a promising and pleasing hybrid; Cypripedium Beryl "Westonbirt var.," and a good form of Odontoglossum crispum.

H. T. Pitt, Esq., Stamford Hill, showed Cypripedium Pluto (Charlesianum × Lathamianum), Cyp. Proserpine (glaucophyllum × Charlesianum), Odontoglossum crispum Pegasus, and Cymbidium Lady Colman, a pleasing variety.

G. C. Roebling, Esq., Trenton, New Jersey, exhibited Lælia anceps Roeblingiana, a beautiful form. Given an Award of Merit, January 7th, 1913.

Pantia Ralli, Esq., Ashtead Park, Surrey, exhibited Cymbidium Gottianum (insigne × eburneum), a fine plant with three spikes and ten ivory-white flowers.

Lieut.-Col. Sir George Holford, Westonbirt, showed Cypripedium Satyr (Hera × Beryl), a bold flower, the white dorsal having black spots; Sophrocattlælia St. Arilda (S.-C. Phroso × L.-C. Goldcrest), a large reddish-buff flower with rose-pink edge to the lip.

Messrs. Price and Swan, St. Albans, showed some good Cypripediums, including Aeson giganteum, Leeanum Corona, aureum virginale, and a fine form of the yellow insigne.

Mr. W. H. Manda, South Orange, N.J., U.S.A., exhibited many excellent forms of Cattleya Trianæ.

First-class Certificate.

Cattleya Tityus var. A. McBean (Enid × Octave Doin), from Messrs. J. and A. McBean,

Cooksbridge.—A magnificent flower with very broad petals having undulated margins and almost covering the dorsal sepal. The lip is well developed, deeply crimped, and of rich rose-purple. One of the finest hybrids.

Awards of Merit.

Odontioda Doris (Cooksoniæ × amabile), from Mrs. Norman Cookson, Oakwood, Wylam.—A very pretty hybrid with broad petals having a wide rose-blue band of colour round the edge. The centre marked with red-brown.

Odontioda Sibyl, from Mrs. Norman Cookson.—A pleasing hybrid of Odontioda Bradshawiæ, and having flowers of solid rich rose-purple. The labellum is similarly coloured.

Cypripedium Desdemona (Alcibiades × Mrs. Cary Batten), from Messrs. Charlesworth and Co., Haywards Heath.—A very beautiful and well-developed flower. The broad dorsal marked with purple-black, the petals exceedingly broad and prominently veined.

Cultural Commendations

To Mr. J. E. Shill, Orchid grower to Baron Bruno Schröder, for three large specimen plants of Cymbidium Pauwelsii carrying seven many-flowered spikes. No less than 35 large yellowish coloured flowers were carried on a single spike. This gives some idea of how singularly beautiful Cymbidium hybrids are when fully developed and well cultivated.

Odontoglossum amabile, from Messrs. Charlesworth and Co., Haywards Heath.—A strong plant with a tall spike carrying many immense flowers having thick, broad segments.

Royal Horticultural Society.—Meetings will be held on February 10th and 24th, March 10th and 24th, April 7th, 15th and 21st. The great Chelsea Show will take place May 19th, 20th, and 21st. The Holland House Show June 30th, July 1st and 2nd. Fellows' Transferable Tickets commence with the present month and conclude with the meetings of January, 1915.

MANCHESTER ORCHID SOCIETY

December 18th, 1913.

Members of the Committee present:—Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, J. Howes, J. Lupton, D. McLeod, W. J. Morgan, C. Parker, W. Shackleton, W. Thompson, H. Thorp, Z. A. Ward, G. Weatherby, and H. Arthur (Secretary).

Gold Medals were awarded to R. Ashworth, Esq., Newchurch, and to O. O. Wrigley, Esq., Bury, for magnificent groups of well-grown Orchids. A Silver-gilt Medal was granted to A. Warburton, Esq., Haslingden.

Large Silver Medals were awarded to Wm. Thompson, Esq., Walton Grange; H. J. Bromilow, Esq., Rann Lea; Z. A. Ward, Esq., Northenden; Col. J. Rutherford, M.P., Blackburn; Messrs. Sander and Sons, and Messrs. J. Cypher and Sons.

Silver Medals were granted to the Hon. Robert James, St. Nicholas, Yorks.; A. E. Penny, Esq., Preston; and J. Butterworth, Esq., Burnley. A Bronze Medal was awarded to H. Arthur, Esq., Blackburn.

Messrs. A. J. Keeling and Sons, Bradford; Messrs. Stuart Low and Co., Enfield; Messrs. Charlesworth and Co., Haywards Heath; and Mr. W. Shackleton, Bradford, also exhibited.

First-class Certificates.

Odontoglossum fulgidum, parentage unknown, a large round flower of dark bronze colour, showing traces of Harryanum in the lip; Od. The Egyptian, fine shape, sepals and petals dark chocolate, having a shining velvety surface; Od. purpuratum, a massive flower, heavily blotched with purple; Od. Rubens, a grand flower of perfect shape, sepals and petals of dull reddish colour; Od. promerens var. Our Queen (crispum × eximium), a large heavily blotched flower; Od. amabile var. Illuminator, marked with bright purple; Od. crispum xanthotes, Walton Grange var., with yellow spotting; Odontioda Bradshawiæ, Sander's var., one of the finest forms; and Cypripedium insigne Snow Queen, the nearest approach to a white

insigne yet seen. Petals and labellum of pale primrose colour, dorsal sepal pure white with slight greenish yellow base, and devoid of any spots. All shown by Wm. Thompson, Esq.

Odontoglossum amabile, Ashworth's var., round flower, brilliant colour, and Vanda cœrulea, from R. Ashworth, Esq.

Cypripedium Nirvina (Alcibiades × aureum virginale), a magnificent flower, to which a Silver Medal was also given; Odontoglossum Arachne (Vuylstekei × eximium), a noble flower, well-marked; both the property of W. R. Lee, Esq.

Odontoglossum eximium The King, almost solid colour, from Messrs. Charlesworth.

Awards of Merit.

Odontoglossum Lambeauianum "Hesperus," Od. crispum graphicum, Cypripedium Hera Mostyn, Cyp. Curlew, Cyp. Draco "Walton Grange," and Cyp. Alice Mary, all the property of Wm. Thompson, Esq.

Cypripedium Lady Evelyn James (Lavertonianum × aureum), Cyp. Palladium, and Calanthe Veitchii, from the Hon. Robert James.

Odontoglossum eximium Zenith and Cypripedium Estella, from R. Ashworth, Esq.

Cyp. Lady Evelyn James and Cyp. Hecla, both from W. R. Lee, Esq.

Odontoglossum Meteor, the property of J. Butterworth, Esq.

Cypripedium Actæus var. Ethel, from Messrs. Cypher and Sons.

Vanda cœrulea var. Fairy Queen, from Messrs. Stuart Low and Co.

A Cultural Certificate and Bronze Medal were awarded to Mr. Lupton, Orchid grower to Col. J. Rutherford, for Cypripedium Leeanum giganteum.

January 15th, 1914.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, J. Cypher, J. Evans, A. Hanmer, J. Howes, J. Lupton, D. McLeod, W. J. Morgan, C. Parker, W. Shackleton, Wm. Thompson, H. Thorp, Z. A. Ward, G. Weatherby, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to Messrs. Cypher and Sons for an attractive group. Large Silver Medals were granted to R. Ashworth, Esq., Newchurch, and A. Warburton, Esq., Haslingden, for good exhibits. Messrs. Sander and Sons obtained a Silver Medal for a group of Lælia Gouldiana.

Other exhibitors included H. Arthur, Esq., Blackburn, who showed Oncidium serratum with a spike of 41 flowers; Col. J. Rutherford, Blackburn; Messrs. A. J. Keeling and Sons, Bradford; Messrs. Hassall and Co., Southgate; Mr. W. Shackleton, Bradford; and Mr. D. McLeod, Chorlton-cum-Hardy.

First-class Certificates.

Odontioda Thompsoniæ, a fine large flower, 2½ inches across, solid scarlet, margined with white; Od. Hercules, massive flower, 4½ inches across, dark chestnut with white veins; Od. Papilion, a fine flower, white flushed with rose, blotched and spotted with bright purple; Cyp. waltonense magnificum (Rupert × Thompsonianum), massive flower, with broad dorsal, 3½ inches across, inner portion suffused and spotted with dark rose, white margin. All the property of Wm. Thompson, Esq.

Od. illustrissimum var. Nonpareil, a fine round flower with brilliant colouring, from R. Ashworth, Esq.

Awards of Merit.

Od. amaranthum and Od. illustrissimum var. Creole, both from Wm. Thompson, Esq.

Od. illustrissimum var. Janua and Odontioda Floryi (Od. Andersonianum × C. Nœzliana), both from R. Ashworth, Esq.

Cyp. Iona (bellatulum × Fairrieanum), from His Grace the Duke of Marlborough.

Cyp. Zealandia, a variety of Lord Wolmer, from the Rev. J. Crombleholme.

Brasso-Cattleya Menda, from Richd. le Doux, Esq.

Cyp. leyburnense "Fern Bank," from Chas. Parker, Esq.

Lycaste Beryl, from Messrs. Cypher.

Lælio-Cattleya Cecilia (C. Trianæ × L.-C. luminosa), from Messrs. Hassall and Co.

A Cultural Commendation and Bronze Medal was granted to Mr. Dalgleish for Cyp aureum virginale.

THE
ORCHID WORLD.
Vol. 4. MARCH, 1914. No. 6.

NOTES.

ORCHIDISTS HONOURED.—M. Firmin Lambeau and M. Charles Dietrich, the well-known Belgium Orchidists, have been respectively elected President of honour and Member of honour of the Florale Ixelloise.

A VALUABLE PRIZE.—Mr. W. H. Viner, head clerk in the employ of Messrs. Charlesworth and Co., has recently won a prize of £100 in a competition in the *Competitors' Journal*.

A NEW ORCHID COMPANY.—Under the style of E. H. Davidson and Co., Orchid Dene, Twyford, Berks, a company has been formed to carry on the business commenced recently by Mr. Davidson. Mr. James B. Lakin is the managing partner.

THE DAVIDSON CUP.—The annual Silver Cup presented by Mr. E. H. Davidson will be awarded in open competition at the Royal Horticultural Society's Chelsea Show, May 19th to 21st, for the "Finest Cattleya, not a hybrid, in the Show." This will be a similar competition to that of last year.

PELORIATE CATTLEYA.—From the collection of Mr. Arthur Grant, Rugby House, Cleethorpes, comes an attractive flower of Cattleya Percivaliana, in which the two lower sepals are coloured in a similar way to the labellum, to which they also show some resemblance in shape. This is an instance of false peloria, for the sepals belong to the outer whorl of perianth segments, while the labellum is part of the inner whorl.

THE BURFORD COLLECTION.—The late Sir Trevor Lawrence, Bart., bequeathed his collection of plants to Lady Lawrence, but expressed a wish that plants of botanical interest should be presented to Kew. The botanical Orchids in the Burford collection are very numerous, and their removal to Kew will greatly add to the interesting plants in these world-renowned gardens.

A HANDSOME FLOWER.—Mr. Jas. Smith sends from the Arddarroch collection a flower of Odontoglossum ardentissimum var. Lotte Brucke, which was purchased at the sale of Mr. Muller Abeken's plants. The shape is particularly good, while the colour leaves nothing to be desired, being of rich purple-crimson, except for a narrow white margin round the segments.

CORALLORHIZA MULTIFLORA.—Flowers of this wild woodland Orchid I am sending as a sample of our native plants. It has a much branched coral-like root, from which the generic name is derived. It is a little inconspicuous plant found along with the Indian Pipes and Pine-Sap Orchids, and resembles them in having no foliage. It is one of those plants which unbotanical people consider unworthy of the name Orchid. The flowers

are borne 10-30 on a raceme, and are brownish-purple, or yellowish, sometimes mottled with red. The seed capsules are oblong, and droop when ripe. Besides this one we have C. innata and C. odontorhiza, the latter having tooth-shaped coralloid roots. There are quite a number of woodland Orchids here, and I hope to get other people interested and to search for them. *W. S., Hartford, Conn., U.S.A.*

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"THE ORCHID REVIEW."—In the issue for February a full account is given of Oncidium Engelii, a flower of which was sent to Kew for determination by Messrs. Charlesworth and Co. The illustrations are Cypripedium Leeanum var. Gratrixiæ and Paphinia cristata. Some interesting details are given of this latter species.

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ORCHIDS AT STONE, STAFFS.—A series of beautiful Odontoglossum hybrids has recently attracted considerable attention in Mr. Wm. Thompson's collection at Walton Grange, Stone. A selection of flowers has been kindly sent by the grower, Mr. J. Howes, and prove the high-class nature of the plants recently exhibited at the Manchester Orchid Society. Odontoglossum crispum Palatine, F.C.C., M.O.S., is a fine example, having thick textured segments of excellent shape and of creamy-white colour; Od. Bonar Law, A.M., M.O.S., is a handsome form of the richly blotched hybrids, the petals being very broad; Od. eximium, Walton Grange var., A.M., M.O.S., has the segments almost covered with crimson, the only exception being a narrow white line round the extreme edge, which adds a finishing touch to the flower; Od. illustrissimum Mrs. McVittie, A.M., M.O.S., is a large and distinct bloom, the inner parts of the segments having immense crimson-brown blotches; Od Desdemona, of unknown parentage, has also received a similar award, and is one of the choicest examples, the coloration being exceedingly bright; Od. amabile Astrum completes this interesting and valuable selection.

"THE ORCHIS."—In the February issue of this journal Dr. R. Schlechter contributes an article on the genus Caladenia. A coloured plate with figures of Caladenia alba, carnea, filamentosa, flava, gemmata and Patersoni is also included.

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CYPRIPEDIUM IONA.—What a pretty hybrid Cypripedium Iona is. It is a cross between Fairrieanum and bellatulum, and was shown by the Duke of Marlborough, Royal Horticultural Society, January 7th, 1913, and Manchester Orchid Society, January 15th, 1914, when an Award of Merit was granted in both instances. What is wanted in a Cypripedium? I suppose shape, colour and size. The shape of Iona is ideal. The dorsal is round, flat, and low set. It scores, too, in colour, which shows clean purple stripes regularly pencilled on a white ground, so as to suggest almost the artificial. I suppose it was penalised for size. Size seems to preponderate in giving rewards, shape comes next, and colour last. It is pleasing, however, to notice that more insistence is being given to shape and set of segments than formerly.—"*Amos*," *Manchester.*

⁂ ⁂ ⁂

ORCHIDS AT BRUNOY.—The collection of Mons. Lionet contains many fine varieties of Vanda tricolor, which have recently been seen at their best. These include formosa, tigrina, cinnamomea and superba. Vanda suavis is also well represented, the varieties de Caen, with very dark side lobes of the bluish-purple lip, and V. s. Pescatorea are very good coloured examples. A plant of V. lamellata Boxallii is carrying a spike of sixteen flowers with yellowish ground colour. In a house entirely devoted to Bulbophyllums and Cirrhopetalums the rare B. mandibulare is flowering. The plant carries two spikes with nine large very curiously shaped brownish flowers. Other flowering species of interest are B. odoratissimum, B. micropetalum, and B. saltatorium affine. Eria flava is also very interesting. The short spike, as well as the

ovary and the back of the greenish-yellow sepals, being covered with whitish tomentum. —*Francis Varacek, The Gardens, Petit Chateau de Brunoy.*

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Registered Orchids.—There is to be an organised attempt to schedule new-named hybrids, and the accepted name shall stand always as the family name for all varieties of the same cross. The Manchester Orchid Society is willing to co-operate with the Royal Horticultural Society for the desired end. The result will be instructive, but only partially satisfying to the student of genetics. Recently some Odontoglossum hybrids that rank amongst the best have received F.C.C. awards. Most of them are of unrecorded parentage. The exhibitor does not care about the parentage; why should he? He loves the beauty of the flowers, which delight the eye and titillate his æsthetic sense. His greenhouses are full of the most exquisite Orchids. He is an artist, not a scientist. And so a percentage of the very choicest Orchids will escape the meshes of the recorder. Yet they will be used for breeding, and probably breed the best. For this reason the work that is to be undertaken will be unsatisfactory to the breeder who wishes to work on scientific lines. He cannot make use of Orchids of unknown parentage, for though he may breed valuable and beautiful seedlings he learns nothing. For the Committee to insist too strongly upon a parentage being given would be unwise, for the temptation might arise to make one to fit. No information is better than false information. It is only a few weeks ago that *Punch* illustrated the situation by the following dialogue:—English horse dealer (to Irish horse dealer from whom he is buying a horse): "How's he bred?" Irish dealer: "Well, how would ye like him bred? If he was for Sir Pathrick up at the Castle he'd be by Red Eagle out av an ascetic mare, but ye can suit yerself." Let us be content to have parentages spontaneously supplied without insistence, it will keep the line of action clearer.—"*Amos*," *Manchester.*

THE GENUS ANGRÆCUM.

To the horticulturists the genus Angræcum includes all those species usually placed by botanists under the allied genera Listrostachys and Mystacidium, although the systematist has endeavoured to keep the three genera distinct and of equal rank.

In Angræcum the pollinia are attached to the gland by a single stipes, or stalk; in Listrostachys two distinct stipes are in evidence, both of which are united to the same single gland; while the genus Mystacidium is characterised by having two stipes, each of which is attached to a separate gland.

The majority of species belonging to the above have been easily placed under their respective genera, and it was expected that the remainder would be placed in position as soon as an opportunity occurred for the examination of their pollinia. But it now appears more than likely that this classification cannot be sustained, at least, with any degree of definite accuracy.

In the recently published "Catalogue of Nigerian Plants," issued by the Trustees of the Natural History Museum, Dr. A. B. Rendle remarks: "It is with much regret that I have felt compelled to quote the species of Listrostachys and Mystacidium under Angræcum. Dr. Schlechter has recently given repeated instances of cases where the affinity deduced from general characters is at variance with that deduced from the single character of the pollinia and their appendages; species obviously closely allied must be artificially separated on this criterion. The multiplicity of names borne by many of the species is an indication of the unsatisfactory nature of the system which continues to maintain this distribution. An example is afforded by the species I originally described as Listrostachys clavata: the pollinia were attached by their caudicles to a single gland, which, however, being easily separable into two parts was on this account referred by Mr. Rolfe to Mystacidium. More recently Dr. Schlechter, in describing a new species, Angræcum affine (in which the two pollen

stalks are attached to a common gland), mentions as its nearest ally the species in question, which he calls Angræcum clavatum. Unfortunately, the trivial is already occupied in Angræcum, so a new one must be found for my original plant. I have suggested multinominatum."

CYPRIPEDIUM BELLATULUM.

WITH reference to the article on Cypripedium bellatulum in the January issue. In this locality I should not dream of treating this species in Mr. Hopkins' manner, for if I were to give the plants as much water as he does I should lose them in a very few days.

I grow them in pans with holes, and in similar compost, and place them on inverted pots on the side staging of the Cattleya house, about eight inches from the roof glass, where they, in company with a batch of Cypripedium niveum grow exceedingly well. They are only examined once a week, and if water is required they are dipped in it, just covering the compost for a few seconds. If no water is required, then they wait till the next week. From November until February they frequently go three weeks and often a month without once being dipped.

All credit is due to Mr. Hopkins for his excellent results. He has evidently studied well the locality and his houses. The local climate is well worth studying, especially by young growers and amateurs. Some would-be Orchid people on reading Mr. Hopkins' method of treatment might at once do likewise, with disastrous results. At Arddarroch the local atmosphere is most humid, so much so that no damping down is done during the whole year. The only exception is the Cattleya house, and this on rare occasions when extra firing is used during exceedingly cold weather. During the winter months the Cattleyas frequently go a fortnight or three weeks, and sometimes six weeks, without once being watered

I have some Cymbidiums in a portion of the Odontoglossum house. For my own curiosity I noted the dates of watering a plant of Lowianum carrying ten flower spikes. One was October 11th, 1913, the next was January 19th, 1914. When growing Orchids in other localities I have known the time when this would have meant good-bye Cymbidium.

I think I have made my point clear: that would-be successful Orchid growers should study the environment and local conditions of the atmosphere, for what may be good treatment in one place may be quite unsuitable in another.—*Jas. Smith, Arddarroch Gardens, Garelochhead.*

ODONTONIA LUCILIA.

NO one knows how many attempts have been made to use Miltonia spectabilis as a parent, and with all the various species and hybrids that have been used in the trials it is only possible to record one success. In some collections dozens and even hundreds of plants of this Brazilian species have been grown solely for the purpose of obtaining its flowers to act either as seed bearers or pollen producers. There is nothing very particular to recommend the typical M. spectabilis, but the variety Moreliana leaves little to be desired. Its colour is intense purple, while the labellum is extremely well developed and forms its chief attractive feature.

Odontoglossum cirrhosum, a species from Ecuador, has proved of inestimable value as a parent. There is nothing surprising to find it crossing freely with crispum, Harryanum and Edwardii, but its universality becomes apparent when we consider Odontoglossum Eurydice (cirrhosum × hastilabium), Odontonia Ellwoodii (M. Reezlii × O. cirrhosum), and Odontonia Cybele (M. candida × O. cirrhosum). These successes obtained by Mr. Charlesworth led him to believe that a hybrid might be produced between O. cirrhosum and M. spectabilis. Success was again achieved, although only partially so, for it was not found possible to raise more than three seedlings, two of which almost fail to make a healthy advance in growth. The remaining one has

Odontonia Lucilia.

at last produced its flowers, as evidenced by the above illustration.

The habit of Odontonia Lucilia is fairly intermediate between both parents, but the flower spike, which has taken about twelve months to develop, appears somewhat abnormal. For the first six months of its existence it continued to grow strongly in an erect style, but then some apparent arrest of development occurred, and in consequence of the vegetative habit which the spike developed all hope of ever seeing any flowers was for the time being abandoned. The spike carried several narrow leaves and its total height was thirty inches.

After the lapse of about three months the apex of the spike recommenced to grow, and hope was awakened when three buds became visible. These opened early in February and conclusively proved the correct nature of the hybrid. The flowers are produced at the extreme apex of the spike, just as in the Miltonia parent, but it is difficult to express an opinion whether this condition will be maintained. It may be that this first flowering is carried out in an abnormal style, and that in future years the flowers will be produced in larger numbers and at wider intervals on the stem, or even on slightly branched stems.

The sepals and petals are intense purple, the spotting derived from the cirrhosum parent being still darker. Strong evidence of the cirrhosum is seen in the crest and markings on the shoulders of the rose-purple lip. Considering the extremely narrow lip which this species has it is satisfactory to note how well the Miltonia parent has succeeded. The column and anther cap are both strongly suggestive of M. spectabilis.

This interesting hybrid was exhibited by Messrs. Charlesworth and Co. at the Royal Horticultural Society, February 10th, 1914, when it obtained an Award of Merit from the Orchid Committee. The Scientific Committee awarded the raisers a Certificate of Appreciation.

Cypripedium Desdemona, F.C.C., M.O.S.; A.M., R.H.S.

THE DEVELOPMENT OF THE CYPRIPEDIUM.

ALMOST all species have a tendency to vary slightly from the normal type, in some this variation is hardly perceptible, in others it extends to a wide degree. In hybrids the tendency to variability is often greater than that seen in their parents, whether these be species or hybrids. By continually selecting as parents those plants that show an inclination to develop according to one or more ideals of the hybridist, new strains, or improved varieties as they are more frequently called, are brought into existence.

In the development of the Cypripedium an immense improvement has been effected in the general conformation of the flower. From the early forms with narrow segments many noted varieties with broad sepals and petals have been evolved. To such an advanced degree has the dorsal sepal been broadened that in not a few examples it reaches almost to the extremities of the petals. This extension, however, is unfortunately very often brought about by a lessening of the dorsal's height, thus giving rise to the description—a chubby flower.

It is, of course, difficult to form an opinion as to how far the development of any particular component part may be carried; no doubt improved varieties may be selected

from every fresh batch of seedlings. From an academical aspect this extreme lateral development of one particular segment, viz., the dorsal sepal, is highly esteemed, but from a point of beauty it is very doubtful if much can be said in its favour. It is not suggested in any way that broad dorsals are to be despised, but the question that really appears to concern us at the present moment is, have we overdone the development of this particular organ, while at the same time we have much neglected the other portions of the flower, viz., the lateral petals and the labellum? One might even go so far as to suggest the improvement of the ventral sepal, although this is usually hidden, or very nearly so, by the more prominent and anterior labellum.

The next step after the evolvement of the dorsal sepal must undoubtedly be the development of the lateral petals. In these it seems hardly possible to obtain the same elegant colour arrangement which is so conspicuous a feature in the dorsal. But considering the fact that scarcely anything in this direction has been attempted, one cannot be too certain in expressing an opinion regarding the impossibility of its achievement.

A far more likely event, and one, in fact, that appears within the limits of any hybridist to produce, is the broadening and general encouragement of the lateral petals. These should, and can, undoubtedly be brought to a far greater state of perfection than is now in evidence. If the petals can be widened in proportion to the dorsal sepal a very welcome and decided advance in the evolution of the Cypripedium will be effected, and a new interest will be imparted to one of the oldest, yet still one of the most popular Orchids.

No really definite manner of securing this advance can be prescribed, for one must always bear in mind the fact that we are striving to produce something which Nature herself, with all her time and means, has not yet thought fit to give us. Still, by selecting for hybridisation those flowers which have a tendency to vary in our desired manner we may very possibly raise seedlings that show an improvement in this respect, and by continually selecting these forms the development of the petals will be accentuated in each succeeding generation.

In Cypripedium Desdemona, of which an illustration is included in this issue, the lateral petals are unusually well-developed, probably to an extent hitherto thought impossible. The flower has an elegant and graceful appearance; there is no suggestion of it being overburdened by a massive and ill-proportioned dorsal sepal; while the labellum and the ventral sepal are in harmony with the substantial nature of the other segments. It may be classed with the finest results yet obtained, and is probably the best example of the section in which development of the lateral petals is the distinguishing feature. There is a great and promising future for this new and interesting class.

The parents are Alcibiades and Mrs. Cary Batten, the former being composed of insigne, Spicerianum and Boxallii; the latter a massive flower of unknown origin, but showing very strongly the characteristics of villosum, yet much broader in all its segments. It is figured in Vol. I., p. 156.

Cypripedium Desdemona was raised by Messrs. Charlesworth and Co., and when exhibited by them at the Royal Horticultural Society, January 27th, 1914, received the insufficient honour of an Award of Merit. The plant subsequently passed into Mr. Wm. Thompson's collection, at Stone, and when shown by him at the Manchester Orchid Society, January 29th, 1914, a First-class Certificate was duly awarded.

An Important Sale.—Messrs. Protheroe and Morris have received instructions from Mr. Francis Wellesley, of Westfield, Woking, to sell the whole of his Orchid collection. The sale will take place at Cheapside, London, E.C., on April 2nd and 3rd, and no reserve whatever will be placed upon the plants. The majority are specimen size, and in some instances the complete stock is in the collection. Full particulars will be found in our advertisement pages.

ORCHID CULTIVATION.

IT has taken me thirty years' experience as an amateur grower to cultivate these plants successfully. Experience and experiments alone will make a successful Orchid grower. All the reading in the world goes for nothing, unless one experimentises one's self. I have tried every material the world has produced for potting and growing them in. Some did well for a short time, and others failed.

The material I find most satisfactory for potting every epiphytal Orchid is composed of three parts osmunda fibre, three parts best oak leaf-mould, at least two years old, one part sphagnum moss, and one part peat. The peat I get from my own bog, and it is different to any used by other Orchid growers. I have grown Orchids in this peat without anything else, and I have found it most successful, but that was some years since, and I now prefer the blend. I also use a little finely broken charcoal in my mixture. Silver sand I never use, as Orchids growing on trees in their natural state have none, so why use it?

The natural nourishment of Orchids is derived from the moss that grows on the branches of trees and contains moisture, and from the decayed leaves which fall from the tree it grows on. These leaves fall into the sockets in the branches where they join the main trunk, and I have always noticed that the plants whose roots have reached into these crevices of decomposed matter are always the most healthy. The Editor of the ORCHID WORLD has always kindly said that the flowers I have sent from time to time were very fine and showed good cultivation. I am sending a spike, if I may call it so, of Dendrobium Wardianum with five flowers on it, which is most rare, as the number on ordinary spikes is never more than three.

Drainage, I find, has a lot to do with the growth of epiphytal Orchids. When pots are used for their cultivation they should be filled two-thirds with clean crocks and a little sphagnum moss to prevent the potting material from being washed down into the drainage, for if that occurs it is fatal to the roots, which, after a time, find themselves embedded in a stagnant mass of compost and naturally decay.

As a rule, Orchids are valued by the number of leaves and bulbs that they have. Now I consider this entirely wrong. A smaller plant with a few healthy bulbs and leaves is much more attractive to the eye than a larger plant with a number of bulbs, half of which have no leaves. These old bulbs take away the nourishment of the plant. I cut all mine off when I find their root power has gone. This gives more vigour to the new growths. No doubt many professional Orchid growers will not agree with me, but I would ask them before condemning my method to try it on a few plants they do not value, and see if the result is not satisfactory.

Before ending, I must say a few words on the subject of Orchids which are supposed to do best on blocks, as, for instance, Cattleya citrina and Oncidium Jonesianum, both of which require to be grown hanging down. With these the blocks I use are cut out of peat, which grows here, and I find my plants live and thrive better on it than on any other sort I have tried.—*Robert Twiss, Birdhill House, Birdhill, Co. Tipperary.*

LYCASTES.

THE following is a useful selection of Lycastes, most of which can be cultivated without a great amount of heat. These species are natives of Central America, and grow at fairly high altitudes, consequently the cool and intermediate house will suit them admirably.

Lycaste aromatica comes from Mexico, and is a very free flowering species. The flowers are golden-yellow, greenish exteriorly, the lip spotted with orange. Very fragrant.

L. cruenta is a native of Guatemala. The flowers are from three to four inches across; the sepals bright yellow inside, green without; the petals smaller and wholly yellow. The lip

carries a reddish-crimson blotch, from which the specific name is derived. It is a spring flowering species.

L. costata comes from Peru and carries a large ivory-white flower, the lip fringed at the sides. It usually flowers during the months of January and February.

L. Deppei is a Mexican species which has long been in cultivation. The flowers have oblong green sepals dotted with chocolate-purple; the smaller petals are pure white. The lip is three lobed, yellow with crimson dots. It is a winter blooming plant and lasts a long time in perfection.

L. fulvescens is found in Colombia, and may be described as more interesting than showy. The sepals and petals are yellowish-brown, the lip orange-brown, fringed at the margin.

L. gigantea is a native of Colombia, where it grows to a height of thirty inches. The stout scapes bear a solitary flower, which usually measures six inches across. The sepals and petals are olive-green, the lip of a rich maroon-purple margined with orange-yellow. It proves useful by flowering during the winter months.

L. lanipes somewhat resembles L. gigantea in its method of growth. The large flowers are greenish-white, the front lobe of the lip serrated. It yields a number of flowers during the autumn months, and makes a useful plant where cut flowers are required.

L. macrobulbon comes from Colombia, and usually loses its leaves before flowering. Sepals greenish-yellow, petals and lip bright orange-yellow, faintly spotted with brown.

L. macrophylla is a Peruvian species with large bulbs. The bold flowers have olive-green sepals and white petals tinted with rose. The lip is thickly spotted with purple. Flowers in winter and early spring.

L. Skinneri is the most popular species of the genus. It is very free flowering, and finds a place in every amateur's collection. The large fleshy flowers are from five to seven inches across. The colour is usually rose-pink, but varies from pure white to rose-purple. It is a winter blooming plant, lasting a long time in flower, and well worth cultivating.

Mr. JAMES O'BRIEN.

ON the formation of the Royal Horticultural Society's Orchid Committee, March 20th, 1889, just twenty-five years ago, Mr. James O'Brien, V.M.H., was appointed honorary secretary, a position of note in the Orchid world, and one that he has faithfully attended with but singularly few off-days from duty.

Mr. O'Brien was born at Llanelly, in South Wales, on January 20th, 1842, but soon afterwards removed to London, and received an education to enable him to enter the Civil Service. During one of the holidays he paid a visit to his brother, who was then in charge of the important collection of Orchids owned by Mr. East, at Lee, Kent. Mr. O'Brien's interest was at once aroused, and he forthwith accepted an engagement to work along with his brother in the cultivation of Orchids.

He next secured an important post at Messrs. Parker and Williams, Paradise Nursery, Holloway, where he gained further experience. From there he went to Chelmsford, and spent three years with Mr. Robert Warner, who was preparing an important work on Orchids, and then accepted an engagement with Messrs. Hugh Low and Co., where he acquired further knowledge on imported plants.

Mr. O'Brien's next engagement of importance was when he was appointed Orchid and plant foreman to Mr. R. S. Holford, of Westonbirt, the father of Lieut.-Col. Sir George Holford, and an owner of one of the most extensive private collections in the country. Another change gave him charge of Mr. Robert Hanbury's collection at Poles, Ware, and still another when in the early sixties he acted as general manager to Messrs. E. G. Henderson and Son, of Wellington Road, St. John's Wood, and Pineapple Nurseries, Maida Vale. This he resigned in 1882, and removed to Harrow-on-the-Hill, where he has ever since lived.

Other plants besides Orchids have received Mr. O'Brien's attention, such as Abutilons, Begonias, Nerines and Sonerilas, although he is best known as an Orchidist. He is one of

the oldest members of the Jury of the Ghent Quinquennial Exhibitions, and in recognition of his valuable services to horticulture he was one of the first sixty to receive the much coveted Victoria Medal of Honour granted by the Royal Horticultural Society. Having fulfilled a long period of hard and honourable work, the thought of retirement has come upon him, but with a man so keenly interested in his duties this is more easily said than done. His name appears on the Committee list of the International Botanical Conference to be held in 1915.

The district of Harrow has much to thank Mr. O'Brien for. He is Vice-president of the Harrow Conservative and Unionist Association, Vice-chairman of the Urban Council, Chairman of the Recreation Grounds Committee, and for many years Overseer of the Poor of the Parish, and a member of the Burial Board.

His personal qualities are highly esteemed by a large circle of friends, who always find him willing to help, especially a young amateur, and who admire his straightforward and outspoken manner. The Gardening charities have largely benefited by the able manner in which he has brought forward their claims. Few men have such an extensive and ready memory, and the Scientific and Orchid Committees of the Royal Horticultural Society have received valuable assistance from his wide knowledge of botanical Orchids. He has been for upwards of thirty years the Orchid expert of *The Gardeners' Chronicle.*

ODONTOGLOSSUM LAREDO.

Edwardii × Lawrenceanum (triumphans × Rolfeæ).

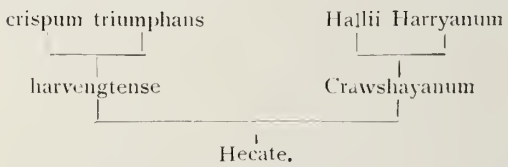
Here, again, the Edwardii completely overpowers all the coloration of Lawrenceanum; the whole of the sepals and petals is uniform brownish-purple, their form being starry.

The lip alone deviates from the solid by having a narrow rosy-white margin at the apex only, otherwise it is solid crimson-purple. This just shows the meagre influence of the white lip of Rolfeæ when opposed first to triumphans, which turned it yellow, and then to Edwardii, which converted both white and yellow into purple. It has the usual orange crest.

In size it is larger than the primary hybrids of Edwardii with a species. The hybrids we have produced from Edwardii are certainly a great disappointment taken as a whole, but there is evidence that the secondaries from the best of the primaries will produce some fine things of extremely gorgeous colouring. I raised this, and first bloomed it in January.

de B. Crawshay, February 16th, 1914.

ODONTOGLOSSUM HECATE.



I remember Mr. F. Sander many years ago saying: "Make lips, get a good lip first of all, and then build the sepals and petals round it." This flower carries out that dictum absolutely; the lip is beautiful, the sepals and petals are——.

The whole flower is of light yellow ground, the sepals and petals three-quarters covered light sienna-brown with yellow tips, but of the form explained by the —— above written. The lip is $1\frac{1}{4} \times 1$ inch, also yellow grounded, having an arrow head-shaped blotch covering the whole centre; a narrow line of yellow separates it from a border of brown that runs down the lip's sides from the base, and which in turn is margined by yellow; the base of the lip is spotted under the crest. The column is creamy-white.

Hallii has controlled the sepals and petals, and also almost entirely covered the apical half of the white lip of Harryanum, which is evidence of what a strong pure species it is; and as it grows almost alone and far removed from crispum and its friends it necessarily must be more potent in its descendant's characters. I raised Hecate, the first flower opening in January.

de B. Crawshay, February 16th, 1914.

A Burmese Belfry decorated with Orchids.

Cattleya Drapsiana McBean's var. (*aurea* × *Mrs. Pitt*).

HYBRIDS OF CATTLEYA LODDIGESII.

OWING to the widespread confusion that has existed regarding the correct determination of the two species C. Loddigesii and C. Harrisoniana, it is now practically impossible to separate the various hybrids derived from both into their respective places. C. Loddigesii is the original, while C. Harrisoniana, at first regarded as a variety of it, is now considered a distinct species. Unfortunately, the names have not always been correctly applied. In nearly every collection one can find plants labelled C. Harrisoniana that are in reality the true C. Loddigesii; and so it has been with the recording of hybrids.

In selecting flowers for the purpose of hybridisation it is the usual custom to choose those with wide, well-developed labellums.

These are invariably found on C. Loddigesii, being its chief characteristic, and this species has been used in the majority of cases, although, unfortunately, it has been recorded as C. Harrisoniana. Thus we see how extremely difficult it is to ascertain the correct parentage of many hybrids that were raised years ago, before the distinction between these two species was fully recognised, and before the practice of recording the features of the flowers by means of paintings was as general as it is to-day.

C. Minucia (Loddigesii × Warscewiczii) and C. Ashtoniana (Harrisoniana × Warscewiczii) have both been recorded, and although the names are equally represented in collections there is little doubt that the former name and parentage is correct, at least, on the assumption that a careful hybridist would select the superior and better developed labellum as borne by C. Loddigesii.

In 1902 Cattleya Mrs. Pitt was described as a hybrid between aurea and Harrisoniana, and in 1904 Cattleya Sapho was recorded as a hybrid between aurea and Loddigesii. Here, again, we have two very similar hybrids, and no doubt many of the finest results produced by the use of C. Loddigesii are known by the name Cattleya Mrs. Pitt.

In many instances where Cattleya aurea is quoted as a parent it is never certain whether the plant from Colombia or the one from Costa Rica has been used. The former is usually spoken of as aurea, the latter as Dowiana, and although in many respects they are similar anyone who has had the handling of an importation of each will never again experience any difficulty in distinguishing the one from the other.

One of the latest successes obtained by the use of the above species is Cattleya Drapsiana (C. aurea × C. Mrs. Pitt), and the illustration in this issue depicts McBean's variety, a beautiful form, which obtained an Award of Merit when exhibited at the Royal Horticultural Society, November 4th, 1913.

The ambition of the hybridist is to obtain flowers with thick texture, firm upstanding petals, and of good lasting qualities. In Cattleya Drapsiana the influence of C. Loddigesii, which from the evidence in the flower we may conclude was used in the making of the parent called C. Mrs. Pitt, has imparted the much desired good qualities. These are seen in the broad, well-developed labellum with its openly displayed shoulders, the bright golden-yellow area on the side portions, and also in the firm, fleshy petals.

ORCHIDS FOR AMATEURS.

NO matter how small the collection there are always a few Odontoglossums that were not in the right state of growth when the autumn potting was in hand. These must now be attended to without further delay, for sufficient time must be allowed them to take a firm hold of the new compost before the warm weather arrives. Every opportunity should be taken to encourage the growth, and for that reason it is necessary to have everything fully prepared before the season of rapid growth arrives. These remarks apply more especially to large plants that are expected to carry many-flowered spikes. With small plants and young seedlings the potting season may be said to extend throughout the whole year, for they are seldom at rest and rarely suffer from the strain due to carrying a premature spike of bloom.

Careful attention is necessary to select plants that are ready for potting. Taking them generally, the best time is when the new growth is a few inches in height, or when new roots are in an active state of growth. It is a mistake to disturb plants that are resting, or, in other words, are not in active growth. These should be placed together in a position where they can be readily seen, and given individual attention as soon as required. All newly potted plants require to be carefully shaded for a few weeks, until they are fairly well established. An occasional light spraying will greatly assist them, but care must always be exercised when so doing to prevent a quantity of water remaining in the new growths, for should a cold night occur severe

damage may be done. If the syringing is done early in the day much of the surplus water will evaporate before the close of day. A slight opening of the top ventilators will also assist in removing an excess of atmospheric moisture.

Many Cattleyas as well as Lælias and Lælio-Cattleyas will be forming new roots, the greater number of which will break forth from the base of the last made bulb. Those that are pot bound or are in need of fresh compost should receive attention before the roots attain a length that renders them liable to be easily broken.

Some of the most successful present-day cultivators keep these plants fairly dry during the time when no new bulbs are being made, and by this means encourage the formation of new roots. All plants require a small amount of moisture to ensure a healthy existence, consequently with a drier compost more root action is necessary to obtain the requisite moisture. When the growing season arrives and more water is given to the plant there is a very extensive means of gathering nutriment, and a consequent improvement in the quality of the new bulb is usually evident. Moreover, the compost by being kept in a drier state keeps quite sweet and lasts for a longer period.

Towards the end of the month Calanthes should be potted, using a compost of good fibrous loam, a small portion of partly decayed leaves, and some sharp sand or small crocks to maintain a porous condition. Each bulb should be potted separately, and about an inch of the old roots allowed to remain in order to securely keep them in position. The compost should not entirely fill the pot, a space being necessary to allow a plentiful supply of water being quickly given during the hot weather. After the plants are potted a light and warm position should be selected, but no water will be required for several weeks, not until the bulbs are rooting freely. When water is applied too early the new growth often turns black and perishes. A light syringing between the pots in order to produce a genial atmosphere is very beneficial.

CATTLEYAS FROM SEED.

MANY amateurs who grow Orchids to perfection are deterred from attempting to indulge in the fascinating hobby of raising them from seed, owing to the belief that it is difficult. This is not the case, but the raiser must be prepared to exercise a very great amount of patience and care, and if added to this good parents are employed for the production of seedlings, some grand results can be confidently expected.

Obviously, the first step is to select plants for cross fertilisation, and this is accomplished by first removing the pollen masses from the flower destined to carry the seed pod, and then to apply to the stigma of this flower the pollen masses from another, which is a delicate operation, best performed by a sharp pencil or small piece of stick. Personally, I use a pointed match for the purpose.

If the process of cross fertilisation has been correctly performed the ovary will begin to swell and the flower quickly fade. Every encouragement must now be given to the plant to produce its seed pod by judicial watering and giving plenty of diffused light. The seed pod will continue to swell until, after the lapse of eight or nine months, it will be about the size of a hen's egg. When the apex shows signs of splitting the pod should be cut off and stored in a dry place until required for sowing.

Thoroughly cleanse a small Orchid pan, and then select some of the best procurable sphagnum moss and wrap it in canvas, making it of suitable size to fit into the lower portion of the pan. Water well, and after it has well drained scatter the seed very evenly and thinly on the canvas surface as well as on the sphagnum moss.

Stand the pan in a shady corner where the temperature does not fall below 65 degs. Fahr., and cover with a pane of glass. It is of the utmost importance that this glass be turned over and wiped daily, otherwise the condensation will cause the seed to rot.

Afford water whenever necessary by holding the pan in a pail of tepid rain water,

taking care that no water gets on the surface from above or the seeds will be washed away.

If the seed is fertile germination will take place fairly quickly, the first sign being the tiny green globules forming on the decaying canvas. When this stage is reached remove the pane of glass and give a trifle more water. The little seedlings will now commence to grow at a great pace, but they should be left undisturbed until they produce a tiny leaf.

When ready they should be gently removed by means of a pointed stick, and pricked out about half a dozen in a pan, in moss to which a little osmunda, finely chopped, has been added. From this stage onwards their culture will consist of frequent repanning and supplies of water to keep their soil in an even state of moisture, whilst for their second shift they can be potted up in thimble pots. Under careful and healthy growing the cultivator should see the first fruits of his labours by the seedlings producing their first bloom when about five years old.—*C. Alwyn Harrison.*

CYMBIDIUMS.

THIS genus of Orchids is a large one, and comprises many species and hybrids of great beauty, several of which are pre-eminently suited for an amateur's collection on account of their easy culture and floriferousness.

The long spikes of good-sized and attractively coloured flowers are excellent for all manner of decorative work, whilst if allowed to remain on the plant they will keep fresh for eight or ten weeks. Hence their freedom in blooming and low cost make Cymbidiums very suitable subjects for a warm, mixed greenhouse. For a good and varied dozen I would recommend the following:—Doris, eburneo-Lowianum, Gottianum, insigne, Lowianum, Lowgrinum, Pauwelsii, Pluto, Schlegelii, Tracyanum, Wiganianum, and Wimianum.

These Orchids are not very exacting in their cultural requirements. A light and airy position in any house where a minimum winter temperature of 50 degs. Fahr. is maintained will suit them admirably. Being strong and vigorous rooting Orchids an abundance of water is needed during their period of active growth, which is usually from nine to ten months duration.

When the plants have filled the pots with strong and fleshy roots it may be an advantage to give an application of weak cow manure water twice a week, but this must be discontinued as soon as the flower-buds are about to open. From April until the dull days of winter, considerable benefit will be afforded these Orchids from overhead syringing of the foliage, it being well to perform this three times a day in summer, which will act as a check towards the development of red spider.

Shading is needed from about the middle of February until October, and must be used whenever the sun is shining with sufficient force to scorch the foliage.

Specimen plants of Cymbidiums do not like root disturbance, and so repotting must only be practised when necessary, which is usually once in every three years. Young plants and seedlings will, of course, need attention much more frequently. To allow for future growth, on potting a plant, remove all back bulbs but three or four, cut away any dead roots, and place well to one side of a pot one size larger than that previously occupied. Pot firmly, but not burying the plant in soil; the base of the bulbs should be on a level with the pot's rim. For compost use a mixture of loam, osmunda fibre and sphagnum moss. Mix these well together and moisten them thoroughly. After repotting care must be taken to give only enough water to prevent the plant from shrivelling, until a good hold has been taken of the new compost.

I find these Orchids usually need a good supply of water from May to September, unless any are then at rest, but during the winter a thorough watering once or twice a week is often all that is necessary; but, of course, in regard to watering much depends upon the weather and season. Cymbidiums delight in a light, airy and buoyant atmosphere, and anything approaching an arid and stuffy condition must be guarded against.—*C. Alwyn Harrison.*

Saccolabium giganteum, flowering in the establishment of Messrs. Charlesworth & Co.

SACCOLABIUM GIGANTEUM.

THIS species is not so well known nor is it grown as plentifully as it was in the days of our forefathers. The *Botanical Magazine* of April, 1867, contains a figure of it with the following note:—"The honour of introducing this beautiful plant, as well as having been the first to flower it, belongs to the Bishop of Winchester, in whose collection at Farnham Castle it made its appearance several years ago. Unfortunately, the Bishop's plants were small, and the spikes produced, though sufficient to enable Dr. Lindley to recognise the species, gave but an imperfect idea of the noble aspect that it would eventually assume. The plant, moreover, is so exceedingly slow in its movements that notwithstanding the generous anxiety of the Bishop to distribute it, a century might have elapsed before all the Orchidians amongst her Majesty's subjects could have been supplied, had no further addition been made to the number of imported specimens. Happily, however, about a year ago a fresh supply of fine plants were received by Messrs. Veitch from Rangoon, having been sent to them by Col. Benson."

In the year 1883 the following account was published in the *Orchid Album*:—"Saccolabiums used to be exhibited in splendid style some quarter of a century ago by the late S. Rucker, Mrs. Lawrence and Dr. Butler, and also from other fine collections then in existence, at which time there was seldom an exhibition group staged without a fine specimen of S. guttatum or some other equally fine species. Now, however, we rarely see

them shown. Orchid growers appear to have forgotten this noble class of plants, and many beginners think that they are difficult to cultivate, but we ourselves have never found them to be so, and together with other nurserymen we are growing and selling specimens every year. Where can the greater part of these go to? Why, they are purchased by foreigners, who seem to have a greater taste than we have in this country for these most wonderful of all Orchids which, even when not in bloom, are objects of attraction from their noble aspect and graceful foliage. S. giganteum is a slow growing plant, and makes about three leaves a year. We were surprised three years ago to receive amongst some imported masses one which stood three feet high, forming quite a pyramid of young growths, and carrying from 20-30 spikes; other masses were also of great size."

Messrs. Sander and Sons state in their *Reichenbachia*:—"It is found wild along the whole coast line of the Malayan Archipelago, Siam, and Cambodia, and in Cochin China, and this wide geographical range has given rise to several distinct varieties, one of the most remarkable being that known as illustre, which differs from the type in having longer and broader leaves, a longer flower raceme, and more brilliantly coloured blossoms. This variety occurs in Cambodia, but even the plants collected in other localities vary considerably as regards the intensity of the colour, some forms being very much darker and finer than others. There is also a pure albino, but this, like other white varieties, is extremely rare. Like other Orchids of a similar nature, it has a season of growth, and afterwards a season of rest, corresponding with the hot and cool seasons in its native habitat. The cool season occurs from November till March, when a period of dry heat sets in, followed by the rainy season, beginning in June and lasting several weeks. During the rainy season these epiphytic Orchids are in active growth, and by the time the new foliage is matured the cool season recurs. It is easy to imitate these conditions in cultivation. In June and throughout the summer the plants must have abundance of heat and moisture. The resting season occurs after flowering, when the plants must have a cooler and drier treatment until the spring. A dry atmosphere during the cooler treatment is most essential. This species grows naturally in low places, but in rather dry situations, very often on trees in paddy and other cultivated fields, and generally upon the trunks below the branches."

Some forty years ago high prices were paid for specimens of Saccolabiums; no less than £72 was given for S. giganteum and £65 for S. guttatum. At the dispersal of Dr. Butler's collection, in 1861, S. guttatum sold for £52 and S. giganteum for £46. Since then the prices have gradually fallen, largely owing to easier means for collecting and despatching plants from their native home, until amateurs can now purchase decent plants for a very few shillings apiece.

A peculiarity of Saccolabiums is the small amount of root that they make inside the pot. Most of their root action is confined to one or two strong roots produced from the portion of the stem above the top of the pot or basket in which it is growing. These aerial roots frequently attain the length of three feet.

ODONTOGLOSSUM NOX.

Edwardii × waltoniense (crispum × Kegeljani).

The extraordinary power of Edwardii in transmitting its colour and size to all its progeny is further exemplified in their addition to the already long list of small flowered hybrids raised from it. The whole flower is of a dusky crimson-purple, only relieved by the usual small orange patch around the crest of the lip.

In form it is much above the rest of its congeners, for the petals lap over the sepals as in a good Thompsonianum. The waltoniense was "rosefieldiense," hence the broad petals in this hybrid, but the bright yellow of the ♂ parent has failed to weaken the Edwardii purple. I raised the plant, and it first bloomed in January.

de B. Crawshay, February 16th, 1914.

NEW HYBRIDS.

ODONTOGLOSSUM DESDEMONA. — By crossing Hallii with ardentissimum Messrs. Sander and Sons have produced an elegant hybrid of rich yellow colour. The very broad labellum is of similar colour, but lighter near the apex and margin.

ODONTOGLOSSUM RIO TINTO. — The parents of this are sceptrum and gandavense, the result being a coppery-red flower of good shape. Raised by Messrs. Sander and Sons.

LÆLIO-CATTLEYA ALLUMETTE.—Mr. F. C. Puddle has raised this new hybrid in the Scampston Hall collection, Rillington, York. The parents are L.-C. luminosa and L.-C. La France, the latter being a hybrid between tenebrosa and bicolor. The result is a large flower of rich reddish-copper colour, the labellum of purple with the throat crimson.

ODONTOGLOSSUM CHRYSEUM.—A very pretty result, with golden flowers, obtained by crossing nobile and excellens. Raised by Messrs. Sander and Sons.

ODONTOGLOSSUM AUROSUM.—One of the prettiest additions to the yellow flowering section. The parents are cirrhosum and excellens, yielding a golden-yellow flower with the well-known cirrhosum habit. Flowered by Mr. Harry Dixon, Wandsworth Common.

ODONTOGLOSSUM ST. BAVON.—Messrs. Sander and Sons have raised this hybrid between Lambeauianum and gandavense. The first flower to open exhibited a red-brown colour, as well as being of good shape.

ODONTOGLOSSUM CYRUS.—By crossing Rolfeæ with eximium an attractive hybrid has been raised by Messrs. Sander and Sons.

ODONTOGLOSSUM PHILOMENE. — The parents of this are Rolfeæ and percultum, the Harryanum species being plainly visible in the resulting seedling. Raised by Messrs. Sander and Sons.

CYMBIDIUM DRYAD. — An interesting hybrid between insigne and Parishii Sanderæ, the rose-white flower having a broad labellum, which is lined with red on the front and side lobes, the column being rose. Raised by Mr. H. G. Alexander in the Westonbirt collection.

ODONTIODA MARGARET.—A charming addition, the parentage being Oda. Bradshawiæ and Odm. ardentissimum. Raised in the collection of Mrs. Cookson, Oakwood, Wylam.

LÆLIO-CATTLEYA JULIA.—Messrs. Armstrong and Brown have raised this hybrid between L.-C. Aphrodite and L.-C. Hippolyta. The flower is an attractive shade of orange-buff, the purple lip being well displayed.

SOPHROCATTLÆLIA LYSIA.—Messrs. Stuart Low and Co. have produced this hybrid between Sophronitis grandiflora and L.-C. Cranstounæ (Harrisoniana × tenebrosa). The flower is of dark red colour, the shape showing the influence of the tenebrosa species, although much broader in the petals.

SOPHROCATTLÆLIA HERBERTII. — The result of crossing S.-L. heatonensis and Cattleya F. W. Wigan. A pleasing flower of rich red colour. Exhibited by Mr. H. S. Goodson, Fairlawn, Putney.

LÆLIO-CATTLEYA CAPUA.—Messrs. Flory and Black have recently flowered this hybrid, the parentage being L.-C. Hippolyta and C. Warscewiczii. A hybrid with similar parents was shown by Sir Trevor Lawrence, Sept. 26th, 1911, under the name L.-C. Phœbus, which, however, was not tenable, the same name having been previously used by Messrs. Charlesworth and Co. for a cross between L.-C. Cappei and C. Iris, shown by them November 10th, 1908.

LÆLIO-CATTLEYA CIMON.—By crossing C. aurea with L. Juvenilis (Perrinii × pumila) this new hybrid has been raised in the collection of Mr. F. Wellesley, Woking.

LÆLIO-CATTLEYA TRAJAN.—Messrs. Flory and Black have flowered this hybrid between C. labiata and L.-C. Ingramii. A plant with similar parentage was shown October 29th, 1907, by Lieut.-Col. Sir George Holford, who used the name Ulysses, but it did not appear to be recorded, consequently the name Trajan takes its place. It is well to mention that L.-C. Ulysses has since been used for a cross between L.-C. Fascinator and C. Mossiæ.

SOPHROCATTLÆLIA GEM.—An addition to the red-flowering section has been made by crossing Sophronitis grandiflora with L.-C.

warnhamensis. Flowered in the collection of Mr. F. Wellesley.

