



THE
RCHID
ORLD





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.*



VOL. I.

With over 150 Illustrations.



HAYWARDS HEATH, SUSSEX.
1911.

Kenneth A. Roberts
Boon S. Roberts
Orchid Library

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THE ORCHID WORLD.

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No. 1.

INTRODUCTION.

THE cultivation of flowers is of all the amusements of mankind the one to be selected and approved as the most innocent to itself, and most perfectly devoid of injury or annoyance to others: the employment is not only conducive to health and peace of mind, but, probably, more good-will has arisen, and friendships been founded, by the intercourse and communication connected with this pursuit, than from any other whatsoever.

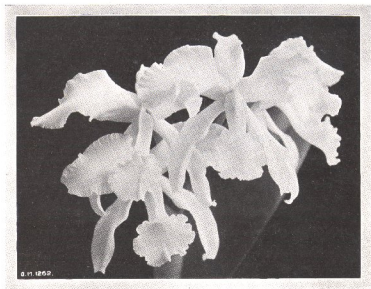
The pleasures and ecstasies of the horticulturist are harmless and pure; a streak, a tint, a shade, becomes his triumph, which, though often obtained by chance, are secured alone by morning care, by evening caution, and the vigilance of days; a recreation which, in its various grades, excludes neither the opulent nor the indigent, and, teeming with boundless variety, affords an increasing excitement to emulation, without contention or ill-will.

The advancement which has been made in recent years with the study and practice of Orchidology has induced many lovers of nature to take interest in this important part

of botany and horticulture. The cultivation of Orchidaceous plants is no longer exclusively the privilege of the few: in the gardens of the stately mansions, and the small greenhouse of the amateur, the same love for nature is manifesting itself with increasing energy. From country to country, and colony to colony, the desire to possess the rare and the beautiful has spread until we have a community of orchid lovers worthy of the publication of a work that will still further bind their interest and enthusiasm in close contact.

To this purpose the ORCHID WORLD has been commenced with the idea of being a well illustrated readable journal for the scientific, the practical, and the man who for some reason or other is unable to take more than an admiring interest.

It is for our readers to decide the question:—Do we require a publication of this kind? if so, your assistance as a subscriber is needed to ensure success. Of day Gilpin wrote: "I hate to see a thing done by halves; if it be right, do it boldly; if it be wrong, leave it undone."



Cattleya Lawrenceana var. *Mary Regina*.

This beautiful variety of *Cattleya Lawrenceana* received a First-class Certificate at the last Temple Show when exhibited by Messrs. Charlesworth and Co. The flower is pure white, with a very faint tinge of pink on the front of the lip. This species varies but little, and of the few varieties that have been described this is certainly the rarest and most distinct. We believe it to be the only albino ever recorded of the species.

We have received from Messrs. Mansell and Hatcher, Ltd, a copy of the second edition of an interesting booklet, "Orchids for Amateurs." It contains the following useful information: Introduction, Temperatures, Treatment, Shading, Potting Notes, Composts and General Cultural Notes. In addition to being well illustrated there is a long list of the principal species and varieties, with a description of their flowers, season of blooming, and price. It may be obtained free by writing to Messrs. Mansell and Hatcher, Ltd, Rawdon, Yorks.

"OSMUNDA FIBRE, AND HINTS AS TO ITS USE," by H. G. Alexander, is the title of a useful little book which has just been sent to us by Messrs. Wm. Wood and Son, Ltd. The early experience and present method of using this potting material are fully explained in a clear and masterly way, thus enabling anyone to acquire many of the secrets which Mr. Alexander turns to such good account at Weston's-birt. Those who wish to follow in his footsteps have only to acquaint Messrs. Wm. Wood of the fact and they will receive a copy gratis and post free.

VANDA CÆRULEA.

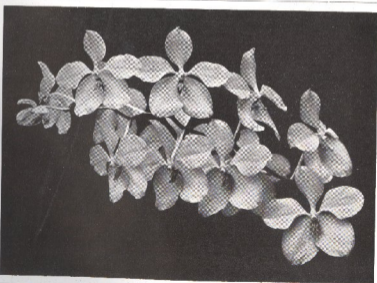
By H. G. ALEXANDER,

Orchid grower to Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt.

VANDA CÆRULEA was first discovered by the botanist and explorer, Wm. Griffith, in November, 1837, on the Kaasia Hills, Assam. Its native habitat extends over a large area, part of which was visited by Sir Joseph Hooker during his travels in 1850.

It will be interesting to read what Sir Joseph Hooker wrote in his Journal concerning this popular species which blooms in late summer and throughout the autumn, in which seasons there is no orchid that exceeds it in the wealth and beauty of its flowers:

"We left Narting on the 4th of October, 1850, and walked to Pomrang. Near the village of Lerna oak woods are passed, in which *Vanda cærulea* grows in profusion waving its bunches of azure flowers in the wind. As this beautiful orchid is at present attracting great attention, from its high price, beauty, and difficulty of culture, I shall point out how totally at variance with its native habits, is the cultivation thought necessary for it in England. The dry grassy hills which it inhabits are elevated 3,000 to 4,000 feet; the trees are small, gnarled, and very



Vanda cærulea Westonbirt variety.

springly leafy, so that the *Vanda* which grows on their limbs is fully exposed to sun, rain and wind. There is no moss or lichen on the branches with the *Vanda*, whose roots sprawl over the dry rough bark."

"The atmosphere is on the whole humid, and extremely so during the rains; but there is no damp heat, or stagnation of the air, and at the flowering season the temperature ranges between 60 and 80 degrees, there is much sunshine, and both air and bark are dry during the day: in July and August, during the rains, the temperature is a little higher than above, but in winter it falls much lower, and hoar-frost forms on the ground."

"Now this winter's cold, summer's heat, and autumn's drought, and above all, this constant free exposure to fresh air and the winds of heaven, are what of all things we avoid exposing our orchids to in England."

"On the following day we turned out our *Vanda*: to dress the specimens for travelling, and preserve the flowers for botanical purposes. Of the latter we had 360 panicles, each composed of from six to twenty-one broad pale-blue tessellated flowers, three and a half to four inches across; and they formed three piles on the floor of the verandah, each a yard high: what would we not have given to have been able to transport a single panicle to a Chiswick fête."

"We collected seven men's loads of this superb plant for the Royal Gardens at Kew; but owing to unavoidable accidents and difficulties, few specimens reached England alive."

"A gentleman who sent his gardener with us to be shown the locality, was more successful: he sent one man's load to England on commission, and though it arrived in a very poor state, it sold for £500, the individual plants fetching prices varying from £3 to £10. Had all arrived alive, they would have cleared £1,000. An active collector, with the facilities I possessed, might easily clear from £2,000 to £3,000 in one season, by the sale of Khasia orchids."

The above was written exactly sixty years ago, since when the price has fallen to a sum which no one need hesitate to part with, and in exchange receive plants which under careful

growing will produce results very similar to those seen by Sir Joseph Hooker during his travels in 1850.

Under cultivation in this country the spikes, two and three of which not infrequently appear simultaneously on one plant, carry from ten to twenty flowers, the latter number, however, rarely, and only on plants of extraordinary vigour.

It is seldom that any two plants of this beautiful *Vanda* have flowers exactly alike, almost every shade of colour is seen from white and a soft bluish-tinted white, to quite a decided blue tessellated with a darker shade, and in the best varieties each flower is about four inches in diameter.

The best type of this blue orchid grows in a restricted area of the Southern Shan States, and of this type Messrs. Sander and Sons' collector, W. Micholitz, has of recent years sent home several very big consignments from which have flowered the three varieties, "Dreadnought," "R. Chollet" and "Weston-birt" variety.

Collectors tell us that *Vandas* are found growing in very open situations both on trees and rocks. The plants from the latter position are short leaved, and have been growing in the full sunshine; while those found on the trees have longer and greener foliage. The temperature in the cool season drops to freezing point, and the plants in the morning are often covered with hoar-frost; of course such a low temperature cannot be recommended for plants grown under glass, as in their Indian home they become hardened owing to their constant exposure to wind, rain, sun, and varying temperatures, while in hot seasons the heat becomes almost unbearable.

This species has acquired the reputation of being a difficult one to deal with, and no doubt with some justice, as a plant accustomed to such immense variations of temperature is, of course, difficult to grow in our climate. It is impossible to imitate exactly the conditions under which these plants grow naturally, but we can come as near to them as possible by placing the plants in a good light, and giving as much air as possible when climatic conditions will allow, especially in the

plants grown by being suspended from the roof, or grown in pots on an open wood staging not too far from the glass. Clean fresh sphagnum moss, *Osmunda* and *Polypodium* fibre in equal parts, adding a good sprinkling of clean crushed crock and charcoal to keep the whole porous is the best rooting medium. This should be employed over good drainage, pressing the material moderately firm about the roots, and finishing off the surface with a thin layer of clean picked sphagnum.

Perhaps the best time to repot any plants needing fresh rooting material is when the roots show signs of renewed activity, which usually occurs about the month of March. From this time up to the time they have finished flowering and the season's growth completed they should be kept moderately moist at the root, after that a less supply of water will suffice, affording sufficient only to keep roots and foliage in a plump and healthy condition.

If in any way possible a house should be devoted to this one orchid, but this ideal condition can of course only be obtained where large quantities are grown; and in a smaller collection the grower should try his plants in every possible position until he finds out where they flourish best.

In the Walton Grange collection may be seen a small batch of plants growing admirably and flowering well on a shelf in the cool *Cypripedium* house, and it should be stated, just underneath a ventilator.

Those who paid a visit to the establishment of Monsieur Dallemagne in Rambouillet some years ago when the orchids were under the care of Mons. Chollet, or who care to visit Messrs. Sander and Sons' establishment in Bruges where this skilful cultivator now grows their orchids, and where five large specially designed houses are entirely devoted to their cultivation, will know what extraordinary results can be achieved in the growing of this blue orchid, which had previously been considered impossible to be kept growing for many years.

At Rambouillet, from small imported pieces,

he grew houses full of fine plants that carried two and three spikes of flowers year after year. Monsieur Chollet was, so to speak, the pioneer cultivator of *Vanda corallina*, and he considers his success to be entirely due to careful and rational cultivation, which depends of course entirely on local conditions, bearing in mind that this plant requires as much fresh air, light, and moisture when in growth as can be reasonably given.

Although discovered so long ago as 1837, it was not certificated by the Royal Horticultural Society until Aug. 13th, 1895, when a fine form was exhibited by E. H. Woodall, Esq., and received a First-class Certificate.

V. c. Fosteriana was shown on the same day. It was a noble plant, bearing four racemes of large very dark flowers, some forty in all, to which a First-class Certificate was given.

V. c. Rochfordiana received an Award of Merit on Oct. 12th, 1897, being a pretty, nearly white form, tinted with pink on the lip.

V. c. Charlesworthii, this is the first true, wholly pure white albino of the species to be shown, without the slightest trace of colour even in the labellum. This is remarkable, as the colour of the lip in the normal type is very pronounced. First-class Certificate, Oct. 27th, 1908.

V. c. var. R. Chollet, a very large bright blue form to which a First class Certificate was given when exhibited by Messrs. Sander and Sons, on Nov. 24th, 1908.

V. c. var. Dreadnought, a fine form, the flowers being very large and beautifully netted and tinged with bright blue, with a violet lip. From Messrs. Sander and Sons. Award of Merit, Aug. 17th, 1909.

V. c. Westonbirt var. A First class Certificate was unanimously awarded to this variety on Aug. 16th, 1910, when exhibited by Lieut.-Col. Sir George Holford, K.C.V.O. It is the finest form of this species ever shown, the flowers being five inches in diameter, perfectly circular in outline, and with equally broad segments heavily veined with deep indigo-blue, the lip being dark violet.



Vanda carinata. Specimen plants flowering in the collection of Lieut.-Col. Sir George L. Halford, K.C.I.D.

SCIENTIFIC NOTES.

MALFORMED CYPRIPEDIUMS.

At the Scientific Committee meeting of the Royal Horticultural Society on March 8th, 1910, Mr. Lionel Crawshaw showed drawings illustrating the malformations shown in the twin-flowered inflorescence of

Cypripedium lachnanum from Lord Avebury, exhibited at the last meeting. He remarked that the two-flowered scape had branched about the middle. The terminal flower (Fig. A) had a complete perianth except the labellum, which was absent, its only indication being a median streak in the anterior sepal. The column was formed of two normal anthers and two stamens, the stigmatic plate being absent, and its place being occupied by the anterior stamode. The ovary contained two placentas placed opposite

to one another. The lateral flower (Fig. B) was normal in every way except in the trimerous outer whorl of the perianth, which showed reversion to the primitive type, the three segments being divided to the base. The ovary contained only one placenta, placed anteriorly.



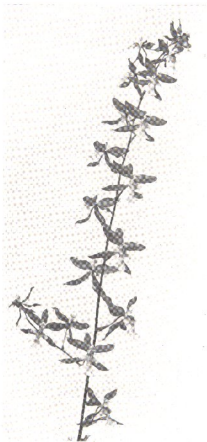
A



B

11 12 13

THE *Gardener's Chronicle*, September 3rd, 1910, gives as a Supplementary Illustration a reproduction of a photograph of *Sobralia macrantha alba* as grown by Sir John Edwards Moss, Bart. The plant has altogether produced about 100 flowers this season.



Oncidiada Charlesworthii.

The first cross of an *Oncidium* with *Cochlidium* (*O. incartum* × *C. Neesbiana*). Received a Certificate of Appreciation when exhibited by Messrs. Charlesworth and Co. before the Royal Horticultural Society's Scientific Committee, on August 30th, 1910.

RARE NATIVE ORCHIDS.

By A. D. WEBSTER.

THE IRISH SPIRANTH (*Spiranthes Romanzoviana*). Unless in a few stations in Ireland this plant has been found nowhere else in Europe, its nearest recorded habitat being a few of the cold, upland bogs of North Avicria. Exactly one hundred years ago it was discovered by a Mr. Drummond in a little meadow at Bantry Bay in the South of Ireland. In 1886 the meadow was ploughed up and planted with potatoes and it was then thought that the plant had been lost to our flora. Since that time, however, it has been discovered in the extreme North of Ireland, in at least two stations. Specimens of the plant were sent to me from Cork in 1885, from Londonderry in 1905, and this season from the adjoining county of Donegal.

THE SUMMER SPIRANTH (*Spiranthes aestivalis*) is another rare orchid, of which I had living specimens sent me from a new station near Chislehurst, but I much fear that building operations have put an end to its existence as a Kentish plant. From only two other counties in England has it been recorded, though it is found in the Channel Islands.

THE LIZARD ORCHID (*Orchis hircina*). This plant is also extremely rare though still found in a few stations in Kent. It is, however, not at all likely to become extinct, for the specimens which I saw both this and last year were remarkably strong though the plants were few in number and growing in positions to which the general public are not admitted. It is a curious fact, well known to a few, that this orchid has been found at a specified distance from the old Roman road at several points along its tract; this is accounted for by the introduction of the plant from Norway by a well known Kentish botanist who planted it at various points along and at the same distance from this ancient highway.

THE BROWN MAN ORCHID (*Orchis fusca*). I have only seen this rare and beautiful plant once in a truly wild state. It was growing in cherty soil outside the boundary of a coppice wood in Kent, but there were several specimens and the individual plants were strong and floriferous. It is a pretty species and is readily cultivated as a garden plant.

THE CORALROOT ORCHID (*Corallorhiza innata*) is another rare orchid, which has a few stations in Scotland, from one of which I received specimens, but the plantation in which it was found was cut down, and though a number of plants were carefully transferred to an adjoining wood success did not crown the efforts to establish this rare orchid in its new quarters.

THE LADY'S SLIPPER (*Cypripedium calceolus*) is almost if not quite extinct in a truly wild state; while *Epipogon Guclini* is, too, probably extinct in the one station from which it was recorded.

§ § §

With a view to encourage interest in the study of botany the authorities of the Brighton Museum invite, each year, the public to send contributions of wild flowers which have been collected in Sussex. Mr. T. Hilton, 1, Clifton Street, Brighton, who takes a great interest in this affair, kindly sends the following note:—

"In the last two years we have exhibited the following orchidaceous plants which have been gathered in Sussex:—*Neottia nidus-avis*, *Listera ovata*, *Spiranthes autumnalis*, *Cephalanthera ensifolia*, *C. pallens*, *Epipactis latifolia*, *Orchis pyramidalis*, *O. ustulata*, *O. morio*, *O. mascula*, *O. latifolia*, *O. maculata*, *O. ericetorum*, *Ophrys apifera*, *O. aranifera*, *O. muscifera*, *Hermidium monorchis*, *Habenaria conopsea*, *H. viridis*, *H. bifolia*, *H. chlorantha*."

"*Aceras anthrophthora* was also exhibited this year, but I am not sure that it was gathered in Sussex."

ANGRÆCUM SESQUIPEDALE.

(See full-page Illustration.)

AUBERT DU PETIT-THOUARS published a book at Paris in 1822 entitled "Histoire particulière des plantes Orchidées recueillies sur les trois îles australes d'Afrique, de France, de Bourbon et de Madagascar," in which he gives the first description ever published of this curious orchid from Madagascar. It includes a drawing of a flower natural size (t. 66) and a reduced figure (t. 67). For thirty-five years this was all that botanists knew concerning the plant, until the Rev. William Ellis, the distinguished traveller and historian of Madagascar, on his last return from that wonderful island, made us acquainted with the living plant, which he flowered twice—first in 1857, when Lindley wrote an account of it in the *Gardener's Chronicle*, 1857, p. 251, with woodcut of flower natural size, and with the following letter from Mr. Ellis: "I did not see this plant in the higher and cooler regions of Madagascar, but only in the lower and hottest districts, and there by no means so abundant as the *Angræcum superbum*, which is a splendid growing orchid. The *Angræcum sesquipedale* does not grow in the moist and thickly-wooded parts of the lower districts of the island, but generally on the straggling trees along the edges of the forest, or in other parts where the trees are only thinly spread over the country. It seemed to grow most frequently on the driest parts of the trunks and branches of thinly-leaved trees, and, though occasionally, yet but seldom seen near the ground. The largest plants were found about twelve or twenty feet from the ground, and smaller ones were often seen higher up amongst the smaller branches. It seemed to grow more frequently where there was plenty of light and air."

The second time of flowering was in February, 1859, at his residence, Haddesdon, Herts, when it was illustrated in the *Botanical Magazine* of May 1st, 1859 (t. 5113).

Sesquipedale means a foot and half as much again, or, in other words, eighteen inches, and refers to the great length of the spur; but as the general measurements of

this latter organ are from twelve to fourteen inches in length, the specific name more properly suggests the total length from the apex of the dorsal sepal to the lowest point of the spur.

It was this spur or nectary that so greatly interested Darwin, who, in his memorable work on the "Fertilisation of Orchids by Insects," published in 1862, gives an interesting description of some flowers he had recently received from Mr. Bateman. He says: "I found the nectaries eleven and a half inches long, with only the lower inch and a half filled with nectar. What can be the use, it may be asked, of a nectary of such disproportionate length? We shall, I think, see that the fertilisation of the plant depends on this length, and on nectar being contained only within the lower and attenuated extremity." He goes on to explain how, that in order to fertilise the flower, it must be visited by large moths, with a proboscis thick at the base; and that to drain the last drop of nectar even the largest moth would have to force its proboscis as far down as possible, thus bringing the thick part of it into a correct position to remove the pollen.

And, further, "If the *Angræcum* in its native forests secretes more nectar than did the vigorous plants sent me by Mr. Bateman, so that the nectary ever becomes filled, small moths might obtain their share, but they would not benefit the plant. The pollinia would not be withdrawn until some huge moth, with a wonderfully long proboscis, tried to drain the last drop."

"If such great moths were to become extinct in Madagascar, assuredly the *Angræcum* would become extinct. On the other hand, as the nectar, at least in the lower part of the nectary, is stored safe from the depredation of other insects, the extinction of the *Angræcum* would probably be a serious loss to these moths. We can thus understand how the astonishing length of the nectary had been acquired by successive modifications."



Angreicus acutipetalus.



Sir TREVOR LAWRENCE, Bart., K.C.V.O., V.M.H.

President of the Royal Horticultural Society.

ALL that is picturesque and enchanting in deep vales, in shadowy woods, in the undulating lines of lofty chalk hills, in green meadows brightened by wandering streams, may be found at Burford. It was here that Lord Nelson, for a few days in the interval of rest which preceded his last voyage and final victory, stayed at a neighbouring hostelry, under which roof also Keats wrote the latter part of his "Endymion," finishing it on the 28th, of November, 1817. Last, but not least, close by George Meredith lived for many years and wrote most of his world-famous novels.

Commemorated thus, it is to-day well known for being the resting-place of many a rare and striking plant that at man's instigation has travelled from remote parts of the globe. It is here that Sir Trevor Lawrence has lived since he married forty-one years ago, in a house which, sheltered from the east wind by the almost perpendicular Box Hill, rising to a height of 445 feet and shaded by varied specimens of trees, forms an almost ideal place for the culture and well-being of his favourite plants.

Of the many plant-houses which have been erected for the care of plants which are unable to withstand our changeable climate, some thirteen are entirely devoted to orchids, and contain a collection the like of which it is impossible to find elsewhere, so varied are the numerous genera, species, varieties and hybrids.

Entering what is called the small Cautleya house, one is astonished at the many genera which grow amicably together. The genus *Bulbophyllum* is well represented; the curious *B. baroigerum*, with its restless hairy lip; the somewhat similar *B. saltatorum*, a name which indicates its dancing nature, and refers to the curious movement of its feathery lip; the remarkable *B. longispalum*, with its long flowers like a bird's head with a long beak; and many other species of strange construction which belong to this interesting genus.

The *Cirrhopetalum*s, now regarded by many as a section of the genus *Bulbophyllum*, are well represented; but only *C. guttulatum*, with its beautiful urn-like inflorescence, was showing what we may expect when, at other seasons of the year, such species as *C. Medusa*, *C. Collatia*, *C. picturatum*, *C. pubriatum*, *C. longissimum* (see figure), and a number of others unfold their picturesque buds.

While passing along we notice many species of the genera *Zygopetalum*, *Sarcobolus*, *Saccolobium* and *Cypripedium*, until the eye is attracted by two good plants—which are doing well of the very rare *Neomessora irrorata*, being part of the stock of the original plant which flowered in the Royal Botanic Garden, Glasnevin, in 1890. Part of the staging is occupied with a good batch of *Miltonias*, by the side of which are numerous specimens of *Chysis*, *Gorgoras*,

Erias, Eulophias, and other plants of horticultural and botanic interest. In this house can also be seen some plants of *Cymochilis purpurascens* in flower, which, although they have been in this country over ten years, are still growing on the original pieces of *Platy-*

ceras unice-
carne upon which they were found when collected in Madagascar. Sir Trevor's orchid-grower, Mr. White, stated that he always kept them dry during the winter; by this means the material upon which they are growing is kept sweet.

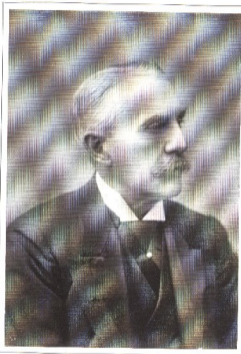
Among the numerous plants that are doing well is *Vanda Watsoni*; it appears little the worse for the four large spikes it carried last year.

Dendrobium ferdinandum is not a species which can be considered easy to grow, yet here is a plant breaking away well after being covered with flowers. It came all the way from India several years ago by ordinary parcel post. Before passing to the next house we pause a minute to look at an *Eria*

species, flowering for the first time in this country after ten years of careful attention.

A change of atmosphere reminds us that we are among plants from a different climate, for here can be found *Lycaste tetragona* in full flower; *Epidendrum* of many sorts, and

their hybrids derived by crossing with Cattleyas; the sweet-scented *Miltonia Rosatii alba* in all its beauty; while in the front row of the stage can be seen a plant of *Oncidium miniatum*, which at first sight suggests nothing particular, but when we are told that its curious flower-spoke lasts, and continues to grow and produce flowers, for many years, "How wonderful!" is all we can exclaim.



Sir TREVOR LAWRENCE, Hort. K.C.V.O., V.M.H.

Notice must be taken of the rare *Zygopetalum Lindeni*, with its flowers of exquisite beauty, and of a magnificent plant of *Aerides crispum* with ten flower-spikes. It was brought over from Bombay, growing in a native earthenware pot filled with pieces of bark. *Chondrorhyncha Chesteronii* and

C. fimbriata were in bloom, the latter having a smaller flower.

As a practical illustration of how soon some plants can be made to adapt themselves to a changed condition of life, a large piece of *Batomania melagris* was pointed out as having been brought over to this country as recently as the end of last June, and is now well established. *Kefersteinia graminea* (see figure) does well in this house, and the same may be said of *Zygopetalum Ballii*, which is a great favourite with Sir Trevor, who considers it one of his most beautiful flowers.

The Odontoglossum house contains a choice selection of the finest forms of *O. crispum*, including many spotted and blotched varieties. The plants display great vigour in their growth, and look in the best of health. It has often been said that crispums will not continue to grow in this country, yet here are not only plants but specimens that have enjoyed the Burford air for thirty-two years. On examining one that arrived in 1880 we found it in such good health as to remark, "It will live to see 1980." A pretty variety of *Od. Rolfei* was carrying a graceful spike of twelve flowers; and near by a seedling, raised at Burford, between *Od. vanosissimum* and *Od. Edwardsii*. The plant is a strong grower, and had a large spike of flowers open, which are intermediate in form, and present a graceful appearance. At this time of the year very few Odontoglossums are in flower.

In an adjoining house *Panda Lovii* at once attracts close examination, a grand plant carrying a beautiful spike some ten feet long, with twenty-four of the chocolate-red flowers,

and two of the distinct yellow ones at the base of the spike—a dimorphism which has puzzled botanists, who have not as yet satisfactorily explained their origin or usefulness to the plant.

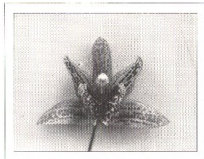
Many years ago a box addressed to Sir Trevor Lawrence was found floating in the Mersey. It ultimately reached its destination, and on being opened was found to contain a fine mass of orchid, which on flowering proved to be *Angreacum pellucidum*. The knowledge of Sir Trevor's love for orchids had been borne in mind on the West Coast of Africa, whence a near relative had despatched this plant to him—not by throwing the box into the sea, but by placing it

on a ship which, on arriving at the River Mersey, had the misfortune to jettison some of her cargo.

To see a plant of *Eulophia guineensis* with a spike of twenty flowers is a proof that Mr. White understands its correct treatment; and also the batch of seedlings between *Calogyne pandurata* and *C. asperata*, which are doing well, and

should flower next season. *Habenarias* such as *H. militaris*, *H. rhodochila*, *H. Sasanna* and *H. Uganda*—all difficult plants to grow—are in perfect condition. *Habenaria sambiensis* and *Oncidium Clavatum*, although growing well, have not flowered at Burford.

The large East Indian house is full of Dendrobies, mostly hybrids, specimen *Cyrtopetals*, *Thunias*, etc., on the side and centre stages, and suspended from the roof are *Catacetsus*, *Mormodes*, *Cycloches*, etc. Among the slipper orchids is a specimen of the celebrated *Cyp. Stowii platyneium*, with five breaks and six fine flowers. The Dendrobies make a really grand display in mid-winter.



Kefersteinia graminea.

In another cool house *Cochlidia vulcanica* is flowering freely for the thirteenth year in succession; and by its side can be seen a plant of the rare *C. striata* and of the yellow *Odontoglossum grande Pittia*, both in robust condition; while near the door is a large batch of *Odontoglossum Pescatorei*, making fine flowering pseudo-bulbs.

Lisochilus stylites is in full flower in a stove; the blossoms have been open over nine weeks, and are still fresh. *L. giganteus* is growing in a large pan of water, but, although thoroughly dried in the winter, it has made no attempt to bloom this year.

A very useful device, wherever large specimen plants are grown, is a revolving pedestal, or turntable, which Sir Trevor Lawrence had made by the local ironmonger; on these

the large plants can be easily turned round and the other side inspected or placed towards

the light. Plants thus treated were large specimens of *Angrecom sesquipedale*, *A. charnium*, *Ornithidium siphonatum*, *Caloglyphis asperata*, *Cypripedium*, etc.

A rare and generally refractory plant to grow well in *Dendrobium Hookerianum* (syn. *chrysothrix*). Here, however, a suitable place for it has been found in the principal Cattleya house, where, suspended from the roof, its bulbs continue to grow, year after year, not by side shoots only from the old bulbs, as is usual in most *Dendrobes*, but by continuous growth from the end of the bulb made the previous year, so that it is difficult to discern where one season's growth finishes



Cirrhopetalum longissimum.

and the next one commences. It is now flowering from the part of the bulb made this



"Burford," Dorking, Surrey.

Photographed by W. J. Vasey.

summer, the flowers being rich golden yellow, with an orange lip, purple blotched at the base, and fimbriated. Along the end of this house are some splendid specimens of *Vandas*, some more than six feet high, and clothed from top to bottom with healthy leaves. Some of these have been in the collection for over thirty years.

In the same house are such plants as *Schomburgkia Lyonsii*, with a pretty spike of twelve flowers; *Hartwegia purpurea*; good varieties of *Oncidium Papilio*; several strong plants of *Cattleya Trianae Backhouseana*, which were added to this collection in 1884, and are much prized for the peculiar purple feathering on the petals; a large plant of *B.C. Digbyana-Schroedera*, with fourteen flowers; and, as an instance of what careful growing will do, a part of the original plant

of *B.C. exoniensis* may be seen with fourteen leads. It was certificated in 1863, and passed into the Burford Collection in 1876.

Another large house is kept as a cool intermediate one, in which can be seen the Jamaican *Lelia monophylla*, growing well and showing many of its bright orange-scarlet flowers, the rare *Warrea tricolor*, *Cryptophorum Doyanus*, *Maxillaria fucata*, *Trigonidium spathulatum*, Japanese *Calanthes*, and many others.

The Masdevallia house contains a wonderful collection of these beautiful and interesting plants, which in days gone by were so much thought of. We venture to suggest that if their characteristics were more fully known by present-day orchidists they would quickly return to popularity. Mention must, however, be made of *M. discosa*, with its pen

dulous leaves of purple metallic lustre; the rare and evil-scented *M. velifera*, with its flowers covered with a splendid gloss as if varnished; and the curious *M. muscosa*, of which the lips, when a fly sucks the nectar, quickly closes up, holding the fly a prisoner. Many other *Mastocallias* are in flower, but we must leave them, to note in another house a large plant of *Rexanthera coccinea*, which, after being collected in China in 1816 and travelling through many collections, has for years past found a quiet home amongst other members of its family at Burford.

A large plant of *Angraecum Kotschyi* is entirely living on the atmosphere, the original native wood upon which it was growing having long since rotted away, leaving a strange mass of stem, leaves and roots—all in the best of happiness and health.

The few plants just mentioned give but a poor idea of the wealth of this collection, and we must reluctantly leave for another time an account of the many large specimens and

other interesting orchids which we have been unable to describe in this article.

Sir Trevor Lawrence has most of the principal works that have been published on the subject of orchidology, and also keeps a large scrap-book in which he arranges all other prints and drawings for easy reference. In opening the proceedings of the Orchid Conference of May, 1885, Sir Trevor said: "I do not think anybody can walk round the show to-day without thoroughly understanding how we, who are fond of orchids, come to be enthusiastic about them. If you want to find a justification for the hobby, I would say, walk once or twice round the show and you will find it. Whether you regard the splendour and richness of colouring, the delicate grace and beauty of the flowers, or the weird and fantastic characters of some of them, I think you will find a justification for and will understand the affection orchid-growers have for their plants"

G. W.

NEW PLANTS.

CYPRIPEDIUM ANGELA (niveum × Fairrieanum). A charming, well-formed, white flower, the dorsal sepal, petals, and lip having dotted lines and markings of purple. Exhibited by Mrs. Norman Cookson at the R.H.S., Sept. 13th.

CYPRIPEDIUM CHAPMANI (Calypso × Fairrieanum). A nice flower with yellowish-green ground colour, the upper half of the dorsal sepal being white, and the base bearing purple feathered lines. Exhibited by Mrs. Norman Cookson at the R.H.S., Sept. 13th.

CYPRIPEDIUM SYRII SUPERBUM (Francisæ × Fairrieanum). A bold flower with a rose-coloured dorsal sepal margined with white, and with dark lines, the petals being also tinged with rose. Exhibited by Mrs. Norman Cookson at the R.H.S., Sept. 13th.

LÆLIO-CATTLEYA MRS. PHAYRE. A hybrid between *L. C. Norba* × *C. aurea*. (The parents of *L. C. Norba* are *L. xanthina* and *C. Mossiæ*.) The plant, which was exhibited by Francis Wellesley, Esq., at the R.H.S. meeting on Aug. 30th, has creamy-yellow

sepals and petals, and rose tinted lip with gold veining.

LÆLIO-CATTLEYA SCYLLA (*L. C. Cappelæ* × *C. Rothschildiana*). Petals and sepals tinted light rose, with a broad margin of colour running round the edge of the lip, and a large amount of yellow colouring in the throat. Exhibited by Messrs. Charlesworth at the R.H.S., Sept. 13th.

ODONTIODA CECILIA (*Cochlidia Noezliana* × *Odonta Wigandiana*). In this hybrid the red has been broken up more than in any previous *Cochlidia* cross. The ground is cream-white, densely spotted with Indian red, the lip bearing distinct blotches of the same colour. Exhibited by R. G. Thwaites, Esq., at the R.H.S., Sept. 13th.

ODONTIODA WILSONI (*C. vulcanica* × *Od. Pescatorei*). A pretty little flower with whitish ground colour, the segments being marked with rosy-lilac, the lip showing the characteristics of *Od. Pescatorei*. Exhibited at the R.H.S., Sept. 13th, 1910, by R. G. Thwaites, Esq.

ROYAL HORTICULTURAL SOCIETY.

August 30, 1910.

ORCHID Committee present: J. Gurney Fowler, Esq. (in the chair) and Messrs. Jas. O'Brien (hon. sec.), A. Dye, W. H. White, W. H. Hatcher, H. G. Alexander, J. Charlesworth, Walter Cobb, F. J. Hanbury, Henry Little, R. G. Thwaites, Harry J. Veitch, de B. Crawshaw, and Gurney Wilson.

J. Gurney Fowler, Esq., Gobelands, South Woodford (gr., Mr. J. Davis), showed *Cattleya Rhoda*, Fowler's variety (Iris \times Hardyana), a fine variety with flowers more like Hardyana, and quite as large. Petals and sepals primrose-yellow, the lip deep rosy purple.

Francis Wellesley, Esq., Westfield, Woking (gr., Mr. Hopkins), exhibited *Cattleya Lady Chance*; *Laelio-Cattleya*, Mrs. Philip Denriquo, a very fine dark-coloured flower, reminding one of *L.-C. Dominiana*; and *L.-C. Mrs. Phayre* (see "New Plants").

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for a good group containing many fine hybrids, these of special merit being *Sepholaelio-Cattleya Marathon*; the new *Oncidioida Charlesworthii* (see page 8); *Laelio-Cattleya Venus Lecana*; and some fine *Brassia-Cattleyas*.

Sir Jeremiah Colman, Bart., Gatton Park (gr., Mr. Colfer), exhibited a very interesting group, in which we noticed *Sigmatostalix radicans*, *Carthopetalum guttatum*, *Mastodyllum Chimera*, the distinct *Maxillaria striata*, and *Polystachya paniculata*.

De Barri Crawshaw, Esq., Rosefield, Sevenoaks (gr., Mr. Stables), showed several fine *Odontoglossums*, such as *Odontoglossum Theodora* (Roesli \times triumphus); a very well-blotched *Od. crispum*; the remarkable *Od. Lambertianum* Starlight, which has flowers covered with small rose-coloured spots; and a large, good-shaped *crispum* named *Mrs. de B. Crawshaw*.

Messrs. Stuart, Low and Co., Bush Hill Park, Endfield, were awarded a Silver Flora Medal for a large group. It contained a large variety of botanical orchids, such as

Cyrtopodium punctatum, *Cirriopetalum Mastersonianum*, *Bulbophyllum barbigerum*, and *B. papillosum* with small purple flowers. Some excellent *Laelio-Cattleya callistoglossa*, *Cattleyas superba*, Hardyana, and *Gaskelliana Princess*, the latter being a white form, and the pretty *Pituana nobilis*.

Lieut. Col. Sir George Holford, K.C.V.O. (gr., Mr. H. G. Alexander), exhibited *Laelio-Cattleya Lustre magnifica*, *L. C. Golden Oriole var. tigrina*, and *Cattleya Hardyana* Holford's variety, the last two obtaining Awards of Merit.

H. S. Goodson, Esq., Fairlawn, Putney (gr., Mr. G. E. Day), was awarded a Silver Flora Medal for a group which contained many fine things, one of which was the marvellous *Cattleya Rhoda Fairlawn* variety, which secured a First-class Certificate; others were *Cattleya Gaskelliana alba* with six flowers, some fine *C. Adula*, a well-flowered plant of *Cypripedium Wierzianum*, the distinct *Od. Goodsonii*, and several excellent hybrids.

Mr. Ed. V. Low, Vale Bridge, Haywards Heath, received a Silver Banksian Medal for a well staged group, chiefly composed of *Cattleya Adula*, the Vale Bridge variety obtaining an Award of Merit. Some well-grown *Cypripedium Maudiae* and the beautiful *Odonte. Uro-Skinneri album* were also included.

Messrs. James Veitch and Sons, Ltd., Royal Exotic Nursery, King's Road, Chelsea, showed a fine form of *Cattleya Hardyana*, remarkable for the fact that the amount of yellow on the lip varied on each flower.

Messrs. Sander and Sons, St. Albans, put up a fine group, which won for them a Silver Flora Medal. It contained the fine *Dendrobium Sanderae*, a good *Laelio-Cattleya* Henry Greenwood, the rare natural hybrid *Vanda anaxina* (marulca \times Roxburghii), *Corylogyne Micholitzii*, *Odontioda Devossiana*, and many other rare and striking things.

Messrs. J. and A. A. McBean, Cooksbridge, exhibited the large pure white *ardentissimum album*.

Messrs. Mansell and Hatcher, Rawdon, Yorks., showed the curious *Eria bracteosa* with whitish flowers and purple tinted lip.

From the trustees of the late E. Rogerson, Esq., Didsbury, Manchester (gr. Mr. W. C. Price), came a fine-grown *Cattleya Wavriniana*, *Milania Rogersonii*, and *M. Bleiana*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cattleya Rhoda Fairlawn variety (*Iris* × *Hardyana*), from H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day). One of the finest coloured hybrids yet seen. Sepals and petals deep reddish-purple; lip broad and open, throat-crimson, lined with gold.

AWARDS OF MERIT.

Laelio-Cattleya Golden Oriole var. *tigrina* (*L.-C. Charlesworthii* × *C. aurea*), from Lieut. Col. Sir George L. Holford, K.C.V.O. (gr. Mr. H. G. Alexander). A beautiful hybrid. The ground colour is chrome-yellow, the spaces between the veining being dark Indian red. The lip is ruby crimson with gold veins from the base.

Cattleya Hardyana Holford's variety, from Lieut.-Col. Sir George Holford, K.C.V.O. Sepals and petals very broad and rosy-lilac; the lip is rosy-claret colour, with bright yellow patches in the throat.

Cattleya Adala, Vale Bridge variety, from Mr. E. V. Low, Vale Bridge, Haywards Heath. One of the finest varieties of this popular hybrid. All the segments are very broad and of a splendid colour.

BOTANICAL CERTIFICATE.

Dendrobium Kuroense, from Sir Trevor Lawrence, Bart., K.V.C.O. Barford (gr. Mr. W. H. White). A pretty little species from New Guinea. The small flowers are white, and are borne singly from the base of the leaf.

CULTURAL COMMENDATION.

To Mr. H. W. White (orchid grower to Sir Trevor Lawrence, Bart., K.V.C.O.) for a large specimen of *Platycheilus filiformis*.

September 13th, 1910.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, J. Wilson Potter, H. Ballantine, W. H. Hatcher, W. P. Bound, Walter Cobb, J. Cypher, C. H. Curtis, W. Thompson, F. J. Hanbury, Henry Little, Clive Cookson, R. G. Thwaites, W. Bolton, de Barri Crawshaw, Gurney Wilson, W. H. White, and H. G. Alexander.

Messrs. Scnder and Sons, St. Albans, were awarded a Silver gilt Medal for a large group, the centre of which was composed of many fine plants of *Vanda Corallina*, which only arrived in this country four months ago; other interesting species and hybrids noticed were *Agnostia isoptera*, *Dendrobium Sanderae* (with large trusses of flowers), *Cattleyas fulvescens*, *Pittiana aurea*, *Iris*, and *Wavriniana*; *Laelio-Cattleya* Walter Goff (*C. bicolor* × *L. C. Blechleyensis*), the interesting *Notylia sagittifera*, and an extraordinary species of *Coryanthes*, provisionally named *Sanderae*, with a fleshy flower, the lower part of which is yellow, spotted inside with purple, the neck-like middle showing several raised rings.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), was awarded a Silver Flora Medal for a nice group containing several choice things. In the centre was the splendid *Cattleya Iris*, King Edward VII., surrounded by other *Cattleyas* such as *Mrs. J. Whiteley*, *aurea*, and *Enid*; while other plants noticed were *Cypripediums* *Sir Reubens Buller*, *Leyceanium*, and *Fairriennum*; *Sophro-Cattleyas* *Nestor* and *houstonensis*; *Lycasta leucantha*, and *Odontoglossum ardensis simum*.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Flora Medal for a fine group of good things, amongst which was a plant of *Brasso-Cattleya Moneta* (*C. Gaskelliana* × *B. C. Mdu. Chas. Maron*), having very broad petals, the whole flower being of a beautiful soft-mauve colour, with a distinct greenish-yellow throat. Another grand thing was *Laelia Cattleya St. Gotthard* (*C. Hardyana* × *L.-C. Gottleiana*). Among

the interesting species were *Acineta chrysantha*, *Nolyia sagittifera*, *Rod-iguensia secunda*, *Chondrorhyncha fimbriata*, *Cirrhaa viridi-purpurea*, and *Anguloa eburnea*. Many fine varieties of *Laelia-Cattleya callistoglossa* were also noticed.

R. G. Thwaites, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. J. M. Black), received a Silver Flora Medal for a good group composed chiefly of hybrids, the most interesting of which were *Odontioda Cecilia* (see New Plants), *Odontioda Wilsonii* (having flowers with a whitish ground, the segments being marked with rosy-lilac), and a splendid *Brasso-Cattleya Mrs. J. Leeman*. Other distinct things being *Cattleyas Cleopatra*, *RouPELLIANA*, and *Euphrasia*; several good varieties of *Odontioda Thwaitesii*, and *Cattleya Acida*.

Messrs. Mansell and Hatcher, Rawdon, Yorks, had a well arranged group, for which a Silver Flora Medal was awarded. In it were many good plants of *Cypripediums*, such as *C. Baron Schroder*, *C. Rossetti*, *C. gigas Cordeau Hall var.*, and *C. Chas. Richman*; a very fine-coloured *L.-C. callistoglossa*, a strong plant of *Od. crispum-Harry-anum*, with a grand spike of 12 flowers, and a *crispum* seedling with a strong spike of 14 flowers. The group also contained many excellent *Brasso-Cattleyas*.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, obtained a Silver Flora Medal for a large group consisting of interesting *Cirrhopetalums*, such as *gottelobum*, *pulchellum*, and *Mastersianum*; *Cattleyas Minucia*, *Iris aurea*, and *Pittiana*; while along the back row were *Oncidium* *Wentworthianum*, *oblongatum*, and *Carthaginense*. Some curious species as *Biremaria tetragona*, *Ionopsis paniculata*, and *Zygopetalum Gautieri* were also noted.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. Collier), exhibited some interesting plants including the remarkable *Bulbophyllum lemniscatoides*, *Eria stellata*, and a curious hybrid *Spathoglottis*, between *S. kewensis* and *S. Colmanii*. A pretty variety of *Cattleya Gaskelliana* named *cremescens* had light tinted flowers with blue markings on the front of the lip, and a clear yellow throat.

Lieut. Col. Sir George Holford, K.C.V.O. (gr. Mr. Alexander), sent *Laelio-Cattleya Golden Flocco*, with fine yellow flowers, and a splendid variety of *L.-C. Berthe Fournier magnifica*.

Mr. L. V. Low, Vale Bridge, Haywards Heath, obtained a Silver Banksian Medal for a bright group containing many very fine varieties of *Cattleya Adula*, one of which had very broad, bronze-coloured petals and deep purple lip. A strong plant of *Bulbophyllum Lobbia Colossus*, with four flowers; *Brasso-Cattleya Pluto* (*B. Digbyana* × *C. gracilosa*); *Cattleya Atalanta*; and a plant of *Epidendrum floribundum*, with a very fine spike of flowers; and several other good things were included.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), showed the distinct *Stanhopea Roggasiana*, with recurved sepals spotted with purple; the pretty *Sepbro-Laelio Cattleya panexivora* (*L. pumila* × *S. L. eximia*) and other interesting plants.

Messrs. Stapley and Co., Southgate, staged a nice group. In it were many plants of the pretty *Cattleya iridiscens* (*Florento* × *bicolor*), the colour of these varies from clear orange-yellow to purple. We noticed a large plant of *Cattleya Gaskelliana alba*, and a strong plant of *Cypripedium A. de Lairese* with eight flowers.

Messrs. William Dell and Sons, Chelsea, showed a fine variety of *Odontioda Charlesworthii*, some *Cattleya Iris* and *C. Marouii*.

Mrs. Norman Coleson, Oakwood, Wylam-Tyne (gr. Mr. H. J. Chapman), exhibited *Cypripedium Angela* (*niveum* × *Fairricanum*), a pleasing hybrid; *C. Chapmaniae* (*Calypso* × *Fairricanum*); and *C. Sybil superbum*.

Messrs. Jas. Veitch and Sons, Royal Exotic Nurseries, King's Road, Chelsea, showed *Neobenthamia gracilis*, flowers white, with purple-spotted lip.

W. P. Burkinshaw, Esq., Hesse, Hull (gr. Mr. Barker), exhibited *Laelio-Cattleya Ivernii* var. *Muriel Wilson*, a large flower with rosy-lilac petals and sepals, and deep

claret lip; *Brasso-Cattleya Pluto*, and a good *Cattleya Iris aurifera* were also sent.