ODONTIODA VIVIENNE.—This new hybrid has been raised in the collection of Mrs. Norman Cookson, Wylam. The parentage is Odontioda Cooksoniæ × crispum, and the flower has a bright rose-band of colour round the margin of its broad petals, the central area being reddish-scarlet.

ODONTIODA DORIS.—A very pretty result, the broad undulated petals being rose-blue on their outer area, the central part being dull brown-red. The parents are Odontioda Cooksoniæ and Odontoglossum amabile, the hybrid being in the collection of Mrs. Norman Cookson, Wylam, where it was raised by Mr. Chapman.

BRASSO-CATTLEYA CECILIA.—Brassavola glauca and Cattleya aurea are the parents of this new hybrid, raised by Messrs. Flory and Black, Slough. The creamy-yellow flower has a very broad rose coloured lip.

BRASSOCATTLÆLIA ARIEL.—A pleasing hybrid between L. purpurata and B.-C. Mrs. J. Leemann has been flowered by Messrs. Flory and Black, Slough. The chief attraction is the large flat lip, which is neatly fringed at its margin and soft rose in colour, with the central part orange-yellow.

ODONTOGLOSSUM SANDHURSTIENSE.—Messrs. Armstrong and Brown, Tunbridge Wells, have raised this very interesting hybrid between coronarium and Edwardii. The flowers are of thick substance, and of rich solid crimson colour, the apex of the lip being yellow when the flower first opens, but changing afterwards to rose.

SOPHROCATTLÆLIA ST. ARILDA.—A pleasing addition to this section has been made in the Westonbirt collection. The parentage is S.-L. Phroso (L. Jongheana × S.-L. Orpetii) and L.-C. Goldcrest. The large flower is light reddish-buff, with rose-pink edge to the lip.

CYPRIPEDIUM SATYR.—By crossing Hera with Beryl Mr. Alexander has raised an attractive addition to the Westonbirt collection. The bold flower has the dorsal sepal marked with black spots upon a white ground. The broad petals are well displayed.

CYPRIPEDIUM HERDONIUS.—Messrs. Armstrong and Brown, Tunbridge Wells, have raised an elegant hybrid between Hera and Bassano. The blackish spots on the dorsal are of an unusually large size, while the petals are well-developed and of rich colour.

CYMBIDIUM IONA.—This attractive hybrid between giganteum and insigne has been raised by Messrs. Armstrong and Brown, Tunbridge Wells. It appears very floriferous.

ODONTOGLOSSUM AMANDENS.—This hybrid has been raised by Messrs. J. and A. McBean, Cooksbridge. The parents are Wilckeanum and Rolfeæ.

CYPRIPEDIUM NOLA.—By crossing Fowlerianum (bellatulum × Harrisianum) with glaucophyllum an elegant hybrid has been produced. Messrs. Armstrong and Brown are the raisers.

CYPRIPEDIUM MYSON.—Messrs. Armstrong and Brown, Tunbridge Wells, have raised this hybrid between Mrs. Mostyn and Fairrieanum. The rich coloration of the former parent's dorsal sepal and the effective markings on that of the latter have blended in a very pleasing manner.

MOSCOW ORCHID SOCIETY.—Mr. Alwyn Harrison has recently been elected a member of this important society.

CATTLEYA PERCIVALIANA.—Although this species produces its flowers during the dull winter months, a period when bloom is highly appreciated, it can never be classed with the best kinds for yielding a bountiful supply, for taken on the average a spike but rarely produces more than two or three blooms. Mr. Geo. I'Anson, who is now in charge of the Julius Roehrs Co.'s collection at Rutherford, N.J., U.S.A., sends a photograph, reproduced on next page, of C. Percivaliana carrying a spike of seven flowers, surely a record for this species. The bright light usually obtained in the United States may have something to do with this result, but good cultivation is undoubtedly the chief means by which this success has been obtained.

Cattleya Percivaliana, a seven-flowered spike in the Julius Roehrs Co.'s collection, Rutherford, N.J., U.S.A.

ROYAL HORTICULTURAL SOCIETY.

February 10th, 1914.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Messrs. Gurney Wilson, E. H. Davidson, F. Sander, R. G. Thwaites, F. J. Hanbury, T. Armstrong, A. McBean, C. H. Curtis, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, J. E. Shill, W. P. Bound, A. Dye, W. H. White, S. W. Flory, W. Bolton, R. A. Rolfe, C. Cookson, F. M. Ogilvie, and de Barri Crawshay.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), was awarded a Gold Medal for a magnificent exhibit. The principal feature was about 100 strong spikes of white Lælia anceps, which hung gracefully over the dwarfer growing Orchids. Many Cymbidium hybrids, including the new C. Dryad (insigne × Parishii Sanderæ) were in excellent form, while Cypripediums were represented by the massive Alcibiades, Cyclops and Viking. In prominent positions were specimen plants of Cattleya Trianæ The Premier, C. T. Mooreana, and C. T. Imperator. A beautiful specimen of Vanda Watsonii, with eight many-flowered spikes, as well as numerous Odontoglossums and various hybrids, completed this very attractive and elegant group.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), exhibited some noble varieties of Cattleya Trianæ, including The Premier, Goliath, and Mrs. de B. Crawshay.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Geo. Day), showed Sophrocattlælia Herbertii, and a richly coloured form of Lælio-Cattleya Charlesworthii.

Sir Jeremiah Colman, Bart., Gatton Park, Surrey, exhibited the rare Tainia penangiana, a richly coloured Lycaste Skinneri, and the elegant Zygo-Colax Wiganianus.

de Barri Crawshay, Esq., Sevenoaks, showed Odontoglossum Boadicea, of good shape, blotched with red-brown.

E. H. Davidson, Esq., Twyford, received a Silver Flora Medal for a neat group, containing an excellent form of Lycaste Skinneri alba, as well as a dark variety of the same, Odontoglossum Louise, well-flowered plants of Masdevallia tovarensis, and other species.

Messrs. Charlesworth and Co., Haywards Heath, secured a Silver Flora Medal for a selection of choice Orchids, including two spikes of the rare Eulophiella Peetersiana, the new Odontonia Lucilia, Oncidium hybridum (tigrinum × lamelligerum), and good specimens of Miltonia Bleuana.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Flora Medal for an interesting exhibit. The noteworthy plants comprised Brasso-Cattleya Vesta, several excellent forms of Cattleya Maggie Raphael alba, a selection of Odontoglossum Edwardii hybrids, Cypripedium Cupid, the beautiful Cyp. Venus Orchidhurst variety, and the elegant Cymbidium Woodhamsianum.

Messrs. Stuart Low and Co., Bush Hill Park and Jarvisbrook, were awarded a Silver Flora Medal for an extensive group. The best plants were Cypripedium Maudiæ, Cattleya Percivaliana alba, C. Trianæ alba, Lælio-Cattleya Eva (Gaskelliana × tenebrosa), a distinct form of L.-C. luminosa and Phalænopsis Schilleriana.

Messrs. J. Cypher and Sons, Cheltenham, obtained a Silver Flora Medal for an excellent exhibit of Cypripediums and Cymbidiums. The elegant Angræcum eburneum, Miltonia Bleuana, Calanthes in several varieties, and good forms of Cattleya Trianæ were also included.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Banksian Medal for a group containing many new hybrids, described in this issue, and a good selection of various Odontiodas, Cattleyas, Cymbidiums, and Lycastes.

Messrs. J. and A. McBean, Cooksbridge, exhibited Cattleya Maggie Raphael, the handsome Masdevallia Veitchii grandiflora, and several elegant Odontoglossum hybrids.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, staged the new Odontoglossum aurosum (cirrhosum × excellens) with bright golden-yellow flowers, a very attractive hybrid; also Cymbidium grandiflorum and several good forms of Od. crispum.

Messrs. Swan and Price, St. Albans, exhibited a neat group of Cypripediums, including aureum Surprise, aureum Hyeanum, Minos Youngii and Charles Sladden.

Mr. W. A. Manda, St. Albans, staged many distinct varieties of Cattleya Trianæ.

Mrs. Thatcher, The Manor House, Chew Magna, Somerset, showed Brassavola glauca, the greenish-white flowers having a rose-purple spot at the base of the lip.

First-class Certificates.

Cypripedium Pyramus (Hera × Mrs. Mostyn), from Baron Bruno Schröder, Englefield Green.—A handsome flower, richly coloured, and with the broad white dorsal heavily blotched and spotted with dark purple.

Dendrobium Lady Colman (Artemis × Findlayanum), from Sir Jeremiah Colman, Bart.—The finest and largest of the Dendrobium hybrids, and previously given an Award of Merit.

Awards of Merit.

Cymbidium Gottianum Westonbirt variety (eburneum × insigne), from Lieut.-Col. Sir George Holford, K.C.V.O.—A handsome flower, white with pink flush, the lip spotted with crimson.

Odontioda Margaret Westonbirt variety

(Odm. ardentissimum × Oda. Bradshawiæ), from Lieut.-Col. Sir George Holford.—A very beautiful result, the broad segments being prettily toothed, and of a bright red colour.

Cattleya Trianæ Mrs. de B. Crawshay, from Baron Bruno Schröder.—A very handsome and large flower, ranking with the finest varieties. The broad petals light rose-pink, the wide lip rose-purple.

Cattleya Trianæ Mrs. Phillips, from C. J. Phillips, Esq., The Glebe, Sevenoaks.—A remarkable variety in which the sepals and petals are handsomely marked with a broad purple line of colour down the central part.

Cymbidium Schlegelii, Southfield variety (insigne × Wiganianum), from W. Waters Butler, Esq., Southfield, Edgbaston.—A great improvement on previous forms. The white flowers have a light pink flush, the bold lip spotted with crimson-red.

Odontonia Lucilia, from Messrs. Charlesworth and Co. See page 124.

Odontioda Diana variety Gladys (O. amabile × C. Nœzliana), from Messrs. J. and A. McBean, Cooksbridge. — Flowers of excellent shape, rich scarlet-red in colour.

February 24th, 1914.

MEMBERS of the Orchid Committee present: Sir Harry J. Veitch (in the chair), Mr. James O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Messrs. F. Sander, R. G. Thwaites, F. J. Hanbury, T. Armstrong, C. H. Curtis, W. Cobb, R. A. Rolfe, F. M. Ogilvie, A. McBean, Stuart Low, J. Charlesworth, J. Cypher, W. H. Hatcher, J. Shill, H. G. Alexander, A. Dye, E. H. Davidson, S. W. Flory, W. Bolton, W. P. Bound, H. J. Chapman, de Barri Crawshay, and Gurney Wilson.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, was awarded a Silver-gilt Flora Medal for a superb exhibit of choice varieties of Cattleya Trianæ, including Madame Louise de Hemptinne, Lowii and Mooreana. On one side of these were many excellent plants of Lælio-Cattleya Ariel (aurea × Cowanii), one having as many as ten flowers on a spike; on the other side several well-grown plants of the new Cymbidium Dryad. In addition to these an immense specimen of Cattleya Trianæ var. Hydra, with no less than 96 flowers, Cymbidium eburneo-Lowianum, with 26 spikes having a total of 101 flowers, and Cymbidium Lowianum, with 15 spikes and an aggregate of 278 blooms, attracted much attention. A Lindley Medal was awarded to Mr. H. G. Alexander for his excellent cultural skill.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for an extensive group containing many choice Orchids. The new hybrids included Odontoglossum St. André (Rio Tinto × ardentissimum), with rich red-brown flowers. Cattleya Trianæ Mikado and C. T. Horatio were two superb varieties. An interesting hybrid was Lælio-Cattleya Trimyra (Trianæ × Myra) with white flowers, having a slight blush tint on the labellum. Many excellent species and numerous botanical Orchids were also shown.

Messrs. Stuart Low and Co., Crowborough, were awarded a Silver Flora Medal for an attractive exhibit, including the handsome Lælio-Cattleya Pizarro (aurea × Jongheana), Angræcum sesquipedale with many flowers, A. eburneum, the pretty Saccolabium bellinum, a varied selection of Odontiodas, several attractive Dendrobiums, and a new hybrid between L.-C. Charlesworthii and L.-C. Ophir, with reddish-buff flowers.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Banksian Medal for a neat group in which were many excellent Cypripediums, of which Helen, Actæus, Holdenii, Cupid and Kentore were specially good. Lælio-Cattleya Myra, of rich colour, the elegant Cymbidium Lady Colman, and C. Iona (giganteum × insigne) were well staged. Several special varieties of Sophronitis grandiflora were also included.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for a good exhibit, containing the pretty Cirrhopetalum picturatum, Ada aurantiaca, strong plants of Phalænopsis Stuartiana and P. Schilleriana. Cattleya Octave Doin and a large selection of choice Cypripediums completed this group.

Messrs. Charlesworth and Co., Haywards Heath, obtained a Silver Banksian Medal for an exhibit of selected Orchids, which included the scarce Angræcum citratum, the rare Phalænopsis Schilleriana vestalis, elegant varieties of Cattleya Enid and C. Octave Doin, as well as numerous hybrids.

Messrs. Hassall and Co., Southgate, secured a Bronze Banksian Medal for an exhibit in which were Cymbidium eburneo-Lowianum, several good plants of C. insigne, a large form of Cypripedium villosum, and Odontonia southgatensis.

Messrs. Flory and Black, Slough, obtained a Bronze Banksian Medal for some interesting secondary crosses of Odontiodas, a rose-coloured form of Miltonia vexillaria, and several Cypripedium hybrids of rich colour.

Messrs. Swan and Price, St. Albans, were awarded a Bronze Banksian Medal for an attractive exhibit of Cypripediums, a bold variety of Cattleya Trianæ, and well-flowered plants of Oncidium splendidum and O. Cavendishianum.

Messrs. E. H. Davidson and Co., Twyford, staged Odontoglossum crispum Princess Mary, a beautiful form with round segments; Cattleya Trianæ Orchid Dene var., C. Harrisoniana alba, and the scarce Odontoglossum Oerstedii, with 18 flowers.

Mr. Harry Dixon, Wandsworth Common, exhibited Cattleya Percivaliana, a pleasing variety, the scarce Lælia harpophylla and Cattleya Trianæ alba.

Mons. Jules Hye de Crom exhibited Cypripedium Tracyanum maximum (aureum × Leeanum), the broad dorsal having a green base, the upper part bordered with white.

Pantia Ralli, Esq., Ashtead Park, Surrey, exhibited Cattleya O'Brieniana alba and Odontoglossum crispum Lucianii.

Miss Sidney, Moreton, Holly Place, Hampstead, exhibited a large specimen plant of Dendrobium splendidissimum, with many flowers.

de Barri Crawshay, Esq., Sevenoaks, staged several interesting hybrids, the best being Odontoglossum Boadicea, with a branched spike of red-brown flowers, and O. Damaris (Rolfeæ × waltoniense).

C. J. Lucas, Esq., Horsham, showed Cypripedium Harlequin, a large flower, and Cymbidium Wolfordii, of unknown parentage.

First-class Certificates.

Odontoglossum Colossus, parentage unknown, from Baron Bruno Schröder, Englefield Green.—A magnificent hybrid with flowers more than 4½ inches across. The large segments were handsomely marked with claret-red blotches, the immense lip pandurate in form. The plant carried a spike of four blooms.

Cymbidium Alexanderi Hamilton-Smith's variety, from George Hamilton-Smith, Esq., Church End, Finchley.—The plant carried an upright spike of two flowers, ivory-white, with the lip effectively marked with crimson round its edges. The column rose-colour. One of the most beautiful hybrid Cymbidiums yet seen, a fine addition to the genus.

Awards of Merit.

Lælio-Cattleya Ariel (aurea × Cowanii), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—A beautiful hybrid with a many flowered spike, the bright orange-yellow segments being exceedingly attractive.

Cypripedium Mogul (Mrs. Mostyn × chrysotoxum), from Lieut.-Col. Sir George Holford.—A noble flower with the broad dorsal almost covered with rich crimson-purple. The petals orange-yellow with mahogany markings.

Phalænopsis Ariadne (Aphrodite × Stuartiana), from Messrs. Sander and Sons.—A most beautiful hybrid with large flowers of excellent shape, the lower sepals lightly spotted.

MANCHESTER ORCHID SOCIETY.

January 29th, 1914.

Members of the Committee present:—Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, J. Howes, A. J. Keeling, J. Lupton, D. McLeod, W. J. Morgan, W. Shackleton, H. Thorp, Z. A. Ward, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to R. Ashworth, Esq., Newchurch.

Large Silver Medals were granted to Wm. Thompson, Esq., Walton Grange; A. Warburton, Esq., Haslingden; and Silver Medals to Messrs. Sander and Sons, St. Albans; and Messrs. Cypher and Sons, Cheltenham.

Other exhibitors included O. O. Wrigley, Esq., Bury; H. Arthur, Esq., Blackburn; Mr. W. Shackleton, Bradford; Messrs. A. J. Keeling and Sons, Bradford; Mr. J. Evans, Congleton; Mr. J. Sadler, Newbury; Mr. J. Birchenall, Alderley Edge; and Mr. D. McLeod, Manchester.

First-class Certificates.

Cypripedium Desdemona (Alcibiades × Mrs. Cary Batten), a fine result (see illustration in this issue), from Wm. Thompson, Esq.

Odontoglossum Jean, round flower of good substance, lemon ground, heavily blotched, from R. Ashworth, Esq.

Vanda Sanderiana "Rann Lee," a fine flower, wide segments, brilliant colour, from H. J. Bromilow, Esq.

Awards of Merit.

Cypripedium aure-euryades (aureum × Hera), Cyp. Tracyanum var. Golden Glory (Leeanum × aureum), and Cyp. Adrastus Mostyn, all from Wm. Thompson, Esq.

Odontoglossum amabile Mrs. R. le Doux and O. a. Mrs. Hattie Bareiss, both from R. le Doux, Esq.

Cypripedium Foscote, the property of the Hon. Lady Neeld.

Cattleya Trianæ Beardwood var., from Col. J. Rutherford.

Cypripedium coloratum, from R. Ashworth, Esq.

A Bronze Medal and Cultural Certificate were awarded to Mr. Morgan for Vanda Sanderiana and Cyp. Minos Youngii.

February 12th, 1914.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, J. Cypher, A. G. Ellwood, J. Evans, J. Howes, A. J. Keeling, J. Lupton, D. McLeod, W. J. Morgan, C. Parker, W. Shackleton, H. Thorp, W. Thompson, A. Warburton, Z. A. Ward, and H. Arthur (Secretary).

A Silver-gilt Medal was granted to Messrs. Cypher and Sons, Cheltenham; and a Large Silver Medal was awarded to A. Warburton, Esq., Haslingden. Silver Medals were obtained by W. Thompson, Esq., Walton Grange; Messrs. Sander and Sons, St. Albans; and Messrs. A. J. Keeling and Sons, Bradford. A Special Vote of Thanks was awarded to O. O. Wrigley, Esq., Bury, for a magnificent exhibit of Cypripediums.

Other exhibitors included Messrs. Charlesworth and Co., Haywards Heath; Mr. W. Shackleton, Great Horton; and Mr. D. McLeod, Chorlton-cum-Hardy.

First-class Certificates.

Odontoglossum L'Empereur, parentage unknown, a magnificent flower of good shape and substance, solid bluish-purple colour; a Silver Medal was also awarded. The property of W. R. Lee, Esq.

Odontoglossum crispum Palatine, one of the finest white forms. Large flower, almost perfect shape, from W. Thompson, Esq.

Odontoglossum Countess of Sefton, parentage unknown, large well-set flower, heavily blotched, the property of R. le Doux, Esq.

Cattleya Suzanne Hye de Crom var. grandiflora, a very large variety, from Messrs. E. H. Davidson and Co.

Awards of Merit.

Odontoglossum Desdemona, illustrissimum, Mrs. McVittie, Bonar Law, crispum aureolum and eximium Walton Grange var., all from W. Thompson, Esq.

Odontoglossum amabile Daphne and Odontioda Madeleine, from W. R. Lee, Esq.

Cattleya Trianæ Enimes, the property of Col. J. Rutherford.

Cypripedium Griffin (Mrs. Mostyn × Archimedes), from Mr. J. Evans.

A feature of the meeting was a magnificent display of paintings of Orchid flowers, shown by Wm. Thompson, Esq.

THE
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NOTES.

ODONTOGLOSSUM EDWARDII.—Messrs. J. and A. McBean, Cooksbridge, have recently flowered a noble plant of Odontoglossum Edwardii. The inflorescence was just over seven feet in height, carried about twenty branches, and a total number of 314 blooms.

LIST OF HYBRIDS.—Messrs. Sander and Sons have just published an addenda to their well-known "List of Orchid Hybrids." Former editions brought the work up to the end of 1912, and the present addenda completes the list up to the end of 1913. Every care has been taken to verify the records, and the complete list will be found an essential guide in every Orchid collection, as well as helping to avoid the too prevalent duplication and synonymy existing in the present nomenclature of hybrids.

PERMANENCE OF ALBINISM.—Are albinos always true? I say no. A flower of Lycaste Skinneri, which flowered with me in 1888 from a newly-imported piece, was sent to the *Gardening World*, where, in an issue of that date, it was described as a most perfect form of Lycaste Skinneri alba. The following year this plant refused to flower, owing, no doubt, to my bad cultivation, but since then I have had more experience, and have succeeded in getting it to flower every year, although always in the coloured form, of which I now send a specimen. I have named this variety The Dream. I have several Orchids which have proved albinos on their first flowering, but in after years have shown colour in the flower. I should like to know if any readers of the ORCHID WORLD have had similar experiences? As promised, I also send a spike of Dendrobium Wardianum with five flowers. This, I believe, is an unrecorded case.—*Robert Twiss, Birdhill, Limerick.*

POLLINATION BY BIRDS.—At the meeting of the Linnean Society, March 5th, 1914, Mr. C. F. M. Swynnerton read a paper, entitled "Short Cuts by Birds to Nectaries," illustrated by lantern-slides from photographs and drawings by the author. He stated that birds were watched visiting flowers, and flowers were examined for indirect evidence. Not only sunbirds (which indeed are often great evaders of pollen), but many other birds as well, visited certain flowers freely for their honey, and were probably of use to them for cross-fertilisation. Certain birds, and some individuals more than others, apparently disliked being besprinkled with pollen, and tended always to enter flowers by breaches made by themselves or their predecessors. Other birds tried, contrariwise, to enter the flowers by their natural openings and so to be of use to them for cross-fertilisation, *excepting* in the case of individual flowers that happened, through inconvenience in their own or the bird's position, etc., to offer some difficulty. If these were insufficiently protected as well, they were often either pierced or the openings already made in them by the more indiscriminating birds were utilised. Insects also tended to utilise the breaches made by birds, and so probably in large part failed to counteract the latter's discriminative influence. In most cases the eliminative effect, if any, of the damage was

not traced. In two instances it was (for individuals) immediate and clear, flowers of a certain type being bodily removed.

MILTONIA WARSCEWICZII.—Last year one of my plants of this very distinct Miltonia made a remarkably fine growth and pseudo-bulb, which has this year produced a spike of bloom of such abnormal size that I made measurements and note of details of the bloom. When cut to bring indoors the flower scape measured 2 ft. 7 in. in height, and had eight branches, six of which carried four blooms each, and two with three blooms each; there were also four single blooms at the end of the spike, making in all thirty-four blooms. During the many years I have grown this Orchid I have never had a flower scape of such dimension as that produced this year, nor do I recall having seen one approaching it in size in any other grower's collection.—*J. T. Bennett-Poë, V.M.H.*

ORCHID PAINTINGS.—I consider it high time that something should be done with the correct recording of Orchids by means of paintings. However carefully an artist may copy a flower, either in regard to size and form, or in the matter of colour, he but rarely knows the condition of the spike from which it was obtained; and so far as he is personally concerned it little matters, for so long as he makes a faithful representation of the single flower put before him nothing can be said against his work. It is the owner of the plant who is responsible for the material sent to the artist. The size of the flowers varies greatly, as everyone knows full well; not only are those on the base of the spike much finer than those near the apex, but the removal of the majority of the flower-buds when in their early stage of development, usually termed disbudding, very much increases the size and improves the quality of the blooms situated on the remaining portion of the spike. Now, it seems hardly fair to select one of these extra fine and, shall we say, artificially-improved flowers for the purpose of having a permanent record of the variety preserved by means of a painting. It frequently happens that this painting is subsequently used as a means of obtaining a buyer for the plant. In fact, it adds a false commercial value to the plant, and what is really of far greater importance, the buyer is greatly disappointed when he flowers the plant with a full, natural spike to find that the blooms are considerably poorer in quality and size than the one shown by the painting. So far as I can see, the only satisfactory solution of the difficulty is to state on the painting the number of flowers carried on the spike. The owner of the plant will then be able to readily form a correct opinion of its real merit. I believe the R.H.S. Orchid Committee has already had this matter brought before them, and I would suggest that whenever an award is given to a fully-developed plant which carries a disbudded spike, that the number of flowers remaining on the spike should be duly recorded on the official-painted record. This necessity has been brought about by the permission now given to exhibitors to enter disbudded plants for the purpose of receiving awards.—*R.H.S. Committeeman.*

COOL-HOUSE ORCHIDS.—During the last few weeks several spring flowering Orchids of the cool-house section have made an attractive display of bloom with Mr. A. G. Veal, of Beresford Road, Upper Parkstone, Dorset. A photograph of a neat group shows Dendrobium infundibulum with many of its large, pure white flowers; this species is eminently suitable for amateurs, for no more than ordinary Odontoglossum temperature is needed for its cultivation. Lycaste Skinneri is another species which grows well under Mr. Veal's care, the elegant flowers lasting a long time in perfection. Cymbidium eburneum, as its specific name denotes, produces ivory-white flowers, which are of wax-like texture and extremely useful for button-hole work. Odontoglossums also give satisfactory results, one having thirty-four flowers on a spike. Od. Pescatorei and Od. maculatum, the latter carrying two spikes, each with twelve flowers, must also be mentioned.

Odontoglossum Leander.

ODONTOGLOSSUM LEANDER.—The above illustration of this very beautiful and handsome hybrid has been prepared from a photograph of one of the flowers, and is exactly life size. It belongs to the amabile section, there being strong evidence of crispum and Harryanum in the parentage, although the precise method of production has, unfortunately, not been recorded. The heavy colour markings are rich rose-purple on a rose-tinted ground. This elegant rarity is in the collection of Sir John Edwards-Moss, Bart., Roby Hall, Torquay.

CHOICE ODONTOGLOSSUMS.—A series of very beautiful flowers has been received from Mr. Wm. Thompson, Walton Grange, Staffs. Perhaps the best is Odontoglossum mirum (crispum × Wilckeanum), a large flower with immense brownish-red blotches. Of equal beauty is O. eximium and several home-raised blotched crispums. Other hybrids in the collection comprise an interesting lot of Harryanum crosses, the brightness of coloration being remarkable. Odontiodas can claim the same attention, the standard of these being very high. A recent example is Odontioda Schröderi var. Walton Gem, F.C.C., M.O.S. Valuable duplicates from this collection will be sold by Messrs. Protheroe and Morris, April 29th, at Stone, Staffs. Fuller particulars are included in our advertisement pages.

LEAFLESS ORCHIDS.—The March issue of the *Orchid Review* contains an article on Leafless Orchids, with an illustration of Dendrophylax funalis.

"THE ORCHIS."—The March issue of this publication contains a coloured plate of Oncidium patulum, a new species allied to O. Cavendishianum. Also an article on the culture of Catasetums.

OBITUARY.—We much regret to record the death of Mr. J. J. Holden, of Albert Road, Southport, who possessed a very extensive collection of valuable Orchids. He had been in ill-health for some time, and no doubt the death of his eldest son on January 30th hastened the end. The interment took place March 26th, and the large number of floral tributes evidenced the high esteem in which he was held.

DENDROBIUM WARDIANUM.—A remarkable case of longevity is instanced by the following letter from Mr. J. T. Bennett-Poë, V.M.H.:—"One Orchid which I am proud of having kept for more than twenty-five years, is a good form of Dendrobium Wardianum giganteum, with very bright rose-purple tips to the sepals and petals. It is a 'survival of the fittest,' for it is the only one which has remained since those long ago days, all the others having gone on for but a few years, and then disappeared. I know this Dendrobe has the reputation of not living long under cultivation, so this plant is remarkable." How seldom are we able to cultivate this species successfully; notwithstanding every care in the selection of sturdy imported plants, and the closest attention to their subsequent treatment, misfortune invariably follows our attempts. In regard to this species when in its native country no one can term it of delicate constitution, for its bulbs appear to rival in size and vigour the majority of other members of its genus. Surely, then, the treatment accorded it must be at fault. Until recent times the hot-house has invariably been chosen for its accommodation, but better and more lasting results have been obtained when a medium temperature has been utilised, often very similar to that of a cool Cattleya house. Yet, despite all our knowledge—small as it is—we have not yet mastered the requirements of this beautiful species. Shall we ever be able to do so remains at present unproved. Many will say that so long as importations of the plant continue to arrive what does it matter, a large supply of bloom is readily obtainable from newly imported plants, and its value during the first flowering season amply balances the cost of purchasing the stock. Still, Orchidists are a persevering community, and are not likely to remain satisfied until perfection in cultivation is secured. True it is that much praise is due to those who flower their plants successfully, but greater reward is due to the diligent workers who reap success in the continued yearly production of healthy and vigorous bulbs.

"COMMERCIAL ORCHID GROWING."—Under this title, Mr. Alwyn Harrison has written a treatise on the cultivation of Orchids suitable for the cut-flower trade, amateurs and market-growers. Considering the comparatively high prices which can be obtained from the sale of Orchid flowers, there is undoubtedly a good prospect for those about to commence their cultivation. The author very correctly remarks that there is no class of plant which is more difficult to restore to its normal state of health than an Orchid, when once it has been allowed to become diseased, or subjected to wrong culture, and hence can be seen the folly of buying weakly plants, merely on account of them being cheap. Of the 15 chapters comprising this book, 11 are devoted to the cultivation of suitable kinds for growing in large quantities, while the remainder are devoted to adapting existing houses, a monthly calendar, and the art of packing, the latter being contributed by Mr. Walter Gott. This work should prove of value to many, and more especially to the market-grower of fruit and flowers who is anxious to acquire a general knowledge of Orchids and the essential principles of their cultivation. The book, which is got up in a neat and serviceable style, is published by the Lockwood Press, Mitre Court, Fleet Strect, London, price 2s. 2d., post free.

BOOK CATALOGUE.—Messrs. W. and G. Foyle, of 121, Charing Cross Road, London, have issued a useful catalogue of Agricultural science books, which includes several on the subject of Orchids and their cultivation.

THE ELEPHANT ORCHID.

BY command of H.R.H. Prince Paribatra of Siam, I am sending some flowers which the Prince thinks might not yet be known in Europe.

It might already be well known that Saccolabium giganteum is to be found with us in abundance; it grows like grass without any treatment at all. Among the ordinary kind it is not at all seldom that one finds a pure white variety, which is beyond doubt the albino form of the same plant. Among the people, S. giganteum is known under the name of "The Black Elephant," and the white variety, in analogy thereto, as "The White Elephant." No reason has as yet been found why the plant bears this name.

Well, some thirty years ago, a general, named Phya Deb Orajun, who died some months ago, was travelling through the forests to the east of Siam, when one of his servants reported to him that he had seen a "Red Elephant," and he, indeed, found this plant in question as a single specimen growing amongst a big group of S. giganteum, profusely in bloom. He then brought this plant home, and it has since been known as "The Red Elephant." No trace of it could be found anywhere else, and until now this specimen is the only known plant in existence. It was presented to His Royal Highness in the course of last year, and is bearing flower at this very moment for the first time at Bang-khun-Prom Palace.

It is not difficult to describe the plant. In habit and growth it is just like the S. giganteum, but less robust; the leaves are from 6-8½ inches long, and about 1½ inches broad, and are of a slightly darker green, and show some difference at the tips. The flowers, of which upwards of 13 are borne on one raceme, are in shape and size just the same as in S. giganteum, but the colouring is essentially different. All the sepals and petals are of a vivaceous scarlet-red, pure shining white at the bases, column dark scarlet, spur also red. It is, indeed, a very beautiful Orchid, since the red colour is so rarely represented in Orchidaceous plants. Vernacular Orchidists believe it to be a natural hybrid, of which S. giganteum is the seed parent. The pollen masses are two in number.—*P. V. Silf, Private Secretary.*

ORCHID CULTURE IN INDIA.

THE sale of private collections of Orchids by auction is rather an unusual event in India, as the majority of collectors are rather averse to parting with what has probably taken them years to collect. Moreover, the average collector is, as a general rule, a permanent resident of the country, which alone accounts for the few public sales that take place. It is only on such occasions as these that we can judge the number of people who are really interested in Orchids and make them their only hobby.

Apart from the dealers, who, I may mention, are, with the exception of Mr. S. P. Chatterjee, very few indeed, the wealthy natives of the city, having their garden houses in the suburbs, may be considered the real collectors, with a few Europeans. Perhaps the fact that the majority of Europeans in this country are out here temporally accounts for them not cultivating Orchids to the same extent as the native gentlemen, who are naturally permanent residents of one locality. It is, moreover, surprising what a great personal interest they give to their collections, leaving very little, if any, care to their malies, or gardeners. It is considered a great favour to be invited to their garden-houses for the week-end, and on such occasions one observes the keenness and pride which they take in their collections.

As it may interest readers of the ORCHID WORLD, especially dealers, I am sending the results of a recent sale of Orchids belonging to Mr. A. R. Lamb, who is undoubtedly one of the best authorities in this country. The prices realised for some of the species compare very favourably with those usually obtained in England, while the purchasers were of the wealthy native gentlemen previously referred to. The collection

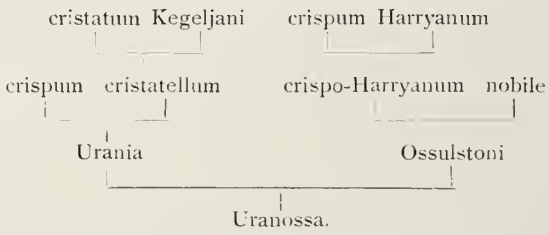
consisted of a large and varied assortment, which goes to prove that, with the exception of the cool varieties of Orchids, nearly all the tropical species may be grown successfully in Calcutta, Lower Bengal.

I noticed amongst the purchasers the absence of our premier private cultivator, Mr. Dooly Chand. This gentleman had undoubtedly the finest collection east of Suez. During the flowering season, which is usually at its best in March, his Orchid houses were opened to public inspection, of which the whole of the flower-lovers of Calcutta and the suburbs took advantage, as the charm and beauty of all the different species of Orchids in bloom at the same time is an event which only takes place once in a year. Thanks to our leading florist, Mr. S. P. Chatterjee, we are still able to enjoy a similar privilege now that Mr. Dooly Chand has discontinued the practice of opening his collection to public inspection. Equally as good a sight to look forward to are the Orchids in bloom in the Calcutta Botanical Gardens, which is a credit to our enterprising Curator, Mr. Lane.

The following species in my collection are now in full bloom, and collectively make quite a decent exhibition:—Dendrobiums Farmeri, nobile, infundibulum, lituiflorum, densiflorum, Pierardii, fimbriatum oculatum and superbum giganteum; Phalænopses grandiflorum and Mannii, Eria flava and Phaius Wallichii.—*Chas. Power, Orchid Villa, Barrackpore, Calcutta.*

The above-mentioned sale was conducted by Messrs. David Marshall and Co., at 7 a.m., on a Monday morning, the catalogue comprising nearly 400 lots of various Orchids, mostly species of the tropical section. Good plants of Dendrobium superbiens averaged 15s. each, the larger pieces making as much as 20s.; Cattleya species averaged 5s. each; Oncidium Papilio from 3s. to 10s., according to size; Oncidium splendidum from 3s. to 5s.; Vandas and Saccolabiums made good market prices, while Ærides and Renantheras were comparatively cheap. The Cypripediums included Spicerianum, niveum, insigne, venustum, bellatulum, hirsutissimum, and Rothschildianum, the demand for these only being sufficient to bring normal prices. Cattleya hybrids included Mrs. Pitt, Armstrongiæ, Atalanta, Fabia, Pittiana, and B.-C. Mrs. M. Gratrix, the prices for these seedlings averaging from 15s. to 25s. each. High figures were obtained for Vanda Sanderiana, Cattleya Trianæ alba, Cymbidium Finlaysonianum, Grammatophyllum speciosum, and Angræcum Sanderianum.

ODONTOGLOSSUM URANOSSA.



The first plant to bloom of this hybrid is additional evidence of the great power of small species, especially if they are pure. The deep blackish-brown of cristatum has been handed down through all the opposing forces against it in the powerful factors with which it has been mixed.

The sepals and petals, which are of Harryanum form, but more pointed, are two-thirds covered by deep blackish-brown, only broken in the sepals by a couple of irregular bars of yellow, which forms the underground colour, it having the slight green shade always present in Harryanum. The marbling of the bars on the petals is more pronounced, and the yellow tips extend beyond the further edge of the brown.

The lip is of clear light yellow, and of fine oblong form, having a central blotch of redder-brown and a few basilar and marginal spots. The influence of nobile is clearly seen by the panduration of the lip. The column is almost white, but has the influence of cristatum very clearly marked in the deep brown wings and pair of cirrhi pointing forward as in that species.

I raised this, blooming it last month.

de B. Crawshay, Rosefield, March 10th, 1914.

USELESS NAMES.

THE rapidity with which new hybrids are being raised, as well as the very large number of names now in use, is the cause of much perplexity amongst amateurs. Although the professional raiser of hybrids is meeting with increasing difficulty in his work of producing new crosses of greater interest and beauty than those already seen, he still turns out new hybrids with even greater rapidity than ever. What will the future be like? Orchidists of the present day, more especially those who have spent many years amongst the plants and consequently have had a large number of various hybrids through their hands, are experiencing no small amount of worry, for to remember even a small proportion of the names and the parents of but one section is no light task.

It is the universal custom to apply a different name to every distinct combination of parents. But by so doing is not the number of names being unnecessarily increased? Can all these names really stand for as many different hybrids? Take, for example, the two species crispum and Harryanum. When crossed the result is called crispo-Harryanum. By crossing crispo-Harryanum with crispum a hybrid known as amabile is produced. When amabile is mated with crispum the result is called Jasper. And by crossing amabile with crispo-Harryanum a hybrid known as Mrs. Whitmeyer is produced. Thus we have four hybrids of crispum and Harryanum that are known by four different names. During the next few years many additional combinations of the two species will undoubtedy be made.

Everyone will readily admit that the flowers of amabile are very different from those of crispo-Harryanum, and in this case a distinguishing name may not be considered objectionable. But as further advances are made the difference between each step becomes gradually less; a hybrid produced by crossing amabile with crispum does not differ very appreciably from amabile. There is every evidence that the hybridist is continuing this progressive work, and, in course of time, these hybrids, consisting of only crispum and Harryanum, will be carried to the twentieth generation. On our present system of nomenclature we shall then have twenty different names for as many hybrids, which in all probability will bear a very close resemblance to one another, so much so that if they were all in flower during the same period it would be impossible to correctly determine under which name any selected plant should be placed.

It is the opinion of some that, however small the change in the parentage may be, a distinguishing name should be applied, for in the majority of examples there is a corresponding variation in the flowers. But against this we have the views and experience of others who state that there is usually quite as much variation to be seen amongst the individuals obtained from any one seed pod. If it is necessary to apply a distinctive name to a plant merely because an unimportant slight change has been made in its parentage, then it must be equally necessary to adopt some means of marking the many variations that always appear in the flowers produced by hybrids that have all been raised from the same seed pod.

Not a few Orchidists have expressed an opinion that no matter in what way or proportion any two species are combined there should be but one name for the progeny; any noteworthy variation could be distinguished by a varietal name. This would certainly simplify very much some of our difficulties. Another suggestion worthy of consideration is that three stages only should be recognised, which in our previous example would mean crispo-Harryanum, amabile and Jasper, and that all subsequent hybrids containing only crispum and Harryanum should bear one of these names, according to how they best correspond to the typical example.

It seems very certain that some revision in our method of nomenclature is needed, but how to overcome the troubles of the past and to prevent worse in the future is by no means easy.

ANGRÆCUM CITRATUM.

THE Rev. Richard Baron has thus described the Flora of Madagascar: "There are comparatively few plants having beautiful flowers in Madagascar. There are no meadows anywhere in the island that can at all compare with our English meadows for floral beauty. Neither do the forests supply what is lacking in the meadows. Any one entering a Malagasy forest with the anticipation of seeing innumerable beautiful flowers would be utterly disappointed, for they are extremely rare. There are, indeed, pretty flowers in the woods and in the fields, but they have to be looked for; they are so few and far between that they very rarely produce any marked effect in the landscape. Of the plants with beautiful flowers, the first place must be given to the Orchids."

Of the Madagascan Orchids probably the Angræcums are as popular as any, their many-flowered graceful spikes being always attractive and full of interest to the botanist. We are indebted to that remarkable man, Aubert du Petit Thouars, for discovering and naming several of our finest examples. As long ago as 1822 he published the description of Angræcum citratum, although the species does not appear to have been introduced to cultivation until the year 1865, when it flowered with Messrs. Veitch. Even the great Dr. Lindley failed to mention it in his classical work, "The Genera and Species of Orchidaceous Plants," published in 1830-40.

Our reproduced photograph of a specimen plant flowering with Messrs. Charlesworth gives a far better idea of the plant's singularity and beauty than any technical description. The plants, taken on the whole, do not produce more than four or five spikes, and on that account must not be expected to yield quite such a charm as the one depicted in this issue, still there is no reason why these smaller plants should not ultimately attain the same dimensions, good cultivation being the necessary requirement.

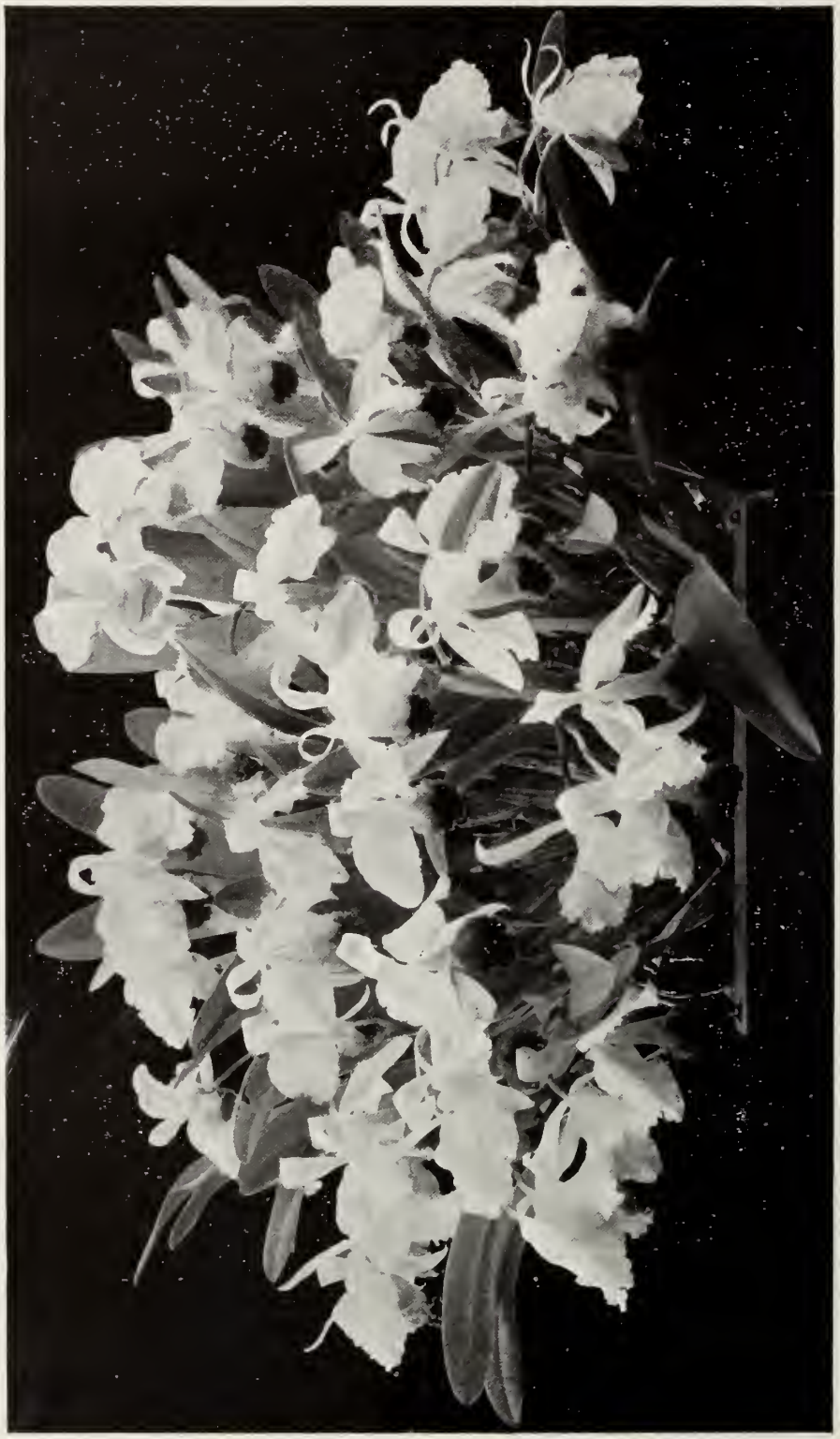
The colour of the flowers is creamy-white, the base of the labellum being tinged with light rose colour. The flowers, on fading, assume a greenish-yellow colour, and this may very possibly have been the condition of the flowers which Thouars examined when he applied the specific name citratum—citron-coloured.

The ovate dorsal sepal is hardly noticeable, being smaller than the other segments and thrown forward directly over the column. One of the singularities is the long tail-like appendage to each flower. Its first portion is formed parallel with the ovary, but then turns at a right angle and allows the second and longest part to hang vertically; the remaining part is slightly curved, much widened, and contains the nectar which is the source of attraction to the insects who visit the flower, and by so doing ensure its fertilisation.

In common with all Madagascan Orchids, a high temperature and an abundance of atmospheric moisture are highly essential to its welfare. Without these requirements success is almost impossible to achieve; even strong plants fail to grow well for more than a few seasons when placed in an intermediate house more suitable to Cattleyas. Still, there are many Orchid houses which contain a sufficiently warm and suitable corner where this graceful species may be cultivated. Well-ventilated pans, not too large for the plant's accommodation, should be selected, using a light fibrous compost with ample drainage material. The flowering period is during the months of February, March, and April. Only one thing can be said in its disfavour, and that is, the flowers are unscented.

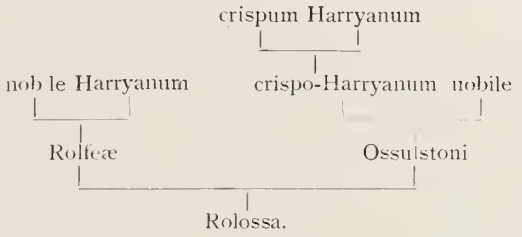
CATTLEYA TRIANÆ.—Notwithstanding the enormous number of new hybrids that have been raised during the last few years, a good variety of a species will always hold its own when well grown. Our illustration on page 153 depicts a grand plant of Cattleya Trianæ, carrying no less than 60 blooms, in the collection of Messrs. Julius Roehrs, Rutherford, N.J., U.S.A. We are indebted to Mr. George I'Anson for kindly supplying the photograph.

Angraecum citratum, a beautiful Madagascan Species.



Cattleya Trianæ, a wonderful specimen with 60 flowers, in the collection of Messrs. Roehrs, Rutherford, N.J., U.S.A.

ODONTOGLOSSUM ROLOSSA.



The various secondary crosses of the Harryanum hybrids when coupled have an extraordinary similarity, as naturally they should have. I have just bloomed Rolossa, and have open at the same time a plant of Prince Edward (Rolfeæ × crispo-Harryanum). Except for colour and size of spots and markings on the lip, one description would fit them both. They are *not* out of the same pod, as I did not raise this particular Prince Edward.

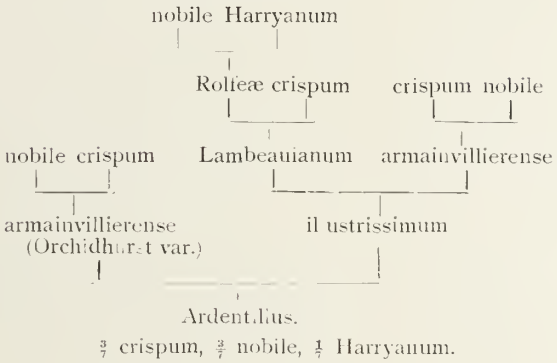
As pedigree is interesting, and fast becoming impossible to remember, I am manufacturing names to indicate as much as possible the parents which last were used to produce crosses, but this will not be possible for long. In a few generations more I expect that we shall produce crosses that will appear to have been the result of totally different parents than those we have used, or, in other words, many crosses will produce the same permutations. The Mendelists will have a very difficult skein to disentangle.

Rolossa has a white ground on which are clearly arranged the deep plum-purple blotches and spots. Those on the sepals are in three whorls, the outermost one being "islanded," as in Rolfeæ, the tips being coloured at the back, showing through to the front. The petals are similar, but "eye-browed," and have a central basilar longitudinal blotch (akin to Smithii, but not so solid) the length of the column. The pandurate lip carries the basilar spotting of nobile, and is also spotted round the edge. The crest is orange, and the column white.

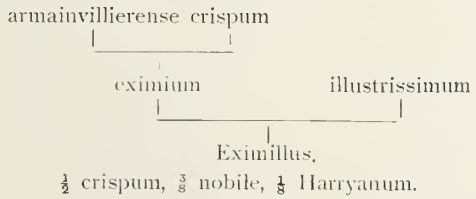
Unfortunately, this, the first of the cross to bloom, is of open form, but when the good one comes it will be a fine thing. Harryanum has gone down before the influence of nobile on each side of the parentage, showing always how strong and pure a species it is compared to crispum.

de B. Crawshay, Rosefield, March 2nd, 1914.

ODONTOGLOSSUM ARDENTILLUS.



ODONTOGLOSSUM EXIMILLUS.



Mr. Armstrong has commenced introducing hybrid Odontoglossums of a very high standard, these "half-brothers" being exceedingly fine. When at Orchidhurst recently I was delighted to see the early ones of these two crosses opening in such fine varieties.

Of course, they vary from flowers of absolutely solid crimson-brown and also of bluish purple hue to complete absence of colour. In form the best ones are perfect, being almost as round as a pansy, and in some cases are too round (to my mind) to be beautiful, as the hexagonal outline proper to an Odontoglossum becomes a smooth circular outline.

The lip in most cases is white, carrying a central blotch and some basilar spots. The columns of the solid-coloured forms are deep crimson-brown.

Owing to the almost identical parentage, the description of one applies to the other.

de B. Crawshay, Rosefield, March 2nd, 1914.

ORCHIDS FOR AMATEURS.

THE month of April marks the arrival of the most favourable growing conditions for orchids of the cool-house section. The artificial heat that was found so necessary during the recent winterly months may be almost dispensed with, only on cold nights will any be required. No attempt should be made to maintain a high night temperature by closing the top ventilators. A light and buoyant atmosphere can be produced by keeping a little heat in the pipes, just sufficient to cause the air to be continually in circulation.

Frequent damping down of the house will be required on all fine days, and even when the weather is dull care must be taken that there is sufficient atmospheric moisture. Odontoglossums, as well as most other plants of the cool-house section, should not be exposed to currents of dry air; they can never be successfully grown when placed near a ventilator that admits dry air from outside, or in proximity to the hot-water pipes when they are in use.

At the present time a moist and genial atmosphere is required to encourage the plants to make rapid and vigorous growth. It is only when the bulbs have finished their season's growth and require ripening that a drier air is needed. Amateurs who have recently commenced the cultivation of orchids expect some definite directions concerning the exact time that the plants are to be watered, and how often the house should be damped down. These questions can only be answered after a careful consideration of the weather; those growers who can best judge the coming atmospheric changes will reap the most success. With a changeable climate precaution is always necessary.

In the Cattleya house rapid growth is being made; every advantage must, therefore, be taken of sunny days to encourage a robust nature and a healthy state of the new bulbs. On bright days the sun causes the temperature of the house to be considerably higher, which results in a large amount of moisture being taken up by the atmosphere. Towards the evening the lowering of the temperature causes some of this moisture to be precipitated in the form of dew, and if there is a considerable fall it is not unlikely to result in some damage, frequently a chill being given to the plants.

Sunny days frequently bring clear and chilly nights; the coldest nights often follow the brightest days. Consequently, it becomes very necessary to utilise sufficient artificial heat at night time to prevent a serious drop in the temperature. The night temperature should always be lower than that existing during the day time. In winter, and also during dull weather, a difference of from 5-10 degrees may be aimed at, but at other times of the year, and when the day temperature rises as much as 25 degrees by sun heat, then the night temperature may be from 10-15 degrees less than that of the day time. An average temperature of 65-75 degrees by day time and 60-65 at night will prove very suitable for the majority of Cattleyas, Lælias, and their hybrids during this period of the year.

The shading used on the Cattleya house should never be of a permanent nature. During the early morning the full benefit of the sun may be obtained without any danger of the plants being scorched, and, what is perhaps more important, the temperature is rapidly raised to a beneficial degree, and thus gives the plants a much longer growing-day than when permanent shading is used.

The blinds need not be used until the leaves feel warm on being touched by the hand. If shading is neglected, the leaves will rapidly become hotter and eventually be severely damaged and blistered by the heat of the sun.

To grow Cattleyas really well, and equal to the best specimens seen at exhibitions, considerable attention is required to let the plants have as much light and warmth as is possible without them being damaged. The amateur who is likely to be away from his houses for several hours should take the precaution of letting down the blinds before leaving, for should a few minutes' bright sunshine appear during the middle part of

the day there is much risk of the plants becoming scorched.

The blinds should be removed early enough to allow the setting sun to warm the house before its power has completely gone. A couple of hours' sunshine, whenever it is possible to allow it without scorching the plants, acts as a fine tonic. Everything in the house then becomes comfortably warm and maintains a genial atmosphere for several subsequent hours.

Fine weather is as valuable to the Orchidist as sunshine is to the farmer, and the well-known saying, "Make hay while the sun shines," should be borne in mind by both.

ONCIDIUM PAPILIO.

ONE of the great attractions of Orchids is the quaint and strangely-formed blooms produced by many, and although proving of immense pleasure and interest to those who value them for their scientific or botanical curiosity, they do not always appeal to those who prefer gorgeously coloured showy blooms.

The above species, however, well appeals to both sections, for besides being most peculiarly structured, nevertheless bears blossoms of size and brilliancy of colouring. On account of its resemblance to a butterfly, the common name of Butterfly Orchid is frequently applied to this graceful Trinidad plant. The flowers are carried on long erect spikes, and are of rich reddish-brown, the lip bright yellow, much spotted with brick-red. After the blooms have faded others will be produced from the same spike, but after this has borne three flowers it should be cut off, or the plant will become weak and make unsatisfactory growth.

A light position on a shelf near the roof glass of a Cattleya house, where the minimum winter temperature is 50 deg. Fahr., will suit this Orchid admirably. During the growing season, from March to September, a humid atmosphere, with overhead spraying and watering, will be frequently needed, but when the spikes are removed a considerable rest is required, only giving sufficient water to prevent undue shrivelling of the bulbs.

I find that sturdier growth is made when practically no shade is given, just a thin piece of tiffany over the roof glass being needed during July and August. In common with the other occupants of the house, a well ventilated atmosphere is at all times needed.

Being a low growing Orchid, which makes but few roots, I find that pans are far preferable to pots for its accommodation. A change of compost is needed every other year, this being best performed when the plants re-start into active growth. Before being placed in the new receptacle they should have their dead roots and back bulbs removed. Two old bulbs to support each lead are ample, as the others merely act as a drain upon those of more recent formation.

For compost use a mixture of Polypodium or A1 fibre and green living sphagnum moss, mixing well together and use in a damp condition. All newly-potted plants will need shading and careful watering until quite re-established in the new compost. This Orchid is not much subject to insect pests, but scale is occasionally found, and this must be gently scraped off and burnt. A good insecticide wash will prove beneficial. The leaves are too leathery in texture to be loved by thrips, whilst slugs do not show any liking for its firm flower spikes.

Many growers do not succeed in keeping this species in a good state of health, but I think this can be attributed to allowing the plants to over-flower themselves, and also to too low a temperature. As previously said, 50 deg. Fahr. must be regarded as the minimum temperature, but if plenty of atmospheric moisture be present in the house, the thermometer may be allowed to run up to a very high degree during the day in summer. In these days of startling novelties produced by cross-fertilisation many remarkable hybrids have been produced, and it would be interesting to know whether any hybrids from this species are in existence. From my own experience, its pollen does not seem to take effect with any member of the genus, nor with Odontoglossums.—*C. Alwyn Harrison.*

ORCHID BREEDING.

A RECENT issue of *The Field* contained an article on Mendelism and the Plant Breeder, from which we extract the following interesting and useful particulars:—

"Every plant in an individual. It reveals only some of its characters; others, which it conceals, may become manifest in its offspring. Therefore, if you have a number of plants which look all alike with respect to a certain character—say that of a spotless white flower—and if this character be one which you have striven to produce and wish to perpetuate, do not treat the plants as a mob; treat them as individuals. Save seeds from plants which have been self fertilised; keep and sow the seed from each plant separately; raise a dozen or more from each of four or five of these families. If they all come true to whiteness your additional labour has been wasted; but if only some come true you have the satisfaction of knowing that you have spared yourself several tedious years' work in 'selection.' Not a little of the 'selection' which goes on in nurseries is nothing but an endeavour to get chance to do more slowly what the breeder *may* be able to do swiftly for himself.

"Next remember that when you interbreed two things possessed of opposite characters, both of those characters may not show in the offspring. One dominates the other completely or partially. Yet, despite the apparent complete or partial loss of one of the characters in the individual, the basis for that character is present in the germ cell of that individual, and will come out in some of its descendants. Hence the Mendelian paradox; if you seek to combine two different characters possessed by two individuals, and if both characters fail to appear in the first generation, you have good reason to hope to get them back in the second generation. More than this, since these characters, as the first generation shows, are apt to be overlied by others, when you have obtained them in the second generation they are pure, and the strain will breed true to them."

ORCHIDS AT TWYFORD, BERKS.

TO Mr. E. H. Davidson is due the credit of bringing together a number of very choice Orchids for the purpose of producing seedlings of more than ordinary merit. The range of glasshouses which he has built at Twyford, Berks, is situated in open country where plenty of light and fresh air are available. It is only recently that the business has been turned into a company under the style of Messrs. E. H. Davidson and Co., with Mr. J. B. Lakin as managing partner. A visit to the establishment will readily prove that every advantage has been taken of up-to-date methods in the construction of the houses.

Mr. Davidson has a keen eye for the attractive Orchid, of which size, as well as brightness and richness of coloration, are the chief essentials. For some considerable time many of the finest Orchids have been purchased and used for hybridisation purposes, and, as may be seen by the seed-pods, the work is still being carried out with enthusiasm. In these days of rapid advance it is almost useless to expect successful progress unless something of genuine first-class material is used in the attempt. At Orchid Dene, Twyford, there is much of real value to the hybridist, and the next few years will undoubtedly allow a fair share, perhaps more, of the good things to emanate from this establishment.

Much of the initial work has already been accomplished, the seedling houses containing an interesting lot of seedlings in various stages of growth, not only Cattleyas and their allied genera, but Odontoglossums and Odontiodas. Apart from the process of producing good Orchids by means of seedlings, there is the propagation of choice varieties to be considered, and although this may be a slower means the owner nevertheless has the satisfaction of being able to fully guarantee the propagated pieces as soon as they are separated from the original stock; whereas, in the case of seedlings, a period of from 3-6 years must elapse before their merit is proved by the production of flowers.

Specimen Cymbidiums flowering in the collection of Count Joseph de Hemptinne, St. Denis, Westrem, Ghent.

Cymbidium insigne, an immense plant, in the collection of Count Joseph de Hemptinne, St. Denis, Westrem, Ghent.

SPECIMEN CYMBIDIUMS.

There is a very extensive collection of Orchids at the Chateau de Steppe Stede, Westrem, near Ghent, the residence of Count Joseph de Hemptinne, and those who have paid a visit to the many greenhouses well remember the enthusiasm of their owner, for he takes a keen interest in both the theoretical and practical parts.

During the past few weeks the cool houses have been very gay with Odontoglossum flowers, crispums being grown in several thousands, as well as many of the principal hybrids. Perhaps the most attractive part has been the Cymbidiums, which are not only well represented, but are cultivated to a very high state of perfection.

On page 159 we reproduce a photograph of the interior of one of the houses, which shows an immense specimen Cymbidium Lowianum, carrying 22 spikes with an aggregate of 506 flowers. Beneath it is a strong plant of Cymbidium eburneo-Lowianum, as well as the elegant Lycaste Skinneri. The illustration on page 160 shows a unique specimen plant, probably the largest in cultivation, of Cymbidium insigne. There are no less than 18 many-flowered spikes. This plant continues to make healthy growth, and increases in size every year. There is also a strong plant of Cymbidium Pauwelsii, with five flower spikes.

ODONTOGLOSSUMS FROM SEED.

WHILE some kind of Odontoglossum seed germinates very freely, and subsequently makes rapid growth, others give the raisers considerable difficulty, and even when germination is effected the seedlings frequently fail to grow. No satisfactory solution of the problem has as yet been found.

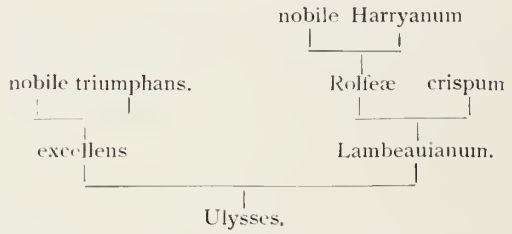
Odontoglossum crispum has been imported by hundreds of thousands, and in its native country must evidently reproduce itself with great freedom, but when attempts are made to raise plants from seed under the most careful supervision more failures than successes have been the result. To raise crispums from seed is one of the most unsatisfactory duties of the seed-raiser.

The few plants that have grown-up to the flowering stage represent but the minutest fraction of the seed sown, and only a small percentage of the tiny seedlings that once showed life. Considering the multitude of crispums that inhabit the district surrounding Bogota, Colombia, one would certainly expect them to be very easily raised from seed under the careful attention and apparently suitable conditions existing in this country, but such expectations, as we sadly find, are seldom, if ever, realised.

In the case of Odontoglossum Harryanum exactly the reverse takes place. In its native country this species grows over a comparatively small area, and can never be classed amongst the plentiful Orchids. Yet, when its seed, or that of its hybrids, is sown under artificial conditions in this part of the world, the raiser is startled by his own success; the seedlings germinate and grow almost as rapidly as the proverbial mustard and cress. Probably Odontoglossum Edwardii is the only species that gives better results. Edwardii seedlings have a vitality which can only be termed marvellous; the seed grows on almost everything it is placed, even on the outside of pots and on the rough bricks forming the walls of the house.

While, on the one hand, we reap many harvests from the species which possess this strong vitality, and certainly obtain some excellent results, there is, on the other hand, the inevitable result of producing a large number of similar hybrids. Raisers are too fond of using these species as parents in order to produce a good crop of seedlings. It would, indeed, be far better if they attempted the raising of some of the more difficult subjects, either those that have previously yielded only a small quantity of seed, or those which produce seed of poor germinative power. By this means the colour variation could be increased by the inclusion in the parentage of species which have hitherto proved difficult subjects, yet possess distinctive and attractive colours.

ODONTOGLOSSUM ULYSSES.



⅖ nobile, ⅕ crispum, ⅕ triumphans, ⅕ Harryanum.

Mr. Armstrong has raised in this a beautiful yellow-grounded hybrid, which he exhibited unnamed at the R.H.S., February 24th, 1914. It is a peculiarly interesting result, as it proves almost absolutely similar to my Odontoglossum Calypso (triumphans × Lambeauianum).

The whole ground of the sepals and petals is yellow of the bright rich hue given by triumphans, almost completely covered by bright rich brown with a purple shade on it. The lip is large and oblong, also yellow, heavily marked with brown.

In both Ulysses and Calypso the absence of nobile influence is remarkable, for almost invariably if it is there it is easily verifiable in some character.

The fact that certain hybrids transmit some of their components and almost always reject others will, if carefully noted, assist us in forming a preconceived opinion of what we may expect, and what we wish to make we may possibly in time be able to achieve, but we have none of us found any "royal road" in raising Odontoglossums yet.

de B. Crawshay, Rosefield, March 2nd, 1914.

NEW HYBRIDS.

Lælio-Cattleya Azora.—This is an interesting hybrid recently flowered by the raisers, Messrs. Stuart Low and Co., at their new establishment at Jarvis Brook, Sussex. The parents are L.-C. Ophir and L.-C. Charlesworthii, the former being the result of crossing L. xanthina with C. aurea, the latter a hybrid between L. cinnabarina and C. aurea. There is thus a good per-centage of yellow influence to balance the very strong character of the cinnabarina, which is still represented by sufficient red pigment to give the new hybrid a warm ruddy colour. The shape is equal to expectations, and will still further improve as the young plant gains in strength.

Cypripedium Royal Emblem.—Messrs. Sander and Sons, St. Albans, have raised this attractive hybrid between concolor and Œdipe. The flower is of soft yellow colour, with the dorsal suffused and streaked with magenta.

Cymbidium amabile.—By crossing Lowio-Mastersii with insigne Sanderi, an effective hybrid with rose-coloured flowers, the lip having a crimson blotch, has been raised by Messrs. Sander and Sons.

Dendrobium Bassetti.—This pretty Dendrobium results from crossing Rolfeæ with melanodiscus. The colour is rich rose-purple, the labellum being white, tipped with rose-purple. Raised by Mr. C. J. Salter in the collection of Mrs. T. B. Haywood, Reigate.

Brasso-Cattleya Sylvia.—The parentage of this new hybrid is Brasso-Cattleya Sedeni (Digbyano-Trianæ) × Cattleya Trianæ. The large flower is silvery white, the throat greenish-yellow. Raised by Messrs. Sander and Sons.

Lælio-Cattleya Dulce.—A very beautiful result, obtained by crossing Cattleya Mendelii with Lælia anceps Sanderiana, the chief feature being the rich purple blotch on the labellum, which makes it singularly attractive. Raised by Messrs. Sander and Sons.

Brasso-Cattleya Massangeana.—Mons. Theodore Pauwels, Meirelbeke, Ghent, has produced this elegant hybrid between Cattleya Trianæ and Brasso-Cattleya Mrs. Leemann. It is in every way a fine result, the magnificent flower being of perfect shape and of rich colour. It was exhibited for the first time at Brussels, January 18th, and at Ghent, February 1st, 1914, and forms a worthy companion to the beautiful Brasso-Cattleya Senateur de Bast B.-C. Digbyano-Mossiæ × B.-C. Mrs.

Cypripedium aureum virginale, in the collection of W. P. Burkinshaw, Esq., Hessle, Hull.
We are much indebted to the Editor of the "Journal of Horticulture" for kind permission to reproduce this illustration.

Leemann), which was also first shown by Mons. Th. Pauwels.

LÆLIO-CATTLEYA MYROSA. — Messrs. Armstrong and Brown have produced this hybrid by crossing L.-C. Myra with L.-C. luminosa. The flower is an improvement on Myra, being large and having broader segments.

LÆLIO-CATTLEYA CORNELIENSIS.—This attractive hybrid was recently exhibited by the Earl of Craven. The parents are L.-C. Haroldiana (tenebrosa × Hardyana) and C. Schröderæ. The colour is delicate buff, the outside of the throat and the front lobe of the labellum being rose-purple.

LÆLIO-CATTLEYA VERONA. — Messrs. Flory and Black have recently flowered this attractive hybrid between Lælia anceps and Cattleya Hardyana. The flowers, which are borne on an upright stem about one foot in height, clearly show the anceps influence, but the Hardyana has given colour as well as size to the segments.

LÆLIO-CATTLEYA LABIOSA. — Messrs. Cypher and Sons have recently exhibited this useful hybrid between C. labiata and L.-C. luminosa. The large flower has reddish-purple segments, the labellum being unusually large.

ODONTOGLOSSUM ST. ANDRÉ.—This is the result of crossing Rio Tinto with ardentissimum, the rich red-brown blotches showing to advantage on the light ground colour. Raised by Messrs. Sander and Sons.

ODONTOGLOSSUM VULCIRRHA.—A very bright and pleasing addition to the cirrhosum hybrids has been raised by Mr. Richd. G Thwaites, Streatham. The parentage is cirrhosum × Vuylstekei, resulting in a large flower of bright golden-yellow colour with brown spotting. As may be expected from the use of cirrhosum the segments are long and narrow.

ODONTOGLOSSUM VULPERULLA. — By crossing Vuylstekei with percultum, Mr. Richd. G. Thwaites has produced a flower with dull crimson blotches having a varnished appearance. The influence of Vuylstekei has yielded many excellent hybrids.

LÆLIO-CATTLEYA LATOGLOSSA. — The specific name is composed from the parents L. Latona and L.-C. callistoglossa. Sepals and petals reddish-buff, the lip dark red-purple. Raised by Messrs. Stuart Low and Co.

ODONTIODA MRS. R. LE DOUX.—This very attractive hybrid between Oda. Bradshawiæ and Odm. Wilckeanum was recently exhibited at the Manchester Orchid Society by Mr. R. le Doux, West Derby, Liverpool, when it obtained a First-class Certificate.

CYPRIPEDIUM WILDERSPOOL.—Mr. Wm. Bolton recently exhibited this plant at the Manchester Orchid Society. The parents are Argus and Boltoni.

ODONTOGLOSSUM ROYAL PURPLE.—Messrs. Armstrong and Brown have raised this hybrid between Edwardii and illustre. The colour is bright rich purple.

ROYAL HORTICULTURAL SOCIETY.

March 10th, 1914.

MEMBERS of the Orchid Committee present: Sir Harry J. Veitch (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Gurney Wilson, F. M. Ogilvie, R. A. Rolfe, R. G. Thwaites, F. J. Hanbury, T. Armstrong, A. McBean, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, H. G. Alexander, G. Hunter, A. Dye, E. H. Davidson, S. W. Flory, C. Cookson, and de B. Crawshay.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an excellent exhibit of hybrid Orchids, including Odontiodas, Odontoglossums, and Cattleyas. Among the species were Lycaste gigantea with numerous flowers, and Cypripedium Rothschildianum.

Messrs. Sander and Sons, St. Albans secured a Silver Flora Medal for an

attractive group of Orchids, the best being Cattleya Trianæ "Walter Gott," Miltonia St. André, Cirrhopetalum picturatum, the red Renanthera Imschootiana, Cattleya Olaf "Venusta," and many new and other hybrids.

Messrs. Jas. Veitch and Sons, Chelsea, received a Silver Flora Medal for a beautiful exhibit of Dendrobium Wardianum, with many flowers, and a very good variety of Lælio-Cattleya Gottoiana.

Messrs. Stuart Low and Co., Bush Hill Park and Jarvis Brook, Sussex, were awarded a Silver Banksian Medal for a fine exhibit of various Lælio-Cattleyas, including Pizarro and Myra; also pretty Odontiodas, of which Wilsonii and Devossiana were in excellent form. The elegant Cymbidiums Pauwelsii and Alexanderi were also shown.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Banksian Medal for some choice Orchids. Mention must be made of Dendrobium chessingtonense, with rich yellow flowers, the new Lælio-Cattleya Myrosa (Myra × luminosa), several excellent Cypripediums and new Odontoglossum hybrids.

Messrs. Cypher and Sons, Cheltenham, obtained a Silver Banksian Medal for an interesting display of various species and hybrids. These included Lælio-Cattleya Lady Miller, Lycaste Skinneri alba, Calanthe Bryan, Miltonia Bleuana, and several good Dendrobiums.

Messrs. Flory and Black, Slough, were awarded a Silver Banksian Medal for an attractive exhibit, which contained two specimen plants of the white Disa sagittalis, a very pretty light variety of Cattleya Trianæ, and a dark variety of the same, named Exquisite, having the petals heavily flushed with purple. The new Lælio-Cattleya Verona (L. anceps × C. Hardyana) and some excellent Cypripediums were also shown.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, showed Lælio-Cattleya Glaucus Westonbirt var. (L.-C. Rubens × L. purpurata), a very attractive hybrid of good colour.

The Earl of Craven, Combe Abbey, Coventry (gr. Mr. H. Chandler), sent Lælio-Cattleya Corneliensis (L.-C. Haroldiana × C. Schröderæ), of delicate buff colour, the outside of the throat and the front lobe rose-purple.

R. G. Thwaites, Esq., Streatham (gr. Mr. Hannington), showed several good Cattleyas, including Empress Frederick and Octave Doin, the elegant Dendrobium chessingtonense, and some new hybrid Odontoglossums.

E. R. Ashton, Esq., Broadlands, Tunbridge Wells, exhibited Lælio-Cattleya Marion (L.-C. Martinetti × L.-C. Clive), of rich colour, and Cattleya Trianæ, Broadlands var., a large handsome flower with broad petals and wide labellum.

Pantia Ralli, Esq., Ashtead Park, Surrey (gr. Mr. S. Farnes), showed Odontioda Hemptinneana, with broad segments handsomely spotted with scarlet-red, Miltonia St. André Ashtead Park var., and Odontoglossum crispum Mrs. T. Zarifi, a very large and handsome flower, the segments marked with reddish-purple.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. Day), sent Brassocattlælia Joan "Golden Queen," with golden-orange flowers, and S.-C.-L. Marathon Goodson's var., a fine hybrid.

F. M. Ogilvie, Esq., The Shrubbery, Oxford, exhibited Cattleya Empress Frederick alba, a beautiful hybrid with the labellum showing a large area of golden-yellow, and Lycaste Skinneri alba, a large and bold variety.

W. C. Clark, Esq., Boscombe, staged Lælio-Cattleya luminosa Clark's var., a buff-yellow flower, the petals flushed with rose-purple, the labellum purple, and with darker lines.

Messrs. E. H. Davidson and Co., Orchid Dene, Twyford, staged several excellent Orchids, including Lælio-Cattleya Feronia superba, of rich colour, Cattleya Empress Frederick, a fine variety, Brasso-Lælia Helen, with very large flowers, and the handsome Odontoglossum Aireworth Borlases var. Two excellent forms of Brasso-Cattleya Digbyano-Mendelii were also included in the group.

Messrs. J. and A. McBean, Cooksbridge, staged the bright yellow Lælio-Cattleya Euripides, Cattleya Octave Doin, with large flowers, the elegant Masdevallia Veitchii grandiflora, Miltonia Bleuana, Odontiodas in variety, and Cattleya Trianæ "F. McBean," as well as the handsome Cattleya Mendelissima.

Messrs. Hassall and Co., Southgate, exhibited the red-flowering Renanthera Imschootiana, some very pretty varieties of Lycaste Skinneri, Cattleya veriflora (Trianæ × labiata), the true form of Odontoglossum pulchellum majus, and the new Brasso-Cattleya Menda. A feature of the exhibit were some strongly-grown and finely-flowered plants of Angræcum sesquipedale.

First-class Certificate.

Sophro-Cattleya Mrs. F. Wellesley Westonbirt var. (S. grandiflora × C. labiata), from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—A remarkable hybrid in which the flowers are of intense scarlet-red. The petals are broad, well-displayed, the labellum being yellow at its base. Three flowers were carried on the spike. One of the finest of the primary Sophronitis hybrids.

Awards of Merit.

Lælio-Cattleya Dulce (C. Mendelii × L. anceps Sanderiana), from Messrs. Sander and Sons. An interesting hybrid with silver-white flowers slightly tinted with rose, the attractive labellum having its front lobe heavily marked with rose-purple.

Dendrobium Bassettii (Rolfeæ × melanodiscus), from Mrs. T. B. Haywood, Woodhatch, Reigate. A pretty hybrid, showing a strong resemblance to primulinum, the rose-purple flowers having a white labellum, the apex of which is rose-purple.

March 24th, 1914.

Members of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Sir Harry J. Veitch, R. G. Thwaites, F. M. Ogilvie, Stuart Low, A. McBean, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, H. G. Alexander, J. E. Shill, E. H. Davidson, W. H. White, S. Flory, W. Bolton, Gurney Wilson, R. Brooman-White, R. A. Rolfe, de B. Crawshay, W. P. Bound, and A. Dye.

Messrs. Sander and Sons, St. Albans, were awarded a Silver-gilt Medal for a very effective group, in which many strong plants of Cymbidium insigne Sanderi showed to great advantage. Other Cymbidiums were Pauwelsii, Wiganianum and eburneum. The new Maxillaria Fletcheriana, the pretty Angræcum citratum, the rare Megaclinium maximum, and numerous Cattleya and Odontoglossum hybrids were also shown. A feature was Cattleya Schröderæ, in excellent variety.

Messrs. Charlesworth and Co., Haywards Heath, secured a Silver Flora Medal for an interesting exhibit, in which were Phaius simulans, well-flowered plants of Dendrobium Brymerianum, the handsome Miltonia Charlesworthii, various Odontoglossum hybrids, as well as choice varieties of Brasso-Cattleya Madeline and B.-C. Queen Alexandra.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded a Silver Flora Medal for a neat exhibit of their new hybrids and choice species. The Miltonias included Bleuana, St. André and Hyeana, while Cypripediums were well represented by Maudiæ, Cupid and others. Dendrobiums were numerous, and embraced the choice nobile virginale, chessingtonense, Rainbow and aureum.

Messrs. Stuart Low and Co., Bush Hill Park and Jarvis Brook, obtained a Silver Flora Medal for an extensive display of elegant Orchids. Mention must be made of a specimen Lælia Jongheana with numerous flowers, excellent forms of Cattleya Schröderæ, as well as good Cattleya hybrids. Several many-flowered plants of Dendrobium Brymerianum and D. crepidatum were attractive, and several new hybrids were included.

H. T. Pitt, Esq., Stamford Hill, secured a Silver Flora Medal for a pleasing exhibit in which were Odontoglossum Rossii with numerous flowers, Cymbidium Lowgrinum,

Eulophiella Elizabethæ, Cypripedium Baron Schröder, many Odontoglossum species and hybrids, and a dark form of B.-C. William Pitt.

Sir Jeremiah Colman, Bart., Gatton Park, was awarded a Silver Banksian Medal for a beautiful exhibit of Odontiodas, one of which carried a spike of 119 flowers and buds.

Messrs. Hassall and Co., Southgate, obtained a Silver Banksian Medal for a neat group containing some choice varieties of Cattleya Schröderæ, the elegant Brasso-Cattleya Menda, a specimen plant of Maxillaria Sanderiana, and a strong plant of Cattleya amethystoglossa.

Messrs. J. Cypher and Sons, Cheltenham, secured a Silver Banksian Medal for a good exhibit of species and hybrids. An interesting plant was Masdevallia Gargantua, and Angræcum citratum and A. sesquipedale were well shown. Dendrobium Thwaitesii, of rich colour, as well as Epidendrum xanthinum, and a fine form of Oncidium concolor were also included.

Messrs. Flory and Black, Slough, were awarded a Silver Banksian Medal for an extensive exhibit. In it were the rare Gongora truncata, Odontoglossum Pescatorei "J. M. Black," Lycaste Skinneri alba, Lælio-Cattleya Frederick Boyle, of which both the white and coloured forms were shown, and the elegant L.-C. Invincible "Orama," which has previously obtained an Award of Merit.

E. R. Ashton, Esq., Tunbridge Wells, exhibited Miltonia vexillaria Lyoth, a very pleasing variety with rose coloured flowers having a crimson blotch on the lip.

Pantia Ralli, Esq., Ashtead Park, exhibited Odontoglossum Aureole, of unknown parentage, but suggesting harvengtense or hellemense. The plant carried a spike of four golden-yellow flowers.

Richd. G. Thwaites, Esq., Streatham, staged a group of Odontiodas and several plants of Odontoglossum Clare (Ossulstoni × cirrhosum). Lælia Jongheana was well represented.

Messrs. E. H. Davidson and Co., Twyford, staged Sophrocattlælia Niobe, a very fine form with rich rosy-purple flowers. Also Odontioda Bradshawiæ Borlases var., with large scarlet-red flowers.

W. Waters Butler, Esq., Edgbaston, Birmingham, showed a very good variety of Cattleya Tityus, with four large flowers.

Messrs. J. and A. McBean, Cooksbridge, staged excellent varieties of various Odontiodas, Odontocidium Cooksoniæ, with rich reddish flowers, and Odontoglossum Pascatorei Pitt's var.

First-class Certificate.

Odontioda Zenobia (Oda. Charlesworthii × Odm. percultum), from F. M. Ogilvie, Esq., The Shrubbery, Oxford.—A most remarkable hybrid and by far the finest of all the Odontiodas. The spike carried two flowers, having the sepals and petals of excellent shape and of rich crimson colour. The large pandurate labellum of rose colour, and with a prominent crest. In every respect a model flower.

Awards of Merit.

Dendrobium superbum Huttonii, Southfield var., from W. Waters Butler, Esq.—A beautiful variety with white sepals and petals, the large labellum handsomely blotched with purple.

Sophrocattlælia Niobe (L.-C. Gottoiana × S.-L. Felicia), from Messrs. E. H. Davidson and Co.—A very attractive hybrid with broad segments of a rich rosy-purple colour. One of the best.

Cultural Commendation

To Mr. Collier, Orchid grower to Sir Jeremiah Colman, Bart., for excellent plants of Odontiodas.

To Mr. White, Orchid grower to Lady Lawrence, for a good specimen of Platyclinis glumacea.

MANCHESTER ORCHID SOCIETY.

February 26th, 1914.

Members of the Committee present:—Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, J. Howes, J. Lupton, D. McLeod, C. Parker, W. Shackleton, A. Warburton,

Z. A. Ward, A. McBean, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to R. Ashworth, Esq., Newchurch; Large Silver Medals to A. Warburton, Esq., Haslingden, and Messrs. Cypher and Sons, Cheltenham; Silver Medals to Wm. Thompson, Esq., Walton Grange, and Messrs. Sander and Sons, St. Albans.

O. O. Wrigley, Esq., Bury, staged a magnificent group of Lycastes, etc., a Silver-gilt Medal being awarded to the gardener, Mr. Rogers, for excellence of culture.

Other exhibitors included Col. J. Rutherford, M.P., Blackburn; Mr. J. Evans, Congleton; Mr. W. Shackleton, Bradford; Mr. D. McLeod, Chorlton-cum-Hardy; and Messrs. Charlesworth and Co.

First-class Certificates.

Odontoglossum eximium var. Iduna, very large well-set flower, almost solid colour of a brilliant hue, segments with white edges, from W. R. Lee, Esq.

Cattleya Trianæ var. Orchid Dene, a large flower, well set, full lip, of good colour, from Messrs. E. H. Davidson and Co.

Awards of Merit.

Odontoglossums Rufus, Distinction, crispum Meteor, and Odontioda Brewii var. nigra rubra, all the property of R. Ashworth, Esq.

Odontoglossum fuscans, L.-C. Lucasiana, Cypripedium Lord Trevor var. Pyramus, from Wm. Thompson, Esq.

Cypripedium Thisbe (Mrs. Mostyn × Leeanum), from W. R. Lee, Esq.

Odontoglossum Edith d'Abrew, from R. le Doux, Esq.

Odontioda Diana Leeman's var., from J. Leemann, Esq.

Odontoglossum Twyford Gem (Rossii × formosum), from Messrs. T. H. Davidson and Co.

Dendrobium Cybele album, from Messrs. A. J. Keeling and Sons.

March 12th, 1914.

Members present: Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, J. Cypher, A. G. Ellwood, J. Evans, J. Lupton, A. McBean, D. McLeod, W. J. Morgan, C. Parker, W. Shackleton, H. Thorp, A. Warburton, Z. A. Ward, G. Weatherby, and H. Arthur (Secretary).

A Gold Medal was awarded to J. Leemann Esq., Heaton Mersey, for a magnificent group. Large Silver Medals were granted to R. Ashworth, Esq., Newchurch, and A. Warburton, Esq., Haslingden. Silver Medals were awarded to Wm. Thompson, Esq., Stone; Messrs. Cypher and Sons, Cheltenham; and Mr. W. A. Manda, St. Albans.

Other exhibitors included O. O. Wrigley, Esq., Bury; Col. J. Rutherford, Blackburn; H. Arthur, Esq., Blackburn; W. Bolton, Esq., Warrington; Messrs. A. J. Keeling and Sons, Bradford; Messrs. Charlesworth and Co., Haywards Heath; Mr. W. Shackleton, Bradford; and Mr. J. Evans, Congleton, who staged Odontioda Bradshawiæ with a branched spike of 110 flowers.

First-class Certificates.

Cattleya Trianæ "F. McBean," a large well-set flower; Cattleya Suzanne Hye de Crom "magnifica," the largest of the type; and Odontioda Diana "Leeana," of intense colour. All from W. R. Lee, Esq.

Odontoglossum mirum, large flower; Odontioda Schröderi "Walton Gem," good round flower; Cattleya Trianæ "Walton Monarch," large flower. All from Wm. Thompson, Esq.

Cymbidium Pauwelsii giganteum, from J. Leemann, Esq.

Odontoglossum crispum Eugenie, good round flower, evenly marked, from J. Butterworth, Esq.

Odontioda Mrs. R. le Doux (Bradshawiæ × Wilckeanum), brilliant crimson, white lip, with large blotch of colour, from R. le Doux, Esq.

Awards of Merit.

Cattleya Trianæ mirabilis, from W. Thompson, Esq.

Sophrocattlælia Marathon Leemann's var., and Cyp. Griffin No. 2, from J. Leemann, Esq.

Odontoglossum Siren (Pluto × Etna), from R. Ashworth, Esq.

Lælio-Cattleya Dulce (C. Mendelii × L. anceps Sanderiana), from Messrs. Sander and Sons.

THE
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NOTES.

Miltonia Warscewiczii.—Mr. O. O. Wrigley's collection at Bridge Hall, Bury, has long been famous for interesting plants, and we have recently received through his able gardener, Mr. E. Rogers, a remarkable spike of Miltonia Warscewiczii alba, which measures 3 ft. 4 in. in height, and carries more than thirty flowers. In this albino variety there is an entire absence of purple, the blotches of colour being bright citron-yellow, the one on the centre of the labellum having a varnished appearance. Reichenbach described a variety named xanthina which had flowers almost wholly yellow, with the lip light yellow and having a narrow white border. Needless to remark, both these beautiful varieties are extremely rare.

Ipsea speciosa.—This attractive species of Ceylon has recently flowered well in the Burford collection. The rhizomes are tuberous, terrestrial and fleshy. The slender lanceolate leaves are 6-8 inches long, from the base of which arises the erect flower scape. The flowers are rich golden-yellow in colour, with a few parallel lines of reddish-orange on the disc; the column greenish. Mr. W. H. White, after several failures, has secured successful results by allowing the plants full sunlight in a high temperature, and keeping them dry during the winter.

Arpophyllum giganteum.—This very remarkable and distinct Orchid has lately been flowered by Messrs. Cypher and Sons, and also by Messrs. Stuart Low and Co. It is a native of Mexico, and produces from the top of its bulbs stiff erect spikes, about 18 inches in height, which are a mass of small rose-purple flowers looking very much like numerous highly-coloured shells clustering round a cylinder. There is no torsion of the ovary, the labellum being formed in an upward direction. When this plant is well cultivated, which is by no means difficult, a very handsome result is obtained, and large plants with upwards of a dozen flower spikes make a lasting impression on every visitor to the Orchid house. A. spicatum produces spikes of dark red flowers. In cultivating these plants the Cattleya house will prove most suitable, although an abundance of bright light is very essential.

Orchid Sale.—The Westfield collection of Orchids, formed by Mr. Francis Wellesley, was disposed of by auction by Messrs. Protheroe and Morris, April 2nd and 3rd, the following prices being of interest:—Cattleya Gaskelliana Delight, 6 gns.; C. Mossiæ King Emperor, 9 gns.; C. M. Queen of Sheba, 10 gns.; C. Mendelii His Majesty The King, 17 gns.; Lælio-Cattleya Mrs. Evelyn Norie, 26 gns.; L.-C. Lady Roberts, 16 gns.; L.-C. Morningtoniæ, 14 gns., and another plant of the same, in sheath, 20 gns.; Cattleya Souvenir de Queen Victoria, 12 gns.; and Cypripedium Delhi, 10 gns.

Epidendrum profusum.—The *Botanical Magazine* for April contains a coloured plate and description of this species, which was purchased from Messrs. Sander and Sons and added to the Kew collection in 1911. It has thriven well under the conditions suitable for

other species of the genus, and in June, 1913, it flowered for the first time. Sepals and petals yellowish, lip purple veined. Very fragrant. Allied to E. aromaticum, Batem., and more especially to E. ambiguum, Lindl.

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Cœlogyne ochracea.—This pretty species was originally figured and described in the *Botanical Register*, 1846, from a plant supplied by Mr. T. Brockelhurst, of Macclesfield. The flowers are pure white with bright orange-yellow blotches on the lip, and are very sweet scented. A magnificent specimen has recently been discovered by Mr. Chas. Power, of Barrackpore, Bengal, who found it growing at Darjeeling, at an altitude of 7-8,000 feet. This plant carried about 60 spikes, the total number of blooms being about 4,000. A photograph, kindly sent by Mr. Power, shows what an attractive and beautiful effect is produced by these species when in large masses. Under cultivation it is only usual to see small plants with one or more spikes, so little idea can be obtained of its natural state. C. ocellata is closely allied, but differs in having three or more wavy keels on the labellum, whereas C. ochracea has only two. It is of interest to note that a part of the above specimen of C. ochracea has since been forwarded to Mr. H. R. Sterrett's collection at Heston, Hounslow.

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Orchid Catalogues.—Amongst the important catalogues for the current year are those of Messrs. Charlesworth and Co., Haywards Heath; Messrs. Hassall and Co., Southgate; and Mons. Th. Pauwels, Meirelbeke Station, Ghent.

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Orchid Paintings.—The R.H.S. Committeeman who refers to this subject in the April issue brings forward an important and current topic, which I cannot help thinking must sooner or later receive the attention it deserves. The R.H.S. possesses a collection of two or three thousand paintings which are supposed to be faithful records of the flowers to which awards have been given. These paintings are hidden away in the archives of the Society, where the majority of them will remain unseen or admired for some very indefinite period. But there are occasions when an exhibitor brings before the Committee an improved variety of some species or hybrid which has previously been honoured by an award, and, consequently, is represented by an official painting. The method of procedure is to place this painting alongside the flower of the new variety while the committeemen form an opinion as to the deserving character of the new exhibit, and, if necessary, recommend a suitable award. Now, it always appears to me, as indeed it does to others, that we are not judging the old and the new variety on an equal basis. In the painting the segments, more especially the petals, are invariably spread out in a flattened manner, far more so than is actually seen in the real flower, thus giving an impression that may be termed diagrammatic. In many of the real flowers the petals are frequently reflexed, and one feels much inclined to flatten them out, and to apply the flower closely to the painting, for only by this means does it seem possible to ascertain whether or not any difference exists between the one and the other. But, of course, this privilege could not be granted, nor do I here ask for it, but I feel certain that we often make errors by judging flowers on a faulty principle. Anyone who cares to have both a photograph and a painting made of the same flower will have this matter brought before him in a very forcible manner. The camera looks at the flower from a fixed aspect, but the painting shows the various parts of a flower as they can only be seen from more than one standpoint. I remember a case in which an Odontoglossum with rather reflexed petals received no award because it was shown alongside a painting which represented an apparently superior variety, yet when the flower was painted in the usual manner—with flattened petals—it appeared to be infinitely finer than the one which outclassed it at the Committee table.—*Another R.H.S. Committeeman.*

ODONTIODA CLIVE.—One of the finest additions to the Odontiodas has been produced in the collection of Mrs. Norman Cookson, Wylam, and when exhibited at the Royal Horticultural Society, April 7th, 1914, received an Award of Merit. Mr. H. J. Chapman, who raised this seedling, believes it to be the result of crossing Oda. Bradshawiæ, Cookson's var. with Odm. Vuylstekei, but awaits the flowering of other plants before finally deciding There is, however, good evidence that the suggested parentage is correct. Our illustration shows the nature of the broad and finely developed segments, the colour of which is crimson-red, with a light rose margin to the petals and labellum, while the whole flower has a varnished appearance. The blotch on the labellum is very indicative of the two species triumphans and luteopurpureum, both of which are contained in Vuylstekei.

Odontioda Clive.

ORCHID CULTURE.—The ORCHID WORLD gets more interesting with each number. The essentially practical article on Sophronitis hybrids by Mrs. Thwaites was particularly interesting, and so were those on Cypripedium bellatulum. This species grows well with me anywhere in the house; a plant I bought two years ago with two growths, one carrying a flower, consists, at the present time, of eight growths, most of them promising bloom. I can fully endorse Mr. Alf. J. Paine's "plenty of air" treatment. About twelve months ago I had the ordinary roof ventilators removed, and had a narrow ventilator two inches wide constructed along the whole length of the roof on both sides of the ridge. In the coldest weather one of these ventilators is always open, perhaps only a quarter of an inch, and I have found the benefit. When suitable atmospheric conditions exist outside the bottom ventilators are also open, thus creating a stream of air through the house.—*Henry R. Sterrett, Alexandra Road, Heston-Hounslow.*

HYBRID OPHRYSES.—At a meeting of the Linnean Society, held April 2nd, 1914, Mr. R. A. Rolfe exhibited a series of coloured drawings of five hybrid Ophryses, raised by M. Fernand Denis, Balaruc-les-Bains, France, from Ophrys tenthredinifera crossed with the pollen of O. aranifera; together with the two parents. This, he stated, was believed to be the first hybrid Ophrys raised artificially, and it proved the origin of a natural hybrid that has been recorded from three localities in Italy, and is known under the names O. Grampinii, Cortesi, and O. etrusca. The hybrids varied somewhat between themselves, but all showed an unmistakable combination of the characters of the two parents, particularly in the colour and markings of the lip, and in the peculiar combination of rose and green in the sepals and petals. M. Denis has a batch of some forty seedlings in flower and bud. At least eighteen natural hybrid Ophryses have been recorded, and Mr. Rolfe believed there were others. He would be greatly obliged to anyone who would send him examples, as he is studying them. Dr. A. B. Rendle referred to the importance of these observations and experiments as

tending to clear up the doubts as to the affinities of many of these allied forms, so troublesome from a taxonomic point of view.

Odontoglossum crispum.
F.C.C., R.H.S., June, 1884. Width of flower 3½ inches.

A CLASSIC ODONTOGLOSSUM CRISPUM.

When we see in bloom to-day one of the early certified forms we wonder how we could have been so pleased as we were, but "Ignorance is bliss" stood then as truly as it does to-day, and we look into the future and wonder if it *will* prove, as Mme. de Staël said: "Very like the past." Can the future advance be as great as has been experienced in the past thirty years.

To-day I have been given a plant by Mr. J. Gurney Fowler which will add to my collection of "Museum Specimens of Antiquities." It is in bloom and therefore the more interesting. Its complete history is as follows: Odontoglossum crispum roseum guttatum, F.C.C., R.H.S., Sander, June 10th, 1884. The rose only shows on the back of the sepals. It was purchased by Mr. H. M. Pollett, the subsequent history being as follows: Mr. Pollett's sale, June 4th, 1891, 16 gns.; Mr. Welbore Ellis's sale, June 3rd, 1901, with another plant, 20 gns.; Mr. H. T. Pitt's sale, March 22nd, 1906, 11 gns., when it was bought by Mr. J. Gurney Fowler.

In 1898 Mr. W. Ellis photographed it and sent me a copy, and to-day the plant is alive to compare with it. It would be most interesting if those who have these classic Odontoglossums would publish them so that a record could be made. The figure of this one shows it to be only a "mirum," whose ground colour has but little rose in it, and the spots light brown.

de B. Crawshay, March 22nd, 1914.

LYCASTE GIGANTEA.

IN the year 1843, Lindley, finding that the genus Maxillaria brought together a group of species inconveniently large for systematical purposes, found it desirable to reconsider the distinctive marks, and so see how far the genus was capable of sub-division. This resulted in the establishment of the genera Warrea, Promenæa, Paphinia, Scuticaria and Lycaste, the latter bearing the name of a celebrated beautiful woman.

In this age of progress in the production of beautiful flowers we are, perhaps, unmindful of those floral gems which years ago gave so much satisfaction to our forefathers. Lycastes at the present time do not convey to us that sense of beauty which Lindley evidently attributed to them when he named the genus. The hard and formal design, as well as the stiff and wax-like nature of their flowers, renders them more entitled to be described as elegant and quaint, at least on comparison with the recent results of our successful hybridists.

The subject of our illustration is Lycaste gigantea, an unusually fine specimen flowering in the establishment of Messrs. Charlesworth and Co. This species was originally described by Lindley, in 1843, who remarked: "Although the colours of this species are not gay, yet its large size and the great height to which its flowering stem rises (full two feet) are remarkable features; besides which its flowers are among the largest in the race of Orchids."

Lycaste gigantea.

Although this species is accustomed to a comparatively low temperature, such as may be found in our Odontoglossum houses, Lindley advised a temperature of 80 degrees by day and about 70 by night. In those days the custom was to subject all Orchids to excessive heat, no matter from what place or climate they had come, for the knowledge of cool-house treatment had not then been discovered. There is every probability that the measurement of the flower spike given by Lindley as "full two feet" applied to a plant which had been cultivated in his advised and unnatural temperature, for under the present-day conditions of culture the flower stems do not average more than 12-15 inches.

The large flower, for it measures fully six inches from tip to base, has sepals and petals of olive-green, the labellum rich maroon-purple with a border of orange. It is a native of Colombia, and flowers during the late winter months. The variety known as labello-viridis differs in having a green lip.

There is a suggestion of sadness in the way the flowers are arranged in nodding style; they never unfold their segments in the open and happy manner that is witnessed in many of their near relations, nor do they assume those bright colours which create a sense of joy and gladness to the onlooker. Nevertheless, Lycaste gigantea is not to be despised by any means; in its essential characters it differs from many Orchids, and for that reason alone, if not for others, it well deserves a place of honour in both large and small collections.

Vanda cœrulea Westonbirt variety.

ORCHID COLLECTING.

TO give an account of my Orchid hunts I should have to cover a lot of ground to enumerate all my adventures in one article. I will, therefore, confine my remarks to one individual trip, which in this instance was a visit to Burma and the more recently opened up country in the Shan States, parts of which are practically unexplored so far as the Orchid collector is concerned. From enquiries on the spot I found that very few Europeans had visited the locality in question, and these were more or less official visits. It was, as a matter of fact, through the good favour of such an official, on prospecting work, that I had the good fortune of striking a rich locality where Orchids were plentiful.

I am in this instance confining my narrative to what I considered a remarkably good discovery of Vanda cœrulea. I was of course aware that this species existed more or less in the Shan States, and the recent article in the ORCHID WORLD, December, 1913, very aptly described the collecting of the plants. The Shan States, however, extends over a very large area, and the writer's description apparently applies to the better known parts where Vanda cœrulea is equally as plentiful, judging by the wholesale bullock loads collected. It is for this latter reason that I do not desire to divulge the particular locality I refer to, as I am one of the class of Orchid lovers who do not agree to the wholesale denudation of Orchids from their particular habitat, especially as the majority of collectors I have come across have no scruples where

the wholesale collection of Orchids is concerned.

Many of the younger plants collected indiscriminately would no doubt perish before arriving at their destination, while had they been left alone to grow undisturbed in their natural habitat they would have made good plants. Perhaps there is no better instance of the result of this vandalism than our own famous hunting ground of Vanda cœrulea, viz., the Khasia and Garrow Hills, which have been practically denuded of this beautiful species, so much so that I believe the local government have restricted its collection in this district by imposing a fine of one rupee per plant collected. This precaution on the part of the local government is not sufficiently drastic, for with the scarcity of this species a corresponding higher price will be asked by dealers, with the result that collectors will have no objection to paying the impost. This applies equally as much to some of the rarer species, which if not protected will soon become extinct. Under the present method of collectors employing natives to gather indiscriminatively it is advisable to keep one's discovery from the general public.

The Vanda cœrulea of the district in question I found to be plentiful enough, and, moreover, the plants are undoubtedly more robust in every way and stronger in growth when compared with those I have met in India (Khasia and Garrow Hills). The few specimens that I brought away with me have since attracted the attention and admiration of the local cultivators here. I have, at the same time, sent a few plants home to a friend of mine with whom this species thrives exceedingly well. I can only reiterate my above remarks, adding that the average plants I came across have as many as 8-12 pairs of leaves, and specimens anything from 16-20 pairs of leaves, whilst the flower spikes are ever so much larger and deeper in colour, which in many instances ranges from deep lavender to sky-blue, than the Indian species.

Thousands of younger plants growing profusely on all the trees, at a fairly good height, with little or no shade, will make excellent specimens in a few years, provided they escape the visits of the indiscriminative collector already referred to.

I have hopes of shortly making another visit to this locality as I have many enquiries from local cultivators who have seen the plants brought away on my former visit. I am open to oblige readers of the ORCHID WORLD at the same time, provided their offers are inducive enough to collect good specimens in quantity, but not sufficient to meet dealers' requirements, as I have no desire to encumber myself with transport during my travels over such a difficult country.

As regards adventures I may add that, apart from the usual discomforts of the average collector, I have had little or none. Certainly, the difficulties encountered in getting to the place in question were greater than I have hitherto experienced, but as to risk of any sort from the natives themselves there was none.

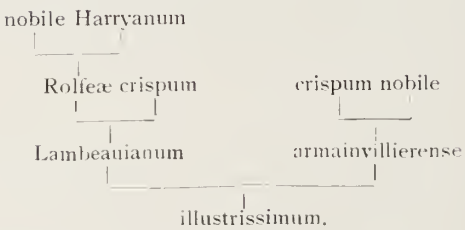
The chief difficulty was their language, which, needless to say, I did not understand. On the other hand, they were willing to give every assistance, and considered themselves amply repaid if I undertook to visit their evening entertainments, which usually consisted of music, singing, dancing, and eating during the intervals.

In conclusion, I may add that I came across some very fine specimens of Renanthera Imschootiana on my return, and of which I brought back several.—*Chas. Power, Orchid Villa, Barrackpore, Bengal.*

CHONDRORHYNCHA CHESTERTONI.

Although this is not an easy species to cultivate, it is worthy of note that Messrs. A. J. Keeling and Sons have exhibited it in good form. Originally described by Reichenbach in 1879, its flowers have ever since attracted attention by reason of their singularity. The comparatively large labellum is extensively developed, the border being finely fringed, while the colour is yellow with a few dark brown blotches. The curious construction of the flower will well repay any difficulty experienced in its cultivation.

ODONTOGLOSSUM ILLUSTRISSIMUM.



There are now so many Odontoglossum hybrids that one finds it somewhat difficult to express any opinion as to which are the best. Some are noted for shape and thick texture, others are favourites on account of their pleasing colour, while not a few are noted for their robust constitution. One can hardly expect all these favourable characteristics to be combined in the majority of hybrids, so we must select those that most nearly approach our desired condition.

Odontoglossum illustrissimum comes very close to our ideal hybrid. The above illustration shows an excellent variety in Mr. J. Gurney Fowler's collection at Brackenhurst, Pembury. It will readily be seen that it is made up of only three species:—crispum, nobile and Harryanum. The nobile species, generally known in gardens under the name Pescatorei, mainly accounts for the compact shape of the flower, while it is especially noticeable in the lip, which is pandurate in shape and white at its apex. As a misunderstanding has frequently arisen regarding the apex of the lip, it is advisable to point out that it is the portion furthest from the centre of the flower; the base of the lip being the part nearest the column, and upon which the crest is formed.

Most of the rich coloration is due to Harryanum, and strong evidence of this species is also to be seen in the extensively developed crest, and in the light area of colour situated at the apex of each petal.

CATASETUM FIMBRIATUM.

IT was Darwin who described Catasetums as the most remarkable of all Orchids, and although much additional knowledge concerning them has since been acquired there is little doubt that they continue to furnish considerable interest to not a few amateurs. The genus was established by Richards in 1822, but five years before this a plant is said to have flowered at Kew. In 1824 C. cristatum flowered in the garden of the Horticultural Society, the curious nature of its bloom being the subject of a note in the *Botanical Register*, 1826.

Among the early species to be described was C. fimbriatum, which dates from 1848, in which year a plant was exhibited at a Ghent meeting, when the award of a Gold Medal proved the high estimation then set upon it. This species has recently flowered in the collection of Mr. H. M. Stobart, of Biddick Hall, Fence Houses, Durham, to whom it was presented about two years ago by Miss Bethel, of Newton Kyme, who brought it home from Paraguay. This plant has been very successfully cultivated by Mr. A. Bentley, and in the photograph which he kindly sends there is ample evidence to be seen of its robust condition, the outside of the basket in which it is growing being covered with roots,

The most interesting feature is the two inflorescences, one of which carries only female flowers, with the lip uppermost, while the other bears three flowers, one of which is a female, while the remaining two are males, with the lips underneath. Concerning their fertilisation Darwin wrote: "Nature has endowed these plants with, what must be called for want of a better term, sensitiveness, and with the remarkable power of forcibly ejecting their pollinia even to a considerable distance. Hence, when certain definite points of the flower are touched by an insect, the pollinia are shot forth like an arrow, not barbed however, but having a blunt and excessively adhesive point. The insect, disturbed by so sharp a blow, or after having eaten its fill, flies sooner or later to a female flower, and whilst standing in the same position as before, the pollen-bearing end of the arrow is inserted into the stigmatic cavity, and a mass of pollen is left on its viscid surface."

Several distinct varieties of C. fimbriatum have been described, one of the most recent being aureum, which received an Award of Merit, Royal Horticultural Society, Oct. 11th, 1910, when exhibited by Mr. J. Gurney Fowler. This had pale green sepals and petals spotted with rose, and the labellum green with an extensive golden-yellow centre.

While mentioning the Biddick Hall collection allusion may be made to the fine show of Dendrobiums, which has attracted much attention during a period of many weeks. Mr. Bentley obtains excellent results, and the strong bulbs have been a mass of bloom. In a photograph of the Dendrobium house quite a pretty picture has been produced by the graceful manner in which the flowering bulbs hang in pendulous style from baskets suspended from the roof. Surely, this is with many species not only the most natural, but the most effective manner.

Mr. H. M. Stobart, the owner of the Biddick Hall collection, has just reason to be proud of his plants, and the keen manner in which he is interested in them will always ensure their responsive good results.

ORCHIDS: THEIR POPULARITY AND CULTURE.

At a recent meeting of the Cardiff Naturalists' Society a very interesting and instructive lecture was given by Mr. H. G. Alexander on "The Popularity and Culture of Orchids." The success of the evening was mainly due to the capable and extensive manner in which the lecturer handled his subject, and to the large number of lantern slides, and excellent paintings of plants in the Westonbirt collection, which enabled the audience of over 300 persons to fully appreciate the beauties and interesting points of the various Orchids.

Mr. Alexander commenced by giving a description of the natural habitats of terrestrial as well as epiphytal Orchids, and then spoke on the rise and progress of their culture, remarking that "there is no branch of modern horticulture that exhibits such wonderful progress as is shown in the cultivation of Orchids. Their popularity to-day is greater than any other class of plants that requires to be grown under glass, and the ranks of their admirers are ever increasing."

Popular, showy and useful kinds received due attention, the various botanical differences which serve to distinguish the various genera were carefully explained, and by means of photographic lantern slides the audience were able to form a very realistic idea of the horticultural importance of the great Orchidean family. The leading sections embraced Orchids with fringed lips, giant and minute plants, curious Orchids, including the cradle and the lady's slipper, the Vanilla Orchid, and an extensive selection of the most easily grown kinds. The botanical structure and pelorism also received due attention.

The breeding and raising of seedling Orchids is one of the greatest of modern horticultural achievements, consequently this subject when in the hands of Mr. Alexander was listened to with close attention. He said: "This important branch of Orchidology has created an entirely new interest, and has made the fancier independent of the collector.

About forty genera have already been employed by the breeder, and of these some hundreds of species have been hybridised, and from them thousands of hybrids have been raised. Hybrid animals are usually infertile, and so cannot perpetuate their kind, and a few hybrid plants are infertile to some degree. In the case of Orchids it has, however, been found that even when the pollen is not capable of fertilising its own or another flower, the flower producing such pollen may be quite capable of receiving and being fertilised by the pollen from another and fertile source. In other words, some hybrids have the maternal and not the paternal capacity. There is no great difficulty in getting Orchids to set pods, but perfect seeds are produced much more rarely than is generally supposed, and to this may be attributed the many failures that cultivators experience in their attempt to raise hybrids."

The practical part of cultivation was dealt with at some length, and many valuable hints were given. The lecturer remarked: "The state of the atmosphere is without doubt of equal, if not of more, importance than the potting compost. Light is the very life of most plants, but it is less under control than any other factor. Possibly in no other cultural detail are Orchids so liable to be mismanaged as in respect to shading. The great influence that light has upon Orchids is seen in the plants grown under it, for not only are these freer flowering, but the enduring properties of the blooms are greatly increased, frequently to the extent of lasting twice as long as others grown under more or less dense shade. Moreover, the plants are hardier and not so liable to be affected by slight errors of treatment.

"In the case of those kinds that need a high temperature, and with the ever-accompanying moist conditions of the atmosphere, it is not always possible to give them air in the amount received when growing naturally, but it is possible to make up this deficiency by giving the plants as much light as they will safely bear. I will not suggest that Orchids, except just a few, will bear full exposure to light, but the aim should be to control it in keeping with the plant's requirements. Shading should be employed to break or diffuse the sun's rays, instead of totally obscuring them, as is often the case."

ORCHIDS OF BORNEO.

A contribution to the Flora and Plant formations of Mount Kinabalu and the Highlands of British North Borneo, by Lilian S. Gibbs, F.L.S., has been published in a recent issue of the *Journal of the Linnean Society.*

Kinabalu is the highest mountain of the Malay Archipelago and was first ascended by Sir Hugh Low, who made the ascent in March, 1851. Of the 50 species described, no less than 42 were collected on Mt. Kinabalu, and of these latter no fewer than 23 are not yet known from elsewhere, and five others are only known from Borneo.

It is of interest to compare this collection with that made by Dr. Haviland eighteen years earlier; and Mr. R. A. Rolfe, who is responsible for the Orchidaceæ, remarks: "Ridley enumerated 24 species as collected by Dr. Haviland, of which 18 (or a proportion of 75 per cent.) were endemic. To these must be added two species not enumerated by Ridley, making a total of 26, of which 20 were endemic. Miss Gibbs has only re-collected seven of these, but on the other hand she has made 35 additions (this only includes those actually collected on Mt. Kinabalu itself), so that if the two collections are added together we get an aggregate of 61 species found on the mountain, of which 53 (or a proportion of 80 per cent.) are not known from elsewhere."