From Mr. W. Miller came some *Laelio-Cattleyas*, and *Cyripediums*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cattleya Iris var. *King Edward VII.* (aurca × bicolor), from H. S. Goodson, Esq. (gr. Mr. G. E. Day). The largest and finest *C. Iris* yet seen, sepals and petals are yellowish-sap-green, with slight veining, and a broad amethyst-purple lip.

Laelio-Cattleya Bertie Fournier magnifica (*L.-C. elegans* × *C. aurca*), from Lieut. Col. Sir George L. Holford, Westenhirst (gr. Mr. H. G. Alexander)—This variety differs from the ordinary hybrid, of which some very fine specimens have already been exhibited from the Westenhirst collection, by the lip taking more after the style of *C. Iris*, but much broader. The sepals and petals are reddish-rose, with a golden yellow glow, and the lip bright amethyst purple.

AWARDS OF MERIT.

Cyripedium Angela (juvenc × Fairrieanna), from Mrs. Norman Cookson (gr. Mr. H. J. Chapman).—See "New Plants."

Odontia Cecilia (*C. Noctiana* × *O. Wiganianum*) from R. G. Thwaites, Esq. (gr. Mr. J. M. Black).—See "New Plants."

Cattleya Adla Thwaites' variety, from R. G. Thwaites, Esq.—A fine flower, with rose-lilac flowers and a broad deep-purple lip.

BOTANICAL CERTIFICATE.

Bulbophyllum polyblepharis, from Sir Trevor Lawrence, Bart., K.C.V.O.—A curious little species, looking like a small *Pleurothallis*, the flowers are borne singly on thin stems, two or three inches high. The sepals are narrow, the petals very small, and the lip is very distinct, being densely covered with almost black hairs.

CULTURAL COMMENTATION.

To Mr. W. H. White (orchid grower to Sir Trevor Lawrence, K.C.V.O.) for a large plant of *Dendrobium Henkerianum* (syn. *chrysis*).—For description, see page 15.

THE Royal Horticultural Society will hold Flower Shows at Vincent Square, Westminster, on the following dates during the remainder of the present year: October 11th, 25th; November 5th, 22nd; and December 6th.

Any readers who have Orchids of special merit are advised to enter them before the Orchid Committee as early in the morning of the date of the Show as possible, certainly not later than 11.30 a.m. The committee will meet at the usual hour, which is twelve o'clock.

The Temple Show will be held, as before, in 1911, but in the following year a great International Show will take its place; arrangements are already well advanced, and we hope before long to give our readers full particulars of this important event.

Since the Exhibition of 1866, which was the last one of an international kind, a great change has taken place in the Orchid World. At that time hybrids had hardly been thought of; now they play the most important part in the making of almost all the best groups at our principal shows.

The Summer Show which, by the kindness of Mary Countess of Ilchester, has on past occasions been held at Holland House, will next year be held at Olympia, on July 4th, 5th and 6th, as the Countess wishes it to be known that she will be unable to invite the Society to hold it in her grounds in 1911.

THE editor of the *Horticultural Directory*, 12, Mitre Court Chambers, Fleet Street, London, will be obliged if head gardeners will notify him of any changes of title or address that have occurred since October, 1909.

MANCHESTER ORCHID SOCIETY.

September 8th, 1910.

J. RUTHERFORD, Esq., Blackburn, sent a nice group, in which were good plants of *Cypripedium Maudslayi*, C. Rossetti, and Cyp. hybrids, several distinct *Cattleya Iris*, a fine variety of *Laelio-Cattleya callistoglossa*, and the rare *Odonta. Russii album*.

Messes Keeling and Sons exhibited the following:—*Cataceturum macrocarpum*, *Oncidium St. Ledgerianum*, *Signatostachy radicans*, *Odontoglossum locchiense*, and others.

II. J. Bromilow, Esq., exhibited an interesting group composed of *Cypripedium Charlesworthii*, *Brunlowianum*, C. Faircliffianum, C. Lord Ossulston, C. Rajah Ran Lee variety, C. Rappartiana, etc.

The Liverpool Orchid Co. set up a nice group, in which we noticed several good varieties of *Odonta. crispum* and *Pescatorei*, a very dark variety of *Od. Harryanum*, *Oncidium macranthum*, *Cattleya Robert de Wavrin*, and *Cypripedium Rossetti*.

Mr. Edward V. Low sent *Cypripedium bellulatum*, two very fine *Cattleya Adala*, C. Iris, the pretty *Odontioda Thwaitesii*, and some *Cypripediums*.

Ziba A. Ward, Esq., made a nice display with many fine varieties of *Cattleya Adala*, C. Mrs. Pitt, C. Atakea, C. Marone (*velutina* × *aurea*), a good C. Pitiana (*Schofieldiana* × *aurea*) and C. Ashtoniae.

Mr. John Robson sent a good broad-petaled *Cattleya Hardyana*, with a large lip and broad petals.

Messes. Charlesworth and Co. brought some very choice *Odontoglossum* hybrids, which when grown on will make some excellent varieties.

Mr. Birchall sent the following:—*Chondrorhyncha fimbriata*, *Miltonia Lamskiana*, *Eria bicolor*, and *Acineta chrysantha*.

First-class Certificates were given to *Odontoglossum illustrissimum* (*Lambertianum* × *ardentissimum*), and *Cypripedium Rossetti* var. *Levanum*. Both from W. R. Lee, Esq.

Awards of Merit to *Cattleya Venus*, Plumpton variety, C. *Venus Leana*, C. *Minucia Hey*

House variety, C. *Crown Prince* (*Lepoldi* × *Hardyana*), *Acineta chrysantha*, C. *Oriel* (*Martini* × *Hardyana*), *Cypripedium Donald McCartney* (*Goweriana* × *cellulare*), C. *Hitchensis*, Plumpton var., and *Cattleya Adala* *Wiredfield* variety.

A Botanical Certificate was given to *Chondrorhyncha fimbriata*.

September 22nd, 1910.

A VERY good meeting, the quality of the exhibits being higher than usual. The Committee sitting were: F. Ashworth, Esq. (chairman), Messrs. W. R. Lee, G. S. Ball, Arthur Parker, Cypher, Holmes, Thorp, Bolton, and P. Weathers (secretary).

G. S. Ball, Esq., Under Fell, Burton, Westmorland (gr., Mr. Herdman), exhibited a very good group, for which a Silver Medal was awarded. Amongst the best things in the group were Cyp. The Earl, C. *lyburanicus*, C. *Daisy Barclay*, C. *Aetnae Revoluta*, C. *Victory*; also *Cattleya Iris* and C. *Adala*.

W. R. Lee, Esq., Plumpton, Heywood (gr., Mr. Woodhouse). This group contained many good things, but on account of being entered for the Ashworth Cup competition it did not receive any award. The finest plant was *Cattleya amabile* (*Ludemanniana* Stanleyi × *Fascinator zibens*), which received a First class Certificate. The following plants obtained Awards of Merit:—*Laelio-Cattleya Priam*, *Odontoglossum* W. R. Lee (*amabile* × *crispum*), *Sophro-Catt.* *Lalia Olive* (*S.-A. Psyche* × C. *Enid*), *Cattleya indusensis* *Lutescens* and Cyp. *Plumptonense* (*Clinchberryanum* × *Hitchense*), a large flower spotted in a similar way to *Clinchberryanum*. Amongst other plants in the group were *Cattleya Phrygia*, *Milbonia* W. R. Lee, and *Odonta. Illustrissimum* (*Lambertianum* × *ardentissimum*).

Col. Rutherford, Bearwood, Blackburn (gr., Mr. Lupton) also exhibited for the Ashworth Cup, showing *Cattleya Gaskelliana* *alba*, C.

Iris, C. Maroni, L.-C. Admiral Dewey, *Cypripedium Muhlre*, C. Rossetti, *Od. Rossii* album, and other *Odcites*.

J. Birchall, Esq., Alderley Edge, exhibited *Miltosia Lamarckiana*, *Maxillaria lepidota*, and *Pleione lagenaria*. Vote of thanks.

The Liverpool Orchid Co., Gateacre, showed a very pretty hybrid between *Cattleya bicolor* and *C. Massiana* with a fine magenta lip, *Laelia Pacavia*, and L.-C. *Haroldiana*. Vote of thanks.

Walter Shackleton, Esq., Great Horton, Bradford, exhibited *Cyp. Victory*, *C. bellatulum*, and *C. hybrid*. Vote of thanks.

W. Thompson, Esq., Stone, Staff. (gr. Mr. Stevas), sent *Laelia W. Thompson*, a remarkable hybrid having pure white sepals and petals, with deep yellow lip. Parentage unknown. First class Certificate and vote of thanks.

J. J. Holden, Esq., 75, Albert Road, Southport (gr. Mr. Johnson), exhibited a yellow *Odont. crispum*, *Od. excellens* *Asburn House* var., which received an Award of Merit, and *Cyp. Gladota* (F. B. Hayward x *Spicerianum*). Vote of thanks.

E. Ashworth, Esq., Wilmslow, exhibited a

fine specimen *Cattleya Maroni* bearing eleven flowers. Cultural Certificate and vote of thanks.

Messrs. Charlesworth and Co., Haywards Heath, exhibited a fine dark variety of *Cattleya Mrs. Pitt*, which received an Award of Merit; also *Cattleya Elaine*. Vote of thanks.

Rev. J. Crombleholme, Clayton le Moors, exhibited *Cyp. Lond Ossulston* var. *Seraphim*, which received an Award of Merit. Vote of thanks.

Messrs. Stanley and Co., Southgate, staged several *Cattleya iridescens*, which showed a great range of colour, the variety splendens receiving an Award of Merit; also *Cyp. Leonidas* var. *citrinum*. Vote of thanks.

Mr. J. Robson, Altrincham, sent *Cyp. Daisy Barclay*, *C. Priam*, and two hybrid *Odontoglossums*. Vote of thanks.

J. McCartney, Esq., Hey House, Bolton (gr. Mr. W. Holmes), exhibited *Cattleya Armstrongie*, and a dark form of *C. Tabia*.

Messrs. Cypher, Cliftonham, exhibited a nice group containing *Vandas Odontis*, *Pleiones Cypis*, *Cattleya* and *Laelia* hybrids, to which a Silver Medal was awarded.

W. J. MORGAN.

When ex-President Roosevelt was on the point of sailing from this country for his own he was pleasantly surprised if we can imagine that strenuous man being surprised in any conceivable circumstances—by the arrival of a large consignment of orchid flowers with which to decorate his apartments on the voyage. The sender was Alderman Bolton, of Wilmslow, Warrington. In an accompanying note he said:—

"I send you a box of orchid flowers of my own growing, in the hope that they will give you a little pleasure on your journey to New York. R. J. Cunningham, who was in Africa with you, was an old salmon fishing acquaintance, and will be pleased to know I sent you the flowers."

The great man, too full for words, wrote "right away," without any introductory remarks beyond "My dear Mr. Bolton,—That is most kind of you. I thank you most sincerely for the beautiful flowers. It was very thoughtful of you to send them."

On October 25th the Rev. Prof. G. Henslow, M.A., V.M.H., will give a lecture on "Life: a Director of Forces in Development and Evolution." Professor Henslow is so well known that we have only to remind our readers that the lecture will be given at three p.m. in the R.I.L.S. Lecture Room.

Mr. J. Taylor, who for many years has been with Messrs. Sander and Sons, has been engaged to represent Messrs. Mansell and Hatcher, Ltd.

FLORAL ART.

British Floral Decoration. By R. Forester Felton, F.R.H.S., F.Z.S. (Adam and Charles Black, 7s. 6d.)

"Floral Decoration" is an up-to-date work upon a popular subject. Of flowers much has been said and sung, but the art of using them to the best advantage, so that their beauty and endless variety may please the eye and gladden the heart, is worthy of serious study. Towards this end Mr. Felton has produced a work exceedingly well got up, a credit to the author, the artist and the printer. When we find the eloquent Sir Albert K. Rollet introducing it with a prefatory note we feel safe in sounding its praises and owning its value. "Soul, mind, and the moral and aesthetic conscience are enriched by flowers, and anyone who, like the author of this book, does much to increase the love and culture and artistic use of them renders the very best service to mankind." So writes Sir Albert in his prefatory note to this work.

Conversation can never flag if there are beautiful flowers to talk about, and many an awkward breach in the sequence of dinner courses can be comfortably tided over if the guests have something upon which to feast their eyes; the "beautiful flowers" may be already yours, but to arrange them into "something" is an art. It is this art that Mr. Felton so clearly explains in his recently published book, a work of love's labour to which everyone must be indebted, for

"The whole world without art and dress
Would be but one great wilderness."

We are pleased to read the author's remark: "A retrospect of ten years indisputably reveals the fact that the science of floral decoration in England has made more rapid progress than that of any other art, as during that period we have abolished the masses of coloured gauze, ribbons and silk table centres which were once constantly in evidence on all smart dinner tables, and with these French and German methods, mirrors, cergues and many other things have ceased to exist." And further on: "In using cut flowers for decoration always arrange them as you find them in Nature. Never try to make flowers look up when Nature has

decreed that they shall look down; remember Dryden: 'Art may err, but Nature cannot miss.'"

Mr. Felton's desire for conformity with environment and general congruity, which always governs true artists, is shown at its best in his manner of treating, in the Japanese style, the entrance hall at Claridge's on the occasion of the reception given in honour of T.R.H. Prince and Princess Nashimoto of Japan, June, 1909. Some beautiful coloured photographic pages of this and other designs are included in the book, of which notice must be taken of a Court bouquet made for Her Majesty Queen Alexandra, composed entirely of *Cattleya Mossie* and sprays of *Odontoglossum crispum*.

Chapter 7 is entirely devoted to Orchids. Our readers will agree with the author's remark: "One of the greatest charms that orchids possess lies in the fact that they never produce two sprays of flowers of exactly the same line; like the human face, every one is different in some slight detail either of colour, shape or size."

A list of more than sixty kinds of orchids suitable for decorative purposes is given. *Cataglyphis pendulata* is mentioned as "perhaps the greenest flower in existence," *Vanda carolina* "one of the most exquisite colours in the world of flowers," and *Cymbidium chrysanthum* "very decorative when used with other orchids, and they may be relied upon to last many weeks in water." We notice one slight error on page 105—probably the printer's: in *Cattleya labiata* occurs this latter word should be in the next line after *Doveiana*.

We trust in the next edition Mr. Felton will have still more to say in favour of the decorative value of orchids, and not forget their charm as a button-hole.

We heartily recommend this book to all lovers of Nature as being not only an art book for the drawing-room table, but a practical guide for all those, both amateur and professional, who wish to attain perfection in this fascinating art.

There is also an "author's edition" at 12s. 6d., which can only be obtained through the author, and which makes a charming addition to the boudoir-table.



THE ORCHID WORLD.

Vol. I.

NOVEMBER, 1910.

No. 2.

TO OUR READERS.

THE numerous periodicals which confront the reader of the present day baffle the mind and cause many to say, as Socrates did when he surveyed the fair at Athens: "How many things are here which I do not want."

The fear of adding one more to this category caused us to ask our readers in the first number: "Do we require a periodical of *this* kind?"

YES! has been the answer from far and near; while the promise of assistance from our leading writers upon Orchidology is an encouragement to proceed with ever increased activity; the ready response of our subscribers nullifies any financial fear; and the many kind letters received and good wishes expressed have so impressed upon us the great need of a publication such as this that we feel our reasons for its production are strengthened to a degree that will ensure still more energy on our part, and thus agree with Shakespeare when he said: "Strong reasons make strong actions."

We have often been asked if it is advisable, when clamping down the houses, to let water fall on the hot-water pipes and thus generate steam, or whether it is better to prevent this and only damp the floor and staging. Orchid cultivators differ on this matter, and we should like to have the opinions of our readers on this interesting subject.

VOL. I.

THE BRUSSELS

HORTICULTURAL EXHIBITION.

THE autumn show arranged by the International Exhibition authorities was opened on Saturday, 20th October, and lasted four days. Owing to the recent great fire it could not be held in the same hall as that used for the spring show, this being required for other exhibits. The Government, however, very kindly placed the exhibition hall of the Palais du Cinquantenaire at the Committee's service.

Orchids were more strongly represented than at the May show, but the same method of arrangement was adopted, *viz.*, the straight stage, which extended to about 600 feet.

The central position was taken up by Mons. Firmin Lambson, of Brussels, to whom the Society owes many thanks for the enthusiastic manner and time which he gives to the arrangement of the show. This group was the only one competing in the *Première Section*, and was awarded the *First Prize* of a *Gold Medal*, value 500 francs. The collection was especially rich in albino *Cattleyas*, both species and hybrids, the best being *Cattleya labiata alba var. Harefield Hall*, to which the *First Prize* was awarded for the finest *Cattleya* species in the show. Other plants noted in this group were *C. labiata Purity*, *C. L. R. I. Messeres*, and *C. I. Empress*; varieties of *Cattleya Hartiana* with white sepals and petals, *C. Felia*, and *C. Empress Frederick* were also

shown in grand condition. *Cattleya Fabia Lambaenica superba*, a wonderful richly-coloured form, obtained First Prize for the finest hybrid *Cattleya*. This fine group contained many other good things, such as *Cypripediums*, *Orontoglossum* hybrids, *Vandas*, *Dendrobiums*, and two plants of *Milonic Blencaine*, each carrying eight flower spikes. A First Prize was also given to *Beasso Cattleya Minerva* (B. C. *Lemmanniae* x *C. aurea*).

Mons. Charles Dietrich, Anderghem, near Brussels, staged a fine group which contained many well-flowered pieces of *Cattleya Martini* and other hybrids. A noticeable plant was a gigantic variety of *Cattleya labiata* named *Isis*, measuring $3\frac{1}{2}$ inches across the petals and 9 inches from tip to tip of petals; but, as the flowers were considerably past their best, these figures do not give a correct idea of the true size of this fine variety; it was awarded Second Prize for the finest *Cattleya* species. The group also contained two white varieties of *Cattleya labiata*, viz. *Coolsoniae* and *Mme. Pichon*; while a magnificent specimen of this species had more than 130 flowers, and was six feet in diameter.

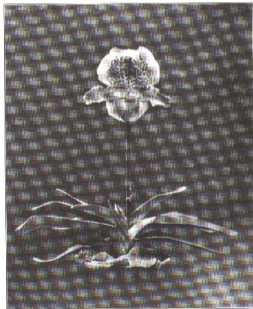
Mons. Jules Hye de Croon, Ghent, exhibited a few choice plants in a glass case, the best being *Cattleya Hardyana alba*, *C. labiata alba* var. *Elvina*; a well-flowered *Cypripedium Rolfeae*, and *C. Gaston Beltii* var. *Edward VII*.

The following Awards were also made: Messrs. A. A. Peeters and Sons, Gold Medal value 300 francs; Messrs. Duchesne, Gold Medal value 200 francs; Mons. Theodore Parwels and Co., Second Prize for best hybrid *Cattleya*;

Messrs. Charlesworth and Co., Gold Medal value 100 francs; Messrs. Stuart Low and Co., Silver Medal.

Further particulars of this important show will appear in our next number.

In orchid growing a very great deal depends on the positions in which plants are placed in our orchid houses. They will often be found to thrive better in one part of the house than in another. This is found out by experience and persevering observation. If a plant does not do well in one spot try it in another, and when a suitable place is found let it alone.



Cypripedium Shogun.

Received a First-class Certificate also exhibited by Lieut.-Col. Sir George L. Holford, K.C.V.O., at the Royal Horticultural Society, Sept. 27th, 1910. For description see page 42.

PHALÆNOPSIS AMABILIS.

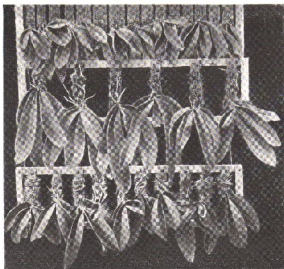
THIS very fine species has been more or less known for about 160 years. As far back as 1750 we can find in "Rumphius Herbarium Amboinense" a description and large figure of it under the name *Angreecum album*, and in 1752 Osbeck sent some flowers to Linnaeus, who described it in his "Species Plantarum," first ed., 1753, as *Epidendrum amabile*. These flowers, notwithstanding their great age, are still in good condition, and are in his original herbarium, now kept at the Linnaean Society of London.

In 1825 Dr. Blume published his "Bijdragen," in which he established a new genus, and on account of the resemblance of the flowers to some species of moth, called the plant *Phalænopsis amabilis*. It should be noted that the only plants, which had so far been described came from Java, but subsequently plants were sent to this country from

the Philippine Islands, and on account of the flowers being very much like those previously known as *P. amabilis*, they passed under that name, having been figured by Dr. Lindley in the *Botanical Register* (July, 1838, t. 34) from a plant in flower in the Epiphyte-house of Messrs. Rollison, of Tooting, and spoken of as "The Indian Butterfly plant"; in Paxton's *Magazine of Botany* (1840, p. 49) with the remark: "Plants sent from Manila to Messrs. Rollison, in 1837, by Mr. Hugh Cuming, since that time it has been in flower at least seven or eight months during each year, as, if the flower-stems are carefully severed just below where the lowest blossoms were produced, they will speedily emit branches, from which other flowers are ultimately produced;" and also in the *Botanical Magazine* (May, 1847, t. 4707) with the remark: "It has the merit of continuing a long time in blossom,



Method of establishing plants in Java before shipment.



A few of the semi-established plants.

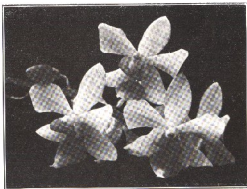
one single plant in the Royal Gardens, Kew, having been in bloom during the whole of the present winter (1826-7)."

It is believed that only one plant of Messrs. Rolleston's importation lived, and the late Duke of Devonshire visited their nursery with the intention of purchasing it, but the owners were not willing that it should leave their place; the Duke, however, insisted on taking the plant away with him, leaving a signed cheque for Messrs. Rolleston to fill in with whatever figure they liked; it transpired afterwards that the sum paid was 100 guineas.

About 1847 some plants flowered which had been collected in Java; they were described by Lindley in the *Gardener's Chronicle*, 1848,

p. 39, with a woodcut of each species, pointing out the difference from those collected in the Philippine Islands by remarking: "The Javan plants have flowers which are much larger; the petals do not overlap the back sepal, nor have they the small point which is invariably present in the other species; the lip is very narrow, much shorter than the lanceolate sepals, and its chief lateral lobes are somewhat wedge-shaped, with the angles rounded off. The distribution of colour is different; there is a large

streak of deep-yellow on the front edge of the chief lateral lobes of the lip, and the



P. intermedia Brymeriana.

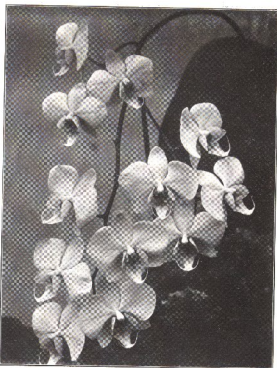
cirrhii are yellow, not white." Thinking he had described a new species, he called the plants *P. grandiflora*, quite forgetting that this species had already been named *P. amabilis* by Dr. Baume.

In 1862 Reichenbach detected Lindley's error, and stated that these plants were the same as *P. amabilis*. He also mentioned that the plants from the Philippine Islands, which had now been proved to be a distinct species, had never been named, and therefore proposed to call them *P. Aphrodite*, which is the Greek name for Venus, the goddess of beauty.

Great difficulty was formerly met with in packing the plants in a correct manner to ensure them being found alive on reaching this country; this has now been overcome by establishing the collected plants on small pieces of wood, which are then placed in packing boxes in such a way that no two plants touch each other.

Our illustrations show the method of doing this in Java, from which island a fine variety of *amabilis* is now imported under the name *Phalaenopsis amabilis Rimstadiana*.

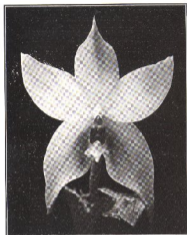
The culture of the various species of *Phalaenopsis* is not difficult so long as their requirements are fully looked after. In the native home the temperature is very high, and although the plants are frequently found



P. leucorrhoda.

on bare rocks and the branches of trees, the atmosphere is always in a very moist condition, and large quantities of rain fall during the year.

It must always be remembered that the plants have no pseudobulbs to support them, and consequently they should never be really dry, for if water is withheld the plants shrivel and there is great risk of them losing their lower leaves, and much of the beauty of these plants depends on the leaves as well as the flowers.

*P. cf. loeblii.*

The various species all require the same kind of treatment. During the growing season, which is from April to October, the temperature should range from 70 to 80 degrees by day, with a few degrees less during the night, while in the winter time, if a drier atmosphere is maintained, the temperature may drop to 65 or 70 degrees.

The plants are best grown in shallow pans which have large holes in the bottom and round the side; this will enable the roots to grow through and obtain free access to the air. They will often succeed well on rafts, blocks, and cylinders. One of the secrets in growing *Phalaenopsis* well is to have plenty of drainage material, such as large pieces of charcoal or crocks, in order that the surplus water may easily pass away and not become stagnant; if the compost once becomes sour there is very great risk of the plant rotting.

The potting compost should consist of *At* fibre or good peat, sphagnum moss, and a few oak leaves, with a few pieces of charcoal, and a sprinkling of silver sand; the whole being well mixed before using.

Phalaenopsis being shade loving plants are easily scorched by the sun's rays, and shading should, therefore, be frequently and carefully used; this is more to be remembered in the spring time, for it is after the plants have passed through a long period of dull weather that the leaves are tender and very easily burnt.

The plants are difficult to propagate, as they do not offer many opportunities for division. A few, however, *P. Luddeemanniana* for instance, produce young plants upon the flower scapes very freely; when this happens they should be left cut till well rooted and then potted singly.

Phalaenopsis Schilleriana. One of the finest orchids in cultivation. The leaves are beautifully variegated, being of a dark green colour, mottled with irregular bands or streaks

*P. Lady Rothschild.*



Phaiosopis Schifferjanii.
From a photograph taken in the conservatory of Mexico, Chalmers & Co., 1909.

of greyish-white on the upper side, the under surface purple. The flowers are large, sepals and broader petals light rose-purple, whitish at the margins, the lateral sepals dotted with purple on the inner basal halves; the lip, which is three lobed, with rounded lateral lobes, and an oval central one, split at the end into a pair of divergent curved horns, is of the same colour with darker spots, the disk bearing a four-cornered callus, which is yellow spotted with reddish-brown.

The flower spikes, which are produced in summer, often attain gigantic proportions. Mr. Warner sent a specimen to the St. Petersburg Exhibition in 1869, which had 120 expanded blossoms upon it. The *Gardener's Chronicle* in 1875 gave an illustration of a plant which flowered in the garden

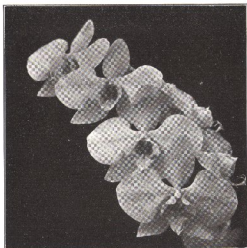
of Lady Ashburton at Melchet Court; it bore three panicles of flowers, bearing respectively 96, 108 and 174 blossoms, making a total of 378. At the meeting of the Royal Horticultural Society on January 24th, 1905, the Right Hon. Lord Rothschild sent a photograph of a magnificent plant of this species which had a panicle of seven primary branches and 11 secondary, with 88 expanded flowers and 11 buds. The two longest leaves were 15½ ins. long by 5½ broad. The plant was purchased at the Burton Constable Sale in

1881, and has flowered freely ever since.

Phalænopsis violacea. A distinct and richly coloured species, which has large broad bright green leaves, and very short peduncles. The flowers measure about two inches or more in diameter; the lower portions of the sepals and petals and the lip are a rich rose-purple with the upper portions yellow. The colouring is quite unique, and the flowers, which are deliciously scented, are produced during the summer months. There are several

very fine varieties of this species, one of which is named *Bowringiana*, and has yellow flowers, with a purple blotch at the base of the lateral sepals, the bases of the upper sepal and petals being banded with the same colour.

Phalænopsis leucorrhoda, A natural hybrid be-



P. Aphrodite.

tween *P. Aphrodite* × *P. Schilleriana*, found in the Philippine Islands. The foliage is green, often marbled with grey, but the spots are not so distinct as those in *P. Schilleriana*; the sepals and petals are white, the lateral sepals spotted with purple inside at the base, and the petals tinged towards the base with rose; the side lobes of the lip white, spotted with red purple and stained with yellow on the front margins; the front lobe white, stained basally with yellow. It usually blooms in the winter season.

Phalaenopsis casta. This is a hybrid from the same parents as the above, and should be called *P. leucorrhoda* var. *casta*. There are also one or two other hybrids supposed to be from the same parents, namely, *P. Cynthia* and *P. Youngii*.

Phalaenopsis intermedia. This will always be an historical orchid, being the first recognised hybrid among tropical orchids, and the first whose origin was experimentally proved. Messrs. James Veitch and Sons received it as a single plant in an importation of *P. Aphrodite* through their collector, Thomas Lobb, in 1852, from the Philippines. It was figured and described by Dr. Lindley in "Paxton's Flower Garden," with the suggestion that this beautiful plant is probably a natural male between *P. Aphrodite* and *rosae*. Thirty-three years after Messrs. Veitch proved the parentage of this hybrid by flowering a seedling which they had raised between *P. Aphrodite* and *P. rosae*. This was described in the *Gardener's Chronicle*, 1886, pp. 169, 212, by Mr. R. A. Rolfe, who also stated that "the shrewdness of Lindley's observation will be inferred when it is remembered that *Calanthe* × *Dominii*, the first artificial hybrid among orchids, did not flower until 1856."

Our illustration is from a photograph of a very fine variety of this hybrid named *P. intermedia Brymeriana*. It was named in honour of Mr. W. E. Brymer, Basington House, Dorchester. The leaves are about nine inches long, and slightly speckled; the flowers have the sepals and petals white, the lateral sepals spotted with purple at the base, the petals richly suffused with rosy-lilac, and the lip a pale amethyst colour, the lateral parts white-edged and spotted with magenta.

Phalaenopsis Lady Rothschild (*P. Sanderriana* × *intermedia Brymeriana*). This beautiful hybrid has white flowers with a rosy tinge, and some lines of minute dots about the centre of the segments; the crest of the lip is yellow, and the front lobe reddish rose. It was exhibited at the Royal Horticultural Society by Messrs. Hugh Low and Co., April 10th, 1900, when it received an Award of Merit from the Orchid Committee.

NEW PLANTS.

CATILEYA ALCESTIS (bicolor × Mendelii). A pretty hybrid, flowering in the establishment of Mr. Edward V. Low, Vale Bridge, Wivelsfield. Sepals and petals fleshy-pink, the latter veined; lip magenta-purple with the side lobes and column ivory white, which gives the flower a very striking appearance.

CATILEYA AMATA (labiata × F. W. Wigan). Petals soft-neuve and marked; lip showing the blotch as in labiata but with white margin, throat yellow. Amata was the wife of King Latinus. The plant was exhibited by Richard G. Downes, Esq., at the R.H.S., September 27th, 1910.

LALIO-CATILEYA MARS (L. xanthina × C. Harrisoniana). Sepals and petals greenish-yellow, lip the same with chrome-yellow in the throat. This plant bearing four flowers was exhibited at the R.H.S., on October 11th, 1910, by Messrs. Stanley and Co., Southgate, N.

ODONTOGLOSSUM CIRCE (Cervantesii × Pescatorei). The characters of both parents are equally displayed in this hybrid. Flowers white, sepals and petals marked with light-chocolate spots, the lip with darker spots. It is the only plant raised from this seed pod and has just been flowered by Messrs. Charlesworth and Co., Haywards Heath.

ODONTOGLOSSUM DIXONÆ (Edwardii × lateo purpureum hystrix). Sepals and petals heavily marked with cherry purple; lip pandurate, with large spiny crest; column claret-purple. This plant, which had two spikes, each with 16 flowers, was exhibited at the R.H.S., October 11th, 1910, by Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common.

ODONTOGLOSSUM DORA (Lambertianum × Pescatorei). A very pretty hybrid, the flowers are well formed, rose tinted and covered with minute spots, the lip is broad and takes the form of Pescatorei, of which species the fine spotted variety "Duchess of Westminster" was used as one parent. Exhibited by Messrs. Charlesworth and Co., at the R.H.S., on September 27th, 1910.

OUR AMATEURS' PAGE.

TREATMENT OF NEWLY IMPORTED PLANTS.

CONSIDERABLE anxiety is often shown by amateurs when imported plants arrive, either direct from their native land or through the trade establishments, as to what is the best thing to do with them, the general impression being that the plants having been without light and water for many weeks are unable to withstand this unnatural treatment any longer, and that unless these wants are speedily forthcoming they will quickly perish.

When this notion prevails an amateur will often place his newly purchased imported plants in the warmest and brightest part of the greenhouse, put them at once into large pots completely filled with compost, and drench them with water. Such treatment as this invariably brings failure, and quickly kills the plant.

As soon as the plants are received they should be carefully gone over, and all dead parts removed with a sharp knife, every bulb and leaf should then be sponged with insecticide in order to remove the many kinds of scale and small insects, all of which are great pests to the orchid grower.

After this cleaning process they should be laid on some fairly dry moss, or even hung up as they are, and be carefully shaded from the sun's rays for the first few days, the moisture of the house being generally sufficient during this period. More light may be afterwards given, and on bright warm days a slight sprinkling of tepid water will be beneficial; this should be done early in the morning in order that the surplus water may dry up before night time. This treatment may last a few days or several weeks, much depending on the class and condition of the orchid and the season of the year.

After this stage it is advisable to place the plants in the pots in which they are to grow, filling them with small pieces of broken crock, no compost being given until new roots can be discerned; more water can now be supplied without fear of rotting them, and generally with advantage to the plant.

One of the greatest mistakes that amateurs can possibly make, and when commencing orchid culture they invariably do it, is to place the plants in pots or pans several sizes too large. A pot should be just large enough to comfortably take the plant and leave sufficient room for one or two more bulbs to be made. If the plant has several growths place it in the pot in such a way that as many as possible of them may be equidistant from the rim of the pot, and always make quite sure that the plant will not wriggle about, by tying it to a stick firmly embedded in the crocks, or in the case of a pan, to the wires with which it is suspended. As soon as root action commences many of the crocks can be removed and their place taken by some compost.

Frequently the imported plants are ill shaped, and this is a good opportunity to divide the plant, and replace the parts together in order that the leading growths may take their proper position, and at this stage it can be done without the slightest injury, so long as three or more good bulbs are left to support each leading eye or growth.

It is never considered good policy to leave a mass of dead or broken roots on the imported plant, for when confined to pots, they soon decay and become a mass of solid matter, which is most objectionable to any new roots. Carefully cut away all such matter, and if only a few roots, several inches in length, are left, they will quickly break out and re-establish themselves.

When divided plants are being potted it is not necessary to replace all the pieces in the same pot, they will often grow better when potted singly in smaller pots; each piece should be labelled, so that if one plant flowers the nature of the variety can be written on the labels of the other pieces, and in the case of a good variety turning up this will often prove of great advantage as the other plants now known to be valuable need not be allowed to flower until strong enough; it is a very great check to a plant to flower before it is thoroughly established and has made almost full-sized bulbs.

SCIENTIFIC NOTES.

ORCHIDS OR MUSHROOMS.

WHICH WILL YOU HAVE?

AN enthusiastic would-be seed-raiser has been experimenting with what he thought was the necessary fungus for producing the germination of orchid seed, and that if this was indispensable it should be found on the imported bulbs. For this reason he obtained some recently imported *Odontoglossum crispum* bulbs and laid them on fresh oak-leaves that had been gathered from a neighbouring field, the whole being placed in his cool greenhouse, with the idea that the fungus would spread from the bulbs on to the leaves, and that these could afterwards be used for the purpose of seed-raising.

After a few days the fungus threads could be seen with the naked eye, and every good hope was given of the secret being brought to light. Our enthusiast watched with intense interest the growth day by day, until one moist morning he was



A mushroom growing on an orchid.

greatly surprised to find a supply of common mushrooms growing all over the bulbs, and sufficient to give him an appetising breakfast.

The reason of this is not far to seek. In gathering up the oak-leaves he had unconsciously swept up some mushroom spores, which quickly germinated in the warmer atmosphere of his greenhouse.

This subject of fungus co-operation in the raising of orchid seedlings is receiving serious study on the Continent. Mr. Noël Bernard

contributes to the "Annales des Sciences Naturelles, Botanique" (1909, pp. 1-196), a long article dealing fully with this interesting subject. It is entitled "L'Evolution dans la symbiose les orchidées et leur champignons commensaux," illustrated with twenty-eight figures.

Dr. Hans Burgell, of Jena, has recently written a book on the same subject, under the title "Die Wurzelpilze der Orchideen, ihre Kultur und ihr Leben in der Pflanze."

ORCHIS USTULATA (the Scorched Orchid).

NOT many lovers of our native orchids have been fortunate enough to see this sweet little plant growing in its native wilds. Close to where the new road along the chalk cliffs from Dover to St. Margaret's Bay is just now being cut out there occur a few isolated clumps of this curious orchid, the flower of which has a decidedly scorched appearance, and from which the popular name of the plant is derived. It is of very diminutive growth,

rarely exceeding four to five inches in height, with a dense spike half the length of the whole plant. The flowers are dark purple, particularly the unexpanded ones, with a white, purple-spotted lip, and exceedingly short spur. Occurring in usually dry, open pasture land, often on chalky soil, this sweet little plant occurs only in England, having so far been detected neither in Scotland nor Ireland.

A. D. WEBSTER.



Walton Grange, Stone, Staffordshire.

THIS delightful Staffordshire residence has been in the possession of its present owner for close upon fifty years, and during nearly the whole of this time it has been associated with orchid culture. Its genial owner, Mr. W. Thompson, is known all the world over as one of the foremost orchid amateurs, and Walton Grange will undoubtedly live in orchid history.

Situate within an easy drive of the famous gardens of Trentham, Mr. Thompson frequently visited this dual establishment, where his love for orchids was first stimulated.

Forty-one years ago Trentham was the home of a good collection, which was under the care of the late Mr. Zedok Stevens, and Mr. Thompson took a deep interest in all that

he saw, particularly *Odonoglossum* of the famous Facho type. Forty-one years is a long spell in a hobby, and there is no exaggeration in saying that Mr. Thompson's devotion to orchids is as keen to-day as when he first began their cultivation.

It is not out of place to mention at this stage that Mr. W. Stevens has had charge of the collection for the whole period of its existence, and points out with honest pride some *Odonoglossum* plants which have been in the collection over forty years, proving that one of the features at Walton Grange must be good cultivation.

In the early seventies Mr. Thompson paid frequent visits to Stevens' Rooms, and can tell some interesting stories of the disposal of

many noted importations which were coming to hand in those days. Imagine an amateur of the present day adding at one fell swoop right hundred plants of *Odontoglossum cirratosum*! What a gorgeous sight these plants must have made when in bloom! Only one plant of this pretty *Odontoglossum* is now in the collection.

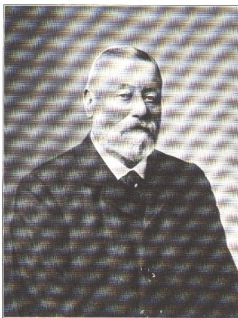
Odontoglossum acuminatum majus is one of the noted plants at Walton Grange, and is represented by a specimen something like eighteen inches in diameter, and produces yearly anything from a dozen to two dozen graceful flower spikes.

One of the first triumphs of the collection was brought about by the flowering of *Odontoglossum crispum* var. *Thompsonii*; the plant was exhibited in London at Regent's Park in June, 1883, and was awarded a Certificate of Merit. This beautiful variety is in the front rank of noted *Odontoglossums* to-day. Other fine forms which originated at Walton Grange, and which were lucky

finds, are *O. c. Arthur Bevis*, *O. c. The Earl*, and *O. c. Queen Empress*. This latter Mr. Thompson classes as one of the best in cultivation. *O. c. solani* is unique, and is remarkable for the wonderful lip which is entirely blood red.

With the numerous good forms in the collection, it was not surprising that Mr. Thompson and his able gardener should turn their careful attention to the production of new varieties by hybridisation, and a large amount of success has been the result.

An unfortunate accident five years ago, the bursting of a hot-water pipe, was responsible for the destruction of two thousand promising



William Thompson, Esq.

seedlings which had almost reached the flowering stage, and the sympathy of all orchid lovers was extended to Mr. Thompson, who felt this loss very keenly. What the orchid world has lost it is impossible to say, but it is pleasing to record that there exists now a fine, healthy, thriving family of

Odontoglossum seedlings, and we can safely look forward to some handsome additions to the already long list of hybrids.

It must not be assumed that Odontos "rule the roost" at Walton Grange; the collection boasts of a good lot of Cattleyas and Lælias, and here, nearly twenty years ago, that beautiful albino *Lælia Perrinii alba* was flowered. *Lælia grandis tenebrosa*, Walton Grange variety, originated here a number of years ago, and is to-day a rare and valuable orchid. No second plant of this variety has ever been discovered, and what plants there are in cultivation—not many, I fear—are divisions from the original.

Masdevallias, a class of orchid at present somewhat out of fashion, find a happy home here, and good examples of *M. Harryana*, *M. Veitchiana* and *M. ignea* are to be found; while the collection is noted for the cultivation

of that lovely and useful *M. tostrænsis*. This latter and *M. Veitchiana* were utilised to produce the second recorded Masdevallia hybrid, viz., *M. McVittie*, named in compliment to a daughter of Mr. Thompson.

A splendid lot of *Milodonia veillarica* were recently in bloom, and *M. Stevensii* is one of the successes in this collection, having been raised from *M. Rozzi* *alba* × *M. veillarica Leopoldii*. The plant is a generous grower, and flowers profusely.

Cyrtopliciums occupy two large houses, and, needless to say, all the best-known hybrids are represented. One house is devoted to specimen plants, which during the early winter and spring months make a gorgeous display. These plants promise well this year, and are sure to provide their owner with a large amount of pleasure.

P. WEATHERS.

ODONTOGLOSSUM ROSSII.

IN almost every collection of orchids one or more plants of this pretty and popular cool-house *Odontoglossum* are to be found. More than 70 years ago Mr. Barker, of Birmingham, named five species in honour of his collector, Mr. Ross, who sent the first plants over to this country from Mexico, one of which, on flowering, was figured in the *Botanical Register* of September, 1830, t. 48.

The plants are dwarf and succeed well when grown in shallow pans suspended in the cool-house. The flowers are from two to three inches across and usually borne two to four on a spike; the sepals white, closely spotted over their entire surface with dark brown; the petals white, with similarly coloured spots on the basal or inner half; lip broad with a wavy margin, white, with a bright yellow crest. The flowers, which last a considerable time in perfection, are produced during the winter months.

Our illustration is from a photograph, taken April 8th, 1887, of the variety *rossfeldiana*, a remarkable plant bearing a 14 flowered spike, three of which died as buds. This is

not the only plant which has produced such a remarkable spike, as a plant flowered in the collection of Mr. Philip Crowley, Wadden, Caydon, who exhibited it at the Royal Horticultural Society on March 8th, 1857, carrying a spike of 16 flowers, one of which died as a bud; but this, Mr. Crawshaw informs us, was "a poor variety of narrow form," he having made the note at that time. Unfortunately, this plant was not noted in the Crowley sale catalogue, and the subject of our note has never since had another abnormal spike; perhaps this note may unearth some other examples of their gigantic spikes upon an usually four-flowered species.

O. Rossii var. *f. E. Ames*. This fine bold variety was dedicated to the Hon. F. L. Ames, into whose collection it passed after receiving a First-class Certificate from the R.H.S. on April 24th, 1888.

O. Rossii albans. A distinct variety in which the dark spotting is almost eliminated, leaving only slight markings of soft green. This variety first flowered in the collection of Reginald Young, Esq., of Liverpool, and received an Award of Merit from the R.H.S.



Ocotiglossum Russii rosefeldense.

on January 12th, 1892, when exhibited by Messrs. Charlesworth and Co. It is figured in the "Orchid Album," vol. x., t. 434.

O. Roscii Loui's variety. Very similar to the above; flowers pale green. Exhibited by Messrs. Hugh Low and Co. at the R.H.S., March 10th, 1903, when it received an Award of Merit.

O. Roscii immaculatum. A peculiar and very rare form of *Rosci*, every trace of spotting has vanished, leaving the sepals pale pink and the petals and lip white. It first appeared in the collection of O. O. Wrigley, Esq., some 16 years ago, being afterwards shown by de Barri Crawshaw, Esq., at the R.H.S. on March 6th, 1906, when it received an Award of Merit. Figured in the *Orchid Review*, April, 1895; March, 1902.

O. Roscii rubescens. Of all the varieties of *Rosci* none are more sought after than these rosy forms, pleasing as they are to the eye and of great use to the hybridist. Only one variety of *rubescens* has been certificated by the R.H.S., and this was exhibited by Frau Ida Brandt, of Zurich, on February 11th, 1894, when it received an Award of Merit.

The variety *major* is a stronger growing and larger flowering variety; while the plant, which received a First-class Certificate from the R.H.S., on October 10th, 1869, under the name *O. Roscii Warneri*, was probably a natural hybrid between *Rosci* and *rebatum*.

This is not a complete list, but it embraces the greatest variations of the species.

O. ROSCI HYBRIDS.

O. asperum (*Rosci* × *maculatum*). At first sight this appears to be a yellow *Rosci*, but the influence of *maculatum* can also be seen in the slightly longer and narrower lvs and the extra blotching on the petals. A rare natural hybrid.

O. Haussmanni. A supposed natural hybrid between *Rosci* × *cordatum*. It shows characters derived from both these species, and may be distinguished from *O. asperum* by having longer and narrower sepals, and a lip more like *cordatum*.

O. Smithii (*Rosci rubescens* × *crispum* Harryana). One of the most beautiful

Odontoglossums raised. The sepals and petals are white with a slight greenish tinge, tipped with very deep rich rose purple, and with many dark, almost blackish chocolate-purple spots. The lip is rose purple, white at the base with a few markings, and a yellow crest. This seedling was raised by Messrs. Charlesworth and Co., and received a First-class Certificate when exhibited by them at the R.H.S., on December 5th, 1905. It afterwards passed into the noted collection of J. Gurney Fowler, Esq. Figured in the *Gardener's Chronicle*, December 16th, 1905.

O. Fosteriana (*Rosci rubescens* × *cirrhosum*). A pretty hybrid with narrow sepals and petals densely spotted with dark purple and tipped and margined with bright rose purple, the lip being of the same colour but yellow at the base. A First-class Certificate was awarded to this plant when shown at the R.H.S., by Messrs. Sander and Sons, on March 6th, 1906. Figured in the *Gardener's Chronicle*, March 17th, 1906.

O. Theodora (*Rosci rubescens* × *triumphans*). A remarkable and fascinating Odontoglossum. Sepals clear yellow ground colour, almost covered with blotches of deep reddish-brown colour. The petals have the same ground colour but are thickly blotched for two-thirds of their length. The lip is very broad and attractive, being white, slightly rose tinted, with a horseshoe-shaped blotch of bright reddish-brown, and yellowish crest. Raised by de Barri Crawshaw, Esq., and received a First-class Certificate when exhibited by him at the meeting of the R.H.S., held on April 26th, 1909. Figured in the *Gardener's Chronicle*, April 24th, 1909.

Odontola Graireana. A remarkable hybrid, raised by M. H. Graire, from *Odontoglossum Roscii* × *Cochlidia Neesii*. The sepals and petals salmon-red, obscurely spotted, the lip bluish-white with a yellow crest; the flowers being fairly intermediate in shape. A Certificate of Appreciation was awarded to this hybrid when exhibited at the R.H.S., on August 31st, 1909.

O. Carey (*Rosci* × *Rolfsee*). A well formed flower. Sepals and petals white, tinged with

pruinose yellow at the margins, the sepals being evenly spotted with claret-red, the petals having the spots on the inner halves only. Lip large, wavy, white, with a lemon-yellow crest, having slight purple markings. Raised by Messrs. Charlesworth and Co., and exhibited by them at the R.H.S., on February 22nd, 1910, when it received an Award of Merit.

O. Blackii (Rossii \times Pescatorei). An interesting hybrid exhibited at the R.H.S., on March 8th, 1910, by R. G. Thwaites, Esq., Streatham. The elongated slender inflorescence of this plant was indicative of

Pescatorei, but the individual flowers more closely resembled *Rossii*, the lip being very pendulate in shape.

O. Rossiana (Rossii \times Adrianae). This plant was shown at the R.H.S., on April 19th, 1910, by Mons. Henri Graire, St. Fuscien, Amiens. He also exhibited the *rubens* variety of this hybrid on the same day, which was a pretty hybrid with six flowers on the spike. Sepals and petals lilac with white base, the sepals evenly spotted with dark purple and the petals having some dark spots on the inner halves; lip rose with a yellow crest.



Cattleya Mendelii var. *Stuart Low*.

The photograph is reproduced by kind permission of the "Gardener's Magazine".

A very fine pure white *Mendelii*. Sepals and petals well formed, snow-white, broad, and of thick texture; with the exception of the chrome-yellow disc of colour in the throat the lip is entirely white. A First-class

Certificate was unanimously awarded to this albino *Cattleya* when exhibited by Messrs. Stuart Low and Co., Bush Hill Park, Enfield, at the Royal Horticultural Society's exhibition at Holland House on July 5th, 1910.

ROYAL HORTICULTURAL SOCIETY.

September 27th.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair) and Messrs. James O'Brien (hon. sec.), Harry J. Veitch, Henry Little, Stuart Low, F. J. Hambury, R. G. Thwaites, F. Sander, A. A. McBean, W. Cobb, C. H. Curtis, J. Charlesworth, de B. Crawshaw, J. Cypact, W. H. Hatcher, H. Ballantine, Gurney Wilson, J. W. Potter, W. Bolton, A. Dye, W. P. Bond, H. G. Alexander, J. Leeman, and Sir Jeremiah Colman, Bart.

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. Collier), exhibited an interesting group of *Dendrobium Phalaenopsis Schröderianum*. One variety, named *hololeuca*, had pure white flowers, while the Gatton Park variety had well-formed white flowers with violet lines on the lip. Some plants of the rare *Dendrobium Stetzlerianum* were also included. Silver Banksian Medal.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), exhibited a choice selection of *Cypripediums*, amongst which were the fine *Cyp. Shugan*, the Westonbirt variety of *Cyp. Gernani* Opoix, *C. nitens-Leeanum* var. *Hannibal*, *C. Acteus Bianca*, and the "Edward VII." var. of *C. Gastou Doltel*.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), sent *Odontioda Devossiana*, with deep red flowers, *O. Craveniana*, and several good plants of *Cypripedium* H. S. Goodson.

R. G. Thwaites, Esq., Streatham (gr. Mr. J. M. Black), received a Silver Banksian Medal for an interesting group in which were several specimens of *Odontioda Thwaitesii*, *O. Bradshawia*, *O. Charlesworthii*, and *Cattleya Fabia*. Other plants were *Cattleya Iris*, *C. Peetersii*, *C. Roupelliana*, *C. Adula*, *B. C. Pochontas alba* (*Eldorado* × *Digbyana*), and *Cattleya Amata*. (See "New Plants.")

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent *Cattleya Freya* var. "The Canon" (*Mantini* × *aurea*), an improvement on *C. Mantini*.

Messrs. Charlesworth and Co., Hayswards Heath, received a Silver Flora Medal for an excellent group of choice things, one of which was the rare and beautiful *Miltunia Harwoodii*, a hybrid obtained by crossing *Miltunia vexillaris* with *Cochlidium Nozliana*. Other interesting things were a pretty *Cattleya Venus*, quite different from others of the same cross, *C. Rhoda* (*Iris* × *Hardyana*), *C. St. Gothard*, and *C. iridescens auriferum* (*bicolor* × *Eldorado*), a very distinct variety of *L. C. Illicita*, the pretty *Cirrhopetalum Mastersianum*, *Zygopetalum Roehlingianum*, *Odontoglossum illustrissimum*, the whole flower of which was suffused with rosy purple pigment, and last but not least the splendid *Cattleya Laeagan* (*Laii* × *Dowiana Russia*). (See Awards.)

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a large group composed of many fine varieties of *Laelio-Cattleyas*, including the pretty *L. C. Binetti* (*pumila* × *bicolor*), *L. C. Sunset*, *L. C. Berthe Fournier*, *L. C. luminosa*, and *L. C. Walter Gutz*. Several botanical species were included, such as *Dendrobium latifolium*, *Angraecum arcuatum*, *Zygopetalum rostratum*, *Coelia macrostachya*, and *Bulbophyllum Carcyanum*. A plant of *Cattleya Abeliana*, having yellow flowers with purple spotting on the lip, was also shown; it was found in Peru, and is said to be a new species.

Messrs. Mansell and Hatcher, Ltd., Rawdon, Yorks, staged a very bright group of species and hybrids. We noticed a good plant of *Cattleya Gaschelliana albens* with three flowers, a fine variety of *C. Adula*, *C. Armstrongian* *superba* with a fine yellow throat, *Brassia-Cattleya* Mrs. J. Leeman, *B. C. Digbyanogigas* of a deeper colour than usual, *Anguloa eburnea*, *Rodriguezia secunda*, the rare *Zygopetalum rostratum*, several good *Cypripediums*, and *L. C. rubens superba*.

Messrs. Stuart Low and Co., Bush Hill Park, exhibited an excellent and well-staged group, to which a Silver Flora Medal was awarded. Several plants of *Cynoches peruvianum* were placed in prominent positions; while other

plants which attracted attention were *L.-C. G. G. Whitelegge*, *L.-C. Irvingtonensis*, several good varieties of *Cattleya Adula* and *C. Fabia*, *C. aurea*, *C. Gaskelliana cerealis*, and a strong plant of *Celia macrostachya* with three flower spikes. Amongst the other good things in this group were *Stenoglottis longifolia*, *Houlletia Roseklosteriana*, *Zygopetalum Gasteri*, *Bifrenaria tetragona*, and *Carrhopetalum Roxburghii*.

Messrs. Wm. Bull and Sons, Chelsea, exhibited a group of *Cattleyas*, chiefly varieties of *C. Pittiana*; *C. Cheselliana*, *C. McMasteria*, and *C. Adula* were also included, together with *Odontiodes Wilsoni* and *Cypripedium Chas. Richmond*. Silver Banister Medal.

Mr. Edward V. Low, Vale Bridge, Haywards Heath, sent some very good and well-grown *Cypripediums*, including *C. King Edward VII.* (nitens \times Rothschildianum), the beautiful *C. Rossetti*, *C. William Lloyd superbum*, *C. Sanaedera*, *C. Maudia*, several well-flowered plants of *C. Parricium*, and a good variety of *Cattleya Irbina* (*Schilleriana* \times *Triana*).

Messrs. James Cypher and Sons, Cheltenham, staged a group of plants which contained many excellent *Cypripediums*, such as *C. Maudiae*, *C. triumphans*, *C. Niobe*, *C. Mlo*, and *C. Memoria Moensii*. Other species and hybrids were *Milonia vestivaria* *Leopoldii*, *Plisone lugeriana*, *Sophro-Laelio-Cattleya Medea*, and several *Mesdevillias*.

Messrs. Stanley and Co., Southgate, sent a selection of the pretty *Cattleya indusensis* and several plants of *L.-C. Walteri* *Gott*.

Messrs. James and A. A. McBean, Cooksbridge, sent *Cypripedium Germain Opoix*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cypripedium Shogun (parentage unknown), from Lieut.-Col. Sir George L. Holford, K.C.V.O. (gr. Mr. H. G. Alexander). A magnificent flower, not unlike *signe* *Harcfield* *Holl*, but more chubby; the upper part of the dorsal sepal is white, the lower part pale yellowish green and well covered with purple spots. The sepals and petals are yellow, veined with brownish purple. (See figure.)

AWARDS OF MERIT.

Cattleya Duce magnifica (*Warszewiczii* \times *Vulcan*), from Lieut.-Col. Sir George Holford, K.C.V.O.—A very fine *Cattleya*, having a large rosy mauve flower, the lip being veined with thin gold lines.

Cattleya Louisa (*Enidix Dowiana Rosita*), from Messrs. Chas. Esworth and Co. One of the finest *Cattleyas* seen. Sepals and petals are very broad, of magenta-rose colour veined with mauve. The lip, which is very broad and deeply crimped, is of purple colour with gold lines.

Laelia Degeersiana Thompsonii (*Jongheana alb. \times flava*), from W. Thompson, Esq., Stone, Stafford (gr. Mr. W. Stevens)—A peculiar flower, much resembling *L. Jongheana alba*, only with a dark yellow lip.

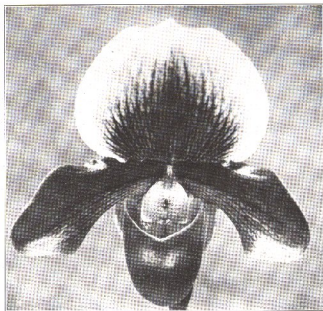
Phajus Cooperi, from Messrs. Sander and Sons.—Petals and sepals dark red with white margin; the lip is white with purple marking in the throat. It received a Botanical Certificate on January 11th, 1910.

October 11th, 1910.

ORCHID COMMITTEE present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, J. Charlesworth, C. H. Curtis, Henry Little, F. Sander, W. Boltoz, W. Cobb, R. G. Thwaites, Stuart Low, A. A. McBean, V. J. Hambury, W. H. Hatcher, W. P. Board, H. G. Alexander, A. Dye, J. Cypher, and Sir Jeremiah Colman, Bart.

R. G. Thwaites, Esq., Chessington, Churchchurch Road, Streatham (gr. Mr. J. M. Black), received a Silver Flora Medal for a good group composed chiefly of hybrids. Included in it were several fine varieties of *Cattleya Fabia*, *C. Iris*, and *C. Adula*, several good plants of *Brassia-Cattleya Mrs. J. Freeman*, a selection of *Odontiodes*, and a nice plant of the pure white *Laelia pumila alba*.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a large group which contained many fine plants. We noticed a specimen of *Bulbophyllum Medusa*, a fine plant of *B. virescens*, and several good *Cattleyas*, such as *Iris*, *Adula*, and



Cypripedium King George V.

Received a First-class Certificate at the R.H.S., Oct. 11th, 1910, also exhibited by Mr. Edward F. Loe.

Bowringiana; *Laelio Cattleya* Walter Gotti; L.-C. *Wilsonae* (*abiata* × *Dayana*) having long petals and sepals of a mauve colour with a deep purple lip; L.-C. *Rhenix* (*C. aurea* × L.-C. *Henry Greenwood*); *Burlingtonia venosa*; and *Brassia-Cattleya* *Thomsonii*, a very fine hybrid between *C. Gaskelliana* and *B. Digbyana*.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Flora Medal for a fine group composed chiefly of the autumn-flowering variety of *Laelia vitellina* major. The new *Odontoglossum Dora* (see "New Plants"), and a pretty *Polystachya* from Uganda with an upright spike of reddish flowers, attracted attention. Other

rare and interesting plants were *Cattleya Ricca*, *Pilcuma nictitans alba*, *Laelio-Cattleya Vuilleta*, and a fine variety of L.-C. *Golden Oriole*.

Messrs. Stuart Low and Co., Bus's Hill Park, Enfield, also received a Silver Flora Medal for a collection of orchids which included many varieties, all well grown, of yellow *Oncidiums*; in front of which were several species of *Cirrhopetalums*, including the rare *C. appendiculatum* and *C. Mastermanii*. Other good things in this group were *Bifrenaria tetragona*, *Zygopetalum Gautheri*, *Coeloglyne fuliginosa*, and *Cypripedium Fairrieanum*.

Messrs. J. Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for a group in which were some good varieties of *Dendrobium Phalaenopsis*, many choice varieties of *Cypripediums*, such as *Milo*, *insigne*, *Sandrae*, *Acteas*, *Triumphans*, and *Niobe superba*. Amongst these were two good plants of *Stanhopea burmanica*, some fairy-flowered *Cattleya Mantiana*, and *Oncidium Charlesworthii*. A striking plant in this group was *Cypripedium Leeana-Swinburnii*, having a fine clear flower with the dorsal sepal white on the upper half and green at the base, the petals being covered with blackish spots.

Mr. E. V. Low, Vale Bridge, Haywards Heath, secured a Silver Banksian Medal for a small group of very choice things, the finest of which was *Cypripedium King George V.* (see Awards). Other fine *Cypripediums* were *C. Gessaine Opois*, *C. Lecorum Cross*, and *C. Niobe*. Three white varieties of *Cattleya labiata*; *Odontoglossum grande arceum*; and the rare *O. crispum Lady Jane*.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), sent *Cypripedium Sibyl punctatum* (*Francisii* × *Fairrieanum*), and a very fine *Odontoglossum* hybrid, the petals and sepals of which are very broad and heavily blotched with dark reddish-purple.

Messrs. Stanley and Co., Southgate, received a Silver Banksian Medal for a nice group composed of several plants of the pretty *Cattleya Miviana*, *Laelio-Cattleya Walter Gott*, *Brasso-Cattleya Helen*, B. C. Mmc. Chas. Maron, *Frisa stellata*, *Cynoches chlorochiton*, and the new *Laelio-Cattleya Marx*, for description of which see "New Plants."

Lieut.-Col. Sir George L. Hoiford, K.C.V.O. (gr. Mr. H. G. Alexander), sent *Laelio-Cattleya Arethusa* (*C. Harrisoniana* × *L. C. exoniensis*), with a grand spike of ten flowers; *Laelio-Cattleya Golden Oriole superba* and *L. C. Orrade magnifica*, the two latter plants receiving Awards of Merit.

Messrs. James Veitch and Sons, King's Road, Chelsea, exhibited a new *Cypripedium* hybrid named *Pyrrhus*. The parents are not known, but there is evidence of *C. Baron Schroder* in the flower.

Mons. Firmin Lambeau, Brussels, sent

Cypripedium Fairtish, a hybrid between *C. Fairrieanum* × *C. Curtisii*. A similar hybrid to this was also shown by Lady Audley Neeld, Grittleton, Chippenham (gr. Mr. J. Pats).

Edwards Roberts, Esq., Park Lodge, Eltham (gr. Mr. W. Carr), showed *Cypripedium Venus*, Park Lodge variety, a pure-white flower with a few blackish spots on the dorsal sepal.

Captain J. F. Laycock, Wiseton, Bawtry, Yorks. (gr. Mr. G. W. Musk), showed a fine variety of *Cattleya Adela* (*barolae* × *Hardyana*).

Messrs. Tracy, Twickenham, exhibited a form of *Lycaste gigantea*, imported from Peru, sepals and petals dark green, lip red and fringed. It has a more slender kind of growth than the normal type.

Mr. G. W. Miler, Clarkson Nurseries, Wisbech, sent *Cattleya Lord Nelson* (*Harrisoniana* × *Mossiae*).

Sir William Marriott, Down House, Blandford (gr. Mr. Denny), sent a hybrid *Cattleya* supposed to be between *C. Adoniae* × *C. Schilleriana*. The Committee thought the flower to be too small for the parents given.

Miss Violet Fellows, Shotesham Park, near Norwich (gr. Mr. Smith), sent a pretty form of *Cypripedium Charlesworthii*. The flower was a light rose colour, and possessed a fine broad dorsal sepal.

Mr. H. Dixon, Spencer Park Nursery, Wandsworth Common, sent *Odontoglossum Dissoc* (*Edwardii* × *lateo-purpureum*). See "New Plants."

AWARDS.

FIRST CLASS CERTIFICATE.

Cypripedium King George V. (*giganteum* × *Charlesworthii*) from Mr. Edward V. Low, Vale Bridge, Haywards Heath. One of the finest *Cypripediums* yet seen; flower very large and with a flat dorsal sepal, which is very broad, three inches in diameter, flushed with rose at the top and brownish-green at the base. The petals are mahogany colour, veined, the lip being equally well coloured.

AWARDS OF MERIT.

Cattleya Basil (Eind × *Mantiana*), from Messrs. Charlesworth and Co.—A very fine-shaped *Cattleya*, with soft-mauve petals and

sepals, the lip being rich crimson. It is one of the nearest forms to the ideal shaped *Cattleya* which orchid cultivators have so long looked for.

Catasetum fibriatum aurum, from J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis).—A light-green form of this elegant aromatic species, the lip having a large amount of golden-yellow colour.

Lælio-Cattleya Golden Oracle superba (L.-C. Charlesworthii × *C. aurea*) from Lieut.

Col. Sir George L. Holford, K.C.V.O. (gr. Mr. H.G. Alexander).—One of the prettiest hybrid orchids; the petals and sepals are canary-yellow colour; the lip is heavily veined and margined with rosy purple.

Lælio-Cattleya Ortrude magnifica (L. anceps × *C. aurea*).—An elegant hybrid, with petals and sepals of a curious light purple tinge. The lip is very fine, being broad, crimped at the margin, and of a deep claret colour.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

October 6th, 1910.

MEMBERS of the Orchid Committee present: Messrs. E. Ashworth, Arthur, Ashton, Cowan, Chapman, Crombleholme, Cypher, Holmes, Holden, Keeling, Parker, Shill, Thorp, Ward, and Weathers (hon. sec.).

S. Gratrix, Esq., Whalley Range (gr. Mr. Shill), exhibited a nice collection of good *Cypripediums*, which included some of the best known recent hybrids, one fine new hybrid being voted a First-class Certificate under the name *C. Ellis Markendale*, the parentage not being recorded; *Brassia-Cattleya* Mrs. J. Leeman also received a First-class Certificate. A Silver Medal was awarded to this group.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), exhibited a good collection which included many choice varieties. *Odontoglossum crispum* var. *La Dame Charmante*, apparently a garden raised form, was greatly admired, and was voted a First-class Certificate. This variety is remarkable for the perfect rotundity of its flower, which is pure white, of very good substance, and with rather a brightly marked lip. *Cattleya Colleen Baron*, a good hybrid of unknown parentage, was also awarded a First-class Certificate. Awards of Merit were given to *Odontoglossum crispum xanthotes* var. *Snow Queen*, *Cypripedium Antinous* Lee's variety, and *Cattleya aurea* Mercia.

J. J. Holden, Esq., Southport (gr. Mr. Johnson) received Awards of Merit for *Cypripedium Bleriui*, *Cattleya Hera superba*, and

Cattleya Iris illuminata. A vote of thanks was given for the collection.

Clive Cookson, Esq., Wylam-on-Tyne (gr. Mr. Chapman), was awarded a Silver Medal for a nice group of plants, some new hybrids being prominent. *Cypripedium Sibyl punctatissimum*, the result of crossing *C. Fairricanum* × *C. Francisii*, which showed the parentage plainly, was awarded a First-class Certificate; four distinct forms of this hybrid were exhibited. Awards of Merit were given to *Cattleya Thayeriana Angela* (*C. intermedia nivalis* × *C. Schroederae alba*) and to *Cattleya Hardyano Warneri*.

H. Arthur, Esq., Blackburn, received an Award of Merit for *Oncidium Larkinnianum*, a natural hybrid.

F. A. Hindley, Esq., Gt. Horton, Bradford, was a new exhibitor, and received a Bronze Medal for a mixed group of orchids.

Messrs. J. Cypher and Sons, Cheltenham, staged, as usual, a bright group, consisting of good *Lælio-Cattleyas*, *Cypripediums*, and a good lot of *Dendrochilum Phalaenopsis Schroderianum*. Silver Medal.

The Liverpool Orchid Co., Gateacre, were awarded a Silver Medal for a well staged group of popular species and varieties.

Votes of Thanks were accorded to Messrs. E. V. Low, Haywards Heath; J. Birchmull, Alderley Edge; J. H. Craven, Esq., Keighley; J. Robson, Bowdon; Stuart Low and Co., Bush Hill Park; for various exhibits.

Col. J. Rutherford, Blackburn (gr. Mr. Lofthouse), was awarded Silver Medal points for a nicely arranged group, which was entered in the "R. Ashworth competition."

October 20th, 1910.

MEMBERS of the Committee present: Messrs E. Ashworth, R. Ashworth, Arthur, Ashton, Chapman, Cowan, Crombicholme, Cypher, Holmes, Holden, Keeling, Lee, Parker, Smith, Stevens, Shill, Sanders, Thorp, Ward, and Weathers (hon. sec.).

The outstanding feature of this meeting was a magnificent display of orchids from the famous "Bridge Hall" collection, the owner of which, Mr. O. O. Wrigley, is one of the foremost amateurs in the country. This charming display was made up of about eight species or varieties of orchids, which were fine plants of *Vanda Cereulea*, *Odontoglossum grande*, *Dendrobium Phalaenopsis Schröderianum*, *Cypripedium Fairriesianum*, *C. callosum* *Sanderæ*, and *Epidendrum vitellinum majus*. When it is stated that some hundreds of plants were in the group, and each variety staged in masses, the effect of such a group may be imagined, and both the cultivation and arrangement reflected the highest credit upon Mr. Wrigley's gardener, Mr. E. Rogers, to whom the Committee unanimously awarded a Gold Medal.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), is rapidly putting together a fine collection of good orchids, and each meeting brings forth some new and beautiful subjects. On this occasion the Committee awarded a First-class Certificate to a new *Cypripedium* called King George V. (see figure). It is a fine bold flower, with a broad flat dorsal sepal, suggesting in shape and colour a large form of *C. Gaston Balcet*. *Odontoglossum crispum* *saxatiles* Walkeræ, although only shown with two flowers, was greatly admired, and is certainly one of the finest forms. Other plants in this group were *Laelio-Cattleya Ulysses* var. *Mons. Briand* (*Laelio-Cattleya Ingramii* × *Cattleya labiata*), *L.-C.* Black Prince, *Cypripedium Sanaedera*, Plumpton variety, and *C. Hermese*, each of which received Awards of Merit. Thirteen points were awarded in the "R. Ashworth" competition for general excellence.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), staged a very handsome group of plants, among which were some good

Odontoglossums, species and hybrids, many beautiful *Cattleyas* and *Laelio-Cattleyas*, and some albino forms of *Cattleya labiata*, one of which, viz. C. I. Mrs. R. Ashworth, received an Award of Merit. A Silver Medal was awarded to the group.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), exhibited three beautiful and rare *Cattleya* known as *C. Countess of Derby*, which came into existence nearly twenty years ago at Stand Hall, Manchester, in Mr. Statter's time. The plant was bearing five beautiful flowers on its spike, rather an unusual number for this class of *Cattleya*, and was so admired as to have a special vote of a Silver Medal. Mr. Holden is to be congratulated upon possessing this beautiful albino form of *Cattleya Harlyana*.

The Rev. Father Crombicholme, Clayton-le-Moors, exhibited *Cypripedium Morreii*, Crombicholme's variety, a quaint little plant, the parents of which are *C. Leeumum* and *C. Chamberlainianum*.

W. Thompson, Esq., Stone (gr. Mr. Stevens), received Awards of Merit for *Cypripedium rubens* (*Harrisianum* × *German Opus*), and *C. Lord Ossulston*, Walton Grange variety.

Mrs. A. K. Wood, Glossep (gr. Mr. Gould), exhibited an interesting set of *Cypripedium* seedlings, for which a vote of thanks was awarded.

F. A. Hindley, Esq., Gt. Horton, Bradford (gr. Mr. Fox), staged a small group of tuiserlanensis orchids, including *Odontoglossums*, *Cypripediums*, and a peculiar form of *Cattleya* *iris*. Bronze Medal.

Messrs. Cypher and Sons, Cheltenham, staged a nice group of plants, in which were bright *Cattleyas* and *Laelio-Cattleyas*. A fine strain of *Dendrobium Phalaenopsis* was also included. A Silver Medal was awarded.

Mr. Edward V. Low, Haywards Heath, staged a nice group of choice orchids, principally hybrids. A few choice albino *Cattleyas* were in the group. Silver Medal.

Votes of thanks were given to Messrs. Robson, Altrincham; Keeling, Bradford; Liverpool Orchid Co.; Shackleton, Bradford; Hartland, Cork; for various exhibits.

The Naturalist on the River Amazon. A Record of Adventures, Habits of Animals, Sketches of Brazilian and Indian Life, and Aspects of Nature under the Equator, during Eleven Years of Travel. By Henry Walter Bates, F.R.S. (John Murray, 1910, 1s. net.)

Those who grow tropical orchids have often wondered what their native home is like, under what natural conditions do they grow, and does the orchid collector have many difficulties to encounter when searching for the plants?

The author of this work seems to have had an interesting though exciting time during his eleven years of travel; his description of the country, the modes of travelling, and the manners and customs of the inhabitants, together with his experience in dealing with the many obnoxious animals and insects, will infuse in the reader's mind an increased admiration for his audacity.

Speaking of lizards, he says: "They are sure to attract the attention of the new-comer from Northern Europe. They are unpleasant-looking animals, and can walk or run across a smooth ceiling with their backs downward; sometimes they are found with forked tails, which snap off on receiving a slight rap."

"We were amazed at seeing ants an inch and a quarter in length, and stout in proportion, marching in single file through the thicket. We tried to exterminate them by killing them with our wooden clogs. It was impossible, however, to prevent fresh hives coming in as fast as we killed their companions; I was obliged to lay trains of gun-powder along their line and blow them up. There is also a smaller species, which seems to attack persons out of sheer malice; if we stood for a few minutes we were sure to be attacked, for the moment an ant touched the flesh he secured himself with his jaws; doubled in his tail, and stung with all his might."

"The first few nights at Crippi I was much troubled by bats; the place where I slept had not been used for many months. I was aroused about midnight by the rushing noise made by vast hosts of bats sweeping about the room. The air was alive with them; they had put out the lamps, and when I re-lighted it the place appeared blackened with the impish multitudes that were whirling

round and round. After I had laid about well with a stick for a few minutes they disappeared amongst the tiles, but when all was still again they returned, and once more extinguished the light."

The book abounds with such tales as these, and of encounters with scarlet-faced monkeys, hairy spiders five inches in expanse, crowds of huge toads, and night adventures with alligators.

The food supply is very different to what we are accustomed to: there are no dairies, for the cow-tee produces a copious supply of milk as pleasant to drink as that of the cow. "We tasted some which was drawn from dry logs that had been standing many days in the hot sun: it soon thickens to a thick glue, which is excessively tenacious, and is often used to cement broken crockery. I was told it was not safe to drink much of it, for a slave had recently nearly lost his life through taking it too freely."

In one place there was nothing to be had but turtles. "I became so sick of turtle in the course of two years that I could not bear the smell of it, although at the same time nothing else was to be had and I was suffering actual hunger. The native women cook it in different ways. The entrails are chopped up and made into delicious soup, which is generally boiled in the concave upper shell of the animal, used as a kettle. Large sausages are made of the thick-coated stomach, which is filled with mince-meat and boiled."

In one season of the year it is the custom for the villagers to turn out and collect turtles' eggs for the extraction of the oil which they contain, and Bates estimates that more than 48,000,000 eggs are annually destroyed. The universal opinion of the settlers on the Upper Amazon is that the turtle has very greatly decreased in numbers, and is still annually decreasing.

We have abstracted enough to prove that Bates was keenly interested in all that he saw, and we are pleased to find a cheap edition of this well-known book, which consists of 394 pages, with 30 illustrations. It is well worth reading as an example of the difficulties an orchid collector might expect to meet with when travelling in search of these beautiful flowers.



THE ORCHID WORLD.

Vol. I.

DECEMBER, 1910.

No. 3.

THE TURIN EXHIBITION

MAGNIFICENT BRITISH SITE.

THIS is to be held under the auspices of the Italian Government, and is to be of an international character.

Then the Valentino Park no finer site could have been found for such an enterprise, and it is most satisfactory to know that in those grounds the British Section is to hold the most commanding position.

Turin, which has a population of 200,000 inhabitants, is, as regards age, contemporary with Rome, and is full of historic and antiquarian interest. It bore the name of Taurasia prior to its conquest by the Romans, and Taurasia from that time onwards became *Taurini*. Through many charges and vicissitudes it passed from its three days' resistance to Hannibal, after his passage over the Alps in A.D. 218, to its recognition as the capital of the kingdom of Italy in 1861, the town retaining its position of *urbis prima* until the seat of government in 1870 was again transferred to "the city on seven hills."

It possesses the finest armoury in the world, and in addition has the advantage of numerous beautiful museums, art galleries and monuments, principally in bronze. From a picturesque point of view few cities could be more delightfully situated. On three sides it is surrounded by the Alps, the Maritime Alps and the Ligurian Apennines, while on the

fourth, far into the distance, stretches the fertile Lombardian plain.

The panoramic view of high-thrown mountain peak, of placid river, and rich fields in perfect cultivation, as seen from the beautiful Mausoleum of the House of Savoy on the Sausera, cannot be excelled.

With such a setting the Exhibition, which stands at the end of the Corso Vittorio Emanuele II., cannot fail to be attractive. The Exhibition grounds extend along both banks of the River Po, and are in the Valentino Park, quite close to the Porta Nuova, the central railway station.

About 500 feet from the left bank of the river and 35 feet above it, in a most commanding position at the south-east end of the park, is the magnificent main façade of the buildings for the British Section, which, along with part of the Italian Section, stands on the side nearest the city. The front of the buildings takes the form of a crescent, and is surmounted by a central dome, with smaller domes supporting an either hand. The British pavilion has been isolated and rendered practically fireproof. Every precaution has, in fact, been taken, both by the Exhibitions Branch of the Board of Trade and by the Italian authorities, to prevent such another disaster as occurred in Brussels.

In addition to the permanent Exhibition there will be three temporary horticultural shows, the first on May 15th to 25th, the second from September 16th to 24th, and the third from October 15th to November 4th.

THE BRUSSELS HORTICULTURAL EXHIBITION.

Continued from page 26.

MESSRS. A. A. PRETERS and SON, Laeken, Brussels, staged a very extensive group, composed chiefly of *Laelio Cattleyas* and *Cattleya* hybrids. At one end there were three dozen magnificently-grown *Vanda coccinea*, carrying gigantic spikes of flowers of the best type. *Cattleya labiata alba* Ashworthian was noted, also a very pretty variety of *Cattleya Empress Frederick*, named Prince Leopold, which had creamy white sepals and petals. This group received a Gold Medal, value 300 francs.

Messrs. Durhesne and Lanthoine, Watermaal, put up a light and graceful exhibit; in it were *Vanda coccinea*, *Phalenopsis Ranzaniana*, *Dendrobium Schröderianum* and *Cattleya labiata*. Among the choice plants in this group was *Cattleya labiata Souverin d'Arnaud de Menlenae*, a very distinct variety, with a bluish hue in the sepals and petals, the lip being dull purple. Some two dozen plants of *Cattleya aurea* were included, two of which were very fine. A First Prize Gold Medal, value 200 francs, was given for this collection of 100 exotic orchids.

Mons. Theodore Pauwels and Co., Meirelbeek, Ghent, had a mixed collection of reasonable species and hybrids, the best being a very fine variety of *Cattleya Mrs. Pitt* named "sine aqua." The plant was not strong, but carried one flower of remarkable size, resembling the *C. aurea* parent in size and shape, the colour approaching a good variety of *Cattleya Fabia*, the lip large and beautifully frilled, and the golden lines of *C. aurea* extending well into the throat. Awarded First Prize for the best hybrid *Cattleya*.

Mons. Maron and Son, Bruney, France, brought a selection of about three dozen *Cattleya* and *Laelio Cattleya* hybrids of their distinct strain, which would have shown to better advantage if more ferns or foliage plants had been utilised to hide the pots. One of his most noticeable plants was a very pretty *Cattleya* hybrid between *C. Eldorado alba* and *C. labiata Cooksonia*; the sepals

and petals were white, the lip coloured after the style of the latter parent. Several good varieties of *Cattleya Fabia* and some *Brasso-Cattleya Minerva* (B-C. Mrs. J. Leeman x *C. aurea*), which showed considerable variation.

Mons. Maurice Verdenck, Ghent, staged a group containing a selection of *Laelio Cattleya* hybrids, *Oncidium*s and *Dendrobium Phalenopsis Schröderianum*, etc.

Mons. F. Claes, Etterbeck, Brussels, put up a group of *Cattleya labiata*.

The only English exhibitors were Messrs. Charlesworth and Co., Haywards Heath, and Messrs. Stuart Low and Co., Enfield. The former staged a small but interesting group, including *Cattleya labiata alba*, sepals and petals white, lip richly coloured, *Cattleya Loege*, *C. Fabia alba*, *Odonoglossum Ceres*, *O. illustrissimum*, *Sepholia heatonensis*, *Cymbidium erythrostylum*, a nice batch of *Epidendrum vitellinum*, and a few *Cypripedium*s, and the interesting *Polystachya paniculata*. Gold Medal, value 100 francs, was awarded.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, staged a lightly arranged group, with *Oncidium varicosum* and *O. divaricatum* at the back; in the centre was a very fine variety of *Cattleya Peetersii*, having an exceptionally dark lip, *Cattleya Enid*, C. Mrs. Pitt, *Sophrro-Cattleya eximia*, and a white variety of *Cattleya labiata*. Awarded Silver Medal for the group.

33 33 33

THE FLORENCE INTERNATIONAL HORTICULTURAL EXHIBITION. This exhibition will be held in Florence during the first fortnight of May, 1911, the opening day of which has not yet been fixed, in celebration of the fiftieth anniversary of the proclamation of the kingdom of Italy. The exhibition, which is to be held under the patronage of the town of Florence and of the Horticultural Society of Tuscany, will receive the financial support of the Italian Government. Their Majesties the King and Queen of Italy are offering valuable "prizes of honour," and twenty classes, with fifty-three prizes, are scheduled for orchids.

SCIENTIFIC NOTES.



ODONTOGLOSSUM MARIETTA
(Rolfex × Lambsonianum).

THE first plant to bloom of this very interesting somewhat reversionary cross has proved an extremely pretty thing. The plant was raised in the Chillingham collection, purchased and bloomed by J. S. Moss, Esq., of Waters-hill Hall, Bishop's Waltham, Hants.

The sepals and petals are rose colour, the inner two-thirds lighter, the outer third darker. They are copiously spotted on the lighter area with small light brown spots, a little inclined to become barred in the sepals. The lip is of Rolfex form, the lower half heavily marked by small spots, the reniform white anterior half being unspotted. The crest is deep brown underlain by an orange yellow ground. The column small, as in Rolfex, having deep brown sides and a white back.

In form it could hardly be better or more symmetrical, and, considering it is but a small plant blooming for the first time carrying twelve flowers, it will make a very fine thing when a large plant.



From the diagram it is seen that this plant has three powerful species in its ancestry; and it is very interesting to find that it is a result analogous to Ossulstonii, which contains the same three species. The mixing has been done in different ways, but the mixture in this case has produced a flower almost exactly like some Ossulstonii that I have previously seen. The accompanying reproduction is from a photograph by its owner.

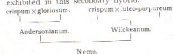
DE BARRI-CRAWSHAY.

Oct. 12, 1910.



ODONTOGLOSSUM NEMO.

We have received flowers of this Odontoglossum hybrid, raised by de Barri Crawshay, Esq., between *O. Andersonianum* var. *Bogerianum* and *O. Wilckeanum* var. *Angus*. Both parents are, of their kinds, particularly well formed good varieties, but the resulting hybrid shows remarkable signs of reversion or throwing back to the yellow grand-parental species. The general shape and colour of the flowers reminds one of a large *O. gloriosum*, but on examination the influence of *luteo-purpureum* can be clearly seen in the crest and formation of the lip while the basal median streak of colour on the petals and the side wings of the column are typical of *O. gloriosum*. Although *O. crispum* takes a large share of the parentage, very little sign of it is exhibited in this secondary hybrid.



THE ORCHID MEDALS OF THE ROYAL HORTICULTURAL SOCIETY.

BY the kindness of the Royal Horticultural Society we are able to give photographic reproductions of the different medals which are awarded in connection with orchids, and portraits of Sir Joseph Banks and Dr. Lindley, in whose honour two were struck.



The First Medal struck by the Society, 1811.

The first medal ever struck by the Society was in 1811, in which year it was awarded to Sir Joseph Banks for his unremitted and important services to the Society from its first institution. It was probably this medal which was awarded on June 1, 1813, to Mr. John Wilmot, of Isleworth, for his account of the method of destroying slugs in gardens, which he read before the Society on May 12, 1812, in which he stated, "To exterminate these nocturnal



The Banksian Medal, 1820.

depredators has been for many years my study."

Sir Joseph Banks was among these present who, on the 7th of March, 1804, in a room



The Fibra Medal, 1836.

in the house of Mr. Hatchard, in Piccadilly, first organised the Horticultural Society. He continued as its best protector and friend

until his death in 1820, when the Banksian Medal was founded in his memory. By a subscription among the Fellows of the Society, an excellent portrait of Sir Joseph was placed in



The Lindley Medal, 1866.



Dr. John Lindley, F.R.S. (Painted by Edlin).



Sir Joseph Banks, Bt. (From a painting by Phillips in 1820).

the Meeting Room of the Society, and now hangs in the Council Room at Vincent Square. This medal is awarded in three grades, Silver-Gilt, Silver, and Bronze.

The Flora Medal dates back to 1836, and is also awarded in three grades, Silver-Gilt, Silver, and Bronze. Flora was the goddess of flowers among the Romans.



The Victoria Medal of Honour in Horticulture, 1897.

Dr. Lindley was the Society's greatest secretary. Commencing in 1822 as assistant-secretary to Joseph Sabine, he continued to hold the reins of office as secretary up to 1862, when he resigned, and was at once appointed to a seat on the Council, which he held up to his death in 1865. A medal was struck in his honour, and in 1868 his library was purchased, and is still held in trust for the use of the Society. His portrait now hangs in the library. The Lindley Medal is usually given for exhibits of botanical interest or for exceptional skill in cultivation. It is struck in three grades, Silver Gilt, Silver, and Bronze.



The Gold Medal, 1898.

In 1897, with the knowledge and approval of Her Majesty Queen Victoria, the Society established a Medal in commemoration of Her Majesty's Diamond Jubilee, called the Victoria Medal of Honour in Horticulture (V.M.H.). The original intention was to confine this honour to sixty recipients, but this was extended at Her Majesty's death to the number of sixty-three, in memory of the full number

of the years of her glorious reign. Among the recipients of this medal are to be found many who have devoted considerable interest to the study of orchids.

The Gold Medal. This medal only dates back to November, 1898. Gold Medals which have been awarded before this date were struck from the Basileian die.

The Affiliated Societies' Medal. This medal was instituted in the year 1901. It is for the use of affiliated societies, and can be purchased in Silver-Gilt, Silver, and Bronze.



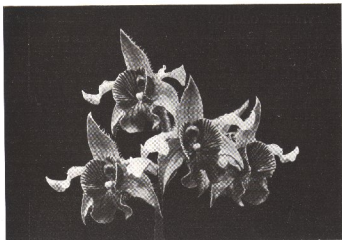
The Affiliated Societies' Medal, 1901.

(To be continued.)

A reference book to the parents of all the hybrid orchids which have been certificated by the Royal Horticultural Society from 1850 to 1909 inclusive has been prepared by the Chairman of the Orchid Committee, J. Gurney Fowler, Esq. It will shortly be published, and prove a very useful addition to the book of "Orchid Awards."

23 27 33

Our attention has been drawn to the record of a plant named *Cattleya amabile*, which was exhibited by W. R. Lax, Esq., at the meeting of the Manchester Orchid Society on September 22nd, under the following record: *Cattleya amabile* (Lueddemanniina Stanley x *Fascinator alberta*). As the latter parent is a hybrid between *Laelia purpurata* and *Cattleya Schradiana* it should therefore be *Laelio-Cattleya Fascinator*. On this account the original name must be altered to *Laelio-Cattleya amabile*.



From a photograph of a plant flowering in the establishment of Messrs. Messell & Hatcher, Rasden, Yorkshire.

DENDROBIUM MACROPHYLLUM VEITCHIANUM.

THIS *Dendrobium* is a remarkable and distinct evergreen species. The stems are about a foot high, clavate, and deeply furrowed in the upper part, bearing three to four flowers of pale green colour. The lower spikes, which are produced in spring from the apex of the stem, are about a foot long, the blossoms being two inches in diameter; the sepals are greenish-yellow, hairy externally, the smaller spatulate petals being yellowish-white, while the lip is greenish yellow, ornamented with numerous streaks and dots of reddish-purple.

The plant when growing requires a high temperature and plenty of water; after the growth is finished only enough water should be given to prevent shrivelling.

This singular plant was first named *D. macrophyllum* by A. Richards (Ser. *Astrolab* p. 22, t. 6); subsequently Lindley named the

plant *D. Veitchianum* (*Botanical Register*, 1847, sub. t. 26), and seems to have overlooked Richards' plant, or he surely would have alluded to it as a close ally.

Hooker states (*Botanical Magazine*, 1867, t. 5049) that *Dendrobium Veitchianum* differs only from the original *D. macrophyllum* of Richards by having smaller leaves, and is clearly a variety of that species.

The plant is a native of Java, and inhabits the hottest jungles in the world. It was first sent home by Thomas Lobb, one of Messrs. Veitch's collectors.



The first plant of *Odontoglossum Rossi roscheldense* figured in our last number was exhibited by its owner, de Barri Crawshaw, Esq., at a meeting of the Royal Horticultural Society held on March 22nd, 1887.

OUR AMATEURS' PAGE.

WATERING ORCHIDS.

It may seem an easy matter to carry out this portion of orchid culture, but there is more skill required in the operation than most amateurs imagine. A bold way of stating the truth is: a plant either requires water or does not; the habit of giving a little drop each morning is a dangerous method, for frequently this amount is only sufficient to penetrate an inch or so, with the result that the surface is always moist, while the under part of the compost is hard and dry. It is much the better way to wait until the compost is nearing the dry side and then give sufficient water, either by means of a watering pot or by dipping the plant in a tank, to thoroughly soak the material, which will then remain moist for several days.

Rain water is the only suitable water for orchids, and it should be stored in the same house as the plants; by this means it is always at a correct temperature to use, and there is no risk of chilling the plants as might be done if the water is drawn from an outside source.

When orchid collections are situated near large towns soot frequently finds its way into the storage tanks; this, and the lime which is sometimes used for shading the glass, will do no harm, for lime, being a mineral, soon sinks to the bottom. On some houses we have seen flour and water used for shading, and with bad results, for the flour, being vegetable matter, quickly ferments and entirely prevents the water being used for orchid growing.

We may now consider, in a general way, the different classes of orchids and their requirements as regards moisture.

Cypripediums are probably the least difficult to manage, for when growing naturally they are almost always to be found in soil which is continually moist. This might be expected, for Nature has not provided them with any bulbs with which to store up nutriment to carry them through a season of drought. We must therefore never entirely withhold water or allow the compost to

become dry, otherwise serious damage will probably result.

Odontoglossums and Oncidiums require moisture during the greater part of the year, and delight in having the atmosphere and compost very moist during the growing season; this moisture should, however, be slightly reduced during the depth of winter, and also when the plants are in bloom, for should a cold night occur the atmospheric moisture is very liable to condense on the flowers and cause them to spot. In no case should water be withheld to such a degree as will cause the bulbs to shrivel.

Cattleyas, Laelias and Dendrobiums should receive a plentiful supply of water when making their new bulbs; this must be considerably reduced as the bulbs mature, and during the winter the plants should only be watered when signs of shrivelling are visible.

The following rules are worth remembrance:—

Always use rain-water about the same temperature as the house in which the plants are growing.

If in doubt as to whether a plant requires water, leave it until the following day.

Always give a plant sufficient water to moisten the whole of the compost.

Water the plants early in the morning, and if possible select fine days for the work.

When frosty weather prevails keep the plants in a drier state than usual, and do not damp down the house so frequently.

Never use anything else but pure water; manures are dangerous things for orchids except in very experienced hands.

Do not allow water to remain in the new growths or flowering sheaths.

Never keep the compost in a saturated condition; orchid roots require plenty of air, and if the air spaces in the compost are always full of water the roots will very soon rot.

When a plant has finished flowering do not neglect it by placing it out of sight; it is at this period that it requires all your attention to assist it in recuperating the vitality and strength it has lost through flowering.



Catapult of one of the Royal Horticultural Society's early meetings by George Cruikshank, 1826.

A FLOWER SHOW IN 1848.

AS we are all turning our thoughts towards the great International Exhibition of 1852, the following account of a flower show held by the Royal Horticultural Society at Chiswick during the wet season of 1848 may interest many of our readers. It was written by Andrew Murray, at that time assistant secretary to the Society:

"The inconvenience and discomfort arising from wet weather to great assemblages of people, drawn together for enjoyment in the open air, can scarcely be exaggerated; no amount of protection by way of tents can render them bearable; and at these unhappy occasions when Jupiter Pluvius reigned

supreme many a miserable anecdote might be related. On one of these occasions, before the practice of giving the so-called broadcast fêtes had been abandoned, the day turned out unpropitious. Large numbers of tickets had been disposed of, which had cost not only two guineas a head, but also much expense of interest among the lady patronesses who dispensed them. The tickets were thus too valuable to be thrown away, and the majority of their holders braved the bad weather in the hope of its clearing up.

"On the part of the Society nothing had been omitted to make the entertainment worthy of itself and the expected guests.