Sigmatochilus is the name given to a new genus to include a very curious plant of the Cœlogyne type, which has the lip free from the column and strongly sigmatoid in shape. The well-known species include Phalænopsis amabilis, Cœlogyne Dayana, Phaius Blumei, and Spathoglottis aurea. The remainder are chiefly of botanical interest.

Brackenhurst, Pembury, Kent.

ORCHID HOUSES AT BRACKENHURST.

IT is already well known to many that Mr. J. Gurney Fowler has removed to Brackenhurst, Pembury, where amidst charming scenery he has erected a model block of Orchid houses. Our illustrations show a general outside view, and the interior of the corridor as it appeared when the Dendrobiums were in flower during March and the early part of April. The whole of the brick wall is utilised for the cultivation of these plants, which, by means of suitable wire suspenders, are easily arranged in artistic fashion; but few amateurs have any idea of the beautiful effect produced by such a mass of bloom. All the popular free flowering kinds are well represented, while the yellow varieties, principally of signatum breed, make a charming contrast. Judging from results obtained elsewhere this method of cultivation brings splendid results, while the plants are easily handled and obtain plenty of light.

Suspended from the roof is a large and varied collection of Mexican and other sun-loving Orchids. Lælia anceps, as may be expected, are to be seen in countless variety, and there are robust plants of L. Gouldiana and Cattleya citrina. There is an increasing habit of utilising these corridors for the culture of certain Orchids, and the one at Brackenhurst serves as an excellent model.

At the back of this corridor are the bothies for the gardeners, complete in every way for their comfort, the potting sheds and store places, as well as the large boilers for heating the whole block. Electric light and telephonic communication have been installed. It is worthy of note that the construction of this model place has been entirely done under the careful supervision of Messrs. Armstrong and Brown.

On the south side of the corridor are seven spacious and well built houses, complete in every way, with rain-water tanks, top and bottom ventilators, ample hot-water piping,

The Orchid Houses at Brackenhurst, Pembury.

and every means for maintaining a moist and genial atmosphere. The natural soil is used as a floor. On each side of the path is arched brickwork supporting the staging, which is composed of two sections, the under one being of red tiles resting on angle-iron supports, the upper one being made of wooden laths. Houses of this description maintain a very uniform temperature, for there is always sufficient heat stored up in the internal brickwork to counteract any severe fluctuation which might happen through the fires getting low, or by reason of a sudden change in the weather.

Choice plants are so numerous that each house requires a special article, but in this brief report mention may be made of Odontoglossum illustrissimum, figured on page 176 of this issue, the Brackenhurst variety of Odontioda Madeline (Oda. Charlesworthii × Odm. crispum), Odontioda Chantecleer, and various forms of the older Odontiodas, many of which are now specimen plants. With Odontoglossums the variety is even greater, and in each of the cool houses there are large quantities of plants. Perhaps two of the finest are Aquitania and Smithii.

Cattleyas and their hybrids are strongly represented, and have already made rapid progress with the new bulbs. Cymbidiums are also favourites, especially the insigne hybrids, but there are several interesting species which have recently been in flower. Cypripediums occupy considerable space, but as these are autumn and winter-flowering plants a description will best be deferred until that period. The rare Neomoorea irrorata, Eulophia scripta, and other rarities are in excellent health.

In addition to the seven houses on the south side of the corridor there is a span-roofed house on the north side, which is used for the cool-growing Masdevallias, and mainly for retarding any plants that are required for the important shows. This proves of great value, and it is astonishing how long some Orchids will keep in flower when so treated.

Vandas, Aerides, Anguloas and Phalænopses are well represented, and their interesting and very often beautiful flowers are a source of attraction to the many visitors. One house has been set apart for the raising of seedlings, and a good start has been made, some of the early sown Cattleya seed having germinated with extraordinary results. Under the splendid conditions existing in this house the successful results will be numerous.

ORCHID PAINTINGS.—The Royal Horticultural Society's collection of paintings of certificated Orchids now numbers over 2,100.

Interior view of the Corridor at Brackenhurst, Pembury.

ODONTOGLOSSUM ADRIANO-TRIUMPHANS

This hybrid was raised by Mr. Charlesworth, and shown by him at the R.H.S., February 13th, 1906. It has since been raised by others, but as a "fine thing" of these days it does not rank at all; nevertheless, it has enabled us to prove a hybrid which is apparently very rare in a wild state.

I never saw a wild specimen that was so evidently the result of the two parents till Mr. Cooper, Mr. Sander's keen-eyed factotum, sent me one a couple of days ago. Of course, there must have been many of it, as in their native habitat crispum, triumphans and Hunnewellianum grow altogether, and as there are so many Adrianæs and harvengtenses there must of necessity be many of the subject of this note.

By reviewing backwards with the aid of the light thrown upon them by the hybridist, I am much inclined to consider many of the very heavily blotched Adrianæs are of similar parentage to this.—*de B. Crawshay.*

Cattleya Loddigesii alba Stanley's variety.

ORCHIDS AT JARVIS BROOK, SUSSEX.

CROWBOROUGH BEACON, 792 feet high, is the loftiest place in the Weald of Sussex, and on its eastern side lies Jarvis Brook, where, within easy walking distance of the railway station, Messrs. Stuart Low and Co. have recently erected an extensive Orchid establishment. Around this place there exists one of the purest atmospheres, and its beneficial effect upon the plants is clearly visible in their robust constitution and the general good health of the foliage.

Almost needless to remark, the houses are numerous and extremely spacious. One block consists of wide span-roof houses, each devoted to the cultivation of a popular species. As examples, we may instance C. Mendelii, C. Warscewiczii, C. Mossiæ and C. Loddigesii, all of which are represented by thousands of strong healthy plants, and not a few are remarkable specimens. With such a multitude there are generally a few plants flowering out of their normal season, and very often of much value to the hybridist. At the present time several plants of C. Warscewiczii are in bud, and will be quickly acquired by the hybridists who wish to raise large flowered hybrids of the spring and early summer flowering type.

Many new, and as yet unnamed, varieties are to be seen, as well as an extensive stock of the best known forms. There are excellent plants of Lælia tenebrosa Walton Grange variety, now such a favourite with hybridists on account of the beautiful results already achieved. There is also a nice plant of the rare Cattleya aurea alba. Varieties of C. Trianæ include The Baron, Perfecta, Mooreana, and Mrs. de B. Crawshay, and there is a healthy plant of the very rare and

beautiful albino form of C Lueddemanniana known as Empress.

Albino varieties are numerous, perhaps the finest being a batch of white-flowering C. labiata, of which mention should be made of Gilmouriæ and Harefield Hall variety. Other specials include C. Warscewiczii alba var. Firmin Lambeau, which is one of the extremely few plants that has been honoured by the award of a Gold Medal, and C. Loddigesii alba Stanley's variety, a very elegant and choice albino, of which an illustration is included in the present issue. C. Mendelii var. Stuart Low—the pure albino form may be seen in more than one good plant. It is undoubtedly one of the rarest of the albinos.

In other houses there are immense stocks of various species, a special feature being the Oncidiums, which are grown in thousands. There are good batches of the well-known species required by amateurs, not only moderate sized plants, but several strong specimens with an abundance of bloom. One house is entirely occupied by Vanda cœrulea, another with Renanthera Imschootiana, and a third with Dendrobium Wardianum, all represented by thousands of healthy plants. A very healthy and vigorous lot of Miltonia vexillaria, as well as Dendrobium Jamesianum and other plants requiring similar treatment, are well worth inspecting.

Odontoglossums occupy several spacious houses, and, needless to remark, crispums are the favourite plants; their number is legion. Odontiodas, of which there is an extensive collection, are quite a blaze of colour. Quite a change is to be seen in one long house where the chief occupants are Dendrobiums of the Phalænopsis section; all are cultivated in small pans suspended from the roof. Dendrobium Brymerianum is well represented, the batch of plants being the largest and finest that the writer has ever seen.

Phalænopses, particularly the elegant amabilis Rimestadiana, occupy considerable space. Cœlogyne asperata looks very happy and grows with great freedom. There are several healthy plants of Vanda Sanderiana and the rare Aerides odoratum album, as well as a large collection of Bulbophyllums, Cirrhopetalums and other botanical Orchids. Cypripediums occupy considerable space, several houses being devoted to their cultivation. A feature of interest is the varied stock of Cypripedium species, many of which are now rare.

Hybrids are equally well represented, and include a very choice selection of Sophronitis crosses, prominent among them being S.-C. Thwaitesii the F.C.C. variety, S.-C. Blackii and S.-C. Doris, the latter having been raised on both the Sophronitis and the aurea parents. Lælio-Cattleyas are to be seen in countless numbers, and Brassavola hybrids are grown in large quantity. Of the latter mention may be made of B.-C. Dietrichiana, the richest coloration being in this plant, and also of numerous albinos in this section. The hybrids are so extensive in kind and variety that we must defer a full account until another occasion.

ORCHID CULTURE.

MY success as an amateur of three years' standing is entirely due to the good plants sent out by Messrs. Mansell and Hatcher, which goes a long way towards helping those who cannot help themselves. A good plant is worth its money to the inexperienced. I like to see my plants improve each year, and it is no exaggeration to say that I look upon my Orchids as part of my daily life, the whole of my spare time being spent with them.

Two plants thrown out from a private collection gave me my start—they were Maxillaria picta and Lælia Bella; the former thrives well and will soon reward me with flowers. Some gardeners are very unfortunate with their Orchids, and little wonder when one sees the conditions under which their culture is being attempted. I have seen them starved and neglected, and exposed to burning sun during the summer time, and in this state they were expected to bloom. I have seen hundreds of them treated in this way by a gardener whose brains were composed of sawdust. He scorned good

advice, and the collection has since been dispersed, mainly on account of the supposed fact that Orchids were expensive and unable to be grown successfully.

I am situated in a valley where good moss is plentiful, and the best bracken roots, when dried, serve me well; these I use with a little osmunda and oak leaves. Pieces of rough red brick serve as drainage material, and are better than potsherds as they hold more moisture and the roots cling tightly to them. I find the compost lasts longer and does not become sour. A few pieces of charcoal, the size of marbles, keeps the whole sweet and open, and also allows a nice circulation of air to the roots.

Firm potting is beneficial, and a pot not too large should be used. One must be largely guided by circumstances, and what will suit one kind may not be favourable to another. I believe in experimenting, and generally can tell by the nature of the root if the plant requires a heavy or a light compost. With Odontoglossum grande I find a little loam very beneficial.—*A. G. Veal, Upper Parkstone, Dorset.*

USEFUL DENDROBIUMS.

THERE seems to be strong evidence that members of this beautiful genus are gradually reclaiming the popularity which they enjoyed some years ago, and indeed it seems strange that their culture has been neglected, for few Orchids flower with such freedom, and are so easy to bring to a high state of perfection.

The essential points in their cultivation are a warm moisture-laden atmosphere in their vicinity, with abundance of sunlight during their growing season; a dry and cool rest in a temperature of from 50-55 degrees Fahr. from the time that growth ceases till flowering; judicious propagation, having always healthy young stock ready to take the place of worn-out plants.

The genus has been greatly enriched by the hybridist, and, being of stronger constitution than the species, hybrids will generally be preferred, but a few of the old species are of such sterling merit that their inclusion in a select list is imperative. For an amateur no class of Orchid is more satisfactory, for, providing the correct cultural conditions are given, grand results can be obtained from cultivation either in an Orchid house, stove, or early vinery. It is, perhaps, more for the last-named structure that they are so invaluable, as few other Orchids, or, in fact, any plants, are usually successfully grown in a vinery, but spring-flowering Dendrobiums will be found most suitable.

Ainsworthii, a very grand hybrid, bearing large flowers, somewhat variable in colour, the sepals and petals ranging from cream to mauve, the lip white, but almost entirely covered with a purple blotch.

Chessingtonense, a handsome yellow Dendrobe, of free flowering nature and a good grower. Somewhat variable in tint, and slightly lacking in size, although very effective. Parents, aureum and Wiganiæ.

Nobile nobilius, the finest and most highly coloured variety of nobile. Sepals and petals of deep rich purple, lip almost covered with a blackish-maroon blotch.

Nobile virginale, a pure white form, very distinct and chaste, has been raised true from seed, and consequently can be relied upon as being of better constitution than propagated pieces.

Rubens, a finely-shaped hybrid of good constitution and remarkable floriferousness. Sepals and petals pale rose which deepens to rich purple at the apices. Lip creamy-yellow, with a rose apex and a large blotch of purplish-black on the disc.

Thwaitesiæ, a truly noble result, and one of the finest hybrids yet raised, free-flowering and robust in constitution. Sepals and petals yellow, gradually turning to rich orange as the flowers reach maturity, lip chrome with dark maroon blotches.

Wardianum, undoubtedly the most handsome species, flowers large and of good substance. Sepals and petals white, tipped with mauve, lip orange, with two small maroon blotches. Fortunately, very plentiful, owing to large annual importations.—*C. Alwyn Harrison.*

Cattleya Trianæ var. Hydra, a wonderful specimen with 96 flowers, exhibited by Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), at the Royal Horticultural Society, February 24th, 1914, when a Silver-gilt Lindley Medal was awarded.

ORCHIDS FOR AMATEURS.

THE repotting of Cattleyas is an important item in the culture of Orchids, for not only is this genus very largely represented in most collections, but it produces flowers which are amongst the finest and most attractive. Every amateur desires to obtain the best results from his collection, and unless some unexpected trouble arises there is little reason to doubt that a fair proportion of success will come his way. But, whatever the structure of the house, or its situation, may be, Orchids require careful attention when in their season of growth. Taken on the whole, they do not require a greater amount than any ordinary greenhouse plant, but the most necessary thing is that they should receive it at the opportune time.

At the present time many of the Cattleyas are making new roots and are in search of additional food material to produce the rapidly forming new bulbs. This operation is best carried out as soon as the new roots are visible; if it is delayed until they are several inches in length considerable trouble will be experienced in placing the compost round them without damaging the tips and often breaking the main part. As a general rule, all repotting should be completed before the new roots have attained the length of an inch.

Many of the plants will require the larger part of their compost to be renewed, and when such is the case the whole plant should be turned out of the pot and every particle of decayed matter—both root and compost—be carefully removed. In selecting a pot choose one just large enough to allow from one to two inches of compost being placed between the new growth and the rim of the pot. The roots are particularly fond of clinging to the inside of the pot, which they do in order to secure a necessary amount of air, consequently it is unwise to attempt forcing them into the centre of a large mass of compost. Very much of the future success depends on the manner and position in which the plant is placed in the pot.

With large specimens it may be found desirable to rearrange some of the leading growths so that they may occupy favourable positions. This is best accomplished by severing the rhizome at a point which will allow three or four bulbs to support the new growth. Too many old bulbs are a hindrance to the plant's prosperity, and their reasonable removement should always be considered. Almost every time a plant is repotted it will be necessary to replace it slightly lower in the pot in order that the base of the new bulb may be at a convenient level. The rhizome has a tendency to grow in an ascending style, and when it is situated at too great a distance from the compost there is much danger of the new roots being eaten off by slugs before they can obtain an entrance into the material.

When good potting material has been used many plants will only need total repotting during alternate seasons, although on each occasion when new roots are being made it is advisable to renew just the portion they are likely to enter, for should any roots come in contact with sour material they will probably turn black at the tip and ultimately perish. By means of a potting-stick some of the old compost can be easily removed, and into the hole thus formed a supply of sweet moss and fibre should be placed. This will give the new roots ample opportunity to get a good start.

The amount of water required by newly potted plants will not be great. The plants may shrivel a little, but this will not make any difference to their subsequent growth, for as soon as the roots obtain a firm hold of the compost they will be able to extract a sufficient supply of moisture. Much damage is often done by an excessive amount of water, which rots many of the roots, and thus leaves the few remaining ones to do all the work, consequently they are unable to supply all the plant's need, and with the inevitable shrivelling the inexperienced amateur applies an increased amount of water in the hope of pulling the plant back to a healthy condition. Needless to say, the health of the plant under this treatment goes from bad to worse. On all fine days a light spraying of the plant will greatly assist matters by creating a damp atmosphere, and so preventing the plant

unduly shrivelling until root action is well advanced. The staging and floor should also be kept in a damp condition.

All plants that have received extensive repotting should be very carefully shaded for a few weeks, and the best plan is to place them together so that slightly more shade may be applied to their portion of the house. On very bright days some growers obtain beneficial results by covering the newly potted plants with sheets of white tissue paper, which should be removed early in the afternoon. It is a great mistake to subject newly potted plants to harsh treatment, and any excessive dryness or draught in the atmosphere must be avoided. The extra care bestowed upon the plants will be amply paid back by the subsequent healthy and vigorous growth which they will undoubtedly make.

In the selection of a suitable compost the amateur should take into consideration the size and condition of the plant. Speaking generally, the largest and more vigorous plants will require a coarse and long lasting fibrous material, while the younger and more delicate plants will succeed best in the finer grade kinds, of which peat and A1 fibre are the best known. Sphagnum moss is very suitable for most sizes of plants, except, perhaps, in the large specimens which have a great bulk of material that will keep moist for a considerable period.

Although only Cattleyas have been mentioned, these remarks apply with equal value to Lælias and Lælio-Cattleyas, as well as other hybrids of their class. These genera have now become so closely combined that separate advice and treatment is unnecessary. If any variation in the light of the house exists the brightest portion should be reserved for Brassavola hybrids, for under natural conditions Brassavola species receive an immense amount of light, and even considerable direct sunshine, consequently their hybrids are able to withstand and, in fact, require more light than is usually allowed other occupants of the house. In the United States and other countries where the light is strong and plentiful Brassavola hybrids flower with greater freedom than they do in England, although in every instance where good culture is practised they yield an amount of bloom which well rewards the cultivator.

At this season of the year many new roots will be pushing forth from the base of the bulbs, and great assistance will be rendered to the plant if they are able to at once enter the compost. In many cases the base of the bulb is covered with a hard sheath-like skin, which almost prevents the young roots from growing. Careful growers are always on the watch for the first appearance of these roots, and take the precaution of removing this skin in order that it may not have a detrimental effect.

NEW HYBRIDS.

L.ELIO-CATTLEYA GIGANCEPS.—Mons. Th. Pauwels, Meirelbeke, has recently flowered this vigorous hybrid between C. Warscewiczii (gigas) and L. anceps.

ODONTIODA AUTOMA. This novelty has been raised in the collection of Mrs. Norman Cookson, Wylam. The parents are Oda. Bradshawiæ and Odm. Harryanum, the latter parent having a very marked effect.

SOPHROCATTLÆLIA SUNLOCH.—By crossing L.-C. Goldfinch with S.-C.-L. Danæ a pleasing addition to this section has been made. Flowers of medium size, orange-red with rose veining and suffusion; broad open labellum with crimson front. Raised by Mr. H. G. Alexander in the Westonbirt collection.

ODONTIODA BRACKENHURST. This new hybrid has flowered in Mr. J. Gurney Fowler's collection, and results from crossing Oda. Charlesworthii with Odm. eximium. Sepals and petals deep rose-red, with rose tips, the rose lip having dark spotting near the crest.

ODONTIODA GRATRIXLE.—Messrs. Sander and Sons have produced this elegant hybrid by crossing Oda. Charlesworthii with Odm. amabile. The large flower of amabile has greatly assisted in making an excellent addition to the Odontioda section.

L.ELIO-CATTLEYA TRILOBATA.—This is the result of crossing C. Trianæ with

L. lobata, and has been raised by Mr. Eustace F. Clark, Evershot, Dorset. The cross was made April, 1901, and the seed sown exactly twelve months later.

LÆLIO - CATTLEYAS. — Messrs. Charlesworth and Co. have recently named the following new Lælio-Cattleyas:—Chione (L. flava × L.-C. Wellsiana), Ithaca (L.-C. Haroldiana × C. F. W. Wigan), Juturna (L.-C. Charlesworthii × L.-C. Myra), Lilian (L.-C. Sallieri × C. Gaskelliana), Numidia (C. Empress Frederick × L.-C. Golden Oriole), and Teucra (L.-C. Martinetti × C. Mossiæ).

LÆLIO-CATTLEYA VINCENT.—This, the result of crossing C. Trianæ with L.-C. Doris, has large flowers with purple feathering on the tips of the petals. Raised by Messrs. Sander and Sons.

LÆLIO-CATTLEYA JUCUNDA.—A reddish-buff flower resulting from C. Percivaliana and L.-C. Edwardii. Raised by Messrs. Sander and Sons.

ROYAL HORTICULTURAL SOCIETY.

April 7th, 1914.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Messrs. H. J. Chapman, F. Sander, R. G. Thwaites, F. J. Hanbury, F. M. Ogilvie, T. Armstrong, A. McBean, J. Charlesworth, J. Cypher, W. H. White, W. H. Hatcher, H. G. Alexander, A. Dye, E. H. Davidson, W. Bolton, Gurney Wilson and R. A. Rolfe.

FIRST-CLASS CERTIFICATES.

Odontoglossum Mogul, of uncertain parentage, from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).—A very elegant result and singularly attractive hybrid. Segments of good shape, white, the central area blotched with reddish-purple, the blotch on the labellum being similar to those on the other segments, thus making a very symmetrical result.

Cattleya Tityus Shrubbery var. (Enid × Octave Doin), from F. Menteith Ogilvie, Esq., The Shrubbery, Oxford.—This variety received an A.M. March 18th, 1913, since when it has greatly improved. The petals inclined forward, prettily crimped at their margin, the labellum unusually large and of rich purple colour. A model flower.

AWARDS OF MERIT.

Lælio-Cattleya amabilis var. Fascinator (L.-C. Fascinator albens × C. Lueddemanniana Stanleyi), from Messrs. Charlesworth and Co.—Very distinct. Sepals and petals pure white, the labellum entirely purple, extending the whole length of the throat.

Odontioda Clive, from Mrs. Norman Cookson, Wylam.—An excellent result. Parentage uncertain, but probably a cross between Oda. Bradshawiæ Cookson's var. and Odm. Vuylstekei. The broad segments crimson-red, the large lip having the central area of similar colour. All the segments have a varnished appearance.

Odontioda Graireana splendens (Od. Rossii × C. Nœzliana), from M. H. Graire, Amiens.—A pleasing hybrid, having the habit of Rossii, the colour orange-red, lip light rose with prominent yellow crest.

CULTURAL COMMENDATION

To Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George Holford, K.C.V.O., for a grand specimen of L.-C. Tigris (Cowanii × Dominiana), with two spikes having a total of 23 flowers.

OTHER EXHIBITS.

Mrs. Norman Cookson, Oakwood, Wylam, was awarded a Silver Flora Medal for a very effective group of hybrids, all raised in her collection. The best were Odontioda Clive, O. Margaret (Bradshawiæ × ardentissimum) and O. Automa (Oda. Cooksoniæ × Odm. Harryanum). The Odontoglossums included crispum Phœbe, richly blotched; O. Titania, of thick texture; and many others.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, received a Silver Flora Medal for an excellent group of choice Orchids. Included in it were two strong plants of Cattleya Schröderæ The Baron, both carrying a spike of three flowers; C. Magnet, with a spike of five flowers; a specimen plant of Cymbidium Parishii Sanderæ; and the noble Brasso-Cattleya The King with a spike of three immense flowers.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate, staged a neat exhibit of rare species, many being exceedingly beautiful when closely examined. Cœlogyne Sanderæ, the pretty Pleione yunnanense, as well as the red Polystachya, were among the best.

Messrs. Charlesworth and Co., Haywards Heath, secured a Silver Flora Medal for a group of choice species and hybrids, including Phaius simulans magnifica, Miltonia Hyeana, Odontiodas in variety, the orange-yellow Brassocattlælia Joan, and Cœlogyne Sanderæ with four strong spikes.

Messrs. Sander and Sons, St. Albans, obtained a Silver Flora Medal for an attractive exhibit. Mention must be made of Cattleya Parthenia Prince of Wales with 12 flowers, the rare Cœlogyne Lawrenceana, Cymbidium insigne and its hybrids, as well as numerous Orchids of botanical interest.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Flora Medal for an extensive exhibit of Dendrobiums, the rare Cymbidium Devonianum, a good plant of Arpophyllum giganteum, several effective Miltonia hybrids, and some choice forms of Cattleya Schröderæ.

Messrs. J. Cypher and Sons, Cheltenham, secured a Silver Banksian Medal for a neat exhibit, in which were the white and violet forms of Dendrobium superbum, and a very fine variety of Dendrobium Cambridgeanum. Phaius simulans and other rarities were also noted.

R. G. Thwaites, Esq., Streatham, was awarded a Silver Banksian Medal for a group containing a varied selection of the pretty Dendrobium Thwaitesiæ, as well as D. Wiganianum album. The choice Sophro-Cattleya Thwaitesii and some Odontoglossum hybrids were also staged.

Messrs. Hassall and Co., Southgate, exhibited a selection of the attractive Lælio-Cattleya G. S. Ball, good varieties of Cattleya Schröderæ, the handsome Brasso-Cattleya Menda, and some specimen plants of Maxillaria Sanderiana.

J. T. Bennett-Poë, Esq., Holmwood, Cheshunt, showed Cymbidium Lowianum Holmwood var., with a spike of 24 richly coloured flowers; also Brasso-Cattleya Mad. Chas. Maron, of large size.

Pantia Ralli, Esq., Ashtead Park, Surrey, showed Odontioda Vuylstekeæ and Brasso-Cattleya Digbyano-Schröderæ, both pleasing varieties.

F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, exhibited three strong plants of Dendrobium Thwaitesiæ Veitch's var., the finest yet seen.

Major Lister, Warninglid Grange, Haywards Heath, staged a good plant of Gongora quinquenervis.

Eustace F. Clark, Esq., Evershot, Dorset, sent a flower of Lælio-Cattleya (Trianæ × Boothiana) and a pleasing Odontioda.

Mrs. Meade-King, Seven Elms, Druid Stoke, Bristol, sent a flower of Schomburgkia Lueddemannii.

April 15th, 1914.

MEMBERS of the Orchid Committee present: de Barri Crawshay, Esq. (in the chair), Messrs. Jas. O'Brien (hon. sec.), Gurney Wilson, W. Bolton, S. W. Flory, J. E. Shill, J. Charlesworth, and T. Armstrong.

AWARDS OF MERIT.

Odontoglossum eximium The Dell variety, from Baron Bruno Schröder, Englefield Green.—A very beautiful variety, with broad segments effectively blotched with crimson-purple. One of the best of the eximiums.

Miltonia vexillaria Lyoth (vexillaria chelseaensis × G. D. Owen), from Messrs. Charlesworth and Co. — A very large

rose-tinted flower, resembling chelseaensis, but much finer.

Odontioda Joan (Oda. Charlesworthii × Odm. ardentissimum), from Messrs. Charlesworth and Co.—A pleasing result, in which the good-shaped flower is of bright red colour.

Odontoglossum Elissa (Edwardii × illustrissimum), from Pantia Ralli, Esq., Ashtead Park.—One of the brightest of the Edwardii hybrids, the segments of good shape and texture.

Other Exhibits.

Lord Grantley, Red Rice, Andover, showed Odontoglossum Zena (Sceptrum × Harryanum).

de B. Crawshay, Esq., Sevenoaks, exhibited Odontoglossum Crawshayanum, with a spike of 10 flowers.

G. Hamilton-Smith, Esq., Finchley, showed a natural hybrid Cymbidium under the name C. Cooperi.

Pantia Ralli, Esq., showed a good plant of Cattleya Lueddemanniana Stanleyi.

Messrs. Sander and Sons exhibited Cattleya Gravesiana amabilis (Mossiæ Wagneri × Lueddemanniana Schröderiana), with white sepals and petals.

Messrs. Charlesworth and Co. staged a fine plant of B.-C. Princess Elizabeth with 6 large flowers; also Miltonia Charlesworthii, and Lælio-Cattleya Lydia, with a spike of 10 bright orange-yellow flowers.

April 21st, 1914.

Members of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Messrs. Gurney Wilson, de B. Crawshay, Stuart Low, R. G. Thwaites, F. J. Hanbury, F. M. Ogilvie, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, H. G. Alexander, A. Dye, S. W. Flory, W. H. White, W. Bolton, T. Armstrong, and R. A. Rolfe.

First-class Certificate.

Odontoglossum Mirabeau var. Mastif (mirum × Lambeauianum), from Messrs. J. and A. McBean, Cooksbridge.—A magnificent hybrid with immense flowers heavily blotched with crimson-purple. All the segments of splendid form and of thick texture. One of the very finest.

Award of Merit.

Oncidioda Cooksoniæ var. Grenadier (C. Nœzliana × O. macranthum), from Pantia Ralli, Esq., Ashtead Park.—A very beautiful result, the spike carrying a large number of large brilliant red flowers.

Cultural Commendations

To Mr. Balmforth, grower to F. M. Ogilvie, Esq., for Odontioda Diana, a beautiful specimen, with four spikes carrying a total of 177 flowers. And a similar award for Odontioda Mrs. F. M. Ogilvie, a robust plant, with a grand spike of 60 large flowers.

To Messrs. Armstrong and Brown for Cœlogyne pandurata, undoubtedly the finest cultivated specimen of this species yet seen. The spike carried 13 flowers, the largest measuring six inches across.

To Messrs. Sander and Sons for Phaius Sanderianus, a gigantic plant, the last made bulb carrying three tall spikes, each having no less than 25 well-developed flowers.

A Silver Flora Medal was awarded to F. M. Ogilvie, Esq., The Shrubbery, Oxford, for a choice selection of magnificent specimens of Odontiodas. O. Mrs. F. M. Ogilvie was the finest, the spike carrying no less than 60 large flowers, effectively blotched with rose-red. O. Diana had 4 spikes with a total of 177 flowers, and there were fine forms of Cooksoniæ and Charlesworthii. Cypripedium Winsum (callosum Sanderæ × Winifred Hollington) with a pleasing rose flower was also shown.

H. T. Pitt, Esq., Stamford Hill, was awarded a Silver Flora Medal for an attractive exhibit, which included Cypripedium Wootonii, the curious Nanodes Medusæ, Maxillaria luteo-alba, Lycaste gigantea, the quaint Bulbophyllum Lobbii and Cymbidium Low-grinum.

Messrs. Stuart Low and Co., Bush Hill Park

and Jarvis Brook, secured a Silver Flora Medal for an extensive exhibit, containing the blue flowering Dendrobium Victoria Regina, D. Wardianum, D. Brymerianum and a specimen D. suavissimum. Several well-flowered plants of D. thyrsiflorum, the elegant Cattleya Parthenia Prince of Wales and the distinct Odontioda Zephyr.

Messrs. J. and A. McBean, Cooksbridge, secured a Silver Flora Medal for a group of exceedingly well-grown Orchids. These comprised Cattleya Lawrenceana with 9 flowers on a spike, C. Schröderæ with 6, and strong plants of C. Mossiæ. Oncidium McBeanianum (superbiens × macranthum), Lælio-Cattleya Helius, and good Miltonias were also shown.

Messrs. Sander and Sons, St. Albans, received a Silver Banksian Medal for an interesting exhibit, including Cattleya Clementinæ (Aclandiæ × aurea), Dendrobium densiflorum superbum, exceedingly fine, Vanda cœrulescens, good examples of Cattleya Schröderæ, choice Masdevallias and several new hybrids.

de Barri Crawshay, Esq., Sevenoaks, exhibited Odontoglossum Titania, with reddish-brown colour and crimson lip, O. Leonidas, bright yellow with light brown spots, and O. harvengtense, with brown blotching on a yellow ground.

Messrs. Hassall and Co., Southgate, exhibited an excellent variety of Cattleya Dusseldorfei Undine.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded a Silver Banksian Medal for an exhibit of spring flowering hybrids, the best being Lælio-Cattleya Myra, L.-C. Canhamiana alba, Cypripedium Maudiæ, C. Cupid and C. Venus. Miltonias were in fine form, and the interesting Bulbophyllum barbigerum attracted much attention.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for a pleasing group, in the centre of which was Dendrobium Jamesianum with 20 large flowers on one bulb. The rare Vanda cœrulescens, Chysis bractescens and Miltonia Bleuana were well shown, and there were strong plants of Oncidium Marshallianum.

Messrs. Flory and Black, Slough, secured a Silver Banksian Medal for a number of interesting plants, amongst which were Disa polygonoides and D. Luna, also the pretty D. sagittalis. Lælia anceps Bull's alba, the elegant Cœlogyne Lawrenceana, the scarce Cattleya aurantiaca and good blotched Odontoglossums were well staged.

Richd. G. Thwaites, Streatham, was awarded a Silver Banksian Medal for a neat exhibit, including the pretty Odontoglossum Edna (Rossii rubescens × ardentissimum), the interesting Dendrobium Frederickii (fimbriatum × Thwaitesiæ), with a spike of 3 flowers resembling the former parent, several choice Odontiodas and an elegant variety of Brasso-Cattleya Mrs. J. Leemann.

Messrs. Charlesworth and Co., Haywards Heath, staged a choice selection of Orchids, the best being Odontioda Elsie (C. Nœzliana × O. Charlesworthii), Odontoglossum crispum xanthotes, O. Pescatorei Charlesworthii, Lælio-Cattleya Lucia, orange-yellow, and several very fine Sophronitis hybrids.

Sir Jeremiah Colman, Bart., Gatton Park, exhibited the elegant Odontioda Vuylstekeæ "Lady Colman," Cœlogyne Lawrenceana, the Gatton Park variety of Dendrobium Brymerianum, and D. Nestor.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, showed Sophrocattlælia St. Arilda (S.-L. Phroso × L.-C. Goldcrest), a very charming flower of delicate salmon-buff colour; also Sophro-Cattleya Thwaitesii the F.C.C. variety, with ruby-crimson petals and bright yellow throat.

MANCHESTER ORCHID SOCIETY.

March 26th, 1914.

MEMBERS present: Z. A. Ward, Esq. (in the chair), Messrs. J. Bamber, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, W. H. Hatcher, J. Howes, J. Lupton, D. McLeod, W. J. Morgan, C. Parker, W. Shackleton, H. Thorp, G. Weatherby, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to J. Leemann, Esq., Heaton Mersey, for a fine

collection of Cymbidiums and other plants. Large Silver Medals were granted to R. Ashworth, Esq., Newchurch, and A. Warburton, Esq., Haslingden.

Silver Medals were awarded to Wm. Thompson, Esq., Stone; Col. J. Rutherford, Blackburn; Messrs. Cypher and Sons, Cheltenham; and Messrs. Sander and Sons, St. Albans. A Bronze Medal was obtained by Mr. W. Shackleton, Bradford.

O. O. Wrigley, Esq., Bury, staged a very fine collection of Dendrobiums, etc.; and Messrs. Charlesworth and Co., Messrs. A. J. Keeling and Sons, Mr. D. McLeod and Mr. J. Evans also exhibited various Orchids.

FIRST-CLASS CERTIFICATES.

Cymbidium Pauwelsii maxima, a large variety of good colour, from J. Leemann, Esq.

Brasso-Cattleya Vilmoriniana "Centaur," a large well-set flower, from W. R. Lee, Esq.

Odontoglossum Princess of Pless, a fine flower, evenly marked and of brilliant colour, from R. le Doux, Esq.

Odontioda Brewii "Walton Grange var.," very dark crimson, from Wm. Thompson, Esq.

Cattleya Warneri Ardenholme var., good shape and colour, from Col. J. Rutherford.

AWARDS OF MERIT.

Cymbidiums Pauwelsii, delicata and Andreana, Cattleya Enid excelsa and B.-C. Digbyano-Mossiæ, all from J. Leemann, Esq.

Odontoglossum ardentissimum Phœbe and Dendrobium nobile Goliath, from Wm. Thompson, Esq.

Odontoglossum Nigger and Od. crispum White Swan, from R. le Doux, Esq.

Odontoglossum Jasper "Beardwood," and B.-C. Beardwoodensis (C. Empress Frederick × B. Digbyana), from Col. J. Rutherford.

Lycaste gigantea Ashlands var., from R. Ashworth, Esq.

Dendrobium superbum Rœblingi, from Messrs. Mansell and Hatcher.

Brasso-Cattleya Pocahontas Undine, from Messrs. Cypher and Sons.

April 16th, 1914.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, J. C. Cowan, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, J. Howes, A. J. Keeling, J. Lupton, D. McLeod, W. J. Morgan, C. Parker, W. Shackleton, H. Thorp, A. Warburton, Z. A. Ward, G. Weatherby, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to R. Ashworth, Esq., Newchurch, and a Large Silver Medal to A. Warburton, Esq., Haslingden.

Silver Medals were granted to Wm. Thompson, Esq., Stone, Messrs. Cypher and Sons and Messrs. Sander and Sons. Other exhibitors included O. O. Wrigley, Esq., Bury; Messrs. Charlesworth and Co.; Messrs. A. J. Keeling and Sons, Bradford; Mr. D. McLeod, Mr. J. Birchenall and Mr. W. Shackleton.

FIRST-CLASS CERTIFICATES.

Odontoglossum triumphans var. Royal, round flower; Odontioda Charlesworthii sanguinea, dark colour; Lælio-Cattleya Vesuvius, brilliant lip; and Phaius tuberculosus. All from Richd. Ashworth, Esq.

Miltonia Bleuana alba and M. B. rosea var. Leeana; M. vexillaria Lyoth magnifica, all fine varieties, from Wm. R. Lee, Esq.

Lælio-Cattleya Fred. Boyle var. Kerchove, large flower; Cymbidium Pauwelsii var. Ideal, sepals and petals almost white, from J. Leemann, Esq.

Odontoglossum illustrissimum purpureum and Odontoglossum eximium var. Nero, from Wm. Thompson, Esq.

Odontoglossum Mrs. Phœbe Fletcher (eximium × amabile), from R. le Doux, Esq.

AWARDS OF MERIT.

Odontoglossums amabile var. Princess, Phœbe var. Brunette, harvengtense var. Emperor, excellens var. Goldcrest, eximium var. Nero, Adrianæ var. Brunum. All from Wm. Thompson, Esq.

B.-L.-C. Joan, B.-C. Queen Alexandra "Beardwood," B.-C. Gloriosa, all from Col. J. Rutherford.

Odontoglossum amabile Her Majesty and O. a. Merl Dene, from A. J. Oakshott, Esq.

Odontioda Brewii aurifera, from R. Ashworth, Esq.

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ORCHID WORLD.
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NOTES.

THE DAVIDSON CUP.—This trophy is offered by Mr. E. H. Davidson for the finest Cattleya, not a hybrid, in the Chelsea Show. This season it has been awarded to Cattleya Schröderæ "Queen Empress," a beautiful variety of rich rose-purple colour, the wide labellum of bright orange colour. The plant was exhibited by Messrs. Sander and Sons, and has since passed into the collection of Sir Jeremiah Colman, Bart. Other Cattleyas which engaged the careful consideration of the judges were C. intermedia alba, a splendidly grown specimen with 13 spikes of flowers, shown by Mr. F. J. O. Montagu, Lynford Hall, Brandon, and awarded a Cultural Commendation; C. Mendelii "White Swan," exhibited by Messrs. Charlesworth and Co.; and an elegant C. Schröderæ shown by the Duke of Marlborough.

CYPRIPEDIUM PEREIRÆ.—Mr. H. W. Ridley has received from Mr. J. D. Pereira, Singapore, a specimen in formalin and a coloured drawing of this Cypripedium. It is elaborately described in the *Gardeners' Chronicle*, May 16th, 1914, by Mr. Ridley, who remarks:—"The plant was obtained on one of the islands near the Laukawi group, north of Penang, the home of Cypripedium niveum. It may be a natural hybrid between niveum and exul, although, so far as we know, the latter species has not yet been met with in this region. No artificial hybrid of these two species appears to have been made as yet, but a study of the peculiarities of the different organs seems to suggest that Mr. Pereira's theory is correct, and that it is a natural hybrid between the two species. It seems to be quite a handsome plant, the nearly pure white flower standing up well on its tall stalk."

CYMBIDIUM I'ANSONII.—The *Orchid Review*, May, 1914, contains an interesting note on this plant. It is still uncertain whether it is a species or hybrid. C. Mandaianum is considered identical.

DENDROBIUM TAURINUM.—This elegant species, commonly called the Bull-headed Dendrobium, was originally described by Lindley in the *Botanical Register*, June, 1843, a coloured plate being also included. The author remarks:—"A native of Manila, whence Mr. Cuming sent it to Messrs. Loddiges. It has large flowers, with yellowish-green sepals, rolled back at the points, very long deep purple twisted petals, and a paler purple lip, with three elevated lines along the middle, and a few small tubercules near the apex. The column is short and somewhat pouched at the base, in consequence of the lip being adherent to it at that place. The plant is 5 feet high. It flowered at Hackney in October, 1842. I have specimens from Mr. Cuming, but they are not nearly so handsome as that now figured from Messrs. Loddiges." This species is rarely seen in cultivation, but well deserves increased attention. One of the best plants seen during recent year was that exhibited in 1909 by Sir Jeremiah Colman, Bart., of Gatton Park, Reigate. This season it has flowered well in Mons. Lionet's collection, Brunoy, France.

CHELSEA SHOW JUDGES.—Amateurs' Groups: W. Bolton, J. Cypher, F. Sander, J. Charlesworth. Trade Groups: J. Gurney Fowler, J. E. Shill, Sir F. W. Moore, de Barri Crawshay. Plants for Certificate: Sir Harry J. Veitch, Jas. O'Brien, Count J. de Hemptinne, Sir Jeremiah Colman, Gurney Wilson, R. G. Thwaites, W. Cobb, R. A. Rolfe, R. Brooman-White, E. Ashworth, A. Dye, H. G. Alexander, F. J. Hanbury, F. Menteith Ogilvie, G. F. Moore, C. Cookson, Stuart Low, T. Armstrong, C. J. Lucas, W. H. Hatcher, E. H. Davidson, W. P. Bound, H. J. Chapman, and S. W. Flory.

ODONTONIA GUILLAUME OLYFF.—This is the result of crossing O. Edwardii and M. vexillaria. It is certainly an interesting hybrid, because, as can be seen in the faithful painting by M. Goossens, it presents both form and colour, and is intermediate between both parents. The general appearance of the plant reminds one of both the species from which it has been produced. It is of vigorous habit, and when grown sufficiently strong will, without doubt, give decorative spikes of bloom. Hybrids between the genera Miltonia and Odontoglossum are still rare, and difficult to raise from seed; one is able to predict that this one will be very popular, so much so that to-day this new cross is in great request. The plant was shown at the Brussels Meeting, May, 1913, by the writer of this description. It received a unanimous Certificate of Merit. The same cross flowered about the same time with Messrs. Sander and Sons, and was described in the *Orchid Review*, June, 1913, under the name Odontonia brugensis. During the same period an identical hybrid flowered with Messrs. Duchesne and Lanthoine, Watermael. This shows in incontestable manner that the priority is restored to Belgium, and there is every evidence that the name Odontonia Guillaume Olyff will be attached to the plant, unless, in accordance with the decisions of the last Horticultural Congress, the name Odontonia Olyffiana is preferred. This plant is dedicated to M. G. Olyff, Director-General of the Colonial Administration.—*L., in La Tribune Horticole, May, 1914.*

AN ALBINO RESULT.—A very unexpected result has occurred in the collection of Mr. F. Menteith Ogilvie, The Shrubbery, Oxford. Lælio-Cattleya Charlesworthii (cinnabarina × aurea) was crossed with C. Trianæ, the former parent having rich red flowers, the latter poor papery flowers by no means pure white. One of the resulting seedlings has just flowered, and shows that all the colour—all the cinnabarina blood—is clean wiped out, leaving a flower with pure white segments, of good substance, and fair size and shape. Of this hybrid, which has previously been recorded under the name L.-C. Prospero, Mr. Ogilvie remarks:—"It is one of the nicest white Cattleya hybrids I have in my collection. I hardly think the average person who was hybridising for whites would use L.-C. Charlesworthii as a mother. The lot of the hybridiser is not altogether a happy one. I wish we knew more about it."

ORCHID SALE.—Duplicate plants from Mr. Wm. Thompson's collection were sold by auction by Messrs. Protheroe and Morris, April 29th, at Walton Grange, Stone, Staffs. The following are some of the best prices:—Miltonia vexillaria Leopoldii, specimen plant, 9 gns.; Cypripedium Alport Cæsar, figured in the ORCHID WORLD, Vol. I., p. 157, one flowered growth and strong break, 20 gns.; Cyp. Thunderer, two strong growths, 20 gns.; Cyp. Actæus Bianca, 21 gns.; Odontoglossum ardentissimum Violette, 11 gns.; O. crispum Queen Empress, small plant, 14 gns.; O. eximium Excelsior, 19 gns.; O. Atheltum, 20 gns.; O. Papilium, 19 gns.; O. crispum solum, two bulbs 70 gns.; O. amabile Ursus, 20 gns.; O. Mrs. W. Thompson, 60 gns.; O. Hercules, 35 gns.; O. Helius, 40 gns.; O. Mirandus, 40 gns.; and Odontioda Thompsoniæ, 10 gns

ORCHID PAINTINGS.—While fully agreeing with what has recently been written concerning this subject I feel there is one other point which has not been mentioned, and although it may be a trivial matter for members of the Committee, it is, nevertheless, one of importance to the Fellows in general. I refer to the great difficulty experienced in determining which is the best variety of any particular species or hybrid. The R.H.S. grants two awards—the F.C.C. and the A.M. —and one naturally expects that the F.C.C. plants should be much superior to those given an A.M., but, unfortunately, this does not always appear to be the case. What is the reason? The Committee has a meritorious plant placed before them and awards a F.C.C., and a painting is duly made and put away for future reference. Sooner or later a second plant of the same kind comes before them and the painting is used as a guide in determining the award to be granted. If the flower of the new plant is inferior to that of the painting it is quickly passed, but if slightly finer an A.M. is generally granted, while should it be considerably superior, which, however, rarely happens, then a F.C.C. may be awarded. Thus it comes about that in many cases an A.M. variety is better than a F.C.C. one. I have been told that the date of the award should always be considered, but this is evidently a forgotten point, and even if known there is no telling whether a subsequent award has been granted. Not so long ago I attended an auction sale in which two varieties of the same hybrid were offered; the one had received an A.M., the other a F.C.C. Naturally enough I selected and paid more for the latter plant, but subsequently discovered that the A.M. variety was in reality much the finer. I never thought of ascertaining the date beforehand, although subsequent enquiry showed that the F.C.C. variety was several years older. I can only form but one opinion regarding this matter, and that is that the awards are merely prizes for the day, and have no true comparative value whatever. What we require is a hall-mark that will show the genuine merit of the plant.—*F.R.H.S.*

Vanda suavis.

VANDA SUAVIS.—This noble species, a native of Java, was originally described by Lindley in 1848, since when it has rarely failed to be an attractive plant in almost every collection where warm-house Orchids are grown. The adjoining illustration shows a remarkably fine specimen in the collection of Sir John Edwards-Moss, Bart., Roby Hall, Torquay. So well has it been cultivated that when viewed from a distance it has the appearance of an evergreen shrub; and when the photograph was taken this Spring it carried 10 spikes with a total of 96 blooms. In common with other members of the genus the petals have the peculiarity of twisting at their base, so much so that they are almost reversed, the hinder part, which is unspotted, being visible. As its specific name denotes, it is very sweet smelling, an additional charm which renders it of value to many collections. When this species is well cultivated its recurved dark green leaves cover the stem from apex to base, and in that condition it forms a decorative object of considerable

utility. Several distinct varieties have been discovered, perhaps the one known as pallida being the best. This may briefly be described as a semi-albino form, for the greater part of the rose-purple colour has been eliminated, the spots, however, still remaining, although of a yellowish tint.

ORCHIDS FLOWERED AT KEW IN 1913.—The collection of Orchids cultivated under glass is well known for its richness in types and for the large number of rare and little-known species it contains. The year 1913 has been remarkable on account of the large number of species belonging to 137 distinct genera which have flowered in the collection. A careful record has been kept of each plant which has flowered during the year, and from this we find that the only plant of Cirrhopetalum Mastersianum has flowered on six occasions; Dendrocolla Pricei, a new species, and Kefersteinia graminea on three, and quite a number of other plants have flowered twice during the year. A few fine specimen plants have also flowered profusely, the best of these being:—Eria hyacinthoides with 34 racemes, Eulophiella Elisabethæ with 11 racemes, Vanda suavis with 14 racemes, Pleurothallis Rœzlii with 31 racemes, Cœlia macrostachya with 6 racemes, Calanthe Dominyi with 15 racemes, and Miltonia candida with 32 racemes bearing 274 flowers. Lycaste Deppei bore 54 flowers, Lycaste gigantea 16 flowers, Cirrhopetalum robustum 7 umbels of flowers, and Cattleya Portia had an inflorescence of 13 flowers.—*Kew Bulletin.*

COLOUR PRINTING.—At the recent Printers' Exhibition Mr. A. Chris. Fowler exhibited several excellent coloured plates of choice Orchids. The high-class nature of the work and the skilful exactness of the coloration excels anything previously seen. We understand that they are but the commencement of a series for inclusion in a forthcoming new work on Orchids of considerable importance.

A LINK WITH THE PAST.—Among the visitors to the Chelsea Show was Mr. T. Pyper, a veteran Orchid grower now in his 98th year. Born February 17th, 1817, he, at an early age, took an interest in horticulture, and about the time of Queen Victoria's coronation was employed as Orchid grower to Mrs. Wray of Cheltenham. About the year 1840 Mr. Pyper was engaged by the celebrated Joseph Paxton as assistant at Chatsworth, and he well remembers his kind and genial personality. The great Dr. Lindley more than once praised his capabilities and recommended him to Lord Digby, in whose employ he remained for over twenty years. Mr. Pyper has not forgotten the great difficulties experienced in attempting the cultivation of Orchids in the early days, when every plant was subjected to excessive heat and placed in a compost mainly consisting of rotten wood. This veteran spent several hours walking round the exhibits and talked freely of his past experiences. He is a non-smoker, and although his memory of the past is excellent he soon forgets events of the present. "But," said he, "there is one event I shall never forget if I live to be a hundred, and that was the wonderful group of Orchids exhibited by Sir George Holford at the International Show of 1912. It was better than all the politics."

ALTONA EXHIBITION.—In celebration of the 250th anniversary of Altona an exhibition was held in the Town Park, May 15th-21st. The finest group of Orchids was shown by Henri Freiherr von Ohlendorff (gr. Mr. Anderson), and received the First Prize in the amateurs' section. Although the exhibition was not of an international character, Messrs. Charlesworth and Co. were specially invited, and their extensive exhibit was awarded the First Prize in the trade division. There were several other amateur and trade exhibits, the exhibition being a great success.

Cœlogyne burfordiensis (*asperata* × *pandurata*).

CŒLOGYNE BURFORDIENSIS.

This interesting hybrid is the result of crossing C. asperata with C. pandurata. It was first raised in the collection of the late Sir Trevor Lawrence, Bart., and exhibited by him at the Temple Show, 1911, when it received an Award of Merit.

C. asperata is a native of Borneo and Sumatra, where it is found growing at an elevation of 1,500 to 2,000 feet. An illustration of a fine plant appears in the ORCHID WORLD, Vol. I., p. 220. C. pandurata was discovered by Sir Hugh Low, when exploring in the Bornean province of Sarawak. The plants were found growing on the trunks of trees in the swampy lowlands adjacent to the coast and river bank. An illustration of the species appears in the ORCHID WORLD, Vol. II., p. 251.

The above photograph is of a well-grown plant exhibited by Messrs. Charlesworth and Co. at the recent Chelsea Show.

Miltonia Charlesworthii, exhibited at the Chelsea Show, 1914.

MILTONIAS.

The recent Chelsea Show will be remembered for the many choice forms of Miltonia vexillaria and its hybrids, no less than five First-class Certificates being awarded to this genus. It has always been the custom to exhibit Miltonias at the important spring shows, and in the days of the old Temple Shows vexillarias were mainly responsible for filling up the large groups. One exhibitor, however, Sir Fred. Wigan, invariably showed M. vexillaria G. D. Owen, which in those days was unique. At the sale of his collection in May, 1907, the divided portions of this plant were eagerly purchased for considerable sums, and the elegant hybrids now flowering are very largely the result of working upon these originals. Miltonia Charlesworthii, as seen in the above photograph, has an elegant ray-like blotch of rich crimson, reminding one of a butterfly or moth resting on the centre of the flower. This beautiful hybrid was exhibited by Messrs. Charlesworth and Co. at the recent Chelsea Show, but has since been added to Mr. W. Waters Butler's rich collection at Edgbaston, Birmingham.

ANOMALIES IN HYBRIDISING.

I BOUGHT at Mr. Wilson Potter's sale, May 13th, 1908, Odontoglossum triumphans aureum, which was formerly in Mr. A. H. Smee's collection at Wallington. The plant was in flower, but not sufficiently strong to bear a pod. The pollen was used, so far as I remember, on (1) Od. luteopurpureum Vuylstekeanum; (2) a plain "white" Pescatorei; (3) armainvillierense xanthotes (Charlesworth); (4) crispum xanthotes. These last two pods either went off, or, if we raised any seedlings, they were lost. They pass out of my story and leave me only with crosses 1 and 2. Both these flowered this spring, the Pescatorei × triumphans (=excellens) being the first.

I made the cross, of course, with a view of getting a deep yellow excellens. Od. triumphans aureum was awarded a F.C.C., R.H.S., April 22nd, 1890. It still remains, I believe, the most beautiful of all the albino forms of triumphans, and as regards colour, it possesses a glorious honey-yellow ground on which blotches of a deeper yellow are superimposed; unfortunately it is utterly lacking in shape.

I hoped then to get a very yellow excellens —yellow ground and yellow blotches instead of brown; that any forms would appear having decent shape seemed most improbable. The result was surprising. Of about eighteen plants that have flowered so far, none has had any shape, nor does any one of them show that the yellow of the triumphans aureum has had the smallest effect on the progeny. I have bred the very worst form of the ordinary excellens—small flowers of bad shape, profusely spotted with the dark brown blotches of a typical triumphans.

After seeing one or two of these failures I betook myself to Mr. Charlesworth, who has, I think, a greater practical knowledge of hybridising than anyone in the country, and poured out my tale of woe. It was to the effect that I had put the yellow triumphans on to a white Pescatorei, and had bred a very bad darkly blotched excellens. "But wait a moment," Mr. Charlesworth said, "was your Pescatorei really and truly a pure white? Was there the faintest trace of colour in the flower?" I admitted that I was only speaking in general terms in calling the Pescatorei white; the flower was unspotted, practically white with a very faint tinge of violet or mauve on the sepals. "Very well," my mentor replied, "so long as there was the least colour in the Pescatorei you were certain to get a dark coloured and not an albino excellens."