Ample tents and temporary wooden buildings had been erected, and all the resources of Messrs. Ganter brought into play to provide the feast. Gorgeous plate, fine china and sparkling crystal, combined with the most delicate viands and high-priced wines to charm the eye and tempt the palate.

"What the morning promised—(a wet day)—the noon fulfilled, and the weather settled into a confirmed rain; and as the hours wore on it grew worse and worse, and the rain fell heavier and heavier. Still the possessors of the much-prized tickets made their appearance. Carriage after carriage deposited its fair and gaily-dressed freight at the gates. The cavalry made a good harvest on this day; they lent their long, heavy military cloaks to the ladies to protect them on their passage from their carriages to the tents at 2s. 6d. each, whence, ushered into the tents, they endeavoured to drown the splashing of the rain on the roof by the loud harmony of military bands, and to forget their discomfort in the enjoyment of the table.

"Many and strange were the scenes that passed. The tents were open in front, and the driving rain came pelting in; the canvas roof soon distilled drops or streams at many places; the ladies, as they sat or stood, found the water invading their shoes. The ingenuity of the gentlemen came to the rescue: some of the ladies were placed on the table; the dishes were emptied of their cold fowls and tongues and hams, and the ladies stood or sat on the dishes, the viands being placed on the bare table; and the mixture of crossness, good humour and the fun was indescribable. The cold and wet demanded support, and the supply of champagne was liberal, so that, notwithstanding the frightful weather, the company became gay and merry. Little they knew the anxiety and trouble the officials had been put to to procure them even such qualified enjoyment without interruption.

"The entertainment had scarcely commenced when news was brought to Dr. Lindley that the torrents of rain had so soaked and sapped the earth that the pillars or supports of the temporary buildings

forming the rear of the tents were beginning to yield, and that there was danger that the whole fabric might give way and bury the company in its wet embrace. Dr. Lindley, with his usual fertility of resource, instantly sent into the streets, pot-houses, barns, and smithies of Chiswick and Turnham Green—wherever men on a rainy day do most congregate. 'Hire,' said he, 'every man you can get; don't stand upon the price; give them one shilling an hour, two shillings, five shillings whatever they require; but hire them instantly and send them in at once.' As the men came they were posted in clumps around every pillar and support, to hold them up, while the unconscious guests revelled within.

"As the day wore on matters became worse. It was only by main force that the buildings were sustained. Still the entertainment ran its course. At last it came to a close, and the visitors began to take their departure. As they went the weather began to clear, and at six o'clock the rain ceased.

"The guests passed in their departure, and determined on a fresh effort at enjoyment. The musicians, who had retired to obtain their own refreshment, were recalled from the public-houses to which they had retreated, in order to enable the guests to terminate the fête with dancing; and on the wet and splashy grass dancing was for some short time kept up. This, however, soon ceased, dancing in soaked boots and shoes on wet grass not being an amusement capable of long enjoyment, and at last the day's entertainment came to an end.

"No sooner had the last visitor taken his departure, and the men released from their long and laborious duty, than the posts and pegs at the back of the tents and buildings slowly yielded, plunging through the soddy puddle in which they stood, and the whole fabric gave way with a crash, burying in one undistinguishable ruin the tables and the dinner service, wines and viands under their wet and heavy folds. 'What are we to do, sir?' cried the panic-stricken servants. 'Let them lie until Monday' was the reply; and so they did, and longer than Monday. It was

a fortnight afterwards before the purveyors got all the articles overshelfed on that night removed. And it is noteworthy and to the credit of the Society's servants that, although the whole apparatus of the rest—broken crystal and vials—lay mixed with valuable plate for so many days, not a single article was lost. The spoons and forks were recovered by rising them out of the mud, and not one was missing."



NEW PLANTS.

CATTLEYA MILO (*Mossie maxima*). A distinct hybrid. The whole flower is very light mauve colour; the lip shows strongly the influence of *maxima*, being beautifully veined with fine markings of light magenta. Exhibited by Messrs. Sander and Sons at the R.H.S., Oct. 25th, 1910.

CYPRIPEDIUM PRINCESS MARY (*niveum* × *Helen II.*). A beautiful porcelain-white flower, minutely spotted with purple; the staminode is stained with yellow. *Helen II.* is a hybrid between *insigne* × *bellatula*. This plant, which is the only one raised from the seed-pod, was exhibited by Messrs. Sander and Sons at the R.H.S., Oct. 25th, 1910, when it received a First-class Certificate.

SPATHOGLOTTIS ZERRINA (*Fortunei* × *plicata*). An interesting cross between a deciduous and an evergreen orchid. Plants of slender growth. Flowers with yellowish background; sepals and petals marked with carmine; lip blotched at apex with deep rose, and spotted on the side lobes. Exhibited at the R.H.S. by Sir Jeremiah Colman, Bart., on Oct. 25th, 1910.

The *Botanical Magazine* for November contains a figure (p. 834f) of *Hanlettia Sanderi*. This interesting species was reported from Peru by Messrs. Sander and Sons, St. Albans, and flowered for the first time in Europe in January, 1910, in Messrs. Sander's nursery at Bruges. There is also a plant at Kew, which has not yet flowered, but thrives well under the treatment suitable for *Lycaste Skinneri*.

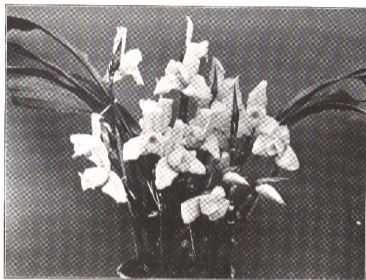
CONTROL OF THE WEATHER.

In his inaugural address to the Institution of Electrical Engineers on November 10th, Mr. S. Z. de Ferranti, the president, discussed coal conservation. It would be a desirable thing, he said, if, instead of the dark weather that we now often experienced owing to cloud obstruction, we could have continuous sunshine at certain times of the year. The amount of sunshine would, no doubt, be largely increased by the abolition of all smoke in the air; and he believed the time would come when it would be thought no more wonderful largely to control our weather than it was now thought wonderful to control the water after it had fallen on the land. He thought that it would be possible to acquire knowledge which would enable us largely to control by electrical means the sunshine which reaches us and, in a climate which usually has ample moisture in the atmosphere, to produce rainfall when and where we required it.

Dealing with the question of the rapid rate at which our coal supplies are being used up, Mr. Ferranti stated that coal could be used more efficiently for the production of electricity than for any other purpose. In coal fires and steam engines whose boilers are heated by the direct burning of coal all the by-products of the coal, such as ammonia, which, in the form of sulphate of ammonia, is so useful to the agriculturist, are lost. The labour required for distributing coal to all parts of the country and for clearing away the ash is enormous.

Mr. Ferranti's proposal is to erect 100 electrical generating stations, each having a capacity of 250,000 kilowatts, in suitable parts of the country, and to be situated in places where both coal and water are readily available.

The day is not far distant when we may, by touching a small switch, turn on sufficient electrical heat for any desired temperature to be maintained in our orchid-houses, and while sharp Jack Frost is placing his snow-white mantle on all unprotected vegetation, we may peacefully sleep through the night believing that our plants are safe and sound.



From a photograph of a plant flowering in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, Lancashire.

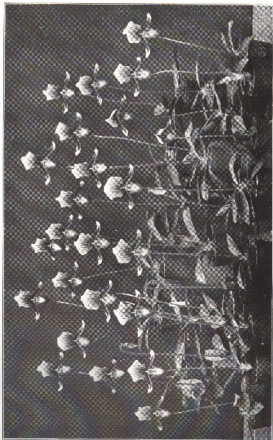
LYCASTE SKINNERI ALBA.

Lycaste Skinneri is a great favourite with Mr. Wrigley. His collection of this species comprises many very distinct and beautiful varieties which, in colour, range from rich purple to pleasing bluish shades, and also several specimens of the pure white variety. To appreciate the full beauty of a *Lycaste* it must be well grown; our illustration gives a good idea of the floriferous habit the plants obtain when under the careful attention of Mr. Wrigley's gardener, Mr. E. Rogers. At Bridge Hall, *Cypripediums* and *Lycastes* are the main stay for cut blooms during about six months in the year, and are largely used for room and table decoration.

This plant ought to be found in every collection, as it is one of the finest we have for winter blooming. In the early days of orchid growing it was known as *Maxillaria Skinneri*.

Cypripedium Maudslayi, probably, the most beautiful of all the albino *Cypripediums*, and is to be found in almost every collection where these plants are made a speciality. At Bridge Hall, in the orchid houses of O. O. Wrigley, Esq., they seem to grow with more than ordinary vigour, for flowers are produced on every small growth, and when the variety *magnificum* appeared it was only a small plant with three leaves. The stock now comprises sixteen plants, some of them with several growths, and all propagated from the original small piece. About fifty plants of the ordinary variety are also grown, and when in flower are always greatly admired.

We have much pleasure in reproducing an excellent photograph on the following page of the plants in Mr. Wrigley's collection at Bridge Hall.



Cypripedium Moultonii, flowering in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, Lancashire. *C. Moultonii* is an albino hybrid derived from *C. callosum* Sandere \times *C. Laurentianum* Hopsonum; it was first flowered in the year 1900, but the normal coloured form did not appear until 1906.

THE TREATMENT OF WINTER FLOWERING CATTLEYSAS.

MOST *Cattleya* species are at rest during the winter months, and probably all that belong to the *labiata* section. *C. Gaskelliana*, *C. Dowiana*, *C. labiata* and others will have been resting since flowering, and will continue dormant until the more congenial days of spring restart them into growth; while *C. Mendelii*, *C. Schrödera*, *C. Mossia*, *C. Percivaliana*, and *C. Trianae* will be resting in sheath until their respective flowering seasons arrive, and the two latter may even now have started to germinate their buds at the base of the sheath.

Before the advent of the hybrid, the flowering of *C. Dowiana*, never very plentiful, and *C. labiata* marked the end of the *Cattleya* season in the autumn, nothing else flowering until *C. Percivaliana* and *C. Trianae* made their appearance in the first months of the new year. The *Cattleya* house was then—as far as its *Cattleya* contents were concerned—indeed a place of repose. There was little or nothing in flower, and all the plants could receive, with little modification, similar treatment. But there is now a galaxy of beautiful *Cattleyas* that unfold their blossoms during the short, cheerless days of winter. My remarks are concerned with the treatment of these.

There is something altogether abnormal in the conditions in which some of these winter flowering hybrids have to flower. Some of the best of them are descended from *C. Dowiana*. I will not attempt to enumerate them, some are Lælio-Cattleyas, and some are secondary hybrids; two or three will be sufficient to illustrate my meaning. *C. Maggie Raphael* is a fine hybrid, and essentially winter flowering. It is derived from *C. Trianae* × *C. Dowiana*, the former flowering towards the end of winter and the latter towards the end of summer or the beginning of autumn; and this hybrid, which partakes so much of the *Dowiana*, fills in the gap between the flowering seasons of its two parents. *C. Empress Frederick* is another fine *Dowiana* hybrid which frequently flowers

during the winter months, although its other parent, *C. Mossia*, is summer flowering. *C. Octave Dein* is a hybrid between *C. Dowiana* and *C. Mendelii*, and most plants in sheath will be sending up their buds this month, notwithstanding the fact that *C. Mendelii* is a mid-summer flowering species. *C. Ledu*, a very beautiful hybrid between *C. Percivaliana* and *C. Dowiana*, will also be sending up its buds now, besides many others which it will be unnecessary to mention.

Bearing in mind the conditions under which their parents flower, one may be able to appreciate a little irrationality in flowering these *Dowiana* hybrids in a resting *Cattleya*-house temperature. My plea is for a little more warmth and more genial and generous treatment. *C. Mendelii*, *C. Mossia* and *C. Dowiana* develop their blooms in quite a tropical atmosphere, the temperature in the *Cattleya* house at these periods frequently reaching 90° with natural solar heat, and the flowers open and last well. Yet the hybrids from these, which for some reason chose winter for their flowering season, are sometimes left to struggle into flower in a dry lifeless atmosphere at a temperature of 55°-60°, unless the sun comes out and lifts it a little. That temperature may be all right for resting *C. labiata*, *C. Bowringiana*—and even *C. Folia* and other *Dowiana* hybrids that have flowered, and whose natural flowering period is the autumn—but it is not sufficient to pull the buds well out of the sheaths of flowering plants, and open well nourished flowers. We know that over and under a certain range of temperature every plant is either forced or starved, and a clear indication of a *Cattleya* that has been starved when budding up its inflorescence is a stunted flower stem—sometimes hardly lifting the flower beyond the sheath—and a small flower, frequently opening badly, and remaining perhaps somewhat cup-shaped.

It is sometimes difficult to follow good advice, even when willing, and if there is but one *Cattleya* house in which active and inactive plants must be grown side by side, it may have to be a case of the greatest good for the largest number, but something may

always be done by removing flowering plants to the warmer end. Where, however, there are several houses or divisions, a good plan is to place all the winter flowering *Cattleya* hybrids together in one, and keep them in a nice, brisk, buoyant atmosphere, raising the temperature to 70° every day, excepting during extremely cold weather, and not allowing it to fall below 60° at night, at which low point it should not remain long.

Watering must follow the temperature. With a low temperature *Cattleyas* must be watered sparingly, but when the temperature is raised the simple rule of water when dry will apply, and the *Cattleyas* will not lose their roots. With this higher temperature damping will also have to be performed with more frequency and thoroughness, and every effort made by judicious and rational manipulation of the ventilators to produce a fresh easy to be breathed atmosphere. When the buds burst, the plants should be kept on the dry side, and the flowers will last longest if kept in the warm house.

J. M. BLACK.

§ § §

Sir Joseph D. Hooker, who is in his ninety-fourth year, visited the Royal Horticultural Society's Flower Show on Tuesday, October 11th, and greatly admired the fine display of orchids.

§ § §

By the death of Dr. Melchior Treub, who was until recently director of the Botanic Gardens of Buitenzorg and of the Agricultural Department of Java, the world has lost a great botanist. Born at Veerschooten, near Leyden, in 1851, Treub was at the age of twenty-nine appointed by the Dutch Government to the directorship of the renowned garden at Buitenzorg. The "Laboratoire des Savants Etrangers" was erected by him in these gardens for the use of foreign botanists. His many contributions to all branches of botanical science will ever remain a monument to his great capabilities. He died at St. Raphael, near Cannes, on October 3rd. *Gardener's Chronicle*.

ONCIDIUM HEMATOCHILUM.

For nearly fifty years this plant has been known to science. Originally described by Lindley, it has, until recently, always been regarded as a rare species, and although appearing occasionally in different collections, very few facts concerning it have been noted.

In the island of Trinidad, British West Indies, *Oncidium Lancianum* and *O. luridum* grow together, sometimes the roots of both being intermingled; and it seems more than probable that *Oncidium hematochilum* is a natural hybrid between these two species, for it bears a close resemblance to both.

A batch of *O. Lancianum* has just flowered in the collection of W. Bolton, Esq., Warrington, who kindly sends us some flowers, together with two varieties of *O. hematochilum* which have flowered from the same consignment, one of which is a great improvement on the normal type, and is known as *O. hematochilum* Bolton's variety.

The flowers are one and a half inches across, and of good shape. The sepals and petals are yellowish green, evenly marked with reddish-brown blotches and spots. The lip is broad, pandurate, and yellowish, covered at the base and crest with deep rose purple, and in the centre marked with a large rich blood-red blotch, bordered with smaller spots.

§ § §

MONUMENT TO MENDEL.—A monument to Gregor Johann Mendel, who died at Brno in 1884, was unveiled at Brno on October 2nd, in the presence of the authorities and a large number of representatives of foreign institutions, including Professor Bateson, Director of the "Innes" Horticultural Institution. Mendel contributed largely to the study of the theory of heredity; besides taking a keen interest in meteorology and the various theories of sun-spots he was also greatly interested in his experiments with bees. Although he died in 1884, practically unknown to the world, it was not till 1900, sixteen years after his death, that his brilliant discoveries and patient work came to be known to science.

MOISTURE IN ORCHID HOUSES.

In answer to our request for the opinions of orchid growers regarding the procedure of damping down the houses, and if it is advisable to let the water fall on the hot-water pipes, we have received the following interesting letters:

I do not think there is any doubt that under certain conditions, and used with discretion and common sense, the damping of the hot-water pipes is beneficial to orchids. A continuous steamy atmosphere would correctly be condemned, but where a high temperature and growing conditions are considered necessary during cold weather it is a matter of expediency that such moisture find its way into the atmosphere, and there can be no simpler or better way of refreshing it than by sprinkling water on the pipes.

There is nothing fierce about the steam generated by damping over the pipes in a greenhouse. No chemical change takes place, and nothing is added that is going to cause injury; the water is simply broken up into particles, forming a vapour finer than is possible with a sprayer. Being warmer than the atmosphere of the house, this vapour rises, remains a little time in suspension, cools, and then dissipates, and all surfaces of the plants become coated with a fine moisture, at little labour and with more thoroughness than could happen by any other device.

The rise in the temperature of the house during the process might be advanced as an argument against steaming, but this rise is only trifling. In an experiment I made this afternoon in a house standing at 72° Fahr., with the outside at 40°, the temperature rose hardly 2°, a fluctuation of no consideration at all.

I know the steaming of exotic foliage plants, such as Crotons, is an excellent encouragement to rapid growth, besides being an insecticide of considerable value; and for small orchid seedlings, which it is desirable to keep succulent and growing, it is worth bearing in mind when, during cold weather, a high temperature is hardly possible without aridity.

J. M. BLACK.

I cannot, except in a few cases, recommend the practice of damping the hot-water pipes. It certainly produces a very moist atmosphere which only lasts a few minutes, but such a sudden change may do some harm. I prefer to have small troughs fitted on the hot-water pipes, which when filled with water continue to give off moisture for a considerable time. This method, I find, produces a more constant degree of dampness in the houses than when water is poured on the pipes, only to be evaporated in a few minutes. To damp down the house when plants are in a growing state is always beneficial; but when in flower, considerable caution must be observed, or the flowers will quickly be spoilt by spotting if there is an over-abundance of moisture in the air, especially in this case when a cold night occurs after a warm day.

ASHTED PARK GARDENS, S. FARNES.
ASHTED, SURREY.

45 43 44

Re the question raised in the November issue of the ORCHID WORLD regarding the advisability of damping the hot-water pipes or otherwise. I have noticed when water has fallen on them, the result has been a hot stifling feeling quite different to the soft moist atmosphere which is generated by the usual method of damping the floors and stagings only. There is also a sudden rise in the temperature, this, however, being only temporary, for after a short time there is a correspondingly sudden drop. As these quick fluctuations of temperature are undesirable in all divisions of orchid houses I should say: Damp underneath as much as possible, but keep the water off the actual piping. Again, on the other hand, it is usual, I think, in the warmer sections that we find the greatest diversity and variety of genera and species. Given that this hot steamy atmosphere is suitable to the health and growth of some of the occupants, the question at once arises: Are these in the majority or minority? I shall look forward with interest to other opinions on this subject.

BORDE HILL GARDENS, E. JOHNSON.
CUCKFIELD, SUSSEX.

I cannot say I altogether agree with the method of damping the hot water pipes; in some instances it may, perhaps, be done with advantage, but in many cases, I fear, more harm than good will result.

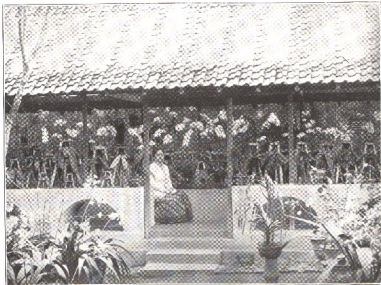
In a stove-house the plants are in a high temperature, and steam coming in contact with them will not do much damage; but in the case of a cool-house the steam is very apt to scorch the leaves, for there is here a wider difference between the heat of the steam and the leaves of plants in a cooler house.

My practice has always been to thoroughly damp the floor of the house; the pipes will then continue to draw up moisture. I find

this lasts longer than the moisture obtained by damping the hot water pipes.

I had charge for some time of a cool-house in which thin sheets of corrugated iron were placed directly on top of the pipes, and so close that the damp smoke ash on them generated steam, which soon disfigured some *Miltonia vexillaria* standing close by. When this corrugated iron was placed at an increased distance from the pipes no visible steam existed, and the plants thereafter improved in health. *Miltonia vexillaria* is, I know, not an easy plant to grow, but I do not remember any other plants being affected.

INTERESTED.



The Orchid House of E. H. Andriese, Esq., Malang, Java.

Note the ingenious contrivance for growing the *Phalaenopsis*.

ROYAL HORTICULTURAL SOCIETY.

25th October, 1910.

ORCHID COMMITTEE present: Harry J. Veitch, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), Stuart Low, R.G. Thwaites, A. A. McBean, J. Charlesworth, C. H. Curtis, H. G. Alexander, W. H. White, Gurney Wilson, C. Cockson, F. Sander, F. Menteth Ogilvie, Walter Cobb, J. Cyprip, W. H. Hatcher, A. Dye, H. Ballantine, C. J. Lucas, F. J. Hanbury, and Sir Jeremiah Colman, Bart.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an excellent group, all the plants showing good culture. A variety of *Vanda coerulea* had eighteen flowers, *Odontoglossum Pescatorei* 150, and a fine plant of *O. grande* had sixteen flowers. There were also good plants of *Laelo Cattleya luteoalba*, *Cattleya Enid*, *C. aurea*, *C. Empress Frederick*, and *Oncidium tigrinum*. The curious *Lycaste gigantea* was represented by a specimen with seven flowers.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a large group, in which we noticed many special varieties: the new *Oncidium Sandere*, which differs from *O. Papilio* chiefly in having a very pronounced bristle development on each side of the column; the pretty *Lanum Beckleyi*, *Huseltia Sandera*, *Dendrobium Dullenianum*, and *Miltonia Regnellii purpurea*. In the centre of this group was a large plant of *Cypripedium insigne Sandera* with twenty-five flowers. Two new hybrids were also included, for description of which see "New Plants."

Messrs. Mansell and Hatcher, Ltd., Rawdon, Yorks, were awarded a Silver Banksian Medal for an attractive group containing many good plants of *Cattleya* hybrids, such as *Mrs. Pitt*, *Davisi*, *Armstrongiae* and *Fabii*, *Brasso-Cattleya Digbyano-gigas*, *B.C. Digbyano-Mendeli*, *Cypripedium Baron Schröder*, *C. Penelope*, and several other well-known varieties.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Flora Medal for a large group containing many well-flowered *Oncidiums*, several good varieties of

Cattleya labiata, *Cynoches chlorochilena*, a good *Miltonia vexillaria Leupoldii*, and the very pretty *Odontioda Seymourii*, which had much improved since its last appearance.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Banksian Medal for a group containing many beautiful albino forms of *Cattleya labiata*, including *Cooksonii*, *Daphne*, *Aureana*, and *Empress*. *Laelia punila Queen Alexandra*, having a slate blue lip, *Cypripedium Olympic* (*Lecanum Chinkaberryanum* × *Solieri Hycanum*), and *Cyp. Wivelsfieldense* (*Fascinator* × *Lecanum Chinkaberryanum*) were also shown.

Messrs. Armstrong and Brown, Tunbridge Wells, received a Silver Banksian Medal for a small group of good things. Three varieties, all from the same seed pod, were shown of the pretty *Cattleya Armstrongiae*, several excellent *C. Fabii*, *Cypripedium Gaston Dulcei*, *C. Germane Opax*, and *C. insigne Sandera*.

Sir Jeremiah Colman, Bart., V.M.H., Gaston Park (gr. Mr. Collier), sent a number of very interesting plants, one being a new *Spachoglottis* hybrid (see "New Plants"); a hybrid, not yet named, between *Odontoglossum Edwainii* and *O. seipitum*; *Celogene sulphurea*, *Bulbophyllum ornatisimum*, a fine plant of *Odontioda Bradshawii*, and a large specimen of the Windmill Orchid *Cirrhopetalum refractum* with ten flower spikes.

Lieut.-Col. Sir George I. Holford, K.C.V.O. (gr. Mr. H. G. Alexander), exhibited *Laelio-Cattleya Barbarossa Westonsbirt* variety (*L.-C. callistoglossa* × *C. Trianae Imperator*), a large flower; sepals and petals rose tinted, lip dark ruby-purple; also *Odontioda Bradshawii Westonsbirt* variety (see Awards).

Messrs. James and A. A. McBean, Cooksbridge, received a Silver Banksian Medal for a group containing several good varieties of *Cattleya aurea*, one of which had cream white sepals and petals, with the lip deep crimson, but showing a light cream coloured margin round the outside.

Messrs. James Veitch and Sons, Chelsea, brought a large group of decorative plants,

which extended across the entire end of the lab.; in this, at intervals, were good plants of *Cattleya labraea*, *Odontoglossum grande*, *O. crispum*, and *Oncidium varicosum*.

J. Gurney Fowler, Esq., Gleadlands, South Woodford (gr. Mr. J. Davis), sent *Cypripedium Troulus* J. Gurney Fowler's variety, a very good form, and *C. Priscilla* (sexual \times *tragoie* Harefield Hall), a bold flower with a distinctly blotched dorsal sepal.

H. S. Goudson, Esq., Fauldun, Putney (gr. Mr. G. E. Day), showed a fine form of *Sepiolo-Laelio Cattleya Veitchii*, *Cattleya Fabiana* alias, and *Laelio-Cattleya Felicia* Goudson's variety, a very fine flower, with a broad band of purple extending from the base to the shoulders of the lip.

R. G. Thwaites, Esq., Chessington, Christ church Road, Streatham (gr. Mr. Black), showed *Odontoda Seymourii* (O. Uro Skinner's *C. vulcanica*), and a pure white form of *Laelia pumila*.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited *Sepiolo-Laelio-Cattleya Veitchii*, and *Cypripedium Gouzeianum* Opou variety *Imperialis*.

From Messrs. Tracy's Orchid Nursery, Twickenham, came a form of *Vanda*, provisionally named *V. Floryia*, sepals and petals white, lip purple.

Messrs. Stanley and Co., Southgate, exhibited a group of pleasing *Cattleyas* and *Laelio-Cattleyas*. Several *Cattleya Fabiana*s had a very pronounced yellow throat.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontioda Bradshawii Westonbirt variety (O. *crispum* *Britannica* \times *C. Noziana*), from Lieut.-Col. Sir George T. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander). A grand, well-formed hybrid. The sepals are orange-red, tinged on the margin with rose; petals broad, tinged with deep rose and having a large reddish-purple blotch in the centre. The lip is similarly marked.

Cypripedium Princess Mary (niveum \times *Helen II.*), from Messrs. Sander and Sons, St. Albans. (See "New Plants.")

AWARDS OF MERIT.

Cypripedium Britannia (parentage unrecorded), from Messrs. Sander and Sons. A large, well formed flower. The broad dorsal sepal is pale green in the lower half and white in the upper; petals and lip yellow, tinged with light purple.

Cypripedium Reginald Young (*Lilium-saurum* \times *tragoie* Harefield Hall), from J. Bromfiel, Esq., Rann Lea, Ramhill (gr. Mr. Meegan). A bold flower; dorsal sepal greenish yellow, with a broad band of white on the margin, and with large spots of brownish-purple.

Calanthe densiflora, from Sir Jeremiah Colman, Bart., V.M.H. (gr. Mr. Collier).—A rare species from Assam. Flowers yellow, borne in large clusters.

Odontoglossum Circe (*Cervantesii* \times *Pescatorii*), from Messrs. Charlesworth and Co. (See "New Plants.")



November 8th, 1910.

MEMBERS OF THE ORCHID COMMITTEE present: J. Gurney Fowler, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), Harry J. Veitch, H. Little, R. G. Thwaites, C. H. Curtis, F. Menteith Ogilvie, J. Hanbury, W. Cobb, J. Cypher, J. Charlesworth, F. Sander, W. H. Hatcher, H. G. Alexander, W. H. White, Gurney Wilson, H. Ballantine, J. Wilson Potter, W. Bolton, C. J. Lucas, R. Broome Waite, and de B. Crossway.

Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), exhibited a few very fine hybrids, one of which received an Award of Merit. *Cattleya Portia gigantea* was very well grown; *Laelio-Cattleya Arubana*, a fine variety of L.-C. *Barbarea*, and *Cypripedium Beacon superbum* (J. Howes \times *niveum*-*Lecanum*).

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. Collier), staged a group of interesting plants, which included a large plant of *Bulbophyllum Ericsonii*, *Dendrobium Epidendropsis* *D. eolopygum*, *Trichostema suavis*, a very pretty *Cirrhopetalum* with rose-coloured flowers, and the elegant *Phaiacalanthe Colmanii*.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Flora Medal for a fine group, which included many of their choice hybrids. The Cattleya crosses noticed were Rhoda, Fabia alba, Phrygia and Venus, the Laelo Cattleyas Eurydice and G. G. Whitelegge, the pretty yellow Odontoglossum Lindenii, Rodriguezii Batemanii, Coleogyne Veitchii, with its pencilled centre of white flowers, Cypripedium Charlesworthii and Rossetti, Walcra nitida, Odontocidium Bradshawii, Zygopetalum Binotii, and Laelo-Cattleya Bala.

R. G. Thwaites, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. J. M. Black), was awarded a Silver Banksian Medal for a nice group, in which were Odontocidium Seymourii and Charlesworthii, Supiza Cattleya Mrs. F. Wellesley perfecta (S. grandiflora x C. labiata x R. L. Measures), a very fine shaped hybrid with extra broad petals, and not showing so much purple tint as is usual with many of these hybrids. Mention must be made of a Cattleya Maggie Raphael alba and a good variety of Laelo-Cattleya rubens.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a very fine group, the centre of which was composed of a large number of rare and interesting orchids, including Saccolabium biggibundum, Walcra pulchella and Wurra Hookeriana, several good Cattleya hybrids, such as Alicia (labiata x Iris), Cooksonii (Hardyana alba x Triana alba), many Laelo Cattleyas, some beautiful Cypripediums, the best being C. Dendrobium, and several good specimens of Vanda corolea.

E. R. Ashton, Esq., Camden Park, Tunbridge Wells (gr. Mr. A. Young), received a Silver Banksian Medal for a group containing several very choice things. Probably the best was Cattleya Laegge Broadlands variety, a fine form somewhat lighter in colour than the original; C. Phrygia (Portia x Enid), a pleasing hybrid between Cattleya Harrisoniana and C. labiata; a very good variety of Cattleya Fabia; Laelo-Cattleya Phoebe (L.C. Cappel x C. Iris), with reddish-copper flowers; and several other excellent hybrids.

Mrs. Norman Cookson, Oxlowood, Wylam (gr. Mr. H. J. Chapman), sent Cypripedium

Arthurianum Oakwood variety (insigne Sande x Fairicuum), which differs from the normal type by having much lighter spotting, Calanthe Cooksoniae gigantea, which secured an Award of Merit, and Cypripedium Oakwoodensis, of unknown parentage.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver Flora Medal for a large group of good orchids. It included a good selection of Oncidium varicosum, several Laelo Cattleyas, a few Odontoglossum hybrids, and some good Dendrobium Phalenopsis. Other plants noticed were Lycasta Mrs. Rogerson, Masdevalla Trochilus, and Bulbophyllum grandiflorum.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited a splendid hybrid under the name Laelo Cattleya Ville de Bruxelles (L.-C. callitoglossa x L.-C. Clive). A First-class Certificate was awarded to this plant, but on further consideration the Committee thought the plant to be a form of L.-C. Epicasta, and for this reason the certificate was withdrawn. Whatever the actual parents were, we considered the hybrid a very fine variety.

Messrs. J. Cypher and Sons, Cheltenham, staged an excellent group of Cypripediums, which obtained a Silver Flora Medal. Among the many species and hybrids were Maudia, Læsanum Corona, a dark Tityas superbum, Sybil, insigne Harefield Hall, Baron Schröder, Thalia gigantea, and Fuschawense. All the plants were well grown; the group contained altogether between fifty and sixty distinct forms.

Samuel Larkin, Esq., Ridgeways, Haslemere (gr. Mr. Hale), sent a few good hybrids, the best of which were Cattleya Porta Larkins' variety, a good-shaped flower of pleasing colour, Laelia splendens (rossa x purpurata), a good variety of Cattleya Mantini nobilior, and Laelo-Cattleya eximia.

Messrs. W. B. Hartland and Sons, Ardcorn, Ballintemple, Co. Cork, received a Silver Flora Medal for a good group of interesting Cattleya hybrids and other good orchids. We noted several yellow varieties of Cypripedium insigne, two Odontoglossum Groganii (Edwardii x Cro-Skimmeri), and some well-grown plants of Laelo Cattleya Puryatis.

Messrs. Armstrong and Brown, Tunbridge Wells, staged a nice group of well-grown plants, which was awarded a Silver Banksian Medal. The varieties of *Cypripedium* included the beautiful Germaine Opois, Fowlerianum magnificum and Lord Roberts, a very fine variety of *Cattleya Fobia*, *Odonotoda Thwaitesii*, and a good *Brasso-Cattleya Thunbergii*. Many interesting botanical orchids were included, such as *Bulbophyllum Godseffianum*, *Dendrobium coelegyne*, and *Cirriopetalum appendiculatum*.

Messrs. Stanley and Co., Southgate, brought a good selection of fine varieties of *Cattleya Fobia* and other hybrids of *Cattleya*, some distinct plants of *Cattleya Heloisie* (Forbesi \times Mossae), *Laelia Cattleya Whitniei* (*L. purpureata* \times *C. Harrisoniana*), and a good *L.-C. Lady Rothschild*. A plant which attracted considerable notice was *Cattleya labiata virginia*, a flower with pure white sepals and petals, having a slight tinge of colour at the tips, and a lip slightly marked with purple. The plant had four leads, and seven flowers.

Messrs. J. and A. A. McBean, Cooksbridge, exhibited a grand plant of *Cattleya Portia*, carrying fifteen flowers on a spike, a good

hybrid between *Cypripedium Harefield Hall* and *C. nitens*, and *Sophro-Cattleya Doris*.

Monsieur Mertens, Ghent, brought a selection of *Odontoglossum* hybrids, several of which were beautifully coloured, and a *Laelia-Cattleya* hybrid with probably *Laelia pumila* as one parent.

AWARDS.

FIRST-CLASS CERTIFICATE.

Sophro-Cattleya Doris Cobb's variety (*C. aurea* \times *S. grandiflora*), from Walter Cobb, Esq., Normanhurst, Sussex (gr. Mr. C. J. Salter). The largest and best-coloured variety of this hybrid yet seen.

AWARDS OF MERIT.

Laelia-Cattleya Olivia (*L. Jongheana* \times *C. Schrödera*), from Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbat (gr. Mr. H. G. Alexander). A grand, well formed hybrid: sepals and petals of a delicate mauve tint, slightly veined, the lip being broad and orange-coloured with rose-tinted margin.

Calanthe Cooksoniae gigantea (*vestita rubro-oculata gigantea* \times *Harrisii*), from Mrs. Norman Cookson (gr. Mr. H. J. Chapman). A pure white hybrid, and a great acquisition.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

November 3rd, 1910.

COMMITTEE present: Messrs. E. Ashworth (chairman), R. Ashworth, Arthur, Ashton, Bolton, Holmes, Keeling, Parler, Sander, Thorp, Ward and Wethers (hon. sec.)

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), exhibited a fine group of many good and rare plants. Awards of Merit were granted to *Cattleya Cooksonii* var. *Queen Amelia*, *C. Princess Royal*, *C. labiata* var. *Lucana*, and *Odontoglossum Aireworth* var. *Fire King*.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), received a First-class Certificate for a fine variety of *Odontoglossum crispum* var. *R. Ashworth*, of which *O. c. Graecianum* was one of the parents.

G. Shorland Ball, Esq., Burton, Westmoreland (gr. Mr. Herdman), sent a good collection

of plants, comprising several good *Cypripedium*s, and a *Lycaste Skinneri alba*. Silver gilt Medal.

H. J. Bromlow, Esq., Rainhill (gr. Mr. Morgan), exhibited *Cypripedium Reginald Young*, which received an Award of Merit.

Col. J. Rutledge, Blackburn (gr. Mr. Lupton), staged a group of *Cypripedium*s in competition for the "R. Ashworth" Cup.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), brought two varieties of *Cattleya Fobia*, one of which named *splendens* received an Award of Merit.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), staged an excellent group of the autumn flowering variety of *Epidendrum vitellinum*. A Silver Medal and Cultural Certificate were awarded. *Cattleya Fobia* Craven's variety obtained an Award of Merit.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged a nice lot of *Cypripediums*, one of which was the rare *C. Boltonii*.

F. A. Hindley, Esq., Great Horton, Bradford (gr. Mr. Fox), staged a group of plants, to which a Silver Medal was awarded.

Ziba, A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver Medal for a collection of *Cypripediums* containing many yellow varieties.

W. Thompson, Esq. (gr. Mr. Stevens), sent *Odontoglossum evulans* var. *Minerva*, and *Cypripedium* Ed. Guest.

A. Hammer, Esq., Marple, exhibited *Cypripedium Hitchcrae*.

Mr. H. A. Innes Croft Spa, Vorkes, had a nice selection of Orchids which was awarded a Silver Medal.

Messrs. J. and A. A. McBean, Cooksbridge, sent the distinct *Odontoglossum crispum* *solan*.

Messrs. Keeling and Sons, Bradford, exhibited *Cattleya labiata* var. *King George V.*, which received an Award of Merit.

Mr. P. Weathers, Manchester, obtained an Award of Merit for *Cattleya Bowringiana* *concolor*.

Other exhibitors were Messrs. Mansell and Hatcher, Rawdon; Mr. W. Shackleton, Bradford; Mr. J. Birchenall, Alderley Edge; and the Liverpool Orchid Co.

November 17th, 1910.

COMMITTEE present: Messrs. L. Ashworth, R. Ashworth, Ashton, Parker, Keeling, Ward, Cowan, Cypher, Thorp, Shill, Stevens, Weathers, *hocs. sec.*

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), made a fine display of good orchids which were in competition for the "R. Ashworth" Cup. In this group *Cypripedium Antinous*, *Cattleya Luege magnifica*, and *Odontoglossum Ceres* Plumpton Hall var. were awarded First-class Certificates. A well-grown example of *Odontoglossum Harryano-crispum* was voted a Cultural Certificate.

W. Thompson, Esq., Stone (gr. Mr. Stevens), exhibited a few interesting plants. *Odontoglossum Thompsonii* var. *pumilum*, O.

crispum var. *Eclipse*, and *O. ardentissimum* var. *Gaircraunum* received Awards of Merit.

R. G. Thwaites, Esq., Streatham Hill (gr. Mr. Black), exhibited some nice examples of *Cattleya Maggie Rapaal* *alba*. Vote of Thanks.

F. A. Hindley, Esq., Great Horton, Bradford (gr. Mr. Fox), was awarded a Silver Medal for a miscellaneous display, *Cypripediums* and *Cattleyas* being principally represented.

Col. J. Rutherford, Blackburn (gr. Mr. Lupton), was awarded five points in the "R. Ashworth" Cup Competition. Some good *Odontoglossums* and a few nice *Cypripediums* were included.

S. Gratrix, Esq., Whalley Range (gr. Mr. Shill), received a First-class Certificate for *Cypripedium Queen Mary*, a good hybrid between *C. Acson giganteum* and *C. margin* *Harefield* *Hall*.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), received an Award of Merit for *Cypripedium Fairreanum* *Beeches* var. Very pretty and distinct.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Medal for a good group of well-grown snowy orchids, including most of the popular hybrids.

Messrs. Sander and Sons, St. Albans, staged a nice group of good *Odontoglossums* in variety, *Cypripediums*, and *Cattleya* hybrids. Vote of Thanks.

Messrs. James and A. A. McBean, Cooksbridge, exhibited *Cattleya Suavior* *alba* and *Odontoglossum Harryano-crispum* var. *The King*, both of which gained Awards of Merit.

Other exhibitors to whom Votes of Thanks were awarded were: Messrs. Stuart Low and Co., Mr. F. V. Low, The Liverpool Orchid Co., Mr. W. Shackleton, Mr. J. Birchenall, and E. Ashworth, Esq.

P. W.

Obituary.

WILLIAM BOXALL.—This well-known man, who was without doubt the most successful collector the orchid world has seen, passed away at his residence, 185, Brooke Road, Clapton, on August 28th, in his 66th year. He was for many years in the service of

Messrs. Hugh Lew and Co., who held him in high esteem.

The many difficult journeys he undertook and the unhealthy climate often experienced told upon his health, and these years ago a paralytic stroke following on diabetes compelled him to take more care of himself by residing for the remainder of his days in this country.

We are indebted to him for many fine orchids which at this time hold their own against some of the more recent productions. The following will act as a reminder of his many travels and their reward:—

Cypripedium Boxalli, *C. bellatulum*, *C. ciliclaris*, *Cymbidium Lowianum*, *Dendrobium Waddianum Lowii*, *D. Boxalli*, *D. Frymacerianum*, *D. crassinode Barberianum*, *D. aureum*

Philippinense, *Phalenopsis Boxalli*, *P. Brymeriana*, *P. Stuartiana*, *P. Schilleriana vestalis*, *Masdevallia Bella*, *Cattleya Scheffeldiana*, *Laelia Lecara*, *Vanda corulescens*, *V. Boxalli*, *V. lamellata Boxalli*, *V. Roeblingiana*, *V. Amesiani*, *V. Kribballiana*, *Saccobulbium bellum*, and many others known to botanists only by dried flowers.

The large consignments of *Phalenopsis* which he sent home always arrived in the best possible condition; this is more than can be said of the present-day importations.

Mr. Boxall was one of the first Victoria Medallists of Honour, and in 1902 was elected a member of the Orchid Committee of the Royal Horticultural Society, on which he remained a regular attendant until his death.



Brasso-Laelio-Cattleya "Murat."

Exhibited by Messrs. Firmin Lambson at the Brussels Exhibition, Oct. 29th. It is a hybrid obtained by crossing *B.-C. Mrs. J. Leman* with *L.-C. lowianum*.



Cattleya labiata albâ var. Harefield Hall.

Exhibited by Messrs. Firmin Lambson at the Brussels Exhibition, Oct. 29th, when it received the First Prize for the finest *Cattleya* species in the show.

Orchids. By James O'Brien, V.M.H. This is the title of a book just published by T. C. and E. C. Jack, price 1s. 6d., and is one of the series of "Present-Day Gardening," edited by R. Hooper Pearson, managing editor of the *Gardener's Chronicle*.

In recommending this exceedingly well-written and useful book to every amateur desiring greater knowledge in the fascinating art of orchid culture we cannot do better than quote from the editor's prefatory note: "There is no department of present-day gardening that exhibits such wonderful progress as is shown in the orchid gardens and nurseries that are to be found in every portion of these isles. Amateurs are but just beginning to realise that orchids, like other plants, are capable of being understood by anyone who really desires to understand them. As a practical cultivator in the old Pine Apple Nurseries of Messrs. Henderson, Mr. O'Brien had the good fortune to flower many species for the first time after their introduction, and ever since those early days he has continued to specialise in these plants. He is secretary of the Orchid Committee of the Royal Horticultural Society, and in 1897 he was included in the first sixty horticulturists who were selected to receive the Victoria Medal of Honour in commemoration of Queen Victoria's Jubilee."

The first of the twenty-one chapters is devoted to the rise and progress of orchid culture. Commencing with the year 1728, the most important facts are noted in each period of orchid history: the early introduction of species, the first raising of seedlings, and the commencement of the cool-house treatment.

Each succeeding chapter deals with an important matter, which is available for reference when any question on the subject crops up in another portion of the book. We thus have chapters on the structure of orchid-houses, the methods of heating, and the process of potting, with all the information written in a style which can be understood by the youngest amateur. To those more advanced the remarks on hybridising and raising seedling orchids will be read with interest, while even the professional may

refresh his memory with the enumeration of the principal genera and species in cultivation given in Chapter XX.

A subject upon which we entirely agree is the chapter on aseless pseudo-bulbs, and, knowing the great importance of this matter, we reprint the following to show the practical style the author adopts in his mode of treating each subject:—

"If an imported orchid, such as *Cattleya* or *Lælia*, which has been cultivated under glass for several years and has many pseudo-bulbs, be turned out of the pot and the roots freed from the potting material, it will be seen that the new roots which nourish the plant are confined to the freshest pseudo-bulbs, and that the roots beneath the older pseudo-bulbs are in such a condition that they are useless in the economy of the plant. This fact goes to show that the old bulbs are being supported by the newer growths, and that they are seriously impeding the full development of the flower-producing part of the specimen. In such a case it is a common thing to see large specimens collapse and die off, the decay being traceable to the old bulbs in the centre of the plant. It is, therefore, better to remove old pseudo-bulbs behind the last three or four leading ones, and, if it is desired to retain all leading portions of a large mass in one pot or pan to form a specimen, they should be potted together, when it will be found that, given reasonable treatment, they will make better specimens than if left in a mass."

As examples of the reward of good culture eight coloured plates are given illustrating specimen plants grown by Mr. H. G. Alexander, orchid grower to Sir George Halford, K.C.V.O. the beauty of any one of which should alone act as an incitement to master every detail which is included in the book.

One of the finest specimens of colour photographic work which has been done is the figure of *Brassia Cattleya* Digbyano-Mossia Westonbirt variety. The plant bears seven grand flowers, which are most realistic in colour, and this plate alone is worth the small sum charged for the whole work.

There is only one thing that can happen to this book, and that is, an ever increasing popularity as the work becomes known.



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NOTES.

A new hybrid orchid between *Spiranthes aestivalis* and *S. autumnalis* is described by Hans Fleischmann in the December number of the *Osterreichische Botanische Zeitschrift*.

§ § §

The *Botanical Magazine* (t. 8352) gives a figure of *Dendrobium Darwinianum*. This *Dendrobium* was discovered in 1905 in Indo-China, about 1,750 feet above sea level, and was introduced by Mr. G. Bronckart. Its nearest ally is *D. tortile*. The plant from which the figure was prepared was purchased for the Kew collection in 1906 from Mr. M. Verdonck, Ghent. It has been grown and flowered in a tropical house at Kew under the conditions suitable for the species of the group to which *D. noble* belongs. During winter it is rested in an airy greenhouse.

§ § §

Mr. J. Smith, orchid-grower to R. Brooman-White, Esq., Arddarroch, sends us a flower of a splendid variety of *Odontoglossum crispum* named Mont Blanc. The total width is 3½ inches, and the petals are 1½ inches in width. With the exception of a slight spotting on the lip the flower is almost pure white, only a faint streak of colour being visible on the back of the sepals. It is a true Pachy type *crispum* of the very best class, now so rarely seen. Mr. Smith also sends a flower of *Cypripedium insigne* Sanderae and of *insigne* Gladys. The dorsal sepal of the latter differs

from Sanderae in being entirely without spots, and, although somewhat broader, it does not display quite so much white.

§ § §

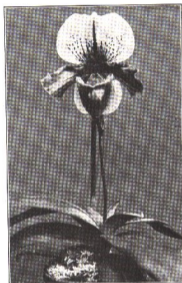
The *Gardener's Chronicle* of December 24th, 1910, contains an excellent reproduction of *Polystachya paniculata*. It is a native of Uganda, and was first imported by Sir Trevor Lawrence, Bart., K.C.V.O. The same issue also contains a full-page illustration of the new *Brassia Forgetiana*, which was exhibited by Messrs. Sander and Sons at the meeting of the Royal Horticultural Society held on December 6th last, when it received a Botanical Certificate.

§ § §

A curious flower has just opened on a large plant of *Cypripedium Harrisonianum* in the collection of Mr. Axa J. Hall, Harrogate, Yorks. As regards form the flower is normal, but in colour it suggests the combination of half an albino variety with half an ordinary one. From the apex of the dorsal sepal to the end of the pouch, including one lateral petal and half the column, a clear line may be traced dividing the coloured portion from the light green or albino part. The corresponding part of the ovary is similarly marked, and a greenish-white streak may be traced from this organ to the base of the flower-spike. The other flowers on this plant are normal, both in shape and colour.

CYPRIPEDIUM MINOTAUR.

THIS very fine hybrid was exhibited by Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. Alexander), at the Royal Horticultural Society on November 22nd, 1910, when it received a First-class Certificate.



It is one of those remarkable forms which have arisen from the intercrossing of what may be best described as ordinary species. The following diagram will show that it is made up of three parts insigne, two parts Spicerianum, one part villosum, and one part Boxallii.



The cross was made December 12th, 1905. The seed was sown January 30th, 1907. The plant flowered November, 1910. The dorsal sepal, which is $3\frac{1}{4}$ inches in width, is pure white, with a small blotch of yellowish-green at the base, prettily marked with deep purple spots on the lower half, and with a median streak of the same colour extending almost to the apex. The broad petals are purplish-brown, tinged at the tips with yellow. The lip is equally well formed and coloured.

§ § §

Laelio-Cattleya Pauline (L.-C. *Ophir* x *C. labiata alba*). This pretty hybrid has light primrose-coloured flowers with rose purple veining on the labellum. *Cattleya aurea* crossed with *Laelia xanthina* is L.-C. *Ophir*, and when this hybrid is combined with a typical *C. labiata* the flowers of the seedling have a purple tint; but in the case of L.-C. *Pauline* a variety of *C. labiata* was used having white sepals and petals and a lip veined with rose purple. It is therefore interesting to note that this characteristic has appeared in the resulting seedling, for there is no trace of purple pigment other than the veining on the labellum. The plant, which carried a fine spike of five flowers, was raised in the Westonbirt collection by Mr. H. G. Alexander and exhibited at the meeting of the Royal Horticultural Society on December 20th by Lieut.-Col. Sir George L. Holford, K.C.V.O.

§ § §

A flower of *Laelio-Cattleya cornuta* has reached us from the collection of F. J. Hanbury, Esq., Brocchurst, East Grinstead. It is a hybrid obtained by crossing *C. labiata* with *L. autumnalis*, and was first raised by Mons. Maron, of Brunoy (*Journ. Soc. Hort.*, France, 1900, p. 848). In this flower the sepals and petals are a pretty pinkish-mauve, the former being somewhat darker. The whole of the front lobe of the labellum is covered with mauve, the throat being pure white with a slight tinge of yellow on the ridges. The petals are 2½ inches in width, and measure 6½ inches from tip to tip. The labellum is 1½ inches in width at its broadest part.

ODONTIODAS.

By DE BARRI CRAWSHAY.

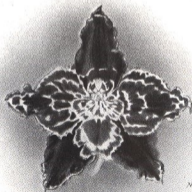
MAY 31st, 1904! Less than the proverbial "In seven years a change occurs in the lives of men" has it taken to prove this saying as regards "Red Odontoglossums." The calm, almost indifferent, nonchalance exhibited now at a remarkable advance in "Reds" is a curious contrast to the immense furor created by *Odontioda Vaylatakeae* which on that day I had the satisfaction of naming.

It was amusing to see the incredulous look and hear the pitying remark when I stated it was "only a question of time that we should see a scarlet *crispum*." This has almost been achieved in *Odontioda St. Fuscien Imperator*, shown by M. Henri Graire (F.C.C., R.H.S., June 7th, 1910), and it contains the additional blotching which I did not then refer



Odontioda Vaylatakeae.

From a photograph by G. J. Gregory, *Crypsis*, taken in the Temple Show, 31st May, 1904.



Odontioda St. Fuscien Imperator.
("R.H.S. Journal.")

to, and it is to all intents a scarlet *Notched crispum*. The unblotched form will come before we are very much older.

The addition of *Odontioda Charlesworthii*, thus linking up that magnificent species *Odontoglossum Harryanae*, coupled to the primogenitor of this race and the above-named variety, open up a vista into the far future that anyone would have hardly dared to expect in the short time since the first "Red" bloomed.

This field, wide as it is, and embracing the reddening of the whole genus *Odontoglossum*,

has been even further extended by Mr. Charlesworth, who linked up *Miltoria*, showing *Miltoniada Harwoodii* on July 6th, 1909, at Holland House, and *Miltoniada Ajax* on October 26th, 1909. He also has recently pushed his experiments to a further success by showing *Oncidiada Charlesworthii* (*Oncidium incurvum* × *Cochlidoda Neeliana*) at the Royal Horticultural Society on August 30th, 1910. Thus have we the field for production of "Reds" widened to embrace three great genera: *Odontoglossum*, *Miltoria* and *Oncidium*. Surely this is almost enough for anyone to contemplate, at least for the present.

The secondaries follow close on the heels of this great expansion of the "Red area." Mr. Charlesworth and M. C. Vuytsteke apparently bloomed plants about the same time, for the former showed *Odontioda Cassiope* (*Odontoglossum amabile* × *Odontioda heathensis*), on April 5th, 1910; the latter bloomed a cross between *Miltoria*



Odontioda heathensis Foster's var.
(“R.H.S. Journal.”)

virillaria and *Odontioda Vuytsteke*, which was figured in *Revue Horticole*, May, 1910. This plant I propose to call *Odontiodonia*. This is allowable under the present system of nomenclature; but should it be coupled up to *Oncidium* or *Brassia*, a not unlikely thing, then the name of the raiser will have a chance of becoming a generic cognomen; but we can wait awhile ere we select this, being content to have a little breathing time.

By way of a parenthetical remark I may call attention here to the concluding line of my article on *Odontoglossum Vuytsteke* (*Orchid Review*, 1905, p. 303). On reference to it I think, after a perusal of the subjoined list, the most exacting will say that England has awakened.

Referring to my article, “*Odontiodas*,” in the *Orchid Review*, 1907, pp. 270-2, we can record a distinct advance, in that we are able to raise



Odontioda Charlesworthii Theodore. (“R.H.S. Journal.”)

N R

more crosses with *Cochlioda* as the pollen parent. Some say it is because we effect so many more; but is there not some other far more cogent reason to account for it? Hereon it would be very interesting to hear the opinions of those who have been so much more successful of late.

There are good results being achieved with the primary "Reds" as pollen parents upon the large species of *Odontoglossum*, far better than in the case of *Cochlioda*, as might be expected; but even yet the best results are upon the *Cochlioda Noelsiana* hybrids as seed-bearers; their pods are frequently stuffed full of seed like a pure *Odontoglossum*.

Considering the large number of "Red" hybrids raised, it is rather surprising that more of them have not yielded to the influence of the markings of the *Odontoglossum* with which they have been crossed. Practically speaking, the red of *Cochlioda Noelsiana* is as yet very little broken up into patterns such as are found in blotched crispums where the blotching and groundwork are so varied. Even in *Odontioda Veylatae* the markings are sometimes entirely absent, and a "red self" is the result, as in *Odontioda Vuytshoe Crueschayana* (which came from the Walton Grange collection when a tiny seedling); but in some of the other plants from the same capsule the red is broken up into a



Odontioda Thwaitii. (R.H.S. Painting.)

pattern, as in the original. Here, of course, it is not so likely, as the red and white of the parents would not be very likely to always break up; it is more reasonable to expect a lighter red result from red and white parents.

When *Odontioda Charlesworthii* first appeared, grand introduction as it was (and is still certainly the finest *Odontioda* of all), it was a little disappointing to find that the wealth of colour of *Odontoglossum Harryanum* had only been able to mix with and be assumed by the red of *Cochlioda Noelsiana*; but it made amends by producing the finest ruby-crimson colour I think ever seen in a flower. Even in the *labellum* the violet was crushed out by the red, and, peculiarly enough, produced a lighter ruby than in the sepals and petals, evidently from the pure white of *Harryanum's* lip.

It was then hoped that crossing *Cochlioda Noelsiana* with secondary *Harryanum* hybrids would break up the red, but as yet this has not taken place. *Odontioda Lambeariana* (*Cochlioda Noelsiana* x *Odontoglossum Lambearianum*) being a self of brighter ruby than before, but the colour is as yet unbroken into a pattern as in *Odontioda Charlesworthii*, and this in spite of the parentage containing *Harryanum, nobile*, and a blotched *crispum*,



Odontioda gottendorfi. (R.H.S. Painting.)

the latter, no doubt, having an ancestry of varied components which we cannot at all define with perfect accuracy.

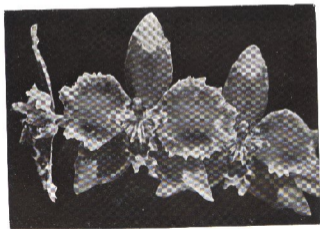
Odontiodas which appear to have most broken up the red are perhaps the various crosses of *Bradshawia*, *St. Fuscus*, *Cochlidia*, *Semenaea*, and *gallonensis*. The first three contain *crispum*, the second and fourth have *Hancockianum* in them, the last having *Negelpou*. As the best patterned arrangement of spotting of red brown or red, I think no one will dispute the superiority of *Odontioda St. Fuscus Imperator*, and in it the breaking up has been singularly effected by the same ancestry as in *Semenaea*. *Odontioda Bradshawia* Cookson's variety is practically



Odontioda luteo (R.H.S. Patton)

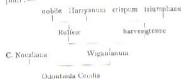
a blotched *crispum* in a study of red and lilac with a *Cochlidia Noveboracensis* lip, unquestionably the finest yet seen of its cross. In *gallonensis* we have a different system of breaking up the red, and I have great hopes of the secondary crosses herefrom becoming fine things.

Since writing this paragraph Mr. R. G. Thwaites showed *Odontioda Cecilia* (*Cochlidia Novitiana* × *Odontoglossum Wiganianum*), which has gone a step further, in that the red of *Cochlidia Noveboracensis* has been supplanted by a creamy-yellowish-white ground covered with small red spots. This has been effected by the collective powers of the white grounds in the ancestry of this



Odontioda Bradshawia Cookson's var. ("Gardener's Christie")
From a photograph by Mr. H. J. Chapman.

hybrid, as seen in the accompanying plan:—



By a careful study of the data we have in this hybrid we may be able to attain certain objects sooner than

by a haphazard crossing of any thing that is good. Taking next as one section all the *Odontiodas* having the "yellow and brown" *Odontoglossums* as parents, viz., *Craeviana*, *Latellia*, *sepra* and *Senaraca*, it is astonishing to see how little difference in markings this wide range of parents has made. The red has stood the attack and come out triumphant. *Hunnewellianum* appears to be the strongest yellow and brown species, as the hybrid *Senaraca* from it has a more broken-up red ground than any of the others.

Odontioda Devoniana stands alone as yet in the primary hybrids, it being the only one with *O. Edwardii* for parent. There is no doubt this will create a fine race of hybrids, the colour being distinct from all others; but it will take time to get size of flower, and it also may be difficult to retain the fine deep colour in the secondaries.

The group with *Cochlidia sanguinea*, viz., *homonensis* and *wickhamensis*, are not

comparable to the *C. Nozdiana* group, and it is not to be expected they should be, but may produce elegant secondary crosses.

The *Cochlidia vulcanica* group gives greater promise, viz., *Hobokenae*, *Thwaitesii*, *chalcisensis*, *Seymouri* and *Wilsonii*, the lilac-purple contained by them, especially *Thwaitesii*, being very beautiful; but they all lack form, naturally so from its absence in *Cochlidia vulcanica*.

Great care will be necessary in selecting the colours wherewith to cross this group, as

I doubt the constancy of the lilac-purple, and if it is coupled with any heavy brown the result will be probably a muddy ground colour, and great disappointment to the raiser, as well as loss of valuable time.

The result of *Cochlidia vulcanica* and *Odontoglossum nobile* (*Odontioda Wilsonii*) is poor as compared to the original analogous cross with *Cochlidia Nozdiana*, even though allowance be made for a small plant



Odontioda hobokenae (R.H.S. Pauling)

blooming for the first time in each case.

When *Odontioda Vanilteke* was shown there were some who thought *Odontoglossum ardentissimum*, and not *O. nobile*, was its parent. I always contested this doubt, and gave my reasons in my paper on "Hybrid *Odontoglossa*" (Conference on Genetics, R.H.S. Report, 1907). *Odontioda Wilsonii* gives a remarkable proof of what I then said. It has the same large area of colour, surrounded by a creamy-white band that widens at the tips of the segments, which in turn is again bounded outwardly by the edges of the

segments being of the same colour as the blotch; in fact, two different hybrids could hardly be more alike in the arrangement of their coloration. Evidently *Odontoglossum mobile* is a very powerful agent with a *Cochlidia*, and we can bear this in mind when trying to obtain certain results in the future.

The *Rosii* group only contains one member as yet, *Gairiana*, but there is no doubt that this group in time will be a very important one when we get the secondary crosses herein.

Odontioda Enterpe
(*Cochlidia Noctilana* ×
Odontoglossum Uro-Skinnersi) is dis-

appointing. In colour the red has some what gone

Charlesworth had already named a cross between *Cochlidia Noctilana* and *Odontoglossum amabile* as *Odontioda Diana* at the R.H.S., April 31st, 1910, *King George V.*, and *Royal Gem*.

Cassiope has a most extraordinary way of spotting about, and as yet is disappointing, and, I fear, always will be (those goddesses always were capricious). The next two I



own before the purple of *Uro-Skinnersi*; but *Cochlidia* has made a triumphant victory in reducing the size. This probably may make a fine secondary cross with the right parent.

I now come to the secondary crosses as a group: *Cassiope*, *Sensation*, M. Ch. Vuylsteke's cross between *Odontioda Vuylstekei* and *Odontoglossum crispum*, which he named *Diana* at Brussels, April 30th, 1910 (but which name must be suppressed, as Mr.

Odontioda Bradshawi have not seen, but am told resemble the pair M. Vuylsteke showed at the Temple Show, 1910. In these, *Wendellii* var. they much re-

sembled the pair M. Vuylsteke showed at the Temple Show, 1910. In these, *King George V.* and *Royal Gem*, we have a really fine pattern in the secondary hybrid, the arrangement of the spotting being most beautiful; but I am sorry to say the *red* is fast disappearing, and a course more crosses pursuing the same line of descent will, I fear, entirely eliminate it, thus defeating the object we have in view, that of creating 'reds,' and not 'pinks.' There needs an infusion of new blood to heighten the colour of the red of the two first-named, and that can best be attained by using *Odontioda Charlesworthii*, thus harnessing once again the power of *Odontoglossum Harryanum* to transmit the acquired ruby-red colour.

It is very remarkable indeed to see the great similarity of the arrangement of the

markings of *Odontioda Vaylstekeae* and *O. King George V.*, as shown by the accompanying figures, both made from photographs. As the latter is a cross from the former it is but natural to expect some resemblance: but *Odontoglossum laudatum* (*ardentissimum* × *Wilkinsonii*) should, in theory, have given more of the form shown in *Latetia*, with its influence of *Od. luteo-purpureum*; but not so; the *nobile* in the seed-bearer has assumed the *nobile* in the pollen parent and rejected the *luteo-purpureum*, once more showing the *collective power* of the white-grounded ancestor—*nobile*. Form has been here improved at the expense of colour.



Odontioda Ernest Henry. ("Gardener's Chronicle.")

During September last Mr. Charlesworth bloomed another secondary cross, *Odontioda Daphne* (*Odontoglossum Edwardii* × *Odontioda leucocensis*), and, peculiarly enough, this seems to even reduce the size of the blooms below that of *Edwardii*, whose influence is paramount in colour, though in form it is a little modified towards the pollen parent. The plant was small, and it is hardly fair to criticise it yet, but at present it is not any advance in its genus.

Taking the group that have *Cochlidia Neesiana* and *Odontoglossum Harryanum* in their parentage, viz., *Charlesworthii*, *Ernest Henry*, *Diana*, *Lombardiana*, *Leana*,

boeckense and *Cecilia*, it is very interesting to observe the variation in the influence of *Odontoglossum Harryanum* in relation to its directness or the reverse as a parent. The greater the *Harryanum* influence the finer the hybrid. *Charlesworthii* stands first. In *Leana* and *boeckense* the *Harryanum* influence has overcome that of *crispum* and *nobile* to such an extent that they might be taken in a group as *Charlesworthii* from different capsules. In this particular *Leana* we shall not see any variation, as its owner tells me the plant was "the whole stock" raised.

In *Odontioda ignea* we have a totally distinct break away, and this, being the result of



Odontioda Vaylstekeae Crocusiana. ("R.H.S. Journal.")

a pure yellow and very distinct species, may lead to "fields unknown." I have not seen it, but am told it is "a little thing, very bright, stem two feet, short peduncles, crimson." Here again we have another proof that red and yellow make crimson, otherwise red.

For the sake of completeness I append lists of all allied hybrids where red is in their ancestry, for in a short time hence it may not be so easy to tabulate them with equal simplicity, and this may be useful to hybridists who are attacking this enormous red field of operations.

In conclusion, if any red hybrid has been omitted it is not for want of earnest endeavour

to make this article complete to December 31st, 1910, but rather to the increasing energy of raisers in getting ahead of

doings, when they feel disposed to reveal their secrets, that I may be always in that pleasant position which I now occupy, that of



Odontodia King George F. ("Gardener's Claret.")

recorders, which increases in all directions, and hereupon I wish to make the request to *everyone* that they will be kind enough to keep me personally advised of all "Red

being able to keep abreast of the most wonderful metamorphosis yet made in the great *Odontoglossum* family, viz., the *Reddening of the whole order*, which is only a matter of time,

CHRONOLOGICAL TABLES.

ODONTIODA.

NAME.	PARENTAGE.	RAISER.	EXHIBITED OR PUBLISHED.
Vuytsteke	O. nobile	C. Noezliana	Vuytsteke
heatonensis	O. cirrhosum	C. sanguinea	Charlesworth
Bohnhofer	"	C. vulcanica	"
Bradshawii	C. Noezliana	O. crispum	"
Oxyssiana	"	O. Edwardii	Graire
Cravenniana	"	O. cordatum	Charlesworth
Lutetia	"	O. luteo- purpureum	"
keighleyense	"	O. cirrhosum	"
Charlesworthii	"	O. Harryanum	"
St. Fuscien	"	O. Adriana	Graire
wickhamensis	O. crispum	C. sanguinea	Bird
Thwaitesii	C. vulcanica	O. Harryanum	Thwaites
ehelsenensis	C. vulcanica	O. crispum	Bull
gattoiensis	C. Noezliana	O. Kegelsjani	Colman
Goodsonii ¹	Parentage unknown	"	Vuytsteke
Kinest Henry ²	C. Noezliana	O. Queen- Alexandra	Charlesworth
Lambeauxiana ³	"	O. Lam- beauxianum	Peeters
Cooksonia	"	O. argentissimum	Cookson
Unnamed	"	O. gloriosum	Vuytsteke
Gaircana	"	O. Rossi	Graire
capsea	"	O. cristatum	Sander
Seymouri	C. vulcanica	O. Uro-Skinneri	Thwaites
Cassiope	O. amabile	Odontioda- heatonensis	Charlesworth
Diana	C. Noezliana	O. amabile	"
Euterpe	"	O. Uro-Skinneri	"
bechense ⁴	"	O. Rolice	Tankerville
Lecana ⁵	"	O. crispum	Bell
Sensation	Odontioda- Vuytsteke	O. Harryanum	Vuytsteke
ignea	C. Noezliana	O. crispum	Vuytsteke
King George V.	Odontioda- Vuytsteke	O. Lindenii	Graire
Royal Gem	"	O. laudatum	Vuytsteke
revesse	O. nevadense	O. ardentissimum	"
Seuennacca	C. Noezliana	C. Noezliana	Thompson
Unnamed	C. vulcanica	O. Hunnewell- ianum	Crawshaw
Cecilia	C. Noezliana	Odontioda- heatonensis	Charlesworth
Wilsonii	C. vulcanica	O. Wiganianum	Thwaites
Daphne	O. Edwardii	O. nobile	"
grata	C. Noezliana	Odontioda- heatonensis	Charlesworth
		O. tripudians	Sander

1. Exhibited by Mr. H. Goodson.

2. Exhibited by Mr. H. Goodson.

3. Exhibited by M. F. van Lambrouck and subsequently shown by Mr. H. J. Crawshaw at the Manchester Orchid Society, March 15th, 1910, under the name *Odontioda Courcyana*; this will now become *Odontioda Lambrouckii Courcyana* under the laws of priority.

4. Exhibited by Mr. H. J. Crawshaw.

5. Exhibited by Mr. W. R. Lee, in compliment to whom it was named.

CHRONOLOGICAL TABLES—*continued.*

NAME.	PARENTAGE.		Raiser.	EXHIBITED OR PUBLISHED.
	MILTONIODA.			
Harwoodii	C. Noezliana	M. vexillaria	Charlesworth	R.H.S., July 6th, 1909.
Ajax	"	M. Schröderiana	"	R.H.S., October 16th, 1909.
	ODONTODONIA.			
Unnamed ¹	M. vexillaria	Odontodia-Vuystekei	Vuysteke	<i>Rev. Hort. Belge</i> , May, 1910.
	ONCIDIODA.			
Charlesworthii	Oncidium incertum	C. Noezliana	Charlesworth	R.H.S., October 31st, 1910.

¹. This is figured in colour; the crossbreed named "Odont. hybrid."

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

December 1st.

MEMBERS of the Orchid Committee present: Messrs. E. Ashworth, R. Ashworth, Thorp, Ward, Cowan, Keeling, Ashton, Holmes, Cypher, Sander, and Weathers (hon. sec.).

A. Warburton, Esq., Haslingden (gr. Mr. Dulgeis), received Silver gilt Medal points in the "Robson" Cup Competition for a good group of orchids, in which *Odontoglossums* took a prominent part.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), exhibited a large group of very choice *Cypripediums*. This group was greatly appreciated.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), received an Award of Merit for *Cypripedium Beatonii* magnificum (C. J. Howes × nitens Læcanum).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherly), staged a nice group of *Cypripediums* and *Odontoglossums*. (Silver Medal.)

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), exhibited some interesting plants. Awards of Merit were made to the following: *Odontoglossum Lambeanianum* var. Triton, O.L. var. Mars, *O. Bacchus*, *Cypripedium Victoria*, and *Calanthe George*. A Cultural Certificate was awarded for the quality of the *Odontoglossum*.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), sent a distinct form of *Cypripedium* Lord Ossulston.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), exhibited some very fine plants, including *Odontoglossum Rouge Dragon* (*O. Phoebe* × *ardentissimum*) and *Cypripedium Sunrise*, both of which received Awards of Merit.

F. A. Hindley, Esq., Gt. Horton, Bradford, was awarded a Bronze Medal for a nice group of orchids.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), received Awards of Merit for *Cypripedium R. le Doux* and *Odontoglossum eximium* var. *Mdm. Augusta d'Abren*.

Messrs. James Cypher and Sons received a Silver Medal for an interesting group of *Cypripediums*.

Other exhibitors were Messrs. E. V. Low, Haywards Heath; J. Robson, Altrincham; Charlesworth and Co., Haywards Heath; W. Shackleton, Bradford; Stanley and Co., Southgate; J. Barchenall, Akerley Edge; and J. H. Craven, Keighley.

§ § §

STANLEY AND CO.—On and after December 19th Mr. H. Stanley ceased to have any responsibility or interest in Stanley and Co., Southgate. Mr. John Cowan, jun., will take over the management on the 23rd inst. In future the firm will be known as Hassall and Co., late Stanley and Co.

SOME IDEAS ON ORCHID HYBRIDISATION.

By J. M. BLACK.

IN beginning these notes on orchid hybridisation, an all-absorbing subject for the orchid-grower, and a subject the importance of which to him it is difficult to exaggerate, let me at once make an attempt to dispel the gloomy forebodings of those who are ever ready to proclaim the uselessness of beginning now, considering how far ahead some already are, and the number of hybrids already raised—and to flower.

Hybridisation is now a most important part of orchid work. Without hybridisation and the steady introduction of the resulting novelties the interest in the fascinating pursuit of orchid collecting and growing would have been in danger of falling into neglect from sheer apathy, or it would have dropped to the level of the culture of other popular flowering greenhouse plants, which are cultivated purely for the decorative value of their flowers. Introductions of new species become yearly rarer, and as the ground gets further and further explored must still decrease, until it reaches vanishing point. There is a limitation to finding novelties in the shape of new species, but there is no such limitation in finding novelties from cross-breeding.

From the days of the raising of the first hybrid (1856) much thought and effort have been put into the work, and the flood of orchid hybrids that have since been poured out of the orchid-houses of this country, Belgium and France has been somewhat bewildering, even to those who are in intimate association with the work. Many curiosities, some monstrosities, and withal a generous quantity of valuable and beautiful productions have resulted from the workers in this branch of horticultural science. But notwithstanding this multitude of distinct hybrids—primary, secondary, tertiary and bigeneric—in the aggregate many thousands of plants, it might still be within the mark to say that we are but yet on the threshold of the citadel, and have the edifice itself to explore. Allowing that we have already entered the citadel, we have not yet had time to examine the many hidden crannies containing treasure, and

hardly suspect the wealth of beauty which a closer view and further exploration will disclose. We know that there are inner recesses in this fairyland building from which we have not been able to draw the curtains, and our ambition is to get in there.

How can it ever be too late to start cross-breeding orchids, with all the complex possibilities and mystery of the results!

The reasons that orchid cross-breeding ever took place at all were curiosity, a desire for novelty, and, latterly, size and perfection of shape, brilliance of hues and purity; secondarily, and a long way behind, constitution; and the controlling power has been, and always will be, gain a word that can be interpreted in many other ways besides successful commercialism.

Leaving aside for the moment the controlling power, a study of the reasons that ever existed will leave these reasons, after all that has been done, just as strong. Desire for novelty and pure curiosity may have become satiated in those who have been raising orchid hybrids for some years, but no hybridist has ever admitted to himself that he is satisfied on every point with his best products; so that size and perfection in shape, brilliance of hues and purity still remain his object, the will o' the wisp that he is ever pursuing.

And why should those who have not yet started not join in the chase? I am told it is because the other chap has got too much of a lead. But there is no need to start off the scratch line. He who started off the scratch line has covered some rough ground, and has encountered and overcome many obstacles—perhaps he has even grown weary on the way. The beginner has no need to go over the ground already covered; he can enter and start abreast. The results of the pioneers are ready to hand to work on, and there is room and to spare for all who have inclination, resources and time for this fascinating pursuit; and who knows but that among those who make their first pod in 1911 some may not be leading the van in the next

decade? It is never too late to start. *But make a good beginning.*

To assume that everybody who reads these notes is equipped with well filled orchid-houses would be to go on more directly with my subject; but as this is a new journal, presumably read by many who are novices in the widest sense of the word, some details of a house such as I would recommend for the purpose of seed-raising may be welcome, and any existing structure that will lend itself to alteration may be so modified as to meet the necessary requirements, or a new house built. The building of a new glasshouse is a matter of much moment, and should be considered and debated from every point of view, for upon it will depend very largely success or failure. To the less ambitious orchid-grower, who will be content to collect and grow orchids, with no idea of ever cross-breeding, the remarks on this question of orchid-house building will also appeal.

Most gardens have one or more glass-houses, and, while many of these have been built on common-sense lines, there are large numbers—particularly those that have been built for many years—that are ill adapted for their work, and which no amount of alteration would convert into suitable orchid-houses. Too frequently the amateur puts himself into the hands of the horticultural builder. He knows the price he is willing to pay, and, finding a spot in the garden that seems suitable—probably fits in and harmonises with existing buildings—he gives the order, with a rough outline of what he thinks he requires, and the builder does the rest. I have heard of isolated cases where the gentleman, although employing a gardener, never took him into his confidence at all in this important matter of glass construction; so that one need not wonder that so many silly structures have been built, even in quite recent years.

When it is decided to build, the employer should take his gardener into consultation and seriously discuss the question. The gardener should know what is expected to be grown in the house or houses, and have time to thresh the thing out in his own mind. It is also advisable that he should visit places

where success has been achieved and study the houses carefully, taking measurements, etc., adopting what he finds suitable, and introducing an improvement into his own design where it suggests itself. My own experience of most establishments—even where the glass has been constructed with all the foresight that mature experience can give—is that there is nearly always something not just right. Everything may look perfect until you have the experience of the man who has tested it in a practical way. I have no sympathy with the gentleman who, employing a gardener and does not consult him, meets with bad returns from his glasshouse.

For a collection of orchids to attain any eminence—and it is possible for even a small collection of orchids to attain some eminence—a first essential is for a hearty good feeling to exist between the grower and his employer, for in no other direction that I can think of is continuity of work and purpose more necessary than in the management of a collection of orchids, and this is doubly so where hybridisation and the raising of them from seed is contemplated, for then one must look many years ahead for the result. A discouraged orchid-grower can never do himself justice. He can see no future in his work. The stimulus of his employer's encouragement and interest is wanting, and he works hopelessly along without an objective, loitering and yearning for another appointment, which may be long in coming, and losing more and more every day that self-confidence without which no one can succeed.

As soon as it is decided to build, the question of site comes in for early consideration. Many things suggest themselves in connection with this matter—subsoil, altitude, environment; but as the individual is obviously limited to his own locality, any discussion of these would be fruitless, so we will leave them—with some regret. Besides, we are face to face with the fact that orchids are being grown excellently in all parts of the country, and in this we find much solace; while we must also reluctantly acknowledge that they are being grown indifferently in all parts of the country. We are thus forced to

the conclusion that the cultural attainments of the grower are primarily responsible.

My idea of a site for orchid-houses is in the middle of a field, far removed from the shade and *debris* of trees, buildings, or anything that will obscure the light. Too much emphasis cannot be put upon this. The ideal site would be one upon which the sun slimes as soon as it rises above the horizon, and dips off when it sinks below the horizon. This ideal will be difficult of attainment in most gardens, but should be kept ever before those who contemplate building. Consider what it means. In England the summer is short and inconstant, and often the early morning sun is all that we get during the day; and a glasshouse that benefits by several hours' more sunshine daily will have a higher mean temperature of natural heat than one that doesn't. The day becomes materially lengthened, and, *par suite*, the growing season. But this is not all. Orchids, although essentially sun-loving plants, cannot endure the full rays of our summer sun when it is high in the heavens. The leaves quickly scald or become yellow with most orchids in the comparatively close atmosphere of a glasshouse, so that the house during many hours must be shaded, sometimes pretty heavily. But the early morning and late evening sun can be allowed to have full play on the foliage, with effects of such magnitude that few of us probably realise how great. The growing season having been lengthened immeasurably and made more genial through the extra hours of solar heat, the little seedling grows relatively more quickly, and the early and late light makes it a sturdy nursling. And the advantages of the open site during the growing season are equalled, if not eclipsed, during the winter, the benefit of the extra light being of the first consideration for all orchids; while *Odontoglossums*, which grow during the winter, are particularly benefited. I hope to have an opportunity of further discussing the question of light and the *Odontoglossum*-house later.

With the open site there is an economy all round—in fuel, in time, and ultimately, when flowering, in the plant's strength. Great physical deterioration succeeds the flowering

of a badly-matured plant. We all know the phenomenon of cell growth when light is insufficient how the cells lengthen, and vegetation becomes attenuated and flabby. In inverse ratio, plants that have an abundance and a continuance of light have shorter cells, and the plant is built up of close, tough texture, and flowers without unduly exhausting itself.

It is difficult to gauge even approximately how great the influence of cultivation is on the variety; it certainly runs through all the gradations of very poor to very good. Plants grown with the full advantage of an open site, and where the air and light are pure, would be classed as choice orchids, and have a value in the orchid market; they would confer a dignity and importance on the grower, while suggesting wisdom, foresight, perspicuity and lavish outlay in the selection of the parents; whereas the same plants grown under adverse conditions, although possibly conveying the idea of good health, would flower shabbily and have no intrinsic value.

The open site thus offers a sequence of advantages leading up to the culminating point of the plant's existence, the crowning episode of all effort, when whatever good has been put into the plant in the way of parents will reappear in the seedling in that degree of emphasis there is no mistaking, and which we call "good cultivation."

I am not disposed to cavil at the phrase, but I should like it understood in its less restricted sense. There is a good cultivator out in the Brazilian forests!

(To be continued.)



The *Gentleman's Journal* for December 17th, 1910, contains an illustrated article on the orchid establishment of Messrs. Charlesworth and Co., Haywards Heath. Besides portraits of Mr. J. Charlesworth and Mr. H. H. Smith, there are ten interesting photographs of the houses and packing sheds, etc., and a good reproduction of the 50-guinea cup presented by the firm to the Manchester and North of England Orchid Society for competition.

THE ORCHID COLLECTION OF MONS. FIRMIN LAMBEAU,

VILLA VOGELSANG, NEAR BRUSSELS.

THE culture of orchids commenced in the year 1837. At that time there did not exist a special house for orchids, and the Cattleyas were grown in a temperate house which was used for green-house plants and other flowers.

The first special house was constructed in the following year. It was a cool-house for *Odontoglossums*. The results were so favourable as to induce the owner to construct a hot-house; and the number of orchid-houses successively grew until it reached eighteen.

These constructions were very dissimilar in style, which was not economical. Therefore, when M. Lambeau

moved from his residence at Château Precklinden to that which he now occupies at Villa Vogelsang he made preparations for a completely new establishment. Here he applied all that past experience suggested in the way of reducing labour and fire heat and in obtaining the best results.

The orchid-houses are disposed in two ranges, joined by a corridor of about six metres in width. Five of these houses are placed on each side of this corridor, each one

of which is separated from the next by a passage about a metre wide.

The ventilation of these houses is assured by a system of ventilators worked by means of gearing, which is fixed in the central corridor.



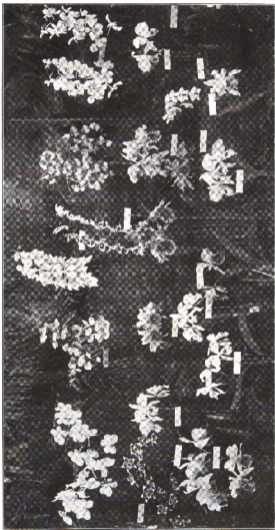
Mons. Firmin Lambeau.

The hot-water heating is composed of two tubular boilers, each one of which is alone capable of heating the whole establishment. In the normal state the two boilers are used with a moderate fire, but in case of accident each one of the boilers can be isolated by means of valves.

The hot-water pipes are of wrought iron, and are joined together by means of bolts

and nuts, which make a perfect water tight joint, and at the same time can be easily taken to pieces. The valves to regulate the heat in each house are placed in the central corridor; they are thus in a place of easy access.

At the end of this corridor, and over the boilers, is a compartment of five metres by seven, where the general work is done—re-potting, washing the plants, etc. These operations are all done without taking the plants outside.



One of Messrs. Firmin Lambour's groups at the Brussels International Exhibition, Oct.—Nov., 1910.

Only one house is separated, though heated by the same boilers. It is a propagating-house, in which *Cattleya* seedlings are raised. All the greenhouses are of one size, 3.25 metres wide and 22 metres in length. They have two stages and a path 1.10 metres wide. Only the central corridor has step staging, permitting of plants with long bulbs being grown. The whole superficial area covers 1,000 square metres.

Nearly all kinds of orchids are grown at Vegelesang, but Mons. Lambéau has a special liking for *Cattleyas*, *Cypripediums*, *Miltonias*, *Odontoglossums*, etc. The varieties of *Cattleyas* are particularly numerous, and one can form a good idea by stating that in the Brussels International Exhibition of 1910 Mons. Lambéau entered a collection of ten plants of *Cattleya labriata* alba, amongst which were *Cocksonia*, *Harefield* Hall, and *Purity*. The collection includes about twenty other varieties of white labiatas.

The plants number altogether more than 10,000, are in the best of cultivation, and reflect great credit to the abilities of Mons. Lambéau's orchid-grower, Mr. Edmond de Muter.

Only the best varieties have been used for hybridisation, and the seedlings which have already flowered, although small plants, have produced some very fine things. It was about seven years ago when the first plants were hybridised, but the most interesting are only about four years old. About 10,000 seedlings of *Cattleyas* and *Laelias* have been already raised.

The *Miltonia* seedlings deserve to be noticed, for there are some interesting crosses between *M. vexillaria*, *M. Bleumana*, *M. spectabilis* *Moriciana*, etc., with *Odontoglossums*, *Oncidium*s, *Cochlidiums*, and other *Miltonias*. Several of these extraordinary plants will flower this year.

Monsieur Firmin Lambéau is a Knight of the Order of Leopold, Knight of the Legion of Honour, Officer of the Royal Crown of the Congo, Member of the Upper Council of Horticulture, President of the Royal Linnean

Society of Brussels, President of the Horticultural Meetings of Brussels, President of the Circle of Orchid-growers of Belgium, President of the Organising Committee of the Brussels International Exhibition in 1910. At this Exhibition he was awarded the Grand Prix, the large Gold Medal value 500 francs, and the large Gold Medal offered by the Royal Horticultural and Botanical Society of Ghent for the interest he took in the welfare of the Exhibition.



PRESERVING ORCHID FLOWERS.—The following method is recommended for preserving orchid flowers. Heat some fine sand rather hot, and mix with it by constant stirring a small piece of wax candle; this prevents the sand from adhering to the flowers. Put a layer of this prepared sand in a suitable box, and, after placing the flowers in it, add carefully more sand until they are completely covered. The box should then be placed in a warm, dry atmosphere for several days. At the expiration of this period the flowers may be taken out, when they will be found to have kept their original shape. When dried in this manner they will last for many years.



The President and Council of the Royal Horticultural Society have decided to confer the Victoria Medal of Honour upon Messrs. Thomas Coomber, John James Cypher, C. R. Fielder, A. H. Pearson, and Henry B. May.

Of these well known horticulturists Mr. John J. Cypher is, on account of the great interest he takes in orchids, to be specially congratulated. During the last nine years he has held the leading position in the firm of J. Cypher and Sons, Cheltenham, which business has a world-wide reputation.

At most of the principal flower shows he has staged superb groups of decorative plants and orchids, and at the meetings of the Royal Horticultural Society he has won many medals for his exhibits of orchids. Mr. Cypher, who is fifty-six years of age, was elected a member of the above Society's Orchid Committee in 1908.

NEW PLANTS.

SOPHRO-LÆLIO-CATTLEYA ALTHEA (C. Percivaliana × S.-L. Gratrixia). A beautiful flower, having the sepals and petals of deep rose colour with a slight golden flush; the lip is of the same colour, but much darker. The throat is orange, slightly veined. Sophro-Lælio Gratrixia is S. grandiflora × L. tenebrosa. This plant was exhibited by H. S. Goodson, Esq., Fairlawn, Putney, at the Royal Horticultural Society on November 22nd, 1910.

CYPRIPEDIUM CAPT. SPENDER CLAY (villiosum auriferum × Fair-pearsoni). A bold, fascinating *Cypridium*, of a pleasing yellowish straw colour, veined with darker yellowish-green. The dorsal sepal has a median streak of dark pigment. The petals have the drooping habit of *Fairrieanum*. Exhibited at the Royal Horticultural Society on December 6th, 1910, by Messrs. Armstrong and Brown, Tunbridge Wells.

CYPRIPEDIUM MRS. SPENDER CLAY (*Atractus Drewetti* variety × *Fairrieanum*). A pretty hybrid, quite intermediate in form and colour. The whole flower is very uniform in colour, being of a light yellowish tint. The dorsal sepal shows a large amount of white surface, the light spots on which are neatly arranged in parallel lines. The petals have a few small spots, are nicely crisped, and show the drooping nature of *Fairrieanum*. Exhibited by Messrs. Armstrong and Brown at the Royal Horticultural Society, December 6th, 1910.

The following three new plants were exhibited at the Royal Horticultural Society on December 6th, 1910. They have been raised by W. H. St. Quintin, Esq., Scampston Hall, Rillington, Yorks.

LÆLIO-CATTLEYA FAUSTINA (L.-C. hutchleyensis × C. Bowringiana). This hybrid shows the broad petals of *Bowringiana* and the large lip of *Warszewiczii*, which is one of the parents of *hutchleyensis*.

LÆLIO-CATTLEYA LAVINIA (L.-C. *Epicasta* × *Bowringiana*). A nice hybrid, differing from L.-C. *Faustina* by having *pumila* in the parentage instead of *tenebrosa*.

LÆLIO-CATTLEYA FLORENTIA (L.-C. *La France* × C. *labiata*). The former parent is a hybrid obtained by crossing *tenebrosa* with *bicolor*. In this plant the characteristics of the three species are easily discerned.

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CYMBIDIUM ERYTHROSTYLUM.

THE following interesting note concerning the cultural treatment, and also a photograph, of this plant has been kindly sent by Sir John Edwards-Mess, Bart., Roby Hall, Torquay.

This plant was bought from Messrs. Sander and Sons, of St. Albans, in October, 1906. It was potted in a mixture of loam, peat, broken brick (very fine) and sand. It was potted again in similar compost early in 1908, and in March, 1909, when it was growing strongly, it was re-potted, but this time less peat and brick rubble were used.

Last year it carried four spikes, with nine, nine, eight and four blooms respectively. This year it had the same number of spikes, but the blooms were thirteen, ten, nine and seven—thirty nine in all instead of twenty-nine.

As soon as it has flowered the plant is put into the Mexican house, where it remains till the sun gets strong in spring. Then it is moved into a cool and high corridor, out of which both Mexican and *Odontoglossum* houses open, and there it remains, in a position where no direct sun can ever touch it, till its flowers are cut about the end of November, when it returns to the Mexican house.

ROYAL HORTICULTURAL SOCIETY.

November 22nd.

MEMBERS of the Orchid Committee present: Harry J. Veitch, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), J. Cypher, W. P. Board, J. Wilson Potter, W. Bolton, F. Sander, H. Little, Gurney Wilson, J. Charlesworth, W. Thompson, I. M. Ogilvie, C. H. Curtis, W. Cobb, A. A. McBean, H. G. Alexander, W. H. Hatcher, Stuart Low, and H. Balentine.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), was awarded a Silver-gilt Medal for an excellent group. Many very fine *Cypripediums* were the chief attraction. Other good things included *Cattleya Venus* Fairlawn variety, *Lælio-Cattleya Myrrha* (Dowiana × L. C. Greviana), and *Sophro-Lælio-Cattleya Athia* (C. Pérevaliana × S.-L. Graviana). By the side of this group some 130 paintings of orchids in the Fairlawn collection were exhibited; they gave a good idea of the remarkable high standard of the varieties which Mr. Goodson has acquired during the last few years.

Messrs. Charlesworth and Co., Haywards Heath, exhibited a few choice plants, including a fine *Brassia Cattleya Madame Charles Maron*, several *Cypripediums*, some good plants of *Calanthe Burfordensis*, and a wonderful variety of *Odontoglossum crispum*, a seedling one parent being *cispum Luciani*.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), received a Silver Flora Medal for a large group containing some excellent *Cypripediums*, amongst which were *C. Priscilla* (text.) × *insigne* Hatfield Hall, *C. gigas* and *C. insigne* Fowleriana, several good varieties of *Lycaste Skinneri*, a nice selection of well-flowered plants of *Odontoglossum crispum*, and other interesting things.

Messrs. Sander and Sons, St. Albans, exhibited some choice things, two of which received awards. The interesting *Chondropetalum Fletcheri*, several *Bulbophyllums*, and a *Lycaste* from Peru were also noted.

Pantia Relli, Esq., Ashted Park (gr. Mr. Hunt), was awarded a Silver Banksian Medal for a pretty group of *Calanthe* Wm. Murray

and C. Bryan. All the plants reflected great credit on the grower.

Messrs. James Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for a large group of *Cypripediums*, including several good plants of *Vanda coerulea* and *Calanthe Veitchii*. The fine forms of *Cypripediums* specially noted were: *Lecanum Cocosa*, *Mile superbum*, *Lecanum giganteum*, *Vipani* and *Rolfosa*, some nice plants of *Mastodia tozerensis*, a good variety of the rare *Odontoglossum Cervantesii roseum*, and a fine form of *O. amabile*.

Henry Little, Esq., Baronsclat, Twickenham (gr. Mr. Howard), sent *Cypripedium insigne* Baronsclat variety, a distinct form, in which the spotting on the dorsal is almost suppressed.

Messrs. J. Veitch and Sons, Ltd., King's Road, Chelsea, were awarded a Silver Flora Medal for a group of very fine *Cypripediums*, in which the following special varieties were included: *Cassiope* (insigne *Sanctæ* × *Euryades*), *Thalia splendens*, *Tityus superbum*, *illustre* (*Lecanum* × *Euryades*), and *Niobe*. An Award of Merit was given to *Cyp. Calanthe* (*Euryades* × *insigne*).

Samuel Laxson, Esq., The Ridgeway, Haslemere (gr. Mr. Hale), received a Silver Banksian Medal for a group of orchids, *Lælio-Cattleya Rubens* (*psittula* × *Hardiana*) was probably the best; others were *Cattleya lucida* (*Bowringiana* × *Schulleriana*), *Cypripedium Fairreianum*, *C. Euryades*, and *Cymbidium Tracyanum*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a small group, of particularly choice orchids. Amongst the *Cypripediums* were good plants of *Germaine* Opoix Westfield var., *Priam*, and *Thalia* Westfield variety. The elegant *Brassia-Cattleya* Mrs. J. Lecmann, *Cattleya Maggie Raphael* alba, and the rare *Cymbidium erythrostylum* were also noted.