Now we all know the danger of trying to raise whites from parents that deviate in the smallest degree from absolute albinos. I have a Cattleya Gaskelliana alba which has just the faintest suggestion of flushing on the lip, so faint that it takes a great deal of finding. I have always been afraid to use this Cattleya either as a seed or pollen parent on that ground. If I crossed it with, say, a C. Mossiæ Wageneri I fear I should get coloured seedlings owing to the Gaskelliana reverting to the coloured type in the offspring. But I should *not* have supposed that the colour sap in the Gaskelliana would take upon itself the quite unnecessary duty of poisoning the white Mossiæ as well and turning that back to the typical coloured form. Yet that is exactly what has happened in the case of my excellens. There was very little colour in the Pescatorei to start with. I was prepared to find this colour, or even more, to come out in the hybrid. It might have turned itself into a spotted Pescatorei for all I cared, so long as it let the triumphans alone. Not a bit of it! The colour sap in the Pescatorei seizes on the beautiful yellow spots of the triumphans aureum and turns them into the ugly brown of the type. Why? Why on earth should it do a criminal deed like this? Can science explain?

Why does C. Mossiæ Reineckiana breed true, that is keeping white sepals and petals in the progeny, if mated with a white? Here is a highly coloured lip, and, after all, the lip is only a modified petal, which repeats itself in the hybrids, leaving the sepals and petals unaffected. Messrs. Mansell and Hatcher received a F.C.C. for Cattleya Empress Frederick alba, which they exhibited at the

Chelsea Show last year; the parentage is said to be Mossiæ Reineckiana × aurea; the sepals and petals are absolutely pure white, so that the yellow of the aurea has been wiped out by the Reineckiana, and the lip a glorified aurea.

To return, however, to my second cross —the luteopurpureum Vuylstekeanum × triumphans aureum (= O. Jorisianum). Our recent experience with the excellens had not made me very hopeful of getting any better result, so far as keeping the pure yellow colour, with the cross. I had lost all faith in the triumphans aureum, and thought that the fault lay there, and that it was not breeding true. The spike is now open and the flowers are all one could hope for, a pure yellow ground blotched with a darker yellow, not a trace of brown or any other sign of reversion to type. The shape is abominable, but that was to be expected. Nothing but a miracle could give shape to the hybrid of two such parents as triumphans aureum and luteo-purpureum Vuylstekeanum. Still we did in this case get what we started out for, and that's something when you go a-hybridising.

F. Menteith Ogilvie.

XANTHIC ODONTOGLOSSUMS.

SOME few years have now elapsed since the commencement of the interest which has been taken in blotched Odontoglossums of the crispum type. Many cultivators well remember how the discovery of a spotted variety of crispum was eagerly awaited, and how, by good growing, the spots increased in size and gave additional value to the plant. Many weak and starved plants of the spotted type were purchased by skilled growers, who in the course of a few years brought them to a vigorous habit of growth, resulting in an accentuation of the spotting, frequently to such a degree that spotted forms became blotched varieties. All this, however, was entirely concerned with various tints of rose- and crimson-purple. Amateurs and trade growers alike were then so intensely absorbed in the subject that they took but little notice of any other varieties of crispum. But there is fashion in all things. After a time some of the keenest growers, becoming tired of their blotched crispums, sought for other charms, and thenceforth was started a new and spreading interest in the pure white and allied forms of Odontoglossums.

There are several varieties of crispum xanthotes, their merit depending on the width of the segments and the amount of spotting and its brightness. The origin of the spots is no doubt due to hybrid influence, and their yellow nature to albinoism, or lack of the usual purple pigment. Pescatorei does not appear to have yielded anything of a xanthic nature, but there are pure white forms, and these mated with yellow-spotted crispums give favourable results, known as armain-villierense xanthotes. When these hybrids are crossed with crispums of similar nature the spotting is accentuated and xanthic eximiums are produced.

The general opinion that primary hybrids show but little variation does not hold good in the case of a batch of armainvillierense xanthotes raised by Messrs. Charlesworth. Two distinct kinds were produced. Some follow closely the crispum habit, with its straight spike of roundish flowers; the others resemble Pescatorei in growth and carry slender branching spikes of narrower flowers.

History repeats itself, and doubtless it will do so with Odontoglossums. In the near future we shall find an interest being taken in the improvement of the yellow-spotted forms, and cultivators will endeavour to produce a similar improvement to that carried out in the purple-spotted varieties. As far as present experience goes, the production of xanthic flowers is likely to be extremely difficult and slow, and by no means so easily accomplished as the making of purple-coloured forms. The crossing of a heavily purple-spotted crispum with Pescatorei generally yields a richly-coloured armain-villierense, or ardentissimum as it is often called, but the mating of a yellow-spotted crispum with a pure white Pescatorei produces

either plain or yellow-spotted hybrids; there is no evidence of the yellow pigment becoming transfused over the greater part of the flower, as is the case with the purple ardentissimums. The repeated intercrossing of selected xanthic varieties will accentuate the formation of the yellow matter, and by this means a gradual improvement may be expected.

So far, we have only dealt with adventitious spotting. We may now consider the species which are invariably blotched and spotted. Of these there are several which have produced albino forms. The term albino is here applied to varieties which have lost their purple pigment, the blotching and spotting still being visible, but of varying yellow and golden tints. These varieties include triumphans aureum, gloriosum citratum, Lindleyanum aureum, Sceptrum aureum, luteopurpureum Vuylstekeanum, grande Pittianum, cordatum aureum, Insleayi aureum, Uro-Skinneri album and bictoniense album.

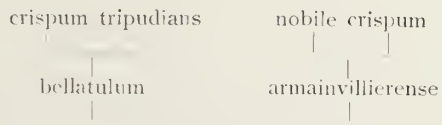
Odontoglossum Jorisianum (triumphans and luteopurpureum) was originally exhibited by Messrs. Linden, of Brussels, April, 1907. In this issue Mr. F. Menteith Ogilvie fully describes the interesting aureum variety, which he has produced by means of the aureum forms of both parents. This albino result came as a great surprise, for whenever luteopurpureum Vuylstekeanum has previously been used with other albinos reversion to the normal coloured type has not only taken place in every case, but in many of the seedlings the colour has been considerably darker than in those hybrids produced by ordinary forms of the parents. Jorisianum aureum is the first hybrid in which the albino form of luteopurpureum has found a suitable partner.

In September, 1909, Mr. H. T. Pitt flowered Od. stamfordiense (bictoniense × Uro-Skinneri), both parents being albino varieties, while the resulting seedling was intermediate in form and remained in the albino condition.

During the year 1913 Messrs. Charlesworth flowered several hybrids between Uro-Skinneri album and armainvillierense xanthotes. These all showed varying reversion to the normal type of colour, not a single albino variety was produced. An interesting occurrence, however, was the way in which some exhibited a semi-albino condition in the sepals and petals, while, at the same time, the labellum was fully coloured. This hybrid has been recorded as O. Elfrida.

Lindleyanum aureum and gloriosum citratum when mated with xanthotic crispums may produce albino forms of Coradinei and Andersonianum, but apart from this point of interest they will be of little use in breeding large flowers. Insleayi aureum and grande Pittianum might intercross, although they will bring nothing in the way of an improvement on either. So far as present experience goes there appears little chance of Insleayi and grande being crossed with their Colombian relations.

ODONTOGLOSSUM BELLAMINA.



BELLAMINA.

I made this cross with the object of fixing the blue in tripudians, which is developed strongly in the lip of that species (or hybrid as I strongly suspect it is). Choosing a bluish shade in the ♂ parent has effected a certain amount of what was attempted, but the first plant to bloom seldom gives the ideal desired.

The whole flower conforms to the ♀ parent, the blotching of the segments being similar in arrangement with a white margin all round both sepals and petals. The lip has good characters, being intermediate in form, and three-quarters covered by a bluish lilac brown overlay.

When looked through towards the light the whole of the blotching assumes a bluish-lilac hue. Perhaps another variety will go a step nearer "The Blues."

de B. Crawshay, Rosefield, May 7th, 1914.

POTTING MATERIAL.

THE composition and condition of the potting compost is a very important factor in the cultivation of Orchids, the more so because under artificial conditions the plants have not the same opportunities as those growing in their natural habitat. Whether we grow our plants in pots, pans or baskets, the roots in each case are confined to a very small area and to the precise material that is placed around them. It may be taken as a general rule that the greater the amount of knowledge possessed by the cultivator so much the more care does he take in the selection of the necessary compost. The cultivator who treats all his plants alike, and who uses but one definite mixture, never reaps that full measure of success enjoyed by thoughtful and studious attendants. Many valuable and rare plants have been lost entirely through unsuitable treatment of their roots, and not because the glass-houses have been badly constructed, or the outside conditions too varied. The lack of knowledge regarding the necessary potting compost is chiefly confined to the commencing amateur and to the man who has but a small selection of Orchids, which by necessity are cultivated with ordinary greenhouse plants.

The two important sections into which popular Orchids may be placed are known as terrestrial and epiphytal. The former contains the genera Cypripedium, Cymbidium and Phaius, all of which are well-known and usually to be found in every collection. In their native habitat they are accustomed to dwell on heavy soils, and consequently are furnished with strong fleshy roots. To ensure success under artificial conditions a compost similar in substance and moisture-holding capability must be used, hence the necessity of including a proportion of fibrous loam. Many of the strongest growing terrestrial Orchids require a compost consisting of at least one-half loam, the other half being a mixture of sphagnum moss, leaves and osmunda fibre. No doubt loam alone would suffice if it were possible to keep it in fresh condition, but the constant application of water and the oftentimes close nature of the atmosphere are not helpful factors. On this account the addition of some lighter and fibrous material to assist the surplus water in passing away is very necessary.

Although loam compost apparently keeps in good condition for two or three years, and is, in fact, generally so used, it must not be assumed that it is of service to the plant during the latter part of this period. Its power of rendering nutriment ceases long before its solidity disappears, and many a plant has been unconsciously starved through being surrounded by exhausted compost. On this account it is necessary to carefully examine each plant at least once a year, and whenever root action has been vigorous it is practically certain that the surrounding loam has been exhausted of its nutritive properties. Whenever this is the case, the old compost should be carefully removed and fresh material substituted. It is by no means necessary to wait until the old compost has become rotten before repotting the plant. Such procedure allows the plant to gradually weaken itself, so that when the actual operation takes place it is in a very enfeebled state to withstand the shock, and subsequent recovery is considerably retarded. The secret of successful culture is to sustain a continual healthy existence, and total absence of starvation and consequent check.

In the cultivation of epiphytal kinds we must be guided by the nature of the roots, for they differ considerably in size and strength. Epiphytes require an open compost which the roots can permeate with freedom. Their long existence on trees and other places exposed to the atmosphere necessitates a similar airy position when under artificial cultivation. The compost must be of an open fibrous nature, and not compressed so tightly that it is reduced to an almost solid mass. No amount of care will ever remedy the evil produced by unsuitable compost.

When preparing the various composts it will be found very advantageous to separate the coarse and fine fibre. All young seedlings

and small propagated plants have delicate roots and need a soft compost of light fibrous material. The addition of extra moss may well be recommended, so long as it is not allowed to hold an excessive amount of moisture. With this considerable care is needed, or the roots are more liable to perish than to grow.

HINTS FOR COLLECTORS.

Under the above title the *Kew Bulletin* publishes some useful notes on the collecting of botanical specimens. Concerning Orchids it is remarked:—"Those kinds which have fleshy pseudo-bulbs, such as Dendrobium, Epidendrum, Cattleya, Catasetum, and Odontoglossum, should be collected at the end of the growing season, dried by a little exposure, and then packed in light boxes in dry wood shavings. Wide, shallow boxes are preferable to deep boxes; the latter, if used at all, should have battens placed across to support the upper layers of plants and prevent the others being crushed. A few holes should be bored into the sides of the boxes for ventilation. They may be sent by steamer and labelled, 'For cool, dry place in hold.' Phalænopsis, Vanda, Cypripedium, and all such Orchids which have no fleshy stem or pseudo-bulb, should be packed in close boxes or Wardian cases with damp moss or soil. If possible, they should have attention during the voyage.

"Tuberous rooted Orchids should be gathered at the end of the growing season, and kept dry for a few days until the foliage has withered. They may then be packed in a wooden box in wood shavings, paper, or any dry and light material. Straw and hay, however, are apt to become mouldy and should not be used for this purpose. The rhizomes, bulbs or tubers should be packed in the box in such a manner that they cannot move about, as they are very liable to perish if bruised during transit. When the rhizomes are small or thin, they travel best if packed in slightly moistened light material, such as cocoanut fibre, peat soil, sawdust, or wood shavings."

DENDROBIUM SUPERBUM.

THIS handsome species is a native of the Philippine Islands, where it was discovered by Cuming during his visit in 1836-1840. Plants were sent home to Loddiges, of Hackney, and first flowered in England in the year 1839. These were described by Lindley under the name D. macrophyllum, an appellation already used by A. Richard for another species of the same genus. In 1861 Reichenbach rectified the error by re-naming it D. superbum.

D. superbum is elaborately figured by Warner in his "Select Orchidaceous Plants, 1862-5," the plant represented being one in the then well-known collection of John Day, of Tottenham. Warner states: "This plant bloomed last year in such beauty that one could hardly imagine anything nearer perfection; it was certainly one of the most finely-grown plants we have seen, the pendant stems being 4 feet 6 inches in length, each of them bearing more than fifty of the large exquisitely-tinted flowers. Mr. Day's specimen was grown in a wooden basket, suspended from the roof, and the long pendulous stems, clothed with flowers, hanging amongst the fronds of tree-ferns, had an exceedingly good effect, the ferns supplying the need of natural foliage."

Several interesting and distinct varieties are known, the best being Dearei, F.C.C., R.H.S., April 11th, 1882, when exhibited by Lieut.-Col. Deare, of Englefield Green. Flowers pure white, faint lemon-yellow flush in the tube of the lip. The variety Burkei has light purple in the throat of the lip, while in the variety Huttonii the pure white flower has the throat of bright purple with slightly darker veining. Of this latter variety excellent flowers come from the collection of Capt. Robert Twiss, Birdhill, Limerick, who evidently grows his plant to perfection, for one spike has three large blooms, all of thick substance. D. superbum is noted for its peculiar scent, which strongly resembles that of rhubarb. In some gardens we have seen the plants labelled D. rhubarbianum, which is, of course, incorrect.

ODONTOGLOSSUM MENDAX

(Kegeljani × Ossulstonii).

Mr. C. J. Lucas, of Warnham Court, Horsham, has raised this from a species that many think useless, but Kegeljani has fine qualities, and when used with the correct "mates" produces fine things.

This, the first plant to bloom, is quite distinct from any Harryanum descendant that I have seen, owing to the influence of Kegeljani giving it that fine arrow-headed blotch on the lip.

Sepals and petals yellowish-white ground, blotched and spotted for two-thirds their length with bright shining brown. Lip broadly ovate oblong, and with the fine covering of colour above mentioned.

de B. Crawshay, Rosefield, May 7th, 1914.

PLANT REGISTRATION.

As an example of plant registration we reprint the following from *Horticulture*, U.S.A., May 16th, 1914:—

Department of Plant Registration.—Public notice is hereby given that Mrs. B. B. Tuttle, of Naugatuck, Conn., submits for registration the Orchid described below. Any person objecting to the registration or to the use of the proposed name is requested to communicate with the secretary at once. Failing to receive objection to the registration the same will be made three weeks from this date. Name—Lælio-Cattleya Tuttleæ. Description—Derived by crossing Cattleya Thayeriana with the pollen of Lælia Perrinii; habit of growth much like Lælia Perrinii; leaf and pseudo-bulbs dark green, suffused with reddish-purple; flowers intermediate between the two parents; sepals and petals light rose; lip nearly entire; in shape like that of C. Thayeriana, nearly white, with the apex of the front lobe deep crimson; flowers 4½ inches across. May 8th, 1914.

PHALÆNOPSIS SCHILLERIANA.

THIS beautiful Orchid has a world-wide reputation, and may be found in almost every collection where warm-house plants are grown. Its elegant leaves are an adornment to the house, and impart a tropical appearance throughout the whole year. It is, however, in the flowering season that the plants display their real beauty, for then their many-flowered spikes create one of the finest results that it is possible to produce in the floral world.

Our illustration depicts part of the magnificent show of P. Schilleriana flowering this season in the Imperial Garden at Shinjuku, Tokyo, Japan. The plants were collected in Manila, Philippine Islands, some fifteen years ago, and were at first cultivated in sphagnum moss, which proved very unsatisfactory. During the last four years, however, a mixture of osmunda fibre and a little sphagnum moss has been substituted, and during this period the plants have made rapid headway. At the present time the general health and condition of the plants leaves nothing to be desired, and, in fact, it appears impossible to effect any further improvement. One specimen carried no less than 187 flowers, borne on two spikes.

P. Schilleriana was originally named and described from a plant which flowered in the collection of Consul Schiller, of Hamburg, in the year 1860. From this date onwards it has always been held in the highest esteem by all lovers of rare and beautiful flowers, and the numerous illustrations that have appeared in various botanical and horticultural publications prove the interest that has been taken in it.

Propagation of all Phalænopses is extremely slow. Occasionally small plants are formed on the old flower-spikes, and these, when sufficiently large, may be taken off and potted separately. Imported plants are still the chief source of replenishing the stock, and although they are rather difficult to import in good condition their ultimate recovery is fairly rapid.

Phalænopsis Schilleriana flowering in the Imperial Garden at Shinjuku, Tokyo, Japan

Odontoglossum Queen Alexandrina, a beautiful hybrid of eximium parentage, exhibited at Chelsea by Messrs. Charlesworth & Co., and awarded First-class Certificate. Colour of flowers reddish-purple.

AN AMATEUR'S "MIXED HOUSE."

IT is considered by growers, and rightly, that the best conditions for a family of plants can only be properly attained by allocating one house for one class of plant. This cannot be disputed, but it is a statement which frightens the beginner, whose interest, perhaps, lies not in one class of plant only, but rather in variety and succession. If only one house can be possessed I am sure that by attention and intelligent interest persistently given a great choice lies before the amateur, and he need have no hesitation in making his one house attractive with Orchid bloom during the greater part of the year. The great difficulty, generally speaking, which faces him is the blank season when there are no flowers. It is then that interest wanes, and possibly ceases before the next flower season. And, moreover, to intensify this blank season the work is usually increased by reason of the necessary repotting, dividing, and general cleaning up of the resting occupants of the single house.

It is not every gardening amateur with little time—and that at odd periods—who can hold out against this, especially if his interest is mainly for the ornamental side of the question. But I am writing this in the hope that the blank season may be considerably lessened, and also to arouse the personal element in the beginner for the extension of his interest and efforts, although the one cool house is his only possession. The writer asserts, in face of the statement in the early part of this note, that if the beginner will persistently strive to make his plants comfortable and give what time he possibly can to their needs a mixed cool house is quite possible and can be made a success, and offers great attraction for the best part of the year.

The housing of a variety of cool-growing Orchids under one roof is both feasible and likely to be thoroughly successful if daily attention is given to their requirements, and if due intelligence is bestowed initially upon the selection of the Orchids.

It would be a good plan if the proposing grower would give some of his leisure time in looking up the subject before he commences the erection of the house in order to get a good general idea of the conditions necessary for the healthy life of his plants. If this be done the road would be cleared of many elementary difficulties, and subsequent experience would be sure to enlarge the ideas. There is much to be said with regard to the construction of the house, its plan and situation, etc., but all this ought to be realised before erection begins. Particulars can be found in published books upon the subject, and when these are digested an observant visit to a house in working order would clinch the matter.

When the house is constructed and stocked with a wise selection of Orchids, daily ventilation should be the most important point, especially with regard to the mixed house. Fresh air, warmed if necessary, ought always to have access to the house, and especially so when the outside atmosphere is a nice genial rainy one. I believe that cool-house Orchids especially revel in such.

The difficulty in selecting plants lies rather in the great number from which to select, rather than the lack of variety. Cypripediums, first and foremost, are the most useful, and these can be had in flower almost the whole year through. Their hybrids come at between times, so are extremely useful for shortening the blank season. Lycastes, too, are also most useful, and very lasting if removed to a dry atmosphere while in bloom. These certainly make capital plants for indoor decoration, for they remain long in bloom when in an ordinary room.

A few well-chosen Cattleyas, not forgetting the profuse flowering C. Harrisoniana, do well in the mixed house if placed at the warmer end. Lælias also are wonderfully attractive when suspended from the roof, especially L. Gouldiana, which with the writer is quite a success. Maxillaria grandiflora is also good, and the large leaves are quite ornamental. Cymbidiums of several sorts can be made happy with the above named plants.

Cattleya citrina is also worth having, as in

the writer's experience it requires but meagre attention. Let it be as dry as chaff and it responds with bloom in due season; in fact, it seems to glory in dryness, provided the atmosphere in the house is thoroughly moist at night. This night moisture is most essential. Oncidiums are simply superb. O. splendidum seems to revel in a parched condition; the writer's early difficulty was to keep it sufficiently dry. O. tigrinum is another lovely species which does well with mixed neighbours. Cœlogyne cristata is a good white subject, but to succeed with this feeding appears necessary, for it seems to have a very healthy appetite.

The item of cost is, of course, a big consideration to the "one-house amateur," but all the plants I have mentioned are not dear, and no misapprehension need be held on that score; moreover, opportunities occur when plants may be acquired on "easy terms."

Odontoglossums demand a separate house to themselves, and experience proves that this large and beautiful genus does not do well in a mixed house, even indeed if they live at all. So, good luck to the proposing Orchid beginner with only one house. He *can* have a mixed collection which will afford pleasure all the year round. Let such a one not be deterred; failures there may be, but there need not be *many* if attention, enthusiasm and common-sense be shown. Let his motto be "plenty of ventilation at all times," compatible with the proper temperature and atmosphere.

Alf. J. Paine, Wanstead.

NEW HYBRIDS.

ODONTOGLOSSUM JUCUNDUM.—This is the result of crossing crispum with McNabianum. Raised by Messrs. Sander and Sons.

CATTLEYA ARESTOR.—Messrs. Charlesworth and Co. have raised this hybrid between Nestor (Harrisoniana × Iris) and labiata.

SOPHROCATTLÆLIAS.— Messrs. Charlesworth and Co. have flowered the following new hybrids:—Delia (L.-C. Gottoiana × S.-C. Cleopatra), Electra (S.-L. heatonensis × C. labiata), Hebe (S.-L. Gratrixiæ × L.-C. Haroldiana), and Lotis (S.-L. heatonensis × C. Harrisoniana).

ODONTIODA RUBENS.—A pleasing flower of rosy-red colour, the parents being Ota. Charlesworthii and Odm. eximium. Exhibited by Mr. J. Gurney Fowler at the Chelsea Show.

ODONTIODA FOWLERIANA.—One of the prettiest and most promising hybrids in the Chelsea Show was that exhibited under the above name by Mr. J. Gurney Fowler. It is the result of crossing Oda. Bradshawiæ with Odm. percultum. The spike carried 11 neat flowers of yellowish ground colour, evenly blotched with crimson-red, the petals having horizontal bars of the same colour on the basal area. Like other hybrids of percultum the labellum is rose coloured and blotched with red, the prominent yellow crest showing to advantage. It is rarely that one sees so many colours in the same flower.

ODONTIODA ROSALIE.—This hybrid is the result of crossing Od. Thwaitesii (ardentissimum × Harryanum) with C. Nœzliana, and consequently is of more than ordinary interest, for it contains the four species from which the majority of our best hybrids have been produced. They are nobile, crispum, Harryanum and Nœzliana. The raiser of Rosalie is Mr. Richd. G. Thwaites, who sends the flower spike to prove what an elegant result has been obtained. All the segments are broad, the labellum particularly so, and of a rich solid red colour.

LÆLIO-CATTLEYAS.—Messrs. Flory and Black have recently named the following hybrids:—Decius (L.-C. Hippolyta × L. pumila), Flavius (L.-C. G. S. Ball × L. flava), Geta (L.-C. Picanus × C. Schröderæ), and Ossian (L.-C. highburiensis × L.-C. Pallas).

BRASSO-CATTLEYA PERVENUSTA.—The parents of this attractive hybrid are B. Digbyana and C. Fabia. Raised by Messrs. Sander and Sons.

BRASSOCATTLÆLIA PERVENUSTA.—Messrs. Charlesworth and Co. have recently

flowered this hybrid between L.-C. bletchleyensis and B. Digbyana.

BRASSOCATTLÆLIA ENDYMION. — The result of crossing B.-L. Digbyano-purpurata with C. Warneri. Raised by Messrs. Charlesworth.

LÆLIO-CATTLEYA DECIATA.—By crossing L.-C. Decia with L. purpurata Messrs. Flory and Black have produced a useful addition to this section. L.-C. Bellata (L.-C. Bella × L. purpurata) has also been recently flowered in their nursery at Slough.

ODONTIODA NELLIE HUNTER. — The result of crossing C. Nœzliana with O. Stewartianum. Flower of good size, somewhat resembling Andersonianum in shape, due to the influence of that hybrid in the parentage. Sepals and petals brick-red, lip scarlet with yellow crest. Raised by Mr. Alwyn Harrison, Watford.

CATTLEYA R. PROWE.—A pleasing hybrid shown at Chelsea by Messrs. Sander and Sons, and named in honour of Mr. Rud. Prowe, Moscow. The parents are C. intermedia alba and C. Suzanne Hye de Crom, the flower being pure white and of thick texture.

NEW HYBRIDS.—The following new hybrids were included in Messrs. Sander and Sons' Chelsea Show group:—Odontoglossums Fortuna (Arlequin × Harryanum), Albion (percultum × Rossii), Helicon (armainvillierense × Royal Monarch), Herodotus (nobile × Thompsonianum), Iconium (cirrhosum × Fascinator), Isidorus (cirrhosum × Rio Tinto), Iris (Fletcherianum × Lawrenceanum), Julius (Royal Monarch × Vulcan), Irene (nobile × Vulcan), and Milo (Adrianæ × Wilckeanum); Odontiodas Picardie (Odm. armainvillierense × Ota. St. Fuscien), Leda (C. Nœzliana × O. Rio Tinto), and Leonatus (C. Nœzliana × O. Thompsonianum); Cypripedium Julius (Rothschildianum × Lowii); Miltonia Isabel Sander (Rœzlii × Hyeana); Cattleya Magali Sander (Dusseldorfei Undine × Mossiæ Wagneri); Lælio-Cattleyas Gold Star (L.-C. Ariel × C. Mendelii) and Joy Sander (L.-C. luminosa × C. Schröderæ); and Brasso-Cattlælia Everest (L.-C. Canhamiana × B.-C. Mrs. Leemann).

THE FLOOR OF AN ORCHID HOUSE.

SURELY there is no importance to be attached to the floor of an Orchid house. What difference can it make to the plants, which are grown on the staging several feet above? More than one amateur has thus expressed himself, and many others never give the matter one moment's thought. Practically every amateur cultivator will eagerly consider the question of applying water to the compost, but as to the moisture in the ground beneath—well, that must take its chance.

The question of expense always has the consideration of the trade grower, and this is the principal reason why he selects the cheaply made paths which are in general use in his houses. Concrete and fancy tiles mean a heavy expenditure, and although they give a finishing touch to the conservatory and show house their cost renders them prohibitive. But here we have one of the secrets of the trade grower's success. In his so-called cheap paths he has a valuable asset, for in them one of the most natural and beneficial methods of construction has been adopted. If amateurs would dispense with their concrete and tiles better cultural results would be obtained.

Clinkers and cinder ash are excellent materials to use, and if a few fresh ashes are occasionally scattered over the surface a neat and lasting path will be maintained. Another method is to construct a lattice floor, placed a few inches above the ground, and to keep the under soil in a rough and frequently dug condition. But it matters little which method is used, the benefits in both cases being alike. The ground holds a constant supply of moisture and forms the only natural floor that can be devised.

Some of our successful growers are great believers in the beneficial properties given off from the soil in a gaseous condition. For this reason the soil in the house is frequently turned over, and each year it is removed to a depth of about six inches and replaced by fresh loamy soil from outside. Some

cultivators make a practice of spreading soil on the under-staging instead of the usual ashes or clinkers, and no doubt considerable benefit to the plants is thereby obtained.

It is a well-known fact that many Orchids are obtained from the forests, and for this reason cultivators sometimes place a supply of decaying leaves in the houses; but of late years this practice has fallen out of use, although the same effect is produced by including a proportion of leaves in the compost. Decaying leaves make a good hiding place for slugs, etc., and on that account cannot well be recommended, but if they are forked into the soil their decay is more rapid, and probably increases the beneficial nature of the atmosphere.

EPIDENDRUM VITELLINUM.

AMONG the many kinds of Orchids which can be grown by amateurs in an ordinary greenhouse there is undoubtedly no better example than the above. It is a bulbous species producing erect flower spikes of twenty or more small but brilliantly-coloured blooms. These are of a dazzling scarlet with yellow lip, and the most pleasing feature about them is the fact that a spike will remain over two months in perfection, and that such is produced with great regularity.

Of this beautiful Orchid there are two varieties, the spring and the summer-flowering type, but in other respects they are identical. A healthy and strong-flowering plant should be procurable at five shillings, and such will be found to grow and increase in size annually.

Its culture is very simple, and may be briefly summed up as follows. A light and airy position in a greenhouse in which the temperature does not fall below 45 degrees Fahr. in winter suits it admirably. Shade is necessary from April till the end of September, whenever the sun is bright. Fresh air is imperative to success, and the ventilators should be opened on all possible occasions. Frequent syringing round the plant induces vigorous growth, and from May to September the plants may be lightly sprayed overhead in the morning and again in the evening.

In watering this Orchid it is necessary to give enough at every application to thoroughly wet the whole compost, a mere dribble on the surface being useless. This is a point upon which too much emphasis cannot be placed. Sponging the leaves occasionally with rain water will also be found beneficial.

Repotting is needed every alternate year, and should be done when the new bulbs are seen to be forming. Remove the plant with care from the old receptacle, and cut away all dead roots and old bulbs, leaving about three bulbs to support the new growth. Carefully crock a clean Orchid pan, and after placing the plant in position work in the compost around it to within half an inch of the rim of the pan. The most suitable compost is chopped osmunda fibre, sphagnum moss and oak leaves, these being well mixed together and used in a damp condition. For a fortnight after root disturbance keep the plant rather drier at the roots.

Thrips attack this Orchid if the atmosphere is too dry. Fumigate and damp down more often, and this pest will disappear. From the above it will be seen that this Orchid is of easy culture, and from a decorative point of view it far surpasses many of the usually cultivated greenhouse plants.—*C. Alwyn Harrison.*

CATTLEYA MOSSIÆ "NELLIE HUNTER."—A pleasing form raised from seed obtained by crossing an ordinary variety with C. Mossiæ aurea. The spike carried three flowers of rose-purple colour, the labellum orange with purple markings at the apex. Expanse of flower 7 inches. Raised by Mr. Alwyn Harrison.

MANCHESTER ORCHID SOCIETY.—The next session will contain several interesting competitions, many valuable prizes having been offered, of which further particulars will be given.

CHELSEA AWARDS.

First-class Certificates.

Miltonia The Baroness, from Messrs. Armstrong and Brown.—A very distinct hybrid, in which the rose-coloured flower is shown to advantage, the central portion having a solid crimson blotch.

Miltonia J. Gurney Fowler, from Messrs. Armstrong and Brown.—An elegant result, the large flower of soft rose colour, the central area having a crimson blotch with radiating margin.

Odontoglossum Queen Alexandrina, from Messrs. Charlesworth and Co.—A remarkable hybrid, in which the reddish-purple colour is suffused over the greater part of the flower, leaving a thin line round the margin. Of eximium parentage.

Miltonia vexillaria sola, from Messrs. Sander and Sons.—One of the prettiest and most distinct vexillarias. The large flowers are effectively suffused with dark rose, the central area being rich crimson.

Miltonia vexillaria Lælia Sander, from Messrs. Sander and Sons.—A remarkable result, the elegantly-shaped flowers being of cream colour, the central mask of light ruby.

Lælio-Cattleya Medina var. Excelsior, from Messrs. Flory and Black.—Flowers of immense size, light rose sepals and petals, the labellum rich crimson-purple. One of the best hybrids in its section.

Lælio-Cattleya Haroldiana "Bronze King," from Messrs. Stuart Low and Co.—A charming flower, of beautiful bright reddish-bronze, the segments broad and well developed. The best of its kind.

Miltonia Princess Victoria Augusta, from M. Chas. Vuylsteke.—The large white flowers having rose tint on the base of the petals, the labellum blotched with crimson.

Odontioda Perfection, from Messrs. J. and A. McBean.—The finest Odontioda in the show. Flowers large and of rich scarlet-red.

Awards of Merit.

Brasso-Cattleya Schilliana (B.-C. Digbyano-Mossiæ × C. Mossiæ), from Messrs. Armstrong and Brown.—A charming flower, with broad segments of rose-pink colour.

Odontoglossum Chantecleer, from Messrs. Armstrong and Brown.—A handsome flower with large solid blotches, lip with white apex.

Lælio-Cattleya Fascinator-Mossiæ, from Messrs. Charlesworth and Co.—A valuable addition to the alba section. Flower large, creamy-white, lip broad.

Odontoglossum Dusky Monarch, from Messrs. Charlesworth and Co.—The well-developed flowers handsomely blotched and spotted with reddish-brown.

Lælio-Cattleya Sunstar (L.-C. Myra × L.-C. Andromeda), from Messrs. Charlesworth and Co.—One of the finest pure yellow hybrids.

Cattleya Magali Sander (Dusseldorfei Undine × Mossiæ Wagneri), from Messrs. Sander and Sons.—A great improvement on the former parent. Flowers large, of good substance, and pure white.

Cymbidium Venus (Holfordianum × insigne), from Messrs. Stuart Low and Co.—The plant carried an erect spike of ivory-white flowers, the broad labellum evenly spotted with rose-red. Very distinct.

Miltonia Adonis, from M. Vuylsteke.—A pleasing rose-tinted flower with a dark crimson blotch. Petals flushed with rose.

Odontioda Prince de Galles, from M. Vuylsteke.—All the segments well developed and evenly marked with reddish blotches.

Miltonia Roger Sander (M. Warscewiczii × O. percultum), from Messrs. Sander and Sons.—An interesting hybrid with purplish flowers, the labellum well developed.

Cultural Commendation

To Mr. Collier, Orchid grower to Sir Jeremiah Colman, Bart., for a magnificent plant of Odontioda Bradshawiæ "Fire King."

To Mr. Collier for a fine specimen Dendrobium Lyonsii with five spikes of rose-coloured flowers.

To Mr. E. Hill, Orchid grower to F. J. O. Montagu, Esq., Lynford Hall, Brandon, for a noble specimen of Cattleya intermedia alba, bearing 13 spikes of flowers.

CHELSEA SHOW.

MESSRS. CHARLESWORTH and Co. were awarded a Gold Medal for an exceptionally fine group, at each end of which were large masses of Miltonia vexillaria and pyramids of Lælio-Cattleyas. The centre was made up of a very choice selection of Odontiodas and pure white Odontoglossums, the red and white making a striking contrast. Bright yellow Oncidiums were used on the highest portions. Miltonia Charlesworthii, a large flower with the dark crimson blotch well developed, was very attractive, and equally so was Cœlogyne burfordiense, with an arching spike of greenish flowers. Oncidium monachicum metallicum, with numerous flowers; Thunia Marshalliana, well flowered; Phalænopses in variety; Vanda teres, and many botanical species occupied prominent positions. Yellow-flowering Cattleya hybrids were a special feature, and included L.-C. Sunstar and L.-C. Euripides. Choice varieties included Cattleya Mendelii "White Swan," C. Mossiæ "Queen Alexandrina," L.-C. Martinettii "King Christian," and Odontoglossum Aglaon "Queen Mary." The group covered an area of about 500 square feet.

Messrs. Sander and Sons received a Gold Medal for an equally extensive and beautiful group, a special feature being the rare botanical plants and the richly coloured varieties of L.-C. Hyeana. The Miltonias were specially good, and included vexillaria sola, which received a F.C.C.; vexillaria "Lælia Sander," a similar award; and vexillaria "Our Princess," a very beautiful variety. White Cattleyas were well represented. Brasso-Cattleyas were particularly fine, and there were good plants of various Phalænopses. One of the prettiest portions was that occupied by well-flowered plants of Trichopilia suavis. Cattleya Schröderæ was to be seen in many varieties, the one called Queen Empress receiving the Davidson Cup for the finest Cattleya in the show. The new hybrids were numerous and are specially noted in another paragraph. The excellent manner in which the plants were displayed evoked much praise.

Sir Jeremiah Colman, Bart., Gatton Park, was awarded a Gold Medal for a group, which although not so large as the preceding, contained plants of special beauty and cultivation, and thus scored many points. Odontiodas were amongst the finest in the show, O. Bradshawiæ carrying 3 spikes with a total of 170 flowers; while another plant of the same carried over 200 flowers, and received Cultural Commendation. The rich scarlet-red colour was greatly admired and excelled all previous exhibits. Dendrobium Lyonsii was shown in fine condition, the specimen receiving Cultural Commendation. Several other choice Orchids were also included.

His Grace the Duke of Marlborough, Blenheim Palace, was awarded a Silver-gilt Cup for an attractive exhibit containing many Cattleyas and their hybrids. L.-C. G. S. Ball was in fine condition, the many-flowered spikes of orange-red showing to advantage. Cypripedium callosum Sanderæ was grouped in masses, and the pretty Cyp. hirsutissimum was equally effective. The bright yellow Anguloa Clowesii, Brasso-Cattleya Digbyano-Mossiæ with 6 flowers, B.-C. Digbyano-Mendelii, and several excellent varieties of Cattleya Schröderæ were in prominent positions. White Cattleyas were also included, as well as Dendrobium nobile virginale.

Messrs. Armstrong and Brown secured a Silver-gilt Cup for a very extensive exhibit of species and hybrids. Cœlogyne pandurata was exceedingly good, and Cattleya Skinneri alba carried numerous flowers. Masdevallia Veitchii with its large scarlet-red flowers added touches of brightness. Cymbidiums were placed along the back, and included Pauwelsii and Alexanderi. Cypripediums were excellent, the large-flowering Holdenii and Maudiæ being much admired. Miltonias were a leading feature, the varieties "J. Gurney Fowler" and "The Baroness" both receiving First-class Certificates. Along the front were several groups of Odontoglossum and Odontioda hybrids, all flowering for the

first time and showing much promise. Lælio-Cattleyas included some large and richly-coloured forms, and there were several distinct Odontoglossums, the best being "The Baron" and Hylandianum.

Messrs. Cypher and Sons received a Silver-gilt Cup for a very artistic exhibit of decorative plants and Orchids, the latter including some excellent varieties of Cattleya Mendelii, strong plants of Calanthe veratrifolia, Lælio-Cattleyas in variety, the rich red Renanthera Imschootiana, and various Epidendrums and elegant hybrids. This exhibit was placed on the ground, and its excellent arrangement scored many points.

Messrs. Mansell and Hatcher received a Large Silver Cup for a tastefully arranged exhibit. In it were good plants of Phalænopses, Miltonia vexillaria alba, Odontioda Chantecleer, very fine, the scarce Odontoglossum Sceptrum aureum, O. crispo-Wiganianum, Lycaste Skinneri hellemensis, of beautiful rosy colour, and many attractive hybrids. The centre of the group was composed of the red-flowering Renanthera Imschootiana and white Phalænopses. A feature was the rich selection of yellow Odontoglossums.

Messrs. Stuart Low and Co. were awarded a Silver Cup for a very extensive exhibit, which contained some excellent varieties of Cattleya Mendelii and Mossiæ. The new Cymbidium Venus was much admired and so was the very beautiful L.-C. Haroldiana "Bronze King," which received a First-class Certificate. The stately Cyrtopodium Andersonii, the rare Vanda cristata, several plants of V. cœrulescens, the curious Microstylis kaisiana, and other Orchids of botanical interest were well staged. Odontoglossums included some choice varieties, and Oncidiums, as well as Epidendrums, made an effective display. Varieties of Cattleya Schröderæ were specially good.

Messrs. J. and A. McBean received a Standard Cup for a good display of choice Odontoglossums, including many named varieties. Cattleyas were a feature, one specimen, C. Mossiæ, bearing 8 spikes with a total of 27 large flowers. Amongst Lælio-Cattleyas the forms of Helius were remarkable for their orange-yellow colour. Oncidiums were represented by the new O. McBeanianum and O. macranthum. Miltonias were also good, the varieties "G. D. Owen" and "The Marquis" receiving much attention. Odontioda Perfection was awarded a First-class Certificate, and there were excellent other examples of these popular hybrids.

Messrs. Flory and Black secured a Silver Flora Medal for a neat exhibit, containing the curious Nanodes Medusæ, good plants of Phalænopses, Cattleya Skinneri alba, Miltonia Rœzlii alba and Odontioda Sanderæ. Lælio-Cattleyas were well represented, and included Gladiator and Medina Excelsior, which received a First-class Certificate. Odontoglossums in variety were well arranged.

Mr. Harry Dixon received a Silver Flora Medal for a good group, in which were choice forms of various Cattleyas, two of the best being C. Mossiæ marmorata and C. Mendelii "May Queen." A well-flowered plant of Dendrobium Jamesianum, several Cymbidiums, pretty Odontiodas and Od. crispum xanthotes were also included. A choice plant was Cattleya Schröderæ alba.

Mr. C. F. Waters secured a Silver Banksian Medal for an exhibit of Miltonia vexillaria, distinct varieties of Cattleya Mossiæ and Mendelii, well-bloomed Odontoglossums and the attractive Dendrobium aureum.

Mons. Firmin Lambeau, Brussels, showed Odontoglossum crispum Madame Lambeau, a large flower, richly blotched.

J. Gurney Fowler, Esq., exhibited Odontioda Fowlerianum (Bradshawiæ × percultum), very attractive, and Odontioda Rubens (Charlesworthii × eximium), of rose-red colour. Also B.-L. Mme. Irene Mavrocordata, with bronze sepals and petals.

J. J. Bolton, Esq., Heathfield, Pendleton, exhibited Odontoglossum eximium Boltonii, a very promising hybrid, with large flowers of reddish-crimson colour.

James Horlick, Esq., West Dean Park, Chichester, exhibited some well-cultivated plants of Vanda teres.

Lieut.-Col. Sir George Holford, K.C.V.O., exhibited Odontioda Queen Mary Westonbirt

variety, a pleasing flower spotted and blotched with scarlet-red, the petals having a rose line of colour, the lip rose with red spotting.

Wm. R. Lee, Esq., Plumpton Hall, Heywood, showed Miltonia vexillaria alba, a large whitish flower.

Richd. Ashworth, Esq., Newchurch, staged Cypripedium bellatulum var. Richard Ashworth, a curious form, in which the yellow-tinted flower is heavily marked with crimson-red blotches.

Ernest Mocatta, Esq., Woburn Place, exhibited Miltonia vexillaria Woburn, a large rose-pink flower, and M. v. leucoglossa, a very distinct and beautiful form.

Mons. Jules Hye de Crom showed Miltonia vexillaria alba, a pure white variety.

CHELSEA NOTES.

Once again may the great Chelsea Show be recorded as a complete success. The weather was perfect, the attendance of visitors better than ever, and the number and quality of the exhibits a record.

In future years the R.H.S. may find it advisable to prolong the duration of the Show. The Orchid groups have now become so elaborate and extensive that two or three days are required for their preparation. This means that the principal exhibitors must commence work some time previously, generally on Saturday, in order to complete their groups by judging time on Tuesday morning. The opinion of several important firms is to the effect that such strenuous preparations are not compensated by only two and a half days' admittance of the public, and, moreover, should the weather be unfavourable many would be kept away. The Show might be opened on a Wednesday and continued until Saturday night, or even Tuesday. Failing this, there is good reason to believe that the groups may not be so large on future occasions, which would be greatly regretted.

In the case of exhibitors with large plants the 7-foot staging was not wide enough to allow an artistic display, and an improvement in this matter would be effected by allowing a staging width of 9 feet.

Almost every year brings with it some novelty, but although nothing very special in this way can be recorded it was nevertheless a Miltonia occasion, no less than five First-class Certificates being awarded to this genus. Years ago it was Odontoglossums, then Cochlioda hybrids, and now Miltonias. The judges have been censured for awarding so many, but we feel sure that the merits of the plants fully justified their action.

ROYAL HORTICULTURAL SOCIETY.

May 5th, 1914.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Gurney Wilson, W. Bolton, F. Sander, R. G. Thwaites, F. M. Ogilvie, T. Armstrong, A. McBean, W. Cobb, J. Charlesworth, W. H. Hatcher, J. E. Shill, H. G. Alexander, G. Hunter, W. P. Bound, A. Dye, E. H. Davidson, F. J. Hanbury, C. J. Lucas, Stuart Low, de B. Crawshay, S. W. Flory, and Sir Harry J. Veitch.

FIRST-CLASS CERTIFICATES.

Odontoglossum crispum The Baroness, from Baron Bruno Schröder, The Dell, Englefield Green.—An extremely fine variety which has previously received an Award of Merit. The immense flower blotched with rose-lilac. Petals very broad and fringed. Lip whitish, with a red-brown blotch.

Odontoglossum Helmuth, from Baron Bruno Schröder.—A beautiful hybrid of the Amethyst type. Petals very broad and richly coloured with reddish-crimson.

AWARDS OF MERIT.

Bulbophyllum Fletcherianum, from the Rev. J. C. B. Fletcher, Mundham Vicarage, Chichester.—This caused considerable attention, the large bulbs being of dark green

colour, with a granulated surface, and large fleshy leaves, purplish-green, having a glaucous nature. The inflorescense had seven dark reddish flowers, speckled with white. A native of New Guinea.

Cypripedium macranthum album, from Mr. G. Reuthe, Fox Hill Nursery, Keston.—The true albino form of the species.

Oncidioda Mauricii (On. tigrinum × C. vulcanica), from M. H. Graire, Amiens, France.—A new bigeneric hybrid. The plant carried a spike of 14 flowers, the sepals and petals dull purple, the labellum primrose-yellow and resembling the Oncidium parent.

Other Exhibits.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, exhibited Odontioda Chantecleer Orchidhurst variety, and also the Westonbirt variety of the same hybrid, both being very attractive, and of bright scarlet colour.

The Hon. Lady Neeld, Grittleton, Wilts, exhibited Odontioda Diana Grittleton var., a very beautiful hybrid with a spike of 25 red flowers.

Mrs. Norman Cookson, Oakwood, Wylam, showed Odontioda Vivienne, a charming variety, and Odontoglossum illustrissimum Cookson's variety, a large handsomely blotched flower.

F. M. Ogilvie, Esq., The Shrubbery, Oxford, exhibited Odontoglossum Jorisianum aureum (triumphans aureum × luteopurpureum Vuylstekeanum), an interesting hybrid with yellow blotches on all the segments; also the unique Odontoglossum Harwoodii Shrubbery variety, figured in the Orchid World, Vol. III., p. 92.

de Barri Crawshay, Esq., Rosefield, Sevenoaks, showed Odontoglossum harvengtense, a round flower with dark blotches; O. Queen Alexandra, a fine hybrid with bold flowers richly coloured; and Odontioda rosefieldiensis Crawshayana, with large orange-red flowers.

F. du Cane Godman, Esq., South Lodge, Horsham, showed the pretty Pleione yunnanensis.

R. G. Thwaites, Esq., Streatham, showed a few select Orchids, including Odontoglossum Pescatorei virginale and Lælio-Cattleya Pizarro.

H. T. Pitt, Esq., Stamford Hill, received a Silver Flora Medal for an extensive exhibit which contained Aguloa uniflora, A. Clowesii, Maxillaria luteo-alba, Lælio-Cattleya Ganymede (L. Latona × C. Schröderæ), and L.-C. Syrinx, of reddish colour.

Messrs. Stuart Low and Co., Bush Hill Park, were awarded a Silver Flora Medal for a large group, in which were many fine plants of Renanthera Imschootiana and Dendrobium Jamesianum, the red and white making an effective display.

Messrs. Hassall and Co., Southgate, were awarded a Silver Banksian Medal for a group of well-flowered Trichopilia Backhouseana, Cattleya Schröderæ in variety, and others.

Messrs. Charlesworth and Co., Haywards Heath, staged a few very choice plants, the best being Miltonia Charlesworthii, and Odontiodas Madeline and Hippolyta.

Messrs. Flory and Black, Slough, exhibited a good selection of Lælio-Cattleyas, the best being L.-C. Dominiana alba, with pure white sepals and petals, and a richly coloured lip; and the pretty Disa Luna, with effective blue coloured flowers.

Messrs. E. H. Davidson and Co., Twyford, showed Sophrocattlælia Dorila var. Mrs. Hatfield (S.-C. Doris × L. pumila), a very pretty flower with round segments of rosy-mauve colour.

MANCHESTER ORCHID SOCIETY.

April 16th, 1914.

Members of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. J. Bamber, J. Cypher, A. Hanmer, J. Howes, J. Lupton, C. Parker, F. K. Sander, W. Shackleton, H. Thorp, A. Warburton, Z. A. Ward, G. Weatherby, and H. Arthur (Secretary).

Large Silver Medals were awarded to R. Ashworth, Esq., Newchurch; A. Warburton, Esq., Haslingden; and Wm. Thompson, Esq., Stone.

FIRST-CLASS CERTIFICATES.

Cattleya Mendelii alba Ashlands var., and Lælia purpurata lineata, from R. Ashworth, Esq.

Odontioda Flamingo, large flower of brilliant colour, and Odontoglossum Princess Mary, from Wm. Thompson, Esq.

Odontoglossum Pharos, large flower, well spotted, from J. Leemann, Esq.

Miltonia Charlesworthii Marlfield var., fine flower with dark crimson-purple blotch on lip, from R. le Doux, Esq.

FIRST-CLASS BOTANICAL CERTIFICATE.

Cirrhopetalum Cumingii, from R. Ashworth, Esq.

AWARDS OF MERIT.

Odontoglossum crispum Christopherson, Od. Nebulum (nebulosum × aspersum), Od. Jasper Purple King, Od. crispum flaveolum, Od. Raymond, Od. Fascinator waltonense, all from Wm. Thompson, Esq.

Od. Mendelii Brilliant, Od. caudatum aureum, Od. crispum Puritan, Od. Darkei, all from R. Ashworth, Esq.

Od. Domingo de Larringo (Harryanum × illustrissimum), Od. ardentissimum Minnie, Od. Lambeauianum "Dr. John Utting," all from R. le Doux, Esq.

Od. eximium Cleome, from J. Leemann Esq.

Miltonia Bleuana Beardwood, from Col. J. Rutherford, M.P.

CULTURAL COMMENDATION

To Mr. Gilden, gr. to R. Ashworth, Esq., for Dendrobium Victoria Regina.

May 14th, 1914.

MEMBERS of the Committee present: Rev. J. Crombleholme (in the chair), Messrs. R. Ashworth, J. Bamber, J. Cypher, J. Howes, A. J. Keeling, J. Lupton, D. McLeod, W. J. Morgan, C. Parker, W. Shackleton, H. Thorp, Z. A. Ward, G. Weatherby, and H. Arthur (Secretary).

A Silver-gilt Medal was awarded to A. Warburton, Esq., Haslingden, and a Silver Medal to R. Ashworth, Esq., Newchurch, O. O. Wrigley, Esq., Bury, staged two magnificent plants of Dendrobium Falconeri.

FIRST-CLASS CERTIFICATE.

Miltonia vexillaria memoria G. D. Owen, from R. Ashworth, Esq.

AWARDS OF MERIT.

Odontoglossums Aeroplane, exquisitum, and Jasper "Ashland's var.," from R. Ashworth, Esq.

Odontoglossums Prometheus "Merle Dene var.," from A. J. Oakshott, Esq.

At the Annual Meeting the balance sheet was adopted. R. Ashworth, Esq., was re-appointed President and Hon. Treasurer; S. Gratrix, Esq., and C. Cookson, Esq., were added to the list of Vice-Presidents. The Rev. J. Crombleholme was re-appointed Chairman, with Z. A. Ward, Esq., as Vice-Chairman, and H. Thorp, Esq., Hon. Auditor, with H. Arthur, Secretary. The Committee was also elected. The prizes were presented to the successful exhibitors as follows:—

The President's Cup to R. Ashworth, Esq., who presented same to the Society, for competition during the coming session.

J. J. Bolton's Gold Medal to A. Warburton, Esq.; Gardener's Prize to Mr. A. Dalgleish. J. J. Bolton's Silver Medal to R. Ashworth, Esq.; Gardener's Prize to Mr. Gilden.

Botanic Society of Manchester's Gold Medal to R. Ashworth, Esq.

Charlesworth's Objet d'Art to Wm. Thompson, Esq.; Gardener's Prize to Mr. J. Howes.

Cypher's Gold Medal to R. Ashworth, Esq.

Davidson's Silver Trophy to R. Ashworth, Esq.; Gardener's Prize to Mr. Gilden.

Evans' Gold Medal to Wm. Thompson, Esq.; Gardener's Prize to Mr. J. Howes.

The Sander First Prize to Mr. A. Dalgleish; Second Prize to Mr. W. Gilden; Third Prize to Mr. J. Howes.

The Society's Gold Medal to Z. A. Ward, Esq.; Silver-gilt Medal to Col. Rutherford; Bronze Medal to the Rev. J. Crombleholme; Gold Medal (Small Amateur's) to H. Arthur, Esq.

THE
ORCHID WORLD.
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NOTES.

THE DAVIDSON CUP.—We learn with regret that the donor of this handsome trophy has decided to withdraw the same from competition during the year 1915.

RELICS OF THE PAST.—Through the kindness of Dr. Conrad Loddiges, the Royal Horticultural Society's Lindley Library has been enriched by the addition of some old catalogues of the renowned firm of Messrs. Loddiges and Sons. Three of them are specially devoted to Orchids, and bear the dates respectively 1839, 1841 and 1844. The title pages bear the following inscription: "Orchideæ in the collection of Conrad Loddiges and Sons, Hackney, near London, arranged according to Dr. Lindley's 'Genera and Species,' with their native countries, years of introduction and references to figures."

OBITUARY.—We regret to announce the death of Mr. Richd. le Doux, of Marlfield, West Derby, Liverpool, who had been an ardent lover of Orchids for more than thirty years. Of the many plants of interest exhibited from his collection we may mention Aerides odoratum, a unique specimen originally in the possession of Mr. E. S. Rand, of Para, and which was awarded a Silver Medal by the Manchester Orchid Society, August, 1898, when shown by Mr. le Doux. It was well worthy of the award, for it carried no less than 60 racemes. An account of the Marlfield collection appeared in the ORCHID WORLD, June, 1913.

CALANTHE ROLLISSONII.—This is one of the early hybrids whose history is imperfectly known. It was originally raised by Rollisson, of Tooting, but at what precise date has never been ascertained. The parentage is veratrifolia × masuca. Hansen, in his *Orchid Hybrids*, issued November, 1895, quotes Bergman's *Orchidées des Semis*, and repeats the latter's remark: "Nous ne savon si cette variété vit toujours." Bergman's work is unfortunately inaccessible, and consequently provides us with no earlier date than 1895. The discovery of an original Orchid catalogue of Messrs. Rollisson, bearing the date April, 1877, provides additional assistance by proving that Calanthe Rollissonii existed at that period, and as it is not included in the section devoted to New and Rare Plants we may conclude that it had been known for some time previously. It is described as a garden raised hybrid between veratrifolia and masuca, requiring an intermediate temperature, and offered at three guineas.

CATTLEYA ELDORADO CONCOLOR.—This species was first imported in 1866 by M. Linden from Rio Negro, Brazil. It is an early autumn flowering plant, but is not much cultivated in present-day collections. Mr. E. Baxter Cox, of Adelaide, S. Australia, has recently flowered a self-coloured variety, named concolor, in which the flower is a uniform rose-pink colour, excepting, of course, the yellow in the throat. The typical purplish blotch on the labellum is entirely eliminated, and if any distinction can be made it is that the lip is slighter lighter than the sepals and

petals. A pure white form is also known, and has been recorded under the names virginalis, Wallisii, and alba, the latter being the most suitable. The variety known as virginalis rosea has pure white sepals and petals and a rose-purple blotch on the front of the labellum.