R. G. Timmins, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. Black), exhibited some very fine hybrids, four good varieties of the elegant *Cattleya Maggie Raphael* alba, a good variety of *Lælio-*

Cattleya Rubens, the pretty *Odontoglossum* Blackii (*Pescatoris* × *Rossii*), and *Sophr.* *Cattleya Thwaitesii* (*C. Mendelii* × *S. grandiflora*). A well-coloured *Odontoda Charlesworthii* was also noticed.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver Banksian Medal for a good group of showy orchids, which included several good varieties of *Cattleya Fabia* and a selection of *Dendrobium Phalenopsis Schroderianum*. A strong plant of *Liparis longipes* with twenty flower spikes, a nice variety of *Cattleya labiata* with white sepals and petals, and several other interesting plants made up an effective group.

M. Firmin Lambear, Brussels, sent *Cattleya Maggie Raphael Lambear's* variety, a flower with a light tint of mauve colour on the sepals and petals, and a deep crimson coloured lip. *Cattleya Drapsiana* (*Mrs. Pitt aurea*) was also sent.

Messrs. J. and A. A. McBean, Cooksbridge, received a Silver Banksian Medal for a group composed of *Cypripedium insigne* *Sanderæ*. The plants were well grown and carried an abundance of flowers.

AWARDS.

FIRST-CLASS CERTIFICATES.

Cypripedium Minotaur (*Euryades* × *Minnie*), from Lieut. Col. Sir George L. Ho'ford, K.C.V.O., Westonbirt (gr. Mr. Alexander). For description and photograph of this excellent new *Cypripedium* see page 74.

Cypripedium Charlesworthii *Temeraire*, from Messrs. Sander and Sons, St. Albans. A wonderful variety. The dorsal sepal is more than three inches in height and nearly four inches in width. It is the finest variety of this beautiful species yet seen, and is particularly well coloured.

Vanda cœrulea *Sanderæ*, from Messrs. Sander and Sons, St. Albans. A very pretty and rare variety, in which the colour is magenta pink instead of the usual bluish tint. The labellum is of deep magenta.

AWARDS OF MERIT.

Cypripedium Iolanthe (*Euryades* × *insigne* *Sanderæ*), from Messrs. James Veitch and Sons. A well-formed flower with a broad

dorsal sepal, which is white spotted with purple; yellow at the margin.

Cattleya lucida (*Bowringiana* × *Schilleriana*), from Samuel Larkin, Esq., Ridgeway, Haslemere (gr. Mr. Hale). This plant carried several spikes, each having about twelve flowers. The flowers are rosy purple, with a white margin on the lip.

Sophr. *Laelio-Cattleya Althæa* (*C. Percivaliana* × *S.-L. Gratrixiæ*), from H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day). See "New Plants."

CULTURAL COMMENDATION

to Mr. Spowage (gr. to Col. Cary Batten, Abbots Leigh, Clifton) for a plant of *Oncidium tigrinum*, with fifty-three good flowers on a single spike.

December 6th.

MEMBERS of the Orchid Committee present: J. Garney Fowler, Esq. (in the chair), and Messrs. JAMES O'Brien (hon. sec.), IL Little, W. Thompson, F. J. Hanbury, A. A. McBean, C. H. Curtis, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, W. P. Bound, H. G. Alexander, A. Dye, W. H. White, Gurney Wilson, J. Wilson Potter, W. Bolton, C. Cookson, C. J. Lucas, H. Bellantine, Harry J. Veitch, and Sir Jeremiah Colman, Bart.

His Grace the Duke of Marlborough, Bleasheim, Woodstock (gr. Mr. Hunter), showed *Cypripedium Trochus* var. *Lord Nelson* and *C. Lord Ivor* (*insigne* *Harefield Hall* × *Hera*).

Lieut. Col. Sir George L. Ho'ford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent a few fine orchids, the best being a wonderful variety of *Vanda cœrulea* named *Bluebeard* (see Awards), *Cypripedium nitens* *Lecanum* var. *aureum*, *C. Draco* (*insigne* × *Hera*), and *Laelio-Cattleya Arethusa* with a spike of nine flowers.

W. H. St. Quintin, Esq., Scampston Hall, Yorks, sent several interesting *Laelio-Cattleya* hybrids, including *L. C. Garnet* (*La France* × *Bowringiana*), and three others described under "New Plants."

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. Cellier), staged a group of beautiful species, which included the pure white *Cologyne Meoreana*, a distinct variety of

Cithopetalum picturatum, *Masdevallia Courtauldiana*, *Platychnis uncinata*, and *Zygopetalum rostratum*.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent *Cypripedium Thalia*. The Baron, Cyp. J. W. Mills, a delicately-tinted hybrid, and Cyp. Etoniense. A plant bearing the name *Laelio-Cattleya Gwenda* had primrose-coloured flowers with veining on the lip; the parentage was not given.

Lady Audley Neeld, Grittleton, Chippenham (gr. Mr. Pitt), sent *Cypripedium Draco splendens*, a well-built flower with a broad dorsal sepal, without much spotting.

The Right Hon. Lord Hillingdon, Hillingdon Coart, Uxbridge (gr. Mr. A. R. Allen), was awarded a Silver Banksian Medal for a group of well grown plants of *Zygopetalum Mackays*; some thirty plants, with more than sixty spikes, averaging six flowers on each, were included.

Samuel Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), received a Silver Banksian Medal for a good group of various orchids. Included in it were nice varieties of *Odontoglossums*, several species of *Phalaenopsis*, some good *Cypripediums*, *Cymbidiums giganteum* and *Wiganianum*, and several excellent *Cattleya* and *Laelio-Cattleya* hybrids.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver gilt Flora Medal for a large group of good things. In the centre were several fine varieties of *Vanda cœrulea*; on each side fine varieties of *Laelio-Cattleya*, such as L.-C. Bola (callistoglossa x labiata), L. C. Myrtha (Dowiana Rosita x Gottoiana), and the bright yellow L.-C. Golden Oriole. Among the other plants we noticed *Cypripedium Gaston Bullel*, *Odontodia Diana* (C. Noeziana x O. azabile), *Miltonia Roezlii* alba, and *Brassia Cattleya Quœn Alexandra*.

Richard le Doux, Esq., Marlfield, West Derby, Liverpool, sent *Cypripedium Richard le Doux* (*Lecanum giganteum* x *Prospero majus*). The dorsal sepal is very broad, pure white with a green base, and lightly spotted.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a large group containing many interesting plants. The

new white *Houlletia Sandzæ*, *Brassia Forgetiana*, and a *Catasetum* from Peru, with greenish-yellow flowers marked with red, were amongst those specially noted. Other good things included several *Cypripediums*, some *Laelio-Cattleyas*, and a few *Odontoglossums*.

Messrs. James Cypher and Sons, Cacltenham, were awarded a Silver Banksian Medal for a good group of *Cypripediums*, which included the following varieties: *Lecanum Corona* Mrs. Arderns var., *Thalia gigantea*, *Vandyke magnificum*, *Minos Veitchii*, the richly-coloured triumphans, and the pretty *Acteus* Miss Carr.

Messrs. Armstrong and Brown, Tunbridge Wells, exhibited some excellent *Cypripediums*. A Silver Banksian Medal was awarded for the group. The Westfield variety of *Germaine Opoxis* and *Thalia* Mrs. Francis Wellesley were shown in fine form. Others observed were *Baron Schroder*, *Minos Youngii*, *Thalia gigantea*, *vexillarium superbum*, and two others noted under "New Plants."

R. G. Trwates, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. Black), exhibited three very fine varieties of the white-petalled *Maggie Raphael alba*, two nice plants of *Sophror-Cattleya Saxa*, and S.-C. Mrs. F. Wellesley.

Messrs. Mansell and Hatcher, Rawdon, Yorks, were awarded a Silver Banksian Medal for a good group of orchids containing the following *Cypripediums*: *Lecanum giganteum*, *insigne Sandzæ*, *Mennon*, *Niobe*, the yellow *insigne Cobbianum*, the rare *insigne Bohmofanum*, and many other well-known varieties. A plant of the beautiful *Spathoglottis plicata alba* was shown in a prominent place.

Messrs. Jones, Howes and Co., Elmdon Nurseries, Kenilworth, brought a very distinct variety of *Vanda cœrules*, having white sepals and petals and a violet-blue lip.

Messrs. Stanley and Co., Southgate, staged a nice group, in which we noticed the fine *Cœlogyne fuscescens*, *Cypripediums* in variety, including a large plant of *Lecanum* with twelve flowers, and a plant of *insigne Harefield Hall* with four flowers. A large plant of *Cattleya labiata alba*, with a slight tinge of

colour on the front of the lip, was also shown.

Mr. E. V. Low, Vale Bridge, Haywards Heath, exhibited the grand *Cypripedium* Waterloo (see Awards), C. Earl of Tankerville, and a strong plant of *Sophrone-Cattleya* Doris with four flowers.

Mons. Mertens, Mont. St. Amand, Ghent, exhibited a small group of hybrid *Odontoglossum* containing some excellent varieties.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Bankian Medal for a good group containing several rare species, such as *Cirhopetalum* Medusa, *Bulbophyllum hirtum*, and *Grobysa galeata* with four flower spikes. Other plants were *Masdevallia Lauchiana*, *Otomeria Juncifolia*, and *Cattleya labiata* alba.

Messrs. James Veitch and Sons, Chelsea, showed a hybrid *Cypripedium* between *Acteas* and *insigne* Harefield Hall.

R. Brooman-White, Esq., Arddarroch, Garelochhead, sent an excellent variety of the pretty *Oncidium surodes* and a choice selection of cut spikes of good varieties of *Odontoglossum crispum*.

Messrs. J. and A. A. Melican, Cooksbridge, exhibited some dark varieties of *Laelia* aneups and some good *Cypripediums*.

Messrs. W. B. Hartland and Sons, Ardcairn, Ballintemple, Co. Cork, sent several good *Cypripediums*, amongst which were *Euryades splendens*, *Thalia*, Mrs. Francis Wellesley, and *Minus Youngii*.

AWARDS.

AWARDS OF MERIT.

Vanda coerules Bluebeard, from Lieut. Col. Sir George L. Holford, K.C.V.O., Westombirt (gr. Mr. H. G. Alexander). The finest coloured variety yet seen. The flower is large, broad in all its parts, and of a deep indigo blue.

Odontoglossum Ceres Plumpton Hall variety (Rossii x Rolfeae), from W. R. Lee, Esq., Plumpton Hall, Heywood, Lancashire. A very pretty form of this rare hybrid; it differs from those previously seen by having a lip tinged with rose.

O. Rouge Dragon (Phoebe x ardentissimum), from W. R. Lee, Esq. A graceful hybrid, with a spike of nicely-blotched flowers

showing clearly the influence of *O. cirrhosum* derived through *O. Phoebe*.

Cypripedium Waterloo (Mrs. Wm. Mostyn x Ranjitsinhji), from Mr. E. V. Low, Vale Bridge, Haywards Heath. One of the best and most distinct *Cypripediums*, with an extra large dorsal sepal, which is white, flushed with rosy purple at the base. The petals and lip are prettily formed and marked with purple-brown.

BOTANICAL CERTIFICATES.

Angraecum pellicidum, from J. S. Berghecia, Esq., Belsize Court, Hampstead. A curious species with pendulous spikes of white flowers. It is a native of Sierra Leone, and is figured in the *Botanical Register* of January, 1844.

Brassia Forgetiana, from Messrs. Sander and Sons. A species with greenish-white flowers, marked on the sepals and petals with dark brown.

Dendrobium speciosum nitidum, from Sir Jeremiah Colman, Bart., V.M.H. (gr. Mr. Collier). An Australian species, with large spikes of creamy-white flowers.

CULTURAL COMMENDATION

To Mr. W. H. White (orchid grower to Sir Trevor Lawrence, Bart., K.C.V.O.), for a specimen of *Lycaste costata* with over twenty flowers.

To Mr. Bristow (gr. to Mrs. Temple, Groombridge), for a well-flowered plant of *Laelia* aneups *Americana* Temple's variety.

To Mr. Collier (gr. to Sir Jeremiah Colman, Bart., V.M.H.), for *Dendrobium speciosum nitidum* having forty-six flower spikes.

To Mr. Balmforth (gr. to F. Menteth Ogilvie, Esq., The Shrubbery, Oxford), for a fine variety of *Odontioda Charlesworthii* with seventeen flowers on a single spike.

December 20th.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), A. Dye, Henry Little, Harry J. Veitch, J. Charlesworth, C. H. Curtis, A. A. McBean, F. J. Hanbury, W. Cobb, W. H. Hatcher, W. H. White, H. G. Alexander, de B. Crawshaw, and Gurney Wilson.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), exhibited *Cypripedium Actæus* var. *Undine*, a good specimen plant with nine flowers, *Cyp. Ressetii* magnificentum with a very large flower, and two other plants which obtained Awards of Merit.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent *Laelio-Cattleya Ophir* Westfield variety, *Cypripedium Lady Gaius* borough, C. Waterloo, and C. *etonense*.

Pantia Ralli, Esq., Ashstead Park (gr. Mr. Hunt), exhibited a very fine variety of *Cattleya Dusseldorferi Undine*.

Samuel Larkin, Esq., The Ridgeway, Haslemere (gr. Mr. Hale), sent a well-grown plant of *Odontoglossum crispum-Harryanum*, a pretty variety of *Laelio Cattleya Bella*, and a nice piece of *Miltonia Blewani*.

R. G. Tawaites, Esq., Streatham (gr. Mr. Black), exhibited a very good variety of *Cattleya Maggie Raphael alba* and *Sophrocattleya Saxa* (*S. grandiflora* × *C. Trianae*).

Messrs. Charlesworth and Co., Haywards Heath, exhibited *Miltonia Warszewiczii leucocchila*, *Odontoglossum Ceres magnificum*, *Laelio-Cattleya Sunray* with a grand spike of bloom, and *Cypripedium Victor Hugo* (*I.athamianum* × *variabilis*), a good hybrid; the dorsal sepal is white with a small blotch of green at the base and a median streak of rose colour.

Messrs. James Veitch and Sons, King's Road, Chelsea, showed *Cypripedium Clenia* (*Actæus* × *insigne* Harcfield Hall), *C. insigne Crusader* (*insigne* Sanderae × Harcfield Hall), and *C. Gertrude* (*glaucophyllum* × *Hera Euryades*).

Messrs. Armstrong and Brown, Tunbridge Wells, exhibited some interesting crosses from *Cypripedium Fairrieanum*, all of which are new, *C. Coruna* (*Lecanum* × *Fairrieanum*), *C. Bayonne* (*Prewettii* × *Fairrieanum*), *C. Ambony* (*Goultenianum* × *Fairrieanum*), and *C. Dauphine* (*Cassandra* × *Fairrieanum*).

Messrs. J. and A. A. McBean, Cooksbridge, exhibited a very fine variety of *Sophrocattleya Doris*.

A. Harrison, Esq., Lyndhurst, Watford, sent a pretty and distinct hybrid named *Laelio-Cattleya Ethelreda Harrison*.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, sent a flower of *Laelio-Cattleya cornuta*.

AWARDS.

FIRST CLASS CERTIFICATE.

Odontoglossum Ceres magnificum (*Rossii rubescens* × *Rolfeae*), from Messrs. Charlesworth and Co., Haywards Heath. A very beautiful hybrid. The flowers are of good size, and remind one of a glorified *Rossii rubescens*.

AWARDS OF MERIT.

Cypripedium Dante rotundiflorum (*Hera Euryades* × *Charlesworthii*), from Lieut.-Col. Sir George L. Holford, K.C.V.O. A well-formed flower, the dorsal sepal displaying a large amount of white.

Cypripedium Gaston Bulteel, from Mr. E. V. Low, Vale Bridge, Haywards Heath. A well-grown plant of this splendid *Cypripedium*. The dorsal sepal is flat, very broad, and beautifully marked with rosy purple.

Laelio-Cattleya Pauline (*L. C. Ophir* × *C. labiata alba*), from Lieut.-Col. Sir George L. Holford, K.C.V.O. See page 74.

Miltonia Warszewiczii leucocchila, from Messrs. Charlesworth and Co. A very distinct variety; the sepals and petals are light purple, white at the margins.

CULTURAL COMMENTARY

to Mr. J. Collier (gr. to Sir Jeremiah Colman, Bart., V.M.H., Gatton Park), for a fine plant of *Odontioda Bradshawiae* bearing a branched spike of thirty-six flowers.



We understand that Messrs. Sander and Sons have purchased a portion of the world-famed collection of orchids formed by the late Baron Sir Henry Schröder, Bart., C.V.O., V.M.H. A large number of specimens from this famous collection have been presented to the Royal Horticultural Society's garden at Wisley by the present owner, Baron Bruno Schröder, he keeping for his own collection the remainder, which includes the unique plants of *Odontoglossum* and *Cypripedium*, etc.



ODONTOGLOSSUM CERES MAGNIFICUM.

O. Rossii rubescens × O. Rollean.



THE ORCHID WORLD.

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FEBRUARY, 1911.

No. 5.

NOTES.

ODONTOGLOSSUM CERES MAGNIFICUM. See Coloured Plate.

THIS beautiful cool house hybrid is the result of a cross between *Odontoglossum Reesii rubescens* and *O. Rolfeae* (Pescatorei's *Harry anum*), and it is the finest variety of this cross yet seen. When exhibited on December 20th, 1910, by Messrs. Charlesworth and Co., at the Royal Horticultural Society, the Orchid Committee awarded the plant a First class Certificate. This superb hybrid has since passed into the collection of W. R. Lee, Esq., Ploupton Hall, Heywood.

§ § §

Cypripedium insigne Hohnhofianum is a distinct variety known to many by reason of its peculiar and rare chocolate-brown markings on the dorsal sepal. The variety of *insigne* named *Pittianum* closely resembles this and, after being crossed with itself, Messrs. Armstrong and Brown have raised a batch of seedlings from it. Several of these have recently flowered and were exhibited in their Gold Medal group at the Royal Horticultural Society on January 3rd. This variety cannot, by any means, be called an albino or a freak, but the interesting point is that all the seedlings which have flowered resemble very closely the parent in form and marking. They have not reverted to the typical form of *insigne*, as might be expected.

VOL. I.

We believe that many hybrids have been raised from *Cymbidium insigne*, and will soon be reaching maturity. The honour of flowering the first one has been achieved by J. Gurney Fowler, Esq., who exhibited his plant at the meeting of the Royal Horticultural Society held on January 3rd. It is *Cymbidium glabellarsense* (*Schröderianum* × *insigne*). This interesting plant resembles *insigne* in growth, the inflorescence being erect and sheathed and having several flowers, which are somewhat small at present, but will probably improve as the plant gains strength. The sepals and petals are greenish yellow with slight brownish rose markings; there are dark lines on the inner sides of the shoulders of the lip, the lower lobe of which is spotted with red.

§ § §

The "List of Orchids used in the production of hybrids which have received First class Certificates or Awards of Merit from the Royal Horticultural Society to December 31st, 1910," is now published. A work of this description has long been required, and orchidists are much indebted to the author, Mr. J. Gurney Fowler, for producing such an accurate and ever useful list. It will also prove of great utility when used in conjunction with the book of "Orchid Awards," which contains the name of every orchid certificated by the Society since 1859. Although this

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"List of Orchids" is "for private circulation only," we are able to state that, through the kindness of Mr. J. Gurney Fowler, any *bona fide* applicant may obtain a copy gratis by applying to the Royal Horticultural Society.



Volume 45 of *Das Pflanzenreich* has been recently published by Wilhelm Englemann, Leipzig. Price Mk. 10.20. The author is Fr. Kraenzlin. It is entirely devoted to the genus *Dendrobium*. Some 571 species are described, with many of these hybrids, and it is illustrated by 177 figures on 33 plates.



Dr. Hans Goldschmidt, Essen Ruhr, Germany, has for many years specialised in Anacochilae (Gonolycia, Hamaria, Macodes, Phrysus and allied genera), and would be glad to hear from anyone desirous of exchanging or otherwise disposing of species of the above genera either from botanical gardens or direct from the tropics. He is willing to supply special envelopes with packing material and instructions.

A REMARKABLE ODONTOGLOSSUM FLOWER.

This curious and pretty *Odontoglossum* hybrid flowered in the collection of Sir John Edwards-Moss, Bart., Roby Hall, Torquay. The flower consists of ten segments, the outer whorl having five sepals, the inner one three petals and two labellums. There are two

columns, joined together at their sides, but separated above the stamens, each of which has a perfect pollinia and anther cap. The form of the markings shows that *Odontoglossum Harryanum* is one of the parents, with probably *O. crispum* or *O. Pescatorei* for the other.

BRASSAVOLA NODOSA AND B. CORDATA.

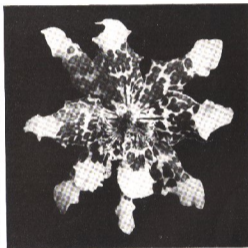
The flowers of *Brassavola nodosa* and *B. cordata* are somewhat similar; in fact, there does not seem to be a clear distinction between them.

Both belong to the section *Cuneilabra*, which is characterised by having the front part of the lip narrowed into a long claw; and while *B. nodosa* has the blade of the lip roundish, *B. cordata* has a somewhat cordate or heart-shaped lip.

In the recently published *Flora of Jamaica* (Pawcett and Rendle) the two species

are distinguished thus: *B. nodosa*.—Flowers few; perianth 2-3 inches long, sepals longer than the ovary with pedicel; blade of lip roundish. *B. cordata*.—Flowers many; perianth 1-1½ inches long, sepals as long as the ovary with pedicel; blade of lip somewhat heart-shaped.

There is always an immense variability in Nature, and even if *B. nodosa* and *B. cordata* can be distinguished as two distinct species, there is certainly the chance of a hybrid appearing between them.



A Remarkable *Odontoglossum* Flower.

SOME FACTS CONCERNING CATTLEYA AUREA.

By EMILY THWAITES.

THE *Orchid Review* for January this year speaks of *Cattleya aurea* as one of the handsomest and most popular orchids grown, on account of its very beautiful colouring. But it has, I think, other properties that make it the most *useful* species, as well as one of the most beautiful and popular—any way, for hybridising purposes.

It has not a particularly strong constitution of itself, and is not easy to keep in robust health; but seedlings from it are most vigorous. Take, for instance, *Sophranitis grandiflora* hybrids (which we rather specialise in at Chessington). *Sophranitis* *Doris* (*Sophranitis grandiflora* × *Cattleya aurea*) stands alone among them for vigour and strength of constitution; every bulb cut off starts growing and quickly makes a plant, and flowers readily and regularly; while if the plants are not cut they make double leads, and break back wonderfully.

Other *Sophranitis grandiflora* hybrids, with *Cattleya Trianae*, *C. Mendelii*, etc., are not nearly such strong doers, unless it be *Sophranitis Blackii*, which more nearly approaches *Sophranitis Doris*, and as this is a quarter *aurea* it has the same reason for being strong.

We have noticed, too, how remarkably it affects the season of flowering, often palling them right back to its own. We had, last year, *Brasso-Cattleya Mrs. J. Leemann* (*B. Digbyana* × *Cattleya aurea*), *Cattleya Empress Frederick* (*C. Mossii* × *C. aurea*), and *Cattleya Octave Doin* (*C. Mendelii* × *C. aurea*), all in flower directly after the *Cattleya aurea* had finished blooming, though the other parent of each of these hybrids is an early summer flowering species.

In another way, too, we have proved its vigour. We fertilised a flower of *Brassavola Digbyana* with pollen of *Cattleya aurea* and *Cattleya gigas*. We rather feared the *Cattleya gigas* would take upon itself the whole business of forming the seed, it seeming a stronger species; but no, every seedling we

raised proved to be of *Cattleya aurea* parentage; all were *Brasso-Cattleya Mrs. J. Leemann*.

Finally, it is wonderful in the way it affects the *appearance* of its hybrids. If one uses a dark flower with it, it seems to make it much richer, as in *Cattleya Fabia* (*C. labiata* × *C. aurea*). If it is used with a white one it also improves that; and, though it is not a particularly good shape itself, it does not often intrude its own narrow petal, but somehow adds a touch that no other *Cattleya* can, so that we can scarcely think of a beautiful *Cattleya* hybrid without finding *Cattleya aurea* somehow concerned in its ancestry.

* * *

LÆLIA GOULDIANA.

MESSES SANDER AND SONS, St. Albans, have just received news from their collector, Mr. Forget, that after an arduous search he has been successful in re-discovering the habitat of this brilliant and beautiful *Lælia*.

This orchid has only once before been imported, in the year 1887, when Messrs. Sander received an importation and named it in honour of the late J. Gould. The man who discovered and collected the plants has since met with a tragic death, having been shot in the Brazil. The following is an extract from Mr. L. Forget's letter:

* 12/11/10.

"This letter to let you know about the plant wanted, and found all right. In case of accident, I am no more nervous here about danger than elsewhere, but the excitement is great, and has some reason. A Mexican, now on the frontier, has murdered an American official, and this has caused anew the excitement, and bands of Americans are searching for the Mexican to lynch him. Also, as bands of Mexicans are going about looking for Americans to avenge the lynching, or rather the burning alive of a Mexican in Texas, and I have the chance to be taken for one, it is not very comfortable. Three have been killed last Sunday. Both

Governments are handling matters very strictly, and if the authors are caught they will be shot on the spot.

"At . . . I hunted for some driver from this port, and found one there with a lot of pack-donkeys. I rented his horse and went along with him, and we arrived here yesterday. For days it was the same disheartening sight, bright cold nights and hot dazzling days. One night as well be in Siberia's hills and a high plateau 2,500 feet *at*, no vegetation except the largely cultivated *Agave mexicana*, with which they make their drink called *palque*.

"Yesterday we started at 3 a.m., descending all the time through a horrible and dangerous gorge. Some vegetation appeared, but consisted only of gigantic cactus, colossal creus, and melano-cactus as big as monstrous pumpkins in endless variety. I found no Epiphytes, except *Tillandsia usneoides*, and when I crossed the river at the bottom I was in sad discomfiture to know where to go; the driver had told me some distance on I could wait for him in the shade of a clump of trees.

"Two enormous plants of *Lodgia Gouldiana* were there—one with over a hundred flowers on it—a most fine sight, and no doubt the right thing. It must be a first-class plant for cutting purposes, on account of those erect long spikes. The leaves are sharp edged and pointed, the ribs fusiform.

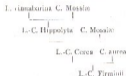
"We had still three hours to reach here, but from the road, wherever trees were planted, I saw the plant. I enquired about what they called it; they told me it was *Moujas*. Strange that it has not an indigenous name, as *Mouja* is Spanish for Nun.

"Here in front of my window there is one plant with over 200 flowers; the sight is almost incredible, and at mid day it really dazzles the sight to look at it. Bougainvilleas, Poinsettias and Plumbages are also a grand sight here.

"After Sunday I shall see if I can get some men to hunt for it. Surely the freight will be heavy, and I shall have trouble to get donkeys, and they will be many days going to . . ."

SOME CHOICE ORCHIDS.

MONS. FIRMIN LAMBEAU kindly sends paintings of several of his best orchids. These include the marvellous *Laelio Cattleya Firmii*, which received a First-class Certificate from the Royal Horticultural Society, December 21st, 1909. The flower is five inches in width, of a lovely cinnamon colour, with a rich ruby red lip. This is probably the finest of all the hybrids which have been derived from *L. cinnabarinus*. The parentage is



Cattleya Hardyana "Triomphe de 1905" is a grand variety of this gorgeous hybrid. The petals are particularly broad and well formed, the lip being wide and displaying a large area of bright gold on the side lobes and throat. The plant received a "Diplôme d'honneur" at Brussels, September 17, 1909.

Another beautiful hybrid, called *Brasso-Cattleya Dietrichiana*, is a cross between *Cattleya Folia* and *Brasso-Cattleya Mrs. J. Leemann*. It is the most richly coloured of all the *Brasso-Cattleyas*. The total width is seven inches, the lip being particularly good-shaped, beautifully fringed and undulated, and with numerous gold lines extending from the base of the column to the edge. The painting was made March 21st, 1910.

Cypripedium Delbekeanum received a "Diplôme d'honneur" at Brussels, March, 1909. It is derived from *C. bellatulum*, the other parent being doubtful, but *C. ciliolare* is suggested. If this is correct it is a variety of *C. Olenus* (*J. R. H. S.*, xxvi, 692). The dorsal sepal is of good shape, prettily marked with purple spots arranged in vertical lines. The lateral petals are very broad, and densely spotted with rich purple.

The ever-popular *Cattleya zecca* is represented in the collection of Mons. Firmin Lambeau by several specimens of superb class.

Flora of Jamaica. Vol. I, "Orchidaceæ."

By William Fawcett, B.Sc., F.L.S., and
Alfred Barton Rendle, M.A., D.Sc.,
F.R.S., F.I.S. (Langmans and Co., Paternoster Row, London.)

In this carefully prepared work the reader has the advantage of the continuous study of the orchids of Jamaica by Mr. William Fawcett during his twenty-one years of residence in the island while Director of the Public Gardens and Plantations, the collaboration of Dr. A. B. Rendle, Keeper of the Department of Botany of the British Museum (Natural History), and the most complete set of herbarium specimens of Jamaican plants ever got together, and which have been carefully studied and compared with the references in each case by the authors, the resulting work being well worthy of the honour of being issued as a British Museum catalogue.

In the Introduction the authors give a most complete and concise account of the island of Jamaica, its geological structure, elevation, rainfall, and other climatic peculiarities, together with an account of some of the remarkable features of its plant distribution, a number of species being endemic, while some others are found only within a restricted area.

The extreme value of the work will be grasped when it is seen that a large number of species had not been previously identified and are here described, and in most cases illustrated, by the authors, the genus *Lepanthes* alone providing a dozen new species. Two new genera are also made, viz., *Neourbania adendrobium* Fawc. and Rendle (*Poneria adendrobium* Reichb. f.), and *Harrisella porrecta* Fawc. and Rendle (*Aeranthus porrectus* Reichb. f.).

Sixty-two genera, with a total of 194 species, are enumerated, many of them showy, well known in gardens, and among them are *Phaius grandifolius*, enumerated as *Phaius Tancarvillea*, following Blume (1856), in order to incorporate the doubly erroneous *Limodorum Tancarvillea* Banks ex L'Herit. Sert. Angl. 28 (1788), and which, although not a species truly indigenous in Jamaica, is so commonly distributed as to render its enumeration

imperative; and, moreover, the Jamaican variety is the most beautiful known; and *Oncidium tetrapetalum* recorded as *O. guttatum* to combine *Cymbidium guttatum* Willd.; while *Oncidium guttatum* Reichb. f. (*O. luridum* var. *guttatum* Lindl.) is retained as typical *O. luridum*, although the Jamaican plant is florally superior to the smaller and usually dull colored *O. luridum* of other localities, and is generally considered distinct in gardens at least.

There are 32 plates, most of them depicting several species and their parts, many prepared from drawings made from living specimens by Miss Helen Wood, under Mr. Fawcett's direction. It may be said that the work is as complete as possible, and will be a standard book of reference for all time.

J. O'B.

MARTIUS' FLORA BRASILIENSIS.—The Trustees of the Lindley Library have recently purchased a copy of this monumental work on Brazilian orchids. It has been published in ten parts, the first being issued in 1873, the last in 1906. Altogether there are 372 plates, the majority having several orchids figured on each, and 1,940 pages of letterpress. The published price is £34.

The annual march of the Orchid was one of the many wonders of Nature described by Mr. F. Martin Duncan, on January 4th, in the course of his address to juveniles at the London Institution on "Summer, the Pageant of Nature." He reminded his large youthful audience that many plants, although they did not, when they heard the barrel-organ or the gramophone, have any desire to get up and dance on the lawn, had still the power of shifting their quarters. This was so in the case of the orchid of the meadows, which had the power of moving one step further every year; and, although it took a long time to cross the meadow, if the orchid went on long enough it would move one step forward towards accomplishing that long walk every year.



"Arddarroch," Carelochhead, Scotland.

THE ARDDARROCH COLLECTION OF ORCHIDS. CARELOCHHEAD, SCOTLAND.

TO be at Arddarroch is to be in the heart of Nature, for she has scattered around it, on every side and for every sense, an inexhaustible profusion of grandeur and beauty. Situated on the picturesque shore of Loch Long and guarded by majestic snow-capped mountains is the stately home of R. Brozman White, Esq. The perfection of surrounding Nature has been as yet unspoiled by human hand, for "God never made His work for man to mend," while the rugged rocky landscape tends to make us appreciate still more the wonders of mountainous vegetation from far-off climes.

The humid atmosphere of this district is especially suited to the cultivation of orchids which have been collected on the cool slopes of the South American mountains, and, but for the slight glass roof of the plant-houses, these orchids have never before been cultivated in a place so much resembling the natural conditions of their native home.

For many years orchids have been cultivated here with great enthusiasm and well-earned

success, until at the present time the collection of that charming and ever grateful species known as *Odontoglossum crispum* has, on account of the many beautiful varieties with well formed flowers which it contains, become one of the most renowned in the history of orchid culture.

At a short distance from the mansion, and on slightly higher ground, may be found the plant houses, twenty-two in all, of which twelve are entirely devoted to the cultivation of the orchids which it is the intention in this article to describe.

On entering a cool span-roof house one at once notices the healthy bronze tinted leaves of all the plants and the great vigour of the new growths. This house contains a large number of *Odontoglossum crispum*, the majority of which have flowered, and also some fine varieties of *Cypripedium*, including large specimens of *Acteus*, *Lecanum*, good varieties of *Isotria*, and many well-known hybrids. Each plant has a label bearing the date of the plant's last flowering. An interesting

plant in this house is *Odontoglossum elegans* Pollet's variety, which, having been recorded nearly thirty years ago, is to-day still making itself useful by carrying a large nearly ripe seed-pod, the result of having been fertilised with the pollen of *Oncidium taurantinum*.

What may be described as a large show-house contains a choice selection of fine

varieties of *Odontoglossum crispum*. Apart from a very large number in spike, there are many having jolly open flowers, each one of which exhibits such well-formed blossoms as to deserve a varietal name. The texture of these flowers is remarkable, many being quite fleshy, while others are wax-like. Although *Odontoglossum* take up the larger part of the staging in this house, several excellent plants of *Cymbidiums* occupy important positions.

C. Lowianum is represented by a specimen which, when last flowering, carried sixteen spikes with an average of fourteen very dark flowers on each. *C. eburneum*, now so much sought after, consists of a strong plant having eight leads and many bulbs. It was purchased at the disposal of the Mount Harry collection at Brighton, and is regarded as the finest variety yet seen of this beautiful ivory-white

flowering orchid. *C. Tracyanum* must not be forgotten, for it is part of the very grand form known as the "Grange" variety. The true *majus* form of *Odontoglossum pulchellum* has more than a dozen flower spikes, and is always pleasing as a winter-flowering plant.

In an adjoining house is a large assortment of specimen plants of *Odontoglossum crispum*,

all good varieties, and the majority showing flower-spikes. The continued healthy appearance of the plants causes one to inquire about the atmospheric condition of the houses. Owing to the natural humidity of the external air the *crispum* houses are never damped down, not even in summer. The floor is made of natural earth, covered with small stones from the shore of Loch Long; while underneath the



R. Brooman-White, Esq.

Maria G. Rose

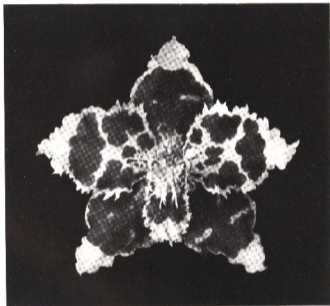
staging pieces of rock and numerous foliage plants have a decorative effect. No understaging is used in the *crispum* houses; only a thin piece of corrugated iron is laid above the hot-water pipes to break the direct heat. In the *Cypripedium* and *Cattleya* houses it has been found advisable to use a second staging of damp ashes.

Tracyanum, but with darker markings. There is also a plant of Lowgrinum, which obtained an Award of Merit from the Royal Horticultural Society in 1903. Suspended from the roof of this house is a row of large, healthy plants of *Odontoglossum citreum*.

In the large *Cattleya* house may be found some strong plants of recently imported *Cattleya Schröderae* and *C. Mossiae*, which are

There are several of them, and at present they appear to be growing well.

Some more *Cyripediums* are here to be found in a batch of *callosum* *Sanderæ*, raised in this collection from seed; and the finest strain of *Lawrenceanum*, including the albino form called *Hyanum*, are in an excellent state of good health. Now that a suitable place has been found in this house, *Cyripedium*



Odontoglossum Wilckeanum "The Kaiser."

breaking away well. Although imported last June they are still being kept very dry, for Mr. Smith, who is in charge of this collection, feels that in this district they are very liable to damp off when over-watered. On the side stages are a large number of seedling *Cattleya* crosses, including many derived from *Sophranitis*. An interesting little plant is a hybrid raised from *C. citrina* crossed with *C. Mossiae*.

bellatulum and *niveum* are remarkable for the vigour of growth which they display. They are potted in a compost consisting mostly of loam, with some moss, a few broken crocks, and a little sand.

At the end of this house are some strong plants of *Laelia purpurata* which promise well for flower; and on the centre staging may be seen a splendid collection of well-grown

As a winter-flowering orchid the *Cypripedium* will always hold its own. At Arddarroch a large house is devoted to their culture, and at this season of the year it is gay with their slipper-like flowers. The varieties of the ever-popular *C. insigne* are many, and here most of them can be observed and admired. From the typical form to the largest and best-marked varieties there are many intermediate kinds, each one displaying some distinctive mark of shade or colour. If one admires the yellow blooms there are several of the best, including the fine variety Gladys and the beautiful Sanderae. More than 100 flowers of the latter may be seen open at the same time.

Of celebrated hybrids there are good plants of Beerkmann, Niobe Oakwood variety, and triumphans Bank House variety; and also many beautiful hybrids, of which must be noted Madame Jules Hye, with its richly coloured dorsal sepal, Lesueur Fowlerianum, Clinkaherryana, Lavertonianum, Enfieldense and Arthurianum, as well as a plant derived from Memoria Meoosi x Spierianum. Another *Cypripedium*, always admired, is the Burford variety of Euryades. It is a part of the original plant to which a First class Certificate was awarded when exhibited by Sir Trevor Lawrence in 1899, and was presented to Mr. White by him.

It would be impossible to describe in this article the many thousands of plants which this house contains; but if, from a point of beauty and distinctness, one may be noted, it is a hybrid raised at Arddarroch and bearing the name Lady Helena Carnegie. The whole flower is very pleasing, having a flat dorsal sepal, which is white, veined and beautifully shaded with various shades of brownish green. The petals and lip are stained a mahogany colour. Unfortunately the record of its parentage has not been kept.

The interest taken in this house is likely to be maintained, for there are on the side stages many thousands of unflowered seedling *Cypripediums*, any one of which may unfold a flower of special merit, making it worthy of an honoured place in the collection. On the end stage of this house



Odontoglossum crispum Dale of Monroe.

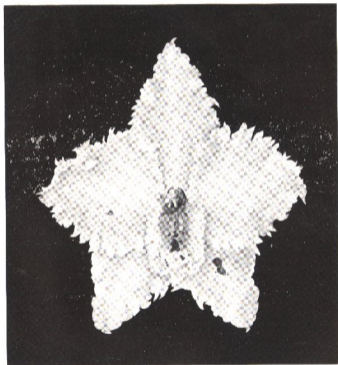
is a collection of *Cymbidiums*, comprising plants of *Tracyanum* with many flower spikes, a nice plant of *Lowianum concolor* which has been crossed with *eburneo-Lowianum tigrinum* with five leads, *Lowgroun* carrying a pod, the result of being fertilised with the pollen of *erythrostylum*, and a hybrid between *cyperifolium* and *Tracyanum*, which was raised in the collection of R. I. Measures, Esq., of Camberwell, and has just flowered for the first time. It is quite intermediate in habit, the flowers being similar to a small

As a variety noted for its thick fleshy flowers and well-blotched lip, the name "Ne Plus Ultra" is sufficient.

Crispum Airmée is one of those delightful forms which, on account of its pleasing soft rose tint, can be best described as a lady's flower; while *crispum Eileen* is, for its deeper

of this particular class: *Cooksonianum*, *Marie*, *Luciani*, *Lindeni*, *Mrs. Peeters*, *Starlight*, *Leonard Perfect*, and many others.

A nice plant of *crispum purpurascens*, which originated in the Burford collection, and that well known *crispum White's* variety must not be overlooked; while a very round *crispum*,



Odontoglossum crispum Diana.

rosy tint and extreme prettiness in spotting, one of those so often called a picture plant.

Of the noble blotched forms the collection is rich in noted varieties; the names of a few will at once convey to many the high grade

having all the segments blotched with crimson, is fully open, and by reason of the flowers being set very regularly on the spike produces a grand effect.

Of all the many excellent forms of *crispum*

hybrid *Cattleyas* and *Laelio-Cattleyas* of the best varieties, chief amongst which must be mentioned *L. C. Antiochus* (*L. C. Dominiana* × *Warszewiczii*), a very strong-growing hybrid. Three specimens of *Angraecum sesquipedale*, with their curious long-tailed flowers, seem happy in this atmosphere. Suspended from the roof are many fine plants of *Cattleya aurea*, all grand varieties, which must be seen in flower to admit of their very good qualities being deservedly admired.

Suspended in small pans are some nice plants of *Cœlogyne Schilleriana*; while a reminder of the bygone days of orchid culture is a large plant of the curious *Cypripedium calceolatum*, whose tail-like petals often reach the extraordinary length of thirty inches. A few vigorous plants of *Bollea* have soon established themselves during the six months they have been in this country.

Another large span-roof house contains specimen *Cattleya* plants, all in pots of six inches or more in diameter. In a prominent place is a large plant of *C. Bowringiana* *lilicina*, and close to it a grand specimen of *C. Warszewiczii* with fifteen leads, which, with many smaller plants of this species, made a grand display of bloom last summer. What will interest many is a number of recently imported plants of *Cattleya Leopoldii*, potted in nothing else but coarse silver sand; they are all flowering on the first bulb made in this country. Several large specimens of *Cœlogyne cristata* and various *Cattleya* and *Laelia* hybrids grow well in this house, which contains in addition several plants of *Epidendrum* and a good collection of all the finest varieties of *Laelia anceps* and its allied species.

Mr. Brooman White's enthusiasm for orchids probably reached its zenith when he sent Albert Millican out to Columbia in search of still finer varieties of orchids to enlarge his already superb collection. This energetic collector published a book, which he dedicated to Mr. Brooman White, detailing his adventurous journeys.

The plants of *Odontoglossum crispum* in flower are looked through every week and marked according to the standard of their flowers; those with poor ones are relegated

to an odd corner to be afterwards disposed of; while those which show signs of being improved with good culture are carefully marked, and noted again when they flower the following year. Should a variety of great merit appear it is carefully attended to by being placed in a house entirely devoted to these special varieties. This house contains some 500 plants, the majority being specimens exhibiting extraordinary vigour. To examine lists for as many different forms may suggest the impossible, yet, with all these many plants to admire, each variety of *Odontoglossum crispum* has some distinctive features, some times a rare shade of colour, at other times the merest speck of pigment. With such diversity of beauty has Nature decreed they must exhibit in their flowers that, if a single blossom were picked off a spike from one plant, it could not by any chance be said to have come from some other plant.

The variety of *crispum* named *Mercedes* stands out well by reason of it having bulbs of a blackish mahogany colour, and when in flower it is much appreciated for the purple pigment at the back of its well-blotched flowers.

The *Duke of Montrose* is an ideal flower, both for perfectness of shape and elegance of marking.

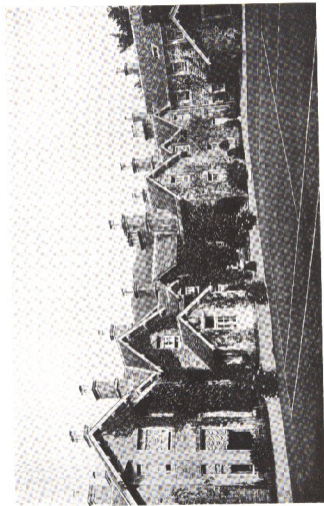
The *Duchess of Montrose* is also of the finest shape, is beautifully suffused with a light rosy tint, and possesses the rare charm of being entirely without spotting, even on the labellum.

Colossus, as the name implies, boasts of its enormous white flowers, and in habit of growth is marvellous.

A plant with seven bulbs and two leads produces flowers which at once convey to its admirer an impression of the surrounding country in winter time, for, on account of its snow-like blossoms, it is known as *crispum* *Mont Blanc*.

The variety *gloriosa* is almost equal in good points, and *crispum* *Baxter's* variety is already well known.

Crispum *hololeucum*, as its name denotes, has flowers of the purest white; even the yellow on the labellum is almost eliminated.



"Ardaraich." The South Front.

not one has been so much praised as the marvellous variety named Diana. The illustration is of a single flower, life size, from a painting by Lamont. The petals are two inches in breadth, and the deep crisped edging of the whole flower gives it a truly lovely appearance.

A crispum without spots on the lip is rarely found, but the variety known as the Hon. Mrs. Brook has in addition the extra charm of having the sepals and petals blotched with purple.

A very fine form of crispum is known to all orchid growers by the name of xanthotes White's variety.

Many excellent varieties of the scarce natural hybrids known as Wilckeanum and Loochistense are promising well for flower, and large plants of excellent and Lacobeanium continue to increase in size.

In a house where seedling *Odontoglossum* are grown one may spend many an interesting hour, for there are now several thousands of the various crosses, among which the following are worth recording: *O. Rossii majus* x *crispum Harryanum*, *crispum Britannia* x *Lambeanum*, *Edwardii* x *triumphans*, *crispum Angela* x *crispum Leonard Perfect*, and many *Cochlioda* crosses. These seedlings are potted in equal parts of *Osmunda*, peat, moss and sand. Some of the earliest raised plants will soon be large enough to flower.

In an adjoining house is a large number of crispums which, although above the average type, are not up to the standard of being named. On the centre staging are several fine plants of *Odontoglossum Edwardii*, and a few specimens of *Oncidium macranthum* with long flower-spikes; and at the end some specially good varieties of *Odontoglossum Harryanum* and a nice batch of *Oncidium sarcoides*. A pretty crispum aureum and some hybrids between *Odontoglossum Polyanthum* and *O. Hallii* are in flower. *O. luteo-purpureum* has been crossed with *O. ardentissimum Sibyl*, the pod being nearly ripe: and *Cochlioda Noeikiana* carries a pod resulting from having been fertilised with *Oncidium macranthum*.