Rapid Formation of Seed.—Although the majority of Orchids require a period of twelve months in which to form and ripen their seed there are a few notable exceptions to the rule. One of these is in the genus Eulophiella. Last summer Mr. Charlesworth fertilised E. Elisabethæ with the pollen of E. Hamelinii, the seed ripening in the remarkably short period of three months, while at the expiration of four months several healthy seedlings were in existence. The event was so unusual that it was decided to repeat the experiment during the following season. Accordingly, on March 3rd of this year, the same two species were intercrossed, Elisabethæ and Hamelinii each carrying a pod. On June 4th, exactly three months after pollination, both pods were fully ripe and contained a fair quantity of excellent seed. From these results we may conclude that with these species the normal period of fructification does not exceed the comparatively short period of three months.

Ornithocephalus grandiflorus.—It has often been remarked that the smaller the flower so much the more remarkable is its structure. O. grandiflorus is no exception to the rule, indeed, it is one of the most curious. The genus was formed by Hooker, and the specific name applied by Lindley. It is commonly known as the "Bird's Head Orchid" by reason of the long tail-like gland attached to the pollen masses. No satisfactory decision has ever been given regarding this unusually extended organ. In Cattleyas the usual size of the caudicle connecting the actual pollen grains with the viscid gland is rarely more than an eighth of an inch in length, but in the subject of this note, which is a very much smaller flower, it is fully half an inch long, while the position of the gland is not where one would expect it—just where the insect's head would be when visiting the flower—but placed near the end of the labellum furthest from the column. Exactly how fertilisation is accomplished is by no means certain. The plant is dwarf growing, and produces scapes from the axils of the leaves. The flowers, which measure about ¾ inch across, are white, each segment having an emerald-green blotch at its base. We are indebted to Mr. F. C. Puddle, Scampston Hall Gardens, Rillington, York, for sending an excellent example.

Phalænopsis Schilleriana.—The remarkably fine display of Phalænopsis Schilleriana depicted on page 205 of our last issue has brought forth many enquiries concerning the method of cultivation adopted in the Imperial Garden. The following details will therefore be of interest:—During the summer months the temperature of the Phalænopsis house varies from 85-95 degs. Fahr., and even higher when bright sunshine is present; at night time it falls to 75-85. In winter a day temperature of 70-80 degs. is maintained, rising with sun heat; at night it falls to 65-70. The plants receive a plentiful supply of water and atmospheric moisture during the summer, but in winter they are watered rather sparingly, although moisture in the atmosphere is always present. In the Japanese climate shading is found to be beneficial throughout the whole year.

Oncidium crispum.—This species, a native of Brazil, was introduced by Loddiges in the year 1832. The large flowers are carried on branching upright stems, and are of an uncommon brownish colour, except the column and the centre of the labellum, which are yellow. An unusually large and attractive form is in the collection of Mr. John Hartley, The Knowle, Morley, who kindly

sends some of the flowers. The total height of the inflorescence is 4 ft. 6 in., while there are five branches and an aggregate of 33 flowers. At the Manchester Orchid Society, January 2nd, 1913, an Award of Merit was granted to this plant under the name O. crispum The Knowle variety. Although this is usually a difficult plant to cultivate Mr. Hartley has proved that success can be obtained when once its cultural requirements are understood. Perhaps the trouble generally experienced in growing this species is one reason why it is so rarely seen in cultivation. The Knowle variety may be recorded as one of exceptional merit.

GOOD CULTURE.—We have received from Mr. W. J. Jones, Orchid grower to the Dale Estate Co., Brampton, Ontario, a photograph of a specimen Cattleya Trianæ having three spikes bearing a total of 20 blooms, eight of which are on one spike.

YORK GALA.—At the fifty-sixth annual exhibition Messrs. Mansell and Hatcher were awarded a Large Gold Medal and Messrs. Charlesworth and Co. a Gold Medal for groups of Orchids. Messrs. Cypher and Sons obtained first prize for the best table display of Orchids.

PROGRESS IN ORCHIDOLOGY. Mr. W. Mansell, commenting on the Orchids at Chelsea in the Journal of the N.O.E.H.S. remarks:—"The great progress made during the last twenty years in Orchids is really astounding, and I am often asked have we not reached the limit? I certainly do not think so. There is plenty of scope for progress for fifteen years or twenty years to come, even if no further new species are introduced. To the hybridist must be given the chief credit for the progress. We are now getting some lovely combinations of colour, and the constitution of the plants being vigorous we have obtained some fine subjects for exhibiting."

ORCHIDS IN 1877.

THAT the past is full of interest is no new fact, although it is not often possible to reveal its secrets. Mr. S. W. Flory, of the firm of Messrs. Flory and Black, has brought to light a copy of Wm. Rollisson and Sons' Orchid Catalogue for 1877, which contains many points of interest, and allows us to gather some idea of the nature of Orchid cultivation during that period. Rollisson's nursery at Tooting had a world-wide reputation, while the statement "Established a Century," which is included in the above catalogue, proves its long existence. It is worthy of note that the Duke of Devonshire once paid Rollisson the sum of £100 for a plant of Phalænopsis amabilis.

Under the title "New Plants for 1877" we find "Cattleya virginalis, having the appearance of C. Wallisii or C. Eldorado, the spike bearing from five to seven flowers, which our collector assures us are of great size and pure white, and is by far the finest of all the white Cattleyas. Native of the Amazon Valley. Plants as imported three to five guineas each." This is, of course, C. Eldorado alba, but the number of flowers is no doubt exaggerated. Also Goodyera Rollissonii, "a robust growing species, the leaves are rich deep green, margined, striped and blotched with creamy-yellow on the upper side, whilst below they are of a rich velvety claret-purple. A fine addition to this family of beautiful leaved plants. Price two to three guineas each."

Another novelty was Vanda undulata, now known as Stauropsis undulata. "An elegant small growing species, bearing short stout leaves. Sepals and petals pure white, beautifully waved on the edges, lip also white, stained with lemon colour. This will be found a great acquisition, especially to the cool house, as naturally it grows in pine forests at such elevations as to be frequently covered with snow. From Upper Assam. Price two to three guineas." At Sikkim this species grows at elevations of from 5,000 to 7,000 feet, and flowers during April and May,

but we fear the allusion to the plants being covered with snow is rather fanciful.

One division of the catalogue is devoted to New, Rare or Choice Orchids, and includes Calanthe Veitchii, 1-3 gns.; Cymbidium eburneum, 1 gn.; several Dendrobiums, at prices ranging from 10s. 6d. to 10 gns.; Masdevallia Davisii, 1-3 gns.; M. Harryana, 1½ gns.; M. Lindenii, 5 gns.; M. tovarensis, 3-5 gns.; Odontoglossum Alexandræ (crispum), 1-3 gns.; Miltonia vexillaria, 5-10 gns.; Oncidium Marshallianum, 2-5 gns.; various Phalænopses, 1-5 gns.; and Vanda spathulata, described as "a rare and beautiful species from the hills of Peradeneya, where it is found growing in the full sun upon dwarf jungle shrubs, blooming profusely from every growth." This was evidently of considerable value, judging by the remark "Price on application."

The following 48 pages are taken up with a comprehensive collection of species, as well as a few hybrids. Cattleya Mendelii is described as a variety of C. Trianæ, which is in accordance with the belief then held. C. Mossiæ comprises several varieties, although C. M. Wageneri is priced at 3 to 5 guineas, which in these days would be extremely cheap. Amongst the Odontoglossums there are a few natural hybrids, the parents of O. Coradinei being erroneously given as triumphans and odoratum. The native habitat of Paphinia cristata is given as "near the Mud Lake, Trinidad."

While alluding to the firm of Rollisson, we may conclude with a historical note as related by Mr. H. James: "The original plant of Dendrobium nobile nobilius was bought at Stevens' Rooms in 1876, and was one of a bundle of twelve plants, which cost twelve shillings. It flowered in the imported bulb state early in 1877, and was exhibited at Kensington. It was shortly afterwards sold to Messrs. Rollisson for five guineas, by whom it was exceedingly well grown and flowered freely in 1879, when it was sent to the Ghent Show in extremely cold weather and nearly killed. In the following autumn I bought the apparently dead plant for 75s., and raised six small plants from the tops of the bulbs."

PLEIONES IN SIKKIM.

AMONG the Orchids of this part of the Himalaya the Pleiones are special favourites of mine on account of their delicate beauty and the small amount of room they occupy in a cool house. I have now in flower several pans of P. Hookeriana, which I found on the Singalelah range at 9-11,000 feet elevation during the first week of April this year.

This species grows at greater elevation than any other epiphytic Orchid I know of in the Himalaya. The small globular pseudo-bulbs are buried in moss growing on rocks, or on the branches of trees, and are not easy to find when at rest. Though they must often be exposed to 10-15 degrees of frost and covered with snow, which only lies for a few days at intervals between December and March, they require such a damp atmosphere all through the growing season that I have not tried to grow them out of doors. But in a house suitable for Masdevallias they grow well in pans near the glass. I believe that some of those which I now have are descended from those figured in the *Botanical Magazine*, *t.* 6388, which I introduced as long ago as 1876. After having read what Sir Joseph Hooker said in his description and what Prof. Reichenbach says of the supposed variety brachyglossa, which he described in the *Gardeners' Chronicle*, 1887, p. 833, I see no reason to separate the latter. There is a considerable amount of variation in the characters relied on among the plants I now have in flower.

Another even more beautiful Pleione, which I found on the same excursion at a rather lower elevation—8-10,000 feet—and which the figure in *Botanical Magazine*, 5,674, hardly does justice to, is P. humilis. It is even more easy to cultivate than Hookeriana, and flowers about two months earlier.

Another common species in Sikkim which grows most abundantly on the moss covered branches of tall trees in the damp forest at 7-8,000 feet is P. præcox, of which P. Wallichiana is supposed to be a variety. This has a very wide geographical range from

Pleione Hookeriana, in the collection of H. J. Elwes, Esq., F.R.S., Colesborne, Cheltenham.

Landour in the N.W. Himalaya, where Royle found it on the branches of oaks at 7,500 feet, but he says "only in the moisture of the rainy season," which indicates that it flowers earlier or later than in Sikkim. I found it on the hills round the valley of Nepal, at about 7,000 feet, in February last, when it had gone out of flower; but the plants sent home by post were so little checked that the capsules are now swelling, and the leaves nearly mature. It also grows on Kollong rocks, in the Khasia Hills, at about 5,000 feet, and in Aracan at a lower elevation.

Lastly, a species was described in a quaint and characteristic way by Reichenbach (*Gardeners' Chronicle*, 1882, II., p. 840) as P. birmanica. This was found by Boxall in Burmah, and is treated in *Veitch's Manual*, Vol. I., pt. vi., p. 58, as a synonym of præcox. It seems to me that a critical revision of the genus is necessary to decide as to the specific differences, if any, of these forms.

Perhaps the most beautiful and one of the easiest to grow and increase of all the Pleiones is one introduced some years ago by Messrs. Sutton as P. yunnanensis (*Journ. Linn. Soc.*, XXXVI., p. 23), of which I have two very distinct varieties. From Messrs. Sander I have received a similar species under the name P. Delavayi (*Kew Bull.*, 1896, p. 195).

My companion in Formosa, Mr. W. R. Price, introduced another Pleione—P. formosana—which I hope to flower next year; and there are other allied species in S. China which I should be very glad to get if anyone possesses them.

H. J. Elwes, Colesborne, Cheltenham.

Zygopetalum Sir Trevor var. Brewii.

ZYGOPETALUM HYBRIDS.

THE first Zygopetalum hybrid flowered in 1874. It was the result of crossing Mackayi and maxillare, and bears the name Sedeni, who raised it for Messrs. Veitch.

Z. Clayi was raised in the collection of Col. Clay, of Birkenhead, and first flowered April, 1877, when the Manchester Botanical and Horticultural Society awarded it a First-class Certificate. It has also been recorded under the names crinito-maxillare and crinito-Gautieri. The parents are crinitum and maxillare.

Z. leucochilum first appeared in 1892. It was raised by Messrs. Veitch, the parents being Burkei and Mackayi, although it is uncertain whether the latter is correct; possibly intermedium was used.

Z. Perrenoudii was raised by Perrounoud in 1894, the parents being intermedium and maxillare. It has always been a popular hybrid.

Z. secundum is the result of crossing crinitum and Mackayi. It was flowered by M. Maron in 1899.

Z. Rœblingianum appeared in May, 1902. The parents are rostratum and maxillare, the raiser being M. Rœbling, of Trenton, N.J., U.S.A.

Z. Sanderi is the result of crossing Perrenoudii with Mackayi, although intermedium may have been the second parent. Raised by Messrs. Sander and Sons, January, 1903.

Z. Gottianum first appeared in April, 1904. It was raised by Messrs. Sander and Sons, the parents being maxillare and Perrenoudii.

Z. maxjorisi was exhibited at the Royal Horticultural Society, September, 1904, by Mr. R. I. Measures. The parents are maxillare and Jorisianum.

Z. Clarksoni appeared during 1909 in the collection of Mr. H. S. Goodson, Fairlawn, Putney. It is the result of crossing crinitum and Clayi.

Z. Sir Trevor was produced by crossing

rostratum and Perrenoudii, and under this name and parentage it is included in Messrs. Sander's Hybrid List of January, 1912. At the Royal Horticultural Society, July 16th, 1912, Messrs. Charlesworth received an Award of Merit for Z. Brewii, of similar parentage, which appears to be the earliest published record of Z. Brewii, although the cross was first raised by them during the year 1909. Our illustration is of a distinct variety in which the greenish sepals and petals are almost covered with reddish blotches; the labellum is well developed, of white ground with rich crimson lines of spotting, while the elevated portion at the base is blue, the two colours being very effective.

Z. Armstrongiæ is a handsome hybrid between intermedium and rostratum, and was exhibited by Messrs. Armstrong and Brown at the International Exhibition of 1912. The elongated labellum bore varied tints of violet-purple.

DENDROBIUM PULCHELLUM.

DENDROBIUM PULCHELLUM dates from the year 1830, when Roxburgh's original description of the species was published. In 1844 it was figured and described by Paxton under the name D. Dalhousieanum, while in 1846 Lindley wrote: "It was found in the Botanical Garden, Calcutta, by Mr. Gibson, who sent it to Chatsworth, with the name which had been given by Dr. Wallich, in compliment to the Countess of Dalhousie, from whom he had received it." Thus this species, in common with many Orchids, has both a technical and garden name. Under the appellation D. Dalhousieanum it has always been known when under cultivation, and it will probably be so in the future, at least, so far as the practical side of horticulture is concerned.

This Indian species produces stout bulbs of from 4-8 feet in height, clothed with abundant foliage. It blooms from the old bulbs, the drooping racemes consisting of about six flowers of tawny-yellow colour suffused with rose. The large lip is marked on each side with a purplish-crimson blotch. Mr. B. S. Williams remarks that it has been exhibited with 43 spikes and 440 flowers, each 4½ inches in diameter. An illustration of the species appears in the ORCHID WORLD, Vol. III., p. 196.

At the Temple Show, May, 1898, Messrs. Hugh Low and Co. exhibited D. Dalhousieanum salmoneum, a variety in which the blotches on the labellum were of bright salmon-pink colour. A First-class Certificate was awarded.

D. Dalhousieanum luteum appears to have been first imported by Major-General E. S. Berkeley, and the plants acquired by Messrs. B. S. Williams some time before 1894. At the Temple Show, May, 1906, it was exhibited by Mr. W. A. Bilney, of Weybridge, while at the great International Exhibition of 1912 it was included in Sir George Holford's notable group and received an Award of Merit. Under the care of Mr. H. G. Alexander the Westonbirt plant has made rapid progress, and this season has been a truly beautiful and noteworthy sight. It carried twelve spikes, one having eleven blooms, two with ten, two with nine, three with seven, two with six and two with five, making a total number of 92 flowers, each one being about five inches in width. The colour is uniform straw-yellow, all traces of the rose pigment being eliminated, except in the two blotches on the labellum, which are purplish-crimson.

The following hybrids are known:—D. porphyrogastrum (Huttoni × pulchellum), Veitch, 1888; D. Stratius (moniliforme × pulchellum), Veitch, 1892; D. illustre (chrysotoxum × pulchellum), Veitch, 1895; D. Dalhounobile (nobile × pulchellum), R. Broomanwhite, 1900; and D. Arthur Ashworth (Brymerianum × pulchellum), E. Ashworth, 1906.

"THE ORCHID REVIEW."—Included in the contents of the June issue are notes on Eria pilifera and Epidendrum bicameratum. Illustrations are given of Miltonia St. Andre and Calanthe Cooksoniæ.

ODONTOGLOSSUM FASCINATOR "BLUESPOT."

This variety is worth marking amongst its fellows on account of the peculiar coloration of the blotches on the sepals and petals, which are of the usual deep rich chocolate (given by the admixture of Hunnewellianum), but are distinct from others owing to a superficial layer of lilac, the area of which is slightly smaller than the brown below it, giving the whole spot a bluish tint. The peculiarity is much more marked in the sepals than in the petals, and is absent in the lip and on the column head. The ground of the flower is clear white.

The blue in this imported plant (Camacho, 1903) is evidently strong and reproduces itself, as is shown by the three succeeding descriptions of Lohengrin, Phryne and Cornelia. From this fact it will become useful in fixing a blue shade.

ODONTOGLOSSUM LOHENGRIN.

Rolfeæ × Fascinator "Bluespot."

This plant will probably go some way towards giving a decided bluish coloured spot on a white ground. The first cross has retained the bluish shade of the parent's characteristic feature, and repetition will probably greatly increase it, but whether with the same pollen parent or with another remains to be proved.

The Rolfeæ was a good ordinary variety, worth 15 guineas in 1907, cream-yellow ground, well marked in the usual manner with dark spots and blotches.

This resultant seedling has coupled up all the fine qualities of both parents, its only fault being lack of perfect form, as the petals do not overlap the sepals, but meet at their bases. This, however, will improve, as the plant is not very strong and carries eleven flowers on the first spike.

The ground of the whole bloom is white, the sepals being almost covered with rich crimson-brown, barred by the white ground. The bluish overlay spot is present exactly as in the pollen parent. The petals, in which the blue overlay is much less, as in the parent also, are marked very much like those of Mirabeau (O. W., February, 1914, p. 102). Lip, rich crimson-brown markings on white ground. Column white, as in Rolfeæ.

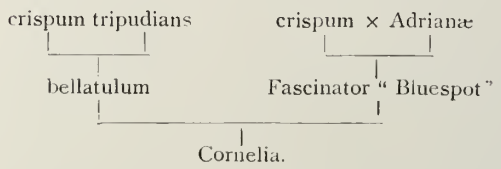
ODONTOGLOSSUM PHRYNE.

percultum × Fascinator "Bluespot."

It is interesting to see how in various ways Nature can produce almost the same results by hybridity and heredity. Blue seems latent in many Odontoglossums, and it is gradually becoming more pronounced in the hybrids. The hopes of the future at present seem to be a "pure yellow," but there are some who occasionally think of a "pure blue," and perhaps it may only prove to be a "think," although it is worth trying for.

Phryne, were she not covered by a bluish-lilac shade, would only be a very moderate form, but she has inherited the blue tint in the spots of her father, which has run all through the markings and the ground colour, aided by the natural lilac in percultum. I raised this, and bloomed it in May, 1913.

ODONTOGLOSSUM CORNELIA.



Having made two crosses of the above parentage on two different bellatulums, it is very interesting to see the great strength of tripudians, which has doubtless been assisted by "Bluespot" in giving the blue shade to the spotting, this being much the same in arrangement as in crispum, when taken in a quantity.

The lips have large overlays of rich purple, which stand out conspicuously on the white ground of the rest of the flower.

de B. Crawshay, Rosefield, May 23rd, 1914.

Chelsea Show, 1914. Part of the Gold Medal Group exhibited by Messrs. Sander & Sons, St. Albans.

Vanilla Pompona, a vigorous specimen in the collection of Messrs. Julius Roehrs, Rutherford, N.J., U.S.A.

VANILLA POMPONA.

THE genus Vanilla is said to contain about 50 species, although only a few are of importance and commercial value. In 1829 Dr. Schiede published (Linnæa IV.) descriptions of four species of Vanilla, which he discovered during his travels in Mexico in 1820. One of these was V. Pompona. On page 8 of the current volume of the ORCHID WORLD will be found a figure of V. planifolia, and on comparison with the illustration included in the present issue it will be noticed that V. Pompona is of much stronger habit and carries larger leaves. V. Pompona is much more widely diffused than V. planifolia.

Although V. Pompona is rich in etheral oil, and has an attractive scent, the triangular pods do not appear to be so readily dried as other species, generally remaining doughy, and unfit for commercial purposes. The flowers are large, rather fleshy, pedicels yellow-green; sepals and petals greenish-yellow; lip bright yellow, nerves thickened, central tuft consisting of descending imbricating scales rather than hairs. We are indebted to Mr. Geo. I'Anson for the photograph in this issue, which depicts a remarkable specimen in the collection of Messrs. Julius Rœhrs, Rutherford, N.J., U.S.A. The plant was photographed in April last, and then had upwards of 20 buds and flowers as well as about 40 seed-pods.

The Foreign Office Report, 1894, contains the following note on Vanilla cultivation:— "The native mode of culture is, as a rule, simply to plant the cuttings of the vine under the shade of trees, and then to leave them to grow and twine round supports as best they can. Occasionally, attention is paid to keep the vines trained round the trees and to prevent them from attaining a greater height than nine feet, so that during the inoculating season the flowers may be reached without difficulty. Shade, though not dense, is absolutely necessary during the growth of the vine to ensure a successful crop of beans. About one year from the time of planting the vine commences to flower, and the inoculation, which then takes place, must be carefully attended to. In from six to nine months from the time of inoculation the bean will be ripe for picking and curing. The native method of curing is to keep the beans alternately indoors rolled in cloths, and outdoors during the day spread on mats exposed to the sun, for periods of three or four days at a time, until they are dried and ready for the market."

Piesse remarks that V. planifolia yields a perfume of rare excellence. When good, and if kept for some time, it becomes covered with an efflorescence of needle crystals. Few objects are more beautiful to look upon than this, when viewed by a microscope with the aid of polarised light.

STAUROPSIS LISSOCHILOIDES.

A VERY fine specimen of this elegant species is in the collection of Mr. George Wm. Ryder, Broad Hill, Hassocks, who brought it to this country some twelve years ago. Although the plant has made vigorous growth each season it is only this summer that it has produced its first spike of bloom in this country. About thirty yellow and crimson flowers were formed on the erect spike, the total height from base of plant to apex of spike being nearly six feet.

To arrive at the earliest date concerning the history of this plant we must go back to the year 1750, when Rumphius described it under the name Angræcum quintum, from a plant he discovered in the island of Amboina. In 1862 the French botanist Gaudichaud found it in the Moluccas, and named it Fieldia lissochiloides, on account of its supposed likeness to a Lissochilus. In November, 1846, Lindley figured it in his *Botanical Register* with the remark: "What could possibly have led Gaudichaud to compare this epiphyte with the terrestrial Lissochilus we are unable to imagine, for there is only the slenderest resemblance between the two." The specimen from which Lindley prepared his figure and description was sent to England by Cuming from the Philippines, and first flowered with Bateman, of Biddulph Grange, in June, 1846.

Lindley made Fieldia a section of his genus Vanda, and, on account of the unsuitable name lissochiloides rechristened the plant Vanda Batemani, under which appellation it has ever since been known in gardens. Reichenbach, however, considered the two genera to be distinct, and in 1860 created the genus Stauropsis. Bentham, in 1881, finding that no notable difference existed between Fieldia and Stauropsis united them, and adopted the most recent name Stauropsis, as Fieldia, although the oldest, was not available, having been previously used for another family. The specific name lissochiloides is maintained, being the earliest name applied to the species since 1753, the year from which our present system of nomenclature commences.

Stauropsis differs from Vanda in the form of the petals, and is without any spur to the labellum. At the sale of Loddiges' collection in 1856 a plant of Vanda Batemani made £43, but specimens can now be obtained for a very much smaller sum. This species may be regarded as a fashion of the past; it is very rarely included in present day collections. One of the last specimens exhibited at the Royal Horticultural Society was that shown by Lord Rothschild, August 15th, 1899, when it received an Award of Merit.

"DIE ORCHIDEEN."

"DIE Orchideen, ihre Beschreibung, Kultur und Züchtung," is the title of a new handbook prepared by Dr. Rudolf Schlechter. The author considers that Orchids, once the property of the rich, are now cultivated by one and all, and for that reason he has compiled a very useful book for the amateur, gardener and botanist. In order to suit everyone the book will be published in ten parts, the price of each being 2M. 50Pf. About 200 illustrations will be included, and it is hoped to complete the work in the autumn of the present year. Dr. Schlechter has specially studied Orchids in the tropics and has an extensive knowledge of the family, consequently this new work may be fully relied upon for accuracy.

Part I., already published, consists of 96 pages, with excellent coloured plates of Odontoglossum grande and Cypripedium callosum. Chapter I. deals with Orchids in general, their morphology and classification. Chapter II. is devoted to an account of their geographical distribution, while the following one comprises a systematic arrangement of the family.

In future parts, Chapter IV. will contain an account of the natural habitats, and climatic conditions where Orchids are found. The next chapter is on the important subject of culture, and has been specially written by Herr A. Malmquist. It will comprise notes on importing, treatment of imported plants, general treatment, monthly calendar, hardy Orchids, and indoor culture. In part VI. Herr Otto Beyrodt contributes an account of Orchids for cut flowers, with a list of appropriate kinds.

Herr H. Janke will be responsible for Chapter VII., which will be devoted to hybridising and seed-raising. The author has had many years' experience and success. In the following chapter he will include a list of recommended hybrids, with descriptive notes. Prof. Dr. G. Lindau will write on insect pests and their eradication, and the concluding part will be occupied with Herr O. Beyrodt's notes on the construction of houses, etc.

In conclusion we may remark that the work is elegantly brought out on art paper, and the publisher is Paul Parey, Hedemannstr. 10 u. 11, Berlin, S.W.

"THE ORCHIS."—The May number of this journal contains an illustration and note of Epidendrum polybulbon var. luteo-album. In the June issue Dr. Schlechter describes Oncidium Ottonis, a new species closely allied to O. concolor, analytical figures of both species being included. O. Ottonis was imported by Mr. Otto Beyrodt, 1913, and bloomed in April, 1914. Its native habitat is Porto Alegre, Brazil.

THE WALTON GRANGE COLLECTION.

FOR more than forty years the Walton Grange collection at Stone, Staffs, has been one of considerable importance, a position mainly due to the enthusiasm of its owner, Mr. Wm. Thompson, who throughout this long period has paid close attention to the acquisition of suitable plants and their cultural care. Those amateurs who have had the pleasure of visiting this collection have always been favourably impressed with its comprehensive nature, and, it should be added, with the general good health of the plants.

A plant of more than ordinary interest is an Odontoglossum crispum bearing on its old lead label the figure 2; this, the second plant purchased by Mr. Thompson, appears to be none the worse for its forty odd years' existence at Walton Grange. There are many other choice species which have been equally preserved, and although the new productions of the hybridist often excel them in beauty, they, nevertheless, have their own special charms. Years ago the natural Odontoglossum hybrids were of considerable value, and those selected for inclusion in this collection are distinct even at the present time. We may mention O. excellens, of clear yellow ground and without any spots on the sepals and petals; also a yellow variety of O. Adrianæ, the bright O. luteopurpureum Vuylstekeanum, and O. Sceptrum aureum, the latter having a spike of fifteen flowers. All these yellow flowers make attractive points in a house where there are many plants in bloom.

Odontoglossum Mrs. W. Thompson.

Cypripedium mirum, awarded Gold Medal, M.O.S., November 27th, 1913.

When O. crispum solum first appeared in the Stone Orchid Company's collection it was immediately acquired by Mr. Thompson, and duly photographed. The spike of ten flowers was then precisely the same as it has been seen this year, thus proving how firmly fixed is the marvellous coloration of the labellum. Odontoglossum Stewartianum is no doubt a natural hybrid between crispum and Andersonianum. The variety in this collection is particularly fine, the large flowers being creamy-white and with a few reddish spots.

Mr. Thompson was one of the very first to commence raising Odontoglossum seedlings, and although the earliest ones were all destroyed by an accident to the heating apparatus, there is now a splendid lot to admire. In a span-roof house about 1,000 can be seen in various stages of growth. Of course, those that have so far flowered have not all been the best forms, but the percentage of good ones has been very promising. It is only those growers who have had considerable experience in seed raising

Odontoglossum Mirandus.

Odontoglossum Helius.

Two handsome Odontoglossum hybrids in the Walton Grange collection.

Odontoglossum Athelum.

Odontoglossum Papilium.

Two elegant Odontoglossum hybrids in the Walton Grange Collection.

who know the many disappointments. Mr. Thompson is to be congratulated on his many successes. A pleasing plant is a seedling between Cochlioda Nœzliana and Oncidium crispum.

The best hybrids include O. scintillans (Rossii × Wilckeanum); O. Nebulum (nebulosum × aspersum); a good variety of O. Wilckeanum carrying two spikes on the same bulb, and having a total of twenty-eight buds; O. John Robson, with a pleasing white ground; O. Dorothy Arkle, a beautiful result with richly coloured blotches; O. Christopherson, with almost solid blotching; O. Walton Monarch, with very regular markings and a good lip; O. illustrissimum var. Mrs. McVittie; O. Bonar Law, with broad segments and rich colour; and O. promerens "Fire King," one of the many plants from this collection which has received the First-class Certificate of the Manchester Orchid Society. One now in flower, and perhaps the best, is O. eximium var. Excelsior, which received a First-class Certificate at the International Show, 1912; the round petals as well as the broad sepals are of solid crimson-purple colour, only a narrow line of rose-white existing round the margin. Another excellent hybrid is O. Ed. Thompson.

Cypripediums are strongly represented, and in a large house may be seen a comprehensive collection. The illustration on page 57 of the present volume shows one of the specimen plants. Cypripedium mirum, illustrated in this issue, was awarded a Gold Medal by the Manchester Orchid Society; and Cyp. Desdemona, figured on page 126, received a First-class Certificate from the same Society. Other plants include Dreadnought, Estella (Godefroyæ × bellatulum), Boltonii, Hindeanum, Holdenii, Daisy Barclay and the Westonbirt variety of Bianca. Needless to remark there are many superb plants of the albinos, of which mention may be made of callosum Sanderæ, Maudiæ and Lawrenceanum Hyeanum. The true Goweri magnificum, Charlesworthii var. Temeraire (F.C.C., R.H.S., November 22nd, 1910), Queen Alexandra and Snow Queen are also much prized.

Cypripediums are being raised from seed with great success and on several pots inspected there were countless seedlings in all stages of germination. It is very strange how some seeds germinate within a few days of being sown while others remain apparently dormant for a considerable time. One pot in this house continues to yield young seedlings, although they have been taken off almost weekly for the long period of fifteen months.

Lælias are best represented by the celebrated L. tenebrosa "Walton Grange var.," quite an albino of its kind, and one that is now proving of great utility for hybridisation. In a large and substantially built house are many large specimen plants of L. purpurata; this old species still holds its own for producing a supply of useful flowers. Cattleyas comprise a wide selection, the forms of Mendelii and Mossiæ being numerous and very varied. An excellent batch of C. gigas and C. aurea grow well on the side staging, almost every growth showing a flower sheath. C. Trianæ "Queen of the Earth" is a very attractive variety.

The Miltonias are of equal interest, for they contain many of the original plants of M. Bleuana Stevensii, produced from the variety of vexillaria known as Leopoldii. One of the latest additions to this section is a nice plant of the elegant M. Charlesworthii. There is also a specimen plant of M. Phalænopsis. Dendrobiums include a handsome specimen of D. Kingianum, and its variety album. Other Dendrobes of the black-haired section include longicornu, which has lately been a mass of bloom, formosum, and infundibulum. There are also two strong plants of the rare Philippine D. Schützei, figured in the ORCHID WORLD, Vol. III., p. 19.

In another house there are about twenty plants of the red-flowering Epiphronitis Veitchii, which have recently been a mass of bloom. On a shelf may be seen a few plants of Trichopilia Backhouseana, which are remarkable for being amongst the very few plants in this collection that fail to grow satisfactorily.

Vanda Amesiana grows well in the Odontoglossum house, where also are many

plants of O. grande, O. cordatum, O. Rossii, and, in fact, a general collection of cool-house species. Masdevallias are extensively cultivated, their quaint flowers always being of interest. A pleasing hybrid is M. McVittiæ, raised by Mr. Thompson in 1892, and named in honour of his married daughter.

One of the oldest houses is used for the safe keeping of a number of small plants which through one cause or another are not sufficiently strong to flower. These are being carefully nursed, and many will soon be up to their original standard of vigour. The true old Pacho type of Odontoglossum crispum is now very scarce, hence the need of propagating the several fine varieties in this collection. The old bulbs are carefully severed and inserted in small pots until growth recommences, when they are placed in fresh compost and treated like other plants.

With such a large collection as that at Walton Grange it is barely possible to mention more than a very few of the choice forms of species and hybrids, and, moreover, no amount of writing could do them justice. Frequently the smallest diversion from the typical characters is sufficient to make the variety one of great value, and to fully appreciate the plant it must be seen in flower. As soon as one of these distinctive forms appears in bloom it never fails to receive the admiration of its owner, and although forty or more years may seem to some amateurs a long period to be occupied in the same subject it has been one of continual pleasure to Mr. Thompson, and he still looks forward to the first opening flower of a new hybrid with the same eagerness as when he commenced the hobby of Orchid culture nearly half a century ago.

The collection of paintings is well worthy of inspection, for it contains many that were executed when hybridisation was in its infancy, as well as a large number of present-day results.

During the last few years the care of the plants has been in the hands of that well-known cultivator Mr. J. Howes, and the able manner in which he is dealing with the collection is ample proof of his ability.

CHELSEA AWARDS.

THE Chelsea awards have not given general satisfaction, and judging by the manner in which several trade exhibitors have expressed their discontent the present is an opportune occasion for a consideration of the prizes and the manner in which they are awarded.

It is hardly necessary to mention that no one stages a group of plants merely for the intrinsic value of the prize offered, which rarely amounts to more than two or three pounds. The whole ambition of the exhibitor is to win a Gold Medal, and with it all that commercial prestige which adds so considerably to success in business life. It matters little what the medal costs, or whether it even exists beyond the cardboard imitation presented to the exhibitor on the day of the show. The reputation of securing a Gold Medal is considerable; it is the ambition of one and all to secure such an honour.

It is apparent to everyone that the actual commercial reputation attached to receiving a Gold Medal is in accordance with the importance of its origin. The awarding of a Gold Medal by a small local horticultural society has an infinitely smaller value than a similar award given by the Royal Horticultural Society. Each society has a more or less recognised standard attached to its awards, and long-established practise alone defines the real value of its prizes. The R.H.S. Gold Medal may be considered the highest horticultural award, and what is of perhaps greater importance, by reason of the careful manner in which it is bestowed, it is always closely associated with a certain definite and recognised standard of merit.

Now, considering the Chelsea Show, there was more than one group of considerable dimension and great excellence. In fact, if only one-half of a certain exhibitor's plants were staged at a R.H.S. fortnightly meeting a Gold Medal would undoubtedly be granted, yet this is all the recompense he received at Chelsea. On the recognised standard of the R.H.S. Gold Medal he should at least have obtained a reward equal to two Gold Medals.

The giving of only one such prize naturally infers in the minds of the public that this exhibitor has staged nothing more than is often seen at the usual fortnightly meetings of the society. In other words, the exhibitor has only received one-half of the award to which he considers himself entitled. Of course, it will probably be argued that having obtained the highest prize, what more can he desire? But we do not consider this view can be maintained. An exhibitor who increases the merit of his group beyond the usual standard is entitled to a corresponding increase in the value of his reward.

Now we pass on to the next degree of merit: those trade exhibitors who staged groups sufficiently meritorious to be termed Gold Medal Standard. These were awarded Silver-gilt Cups, a prize of second degree value. Likewise, right down the scale, every exhibitor received a reward of smaller value than he considered himself entitled to.

The Chelsea Show is not a separate society with its own standard of awards, but is one of the periodical exhibitions of the R.H.S., at which everyone expects the Society's recognised standard of awards will be upheld. No matter how important, or otherwise, the exhibitor may be, he has a fairly correct notion of the degree of excellence which, in accordance with the R.H.S. standard, should be placed upon his group; but when he receives a reward of several degrees less value he very naturally considers that, in the eyes of the public, his commercial prestige has fallen accordingly.

The largest trade growers will no doubt remain fully satisfied so long as they obtain the highest award offered, but in the case of the smaller growers the circumstances are different. Take, for example, a man who exhibits regularly at the fortnightly meetings of the R.H.S., and considers himself and his business reputation fully balanced by the award of a third-class prize; his customers and the many others who read the printed reports acquire a mental conception of this exhibitor's ability; but when the same individuals read the reports of the great Chelsea Show and notice that only a fifth-rate prize has been awarded, then a serious degradation to his prestige occurs. At all these important shows each exhibitor not only attempts, but generally succeeds, in surpassing his previous results, and expects, accordingly, to receive corresponding recognition. The receipt of an award inferior to his expectations is not only a disappointing defeat, but is poor encouragement for future occasions.

The R.H.S. requires a new and higher award for groups of the enlarged and meritorious condition lately seen at Chelsea. If something in the way of a Prix d'honneur or Œuvre d'art can be instituted, the Gold Medal and lower awards can be kept in their original and recognised standards.

NEW HYBRIDS.

Lælio-Cattleya Canary.—A very interesting hybrid raised in the Scampston Hall collection by Mr. F. C. Puddle. The parents are L. cinnabrosa (cinnabrosa × tenebrosa) and C. citrina. The flower has a total width of $4\frac{3}{4}$ inches, the fleshy segments rather narrow, the labellum three-lobed, the median one much extended, but contracted in its middle portion, as is usual in cinnabarina. The colour is rich golden citron evenly suffused throughout. This makes a pleasing addition to the citrina hybrids, an account of which will be found in Vol. III., p. 228. L.-C. Canary has the additional charm of being sweetly scented.

Lælio-Cattleya Domos.—Messrs. Stuart Low and Co. have produced this elegant hybrid, the parents being L.-C. Dominiana and C. Mossiæ. The segments are broad, of rich rose colour, while the labellum is well developed, of reddish-purple colour, and veined with golden yellow.

Brasso-Cattleya Rex.—The result of crossing C. Rex and B. Digbyana, raised in the collection of Mr. Burkinshaw, Hessle. Flowers of yellowish-green colour, closely resembling the Brassavola parent.

Brasso-Cattleya Irene.—An elegant result raised by Messrs. J. and A. McBean,

from B.-C. Mariæ (Digbyana × Warneri) and C. Mossiæ. Segments of good shape, rose-pink colour, the broad lip prettily fringed, and with an orange centre.

BRASSOCATTLÆLIA ALBATROSS.—Flowers very broad and distinct, sepals and petals whitish, labellum tinged with pink. The parents are B.-L. Digbyano-purpurata and C. Mossiæ Wageneri.

CATTLEYA SYBIL.—Messrs. Hassall and Co. have produced this hybrid by crossing C. aurea with C. iridescens (bicolor × Eldorado). The first one to flower resembles the well-known C. Iris, but the various forms of growth visible in the batch of seedlings suggest that much variety will be seen when others flower. No doubt there will be several improvements on C. iridescens.

LÆLIO-CATTLEYA DRYAD.—The result of crossing L.-C. Martinetii and C. Schröderæ. Of pale buff colour, flushed with rose. Raised by Messrs. Sander and Sons.

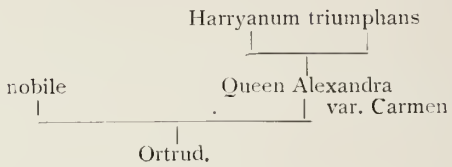
CYMBIDIUM SAPPHO.—An interesting hybrid between Lowianum Pitt's var. and I'Ansonii. The plant carried a spike of six blooms closely resembling I'Ansonii, although showing good evidence of Lowianum. Raised by Mr. Thurgood in the Rosslyn collection.

ODONTIODA IRENE.—Obtained by crossing Od. Uro-Skinneri with Odontioda Charlesworthii. Raised by Messrs. Charlesworth, and of considerable utility for breeding purposes.

ODONTOGLOSSUM NEBULUM.—A very interesting hybrid combining the three Mexican species nebulosum, maculatum and Rossii. The exact parentage is nebulosum × aspersum (maculatum × Rossii). This cross was made several years ago by Mr. Stevens, in the Walton Grange collection, but the only plant raised, now consisting of two large pieces, did not flower until this spring, when under the care of Mr. J. Howes.

ODONTIODA ASHTONII.—A very pleasing hybrid produced by crossing O. Armstrongiæ with C. Nœzliana. The reddish colour, derived from the latter parent, is broken up in symmetrical style, thus imparting a very distinct appearance. Recently exhibited by Mr. E. R. Ashton, Broadlands, Tunbridge Wells.

ODONTOGLOSSUM ORTRUD.



By using a good ordinary unspotted nobile it would have been expected that a bloom somewhat analagous to an amabile would be the result in this hybrid. Not at all, at least in the first to bloom; better things may, I hope, follow.

The masses of yellow and brown of the ♂ parent have been assumed by the white ground and to all intents the plant would pass as a small variety of its father, except that the keen eye of the hybridist would at once see the influence of nobile in its structure of lip and column, and the somewhat modified form of the flower.

The colours are identical to the ♂ parent, rich yellow ground heavily overlaid by brown sepals and petals, the lip also being marked in the same way by rather more of a purplish shade of brown.

It is most interesting to see how the great strength of the triumphans is handed down; there is no mistaking it as a potential factor in the hybrids, not only of the first generation, but it will carry on down the line for several further crosses, and when better shape is acquired in the triumphans hybrids they will make a very fine race. It is a pity there is only one variety of triumphans that is super-excellent.

I bloomed Od. Ortrud in May, 1914.

de B. Crawshay, Rosefield, June 5th, 1914.

BRUSSELS EXHIBITION.—On October 24th, 25th and 26th, 1914, the Société Royale de Flore, the Société Royale Linnéene and the Société Bruxelles-Attractions will hold a Floral Exhibition in the Salle de la Madeleine, rue Duquesnoy, Brussels. Nine sections will be devoted to Orchids, and amongst the prizes are two Gold Medals, value 300 and 200 francs respectively.

DENDROBIUM CULTURE.

THE fact that good culture is absolutely essential to produce the finest flowers is now fully recognised, and Dendrobiums are no exception to the rule. One of the secrets of success is the maintaining of healthy vigorous stock, and so long as this can be accomplished the grower need have no fear concerning the flowering results.

Although Dendrobes are not quite so popular as they formerly were, it may be only an interval in their fashion, and before long they will surely regain their lost popularity. Many collections include old specimen plants which are thoroughly worn out, and no amount of skill and labour will bring them back to health. The only means of saving the varieties is to select healthy portions and start them on a new lease of life by means of suitable culture.

On the majority of old plants there can be found several young plants growing out of the nodes of the bulbs, and these should be carefully removed along with a few inches of the old stem, and placed in small pots with a light compost. The portion of the old stem supports the young growth until it makes roots and has its own existence. Plenty of heat and moisture—in fact, it does not seem possible to give too much—are necessary to ensure rapid growth. In the course of a few weeks' treatment a rapid extension of the young plants can be seen, and at the conclusion of the growing season some nice sturdy plants will be acquired.

Some varieties are not so free in producing young growths, and with these it will be necessary to select unflowered portions of the old stems, which should be cut in lengths of two or three inches and placed round the edge of a pot in which only sphagnum moss is inserted. This allows the resulting young growths to be formed in a natural and upright position, and is a better method than simply laying the old bulbs on a bed of moss.

It is during the following season that the young plants, after being carefully wintered, will make rapid growth. The second year's bulb is often four or five times taller, and on some occasions reaches an astonishing height. Plenty of atmospheric moisture and syringing of the plants on all fine days is necessary to produce stout bulbs of a robust nature. When the plants have nearly completed their season's growth care must be taken to see that they do not attempt the formation of another bulb, for if this occurs the flowering results are not so good, while the appearance of the plant is spoilt. It is generally possible to tell when growth is nearing completion, the newly-formed bulbs taper to a point, and form a single leaf at the apex.

At the end of the growing season water must be gradually withheld, both at the roots and in the air. A light and airy place should be selected for placing the plants—on a shelf is a good position for the smaller ones—while the amount of ventilation should be gradually increased. There is much more in this final treatment than many amateurs suppose. As soon as the plants are affected by drier conditions they at once attempt to gather further nutriment by the formation of new roots. The roots break out from all parts of the primary roots, and not only work their way through every portion of the compost but reach right over the pot in search of additional food. The plants seem to know that winter is coming, and the bulbs swell rapidly and attain a considerable degree of ripeness. Without the drier conditions no such activity commences.

Winter treatment consists in keeping the plants just moist enough to prevent much shrivelling of the bulbs. If the conditions are too cold and dry the beauty of the flowers is spoilt, although the plants themselves may not suffer any perceptible harm. Yet care must be taken to prevent too humid and warm a temperature or many of the buds will become vegetative growths instead of bloom. Experience in this matter is of considerable advantage, but with Dendrobes one can make many small errors in their treatment without greatly spoiling the final results. This is saying more than can be said with some species.

Speaking generally, Orchids will not stand much forcing. But with Dendrobes there is a

chance to prolong their flowering season by selecting a few plants and placing them in extra heat and moisture before the general batch. And, also, a few plants can be kept back by leaving them in a cool and dry house for several weeks longer than would otherwise be considered necessary.

In the Borde Hill collection a lean-to house facing south has been provided specially for Dendrobiums, and here they obtain an abundance of bright light and other necessary conditions, consequently excellent results are obtained. However, there are many gardens in which suitable conditions exist without having the advantage of a whole house for their cultivation.—*E. Johnson, Borde Hill Gardens, Cuckfield, Sussex.*

ROYAL HORTICULTURAL SOCIETY.

June 3rd, 1914.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Sir Harry J. Veitch, Messrs. de B. Crawshay, Gurney Wilson, W. Bolton, R. A. Rolfe, F. Sander, J. Wilson Potter, T. Armstrong, A. McBean, W. Cobb, J. Charlesworth, W. H. Hatcher, J. E. Shill, C. H. Curtis, A. Dye, E. H. Davidson, and S. W. Flory.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an exhibit of choice species and hybrids. The best were Miltonia Charlesworthii, Cattleya Mossiæ Silver Queen, C. M. Wageneri "King Edward VII." and a specimen Dendrobium acuminatum. Sophronitis hybrids were well represented.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for an interesting group in which were the curious Ornithocephalus grandiflorus, Dia-Cattleya Sanderæ, Ærides japonica and Angræcum Leonis. Hybrids included good varieties of L.-C. Fascinator, L.-C. Sylph, the elegant Cypripedium Roger Sander, and Adioda St. Fuscien.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, was awarded a Silver Flora Medal for a very pretty exhibit containing the curious Masdevallia muscosa, several Bulbophyllums, Brassia maculata, excellent forms of Miltonia Bleuana, Cattleya Pittiæ and the elegant Cymbidium Sappho (Lowianum Pitt's var. × l'Ansonii), raised at Rosslyn.

Messrs. Armstrong and Brown, Tunbridge Wells, secured a Silver Flora Medal for a neat group in which were several good Masdevallias, the scarce Paphinia cristata, several promising Odontoglossum hybrids, including O. Leonidas magnificum and O. Mauretania. A varied selection of Brassavola hybrids, Odontiodas and others was also shown.

Messrs. Stuart Low and Co., Jarvis Brook, Sussex, were awarded a Silver Flora Medal for an extensive group containing many fine forms of Cattleya Mossiæ and Mendelii, several being albinos. L.-C. Domos (L.-C. Dominiana × C. Mossiæ), a most promising hybrid with broad segments of rich colour, was an attractive plant. The curious Cattleya intermedia cœrulea and various Oncidiums were also included.

Messrs. J. and A. McBean, Cooksbridge, secured a Silver Banksian Medal for some excellent hybrids, the best being L.-C. Helius, of yellow tints, B.-C. Irene, of rose colour with broad segments, and Oncidioda Cooksoniæ. Cattleya Mossiæ Wageneri carried eight large flowers. Od. crispum xanthotes McBean's var. was very fine.

Messrs. Hassall and Co., Southgate, were awarded a Silver Banksian Medal for a choice selection of white-petalled Cattleyas, as well as Miltonias of the vexillaria type The new Cattleya Sibyl (iridescens × aurea) was also shown.

Messrs. Flory and Black, Slough, exhibited their new B.-C.-L. Albatross, a large flower of much promise, L.-C. Gladiator, of good colour, albino forms of C. Mossiæ, and various Miltonias.

Baron Bruno Schröder, Englefield Green, showed Odontoglossum crispum The Dell Sunrise, a remarkable form in which the thick white flower has a very narrow line of reddish pigment round the edge of the petal.

G. W. Bird, Esq., Manor House, West Wickham, exhibited Odontioda Phyllis (Odm. Lambeauianum × Oda. Bradshawiæ), a very pretty and interesting result; also Od. ardentissimum Manor House var., a large flower well blotched.

Col. Stephenson R. Clarke, C.B., Borde Hill, Cuckfield, showed Odontoglossum Ethelreda (triumphans × Edwardii), with rich purple coloured flowers having a shining appearance.

Sir Montagu Turner, Bedford, Havering, Essex, sent Cattleya Mendelii flowers with white sepals and petals.

W. P. Burkinshaw, Esq., Hessle, Hull, showed Brasso-Cattleya Rex (C. Rex × B. Digbyana), with yellowish-green flowers.

Richd. G. Thwaites, Esq., Streatham, showed a very good form of Cattleya Mossiæ Wageneri, L.-C. Cowanii of rich colour, and L.-C. Ingramii, with broad segments.

June 16th, 1914.

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

FIRST-CLASS CERTIFICATE.

Odontoglossum King Arthur, from Messrs. J. and A. McBean, Cooksbridge.—A magnificent hybrid of the illustrissimum class. The spike carried six large flowers of rose-tinted ground, and with large rosy-crimson blotches on the broad sepals and petals. The labellum equally well developed and coloured.

CULTURAL COMMENDATION

To Mr. Balmforth, Orchid grower to F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, for four plants of Cypripedium Lawrenceanum Hyeanum, having a total of 17 flowers.

His Grace the Duke of Marlborough, Blenheim Palace, was awarded a Silver Flora Medal for a neat group of more than a dozen plants of Cattleya Mossiæ Wageneri, with numerous flowers; C. Mossiæ Reineckiana excelsa, and Lælio-Cattleya Canhamiana of distinct kinds. Along the front were many well grown plants of Cypripedium bellatulum and C. niveum.

Ernest R. Ashton, Esq., Broadlands, Tunbridge Wells, received a Silver Flora Medal for a very well arranged exhibit of choice Orchids, including Lælio-Cattleya Lady Miller with 17 flowers, L.-C. Aphrodite, and the new L.-C. Teucra (Martinetti × Mossiæ). The interesting Odontonia brugensis, with a spike of 15 flowers, Miltonioda Harwoodii, and the attractive Masdevallia Harryana Leyswood var. were in good form. Miltonias included the handsome Charlesworthii and choice forms of vexillaria, while Odontiodas were represented by Diana and the new Ashtonii (O. Armstrongiæ × C. Nœzliana). Several well grown Cattleyas were also staged, C. Mossiæ bearing 11 large flowers.

Messrs. Stuart Low and Co., Jarvis Brook, Sussex, were awarded a Silver Flora Medal for a large group, in which were well-flowered plants of Dendrobium Dalhousieanum and D. formosum giganteum, several rosy varieties of Miltonia vexillaria, good plants of Phalænopsis amabilis, the curious Masdevallia muscosa and Brassavola cucullata. Excellent forms of Cattleya Mendelii and C. Mossiæ, as well as B.-L. Helen were also included, while some rare botanical species attracted attention.

Messrs. Charlesworth and Co., Haywards Heath, secured a Silver Banksian Medal for some choice plants, including Miltonia Charlesworthii, M. Bleuana rosea, Odontoglossum cordatum aureum, several good hybrids, L.-C. Canhamiana alba, and the pretty Dendrobium mutabile.

Messrs. Hassall and Co., Southgate, showed several good examples of white Cattleya

Mossiæ, L.-C. Canhamiana alba and L.-C. Aphrodite.

Mr. C. F. Waters, Balcombe, staged Cœlogyne asperata, a strong plant with 3 spikes, good varieties of Cattleya Mendelii and C. Mossiæ, a dark form of C. gigas, and a round variety of Odontoglossum crispum.

R. G. Thwaites, Esq., Streatham, exhibited Lælio-Cattleya Canhamiana "Lady Wigan," a dark variety of L. purpurata and C. Mossiæ Reineckiana.

F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, showed Odontoglossum crispum Queen Empress with a well developed spike of 10 rosy flowers, also Cypripediums, which were awarded Cultural Commendation.

H. S. Goodson, Esq., Fairlawn, Putney, showed Odontioda Patricia var. Goodsonii, with crimson-red flowers.

Pantia Ralli, Esq., Ashtead Park, Surrey, exhibited Cattleya Mendelii "Knight Templar," with rich purplish lip and the petals tipped with rose-purple; also O. Doris, a very pleasing variety of good shape and colour.

J. Gurney Fowler, Esq., Pembury, showed Odontoglossum Aquitania, with a spike of 14 handsome flowers.

W. R. Lee, Esq., Plumpton Hall, Heywood, staged Miltonia Charlesworthii Leeana, a beautiful variety, which has previously received a First-class Certificate.

Lord Brownlow, Ashridge, Berkhampstead, exhibited two large plants of Cœlogyne Dayana, with many flower spikes.

Mr. W. Shackleton, Great Horton, staged Odontioda Brewii Highfield var., a dark form with rose labellum.

MANCHESTER ORCHID SOCIETY.

May 28th, 1914

MEMBERS of the Committee present: R. Ashworth, Esq. (in the chair), Messrs. J. Bamber, J. J. Bolton, J. Cypher, A. G. Ellwood, J. Evans, A. Hanmer, Dr. Hartley, J. Howes, A. J. Keeling, J. Lupton, D. McLeod, C. Parker, W. Shackleton, P. Smith, and H. Arthur (Secretary).

Silver Medals were awarded to Col. J. Rutherford, M.P., Blackburn, and Messrs. Cypher and Sons, Cheltenham.

O. O. Wrigley, Esq., Messrs. Charlesworth and Co., W. Shackleton, D. McLeod and J. Evans also exhibited.

FIRST-CLASS CERTIFICATE.

Odontoglossum promerens "Our King," from Wm. Thompson, Esq.

AWARDS OF MERIT.

Odontoglossum Hereward and O. Leander (crispo-Harryanum × mirum), both from J. Leemann, Esq.

Od. amandum magnificum and Odontioda Schröderi, from Messrs. A. J. Keeling and Sons.

Od. Edward Thompson, from Wm. Thompson, Esq.

FIRST-CLASS BOTANICAL.

Nanodes Medusæ, from Messrs. A. J. Keeling and Sons.

The following competitions have been arranged:—

The President's Cup and Prize to gardener, for Cattleyas, Lælias, etc.

J. J. Bolton's Gold and Silver Medals, with Prizes to gardeners, for Cypripediums.

Evans' Silver Trophy and Prize to gardener, for Odontoglossums and their hybrids.

Royal Botanic Society of Manchester's Gold Medal for Odontiodas, Miltonias, etc.

A. Hanmer's Silver Cup and Prize to gardener, for most points during the session.

P. Smith's Gold Medal and Prize to gardener, for most points during the session.

The Sander Prizes to gardeners, for groups.

Cypher's Gold Medal and Prize to gardener, for arrangement.

Charlesworth's Objet d'Art, for new awards.

The Society's Medals will also be awarded as before.

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NOTES.

A NOTABLE EXHIBIT.—At the recent Royal Norfolk Agricultural Show a Gold Medal as well as a Silver Cup were awarded to Messrs. Armstrong and Brown, Tunbridge Wells, for a splendid exhibit of Orchids.

ABNORMAL ODONTOGLOSSUM.—Mr. Wm. Thompson, Walton Grange, Stone, sends an interesting spike of Odontoglossum crispum in which the median stamen of the outer whorl, usually fertile, has assumed the form of an extra petal, so that each flower has three petals in addition to the labellum. The two lateral stamens of the inner whorl, usually in the form of staminodes and termed the side wings of the column, are in fertile condition. All the flowers on the spike are similarly constructed. The same event happened last season, and is evidently constant in this particular plant.

BARKERIA SPECTABILIS.—This is one of many interesting plants in M. Lionet's noted collection at Brunoy, France. The cylindrical stems are five or six inches high and carry three or four lanceolate leaves. The flowers are produced from the apex of the stem in the form of a raceme, and are whitish with rose-lilac suffusion and the labellum spotted with blood-red. It is a summer blooming species and a native of Mexico and Guatemala. Years ago it was a favourite plant, and specimens have been seen with upwards of twenty spikes of bloom. It is rarely seen in present-day collections.

MILTONIA VEXILLARIA.—Professor Reichenbach described this species under somewhat strange and difficult circumstances, the flower being only lent to him by a friend, who made him promise that he would not show it to anyone else, nor make a drawing or take a photograph of it, or even look at it himself more than three times.

ORCHID SALE.—Duplicate plants from the Marlfield collection were sold at West Derby, Liverpool, by Messrs. Protheroe and Morris, July 8th, 1914. The following prices are of interest:—Odontoglossum Richd. le Doux, 40 gns.; O. Mrs. Edith Carlisle, 34 gns.; O. Grand Duke Michael, 20 gns.; O. Mrs. Phœbe Fletcher, 17 gns.; O. Lord Pirrie, 44 gns.; O. Lady Pirrie, 40 gns.; O. Countess of Sefton, 18 gns.; Cattleya Adula, 20 gns.; C. Lord Rothschild, 9 gns.; C. Mrs. Pitt, Charlesworth's var., 16 gns.; C. Suzanne Hye de Crom, 20 gns.; C. labiata alba Mrs. E. Ashworth, 22 gns.; C. labiata Gilmouriæ, small plant, 21 gns.; C. labiata alba Richd. le Doux, 17 gns.; Lælio-Cattleya Bola var. R. le Doux, 17 gns; and L.-C. St. Gothard, Marlfield var., 36 gns.

DENDROBIUM CHRYSOTOXUM.—This showy species, of which Mr. C. F. Waters, Deanlands Nurseries, Balcombe, Sussex, has just received a small importation, is an upright-growing evergreen plant, with thick fleshy stems about a foot in height, and bearing three or four large dark green leaves of leathery texture. The lateral racemes consist

of more than a dozen golden-yellow flowers, with the labellum prettily fringed and pubescent. It was originally described by Lindley in 1847, and has ever since been a favourite where spring flowering plants are required.

BULBOPHYLLUM TRISTE.—From Mr. Jas. Smith, Arddarroch Gardens, Garelochhead, comes the flower spike of this interesting, though not very attractive, species. The erect spike carries a drooping head of many flowers, of dull-purple colour, except for a line of yellow on the edge of the lip and on the ovary; the column is greenish, with purple spotting at its base. It is a native of Burma and other districts, and was originally described by Reichenbach (Walp. Ann. VI., 253). The plant has since been presented to the Kew collection. It is of interest to note that B. micranthum was regarded by Reichenbach as a variety of B. triste, but though agreeing in the general shape of the bulbs and habit of spike, it differs conspicuously from that species in the minute flowers.

"DIE ORCHIDEEN."—Two more parts of this interesting work by Dr. Rudolf Schlechter have recently appeared. Part II. contains attractive coloured plates of Cattleya Mossiæ and Dendrobium Wardianum, as well as many black and white illustrations. Part III. comprises a coloured plate of Phaius Incarvillei and numerous photographic illustrations. The work continues in the same high-class nature of production, and will doubtless be greatly appreciated by German Orchidists, as well as those in other lands. The price of each part is 2m. 50pf.

ORCHIS HIRCINA.—This curious terrestrial species, commonly known as the Lizard Orchid, is rarely found in England, but appears to be more plentiful in other countries. Mr. H. G. Crosley, La Ferté Bernard, Sarthe, France, sends two excellent examples, each spike having about 50 lizard-like flowers, and emitting an unpleasant odour. These plants were selected from about half a dozen found growing under a large hedge where they received a considerable amount of shade. This species has also been recorded under the names Himantoglossum hircinum, Aceras hircina and Satyrium hircinum.

TRADE NOTE.—Mr. D. A. Cowan, for seven years representative of Messrs. Charlesworth and Co., relinquished that post on July 13th, in order to act in a similar capacity for Messrs. J. and A. McBean, Cooksbridge, with whom he has entered into partnership.

MASDEVALLIAS.—Miss Florence H. Woolward includes the following note in her "Genus Masdevallia, 1896":—"The first Masdevallia known to science was M. uniflora, which was discovered by the Spanish botanists, Ruiz and Pavon, in the Andes of Peru, during their residence in that country from 1777 to 1794, for the purpose of exploring the Cinchona forests in the interests of the Spanish Government. They founded upon it a new genus in honour of their fellow-countryman Joseph Masdevall, a physician at the Court of Spain. M. uniflora has never since been seen in its native habitat by any botanist, and only the most persistent enquiry has enabled me to collect the details of its history given in this work, with the first coloured drawing of the plant ever made. No other examples of the new genus were made known until 1809, when M. infracta was discovered in Brazil by Descourtily, a French botanist and traveller, and this species, of which living plants were imported in 1828, was the first to flower in cultivation. In 1833 M. caudata was discovered, and during the next twelve or fourteen years several other species, and from that time onwards their number has steadily increased, until, at the present time, between 80 and 90 are cultivated, and many others are known as herbarium specimens or by description only."

GOOD CULTURE.—In the collection of Mr. C. J. Lucas, Warnham Court, Horsham, is a strong plant of Odontoglossum Doris (crispum × Ossulstonii) which has just produced a branching spike carrying no less than 87 well-developed flowers.

AUTUMN TREATMENT.—Many summer-growing Orchids have now completed their season's growth and will need careful attention in the matter of ripening. A somewhat drier atmosphere should be maintained, with a proportionately lower temperature, in order to prevent the commencement of a second growth during the same season. Plants that are properly ripened are able to withstand much variation in the winter temperature, and consequently are less liable to failure when the next season of growth arrives.

LISSOCHILUS ARENARIUS.—This is one of several interesting plants cultivated and recently flowered by Messrs. J. and A. McBean, Cooksbridge. The genus Lissochilus comprises handsome terrestrial plants having tall erect spikes of bloom and plicate foliage. The tuberous roots should be potted in a mixture of loam, leaf mould and sand. Upwards of thirty species are known, all natives of Tropical and Southern Africa. Although the genus has never been a popular one with Orchid growers, it is well worthy of more attention.

RENANTHERA COCCINEA.—On November 3rd, 1846, the Royal Horticultural Society awarded a Banksian Medal to Mr. Webster, of Eartham Gardens, for a cut spike of Renanthera coccinea. The following is a copy of Mr. Webster's letter: "The plant from which it was cut is growing upon a log of wood covered with moss; it was taken out of a very moist and warm house about the middle of June, and placed at one end of a late peach-house, with its top nearly touching the glass, the whole plant being exposed to the full force of the sun. The house shortly afterwards was thrown open day and night; in this dry and airy situation water was given every evening with a syringe, and a flower-stem shortly afterwards made its appearance. The plant has been growing in the same exposed situation until the last three weeks, when it has been removed to a warm house. Although the spike is not so large as it would have been in a more congenial atmosphere, yet the flowers are not inferior either in size or colour. As the plant became reconciled to its cold, exposed situation, I had the gratification of seeing *six* more flower stems make their appearance, being in all seven at one time upon the plant. These are, of course, in a more backward stage, and will not be in flower for some time. I am inclined to believe that the Renanthera may be made to flower while very young by attending strictly to the plan of keeping the top of the plant nearly close to the glass, giving it full exposure and abundance of moisture."

EPIPHYTAL ORCHIDS.—J. C. Lyons was one of the earliest writers on the treatment of Orchids, and in 1845 he published a practical treatise on the management of Orchidaceous plants. "The epiphytal species," he remarked, "may, as far as we yet know, be divided into four classes. Their native habitats will for the most part not only sanction, but appear to require, such a division, which is as follows:—1. Those species found in low dense woods, where scarcely any sun can penetrate. These, therefore, require shading from the rays of the sun, either by large plants in the house, or creepers, or by some other means, and must have a hot and moist atmosphere. 2. Those species found growing on trees, near to open brakes in the woods, where they receive a little sun, plenty of light, and a free but damp atmosphere. These should have a similar atmosphere, but will endure more sunshine than the last. 3. Those species found growing on single trees, in damp but exposed situations. These must also have a damp atmosphere and plenty of heat, but they

thrive best if exposed to the sun, except just at mid-day, for although the sun in the Tropics shines with great power, it must be remembered that the plants receive considerable shelter from the branches of the trees on which they grow. 4. Those species found growing on single trees, in elevated situations, where they are subjected to a drier air and the burning rays of a tropical sun. These, therefore, require a lower temperature, less humidity, and nearly a full exposure to the rays of the sun. The plants of all four classes enjoy light, a free air, and are subjected annually, for three or four months, to a low temperature and great drought; and it is worthy of remark that the time of drought and the decrease of temperature occur together. This may be considered their season of rest."

ORCHIDS OF GERMAN NEW GUINEA.

The first part of this important and monumental work by Dr. Rudolf Schlechter was published in 1911, and part 14, which brings the work to a conclusion, has recently appeared. The whole work occupies some 1,145 pages.

The richness of the New Guinea flora, especially regarding Orchids, is extraordinary, probably in no other part of the world is there such a concentration of genera and species. For example, the author states that of the 700 known species of Bulbophyllum no less than 329 are found in New Guinea. This genus he divides into 42 sections. In the genus Dendrobium, comprising some 700 species, 41 sections are made for the 256 species found in this island, while Tæniophyllum with 63 species, and Phreatia with 75 are of considerable importance.

The concluding part of the work is the most interesting from the practical horticulturist's point of view. Section I. is devoted to systematic observations, chapter II. is mainly historical and enters largely into the subject of plant-geography, chapter III. is taken up with the distribution, etc., of Orchids, chapter IV. is devoted to biology and morphology, while the final one contains the system of classification.

Some idea of the amount of labour involved in a work of this kind may be had from the index to the names of species, which occupies no less than 37 pages. Each of the 14 parts is priced at 6m. 50pf.

CYMBIDIUMS.

In almost every garden one or more greenhouses are to be found, and although they frequently contain decorative and flowering plants it is seldom that a really choice selection is to be seen. Many owners of large, as well as small, greenhouses would greatly appreciate the inclusion of a few Orchids, yet they fear the treatment required is more than circumstances permit. The prevalent idea that Orchids require special structures for their cultivation, or trained men to attend to their wants, may be the cause of many not taking up this interesting pastime. Yet, strange to say, the care needed by not a few of their greenhouse plants is more than sufficient to bring to perfection many elegant and beautiful Orchids. Amongst these, Cymbidiums are undoubtedly the most popular, the widespread attention now being devoted to the genus is a proof that they possess something which is more than ordinary; they have a charm that makes them appeal greatly to the lover of easily grown and attractive flowers; their graceful foliage is equal to any of that possessed by decorative palms; their flowers are as long-lasting and beautiful as any other occupant of a cool greenhouse; whilst their aristocratic nature is recognised by every lover of Nature's productions. A compost of fibrous loam, with the addition of some sphagnum moss and a little osmunda or other fibre, will readily meet their needs. In almost every other respect their treatment is similar to an ordinary greenhouse plant. Only those amateurs who have already taken up their cultivation know the full value of these accommodating and ever-living specimens of the floral world.

Masdevallia Shuttryana, Chamberlain's variety.

MR. JOSEPH CHAMBERLAIN.

PROBABLY no man has done more to popularise the cultivation of Orchids than Mr. Joseph Chamberlain. To almost every person the names of Chamberlain and Orchids are inseparable, and although this great personality has passed away his name will long remain, not only with one and all by reason of his versatile ability, but more especially with horticulturists on account of his admiration for Orchids.

Perhaps the true secret of his popularity with respect to Orchids was the fact that he invariably wore one in his coat, and whenever his portrait or caricature appeared in print the favourite buttonhole was never forgotten. Whenever a sketch of parliamentary individuals appeared in one of the daily or weekly journals the chief means adopted to distinguish Mr. Chamberlain was a star-shaped flower in his coat. The conceptions of the various artists were frequently amusing, all sorts of diagrams serving the purpose of denoting an Orchid flower. Only a few months ago one of the leading weekly illustrated journals included a portrait sketch of Mr. Chamberlain wearing a large flower, the sepals and petals of which resembled those of a Cattleya, while the labellum was that of a Selenipedium.

Nor have descriptive words been nearer the truth. It has more than once been stated that Mr. Chamberlain's Orchids are valued at nearly a million pounds sterling, that he has the choicest and most wonderful collection ever brought together in the history of Orchidology, and that he often spends the week-ends strolling through his Orchid houses, which cover several acres of land. All these statements, however inaccurate, only tended to awaken in the minds of the general

Lælia anceps Chamberlainiana.

public an increasing interest in the fascinating hobby, and for this reason alone, if not for others, very many amateurs have been induced to commence a collection of their own. No one will ever know how many gardens have been rendered attractive by imitating Mr. Chamberlain's hobby, nor how many wearied minds have been refreshed by the sight of the flowers so greatly cherished and cultivated by him.

Although in past years Mr. Chamberlain often exhibited at the Royal Horticultural Society, of which he was a Vice-President, he more than once disagreed with the Orchid Committee, and regarded its members as being amongst the worst offenders in the matter of nomenclature. Yet when, on February 11th, 1896, he placed before them a hybrid between Masdevallia Harryana and M. caudata under the name Masdevallia Chamberlainiana he was much displeased at the committee refusing to adopt this name on the ground that the reverse cross had previously been named Shuttryana. At that time it was a common practice to give a distinct name to every different hybrid arising from the same parentage, but the exhibiting of Mr. Chamberlain's Masdevallia was one of the early instances when the committee commenced to correct their errors. The plant received an Award of Merit under the name Masdevallia Shuttryana, Chamberlain's variety.

Cattleya Chamberlainiana (Dowiana × Leopoldii) received a First-class Certificate when shown by Messrs. Veitch, August 9th, 1881; Brasso-Cattleya Mrs. Chamberlain (Digbyana × chocœnsis) was granted an Award of Merit, October 21st, 1902; Cattleya Fabia received a First-class Certificate, November 9th, 1897; Lælio-Cattleya highburiensis (cinnabarina × Lawrenceana) obtained an Award of Merit, April 7th, 1896; Sophro-Cattleya Chamberlainiana triumphans

(grandiflora × Harrisoniana) was given an Award of Merit, December 5th, 1899; Epi-Cattleya guatemalensis Wischuseniana obtained an Award of Merit, April 11th, 1893; and Dendrobium Phalænopsis highburiense received an Award of Merit, November 13th, 1894. With the exception of the first-mentioned plant all the above were exhibited by Mr. Chamberlain.

Cypripedium Chamberlainiana, named in his honour, and collected by Mr. Micholitz in New Guinea when travelling for Messrs. Sander, was introduced in 1892. Lælia anceps Chamberlainiana, undoubtedly the finest typical form of the species, will always perpetuate the name of this popular Orchidist.

Many exceedingly fine specimens have been cultivated in this famous collection at Highbury, Birmingham. Illustrations and full details of Lælia albida will be found in the ORCHID WORLD, Vol. II., p. 259; Lælia anceps Sanderiana, Vol. II., p. 273; and Cattleya Bowringiana, Vol. III., p. 155.

AN AUTUMN ORCHID SHOW.

AT the meeting of the R.H.S. Orchid Committee, July 14th, 1914, Mr. J. Gurney Fowler brought forward the matter of holding an Orchid Show in the autumn of 1915, and invited the members to duly consider the same and offer any suggestions towards its successful completion. Needless to say, these remarks were received with much pleasure, the members being unanimous in their approval of the proposition.

The Holland House Show has long been regarded as unnecessary, at least, so far as Orchids are concerned, for it falls too soon after the larger and more important Chelsea event. The strenuous work entailed in staging large groups renders a certain interval of rest necessary before exhibitors again acquire the requisite enthusiasm. The summer months are never the best for obtaining large supplies of Orchids in flower, while the many other garden attractions tend to draw attention in their respective directions.

For these reasons the advisability of holding an autumn Orchid Show will be readily seen. The autumn-flowering Orchids are quite as attractive and interesting as those opening in the spring time, and it appears only right that both sections should have an equal chance of making themselves popular in the eyes of the general public. The spring shows have acquired a world-wide reputation, and if the autumn show can be made an annual event it, too, will grow in importance as time progresses. One thing is certain—there is no lack of flowering Orchids in the months of October and November; all the R.H.S. has to do is to give sufficient inducement to its Fellows to exhibit their products, and success will undoubtedly follow.

There is a general desire to see amateurs turn up in greater force than hitherto. Of late, the majority of the plants have been staged by the large trade growers, which certainly adds much to the success of the exhibition, but it does not encourage the amateur, be he small or otherwise. But few amateurs care to have their comparatively small exhibit placed alongside that of an important trade grower, and for this reason it might be well if the R.H.S. could so arrange matters that one portion of the Hall is reserved for amateurs, where amongst themselves they might have a very interesting and truly competitive time. The amateurs like competition, perhaps even more so than members of the trade.

The first autumn show was held Nov. 5th and 6th, 1912, and proved a great success. It was then intended to make the same an annual event, but circumstances precluded it from the following year, while for some unexplained reason no arrangements were made for holding it during the coming autumn. It is sincerely to be hoped that the R.H.S. Council will not fail to bring the proposed event of 1915 to a successful completion.

"THE ORCHID REVIEW."—The July issue of this journal contains a full account of Aganisia brachystalix, and a note on Vanda striata.

ORCHIDS AT BALCOMBE, SUSSEX.

THE extensive nursery of Mr. C. F. Waters at Balcombe, Sussex, has long been noted for Carnations and other popular flowers, but these are gradually giving place to a rapidly increasing collection of Orchids. Many thousands of Odontoglossums and Cattleyas are grown for cut-flower purposes, while there are quantities of smaller plants, as yet unflowered, from which several choice varieties may reasonably be expected.

During the last two years considerable attention has been paid to the raising of hybrid Orchids, no less than 6,000 having been pricked off into small pots during the last twelve months. These are under the care of Mr. Geo. Day, who for twenty-four years was in the employ of Messrs. Veitch and Sons, at Langley, where under Mr. J. Seden he gained considerable knowledge on the subject of hybridisation and seed raising.

A glance through the record book of crosses made shows that many very promising batches of seedlings have already been secured. The most forward is Cattleya Fabia, while one which should make some fine results is Cattleya Dusseldorfei Undine crossed with Cattleya Mossiæ Wageneri. In other cases highly coloured parents have been used, from which excellent results will undoubtedly be obtained.

A span roof house with ample means for maintaining a suitable temperature is specially reserved for seed raising. Small pans are partly filled with sphagnum moss, over which a piece of linen or canvas material is placed and securely held in position by additional moss packed round the edge on the inside of the pan. A space of about one inch is left between the surface and the top of the pan. The seed is evenly sown over both the moss and canvas material, and the whole covered with a sheet of glass. Germination soon commences, the first seedlings being removed after a few weeks' growth. Much of the success depends on the maintenance of an abundance of atmospheric moisture combined with a high temperature. It is of interest to note that the majority of the seedlings are secured from off the moss portion of the seed-raising pans, the central canvas portion rarely giving a good crop.

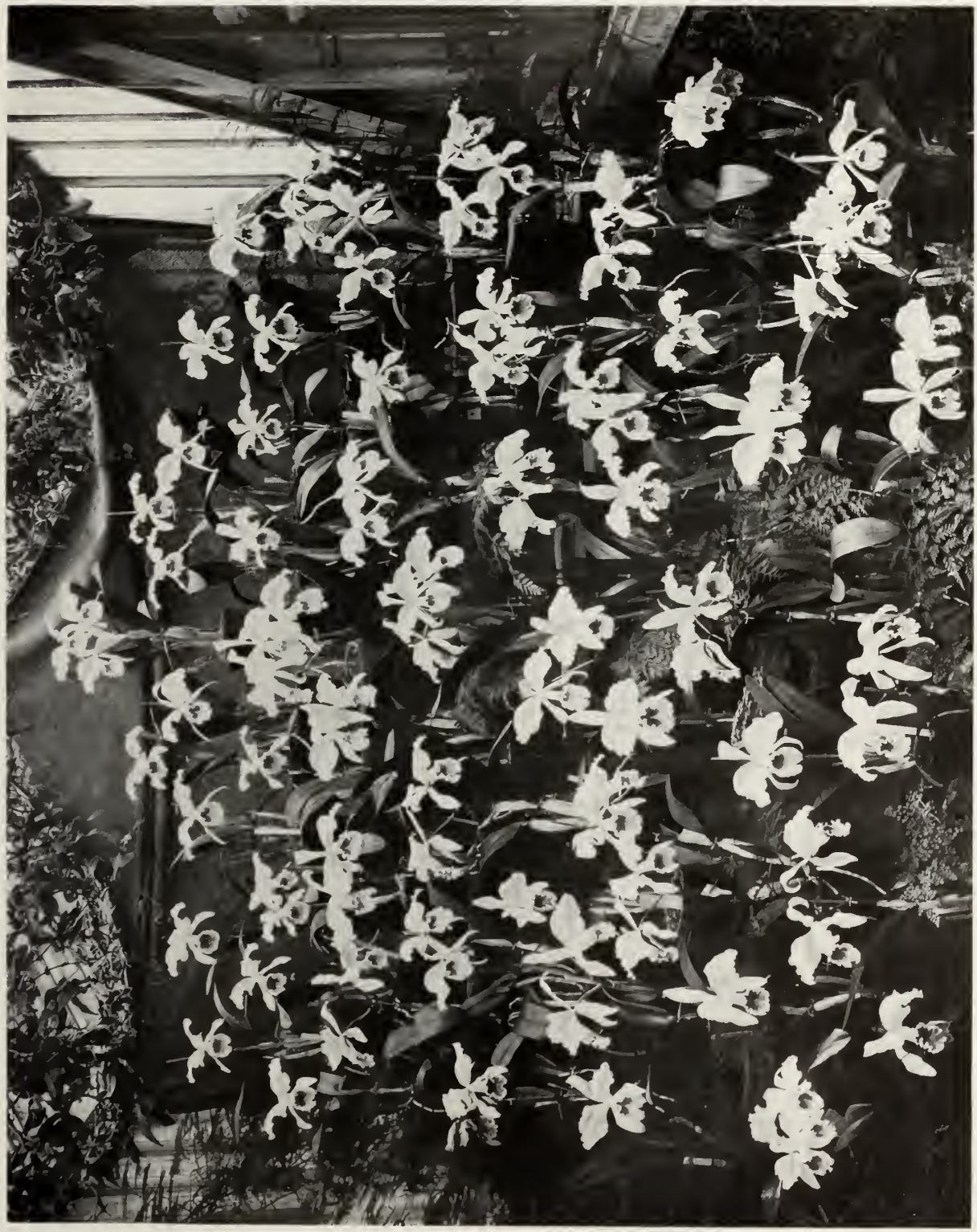
In other houses there is a comprehensive assortment of Lycastes, Oncidiums, Dendrobiums, Calanthes and recently imported Renanthera Imschootiana.

ALBINO CATTLEYAS.

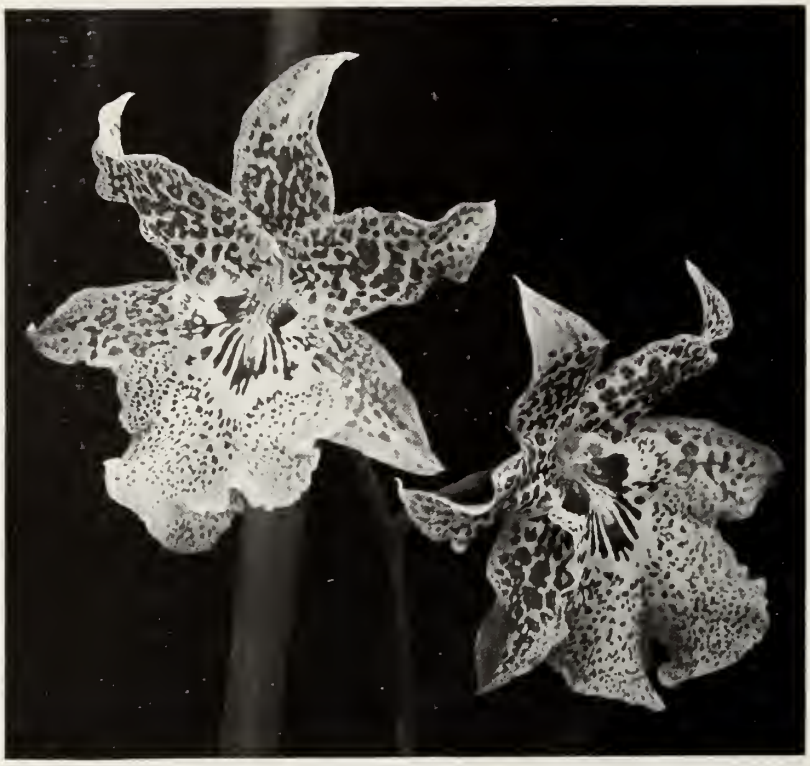
For some considerable time Mr. J. Leemann has specialised in albino Cattleyas, his collection at West Bank, Heaton-Mersey, being one of the most important in the country. The reproduced photograph in this issue shows a selection, consisting of about one-fourth, of the plants as they appeared during the month of June last.

Cattleya Mossiæ is strongly represented, the Reineckiana forms including superba, of fine shape and substance, Hardy's variety, with almost solid colour on the labellum, and one somewhat similar, but having a longer labellum and with the colour on it more broken up. There are also several good forms of C. Mossiæ Wageneri, one having pink veining on the labellum, which is very effective. C. Mossiæ Her Majesty, of the Arnoldiana type, shows up the boldest in the photograph. Included in the group is Cattleya Queen Mary and C. Mrs. Myra Peeters, both excellent hybrids with pure white segments.

To obtain the best results the plants must be well cultivated, and although C. Mossiæ is never considered one of the easiest it certainly grows well when under the care of Mr. S. Smith, who has produced many attractive plants as well as a number of healthy propagated pieces. Plants which carry their flowers for the full period during each season require very careful treatment to ensure a continuance of the high standard seen in our illustration. With this, however, Mr. Smith finds no difficulty; the longer the plants remain in the West Bank collection so much the stronger do they become.



Albino Cattleyas flowering in the collection of J. Leemann, Esq., West Bank House, Heaton-Mersey, Lancs.



Odontonia Cleverleyana (*M. vexillaria* × *O. Rolfeæ*).

ODONTONIA CLEVERLEYANA.

THE difficulties which surround the hybridist of to-day appear quite as numerous as they did when the first attempts to raise seedling Orchids were made many years ago. One by one the troubles always associated with the initial work of a new subject are being overcome, yet there still remain several apparently unconquerable factors which prevent the desired amount of success and progress being attained.

True it is that a great advance has been made and much valuable knowledge on the subject acquired, but with all this we appear to be still in the infancy of the art of seed-raising and know but little of anything beyond the elementary stage. Yet, although encouraging progress in the art has constantly been maintained, the hybridist pushes his ambitious nature further afield during each succeeding year, with the result that he attempts to solve difficulties far ahead of all knowledge previously gained. Thus it is that the hybridist, so far as he himself is concerned, finds success almost as far off as ever and the difficulties no less than when he first commenced to make a study of the subject.

The various species of Odontoglossum are gradually but surely being connected into many diverse hybrids, and following this the allied genera will join in the making of those of greater complexity. Although it seems very natural that the Miltonia genus should closely associate itself with that of Odontoglossum the practical part has presented many difficulties, and it is only recently that favourable results have been achieved.

The intercrossing of Odontoglossum and Miltonia has brought forth a section bearing the name Odontonia, which gives every promise of being of considerable importance and opens up a vast field to the investigations and ingenuities of the hybridist.

Odontonia Cleverleyana is one of the latest results. It was exhibited by Messrs. Mansell

and Hatcher at the recent Holland House Show, where it was awarded a First-class Certificate and generally regarded as one of the most interesting and prettiest novelties yet seen. The parents were M. vexillaria Leopoldii and O. Rolfeæ (Harryanum × nobile). The influence of M. vexillaria is apparent in the somewhat flat nature of the flower and more especially in the well-defined bi-lobation of the comparatively large labellum. With the exception of the blotches and vertical bars of colour on the base of the labellum all the varied tints of rose-purple spotting owe their origin to the Harryanum species contained in O. Rolfeæ.

The seedling is as yet small and undeveloped, but sufficient evidence has been obtained of the great value of the plant from a decorative standpoint and of its immense utility in the hands of the hybridist. Beautiful as all the many forms of M. vexillaria are, they require the addition of some stronger growing kind to impart a more lasting nature to their flowers. Odontonia Cleverleyana marks one of the most important steps in this direction.

ODONTONIA CHARLESWORTHII

ONE of the finest hybrids yet seen. Such, in brief, was the verdict of the R.H.S. Orchid Committee when Odontonia Charlesworthii received a First-class Certificate, July 14th, 1914. This hybrid, which bears the raiser's name, is the result of crossing Odontoglossum Uro-Skinneri with Miltonia vexillaria, and, as may be seen in the adjoining illustration, the characteristics of both species are easily discernible.

O. Uro-Skinneri was introduced to the nursery of Messrs. Veitch and Sons, Chelsea, in the year 1854 by Mr. George Ure Skinner, where it flowered for the first time in 1859. It was discovered near the village of Santa Catarina, in the district of Solola, twenty-eight leagues from Guatemala. On its first appearance Dr. Lindley suspected it to be a natural hybrid between bictoniense and some such species as Cervantesii and Rossii, an

Odontonia Charlesworthii.

opinion with which the discoverer of the species, as it soon proved to be, did not agree.

In the production of this hybrid Mr. Charlesworth used O. Uro-Skinneri incarnata, a variety by no means exceeding the normal size, but extremely rich in point of coloration, hence the very beautiful and marvellous result achieved. The sepals and petals are heavily marbled with brownish-crimson; the comparatively immense labellum of very bright rose-purple, although still showing the whitish spots so characteristic of O. Uro-Skinneri; while on each side of the

yellow crest is a bright crimson blotch and underneath it some radiating lines, all of which are derived from M. vexillaria. The column is formed in an upward position.

Although the plant has taken some time to acquire sufficient strength for the production of its first spike of four flowers, it will doubtless prove capable of remaining in bloom for a considerable period, this being one of the noted features of O. Uro-Skinneri.

The creation of this hybrid has opened up a wide field for future work in connection with the allied genera. Practical tests will soon prove whether it is capable of being united with the various hybrids of Cochlioda Nœzliana. The raising of Odontioda Euterpe (C. Nœzliana × O. Uro-Skinneri) and Miltonioda Harwoodii (M. vexillaria × C. Nœzliana) marks the initial stage; the next step will be the fusion of all three species. The combination of Odontoglossum, Miltonia and Cochlioda is known as Vuylstekeara, and has more than once been effected.

NEW HYBRIDS.

ODONTOGLOSSUM TROYANOWSKIÆ.—The secondary hybrids of O. Edwardii are fast reaching the flowering stage. This one is the result of crossing Thompsonianum (Edwardii × crispum) with Rolfeæ. The flower still shows traces of the somewhat narrow segments, but this is more than made up by the almost blackish purple blotches, which are symmetrically arranged on all the segments. Raised by Messrs. Sander and Sons.

ODONTIODA RUBIA.—An attractive hybrid of rich red colour has been raised in the collection of Mr. Richd. G. Thwaites, Streatham Hill, by Mr. E. J. Hannington, who sends us flowers of the same. The parentage is Odm. Vuylstekei × Oda. Charlesworthii. The reflexed labellum carries a prominent yellow crest, while the column is streaked with reddish brown.

ODONTOGLOSSUM UROANTHUM.—This is the result of crossing O. Uro-Skinneri with O. Kegeljani (polyxanthum), the flowers being tawny yellow with brownish-red markings on the sepals and petals, the labellum blotched with bright rose in the centre and with spots of similar colour around the margin. The spike carried seven flowers. Raised in the collection of Mr. F. Menteith Ogilvie, The Shrubbery, Oxford.

LÆLIO-CATTLEYA SHOGUN.—The result of crossing L.-C. Martinetti with L. tenebrosa, and thus having a large proportion of the tenebrosa colour. Raised by Messrs. Sander and Sons.

LÆLIO-CATTLEYA BRUGENSIS. — The parentage of this hybrid is L.-C. Martinetti and L.-C. luminosa, the flower being of buff colour with purple suffusion on the labellum. Raised by Messrs. Sander and Sons.

ODONTOGLOSSUMS.—The following new Odontoglossum hybrids have been raised by Messrs. Sander and Sons:—Marathon (amabile × eximium), Paulinus (altum × armainvillierense), Lycidas (Andersonianum × amabile).

LÆLIO-CATTLEYA CORNCRAKE.—A very pleasing addition to the golden-yellow section, and resulting from L. Gwennie (Jongheana × Cowanii) crossed with C. Mossiæ Reineckiana. Raised by Mr. H. G. Alexander in the Westonbirt collection.

CATTLEYA IRENE.—A beautiful albino produced by crossing C. Suzanne Hye de Crom (Gaskelliana × Mossiæ) with C. Mossiæ Wageneri. Exhibited at the Holland House Show by Mr. J. Gurney Fowler.

LÆLIO-CATTLEYA CONSTANCE. — By crossing C. Mossiæ with L.-C. bletchylensis a very effective hybrid has been raised by Messrs. Flory and Black and exhibited by them at the Holland House show.

LÆLIO-CATTLEYA PALLENE.—This very charming hybrid bears a strong resemblance to some of the finest forms of C. Schröderæ. The parents are L.-C. Pallas and C. Schröderæ. Exhibited by Messrs. Flory and Black under the name Sunset, which has been previously used for Jongheana × Percivaliana, but re-named as above.

CATTLEYA ENCHANTRESS. — A very attractive addition to the albinos. Exhibited by Messrs. Mansell and Hatcher, Rawdon, Leeds. The parents are intermedia alba and chocœnsis alba.

HOLLAND HOUSE SHOW.

AMONG the numerous attractive plants at the recent Holland House Show the following are of interest:—

Vanda cristata, exhibited by Messrs. Stuart Low and Co. A native of Sikkim, where two forms are found: one at elevations of 2-4,000 feet, with racemes producing as many as four or five flowers an inch in diameter; the other at elevations of 5,000 feet, and carrying flowers nearly twice as large as the former, but with only about two on each raceme. The sepals and petals are yellowish-green, the lip of similar colour, but having a bold purplish-brown blotch. King and Pantling remark that the pollen masses, after removal from the anther, fall forward owing to the bending of the caudicle, until they ultimately rest on the gland. The species was originally discovered in 1818 by Dr. Wallich, flowering in the month of April, and described by him in a manuscript memorandum as a flower of exquisite beauty. The author of the specific name is Lindley.

Nanodes Medusæ, exhibited by Messrs. Flory and Black. A most singular Orchid from Ecuador. The stems are densely tufted, pendent, covered with broad imbricated sheaths of glaucous green leaves. The flowers are leathery, about 2½ inches across; the sepals and petals yellowish-green tinged with brown; the lip large, orbicular, of deep maroon-purple, greenish over the disk, the whole margin deeply fringed. Of this species Sir Hooker states: "Altogether, the flattened stout culms, and the pale glaucous colour of the foliage, and the extraordinary appearance and lurid purple of the flower, give it a most sinister appearance, and for an Orchid a most unusual one." Lindley formed the genus, while the specific name was given by Reichenbach.

Trichopilia suavis, exhibited by Messrs. Sander and Sons. One of the prettiest of Orchids, and a native of Costa Rica. The flat, compressed pseudobulbs are monophyllous. The flowers are formed on pendent peduncles produced from the base of the bulb. In colour, creamy-white, freely spotted with rosy purple. They emit a most delicate odour of hawthorn. This species appears to have been first flowered by Mr. R. S. Holford, Mrs. Lawrence and Mr. Loddiges. The variety alba is worthy of a place in every collection.

Lycaste plana, the Even-flowered Lycaste, exhibited by Messrs. Charlesworth and Co. An elegant species with oval lanceolate plicate leaves. The flowers are from 3-4 inches across; the sepals madder-red; the petals mainly white, with a rosy crimson blotch having in it an eye-like spot of white. It was originally named and described by Lindley, who states: "A Bolivian plant imported by Messrs. Loddiges, with whom it flowered in October, 1842. It is conspicuous for the large size of its leaves, and is in fact very near L. macrophylla, from which it differs in the petals being quite even, not undulated, and in the lateral sepals being much more exactly oblong. Added to which is a greater degree of bluntness on the tubercle of the lip. The beauty of the flowers of L. plana is far greater than in L. macrophylla, which wants the rich red-wine colour of the plant before us."

Odontoglossum Kegeljani.—This comparatively rare species is affiniated to the well-known triumphans. It first flowered in May, 1876, with M. Ferdinand Kegeljan, at Namur, and was described by M. Ed. Morren in *La Belgique Horticole*, 1877, p. 212, a coloured plate being included. This species was subsequently described under the name O. polyxanthum, a plant being shown by Mr. W. Cobb, R.H.S., April 13th, 1880, when it received a First-class Certificate. At the recent Chelsea Show a strong plant was exhibited by Messrs. Armstrong and Brown.

Renanthera Imschootiana.—This red-flowering species has proved of considerable utility in creating a striking effect in all extensive groups. It was first imported by Messrs. Sander, July, 1891, and plants were sent to Kew by M. van Imschoot, of Ghent, during the same year. This species is closely allied to R. coccinea and R. Storiei. Messrs. Mansell and Hatcher and Mr. Harry Dixon included several excellent specimens in their respective exhibits.

STANHOPEAS.

THERE are few Orchids which attract more attention when in flower than Stanhopeas, their curiously constructed blooms often resembling some tiger-like animal, while their thick waxy nature suggests an artificial construction.

Although their native home is that of Tropical America they can be very successfully grown in the Cattleya house, or, in fact, in any house having a similar atmosphere. In this collection we allow them rather more sun than is usual, the glass having only a very thin permanent shading, while the lath roller blinds are not put down until about mid-day, and then only for a couple of hours. Probably this treatment more closely resembles their natural climate than that generally adopted.

The habit of growth and pendulous nature of the flower spikes necessitates the use of baskets, with a compost consisting of osmunda, polypodium and peat in equal part, and some sphagnum moss. This material should be pressed moderately firm, but not so close and hard to prevent the flower spikes from pushing their way through, which they often do when not growing over the side of the basket. When in full growth the plants delight in an abundance of water, and syringing over-head with clean water several times a day when the weather conditions are favourable. During the winter months, when the plants should be in a state of rest, a cooler and drier atmosphere is required. Much less water will be needed at the roots. The young growths are often subject to attacks of thrip, but a weekly spraying with a suitable insecticide will keep this pest in check.

Like most other Orchids which are cultivated under suitable treatment a rapid enlargement of the plants results, and frequently necessitates the use of larger baskets for their accommodation. On account of the cumbersome nature of large baskets it may often be found best to divide the plants into two or more portions, and to place each one in a separate and smaller receptacle. Propagation is readily effected, and if carried out just before root action commences the young plants will quickly become re-established.

If there is one thing to be said against Stanhopeas it is that their flowers do not last very long in perfection, yet while they are fresh a delicious fragrance is often emitted. Still, I think a few plants should be included in every amateur's collection, and those specially worthy of culture are oculata, platyceras, eburnea, tigrina, Devoniensis and the rare convulata, all of which are good growers.—*H. G. Crosley, La Ferté Bernard, Sarthe, France.*

PHALÆNOPSES.

THE interesting photographs reproduced in this issue give some idea of the extent to which the cultivation of Phalænopses is carried on in California. One shows an immense shipment of imported plants as received by the MacRorie-McLaren Company of San Francisco. It contained 10,000 various Phalænopses which arrived on the steamer *China* April 11th, 1914, from the Philippine Islands. Among the plants are specimens having leaves from 18 to 24 inches in length. This is said to be the biggest shipment ever made to America, and represents many years of collecting. A Filipino native of the Islands was brought over with the plants to ensure their proper care on the voyage and to look after the plants on their arrival.

The other photograph shows a remarkable exhibition of flowering plants in the same establishment, and proves that Orchids, when correctly cultivated, yield an abundance of flower of the finest decorative value. Although these plants appear to be placed on staging they are, in reality, grown separately in baskets suspended from the roof by means of long wires. This method allows a free circulation of air around their leaves and results in a continuance of that healthy nature of the plants so very essential to the production of magnificent flower spikes.

An immense importation of Phalænopses received by the MacRorie-McLaren Company, San Francisco, California.

A view in the Phalænopsis house of the MacRorie-McLaren Company, San Francisco, California.

POTTING CATTLEYAS.

ALMOST every Orchid grower fully appreciates the value of practical assistance. It is an easy matter to ask a friend to spend a short time demonstrating the correct manner in which a plant should be potted, this is, of course, supposing the friend has the requisite knowledge and is willing to part with it. But there are many amateurs who are quite unable to procure this valued friend, oftentimes because they live in a neighbourhood where horticulture does not play an important part or include much appertaining to Orchids.

When and how to re-pot a Cattleya is one of several queries asked by an amateur cultivator who appears to be without the assistance of an experienced friend. For this reason the reproduced photograph of a Brasso-Cattleya will serve as a useful specimen upon which to make a few remarks.

The main point to consider is that the new growth will have sufficient room to develop itself, and to allow the new roots which are formed from its base every opportunity to enter the compost. On the right of the photograph the new growth can be seen in an advanced condition, and also in a position that does not allow the new roots a chance of entering the compost; they are, in fact, growing over the edge of the pot where they will obtain but little nutriment. This is entirely wrong. The plant should be so placed in the pot that there is ample space for the new growth and its roots to be formed within it. The roots will then enter the compost and sustain the vitality of the plant by securing an adequate supply of nutriment.

Another important point is to carry out the work at the most favourable time. The plant in our illustration has been neglected, it ought to have been re-potted several weeks before the photograph was taken, at a time when the new roots were just pushing from the base of the new bulb. As it now is, the roots have extended so much that it would be almost impossible to re-pot the plant without breaking them. Moreover, roots which have once accustomed themselves to an atmospheric

A neglected plant.

existence very rarely live long when buried in compost; they appear to lack the power of adapting themselves to the changed conditions.

Close inspection of a growing root will show that it is composed of three distinct portions. The extreme end is always covered by a layer of tissue, forming the root-cap or pileorhiza, which enables it to force its way through the compost. Next to this comes the part which absorbs water and much of the requisite food supply. It is rarely more than an inch in length, is of greenish colour and generally thickly covered with delicate hairs, each one of which is a slender cell capable of closely adhering to the particles in the compost and assisting in the process of taking in the dissolved materials. The third portion,

that nearest the bulbs, and often of considerable length, is whitish, and its chief duty is to convey the food material from the gathering ground to the actual plant. It will therefore be seen how much the progressive action of the plant is retarded when the green coloured absorbing portions of the roots are broken off in the process of re-potting. Every root so damaged remains practically useless until one or more new growing points are formed. Frequently, several secondary roots are formed from various parts of the older section.

As previously mentioned, the subject of our illustration is a Brasso-Cattleya, which denotes that one of the Brassavola species—in this hybrid it was B. Digbyana—was used in its production. Brassavolas are accustomed to dwell in a hot and dry atmosphere, and are frequently discovered growing on hard rocks and exposed trees, consequently they have acquired the habit of sending out their roots in all directions and in an exposed manner in search of nutriment. This method of growth is usually to be seen in hybrids of which it forms a parent, and will also explain why so many roots from the older bulbs are to be seen growing over the outside of the pot No doubt if this particular plant had been re-potted at the proper time—several weeks before the photograph was taken—many of these roots would have entered the new compost with beneficial result.

This actual plant is composed of seven fully matured bulbs, four of which are quite sufficient to support the new growth. The three oldest can be removed in one portion and placed in a separate pot, where they will start growth on their own account, and ultimately produce a vigorous plant. The removal of these back bulbs allows the plant to be replaced in a pot of similar size, and, at the same time, allows room for the new growth to be produced. In the case of very large plants which may only require re-potting once in two years care should be taken that sufficient space is left for the accommodation of two new bulbs.

Whenever plants are disturbed during the process of re-potting care is required that they do not suffer from excessive exposure to bright sunshine or a very dry atmosphere. Sufficient shading and plenty of atmospheric moisture are essential to a speedy recovery. The compost will not require much water until the roots are in an active state of growth. Much damage is often done by soaking the potting material with water and allowing it to remain in such a condition until the whole mass becomes sour and totally unsuitable to the requirements of the plant. A slight shrivelling of the bulbs need cause no alarm, for as soon as the roots re-commence their absorbing action plumpness will be regained.

MILTONIA VEXILLARIA.

THE following interesting account of Miltonia vexillaria is given by Consul Lehmann in *Gartenflora*, XXXVIII., p. 350:—

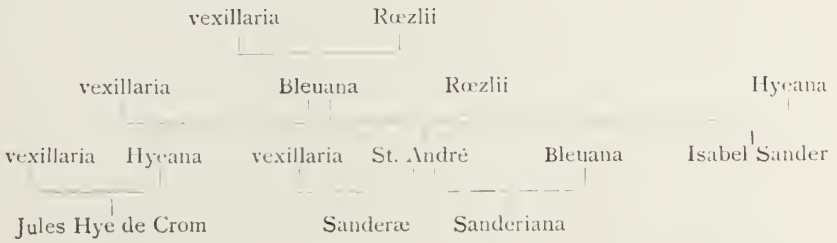
"The southern limit of Miltonia vexillaria is on the western slopes of the snow-capped Huarmi-Urcu, and the volcano of Coatacachi, in the province of Esmeralda and Imbabura, in northern Eucador. Here, and on the western slopes of the volcanic peaks of Chiles, Cumbal, and Mallama, in southern Colombia, occur the varieties Lehmanii and albicans. The species thence spreads northwards along the central mountain region and the western slopes of the West Cordilleras, as far as the sources of the rivers Sinu and San Jorje, in the province of Antioquia, in North Colombia. Over this region it occurs in greater or less quantities in isolated patches. With one exception, the variety albicans, which occurs at 4,000 to 4,500 feet elevation on the river Cuaiquer, the lower and higher limits of Miltonia vexillaria are almost everywhere about 4,750 and 6,500 feet above sea level.

The average mean temperature of the year between these limits fluctuates between 60 and 67 degrees. The extreme daily range when the mornings are clear and the days bright is 53 to 77 degrees. Generally speaking, Miltonia vexillaria is found isolated in places influenced by local climatic conditions, being most abundant at its medium

altitude. It always occurs on the borders of the denser mountain forests, which have below them either open or park-like stretches covered with low bushes or coarse savannah grass, and, above, the extremely humid and almost impenetrable and luxuriant forests that cover the Cordilleras at that altitude.

The characteristic hygrometric peculiarity of the whole region over which Miltonia vexillaria is spread is that it is constant nearly throughout the year; even in what is called the dry season the air is only relatively less humid. The daily changes in the weather may be thus summarised:—During the dry season the day breaks clear, but soon after sunrise a thick mist settles over the forest till about 10 a.m.; it then ascends higher, and the rays of the sun begin with difficulty to penetrate it; the air is filled with a bluish mist that shuts out the distant view. A light shower of rain falls in the afternoon about two o'clock, which often continues till evening, when it gives place to a thick mist. During the rains there is generally a light wind blowing towards the mountains from the lower river valleys. In the rainy season the circumstances are nearly the same, except that the rain is more copious, the drops are heavier, and the showers of longer duration. At times the rain is continuous for several days in succession; the atmosphere is then at saturation point."

HYBRIDS OF MILTONIA VEXILLARIA AND RŒZLII.



Genus: Miltonia. *Section:* Bleuana. *Varieties:* Hyeana, St. André, Sanderæ, Sanderiana, Isabel Sander and Jules Hye de Crom.

It is well known to many that there is a large number of hybrids of which no very accurate parentage has been stated, and although the names of certain species have been given as their original ancestors it is by no means certain by what precise method they have been combined. As time goes on the difficulty of nomenclature increases in proportion to the successive stages produced, and before long a large proportion of the various hybrids in any particular section will be very much alike, and will give but little clue to their exact origin.

The above diagram shows what has already been achieved in the case of Miltonia vexillaria and M. Rœzlii. The original hybrid between these two species received the name Bleuana, and it appears only right that all other hybrids composed of these two, and no other, species should be similarly named.

The results of various recorded combinations have yielded hybrids known by the following names:—Bleuana, Hyeana, St. André, Isabel Sander, Sanderæ, Sanderiana and Jules Hye de Crom. In addition to these many other Miltonia hybrids have been produced by the use of vexillaria and Rœzlii, consequently they should also be included as varieties of Bleuana; some of these are Charlesworthii, J. Gurney Fowler, The Baroness, Bantingii and Adonis.

M. Bleuana was first raised by M. Alf. Bleu, of Paris, the cross being made in June, 1883, the seed sown in April, 1884, and the first plants flowering in January, 1889.

MR. J. HOWES.

BORN in the year 1858, Mr. J. Howes commenced his horticultural career at the early age of eleven, when he acted as garden boy. After two years in this position he entered the Eastgate nursery at Peterborough, then owned by Mr. John House, who besides making a speciality of exhibition stove and greenhouse plants, cultivated Dendrobium nobile, Cœlogyne cristata and various Cattleyas. Here he stayed for three years.

During the following three years he was employed at Bainton House, near Stamford, where his father, now 85 years of age, was head gardener for many years. Following this Mr. Howes was for a short time employed in a small place at Grassendale, Liverpool, where he had charge of a collection of Orchids, consisting of about 100 plants, and which really induced him to take the keen interest he has ever since maintained in these plants.

The nurseries of Messrs. R. P. Ker and Sons, Liverpool, next found him employment, and from thence he went as journeyman to Haigh Hall, Wigan, the seat of the Earl of Crawford and Balcarres, one of the most important gardens in the north. Orchids, however, all had to be grown in the hottest stove house, consequently the cool-house kinds were always unsatisfactory. At the expiration of two years another change was made.

Messrs. Veitch and Sons, Chelsea, next found him employment. Here he was under the late Chas. Canham, and well remembers meeting the celebrated John Dominy. Lælio-Cattleya exoniensis was then a wonderful hybrid, and Mr. Howes has vivid recollections of the great interest it created. Another plant of special interest was Cypripedium Spicerianum, then very rare in commerce.

The next two years were spent in Tyntesfield Gardens, Bristol, where Orchids were grown in one large span-roof house, as was usual at that period. Needless to remark some kinds flourished exceedingly, while others barely existed. After this Mr. Howes was placed in charge of the extensive pleasure grounds, etc., at Monks Orchard, near Croydon.

In 1883 Mr. Howes was engaged as head gardener to Mr. R. H. Measures, The Woodlands, Streatham, who till then had not cultivated Orchids. It was not long, however, before Mr. Measures followed the advice so ably given by his new servant, and within a few years the Woodlands collection became one of the most noted in the country. About that time several important collections were placed upon the market, and a large number of plants were purchased. Of these mention may be made of the large specimen Vandas acquired from Mr. Hanbury's collection of The Poles, Herts, and various species from Mr. B. S. Williams, of Holloway.

The Woodlands collection was famous for its numerous varieties of Lælia purpurata and L. elegans, these occupying considerable space. Aerides and Saccolabiums were great favourites and comprised a varied selection. The very pretty Saccolabium Hendersonianum, usually a difficult subject to cultivate, here grew with much vigour. The plants were imported on pieces of native wood, which were placed in baskets and surrounded with crocks and sphagnum, and subsequently suspended in the Phalænopsis house. Mr. Howes also reaped much success with the culture of Bolleas and Pescatoreas, of which there were many fine plants, and with various Angræcums, including sesquipedale, Ellisii, Chailluanum, Kotschyi, caudatum and Leonis, the latter receiving a First-class Certificate, R.H.S., August 25th, 1885.

On leaving the Woodlands collection Mr. Howes took charge for about two years of the collection of Orchids formed by Mr. T. Brankston, Blackheath. His next position was that of manager for Mr. Fred. Horsman, of Colchester, who at that time was importing Orchids in very large quantities, especially the good old type of Pacho crispum. Mexican, Brazilian and Guatemalan Orchids were also received. A notable species was Oncidium Jonesianum, a beautiful plant now almost, if not quite, extinct in collections.

Mr. Horsman was a keen Orchidist and collector, and was always ready to give the best of his knowledge and experience. His observations of the conditions under which plants grew in their native habitat proved of great value, and it was under his supervision that Mr. Howes acquired a considerable addition to his knowledge of Orchid growing. Mr. Horsman's collection contained many botanical subjects, especially rare Masdevallias, Pleurothallis and Restrepias. The advent of Mr. Horsman, Junr., into the business necessitated still another change in Mr. Howes' career; he accordingly accepted an engagement with Mr. Walter Cobb to take charge of his collection at Silverdale Lodge, Sydenham, where, despite the smoke and fogs of London, Orchids grew wonderfully well, the Phalænopses being amongst the finest plants of their kind in the country. Mr. Cobb's collection was afterwards removed to Tunbridge Wells, where, needless to state, the plants showed a marked improvement, the Odontoglossums growing with remarkable vigour.

After a period of twelve years with Mr. Cobb the position of manager to Mr. H. Whateley, Kenilworth, occupied Mr. Howes' attention. The work consisted of superintending the cultivation of many thousands of Orchids used for supplying cut flowers to the London and other markets. On the termination of this agreement Mr. Howes accepted a partnership in Elmdon Nurseries, Kenilworth, where Orchids were largely grown for market purposes, but this step ended unfortunately, for after a period of five years, circumstances over which he had no control compelled him to sever his connection with that business.

At present Mr. Howes has charge of the gardens and noted collection of Mr. Wm. Thompson at Walton Grange, Stone, Staffs, and here he not only has ample scope to exercise his wide knowledge and ability, but he carries out his duties with unfailing care and success.

Mr. Howes' long and interesting career may well serve as a good example to those just starting in the world of Orchid growers.

HOLLAND HOUSE SHOW.