Another span-roof house contains duplicates and back bulbs of all the finest named varieties in this collection, and also some recently acquired plants of choice things which have not yet flowered at Ardaraoch. From the roof are suspended many healthy plants of *O. Rossii majus*. Among other plants are several good varieties of *ardentissimum*, including *Dosis*, *Sibyl*, and the *Chillingham* variety, a nice piece of *O. luteo-purpureum Vuy'stekeanum*, and some free-flowering plants of the pretty winter-blooming *Masdevallia tovarensis*. A plant not often seen is *Oncidium anfractum*; it flowers well in this house.

A similar house to the one just described contains several hundred plants of *Odontoglossum Pescatorei*. Although they make large bulbs, it has not yet been found possible to entirely prevent the appearance of spotting on the leaves. The rare variety of *Pescatorei* named *Thompsonii* receives special attention.

On these three last houses the roller-blinds are run on rafters laid from ridge to ridge; this method admits of a very free circulation of cool air between the glass and the blinds, and the houses are kept remarkably cool during the hottest season of the year. On the *Cattleya* houses tiffany blinds are preferred.

Mr. J. Smith, who has charge of this collection, has had many years of experience in orchid culture. He acquired his first knowledge of these plants from Chas. Canham when engaged at Messrs. Veitch's nursery. Subsequently he accepted situations in the employ of Mr. Joseph Chamberlain at Birmingham, and with Mr. R. I. Measures at Camberwell. When asked as to his opinion of the local atmospheric condition for orchid growing, he said that in many ways it was excellent, but it required careful attention, for the temperature is apt to change very rapidly, sometimes a difference of ten degrees being recorded in the space of a couple of hours.

In conclusion, there is one thing to be said, and that is that the condition of the whole collection reflects great credit to Mr. Smith's ability and careful attention.

G. W.

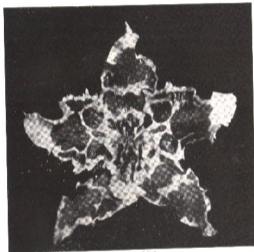
Award of Merit, Royal Horticultural Society,
January 17th, 1911.

**ODONTOGLOSSUM
ASHWORTHIANUM.**

O. Edwardii × *O. Ossulstonii*.

In this we have an ordinary *Edwardii*
hybrid, with the deep typical solid colour.

The tips of the segments are light violet-rose,
and the apex of the lip is the same, but of a
larger area than is perhaps usual, and the base
of the deep *Edwardii* colour. The lip is less
apiculate. Here again the complex hybrid
parent has been almost annihilated by the
strong "child of Nature." Raised by Mr.
Charlesworth.



Odontoglossum Halseyanum.

ODONTOGLOSSUM HALSEYANUM.

This beautiful hybrid, of which the paren-
tage is unrecorded, received an Award of Merit
at the Royal Horticultural Society on January
17th, 1911, when exhibited by J. Gurney
Fowler, Esq. The markings are a rich claret-
purple on a white ground. The plant was
well grown and carried a spike of 12 flowers.

□ □ □

The Gardener's Chronicle of December 31st,
1910, contains an illustrated article on Floren-
tine Flowers, in which the author, Mr. W.
Herbert Cox, states that "Under the Cypress,
the Orchids are happiest, just as they are
under the Aloes on the Mediterranean coast."
Photographs are given of *Orchis purpurea*

(*insca*), *Cephalanthera ensifolia*, *Scapian*
lingua, which the Ligurians appropriately
call Hen's Mouth, though the botanical books
name it the Tongue Orchid, and *Ophrys*
arachnites, which somewhat resembles the Bee
Orchid, but possesses a larger and very ren-
spirious appendix. The Monkey Orchid
(*Orchis Simia*) can be distinguished because
the flowers commence to open at the top of
the stem instead of at the bottom.

The issue of January 14th, 1911, contains an
illustration of *Angræcum peltaticum*. This
plant, when exhibited by J. S. Eurgheim, Esq.,
Belsize Court, Hampstead, on December 6th
last, received a Botanical Certificate from the
Orchid Committee.

THREE NEW ORCHIDS, WITH NOTES.

By DE BARRI CRAWSHAY.

ONCIDIODA PENELOPE.

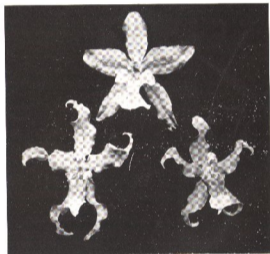
C. Nozliana × *On. leucochilum*.

ANOTHER item to Mr. Charlesworth's credit in the list of "Red" bigeneric hybrids. Scarcely had I completed the compilation of the tables to December 31st, 1910, but he renders them able to an addendum.

ODONTOGLOSSUM GODMANII.

O. Edwardii × *O. Rolfeae*.

This is somewhat different to other *Edwardii* hybrids, as the colour has succumbed to *Harryanum* influence to the extent of being somewhat altered to a more lilac-purple hue, something more like the results



The flower on the top is *Oncidioda Penelope*, the one on the left side *Odontoglossum Godmanii*, and the one on the right *Odontoglossum Ashworthianum*.

The *Coclidoda* has largely won the battle with the handsome *Oncidium*, for in size it is only equal to a large form of its mother. In form it is not good, and in colour the yellow has not improved the red this time, but made it dull brick red. The lip is good in form, of medium size, and exactly like a violin, minus the neck, all of a dull, light yellowish-hued brick-red.

This, the first one to flower, will not be the best variety, and it is my experience that rarely does the better one ever bloom first.

in *Odontodas* from *C. vulcanica*; but as to any marking, here *Edwardii* reigns supreme, for there is no evidence, even any approach, to a breaking up of the intense purple of *Edwardii*.

In form it is most like my *Zenobia* (*Hallii* × *Edwardii*), and otherwise it agrees with all *Edwardii* crosses. These "stepping stones" are leads to greater things, and all honour is due to those who make them, for did they not do it we should be "where we were." Raised by Mr. F. du Cane Godman. Received an

SOME IDEAS ON ORCHID HYBRIDISATION.

By J. M. BLACK.

(Continued from page 87.)

THE considerations which influenced us in selecting an open site, namely, to have at command during the four seasons all the light available, must still continue to be our guidance in the design and aspect of our house, or houses. Orchids are at present grown in all kinds of buildings; in the least, which is only half a house, and suffers the drawback of having light from one side only; in the quarter, half and three-quarter span houses, which suffer in their relative degrees from the same defect. Orchids are also sometimes grown—or alleged to be grown—in lofty conservatories, which are frequently gabled, towered structures, and may have one or more façades enlivened with multi-coloured glass. The conservatory in larger establishments is decked out periodically from plant-houses built for growing purposes, and when it is of presumptuous dimensions takes to itself the name imposing name of winter garden; a name, I believe, borrowed from the German *Winter Garten*. There can be no objections to orchids being brought into this house for the time they are in flower—indeed, it is their function to decorate—and there will be no temptation or need to places with other houses to grow them in the conservatory; but in the more modest suburban residences the conservatory may be the only plant-house, and will perforce have to perform all the work of the culture-houses and the conservatory of the larger place. In this house will be found a miscellaneous and probably ill assorted conglomeration of foliage and flowering plants. These conservatories are usually built on to a side of the dwelling-house, and may have any aspect that chance and the house frontage have given them; and into these places orchids are sometimes put, with the assurance that they are as easily grown as geraniums. To recommend a man to buy orchids to place in these conservatories is not popularising the cultivation of orchids, but the reverse. He is disgusted at the very

beginning, and drops any effort at their serious culture even before he has really begun. All collections must make a beginning, and orchid history teaches us that the more modest and gradual the beginning the more expansive and long lived they are likely to become. Secure in the knowledge that the plants can be grown and give a generous return for the care bestowed on them, there will follow a gradual addition and as almost unconscious transition from the cheaper varieties to the choicer and more exclusive kinds affected by the connoisseur.

To grow orchids in a semi detached, lofty conservatory is analogous to growing a Dutch bulb in the neck of a bottle of water; it will yield up what was imported in it, but lay up little store for a future effort. I am prepared to be told that *Cypripedium insigne*, some *insigne* hybrids, *Caloglyphis cristata*, and a few other orchids will grow on indefinitely if flowering indifferently in a moist corner of a conservatory; but one becomes an orchid grower in only a very limited sense if confined to these, admirable though they are.

I am endeavouring to be perfectly candid with the readers of THE ORCHID WORLD. I hope its influence may be directly responsible for many new and successful recruits to practical orchidology, and that these notes, while assisting many to make up their mind to become serious orchid growers, may dissipate some assiduously propagated illusions about the accommodating nature of the plants with regard to their housing. I am constantly dropping across writers who, either through ignorance or want of candour, say that orchids may be successfully grown with other plants and in almost any structure; but in all my experience I have never seen anything approaching satisfaction in this arrangement. I have seen plants of *Peristeria elata* doing excellently in a house of stove plants, and I have seen *Vanilla planifolia* growing in wild luxuriance, and flowering and fruiting along

in our worldly scheme of things, it ought most to appeal. At the forthrightly meetings of the Royal Horticultural Society probably no class of plants is so much admired as the orchid—and none so little understood. "We can't grow them," or "I'm afraid my gardener doesn't understand them," are quite frequent remarks, and these remarks give furious to think.

A very excellent head-gardener whom I knew many years ago in Yorkshire, and who was in charge of an extensive and famous garden in that county, was fond of telling his men that he had never yet known an orchid grower who was a good gardener. This, on reflection, I have since discovered was really an apology for his own shortcomings, as the orchids under his charge were in a most deplorable state, while all the other departments in the garden were most commendable. I now reply to that head-gardener that I have rarely known a good gardener (in the sense he meant) a good orchid grower (in the sense I mean), and this is the simple if melancholy explanation why orchids are so rarely seen in quantity, of good quality, and in productive health in large gardens, and why, in comparatively small gardens, where the gardener is an orchid specialist, the orchids are of high quality, are extensively grown and, lastly, are productive. In fact, these smaller gardens have become in the main the repositories of what is choice in orchids, and their owners and gardeners are the orchid experts.

The attitude of the head-gardener who is ignorant of orchids and their culture is naturally antagonistic, for he is afraid of them. And it follows that this resistance keeps those charming plants out of the very places whose owners would welcome them if they were encouraged. Introduce orchids to a garden and let them be well grown, and they will claim their share of interest; nay, more, they will soon become the feature of the garden, and prize vegetables and large bunches of grapes will recede in importance. All I ask for them is a fair field and no favour, and this includes that they be well grown and understood. The ordinary head-gardener is as little able to direct the orchid specialist in all the intricacies of his work as the farm

baillif is able to superintend the other departments of the garden. And this is not all. He is unable to discuss the orchid craft intelligibly with his employer. There is a wealth of interest to adduce from a collection of orchids apart from the periodical supply of seasonable flowers, and it is impossible for an employer who takes but even a passing interest in his gardens to fail to be attracted and entertained by them if, in conjunction with the general culture, hybridisation is being followed. This is what most of our great private gardens are deprived of.

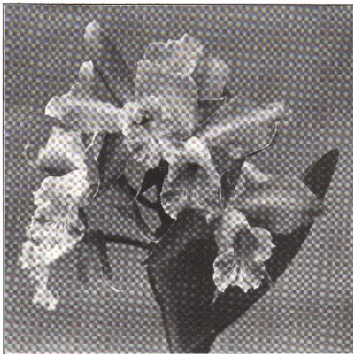
Now I should like to make an appeal on behalf of the orchid grower, and at the same time find a remedy for this deplorable state of affairs. It is to take the orchids from under the charge of the head-gardener and put them in charge of an orchid specialist. Give him an independent and dignified position, pay him a salary that will make him self-respecting, and create for him by all this some sense of permanency, and this will be a good beginning—or shall I say a re-announcement? This will not be creating a precedent. It has already been tried in more than one large garden, and with overshadowing success. How few opportunities the orchid grower gets of testing himself in places of unlimited resources! Orchids are mismanaged in many large gardens not from want of intelligence on the part of the gardener, but through insufficiency of experience of the right kind. As soon as the right man gets an independent charge of the orchids, their furtherance, their ascendancy and their stability as a permanent and individual part of the garden is assured.

Orchid growing in its higher branches, with the handling of valuable plants, their propagation and hybridisation, is as far removed from the general routine of a garden as the artisanship of the watch-maker is removed from that of the blacksmith.

To be continued.

§ § §

Hexamethylenetetramineguaiaicol. This is not a new orchid, but a solid compound intended to replace guaiaicol, since, having a much higher melting-point, it is more convenient to handle and more pleasing to take. *Pharm. Zeit.*, 1910, 55, 67.



LÆLIO-CATTLEYA CRANSTOUNÆ WESTONBIRT VARIETY.

C. HARRISONIANA × L. TENEBROSA WALTON GRANGE VARIETY.

THIS interesting and very distinct hybrid received a First-class Certificate on January 7th, at the Royal Horticultural Society, when exhibited by Lieut. Col. Sir George L. Holford, K.C.V.O., Westonbirt, Tetbury, Glos. (gr. Mr. H. G. Alexander). The original L.-C. Cranstounæ flowered in 1899, and was the result of crossing C. Harrisoniana with the typical form of L. tenebrosa, having red-dish-brown sepals and petals, which gave the hybrid a somewhat muddy appearance.

In the plant figured above the Walton Grange variety of *Lælia tenebrosa* was used; this variety has citron-yellow sepals and petals, and may be regarded in many ways

as the albino form of the species. Past experience has taught us that when albino forms have been crossed with normal purple varieties the resulting seedlings almost invariably have purple tinted flowers; or, in other words, the power of the strong specific colour overcomes the abnormal or weaker yellow pigment. The Westonbirt variety of L.-C. Cranstounæ is a very remarkable and surprising result, for in this the sepals and petals are a pleasing primrose-yellow colour. The lip is marked with a few splashes of purple, while the throat is veined with three or four thin lines of rose. In size the flower is much larger than the *Cattleya Harrisoniana* parent.

R. G. Tawaites, Esq., Chessington, Christchurch Road, Streatham (gr. Mr. J. M. Black), received a Vote of Thanks for some very interesting plants. Several excellent varieties of *Cattleya Octave Doin* (*Mendelii* × *aurea*), *Cattleya Leda* (*Percivaliana* × *aurea*), and *C. Blackii* (*Mendelii* alba × *Gaskelliana* alba), showing a slight trace of pink, were noted. The new *Odontioda Zephy*: (*C. Noezliana* × *O. Wilckeanum*), with brick-red flowers, the segments being margined with pale violet, was also included.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited *Cypripedium Princess Louise*, the parentage of which is doubtful; it somewhat resembles the very fine *C. Leeanum* J. Gurney Fowler. *C. Cupid magnificum*, a large, pretty hybrid, and *Sophro-Cattleya Mrs. F. Wellesley* (*S. grandiflora* × *C. labiata*), with good-shaped flowers, were also shown.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for a group containing many good varieties of *Cattleya Trianae*, the best being *Centurion*, *Dreadnought* and *Invincible*. Amongst the other plants were *Laelio-Cattleya Goldfinch*, *L.-C. Colmaniana*, *Brasso-Cattleya Thorntonii*, several good varieties of *Laelia anceps*, and *Cypripedium Charles Sladdin*.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver Flora Medal for an effective group containing the following interesting and rare plants: *Cypripedium Memoria Jerninghamiae*, *C. Minos Youngii*, *C. Schlimii*, *Oncidium raniferum*, good varieties of *Lycaste Skinneri*, and *Sophro-Cattleya Saxa*. Several good plants of *Dendrobium Wardianum* and *Laelia anceps* were also shown.

Messrs. James Cypher and Sons, Cheltenham, were awarded a Silver Flora Medal for a group containing most of the best varieties of *Cypripediums*. Those specially noted were *C. Beeckmanii*, *C. Vandyke*, *C. George Moore* and *C. Mrs. W. Mostyn*. Several hybrid *Calanthes* made a graceful appearance.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Flora Medal for an attractive group of well-grown plants.

Cypripedium Ulysses, a well-formed flower of greenish-yellow colour, marked with chocolate colour, *C. Minos Youngii*, *C. Leeanum Corona*, and *C. Euryades magnificum* New Hey Hall variety were shown in fine form. A large plant of *Cattleya Percivaliana* alba carried three flowers of very good size.

Messrs. J. and A. A. McBean, Cooksbridge, were awarded a Silver Flora Medal for a group of orchids, in which were some grand plants of *Laelia anceps*, all of which were well flowered, a pretty variety of *Cattleya End*, the deep blue *Zygopetalum Perrenoudii*, some good varieties of *Cattleya Octave Doin* (*Mendelii* × *aurea*), a hybrid *Odontoglossum* between *O. Harryanum* and *O. Hallii*, and several good *Cypripediums*.

Messrs. Mansell and Hatcher, Rowdon, Yorkshire, received a Silver Banksian Medal for a group containing the rare *Arachnanthe Cathcartii*, with reddish flowers, *Eria Stellata gigantea*, with numerous white flowers, several good plants of *Vanda Amesiana*, a promising blotched form of *Odontoglossum crispum*, and the beautiful *Cypripedium Mrs. Francis Wellesley*.

Edward Roberts, Esq., Park Lodge, Eltam, received a Silver Banksian Medal for a nice group of *Cypripediums*, the most noteworthy varieties being *Olga Bagshaw*, *Lady Godiva*, *Sir Redvers Buller* and *May Roberts*, the latter being a bold, nicely-marked flower. The fine *Cypripedium* insigne Park Lodge variety was also shown.

Mrs. Geoffrey Lubbock, Broadoaks, West Byfleet (gr. Mr. J. B. Lowe), was awarded a Silver Banksian Medal for a group of well-flowered varieties of *Dendrobium nobile* and *Ainsworthii*.

G. P. Walker, Esq., Putney Heath (gr. Mr. McGregor), exhibited *Brasso-Laelia westfieldensis* var. *Mrs. G. P. Walker* (*L. flava* × *B. glauca*), having Indian yellow flowers.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), exhibited a well-grown plant of *Odontioda Lutetia* and *O. Cooksoniae*.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, received a Silver Banksian Medal for a group of *Cypripediums* and other orchids.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Flora Medal for a group containing many choice and interesting orchids, amongst which were *Odontioda Bradshawiae*, *Bulbophyllum sicybulbum* and *Pseudohallia pulchella*. Several fine plants of *Laelia autumnalis* and a good selection of the best varieties of *Laelia anceps* gave a graceful appearance to this exhibit.

Messrs. Veitch and Sons, King's Road, Chelsea, received a Silver Banksian Medal for a nice group of *Cypripediums*, one of the best being *C. Chiona*. Others noted were *insigne* Crusader, *Thompsonianum* and *Countess of Carnarvon*.

Messrs. Sander and Sons, St. Albans, exhibited *Cypripedium Goliath*, a large flower and of a pleasing greenish colour.

Messrs. J. and A. A. McBean, Cooksbridge, sent *Odontoglossum crispum* *Canonica*, a large flower of good substance and prettily spotted; also a promising hybrid between *Cypripedium Beeckmanii* × *C. Ilca*.

From the Society's gardens at Wisley came *Phajocalanthe Sedenii*.

Mons. M. Mertens, Ghent, brought some beautiful *Odontoglossum* hybrids.

AWARDS.

FIRST-CLASS CERTIFICATE.

Laelio-Cattleya Cranstoniae: Westorbirt variety, from Lieut. Col. Sir George L. Holford, K.C.V.O., Westorbirt, Tetbury. See p. 116.

AWARD OF MERIT.

Odontioda Cooksoniae (*C. Noezhana* × *O. ardentissimum*), from J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis). A beautiful, well formed flower of brilliant red colour, with a slight tinge of rose on the front of the lip.

CULTURAL COMMENDATION.

to Mr. J. Davis (gr. to J. Gurney Fowler, Esq.) for a well grown plant of *Cypripedium chrysoxanthum* var. *Victor* (*Lathunianum* × *villosum*), with nine flowers.

January 17th.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), de Barri

Crawshaw, Harry J. Veitch, H. Little, F. M. Ogilvie, R. G. Thwaites, W. Cobb, W. H. Hatcher, J. Cypier, A. Dye, C. H. Curtis, H. Ballantine, W. H. White, Gurney Wilson, W. Waters Butler, H. J. Chapman, W. Bolton, R. Brooman-White, Stuart Low, J. Wilson Potter, John S. Moss, and Sir Jeremiah Colman, Bart.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Gold Medal for a superb group of orchids, which were splendid specimens of good culture, and prove that orchids can now be had in as great a profusion in the month of January as at any other time. The *Odontoglossum* included a fine hybrid named *O. Ernestii* (*O. crispum* × *O. Lambcautum*), the new *O. Ceres*, *O. ardentissimum*, and some good varieties of *O. crispum*. Most of the *Odontodas* hybrids were represented, and several good plants of *Laelia anceps* added a graceful effect. Among the *Cattleya* hybrids were *C. Octave Doin*, *C. Empress Frederick* and *C. Enid*. Some finely-flowered specimens of *Vanda Amesiana*, *Lycaste Skinneri* and *Masdevallia tovarensis* gave a pretty effect. *Cypripedium Earl of Tankerville*, *C. Priam*, *C. Helen II.*, and the new *C. Almeida* were in prominent positions. *Laelia albida*, now scarce, and *Zygo-Colax Charlesworthii* were well shown.

Sir Jeremiah Colman, Bart., Gattou Park (gr. Mr. Collier), exhibited several rare and choice orchids. The curious *Bulbophyllum Dayanum*, *B. auricomum*, *Sarcophilus suaveolens*, several *Masdevallias*, and *Cypripedium Helen II.* were amongst those specially noted.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), was awarded a Silver gilt Banksian Medal for a collection of hybrid orchids, all of which were raised at Oakwood. The very fine *Odontioda Bradshawiae* *Cooksoniae* variety was well shown, also *O. crispum* *Chapmaniae* (*Cooksonianum* × *Cooksoniae*). A pretty *Cypripedium Kenneth* (*hirsutissimum* × *Calypso*), *C. Venus grandiflorum*, and *C. Regina* (*Lecanum Clinkberryanum* × *Fairricanum*), *Cattleya Chapmanii* (*Grianae* × *Haedyana*), together with several other good *Cattleyas*, made an effective group.



THE ORCHID WORLD.

Vol. I.

MARCH, 1911.

No. 6.

NOTES.

The Council of the Société Royal de Flore have recently elected Mr. R. Hooper Pearson and Mr. C. Harman Payne honorary members of the Society. The English members of honour are now Sir Trevor Lawrence, Bart., Lieut.-Col. Dr. Prain, Messrs. Harry J. Veitch, W. Watson, R. Hooper Pearson and C. Harman Payne.



Malformed *Cypripediums*. From F. J. Haubury, Esq., Brockhurst, East Grinstead, come two malformed flowers—one of *Cypripedium Mous. le Curte* having two dorsal sepals, four stigmatic lobes, and three staminate plates; and one of *Cypripedium Chapmani* with a double pouch to the lip, the other organs being normal.



Cypripedium Boltonii.—This beautiful hybrid, which received a First-class Certificate from the Royal Horticultural Society when exhibited by W. Bolton, Esq., Warrington, on November 23rd, 1909, is again in flower, and attracts considerable attention on account of its wax-like flowers of the purest white, with a very few minute dark spots on the lower part of the dorsal sepal.



Cynbidium Tracyanum.—On page 103 of our last number we mentioned a very fine

variety of this species as being in the Arddaroch collection, and a flower of it has just been sent by Mr. J. Smith. It is known as the "Grange" variety, and is regarded by many to be the finest form yet seen. The flowers are of good size, but more especially valued for their distinct and intense colouring.



The *Bystander* of February 22nd contains, in an excellent Garden Supplement, a photograph of a very fine sundial at The Wilderness, Lord Hillingdon's seat at Sevenoaks. Many will remember the effective group of specimen plants of *Zygopetalum Mackaili* which, when exhibited by Lord Hillingdon at the Royal Horticultural Society last December, was deservedly awarded a Silver Bankersian Medal.



At the Horticultural Meeting of Ghent, held on February 5th, the Orchid Jury consisted of M. F. Lambeau (president), M. E. Pourbaix (secretary), M. M. J. de Hemptinne, Ch. Dietrich, G. Lanthoine, Ch. Pynaert, L. Sander, G. Vincke, and M. A. Janssens. Those who received Awards were: M. F. Lambeau, M. Jos de Hemptinne, M. E. Praet, MM. Duchesne and Lanthoine, M. Ch. Dietrich, MM. J. van de Putte and Co., MM. Sander and Sons, and MM. Stuart Low and Co.

Mons Mertens, Ghent, exhibited some excellent hybrid *Odontoglossums*.

Mr. J. Hawkes, Osterley Park, Isleworth, sent two twin-flowered spikes of *Cypripedium* insigne.

Messrs. Heath and Sons, Cheltenham, staged a group of *Cypripediums*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Cypripedium Vogelsang (Hera Marie \times Hitchinsiae), from Mons. Firmin Lambaert, Brussels. A large, bold flower of great beauty. The dorsal sepal is pure white, slightly tinged with yellowish green at the base and marked with very dark spots. The broad petals and lip are brownish-purple, and slightly veined and spotted.

AWARDS OF MERIT.

Odontoglossum Halseyanum (parentage unrecorded), from J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis). For photograph and description see p. 111.

Odontoglossum Godmanni (Edwardii \times Rolfei), from F. de Cane Godman, Esq., South Lodge, Hertsford (gr. Mr. Giles). See p. 111.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

January 5th.

MEMBERS of the Orchid Committee present: Messrs. E. Ashworth, R. Ashworth, Thorp, Arthur, Keeling, Cowan, Ward, Smith, Parke, Holmes, Cypher and P. Weathers (hon. sec.).

W. R. Lee, Esq., Helywood (gr. Mr. Woodhouse), exhibited some excellent plants, including *Odontoglossum Ceres magnificum*, the finest variety of this beautiful hybrid.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), exhibited *Cypripedium Alport Regina* and *Cypripedium Sunbeam*, both of which received Awards of Merit.

R. Ashworth, Esq., Newburch (gr. Mr. Gildea), received a Silver gilt Medal for a very fine group. Amongst the many good forms of *Odontoglossums* were O. Blue Peter and O. Red Monarch; both received First class Certificates. An Award of Merit was granted to O. Moonlight.

Odontoglossum Rosefieldense (Harryanum \times Lambaertianum), from de Barri Crawshaw, Esq., Rosefield, Sevenoaks (gr. Mr. Stables). An extremely pretty flower. All the segments are very broad, and richly coloured with reddish-purple on a yellow ground.

Cypripedium Charles Sladdin (glaucophyllum \times bellatrix), from Messrs. Sander and Sons, St. Albans. A very pleasing hybrid. The flower is prettily veined and spotted with rose-claret colour on a white ground, the lip having smaller spots, arranged more closely.

BOTANICAL CERTIFICATES.

Bulbophyllum galbanum, from Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. Collier). An interesting species allied to *B. Reinwardtii*. The sepals and petals are light green, the movable labellum being rosy crimson in colour.

Plocoglossis javanica, from Sir Jeremiah Colman, Bart., V.M.H. A singular plant with an upright spike bearing a large number of small flowers arranged somewhat irregularly.

II. J. Bromilow, Esq., Rainhill (gr. Mr. Morgan), showed some excellent *Cypripediums*, for which a Silver Medal was awarded.

Ziba Ward, Esq., Northenden (gr. Mr. Weatherby), exhibited many very good plants of *Odontoglossums* and *Cypripediums*. A Silver-gilt Medal was granted to this exhibit.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), sent a few good *Cypripediums*. A fine variety of *C. villosum* was named Mrs. Cary Batten.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver gilt Medal for a good group containing many *Cypripediums*.

Messrs. Sander and Sons, St. Albans, exhibited some splendid specimens of *Odontiodas* and several other interesting orchids.

Mr. E. V. Low, Vale Bridge, Haywards Heath, exhibited several choice orchids, one of the best being a well-grown plant of *Cypripedium Gaston Buteel*.

stray colour in front of the basal central blotch which forms a collection of small spots on each side of the midrib to the apex, but it may be adventitious pigment, possibly derived from the superabundance in the sepals and petals. *de B. Crousbay, l'ob. 18th, 1911.*



EPI-CATTELEYA NEMORALE-GBAS.—This hybrid is rather disappointing, as from the large size of the flowers of the pollen parent one would expect a somewhat larger-flowered seedling. The flowers are, however, about four inches in width, of a delicate rosy-mauve colour, the lip being darker and distinctly veined, as in nemorale. The plant, which was exhibited by Sir Trevor Lawrence, Bart., at the Royal Horticultural Society, January 31st last, carried a spike about two feet in height, with four flowers borne in a drooping fashion. *E. nemorale* is also known as *E. verrucosum*, under which name it was figured and described in the *Botanical Register*, 1854, p. 51.



CYPRIPEDIUM DUKE OF CONNAUGHT.—A very distinct hybrid, shown by Messrs. Armstrong and Brown at the Royal Horticultural Society, January 31st, 1911, when it received an Award of Merit. Raised from *C. Beryl* × *C. Nitens* G. S. Ball's variety, it exhibits much of the style of the former parent, which is a hybrid between Mrs. Wm. Mostyn and Beekmannii. The dorsal sepal of this very distinct hybrid is broad, of a clear greenish colour, with dark chocolate spots evenly distributed, a narrow white band running round the edge. Figured in the *Gardeners' Chronicle*, February 11th, 1911.



BRASSO-CATTELEYA EUTERPE.—This, the result of crossing *Cattleya Schilleriana* with *Brasso-Cattleya Digbyano-Mossia*, was exhibited by Lieut.-Col. Sir George Holford at the Royal Horticultural Society, January 31st, 1911, when it received an Award of Merit. The sepals are broad, greenish-white, tinged with lilac; petals and fringed lip rosy-lilac, with a greenish-purpureous disc to the lip.

BRASSO-CATTELEYA SEXATELUR DE BASU.—The result of crossing *B.-C. Digbyano-Mossia* with *B.-C. Mrs. J. Leemann*. It is an extremely beautiful hybrid, having very broad sepals and petals of a pleasing rose colour. The lip is large, deeply fringed and undulated, the centre being richly coloured with gold and prettily veined, thus keeping in a marked degree the good qualities of *Cattleya aurca*, one of the species in the parentage of Mrs. J. Leemann. The plant was exhibited by Messrs. Theodore Pauwels and Co., Meirlebecke, Ghent, at the meeting of the Royal Horticultural Society held on February 14th, 1911, when it was unanimously awarded a First-class Certificate. It is said to be the same plant which obtained the First Prize for the most beautiful hybrid at the Brussels Exhibition, April, 1910.



BRASSO-CATTELEYA VILMORINIANA. A hybrid somewhat similar to the last, the parentage being *Cattleya Mossia* × *Brasso-Cattleya Mrs. J. Leemann*. The sepals and petals are magenta-rose, the lip being a little deeper in colour, with a bright yellow centre, veined with purple in front. Exhibited by Mons. Firmin Lambéau at the Brussels Exhibition, April, 1910, and by Mons. Ch. Maron, Brunoy, France, at a recent meeting of the Société Nationale d'Horticulture de France.



La Tribune Horticole for February 18th contains an excellent reproduction, from a painting by Miss Roberts, of *Cypripedium Vogelsang*, which obtained a First-class Certificate from the Royal Horticultural Society and a Diplôme d'Honneur at Brussels when exhibited by Mons. Firmin Lambéau.



CYPRIPEDIUM CHARLES SLADDEN.—When this *Cypripedium* was entered before the Orchid Committee the name was by error spelt Charles Sladden, and in our report of that meeting on page 120 it was recorded as such. It is a hybrid between *C. glaucophyllum* and *C. bellatulum*, and if the rule for naming primary hybrids in Latin is adopted it will be known as *Cypripedium Sladdenii*.

NEW HYBRIDS.

ODONTOGLOSSUM THISBE.

(elegans x crispum.)

This is a decorative plant, as its parentage would indicate, and for that reason Mr. Sander, who raised it, is to be commended, as so many raisers only consider it well to raise plants that

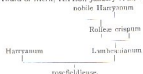
In a careful examination of this plant it is quite clear that there is a tint in the "claret-purple," as it is called, that does not come from the parents as shown by their names only, but from their ancestry. It is found in the forebears of the crispum used by M. F. Peeters, viz., Madame Vuleke, whose blackish-purple blotches contain ample evidence of the powerful *Odontoglossum Hummewellianum* that helped to create it.

The actual parents in the known ancestry of this plant are all well known, and the adjoining portrait will supply all details as to the results of the various unions made by three hybridists, M. Vnylsteke, M. Peeters, and myself.

may prove of high commercial value. By using *Odontoglossum crispum* Rex the hybrid has fine bright red-brown blotches covering two-thirds of its starry, cream-white segments, with a large horseshoe-shaped blotch on the lip, whose form is much improved from *elegans* by that of the *crispum*. In general appearance it is very like a finely-blotched form of *Odontoglossum Andersonianum*, of three inches diameter, with segments five-eighths of an inch broad.—*de B. Craas-shay, Feb. 20, 1911.*

ODONTOGLOSSUM ROSEFIELDIENSE.

Award of Merit, R.H.S., January 17th, 1911.

*Odontoglossum rosefieldiense.*

(From a Photograph by Lionel de B. Craas-shay.)

The interesting point is that, by using one of the original parents again in the tertiary hybrid, the fine form of the *crispum* has not been detracted by that of *Harryanum*, but its deep ground colour has been superadded. The only point that is not quite clear is the

"*Cypripedium rubescens* Ranjitsinhi I purchased from the late Mr. Tracy a few days after I acquired Mrs. Wm. Mostyn. It was also exhibited in January, 1902, and received an Award of Merit. We raised five seedlings in 1903, which grew very slowly indeed; four proved to be worthless, and were burned; the other was Waterloo.

"This *Cypripedium* requires to be grown rather cool to get its full colour, and when at its best I consider it to be by far the finest, in every respect, of the richly coloured ones. When Mr. E. V. Low was here in November,

1902, he acquired a piece of the plant, for which he received the doubtful honour of an Award of Merit last December. The rest of the plant, I am glad to say, remains here."

Five species are responsible for Waterloo, in the following proportions:—*Boxallii* three-eighths, *insigne* a quarter, *Spicerianum* a quarter, *villosum* one-sixteenth, and *barbatum* one-sixteenth. The diagram will explain more fully the precise method by which this remarkable combination of specific characters has been achieved.



ORCHIDS IN THEIR NATIVE LAND.

The Vegetation of the Organ Mountains of Brazil. By George Gardner, F.L.S., Director of the Royal Botanic Garden, Ceylon. Being abstracts from his "Original Communications to the Horticultural Society," 1846.

The Organ Mountains are situated to the north of Rio de Janeiro, and about 63 miles distant. They rise to the height of about 7,000 feet, and take their name from the fancied resemblance which their peaks have to the tubes of an organ when seen from a distance. As the Bay of Rio runs from south to north about 20 miles, this part of the journey to the mountains is always made by water, and the sail is a very pleasant one, the bay being studded with many little verdant islands. The journey from the landing-place to the foot of the mountains leads through a flat, partly sandy and partly swampy country. The sandy parts are covered with low trees and shrubs. The marshy grounds are in general covered with forests of small trees, the most common of which is a simple-leaved, white-

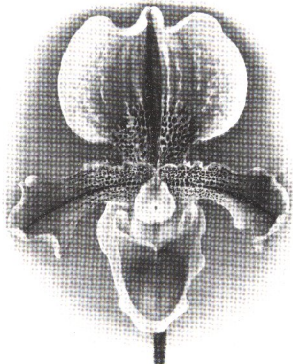
flowered *Bignonia*. On the stems of these trees grew three species of orchidaceous plants in great plenty. One of these is the lovely *Cattleya Lodigesi*, Lindl.; the second, *Oncidium flexuosum*, the stems of which are often six feet high and full of blossoms. The third is a species of *Buringtonia*. The whole ascent of the mountains to the Fazenda, or farm, at which I resided during my stay in the mountains, belongs to Mr. March, an Englishman. His estate, which contains some 64 square miles, and stands at an elevation of upwards of 3,000 feet, is covered with a dense wood.

At this elevation the climate is very much cooler than it is at Rio. In the months of May and June the thermometer has been known to be as low as 32° just before day-break; the lowest at which I observed it myself was one morning at the end of May, when at eight o'clock a.m. it indicated 30°. The highest to which it rose during the six months I resided there was in the end of February, when one day it indicated 84° at noon. The

CYPRIPEDIUM WATERLOO.

THE following particulars concerning this very fine *Cypridium* hybrid have been kindly sent by Francis Wellesley, Esq., Westfield, Woking

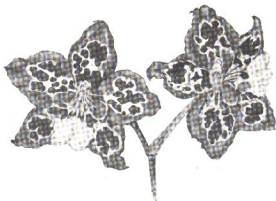
purchased, having paid £45 for it, as an unnamed seedling, in December, 1901. One could get a really good *Cypridium* for £45 in those days.



Cypridium Waterloo.

"This *Cypridium* was raised here, the mother plant being my old favourite Mrs. Wm. Mostyn, and the pollen parent rubescens Ranjitsinji. It is a particularly interesting hybrid to me, because Mrs. Wm. Mostyn was the first expensive *Cypridium* which I

"I exhibited Mrs. Wm. Mostyn in January, 1902, when it attracted considerable attention and received a First-class Certificate from the Orchid Committee of the Royal Horticultural Society. I think it was figured in nearly all the gardening papers.



Odontioda Cooksoniae (*Noezliana* x *ardentissimum*).
In the Normanhurst Collection. One of the most beautiful *Odontiodas* raised.

SOME INTERESTING CYPRIPEDIUMS.

A VERY interesting series of fifteen *Cypripedium* flowers is kindly sent by C. J. Lucas, Esq., Warrham Court, Flossham. The plants from which these flowers have been cut are seedlings raised from *Cyp. Julia* and *Cyp. Boxallii*, the former parent being a hybrid between *Lawrenceanum* and *exul*, but having the shape and markings of *exul* to such an extent that almost all trace of *Lawrenceanum* is eliminated.

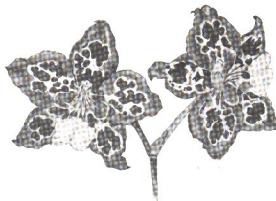
In *Boxallii* the purple spotting of the dorsal sepal is on a yellow ground; this combination produces the dark brown congested spotting which is so characteristic of the species. Many of these hybrids, while still maintaining much of this dorsal spotting, have also inherited the white dorsal sepal of *exul* to such an extent that the spotting, instead of being on a yellow ground, is now on one of pure white, thus showing to the best advantage the pure rich purple which before was created into brown by the influence of the yellow.

The amount of spotting varies; in some flowers very little is to be seen, while in

others the confluent spotting is quite equal to the amount usually seen in *Boxallii*.

In one flower the purple pigment of *Boxallii* has created a rose-flushed dorsal sepal. This is unusual, but has occurred in other cases where this species has been used in combination with others having a white ground, the best instance of this being *Cyp. Mrs. Wm. Mostyn*, in which *Spicerianum* takes a large share in the parentage.

Four flowers, apparently of the same cross, have assumed a watery or hyaline condition. This "glassiness" is probably the result of some unfavourable climatic condition of the house in which they are growing, either an excess of moisture or too low a temperature. It has also been recorded as having occurred in the flowers of *Cattleya labiata*, a few of which were affected in this way when standing above a large rain water tank, all the flowers in the other portion of the house remaining perfect. The cause is probably a transfusion of the cell-sap into the intercellular spaces. Some species appear to be more susceptible to this physiological condition than others.



Odontioda Cochsonia (Noezliana x ardentissimum).
In the Normanhurst Collection. One of the most beautiful Odontiodas raised.

SOME INTERESTING CYPRIPEDIUMS.

A VERY interesting series of fifteen *Cypripedium* flowers is kindly sent by C. J. Lucas, Esq., Warham Court, Horsliam. The plants from which these flowers have been cut are seedlings raised from *Cyp. Julia* and *Cyp. Boxallii*, the former parent being a hybrid between *Lawrenceanum* and *exul*, but having the shape and markings of *exul* to such an extent that almost all trace of *Lawrenceanum* is eliminated.

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hot season is also the season of rains, and it is then that the mass of the orchids, and almost every other tribe of plants, come into flower.

If the difference of temperature between the season of wet and that of flowering be so great in the state of nature, it must be obvious that to grow them well artificially a somewhat similar state of things ought to be observed. The greater part of the orchids which are sent to England from the Organ Mountains grow in the region of the above temperature, the elevation being from 3,000 to 3,500 feet above the level of the sea. In an account which I shall presently give of my visit to the summit of these mountains, which is more than double that elevation, I shall have occasion to mention several species which may be cultivated in a much cooler temperature. Another reason why no general rule can be laid down for the cultivation of these plants is, the great variety of soil and situation which they affect in their native country. Some, like *Zygopetalum Mackaii*, are terrestrial, and grow in open, exposed places; others, like *Warrea tricolor*, are also terrestrial, but grow in the deep virgin forests; some, like *Zygopetalum maxillare*, are only found to inhabit a particular tree; while others are found indiscriminately on all kinds of trees, on rocks, and even on the ground; some, like *Laelia cinnabarina*, grow in moist places on exposed rocks; while others, like *Cystopora Woodfordii*, grow in a similar soil, but in shaded places; some, like *Maxillaria picta*, grow on the most dry and exposed rocks; while others, like *Grobya Amherstia*, grow also on dry rocks, but generally in the shade. The soil is very similar to that around Rio, there being but little alluvium, except in the valleys, and the under-stratum consisting of the same red-coloured argillaceous ferruginous clay. Like the mountains round Rio, the whole of the Organ range consists of granite.

Such is a slight sketch of the vegetation of the Organ Mountains at an elevation of about 3,000 feet. What follows is the result of several journeys which I made to the upper regions of the range, the highest part of which I determined to be 6,857 feet. Before

reaching the steeper part of the ascent I had to pass for several hours through the dense and sombre virgin forest, where I met with many fine species of ferns and orchids. In crossing over a high hill I found the low trees on the top of it literally covered with various kinds of orchids, but, with the exception of the beautiful little *Sophranitis grandiflora*, nothing new to me occurred among them. Several large plants of *Oncidium divaricatum*, a *Maxillaria*, and some small *Epidendrums*, were also found in flower.

On a shelving granite rock above a small waterfall there grew abundantly the lovely *Zygopetalum Mackaii*, the odoriferous *Maxillaria picta*, and *Grobya Amherstia*, with its onion-like pseudo-bulbs. Early next morning the ascent was continued, and, while passing a wooded tract, I noticed a few plants of *Oncidium Forbesii*. The greatest elevation which I attained was about 6,000 feet, and I was rather surprised to observe that, while almost every tree had its stem and branches covered with the beautiful little *Sophranitis grandiflora*, not another orchiferous plant was to be found.



LYCASTE IMSCHOOTIANA.—This hybrid, the result of crossing *L. cruenta* with *L. Skinneri*, was first raised by Mr. Alf. van Inschoot, of Ghent, in whose honour the plant was named, and exhibited by Messrs. Linden at the Royal Horticultural Society, December 12th, 1893, when it received an Award of Merit. A flower of a very distinct and pretty variety of this hybrid has been sent by Mr. Johnson, Orchid grower to Col. Stephenson R. Clarke, Borde Hill, Cuckfield. The sepals and petals are light greenish-buff, the former prettily splashed with rose colour on the apical half, the latter sparingly spotted with purple on the inner basal half. The lip is heavily veined and spotted with deep purple, the front lobe being bright yellow. Although both parents are well-known cool-house Orchids, the hybrid between them is rarely met with. We have, therefore, much pleasure in recording it.



Normanhurst, Ruspur, Sussex.

The Normanhurst Collection of Orchids.

IN this historic collection of Orchids the owner, Mr. Walter Cobb, has ever since the commencement of its formation in 1869 taken the greatest interest. Being extremely fond of all that pertains to outdoor life, it is not surprising that he is also a good sportsman, one of his early reminiscences being of the old coaching days, when, by means of a velocipede, he raced the Dover to Canterbury coach, and on arriving first at Canterbury received a hearty cheer from the passengers of the coach when it pulled up at its destination.

For fourteen years he regularly followed the Eridge hounds; but of later years his garden and the collection of Orchids have attracted his closest and well-rewarded attention. And what more natural or expected could occur, for in the never to be forgotten words of Charles Dickens "In the culture of flowers there cannot, by their very nature, be anything solitary or exclusive. The scholar and the statesman, men of peace and men of war, have agreed in all ages to delight in gardens."

This well-known collection was first started at Sydenham, and some idea of its extent at this early date may be obtained by stating that one house, fifty feet long, was entirely devoted to the culture of *Laelia elegans* and *L. purpurata*. Removing to Tunbridge Wells, the collection rapidly acquired fame, and probably no amateur has grown and flowered so many plants of *Cattleya aurea* as did Mr. Cobb when residing in this inland place of health resort. Wishing to settle down to a somewhat quieter life he afterwards removed to Ruspur where these notes concerning the collection were made.

The greenhouses are constructed with every convenience and accommodation that so many years of practical life among the plants can suggest. Entering a large corridor beautifully decorated with early spring flowering plants we turn into the first Orchid house containing a grand collection of *Phalænopsis*, one plant of *Rimicetadians*, growing on a raft, has seven strong growths; while several good pieces of *Scillieriana* adorn the house with large spikes of bloom.

Angracums are also happy in this temperate, one plant of *Sanderiana* carried three spikes last year, and the stock of the white flowering *A. Leonis* now consists of six plants.

Most of the *Cypripediums* are grown in this house, many of the plants being large specimens. *C. aureum virginale* with nine flowers, having a pretty white dorsal sepal, stands out strikingly from the others. *C. glaucophyllum*, which is in flower all the year round, here makes particularly broad leaves, and proves a very useful addition to any

collection where a continuous supply of bloom is required. Several well-known *Cypripediums*, such as *Salteri*, *Mrs. Wm. Mustyn*, the old-fashioned and curious *Sedenii*, *Miss Louisa Fowler*, and many others, make a welcome display of bloom in the dull winter months. One of the finest yellow varieties of these favourite slipper flowers is *Queen of the Yellows*,

the plant has nine flowers with a white margined yellow dorsal, slightly spotted. Some strong plants of the red flowering *Renanthera lmschootiana* and *Vanda teres* may be seen in excellent health.

At this season of the year *Dendrobiums* are at their best. A large piece of the rare *D. Goldiei* has sixteen deep-purple flowers, borne on two spikes; it has been in flower over two months. *D. Ainsworthii* Salter's variety, distinguished by having pure white sepals and petals, is much admired.