MEMBERS of the Orchid Committee present: Sir Harry J. Veitch (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Messrs. F. J. Hanbury, J. Gurney Fowler, W. Bolton, Gurney Wilson, F. Sander, W. H. Hatcher, S. W. Flory, J. E. Shill, J. Cypher, W. Cobb, R. G. Thwaites, A. McBean, H. G. Alexander, R. Ashworth, G. F. Moore, W. P. Bound, R. A. Rolfe, R. Brooman-White, Stuart Low, Clive Cookson, J. Wilson Potter, W. H. White and A. Dye.

FIRST-CLASS CERTIFICATES.

Cattleya Irene (Suzanne Hye de Crom × Mossiæ Wageneri), from J. Gurney Fowler, Esq., Pembury.—A very charming hybrid, the large flower being pure white with slight chrome-yellow markings in the throat.

Miltonia vexillaria illustris, from Messrs. Sander and Sons, St. Albans.—A very distinct variety in which the upper part of the flower is streaked and suffused with rose-lilac.

Odontonia Cleverleyana (M. vexillaria × Odm. Rolfeæ), from Messrs. Mansell and Hatcher, Rawdon, Leeds.—A particularly attractive hybrid with the flat flowers evenly spotted with bright rose. See illustration in this issue.

AWARDS OF MERIT.

Cattleya Warscewiczii Meteor, from Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.—An immense flower with rich rose sepals and petals, the broad labellum ruby-crimson.

Odontoglossum eximium solum, from Messrs. Charlesworth and Co., Haywards Heath.—An excellent variety of rose-lilac colour and with a silver-white narrow margin.

Odontoglossum splendens (Denisoniæ × eximium), from Messrs. Sander and Sons.—A large flower with broad segments heavily blotched with rosy purple.

Miltonia Sanderæ var. Enchantress, from Messrs. Sander and Sons.—A very handsome and attractive flower of rich rose colour, the

labellum having a reddish blotch surrounded by a white area.

Lælio-Cattleya Aphrodite "Our Queen," from Messrs. Stuart Low and Co., Jarvisbrook.—An excellent variety with large flowers, the sepals and petals pure white, the labellum rich crimson-purple.

Vuylstekeara insignis (Miltonia Bleuana × Odontioda Charlesworthii), from M. Firmin Lambeau, Brussels.—A very remarkable hybrid, in which the flower resembles the Miltonia parent. In colour creamy-white, with brownish markings on the basal half of the petals and labellum.

Renanthera pulchella, from M. A. A. Peeters, Brussels.—A neat little plant with flowers resembling R. Imschootiana, but much smaller, the branched spike having numerous yellowish flowers, the labellum and tips of petals being bright red.

Groups.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, was awarded a Silver-gilt Cup and Lindley Medal for a superb exhibit of Cattleya Warscewiczii, the varieties including Meteor, Monarch, and Low's var., as well as the pure white form known as Firmin Lambeau, this having 5 flowers. Altogether some 30 specimen plants were included. A well-cultivated plant of Anguloa Cliftonii was also shown.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate, received a Gold Medal for an extensive exhibit consisting of choice Odontiodas and Odontoglossum hybrids. The rare Aerides odoratum album, Anguloa Cliftonii and Cirrhopetalum pulchrum were in good form. Other choice Orchids comprised Miltonia Lambeauiana, M. Bleuana with 9 spikes, and Cypripedium callosum Sanderæ.

Messrs. Sander and Sons, received a Gold Medal for a superb exhibit of rare species and numerous hybrids. At each end were many specimen plants of Cattleya Warscewiczii Sanderiana and C. Canhamiana, while new hybrids were represented by L.-C. brugensis (Martinetti × luminosa) and Odontoglossum Troyanowskiæ (Thompsonianum × Rolfeæ). One of the gems was Aerides Houlletianum Sanderæ, with two spikes of yellowish flowers. Dendrobiums were well represented by the pure white Schutzei and Sanderæ, and Miltonias by several elegant varieties. Cattleya Mendelii Mrs. R. Benson with pure white sepals and petals and delicate rose labellum was singularly beautiful.

Messrs. Mansell and Hatcher, Rawdon, Leeds, were awarded a Large Silver Cup for an extensive exhibit which included many well-cultivated plants of Lycaste Deppei, Phaius Cooksonii, Aerides odoratum with 8 spikes, various Cypripediums, the attractive forms of Anœctochilus, strong plants of Phalænopsis, and the beautiful Odontonia Cleverleyana. Cattleya Enchantress (intermedia alba × chocœnsis alba) was a pleasing novelty.

Messrs. Stuart Low and Co., Jarvisbrook, Sussex, were awarded a Large Silver Cup for an attractive exhibit in which were many fine masses of Cattleya Warscewiczii, the elegant Cyrtopodium punctatum, several excellent forms of Phalænopsis amabilis, one being pure white. Lælia purpurata Lowiæ, of the albida section, nice plants of the pretty Oncidium pulchellum, the yellow Cattleya luteola, and Anguloa Clowesii were also shown in good form. Lælio-Cattleya Aphrodite Our Queen and The Don were two superb varieties.

Messrs. Flory and Black, Slough, secured a Large Silver Cup for a very effective group in which were numerous well cultivated plants of Disa Luna, the erect rose-purple flowers being much admired. Disa grandiflora was also shown. Many choice Cattleyas were included, the best being C. Mossiæ Wageneri, C. Mossiæ Reineckiana and C. Gaskelliana alba. Lælio-Cattleyas were very attractive, the varieties of Martinetti and Aphrodite being much appreciated.

Messrs. E. H. Davidson and Co., Orchid Dene, Twyford, were awarded a Silver Cup for a very well arranged group, the centre of which contained some excellent plants of Phalænopsis Rimestadiana and Renanthera Imschootiana, the red and white making a

pleasing effect. Odontoglossums included Dora and Aireworth "Orchid Dene var." Cattleya Mendelii "Mrs. Ashman," a charming variety with white sepals and petals and slight purple flush on the labellum, was one of several choice plants.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Cup for a choice selection of Odontoglossum hybrids and Cattleyas. Lælio-Cattleya Cowanii "Yellow Prince," and L.-C. Canhamiana alba were both excellent. Miltonia Queen Alexandra and Oncidium macranthum were shown with an abundance of flowers.

Mr. C. F. Waters, Deanlands Nursery, Balcombe, received a Silver Flora Medal for a good group of Odontoglossums and Cattleyas. C. Warscewiczii Sanderiana carried a spike of 5 flowers, and there were dark forms of Mendelii. Lælio-Cattleyas included the pretty Canhamiana alba and the richly coloured Martinetti. Vanda cœrulea and Oncidium flexuosum added a finishing touch of colour.

Messrs. Armstrong and Brown, Tunbridge Wells, staged a choice selection of Odontoglossum hybrids, Masdevallia Harryana Leyswood var., several good Brassavola hybrids and a well-flowered plant of Cattleya Warscewiczii.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth, staged some well flowered plants of Cochlioda Nœzliana, a choice form of Cattleya Mossiæ Wageneri, the curious Bulbophyllum Lobbii Colossus, Cypripedium callosum Sanderæ, as well as a varied selection of species and hybrids.

J. Gurney Fowler, Esq., Pembury, exhibited a large form of Lælio-Cattleya Canhamiana alba.

W. Waters Butler, Esq., Southfield, Edgbaston, showed Cattleya Warscewiczii Southfield var., and C. Clymene, both excellent flowers.

H. Dundee Hooper, Esq., Ardvar, Torquay, exhibited Odontoglossum coronarium with a spike of 27 flowers.

ROYAL HORTICULTURAL SOCIETY.

July 14th, 1914.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O Brien (hon. sec.), Sir Jeremiah Colman, Bart., Gurney Wilson, W. Bolton, C. J. Lucas, S. W. Flory, W. H. White, E. H. Davidson, J. E. Shill, W. H. Hatcher, W. Cobb, T. Armstrong, R. A. Rolfe, and C. H. Curtis.

FIRST-CLASS CERTIFICATES.

Odontonia Charlesworthii (O. Uro-Skinneri × M. vexillaria), from Messrs. Charlesworth and Co. See page 251.

Miltonia vexillaria Rev. W. Wilks (vexillaria gigantea × vexillaria Queen Alexandra), from J. Gurney Fowler, Esq., Pembury.—An immense flower of light rose colour, the disc on the base of the labellum being pale yellow. Probably the largest Miltonia yet seen. The spike carried 6 flowers.

Odontoglossum percultum King George, from F. Menteith Ogilvie, Esq., Oxford.—A very beautiful hybrid which carried a spike of 12 large silvery white flowers handsomely blotched with rose-violet. This variety received an Award of Merit, July 2nd, 1912.

AWARD OF MERIT.

Brasso-Cattleya Hene The Dell var. (C. aurea × B.-C. Mad. Chas. Maron), from Baron Bruno Schröder, Englefield Green.—A truly beautiful flower of large proportions, the segments of soft rose purple, the broad, fringed labellum having a large orange-yellow area on each of the side lobes.

CULTURAL COMMENDATION

To Mr. J. Davis (Orchid grower to J. Gurney Fowler, Esq.) for a well-cultivated specimen of Cattleya Warscewiczii with 22 large flowers of rich purple colour.

To Mr. W. H. White (Orchid grower to Elisabeth Lady Lawrence) for Odontoglossum Pescatorei, a specimen plant with 5 many-flowered spikes.

Other Exhibits.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Banksian Medal for an interesting exhibit containing the pure white Cœlogyne Mooreana, Vanda Parishii, the curious Masdevallia Gargantua, Bulbophyllum densiflorum and a well-flowered Stanhopea tigrina.

Messrs. Stuart Low and Co., Jarvisbrook, received a Silver Banksian Medal for a well-arranged group, in which were the pretty Cirrhopetalum pulchrum, Odontoglossum Williamsianum, with a many flowered spike, Vanda teres, of rich colour, and Oncidium macranthum, a specimen plant with numerous flowers.

Messrs. J. and A. McBean, Cooksbridge, showed Cattleya Lord Rothschild albens, several of the large-flowering type of Dendrobium Dearei, Odontioda Thwaitesii and O. Vuylstekei.

Messrs. Flory and Black, Slough, exhibited 5 plants of Cattleya Gaskelliana, the attractive Dendrobium acuminatum, and three good forms of Disa grandiflora.

F. Menteith Ogilvie, Esq., Oxford, showed Lælio-Cattleya Rubens The Shrubbery var. and Odontoglossum Uroanthum, a new hybrid between Uro-Skinneri and Kegeljani (polyxanthum), with a spike of seven tawny-yellow flowers marked with brown.

H. S. Goodson, Esq., Fairlawn, Putney, showed Odontoglossum Snowflake, of unknown parentage, a pretty flower with rose tint, slightly spotted.

E. R. Ashton, Esq., Broadlands, Tunbridge Wells, exhibited Sophrocattlælia Sibyl (S.-L. heatonensis × L.-C. Haroldiana), of reddish-orange colour, the lip reddish-crimson. Also Odontioda Hemptinneana (C.-N. × O. eximium), a pleasing flower with scarlet markings, the border of bright rose.

The next meetings of the Society will be held on August 11th and 25th, September 8th and 22nd, October 6th and 20th, November 3rd and 17th, and December 1st and 15th.

MANCHESTER ORCHID SOCIETY.

June 18th, 1914.

Members of the Committee present: Z. A. Ward, Esq. (in the chair), Messrs. R. Ashworth, J. J. Bolton, J. C. Cowan, J. Cypher, J. Evans, J. Howes, A. J. Keeling, J. Lupton, D. McLeod, W. J. Morgan, W. Shackleton, H. Thorp, G. Weatherby, and H. Arthur (Secretary).

A Large Silver-gilt Medal was granted to Col. J. Rutherford, M.P., Blackburn; Silver-gilt Medals to R. Ashworth, Esq., Newchurch, and Wm. Thompson, Esq., Walton Grange; and a Large Silver Medal to Messrs. Hassall and Co., Southgate, for groups of Orchids. Messrs. A. J. Keeling and Sons, Bradford, also exhibited.

First-class Certificates.

Lælio-Cattleya Cicely (L. Latona × C. Mossiæ) and Odontioda Brewii "Rann Lea," both from H. J. Bromilow, Esq.

Odontoglossum eximium Excelsior and Od. Dorothy Arkle, both from Wm. Thompson, Esq.

Odontoglossum Jane Leggatt, from A. J. Oakshott, Esq.

Miltonia Charlesworthii "Bearwood var.," from Col. Rutherford.

Awards of Merit.

Lælio-Cattleya Fascinator var. Samson, L.-C. Martinettii var. Ruby, Odontoglossum Waterloo, and Cypripedium Greyii (niveum × Godefroyæ), all from R. Ashworth, Esq.

Odontoglossum Peacock and O. Christopher Guest, from Wm. Thompson, Esq.

Brasso-Cattleya Endymion and Cattleya Mossiæ splendens, from Col. J. Rutherford.

Odontoglossum crispum Catherine Oakshott, from A. J. Oakshott, Esq.

Lælio-Cattleya Canhamiana "Hassall's var.," from Messrs. Hassall and Co.

The next meetings of the Society will be held on August 13th, September 24th, October 15th, November 5th and 19th, and December 3rd and 17th.

THE
ORCHID WORLD.
Vol. 4. SEPTEMBER, 1914. No. 12.

NOTES.

MALAYAN ORCHIDS. — The thirteenth number of the second series of the *Bulletin du Jardin Botanique de Buitenzorg* is occupied with descriptions of new Malayan and Papuan Orchids. About 75 species are described by Dr. J. J. Smith.

"DIE ORCHIDEEN." — Part 4 of this interesting work by Dr. R. Schlechter contains many illustrations of Dendrobiums and Bulbophyllums, as well as a coloured plate of Cymbidium Lowianum. So far, 38 groups, comprising 284 genera, have been dealt with.

CATTLEYA ATALANTA.—It is not every amateur who reaps success with the cultivation of every kind of Cattleya; some succeed well with the labiata section, while others obtain good results with those belonging to the long-bulbed section. If any difficulty is experienced it is usually with the latter class, for, with few exceptions, all long-bulbed Cattleyas require exceptional care to ensure their healthy existence. It is therefore pleasing to be able to record the success obtained by Mr. Ziba A. Ward, of Cringlewood, Northenden, Manchester, who has on several occasions received high awards for his interesting exhibits at the meetings of the Manchester Orchid Society. Most satisfactory results have been secured by him in the cultivation of Cattleya Iris and C. Adula, and now we have the pleasure of receiving from him a photograph of C. Atalanta (gigas × Leopoldii) with a spike of 17 perfect blooms. Last season this same plant produced a spike of 10 flowers, since when it has made a bulb far exceeding in height and robustness those of earlier date. The remarkable number of 17 blooms on a single spike is worthy of being placed on record, for we doubt if a similarly fine example has hitherto been seen.

SELENIPEDIUM SCHLIMII.—It has long been known to horticulturists that this species is self-fertilising, and produces seed freely. The sexual apparatus differs in no essential character from that of Cypripediums, but, as is the case with all the Selenipediums, the relative position of the stigmatic disc to the other parts is somewhat modified. This disc is rhomboidal in outline, much thickened beneath, especially on the basal side, forming there a conical protuberance that stands immediately below the anthers, is nearly parallel with the staminode, and projects beyond it. The anthers are normal as regards form and position, but the glutinous envelope is exceedingly thin, loses its viscidity after the flower has been some time expanded, and becomes dry. The granular pollen is then set free upon any slight motion imparted to the flower, and as these granules are exceedingly minute and numerous, it can scarcely happen that some of them do not fall upon the stigmatic disc, especially the thickend part that projects immediately below the anthers, and the ovary thence becomes fertilised. The consequence to the plant is the enfeebling of its constitution, by which the species is one of the most difficult to import alive, and scarcely less difficult to keep alive when so imported. For some time after its first introduction,

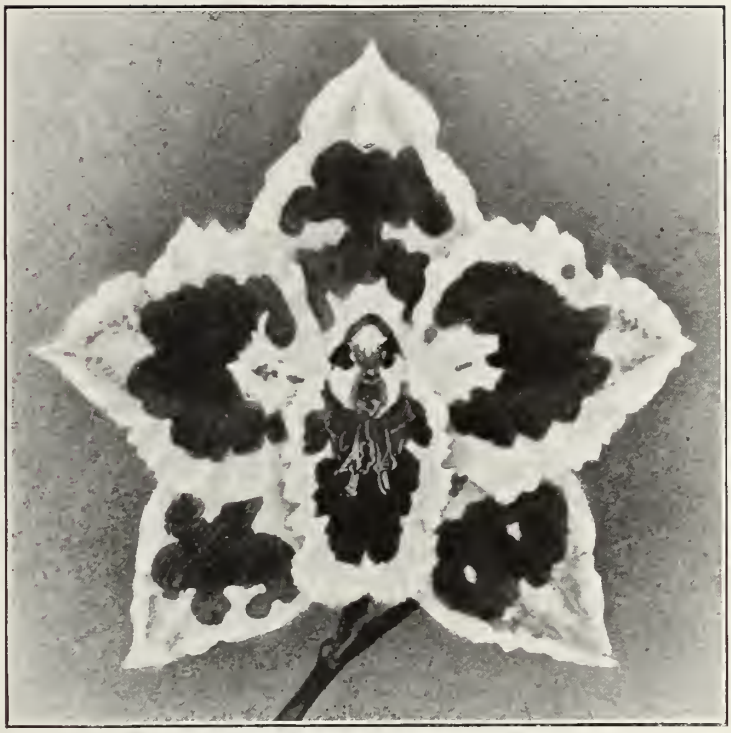
S. Schlimii was a very rare plant in British gardens, and horticulturists took advantage of its self-fertilising power to raise young plants from seed. The excessive fertility of S. Schlimii is not only seen in the production of seed capsules without the intervention of any external help, but the species has also proved to be one of the most potent of hybridising agents. Veitch's "Manual of Orchidaceous Plants."

Odontioda Cooksoniæ Fowler's variety.

ODONTIODA COOKSONIÆ.—This elegant hybrid is the result of crossing Cochlioda Nœzliana with Odontoglossum ardentissimum. The illustration shows a fine variety of the same in Mr. J. Gurney Fowler's collection. It was awarded a First-class Certificate, Royal Horticultural Society, June 18th, 1912, the colour being solid red, very brilliant, with a rose margin to the segments, and the apex of the lip white.

"THE ORCHID REVIEW."—The principal article in the August number of this journal is on Herbaria and their use. Interesting notes are given of Stanhopea guttulata and Cypripedium philippinense, the latter being accompanied with a photographic illustration.

POLLINATION OF THELYMITRA LONGIFOLIA.—In an interesting book entitled "Plants of New Zealand," by Messrs. R. M. Laing and E. W. Blackwell, occurs the following note on the very puzzling case of the pollination of Thelymitra longifolia, one of the commonest of New Zealand Orchids: "In the North Island it is almost everywhere abundant except in the dense bush. In the South Island it is hardly less common. According to Mr. Cheeseman 'the flowers usually open about nine o'clock in the morning, neatly re-closing about four or five in the afternoon. There is, however, considerable irregularity as to this, some varieties only opening for a short time in the middle of the day, others remaining expanded for a much longer period.' On the other hand, in the South Island, it is rare to find an open flower. Even in fine weather not more than a few per cent. of the flowers open properly. The chief reason why flowers do not open in wet weather is that rain destroys their pollen; many of them therefore close in rain or adopt ingenious contrivances for keeping their pollen dry. Now, Mr. Cheeseman has observed that rain reduces the pollen of this plant to a pulpy mass. This is perhaps the primary reason for its closing. One would consequently expect to find it more frequently opened in the drier climate of Australia than in New Zealand. However, observations seem to show the reverse to be true. Though the plant is well adapted for cross-pollination, insects rarely visit it. Mr. Cheeseman states: 'For the last seven years I have made it a practice to watch beds of this Orchid, and save on two occasions I have never seen winged insects enter the flower, and in both these cases the pollinia were removed.' Out of 218 flowers examined, only seven had lost their pollinia. Thus it would appear that the plant is occasionally, though very rarely, cross-pollinated. On the other hand, as the species is a predominant one, it must obviously be largely self-fertilised and often cleistogamic, thus apparently forming an exception to the general rule that it is a disadvantage to a flower to be self-pollinated."



Odontoglossum ardentissimum Violette.

ODONTOGLOSSUM ARDENTISSIMUM.—This artificially raised hybrid between O. crispum and O. Pescatorei has been a favourite with one and all ever since its first appearance in London, May, 1902, when exhibited at the Temple Show by M. Chas. Vuylsteke, of Ghent. Some few years previous, in December, 1898, a similar hybrid was flowered by Baron E. Rothschild, Armainvilliers, France, and exhibited by him under the name O. armainvillierense, which is in fact the earliest and consequently the correct title, but unfortunately it was evidently forgotten at the time when M. Vuylsteke showed his plant in 1902. The adjoining illustration shows a handsome variety in the collection of Mr. Wm. Thompson, Walton Grange, Stone, where it is known under the name O. ardentissimum Violette.

CATASETUM IMSCHOOTIANA.—This curious species was introduced by Messrs. Linden, of Brussels, through their collector M. F. Claes, who discovered it in Brazil. It appears to have first flowered under cultivation in November, 1893, when a plant carrying a spike of more than thirty flowers was exhibited at the Forty-sixth Meeting of L'Orchidéene, and received a First-class Diploma of Honour. In September, 1908, it bloomed in the collection of Sir Trevor Lawrence, Bart., and on being exhibited at the Royal Horticultural Society obtained a Botanical Certificate. During the same month another plant flowered in the collection of Mr. W. H. St. Quintin, Rillington, York, whose able grower, Mr. F. C. Puddle, kindly sends this season's spike of fourteen blooms. This species is closely allied to Lindley's C. Hookeri, and produces yellowish-green flowers with the hood-shaped lip uppermost, and the rostellum prolonged into a pair of antennæ which, when touched, cause the pollen to be thrown out.

VANDA AMESIANA.

THIS is one of the most suitable plants for inclusion in an amateur's collection, for not only is it extremely pretty and sweet scented, but it is easy to cultivate and grows well where the temperature is low and unsuitable for other species of the genus. It was originally introduced by Messrs. Low and Co., at first accidentally, but subsequently by a large importation. It is a native of the Southern Shan States, where it grows at 4,000-5,000 feet elevation, generally on rocks fully exposed to the sun, although occasionally on trees in partial shade.

In the dry season the plants are frequently much shrivelled, which appears to do little harm; and, moreover, this may be of some protective value, for the temperature sometimes falls so low that hoar-frost is formed on the ground. From this we may gather some idea of the treatment necessary to produce satisfactory results when grown under glass. No doubt a cool Odontoglossum house will be found best, especially if a portion can be reserved in which considerable sunlight is allowed to penetrate without doing damage to the other occupants.

Vanda Amesiana is remarkable for the unusual thickness and number of the aerial roots produced from the lower part of the stem. The white flowers are more or less tinted with rose-purple, which varies in intensity; more than one pure white variety has been discovered, although albino forms still remain rare.

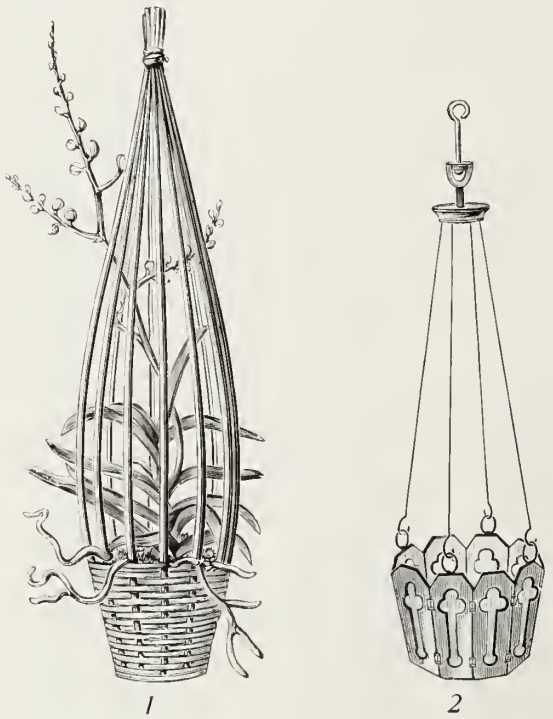
This species is dedicated to the Hon. F. L. Ames, of North Easton, Massachusetts, and is largely grown where a supply of useful decorative bloom is required. Excellent results have been obtained by using only broken crocks and moss as a rooting material, although a good depth of drainage appears essential. The amateur will probably find that the usual mixture of peat and other fibres will answer better than only sphagnum moss, which is rather liable to become sour and rotten when an excess of water is applied.

Vanda Amesiana.

A view in the Phalænopsis House of the MacRorie-McLaren Company, San Francisco, California.

AIR PLANTS.

THE early attempts to cultivate Orchids successfully were often more ingenious than useful, for it must be remembered that when these plants were first discovered they were believed to exist mainly on the atmosphere, and for that reason were frequently called "air plants." In the year 1812 Messrs. Loddiges received a plant of Oncidium bifolium from a gentleman who brought it from Monte Video, and who informed them that it was hung up in the cabin without earth, and continued to flower during a great part of the voyage home; a



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1. Orchid basket used by Sir Joseph Banks in 1817. 2. Slate basket used by J. C. Lyons.

statement that was then regarded as a traveller's tale and beyond the limits of credulity.

In 1817 it was stated that air plants possess the faculty of growing when suspended so as to be cut off from all sustenance but that derived immediately from the atmosphere. The accomplishment of keeping these plants alive until they flowered was consequently one of more than ordinary

Orchid baskets used by Messrs. Loddiges about 1840.

interest, and when in 1813 Mr. Fairbairn was successful with Ærides odoratum something more than the wonderful appeared to have taken place. He put the plant when first received into a basket with old tan and moss and hung it up in the pine house where it was exposed to the summer sun and to the fire-heat in winter. A tub of water was placed near it, into which the basket was plunged six or seven times a day, or as often as he passed it.

Sir Joseph Banks devised one of the most successful modes of treating Orchids then known and which he practised in his hothouse at Isleworth. He placed the plants separately in light cylindrical wicker baskets or cages of suitable width, of which the framework was of long slender twigs wattled together at the bottom, the upper portion being left open that the plant might extend its growth in any direction and yet be kept steady in its station, the ends of the twigs having been tied together by the twine that suspended the whole from the roof of the stove. A thin layer of vegetable mould was strewed on the floor of the basket on which the root-stock was placed, and then covered slightly over

Orchid Baskets used by the Rev. John Clowes.

Miltonia Clowesii as grown by Messrs. Loddiges about 1842.

with a sufficiency of moss to shade it and preserve a due degree of moisture. The adjoining illustration shows Sarcanthus paniculatus as grown by Sir Joseph Banks in 1817.

In 1820 Dean Herbert stated that he found no difficulty in establishing Epidendrums on the stems of a tree by cutting a notch in the bark and inserting the plant like a graft and tying moss about it to support it till the young roots had attached themselves to the bark, but for want of sufficient moisture they did not make much progress. This defect was remedied by placing above them a pot of water with a hole at the bottom through which a string passed nearly as large as the aperture, by means of which the water was gradually conducted to the upper part of the parasitical plant.

At a later period we read of Messrs. Loddiges using a compost composed of rotten wood and moss with a small quantity of sand. Their Orchid house was heated by brick flues to as high a temperature as possible, and by a tan bed in the middle kept constantly moist by watering and from which a steamy evaporation was rising at all times without any ventilation from outside. The adjoining blocks show two Orchid baskets as used by them about the year 1840, and Miltonia Clowesii, on a block of wood, flowering in 1842.

In 1845 J. C. Lyons, whose name is preserved by Schomburgkia Lyonsii, published a book on the management of Orchidaceous plants, of special interest for being the first work entirely devoted to the cultivation of these plants. Although he advocated a distinction being made between those Orchids that grow naturally in shade in damp hot places, and those that grow in an elevated situation in a drier atmosphere and in direct sunlight, he mainly followed the practice of his predecessors. His chief deviation was the admission of steam from the boiler into the house every evening during summer, and syringing the plants in imitation of a gentle shower, instead of the water being driven against them with an upsetting force. One of his inventions was an imperishable slate basket for accommodating the plants in the moisture-laden atmosphere.

Lycaste Skinneri as cultivated by Mrs. Wray, Cheltenham, about 1845.

Vanda Roxburghii as cultivated by Mr. S. Rucker, Wandsworth, in 1840.

The Rev. John Clowes, of Broughton Hall, Manchester, whose name is perpetuated in Anguloa Clowesii, Miltonia Clowesii, and others, so arranged his house that a raised gallery was in the centre, from which the plants could be viewed from above. He also made use of various Orchid baskets, two of which are depicted by the accompanying blocks.

One of the most extensive collections of Orchids in the early days was that of Mrs. Wray, of Cheltenham, to whom Sir William Hooker dedicated the 67th volume of the *Botanical Magazine* in 1841. Our illustrations shows Lycaste Skinneri as cultivated by Mrs. Wray in 1845.

Coming down to more recent times the name of Mr. Sigismund Rucker, of West Hill, Wandsworth, will be remembered as the owner of one of the finest collections. The block of Vanda Roxburghii shows how well he succeeded with this plant so long ago as 1840. It was not until 1875 that this famous collection was finally dispersed.

Paxton stated that V. Roxburghii can be cultivated in a rough wooden basket, or one formed of thin strips of pliable wood, with numerous openings at the side and bottom; or, again, may be attached to a large block of wood, with furrowed and durable bark. In either position it should derive most of its nourishment from the atmosphere, and not be planted in heath-soil or any earthy compost. Moss, pieces of decayed wood, or any half-decomposed woody vegetable matter, will be serviceable around the roots, where baskets are employed; and a little moss may be used if a simple log be chosen. The stimulation by high temperature and free supplies of moisture afforded to its allies in the summer season will be essential to the plant under remark. Being a strict epiphyte its liquid support should, however, be rather drawn from a moist atmosphere than from more direct applications.

NEW HYBRIDS.

Lælio-Cattleya Miss Louisa Fowler.—One of the best of the long-bulbed section, the parents being L.-C. callistoglossa and C. granulosa. The latter species has produced a broad and flat middle lobe to the labellum. Exhibited by Mr. J. Gurney Fowler, R.H.S., July 28th, 1914.

Cattleya Astron.—A very pleasing and promising hybrid derived from C. Loddigesii alba and C. Dusseldorfei Undine. The first one to flower is pure white with light lemon-yellow on the open part of the throat; others show deeper shades of yellow, but no sign of any other colour. Interesting for being the first seedling to flower of those raised by Mr. J. E. Shill in the Dell Collection, Englefield Green, Surrey.

Brasso-Cattleya Dora.—The result of crossing B. cucullata with C. Mossiæ Wageneri. The fragrant flower much resembles the Brassavola parent, the large labellum being flattish and greenish-white. Raised by Messrs. Charlesworth and Co.

Vanda Lowii flowering in the collection of Gosto Behary Seal, Esq., Calcutta.

ORCHIDS AT CALCUTTA.

THE world-wide interest now taken in the cultivation of Orchids is sure evidence that something more than the ordinary surrounds their beauty and never ending attractiveness. Great as their owner's pleasure must be when the plants burst forth into flower, there is an even greater pleasure to be obtained when neighbouring friends add their expression of admiration. In Calcutta there are several collections worthy of special mention, and it is pleasing to note the kindly feeling which the owners show to their brother horticulturists. The following is a copy of an invitation sent out by an Indian gentleman to his numerous friends:—

"Gosto Behary Seal presents his respectful compliments to, invites and requests the pleasure of ..... and Friends to see the Flowers of Orchids, Vanda Lowii, on Sunday, the 21st June, 1914, at 3 p.m., at his Garden House, No. 104, Dum Dum Road, where he will be very glad to receive your goodselves personally."

The flowering of a magnificent specimen of Arachnanthe Lowii, commonly known as

Vanda Lowii, at Mr. Gosto Behary Seal's garden house attracted quite a large number of local Orchidists. The visitors, all keen collectors, must have considered themselves fortunate to witness such a noble specimen of this species, as it is doubtful if another similar plant exists outside of its natural habitat. The accompanying photograph will at least give readers of the ORCHID WORLD an idea of its magnitude.

From actual measurements this particular specimen was found to have ten growths, one 7 ft. 3 in., one 5 ft. 6 in., four 1 ft. 9 in., and four 10 in. in length. It produced eight flower spikes having an average length of $7\frac{1}{2}$ ft., and carried an aggregate of 135 splendid flowers.

Apart from being the possessor of this noble specimen Mr. G. B. Seal has the credit of owning one of the finest collections of Orchids in Bengal, many of his specimen plants of other species would undoubtedly be envied by private collectors and trade dealers in England. As well as the Vanda Lowii specimen there is a large plant of Arachnanthe Rohaniana consisting of two growths, one 5 ft. and the other 1 ft. in length, which this season produced a flower spike 6 ft. long with 25 flowers. There is also a noble specimen of Grammatophyllum speciosum with four flower spikes carrying no less than 100 blooms of ochre-yellow colour blotched with red and purple.

Mr. Seal does not appear to find any difficulty in flowering the South American species, Cattleyas, Lælias, Oncidiums, and others, all giving excellent results. Quite a large number of beautiful hybrids have recently been in flower, of which mention may be made of Brasso-Cattleya conspicua (C. Leopoldii × B. glauca), Brasso-Lælia Helen (B. Digbyana × L. tenebrosa), Lælio-Cattleya Philip Stokes (L.-C. elegans × C. Leopoldii) and L.-C. elegans, as well as Cypripedium calurum (longifolium × Sedenii).

Among the interesting species there are good varieties of Cypripedium niveum, and C. bellatulum, Oncidium Papilio majus and O. pulvinatum, Cattleya Leopoldii, C. Loddigesii, and C. Harrisoniana, Ærides Lawrenceæ and A. quinquevulverum, and Grammatophyllum multiflorum, the latter a handsome species from the Philippines. With such a suitable climate it is not surprising that Phalænopses thrive exceedingly well, among them being P. rosea and P. cornucervi.

Referring to the illustration of Vanda Lowii it is of interest to note what a comparatively small amount of compost is used. Any excess of sour material around the roots of an Orchid invariably brings about an unhealthy existence; in this case the rooting portion of the plant is perfectly clean and healthy and no doubt mainly accounts for the production of the two vigorous upright growths with their long pendulous flower spikes.—*Chas. Power, Barrackpore, Bengal.*

ARACHNANTHE LOWII. — Another fine plant of this species is in the collection of Mr. A. R. Lamb, Ballygunge, Calcutta. It consists of three strong growths, one of which has this season produced three spikes of bloom, one having as many as 53 flowers. Mr. Lamb has recently returned from a trip in the Sikkim district where he found Orchids in plenty, most of which he had previously seen in Assam. The genus best represented was Cymbidium, of which there were several kinds.

DISA VEITCHII.

As the first artificially raised hybrid in the genus Disa Veitchii will always remain of interest. It first flowered in June, 1891, when it was named in honour of the raiser and received a First-class Certificate from the Royal Horticultural Society. The parents were D. racemosa and D. grandiflora, the resulting seedlings reaching maturity in a remarkably short space of time, only twenty-one months elapsing from the sowing of the seed to the opening of the first flowers. The blooms are bright rose-pink, with the exception of the petals, which are yellowish, spotted with crimson.

Disa Veitchii.
(*D. racemosa* × *D. grandiflora.*)

Cypripedium Niobe (*Spicerianum* × *Fairrieanum*).

Cypripedium Shillianum.

This fine plant, carrying twenty-three flowers on nine spikes, is in the collection of Mr. W. P. Burkinshaw, Hessle, Hull.

CYPRIPEDIUM SHILLIANUM.

WHEN Messrs. Sander and Sons introduced C. Rothschildianum about the year 1888 it was at once seen what a really distinct and very attractive species had been introduced. These favourable characteristics were immediately recognised by various hybridists, and as soon as opportunities presented themselves numerous crosses were effected.

Amongst the early results was C. Shillianum, raised by Messrs. Charlesworth between Gowerianum (Lawrenceanum × Curtisii) and Rothschildianum, and named after Mr. J. E. Shill, then Orchid grower to Capt. G. W. Law-Schofield, into whose noted collection at Rawtenstall the plant soon passed. At the meeting of the Manchester Orchid Society, June 29th, 1899, it received an Award of Merit; while at the Hybrid Conference, held by the Royal Horticultural

Brasso-Lælia Mrs. M. Gratrix.

Society, on July 11th of the same year, it obtained a similar award and also one of the two Veitch Memorial Gold Medals offered for the best new hybrids not previously exhibited. This medal, however, was soon afterwards withdrawn on discovering that the plant had been previously shown at Manchester.

One of the most striking characteristics of C. Rothschildianum is the staminode; it has a stout base, and rises erect, bending down into a beak-like, narrow process, partly covered with hairs, and looking much like the throat and head of some such bird as the crane. This peculiarity is carried forward in the hybrids with considerable force, as also are the long and pointed lateral petals.

For the loan of the illustration we are indebted to the *Journal of Horticulture.*

BRASSO-LÆLIA MRS. M. GRATRIX.

THE first Brasso-Lælia appeared in December, 1898, and resulted from the use of B. Digbyana and L. purpurata. Quite naturally it attracted no small amount of attention, for but few hybrids of B. Digbyana had then been seen. The second Brasso-Lælia, produced by crossing L. cinnabarina with B. Digbyana, received the name B.-L. Mrs. M. Gratrix and was given

an Award of Merit, R.H.S., October 24th, 1899, and a similar award at the Manchester Orchid Society two days later, Messrs. Veitch in each case being the raiser and exhibitor.

The special characteristics are the prettily fringed three-lobed labellum and the cinnabar colour suffused throughout the whole flower, features which at once made it a popular hybrid, no less than four distinct varieties being subsequently certificated by the Royal Horticultural Society.

Hybridists soon availed themselves of this distinct addition, and endeavoured to perpetuate the rich colour and the fringed nature of the labellum. The following hybrids have already flowered and been recorded, B.-L. Mrs. M. Gratrix in each case being one of the parents:—Brassocattlælia Fowleri (× C. Schröderæ), Fowler, 1907; Agamedes (× C. labiata), Charlesworth, 1909; Cooksonii (× C. aurea), Cookson, 1909; Lua (× L.-C. G. S. Ball), Charlesworth, 1909; Fuerstenbergii (× C. Trianæ), Franke, 1910; Winnifred (× L.-C. Myra), Charlesworth, 1910; Nereus (× L.-C. Hyeana), Cypher, 1911; Aureole (× L.-C. luminosa), St. Quintin, 1912; and Joan (× C. Octave Doin), Charlesworth, 1912. Fragneana (× C. Trianæ), Ginot, 1911, is synonymous with Fuerstenbergii.

MASDEVALLIA VEITCHIANA.

ALTHOUGH at the present day the members of this genus cannot be termed popular, nevertheless the above-mentioned species is of such quaint formation and coloration, as well as very free-flowering, that it well deserves a place in every collection.

The blossoms are of good size, having a total expanse of six or seven inches, and are borne singly on long slender stalks. They are of a brilliant vermilion scarlet with yellow suffusions, and having a peculiar iridescent shading due to a covering of magenta hairs. The individual flowers will keep several weeks in perfection.

A light and airy position in the cool house, or even in an ordinary greenhouse, will suit this plant admirably. An average temperature of 50-65 degrees should be maintained throughout the year, whilst the atmosphere must always be kept sweet and damp by judicious ventilation and frequent syringing. Although a light position is to be desired, this Orchid does not like direct exposure to the hot sun. Shading should be used whenever the sun has sufficient power to burn the leaves.

For direct application to the roots rain-water should be employed, and since this species possesses no pseudo bulbs to store up nutriment, and moreover is never inactive, a large supply is generally needed. Unless exceptionally cold and damp climatic conditions prevail I find that daily attention is needed from March to October, and during the winter months three times a week. The plants will derive great assistance from a gentle spray over the leaves every day from early spring until late autumn.

The flower spikes should be tied to neat sticks when of sufficient length, otherwise they are liable to grow crooked and thereby spoil the plant's appearance. Dead flowers should be cut off in order to hasten the formation of new roots and leaves.

Being shallow rooting Orchids they are best grown in pans, with fresh compost every other year. Osmunda fibre, sphagnum moss and oak leaves, well mixed and chopped up, form a good mixture, which should be used in a damp state. Careful and firm potting is most essential, and in setting the plant in the fresh pan one should aim at having the base of the leaf stalks on a level with the rim. By this method over-watering and its consequent evils are to a great extent avoided. Propagation is effected by division of the plant when repotting, each portion having two or more new leaves.

From the above notes it can be seen that its culture is simple and every collection should be able to boast of a few plants of this the "Yawning Orchid."—*C. Alwyn Harrison.*

ORCHIDS OF THE NEAPOLITAN ISLANDS.

ISLAND floras have a peculiar interest of their own quite distinct from those of the mainland, for as a general rule on islands there are many forms of plants to be found which are not seen on the neighbouring mainland, though it may be very near. In the far-famed Bay of Naples there are three islands, Capri, Ischia and Procida, with which it is now my intention to deal and which, for want of a more suitable name, I call "the Neapolitan Islands." Though, so far as I am aware, these islands have no forms of Orchids peculiar to themselves or no hybrids at all, they have a goodly number of varieties and enormous numbers of specimens. Of the three islands themselves, Ischia is the largest and most beautiful, though Capri is far better known to the globe-trotter, while Procida is quite small and never receives foreigners. Ischia and Procida may be grouped together, as in former times there appears no doubt that they, with Vivara, were one and the same island. They are of volcanic origin and are composed of basalt and trachyte, with pumice stone and tufa. On the other hand Capri is entirely limestone. To the most ignorant botanist this fact alone would show that the variety in plants found on these different formations would in consequence vary considerably on this account. It certainly does in most orders, but as a whole the Orchid flora is much the same on all the isles.

The most uncommon of the Orchids is the sub-species exaltata of Ophrys aranifera, which, apart from Capri, has only been found elsewhere on Sicily, never on the mainland. Though the growth generally resembles the ordinary form of the Spider, which grows in goodly numbers on both Capri and Ischia, the flower is more like arachnites, which I did not see here at all. The colour of the perianth is usually pink, and in the cut of the lip is a small three-pointed appendix. Though a rare plant, I found a great number of specimens on one limited area. Specularia, a variety of aranifera which I only found on Ischia, where it is fairly common, is also generally rose-coloured, but the lip is less circular in shape at the base and the diminutive appendix has only one point, whilst the inner petals of the perianth are longer and narrower. The most beautiful of all the Ophrys family—O. tenthredinifera—grows on Capri above the marvellous Blue Grotto. The individual flowers are larger than in any of the other kinds and the petals much more rounded. The colour, however, is disappointing as the shade is rather a dirty pink instead of a clear rose, whilst the yellow of the lip is scarcely vivid enough. The only other Ophrys I saw on these islands was the Bee, which is common on Ischia.

The earliest of all the Orchids to appear is Orchis Romana, which was in blossom by the twentieth of February, though Camus states that its flowering season is from May to July. This plant is extremely common on Ischia, growing wherever it can from the mountain tops right into the towns, though not a sign of it was visible on either of the other islands. Like its two near neighbours, Sambucina and insularis, the flowers are sometimes yellow, sometimes purple, but show much more variety in the shades of colouring, and blossoms with yellow upper petals and purple lips are frequently to be seen, which I have never noted with the others. The growth of the plant in general is much more stocky than insularis, which grows tall and graceful. The lip is tri-lobed, the external lobes being large and rounded, whilst the central one is sometimes whole, sometimes toothed, and rather longer than the side ones. In Mademoiselle Camus' illustration, in her father's great book, she has drawn the plant with a toothed bulb; but I think that she was wrong as all the roots I examined were round, only toothed quite at the base.

Just as O. Romana is the commonest Orchid on Ischia, the beautiful Butterfly (O. papilionacea) is the commonest of them on Capri, but unlike the other it is common too on Ischia. The charming flowers with their bright pink lips and deep maroon petals appear early, and I noted it before the middle of March near the Villa of Tiberius and a few days later all over the island of Capri.

Another near neighbour of O. Romana is not uncommon on Ischia, the pretty yellow provincalis, which seems to prefer growing high in the mountains to the sea-coast, and the chestnut woods to the bush-land. The chocolate-spotted leaves have a strong resemblance to those of our Early Purple, which does not appear to be found on these isles; in fact, the whole plant has until the flowers appear yellow in colour, so that it might be mistaken until then. I never was able to find the pink variation, which seems unique to Corsica.

Of the morio group I only found one single plant under the Olives near Mezza Torre on Ischia, which I identified as longicornu, on account of the length of the spur, the colouring, the frail growth and the red anther.

One of the most beautiful Orchids on this group of islands, which seems fairly common on Capri and one of the capes of Procida but very rare on Ischia, is the red Italica, a near relative of our Monkey. I consider the old name of undulatifolia far more suitable than the present one, on account of the beautiful waving edges of the bright green leaves, which have usually faded before the plants come into blossom, for it is by no means common in Italy, as I have only found it on these islands. The only other Orchis I noted was maculata, which appears to be found everywhere.

The three Serapias are by no means unfrequent on Ischia, the large heart-shaped cordigera, the tongue-shaped lingua, which varies so much in colouring, and the small-flowered but tall-growing occultata; the two latter also grow on Procida.

Without doubt many other varieties of Orchids are to be found on both the islands of Capri and Procida. I have certainly heard of the Lizard on the former, but I did not happen to discover any more; so will conclude these notes with mentioning the other kinds I saw on Ischia, which is a happy hunting ground for the botanist.

Each of these four is fairly common in the greater part of the Mediterranean region, except perhaps the Butterfly (Platanthera chlorantha) which, though fairly frequent above Casamicciola, usually prefers a more northern climate.

The dainty white Cephalanthera ensifolia may be found from almost the top of Monte Epoméo right down to the sea-splashed cliffs of Pithecusa, the ancient settlement of pre-Hellenic days.

Limodorum abortivum, tall and stately, purple and leafless, here seems just as happy in the thin chestnut woods as it is amongst the bush-clad rocks.

The final plant is the little spotty-leaved Neotinea intacta, which is almost as common on this island as is Orchis Romana. It is much more conspicuous when the flowers have died, for then the stem grows boldly up so that the seed pods have plenty of room for expansion and to ripen their seeds, which they do in vast numbers.—*W. Herbert Cox.*

CALANTHES.

LIMITED as is the number of Calanthes suitable for horticulture, the genus has, nevertheless, an especial interest for horticulturists on account of some beautiful forms included in it that supply an uninterrupted succession of flowers during the winter months, and which have been greatly multiplied during the past few years by means of hybridisation.

The genus as at present circumscribed includes about forty species that are widely distributed over the tropical and sub-tropical regions of the Eastern hemisphere, and occurring also very sparingly in Mexico, Central America and the West Indies. The Calanthes are most numerous along the lower Himalayan zone from Assam to Nepal, and again in Java and the neighbouring islands. Northwards they spread into Japan, whose flora includes four or five species, and southwards as far as Sydney in New South Wales, which is the southern limit of C. veratrifolia. The genus is represented in South Africa by the beautiful C. natalensis, in Mauritius by C. sylvatica, in the Society

Calanthe veratrifolia.

and probably other islands of the Pacific Ocean by C. gracillima.

The essential characters of Calanthe consist chiefly in the labellum being almost always spurred, three-lobed, with the middle lobe notched, and its claw being adnate to the column, forming either a cylindric tube or a broadly turbinate cavity beyond which the column is very rarely produced. The pollinia are eight, in groups of four each ; each group is furnished with a short caudicle or bipartite gland.

Dr. Lindley distributed the Calanthes into two sections, according as the spur of the labellum is elongated, or short or quite obsolete, but the distinction is vague and not confirmed by more recent observation. A more natural sectional division may be made by separating the epiphytal or sub-epiphytal species, of which C. vestita is a well-known type, from the terrestrial species of which C. veratrifolia is one of the best known representatives. The most obvious characteristics of each section may be thus stated :

Vestitæ. Pseudobulbs more or less elongated, angulate, covered with a grey-green reticulated, membraneous sheath. Leaves large, plicate, deciduous. Inflorescence hairy, loosely racemose ; bracts usually large, inflated and as long as the ovaries.

Veratrifoliæ. Pseudobulbs none, or a very small, fleshy or tuberous rhizome, emitting long cord-like branched roots. Leaves broad and spreading, persisting longer than one year.

Calanthe Veitchii (rosea × vestita).

Inflorescence densely racemose or corymbose-racemose; bracts small, appressed, much shorter than the ovaries.

CULTURAL NOTES: VESTITÆ. The species and hybrids comprising this group should be potted as soon as they begin to start into growth in early spring. In removing the pseudobulbs from the pots the exhausted soil should be shaken out and the old roots cut off; the pseudobulbs should then be re-potted in a compost of two-thirds fibrous loam and one-third peat with the addition of a little sand to assist drainage. If good fibrous loam is not obtainable, a compost of three-fourths fibrous peat and one-fourth sphagnum moss may be substituted with the addition of a little dried cow manure.

When the pseudobulbs are potted singly, which is the usual practice, small pots should be preferred, from which the plants can be subsequently shifted into others of larger dimensions if necessary. The pots should be filled to one-half their depth with drainage, consisting of clean broken crocks, upon which may be placed a layer of sphagnum, and the remainder filled with compost up to the rim. Water must be given sparingly at first until the new growths, in the axis of which the pseudobulbs are formed, begin to root freely.

As soon as active growth has fairly commenced the plants must receive frequent and liberal waterings at the roots. At this stage, when the pots are well filled with roots, many cultivators supplement the usual waterings with a little weak manure water, applying it about once a week or less frequently according to the condition of the plants. As the new pseudobulbs approach maturity and the leaves begin to turn yellow the waterings must be gradually reduced in frequency and quantity, till at length when the leaves have fallen and the flower scapes appear they must reach the minimum or only just sufficient to prevent the latter from drooping.

After flowering water must be withheld altogether and the pseudobulbs allowed to become dormant; they will be most effectively brought into this state by laying the pots on their sides in any dry place such as may be found under one of the stages of the house in which they are cultivated. Coming from one of the hottest regions of the globe the Calanthes of this section require the temperature of the East Indian house, in which during active growth they should have a light and airy position; they may also be successfully cultivated in a pine stove or a cucumber house.

VERATRIFOLIÆ. The same compost may be used for the species and hybrids belonging to this group as for the deciduous kinds, giving drainage to about one-third of the depth of the pot. The re-potting should be performed in early spring, and as all the cultivated kinds are vigorous-growing plants

Calanthe lentiginosa (labrosa × Veitchii).

that root freely they require ample pot room. They should receive copious waterings while growing, and even in the winter months they must at no time be allowed to get quite dry at the roots.

Being evergreen with foliage of stouter texture than that of the Vestitæ group, they can endure a greater amount of shade, and they may also be grown in a somewhat lower temperature such as is maintained in the intermediate house; for the Japanese species the temperature of an ordinary greenhouse is sufficient. The flowering season of most of the tropical species belonging to this group may be prolonged by removing the plants, as soon as the first flowers have expanded, into a lower temperature and drier atmosphere.

The Calanthes of this group are at all times liable to the attacks of brown scale and green fly (aphides). The former attach themselves to the leaves and may be checked by sponging with soapy water; the latter settle on the flowers and may be dislodged by fumigating. From Veitch's "Manual of Orchidaceous Plants."

CATTLEYA HOLDENII ALBA.—Mr. F. C. Puddle, of Scampston Hall Gardens, Rillington, York, sends flowers of a pure white variety of this hybrid between intermedia alba and Warneri alba. When this cross first appeared in Mr. Holden's collection, in 1911, the labellum was tinged with blush pink, although in this instance also albino forms of both parents were said to have been used.

ROYAL HORTICULTURAL SOCIETY.

July 28th, 1914.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Mr. Jas. O'Brien (hon. sec.), Sir Harry J. Veitch, Gurney Wilson, W. Bolton, R. G. Thwaites, A. McBean, T. Armstrong, J. E. Shill, W. H. Hatcher, A. Dye, E. H. Davidson, C. H. Curtis, and S. W. Flory.

AWARDS OF MERIT.

Lælio-Cattleya Miss Louisa Fowler (L.-C. callistoglossa × C. granulosa), from J. Gurney Fowler, Esq., Brackenhurst, Pembury.—A pleasing hybrid with a spike of six large flowers, the broad labellum of purple colour.

Cattleya Hardyana Rubens, from J. Gurney Fowler, Esq.—A very fine variety, with the well-developed labellum of rich purple at the apex and bright golden-yellow on the side lobes.

Oncidium Leopoldianum, from H. S. Goodson, Esq., Fairlawn, Putney.—An extremely rare species, somewhat resembling Oncidium corynephorum, but having a narrow, pointed labellum. The long, twining flower spike carried about 45 blooms, whitish, freckled with rose, the labellum blotched with rose-violet.

Cattleya Astron (Loddigesii alba × Dusseldorfei Undine), from Baron Bruno Schröder, The Dell, Englefield Green.—A young plant flowering for the first time, but carrying a large pure white flower.

Other Exhibits.

His Grace the Duke of Marlborough exhibited Vanda cœrulea "Grace" with a spike of 13 flowers, and Cypripedium Lawrebel Blenheim variety, an attractive variety with broad segments.

J. Gurney Fowler, Esq., Brackenhurst, showed Lælio-Cattleya Maqueda Brackenhurst variety, a richly coloured form.

R. G. Thwaites, Esq., Streatham Hill, exhibited Odontioda Isis, O. Eva May, O. Thwaitesii, and others.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for a neat group containing several well-grown Odontoglossum hybrids, Miltonia vexillaria and Brasso-Cattleya Dora (B. cucullata × C. Mossiæ Wageneri).

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a pleasing exhibit of various hybrids and botanical Orchids, the best being Cirrhopetalum pulchrum, Masdevallia Tunstilii and Brassia Forgetiana.

Eustace F. Clark, Esq., Evershot, Dorset, sent Cattleya Warscewiczii Sanderiana, a pleasing variety and two Lælio-Cattleyas.

Mr. C. F. Waters, Balcombe, exhibited a very promising Brasso-Cattleya of unrecorded parentage.

MANCHESTER ORCHID SOCIETY.

July 16th, 1914.

Members of the Committee present: Z. A Ward, Esq. (in the chair), Messrs. R. Ashworth, J. J. Bolton, A. G. Ellwood, A. Hanmer, J. Howes, J. Lupton, D. McLeod, C. Parker, W. Shackleton, H. Thorp, and H. Arthur (Secretary).

Large Silver Medals were granted to R. Ashworth, Esq., Newchurch; and Wm. Thompson, Esq., Walton Grange. Other exhibitors included Col. J. Rutherford, M.P., Blackburn; O. O. Wrigley, Esq., Bury; Mr. W. Shackleton and Messrs Charlesworth and Co.

First-class Certificate.

Odontioda Brewii "Merl Dene," a very fine flower with light purple lip and dark spotting, from A. J. Oakshott, Esq.

Awards of Merit.

Cattleya Warscewiczii "Walton Giant," Odontoglossum eximium purpurascens, and Od. Mrs. A. E. Thompson, all from Wm. Thompson, Esq.

Cultural Certificates and Bronze Medals.

Mr. E. Rodgers (gr. to O. O. Wrigley, Esq.), for Anguloa Ruckeriana sanguinea, and Lycaste tricolor albens with 32 flowers.

Mr. J. Howes (gr. to Wm. Thompson, Esq.), for Cattleya Warscewiczii "Walton Giant."

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ILLUSTRATIONS.