D. Dearei Cobb's variety is the largest form of this charming pure-white species yet seen.

Near the door of the second house is an interesting and varied collection of *Laelia anceps*; many of the plants producing numbers of long roots which grow through the lattice staging. At *Normanbury*, *Sophronitis* and *Cattleyas* are represented by most of the brightest and best forms. For many years hybridists have attempted the production of a scarlet *Cattleya* by using the intense scarlet of *Sophronitis grandiflora*. The finest

result so far achieved is to be seen in *S.-C. Doris*, Cobb's variety, which received a First-class Certificate from the Royal Horticultural Society on November 8th, 1910.

Pure white or albino forms are much appreciated in this collection which comprises the beautiful *Cattleya Dusseldaei* *Undine*, *C. Gaskelliana alba*, *C. Schroderei*

alba, the hybrid between *C. Gaskelliana alba* and *C. Warneri alba* known as *Mrs. Myra Peeters*, and *C. Trianae Prima Donna* which is pure white. Some strong plants of *Cattleya Mussie Remacleana* and *C. Maggie Raphael alba* must not be forgotten.

The *Dulcote* variety of *Laelio-Cattleya Hippolyta*, which received a First-class Certificate in 1898, is still the best of its kind, and the same remark may be made concerning a large plant of *Laelio-Cattleya Dominiana superba*. Several plants of *L.-C. Fascinator*,



Walter Cobb, Esq.

specimen plants. *Odontoglossum* hybrids are largely represented in this house. Several fine plants of *O. Lambcanianum*, the graceful *O. Ossulstonii*, distinctly marked varieties of *O. Rolfei*, and many others too numerous to mention, make a truly lovely effect when in flower. Three large plants of *O. coronarium* or *revifolium*, growing on rafts, are suspended over the path. The centre staging contains a most varied collection of specimen cool-house Orchids, noteworthy plants being *Cymbidium Holfordianum*, *C. eburneum*, large plants of *Oncidium Marshallianum* with extra strong flower spikes, and numerous *Cypripediums*.

Four plants of *Odontoglossum crispum xanthotes*, including the three best varieties yet bloomed, have chastely beautiful flowers which are highly prized by Mr. Cobb. The pure white form of *Sobralia* standing with other species of this genera makes quite a miniature forest with the dense mass of reeds which it produces. They are grown in a cool temperature, which suits them admirably.

Although Mr. C. J. Salter, who tends to this collection so satisfactorily, gives equal attention to all the plants in this house, it must

be said that the plants on the east side show a slightly more vigorous growth than those on the west side.

In concluding these somewhat brief notes of a large and valuable collection, we do not know of many other Orchidists who have, for the long period of more than forty years, kept up such a continuous, enthusiastic admiration for these choice exotics. Mr. Cobb rarely misses a meeting of the Royal Horticultural Society, and he has been a regular attendant of the Orchid Committee since his election in 1894.

G. W.

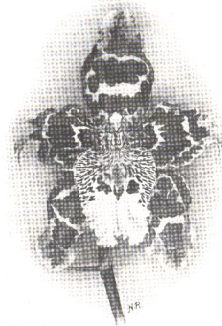
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THE INTERNATIONAL EXHIBITION.

Those persons who propose to exhibit, must signify their intention to do so by letter, addressed to Mr. Edward White, Hon. Sec. International Horticultural Exhibition, 7, Victoria Street, Westminster, not later than April 25th, 1912.

No distinction will be made, in the schedule or otherwise, between persons living in or out of the United Kingdom.

An international jury will assemble at eight o'clock punctually on the morning of the 22nd. Its decisions will be absolute.



Odontoglossum Cobliouum.

L.C. Golden Oriole, *Cattleya iridescens* (bicolor \times Eldorado), *C. Octave Doin* with its deep purple lip and orange-yellow throat, *C. Empress Frederick*, and a selection of the best varieties of *C. Iris*, continue to increase in size year after year. A beautiful plant of *Mikonia Weltonii* with its beetle-like blossoms, is in full flower and the sweet-smelling *Burblingtonia sanguinea* is growing on a raft suspended from the roof.

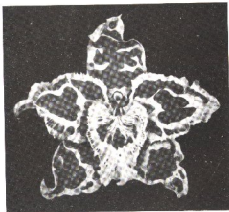
Cattleya Trianae *Crobit* is a distinct form and has its petals flushed with rose colour. *Cattleya Schroderae* *Prince Patrick* is a fine variety of this pleasing species, but space will not permit the mentioning of more than a few of the large number of species and hybrids which this house contains. The *Brasso-Cattleyas* are represented by the ever-beautiful B.C. *Digbyano-Mendeli* and B.C. *Mrs. J. Leemann*, which is just flowering.

A large batch of *Cattleya Mossia*, imported as recently as last June, is now showing well for flower. *Zygopetalum Perrenoulii*, a special favourite, flowers freely at Normanhurst, and is again producing its elegant flower-spikes. *Zygo-Colas Charlesworthii*, with a very deep-coloured lip, grows well by the side of a healthy lot of *Miltonia vexillaria*, including the large-flowered *M. Bleiana*.

The sight of a large cool-house devoted to *Odontoglossums* reminds one of a curious incident. At one of the Royal Horticultural Society's summer shows at Holland Park Mr. Cobb exhibited a rare and valuable blotched form of *Odontoglossum crispum*,

which, after the show, was packed up ready for its homeward journey. By some means or other this was the last seen of it until a friend of the owner, noticing a fine variety of this species exposed for sale on a street barrow, purchased the plant for a few pence, and, on telling Mr. Cobb of his lucky find, was overjoyed on discovering that he had the pleasure of being able to return to him his valued treasure.

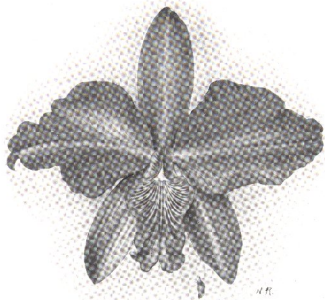
A very pretty effect in the *Odontoglossum* house is made by a row, almost the length of the house, of some finely-flowered large-typed varieties of the brilliant red *Sophranitis grandiflora*, growing in pans suspended from the roof. On the side stages is a wonderful collection of the best selected varieties of *Odontoglossum crispum*, many of them in spike, but all exhibiting such marvellous vigour of growth that it is somewhat difficult to believe they have been grown from small plants in a very short space of time. Many



Odontoglossum percultum.

of the best varieties have had the back bulbs removed, and these, when placed in small pots, quickly commence to grow. At the end of this house may be seen some remarkably fine specimens of *Oncidium macranthum* and *Odontoglossum Edwardii*. The rare *Odontoglossums* include *O. Uro-Skinneri album*, *O. cordatum unicum*, and many of the scarce blotched varieties of *O. crispum*.

Odontioda heatonensis has made rapid growth from a seedling to a large plant of more than forty bulbs, and other fine *Odontiodas*, including the beautiful *O. Charlesworthii superbum*, are fast growing into



Sophro-Cattleya Doris (Cobb's variety).

DENDROBIUM MACROPHYLLUM VEITCHIANUM.

IN the December number, page 55, we figured this beautiful *Dendrobium*, with the remark that it is a native of Java and inhabits the hottest jungles of the world. Mr. E. H. Andriess, whose Orchid-house in Java we figured on page 65 of the same number, kindly writes us a very interesting letter, in which he says that this *Dendrobium* does not grow in such a high temperature as is generally thought, but inhabits the jungles on the mountains of Java, where, at an elevation of 1,800 to 2,000 feet, the temperature is only

intermediate, averaging in the daytime 82° and at night 64° .

He further states that in the Molacca Islands there is another variety of this Orchid, in which the habit is much stronger, the plant having very stout reddish-brown coloured bulbs of 15 to 20 inches in length. The flowers are a little scented, somewhat smaller in size, but much brighter in colour. The spikes bear more flowers, generally 30 to 35, sometimes even more. The petals are pure white.

THE ART OF SHADING ORCHIDS.

By J. M. BLACK.

THE art of shading Orchids is to obtain the requisite amount of heat and light from the sun during the spring, summer and autumn; and in the spring this will mean the greatest amount of heat and light compatible with safety; but though the influence of a sufficiency of light is so great, still it will be better to err on the side of too much rather than too little shade. We shade Orchids not because the sun in these islands is stronger than the sun they receive in the regions where they grow wild, but because, being under glass, the air in which they grow is hotted up and becomes superheated. With abundance of air in a house much more sunlight will be endured by Orchids, but it is not always advisable to give a big quantity of air. If the wind is keen and sharp, with a bite of frost in it, such as we frequently get from the east and north-east in late spring, to keep the blinds up and open wide the ventilators might prevent direct injury from the sun, but the wind and the sun together would create a condition of affairs inside that would act injuriously on the plants, just as a cold, blighting east wind and sun act injuriously on outside vegetation. After a long, dull space, when we feel greedily after light, we are frequently tempted to take some risk, but it is a mistake.

Plants that are well established will endure and benefit by much more sunlight than plants that are not, and, as potting operations are carried on more or less during all the sunny season, much circumspection must be used so that freshly-potted plants do not suffer. A plant that is well established quickly replaces the moisture that is transpired from the leaves, and light and air on this plant will act as an incentive to root action as more call is made on the roots for moisture. Air and light on this plant will have a beneficial effect, building up strong, sun-resisting foliage and strong root action; but take the case of the same plant when re-potted and presumably broken up, an operation that disorganises the balance between the foliage and the roots: root-caps will be broken, roots torn, and the work which

they previously performed with ease will now become difficult. Leaf transpiration will be the same, and, if we continue to give this plant as much light and air as it previously endured with benefit, we are sure to cause it injury, probably irreparable. The roots being unable, through the disturbance and laceration inseparable from re-potting, to rapidly enough replace the moisture transpired through the stomata, the reserve in the pseudo-bulb will be drawn upon, which, with the leaf, will shrivel. At this period, therefore, instead of giving the plant the light and air which it would in a normal condition enjoy, close shade and less air will be necessary for a time, and to check transpiration the plant should be more frequently sprayed, and careful watering at the root must also take place during the re-establishing period. We thus find that airing and shading are interdependent, and whether much or little should or may be given will always have to be regulated by the condition of the plants at the particular time.

Seedling *Cattleyas* and *Laelias* that are half-grown and in a good, healthy condition will endure more sunlight than imported *Cattleyas*. The reason for this may be found in the fact that each of these little leafy bulbs is amply provided with roots, whereas adult plants with many bulbs rely nearly always on the leading two or three bulbs of the rhizome for sustenance, so that the back bulbs and leaves, turn yellow quickly if over-sunned. In nature *Cattleyas* and *Laelias* do not lose their roots in this way. An examination of imported clumps will disclose green roots far back on the rhizome, and we know that the roots ramble far and wide, so that it is hopeless for us to copy nature too closely in this matter of light and air (for in nature no re-potting is done), and we must also forego many other liberties that nature may take. And this brings us to another question: Good cultivation does not imply that we should give Orchids all the light and air that they will endure without apparent injury. Light and air, while solidifying and ripening, have also

a stunting effect, and in our short growing season we must make the best use of the artificial means at our disposal. To procure all the growth possible consistent with good texture, and this calls for nature's experience and good judgment. Some successful growers give much less ventilation in the warm departments than others, allowing instead a generous supply of air at night when the weather is at all genial, and no doubt this method has much to recommend it. But to enter into that now will lead me into questions of culture that had better be discussed in detail another time, and in the meantime perhaps some of our growers will be good enough to give us their experiences in the matter.

The shading of *Odontoglossums* calls into question the consideration of heat in another way, viz., how to keep it down during the summer. To grow *Odontoglossums* with any hope of getting the best out of them they must receive light during the autumn, the winter and the spring. During summer these plants (I am speaking of adult flowering plants) grow but little, and the growth they make during the hot weather is thin and watery, and wants discouraging. *Odontoglossums* flower for the most part in April, May and June, and will have made a growth of a few inches by August and September, when they are re-potted. They re-establish themselves quickly with the cooling season and the dewy nights, and grow steadily and sturdily all the winter, finishing their bulbs about February and March, when they begin to throw up their spikes; and the quality of the inflorescence will depend upon the amount of light and fresh air they have received during these months. During the summer shading will have to be applied very effectively in an endeavour to keep the temperature down, and light during the hotter part of the day will become a secondary consideration.

Dendrobiums are light and heat loving plants, and, while much discretion will have to be applied after re-potting in the spring, they will later enjoy an abundance of light, heat and atmospheric moisture to hasten their growth, and from the latter part of August—if healthy and well rooted—shading may be entirely dispensed with, applying full

ventilation during the warm part of the day. *Dendrobiums* are mostly semi deciduous, but at this period they will have plenty of foliage, which, under this treatment, will make a big appeal to the roots, and the plants will now require more water at the roots than at any other time of the year. To give *Dendrobium* this treatment, and so get the best out of them, it is necessary to grow them in a house or division by themselves, or with plants that are heat loving and deciduous, or partly so, such as *Thunias*, *Mormodes*, *Catasetums*, and such-like. Ripening with sun and air is a more natural and reasonable way and more effective than shading late into the autumn and then drying them off in a cool house. Bulbs that are evidently half finished will make up well with short internodes, be thick and of fine ripened texture, will be floriferous, and break strongly and freely the ensuing season.

Cypripediums, as a class, do with less light and air than epiphytals, and are, with few exceptions, of easy cultivation. The warmer section enjoy plenty of heat, but light is of more importance to them all during the autumn and winter. They have no well defined period of rest, and grow very little during the very hot weather, but they make rapid progress from August onwards until they flower. Most growers find little difficulty in growing them, for even in towns and smoky districts they are grown with much success; but the first-class grower gets quite a different character into his flowers, particularly if he is favoured with natural advantages.

Phalenopsis are particularly sensitive to strong light, and require close shading from early spring until late autumn. They enjoy, however, plenty of solar heat, and should be so shaded as to be protected from the sun's rays without being deprived of its warmth.

The kinds of shading in general use are wooden lath blinds and tiffany, or canvas of various thicknesses, and they may be said to enjoy equal popularity. The wooden blinds may fulfil the double purpose of shading during the day in summer and of giving protection from frost during the night in winter; whereas the cloth blind does not lend itself so well for giving protection from cold, becoming quite unworkable when a frost follows rain. The

tiffany blind is much lighter than the lath, and a larger expanse of blind can be rolled up at once, thus effecting a saving in time, a rather important thing when many houses have to be shaded quickly. But these are really minor matters, for what we are mostly concerned with is the direct action and influence of each as a shading agency.

It requires little discernment to convince one that what would be just sufficient shading for March would be decidedly too little for July, and *vice versa*, and yet we use the same blinds for all seasons. This is decidedly wrong, and can only be defended on the grounds of economy in the first outlay and the trouble of taking down, re-fitting and storage. Thin tiffany lying actually on the glass would give sufficient shade at the beginning of the shading season, and the same blind removed some distance from the glass would be just right a little later. The lath blinds, fixed some distance from the glass, are decidedly too cold to keep off glimpses of sun on cold, windy days, for immediately they are run down a big drop takes place in the temperature of the house. Our best efforts should be put forward to utilise to the full the heat from the sun during cold, bright days instead of shading and being at the same time; and what seems to me a question of more moment than the material used for shading is the distance it is fixed from the glass. A parasol held well above the head gives delightful relief from the sun's rays, but if brought down into contact with the head gives little relief from the heat, although the sun is obscured. I have an idea—and it will require no great inventive genius to carry it out—that it should be possible to construct a collapsible light framework on the top of the more important houses, say the cool and warm division where seedling raising is carried on, and which could be lowered on to the glass and raised at will. This would be a permanent and solid arrangement worked something on the principle of a folding chair. On cold days this could lie on the glass, when the plants would benefit to the full from the heat, and on warmer days it could be raised sufficiently to allow the air to have full play between the blind and the glass, so that the

right temperature could be maintained. Every practical grower realises that he has to shade too much in the spring, but is unable to help himself.

For plants that are sensitive to the direct rays of the sun—and I would include in these *Cypripediums*, *Phalenopsis*, and other pseudo-bulbless *Orchids*—I should be disposed to favour the canvas or tiffany blind, and for epiphytal pseudo-bulbous *Orchids*, such as *Dendrobium*s and *Cattleya*s, the lath blinds. My only objection to the cloth blinds, however, is that during hot, still days it is difficult to get buoyancy into the houses, as the air from the top ventilators has little freedom of escape unless the blinds are fixed an unreasonable distance from the glass. Where, however, the houses have been built with a lantern system of ventilation *à la*, where the apex of the house may be lifted by a mechanical device and air admitted and allowed to escape above the blind attachments, this objection is removed.

The heat may be kept down in the *Odontoglossum* houses very effectively by having double shading, one a foot or so from the glass to roll down, and one lying nearly on the glass to roll along. The underneath one alone will frequently be sufficient, and, on the other hand, the top one alone may be sufficient, and only on exceptionally hot days will both be required; but it is well to be provided with both.

Cloth blinds give less light, but are warmer than the lath blinds. There is always a cushion of warm air between the former and the glass, as the air escapes with difficulty through the close meshes of the cloth. This cushion of warm air does not remain between the lath blinds and the glass, for the obvious reason that there is a ready escape for it, so that, while allowing the direct rays of the sun to play on the foliage, the latter are still the cooler blinds.

To use a permanent shading of whitening is very risky, as the season may be a dull one, but some growers in sunny localities favour it. They put on a thin coating, and argue that on many days it saves their putting the roller blinds down. This whitening of the glass can only be used to supplement the other shading.

The cultivation of Orchids so far from their natural *habitats*, and in a climate of such a variable character as ours, depends for its success not so much on how we can by artificial means reproduce the conditions under which they grow wild—and in one house we may have plants growing side by side that grow wild thousands of miles apart—but how best we can apply the ascertained facts of our experience with them here in our glass-houses. A rooting medium of a suitable physical texture, and containing all the constituents of plant food; water, heat, light and air, understood and co-ordinated, mean success, and all cultural directions must revolve round these.

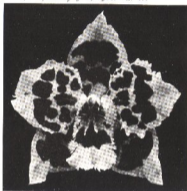
ODONTOGLOSSUM HARWOODII.

This very fine variety of *Odontoglossum* was obtained by crossing *O. Wiganianum* and *O. maculatum auriferum*. The colour of the flower is a clear buttercup yellow, with a somewhat lighter shade in the centre of the sepals and petals, which are spotted with dark claret colour. *O. Wiganianum* is a hybrid between *O. Rolfeae* and *O. harvegense*, the latter being the result of crossing *O. crispum* and *O. triumphans*. It is only by the most



Odontoglossum Harwoodii.

careful selection and study of the parents used that we obtain such wonderful results, and the work of the hybridist has now advanced to a very high position in the world of art. This rare *Odontoglossum* received a First-class Certificate from the Orchid Committee of the Royal Horticultural Society when exhibited by Messrs. Charlesworth and Co, on January 31st, 1911. G. W.



Odontoglossum lanthe.

ODONTOGLOSSUM LANTHE.

Hallii-crispum × *ardentissimum*.

For perfection in form it would be difficult to improve upon the present subject. The massive segments of creamy yellowish-white are heavily and beautifully marked with blackish-tinted brown, which always seems to be the result of *Hallii* crosses so far as they have yet been raised; and the fine oblong lip with very high shoulders is another characteristic peculiar to *Hallii*, which has been often sneered at as a parent.

I would like to say here, before more hybrids are raised from *Hallii-crispum*, that its original name must be adhered to and that it be not called *Cooksoni*, as there is a subsequent hybrid named *Cooksonianum* derived from *virificum* × *crispum*. Mr. Charlesworth has added a good thing, in *lanthe*, to his already immense number roll.

de B. Crawshaw, Feb. 26th, 1913.



Phalaenopsis Schilleriana flowering in the Esolatorium of Messrs. Sander & Sons, Bruges, Belgium.
The house is 150 feet in length, and there are about 10,000 flowers and buds.



An interesting Plant of Cattleya Triana growing on a wall in the Establishment of Messrs. Armstrong & Bruce, Tunbridge Wells.

THE ROOT SYSTEM OF ORCHIDS.

THE importance of the root system in orchids cannot be over-estimated, and a few remarks concerning the utility of it to the plant may prove of interest.

In terrestrial plants the roots usually fix the plant to the soil, and in the case of epiphytes to the trees or rocks upon which they are growing. These roots absorb water and nutritive material, while in order to satisfy the greater demands made upon the plant as the developing shoot system above ground increases in size, the root system must grow and become stronger, so as to provide a firmer attachment and to render possible an increased absorption of water and nutritive material.

In the photograph of *Cattleya Trianae* reproduced on page 138 the very remarkable extent of this root expansion is visible. Besides securely fastening the plant to the wall the roots have, by the aid of many lateral branches, covered an area of 8 ft. 6 in. by 2 ft. 3 in., from which they draw their nutritive supply.

The plant has been in its present position for four years, and the roots are very interesting to watch, for they grow as much during the winter months as they do in the summer.

The roots of orchids may be divided into two divisions: terrestrial, or those which grow into the soil or compost, and aerial, or those which remain exposed to the atmosphere.

We will first consider the terrestrial roots of an orchid. It is a well-known fact that primary or the first-made roots of a plant usually grow in a downward direction, or towards the earth. This is spoken of as geotropic irritability, and in order that the root system may spread thoroughly through the soil or compost it is necessary that the secondary or side roots should not be so susceptible to this force of gravity, otherwise they would all grow in the same downward direction, and much of the nutritive material in the adjacent upper part of the soil or compost would be unused. If, for example, a strong plant of *Cattleya labiata* be turned out of its pot these secondary roots may be seen

branching out of the primary one at right angles and running round the inside of the pot in a horizontal position.

A very large part of the constructive material required by an orchid is obtained by means of its roots, and, no matter in what soil or material they are in contact with, the roots will only absorb this nutriment in a liquid form. Every plant has definite specific needs, and to satisfy these has the marvellous power of selecting from the many ingredients contained in the soil not only those which are specially required for the well-being of the plant, but also those which, although non-essential, are always collected by certain species.

The aerial roots, having a somewhat different function to perform, show little or no geotropism, and, instead of growing towards the earth, grow in all directions, and cling to almost anything which perchance they came across.

Many of these aerial roots, beside obtaining nutriment, as will presently be explained, are provided with a distinct negative heliotropism, or, in other words, have a tendency to grow away from the light, and as soon as they approach any substance having a damp surface send out many small root-tips, or suckers, and securely fasten themselves to this material.

The power of adaptation in these roots is not very great, and any sudden change may be productive of transitory ill effects. When re-potting an orchid one may frequently have noticed that if any aerial roots are buried in the compost they invariably decay in a very short space of time.

All aerial roots of orchids are covered with a very thick epidermis, or skin, which is composed of numerous cells, without any living contents, the walls of which are colourless, though in mass they frequently have a silvery lustre, and when immersed in water soon become sufficiently transparent to permit the inner green tissue to be visible. Some of the older aerial roots are continually green, because these cells contain minute algae. This

thick silvery skin, which is such a conspicuous material on the roots of orchids, is of great functional value, for, being of an absorptive, sponge-like nature, collects the rain or dew, and the inner portion of the root can then utilise the water thus obtained.

As many of these aerial-rooted orchids are found growing at a considerable distance from the ground, it is essential that much of this absorbed moisture should be impregnated with nutriment. This can easily be obtained, for many of the orchids produce such a tangled mass of roots that a large quantity of organic *detritus* is collected and slowly dissolved in the surrounding moisture.

Cattleya Trianae is one of the few plants which apparently delights more than any other *Cattleya* or *Laelia* in obtaining its nutriment atmospherically. Very many instances have been noticed where, in the case of pot-bound plants, the largest bulb is the one projecting

over the rim of the pot, and thus being unable to root into the compost. It is possible that the roots within the pot are doing all the work of collecting nutriment from the compost. In the celebrated Downside collection of Orchids there were, in the year 1887, two large specimens of *Cattleya Trianae*, one with 70 bulbs and 15 leads, the other with 75 bulbs and 9 leads, which had been growing on rafts for four years without a particle of peat or sphagnum. They increased in size every year and flowered abundantly, their interleaved masses of live roots exhibiting the success of this method of cultivation.

In a few instances the root-apex may be transformed into a shoot-apex. A case of this transformation occurs normally in the Bird's Nest Orchid (*Neottia Nidus-avis*), in which the root-cap is thrown off and a stem produced in its place.

G. W.

THE ORCHID MEDALS OF THE ROYAL HORTICULTURAL SOCIETY.

Continued from p. 54.



The Lawrence Medal.

AT the annual meeting of the Royal Horticultural Society, held on February 15th, 1906, the president, Sir Trevor Lawrence, Bart., K.C.V.O., V.M.H., completed the twenty-first year of his presidency. To celebrate this event the Council resolved to invite all the Fellows to subscribe towards having his portrait painted by Professor Herkner to place in the Society's new buildings, 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 to be struck in gold, and is to be awarded independently by the direct vote of the Council, who will, as a rule, confine themselves to not more than one medal a year.

This Medal has only been awarded three times: first to Sir Trevor Lawrence, secondly to Lieut.-Col. Sir George L. Holford, and at the last annual meeting of the Royal Horticultural Society it was presented to Mr. Harry J. Veitch.

The Council, having ascertained that the great majority of the firms who exhibit at the Society's shows do not desire to possess so many duplicate medals, have decided that the first time a trade firm wins a medal of any sort it will be engraved and forwarded, but no duplicate of that particular medal will be afterwards sent, except in the case of gold medals, which will always be sent if requested.

ROYAL HORTICULTURAL SOCIETY.

January 31st.

MEMBERS of the Orchid Committee present: Harry J. Venes, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), Henry Little, F. Sander, J. Cypher, H. G. Alexander, A. Dye, Gurney Wilson, J. Wilson Potter, de Barri Crawshaw, W. Thompson, C. H. Curtis, W. P. Bound, W. Cobb, W. H. White, R. G. Thwaites, W. Bolton, and Sir Jeremiah Colman, Bart.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), received three Awards, and also exhibited *Cattleya Salla*, having *C. Mendeli* as one parent, sprays of *Vanda Watsoni*, and three spikes of the very fine *Coleogyne Mooreana*, one having eight flowers.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), received a Silver Flora Medal for a very pretty group containing the richly-coloured *Odontioda Cooksoniae* Royal Scarlet, *O. Latetia*, three plants of the pretty *Odontoglossum ardentissimum* Herbert Goodson, *Cattleya Trianae* alba, several excellent *Cypripediums*, and the rare *Cymbidium Lowigianorum*.

Major L. C. Rogerson, Heatherdale, Spencer Road, Harpenden (gr. Mr. Price), exhibited a good group of *Cypripediums*, including *Boadicea magnificum*, *Lillie Mayall*, Senator, Rene, aureum surprise, and a good variety of *Cattleya Trianae* alba.

Samuel Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), exhibited a group of orchids in which we observed *Cattleya Trianae* alba, *C. T. Edith Noel* (a broad-petalled variety), *Oncidium Lanceanum*, *Lycaste Skinneri*, and *Cattleya Octave Doin* Larkin's variety, a good form with a broad lip.

Sir Trevor Lawrence, Bart., Burford (gr. Mr. W. H. White), exhibited the cut spike of a very interesting cross between *Epidendrum nemorale* and *Cattleya gigas* under the name *Epi-Cattleya nemorale-gigas*. See p. 123.

Edward Roberts, Esq., Park Lodge, Eltham (gr. Mr. Carr), sent a number of very good *Cypripediums*, those which attracted attention

most being insigne *McNabsonum*, Sir Rodvers Butler, Mrs. R. H. Measures, Miss May Roberts, the rare insigne *Nelsonii*, and two varieties of *Lanthea*.

R. G. Thwaites, Esq., Chessington, Christchurch Road, Streatham Hill (gr. Mr. J. M. Black), exhibited *Odontodia Cecilia*, *O. Charlesworthii*, and *Sophranocattleya warnhamensis*, all of which were well flowered.

William Thompson, Esq., Walton Grange (gr. Mr. Stevens), sent *Odontoglossum Clytie* (*Edwardii* × *Pescatorei*). In this variety the dense colour of *Edwardii* is more broken up than in others previously seen. The petals are more heavily spotted than the sepals.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davie), exhibited a well-coloured form of *Cypripedium* *Mary Beatrix*.

John S. Moss, Esq., Wintershall Hall, Bishop's Waltham (gr. Mr. C. Kench), exhibited a fine specimen of *Odontoglossum nevadense* with four spikes and fifty-two flowers.

Captain Hope, R.N., St. Mary's Isle, sent a spike of *Arachnanthe Maingayi*, brought home by him from Singapore in 1901.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-gilt Bankian Medal for an excellent group. The centre consisted of a number of plants of well-flowered *Laelia anceps*, carrying upwards of forty spikes, with an average of four flowers on each. *Brasso-Laelia-Cattleya Winnifred*, with beautiful yellow flowers, *Brasso-Cattleya Queen Alexandra*, B-C. *Digbyano-Mendeli*, with a very distinct lip, and a good variety of *Cattleya Luegei* (*Enid* × *Dowsoni*). Several *Odontodas* and an excellent variety of *Odontoglossum Doris* (*crispum* × *Osulstonii*) were also included.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a good group containing many interesting things: the very curious *Coryanthes Balfouriana*, with clear yellow flowers, the pretty *Saccolabium bellinum*, *Maxillaria elegantula*, and the rare *Laelia Lundii*, with pale lilac flowers. Amongst the more showy plants must be mentioned the magnificent *Cypripedium Lecanum* Thunberg,

C. Mazae splendens, *Cattleya Octave Doin*, and the beautiful *Houlletia Sanderæ*.

Messrs. Armstrong and Brown, Tunbridge Wells, received a Silver Medal for a very good group of the best *Cypripediums*: the very pretty *Cyp. Admiral Wilson* (*Ville de Paris* × *Lœmanni*), the new *C. Duke of Connaught*, which gained an Award of Merit, the distinct *C. insigne* Barroisii variety, and *C. Euryades* New Hall Hey variety. *Sophracattleya Saxa* and *Odontoglossum asperum* were also shown.

Messrs. Stuart Low and Co., Enfield, showed a good group, for which a Silver Banksian Medal was awarded, one of the most interesting plants being *Baibophyllum lemniscoides*; *Liparis multiflora*, *Vanda Amesiana*, a *Brasso-Cattleya* hybrid (*callistoglossa* × *Mrs. J. Lœmann*), several *Odontiodas*, and some good *Cypripediums*.

Messrs. J. Cypher and Sons, Cheltenham, received a Silver Banksian Medal for a good group of *Cypripediums*. The following varieties were specially noted:—*arcum virginis*, *Thompsoni*, *Mrs. Wm. Mossyn*, *Beccaniana*, *Fascinator*, *Van Dyke*, and the elegant *Minos Youngii*.

Messrs. Hassall and Co., Orchid Nursery, Southgate, exhibited *Cypripedium Beryl*, a strong plant with three fine flowers.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a very large broad-petalled form of *Cattleya Trianae* named *Gelish*.

Messrs. James and A. A. McBean, Cuckridge, sent *Cattleya chocoensis alba*, a large plant with four flowers, *Cattleya Empress Frederick*, and a well-grown plant of *Cypripedium Beryl*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum crispum Peacock, from Lieut.-Col. Sir George L. Holford, K.C.V.O., Westohirt (gr. Mr. H. G. Alexander). One of the finest-shaped and most beautiful varieties of *crispum* seen. The flowers are pure white with bright reddish-crimson blotches on the sepals and petals. The lip is equally well marked. The spike had twelve flowers.

Odontoglossum Harwoodi (*Wagneriana* × *maculatum arcticum*), from Messrs. Charlesworth and Co., Haywards Heath. See p. 136.

AWARD OF MERIT.

Brasso-Cattleya Euterpe (*C. Schilleriana* × *B.-C. Digbyano-Mossii*), from Lieut. Col. Sir George L. Holford, K.C.V.O. (gr. Mr. H. G. Alexander). See p. 132.

Odontoglossum Marie (*Uro-Skinneri* × *Queen Alexandra*), from Messrs. Charlesworth and Co.

Miltonia Warszewiczii picta, from Messrs. Charlesworth and Co. One of the most distinct and beautiful forms of this pretty *Miltonia* yet seen. Sepals and petals are light brown tipped with yellow. The lip is broad and deeply stained with dark rose pigment.

Cypripedium Duke of Connaught (*Beryl* × *nitens* G. S. Ball's variety), from Messrs. Armstrong and Brown, Tunbridge Wells. See p. 123.

CULTURAL CERTIFICATE.

To Mr. H. G. Alexander, orchid grower to Lieut.-Col. Sir George L. Holford, K.C.V.O., for a finely-grown specimen of the beautiful *Lælia anceps Chamberlainiana* with ten spikes, bearing altogether twenty-one flowers.

February 14th.

MEMBERS of the Orchid Committee present: Mr. J. Garney Fowler (in the chair), and Messrs. Harry J. Veitch, Stuart Low, Fred. J. Hanbury, Garney Wilson, T. Armstrong, A. McBean, Walter Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, H. G. Alexander, J. E. Shill, Arthur Dye, W. H. White, H. Balmantine, J. Wilson Potter, W. Bolton, de B. Crawshay, C. Cookson, J. S. Moss, and Sir Jeremiah Colman, Bart.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westohirt (gr. Mr. H. G. Alexander), received a Silver-gilt Lindley Medal for an excellent group of *Lælia anceps*, which included most of the named white varieties. There were about twenty plants, several of them having as many as 36 flowers on each, the total number of spikes being 94, and carrying in all 330 flowers. A magnificent specimen of *Cattleya Trianae* *Hydra* received a Cultural

Commendation. C. Dinec Westonbriet variety and the splendid *Cattleya Trianae* Mooreana were shown in fine form.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. Collier), exhibited a group of the pretty *Dendrobium Lady Colman*, a large-flowered hybrid raised from *D. Artemis* × *D. Findlayanum*.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), exhibited a richly-coloured variety of *Cattleya Trianae* named *Goodsonii*; the petals were flushed with deep rose; *Odontoglossum ardentissimum* G. E. Day, a new variety with distinct markings, and shown for the first time; also *O. ardentissimum* var. *Lamas*, a good variety.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), showed *Cypripedium Wellesleyae*, a pretty light coloured form; *C. Little Gem* Westfield variety, and a pleasing form of *Cattleya Trianae*.

The Duke of Marlborough, Blenheim Palace (gr. Mr. Hunter), exhibited a dark-spotted form of *Cypripedium bellatulum*.

De Bari Crawshaw, Esq., Rosfield, Sevenoaks (gr. Mr. Stables), exhibited a fine plant of *Odontoglossum Valeria* (*Edwardsii* × *Vaylstecki*) with a spike of 36 flowers, which were of a mauvish-brown colour, the lip being reddish-brown with a light rose apex. In *O. Verona* (*Adriane* × *Vaylstecki*) the markings were of a reddish-brown colour. Mr. Crawshaw also showed *O. Vaylstecki*, a variety of *O. amabile*, and *O. Lambrianum* "Purple Queen," a promising hybrid with an intense purple background.

R. G. Thwaites, Esq., Chessington, Christchurch Road, Streatham Hill (gr. Mr. Black), showed *Sophro-Cattleya Wellesleyae* (*lutea* × *grandiflora*), and *S.-C. Saxa* (*Trianae* × *grandiflora*).

Messrs. Charlesworth and Co., Haywards Heath, received a Silver-gilt Medal for a fine group, containing in the centre some finely-grown plants of the beautiful *Phalænopsis Schilleriana*. The new *Cypripedium Nerissa* (*Maudie* × *San-Aetous*), a well-formed flower of a pleasing greenish-yellow colour, having a few spots on the dorsal sepal, was included in the group, also several *Brasso-Cattleyas*, a grand selection of *Odontodas*, the richly-

coloured *Sophro-Laxia Marathon*, a good variety of *Zygo-Colax Charlesworthii*, and other interesting plants. The front row consisted of *Dendrobium glumaceum validum*, which added a graceful effect to this group.

Messrs. Armstrong and Brown, Tunbridge Wells, received a Silver Flora Medal for a group containing many choice *Cypripediums* and *Laelio-Cattleya Wilhelmina* (*Jubista* × *elegans*), a hybrid of intense mauve colour, the yellow *L.-C. Daffodil* (*Jongheana* × *Merris*), several *Brasso-Cattleyas*, and other interesting Orchids.

Mr. F. V. Low, Vale Bridge, Haywards Heath, was awarded a Silver Flora Medal for a good group of *Cypripediums*. Amongst the varieties specially noticed were *Fulciawense*, *Lord Ivor*, *Olivia*, *Maudie*, and *Beryl West Point* variety.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Banksian Medal for a group containing many rare and interesting Orchids, including the striking *Selesenpedium caudatum*, a fine mass of *Odontoglossum coronarium brevirifolium* with eight spikes, *O. Thompsonianum*, the bright yellow *Laelio-Cattleya Oriens*, *Vanda Watsonii* with its pure white flowers, and the curious *Maxillaria luteoalba*. A fine variety of *Cattleya Trianae* named *Imperial* was also well shown.

Messrs. Stuart Low and Co., Enfield, obtained a Silver Flora Medal for a group, at the back of which were many good plants of *Dendrobium Wardianum*. Other interesting Orchids were *Cattleya Percivaliana* Little Gem, *Bulbophyllum comosum*, a large plant of *Pleurothallis Roczii*, and *Cypripedium Minos Youngii*.

Messrs. James Cypher and Sons, Cheltenham, received a Silver Flora Medal for a large group which embraced many species and hybrids. *Cypripedium Beckhamii*, *C. Acteas*, two good plants of *Lycaste Skinneri alba*, the pretty *Girrhopetalum picturatum*, and *Cymbidium eburneum* were the most noteworthy examples.

Messrs. J. and A. A. McBean, Cooksbridge, were awarded a Silver Banksian Medal for a neat group, in which were several good varieties of *Odontoglossum crispum*, two excellent forms of *Cattleya Trianae*, and a fine

form of *Odontoglossum Lambeauianum* having a cream-coloured ground with reddish-brown markings.

Mr. Jensen, Lindfield, Haywards Heath, exhibited *Cattleya Schroderae* lilacina, a well-shaped flower of a pleasing pale lilac tint.

Messrs. Hassall and Co., Southgate, showed *Cypripedium Carols* (see Awards), C. Beryl, Lyaste Skinneri (with deep-coloured flowers and a white lip), and an almost white form of *Cattleya Mendeli*.

Messrs. Keeling and Sons, Westgate Hill, near Bradford, showed *Cypripedium Amanidine*; the parentage is unknown, but it is probably derived from *Spicerianum*.

Messrs. Theodore Pauwels and Co., Meirelbeke, near Ghent, Belgium, exhibited *Brasso-Cattleya Senateur de Bast*, a finely blotched variety of *Odontoglossum crispum*, and *Cymbidium Pauwelsii*.

Flowers of *Dendrobium chesingtonense* Hanbury's variety were exhibited by Fred. J. Hanbury, Esq., Brockhurst, East Grinstead.

AWARDS.

FIRST CLASS CERTIFICATE.

Brasso-Cattleya Senateur de Bast (B.-C. Diglyano-Mossie x B.-C. Mrs. J. Lermann), from Messrs. Theodore Pauwels and Co., Meirelbeke, near Ghent. An extremely beautiful hybrid. The sepals and petals are very broad, and of a pleasing rose colour. The lip is large, deeply fringed and undulged, the centre being richly coloured with gold and prettily veined.

INTERNATIONAL HORTICULTURAL EXHIBITION.

May 22-30 inclusive.

Under the Patronage of Their Majesty King George V. and Queen Mary.

The Exhibition will be held in the grounds of the Royal Hospital, Chelsea, situated between Queen's Road, Pimlico, and the Chelsea Embankment, S.W.

FIRST PROVISIONAL SCHEDULE.

By the word *grower* is understood a person who maintains a garden with a view to his own use and enjoyment, and not for the

AWARDS OF MERIT.

Cypripedium Carols (*Thompsonianum magnificum* x *Euryales splendens*), from Messrs. Hassall and Co., Southgate. A good-shaped flower, the dorsal sepal being white, flushed with deep rose; the petals are broad, and stained a mahogany tint.

Cypripedium aureum lakense (*Sallieri Hyemum* x *Spicerianum*), from Mr. E. V. Low, Haywards Heath. The dorsal sepal is white, marked at the base with light greenish-yellow and slightly spotted. The broad petals are yellowish-brown.

Cymbidium Pauwelsii (*insigne* x *Lowianum concolor*), from Messrs. Theodore Pauwels and Co., Meirelbeke, near Ghent. An interesting hybrid which carries a single flower, having cream-coloured sepals and petals slightly flushed with rose. The lip is marked with a large red blotch, the side lobes being spotted.

BOTANICAL CERTIFICATE.

Xylobium leontoglossum, from Sir Trevor Lawrence, Bart., K.C.V.O. The plant here five racemes of cream-coloured flowers, which are slightly spotted.

CULTURAL COMMENDATION.

To Mr. H. G. Alexander, orchid grower to Lieut.-Col. Sir George Holford, K.C.V.O., Westonbirt, for a magnificent specimen of *Cattleya Trianae* *Hydra* bearing 22 spikes with a total of 56 flowers.

purpose of gaining a livelihood. The fact of his disposing of surplus produce for money does not change him into a tradesman unless the whole maintenance of the garden is intended to return him an annual profit.

By the word *nurseryman* is understood a person who maintains a garden for the purpose of gaining a livelihood, and intends it to return him an annual profit.



THE ORCHID WORLD.

Vol. I.

APRIL, 1911.

No. 7.

NOTES.

King Manuel visited the Royal Horticultural Society on March 15th, and greatly admired the display of Orchids.



Cymbidium insigne.—In the recent hybrids so far obtained by the use of this species it is apparent that it will prove of dominating influence, and hybridists may probably not obtain all that at one time was expected from its use.



Mr. F. W. Ashton.—In our advertisement pages will be found an announcement to the effect that Mr. Ashton, having relinquished his connection with Messrs. Stuart Low and Co., has established himself as a Horticultural Commission Agent, specializing in Orchids and Carnations. We wish him every success in his new venture.



Ladybirds and Aphid.—The value of the ladybird in gardens is recognised in America, and the *Gardener's Chronicle* has obtained the information that no fewer than 100,000,000 will be "trapped" within the next few weeks and sent to Orchidists and Melon growers to wage war on the aphids. The ladybirds which are to be so employed have been hibernating in the snowdrifts about Towle, Placer County, U.S.A.; the trappers, who include the Superintendent of the State Insectary, hope to fill 500 cases with the insects.

VOL. I.

Orchid Fungus.—By the death last month of Mr. Noel Bernard, science has lost a man who spent considerable time and patience in investigating the usefulness or necessity of this fungus to the germination of Orchid seeds.

On the roots of Orchids, whether wild or cultivated, are found fungi which, living inside the cells of the roots, form lumps like balls of thread. These fungi can live apart from the roots of Orchids by transplanting them on to a suitable nourishing medium and on which they can be kept growing and even propagated.

Mr. Bernard's method of research was to place Orchid seeds on a suitable nutritive jelly contained in test tubes, some of which were inoculated with the fungus he had obtained from the roots of Orchids, the others remaining uninoculated.

His experiments showed that the seeds sown on the fungus treated jelly quickly germinated while those on the plain jelly remained in an almost dormant condition. He, therefore, came to the conclusion that the germination of Orchid seeds was practically dependent on the presence of this fungus.



DENDROBIUM AMULUHI.—One of our correspondents in New Zealand speaks of this plant as the prettiest native Orchid; it can also be found in the coastal scrubs of New South Wales. The flowers are pure-white.

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fragrant, and are produced in August and September.

In the neighbourhood of Sydney it thrives well in the partial shade of a bush-house, attached to a piece of sound wood; care should be taken to select a piece that will last, as Orchids cannot be grown on decayed timber. An excellent method of fixing the plants on to the wood is to cut an ordinary cork into thin sections, which are placed over the Orchid roots and securely attached to the wood with broad-headed nails. The plants are thus firmly fixed, and no injury is done to the roots.

The plants on the blocks of wood are daily watered and shaded during the summer season and during their period of growth, but during the winter are kept much drier, care being taken not to allow the bulbs to become shrivelled.



LALIO-CATTELEYA D. S. BROWN. (L.C. Schilleriana \times C. Trianae).—A flower of this pretty hybrid has been sent by Mr. Cooper, Orchid grower to H. S. Leon, Esq., Blechley Park, Bucks, with the remark that it was raised from L.C. elegans \times C. Trianae. It should be noted that *Lalio purpurata*, *Cattleya intermedia*, and *C. Leopoldii* all grow together in their native land, Brazil, and when importations of these plants have been received hybrids have frequently appeared; the dark coloured ones being called L. C. elegans, and the light; ones white elegans or elegans Schilleriana. It is now known that the two are quite distinct; L. purpurata \times C. Leopoldii making L.C. elegans, and L. purpurata \times C. intermedia producing the light forms now known as L.C. Schilleriana.

The hybrid which Mr. Cooper sends has delicate rose sepals and petals, the latter being obscurely veined, a broad, open labellum, well coloured with bright purple on the front, with greenish-yellow side lobes, and an almost white column. It is, therefore, a cross between C. Trianae and what is now called L.C. Schilleriana. This hybrid was first shown by Messrs. Sander and Sons at the Royal Horticultural Society, July 9, 1895.

when it received an Award of Merit under the name *Lalio-Cattleya D. S. Brown*.



AN INTERESTING PLANT.—In the collection of J. Gurney Fowler, Esq., a curious malformation has occurred in *Brasso-Lalio Cattleya Fowleri*, in which the last made pseudo-bulb has forked, each part carrying a flower sheath. This plant is a trigeneric hybrid composed of three rather dissimilar species, and experience has shown that when extreme crosses are made, the characters often fail to properly unite, and malformations occur. In this case the forked nature is apparently due, not to a bifurcation or splitting of the bud, as is usually supposed, but to the development of an axillary bud at the base of the new growth. This at first grew in conjunction with it, producing a fasciated stem, but on gaining sufficient strength grew away on its own account, thus making two flowering sheathed bulbs with one base.

Instances such as the above are rare, but it will prove of interest to give a case of true bifurcation, or splitting of a single bud in *Dendrobium Fendlayannum*, a branched pseudo-bulb of which was sent by Sir Trevor Lawrence to the Scientific Committee of the Royal Horticultural on December 13, 1892, with the following remark: "Dendrobium bulbs often make side shoots from the eyes at the apex of each segment; but this example seems to be a true bifurcation, due, it would appear from the bend in the branch, to some arrest of growth by a wire or another bulb." A microscopical examination appeared to confirm the above view, for the stem was single at the base, but a slight constriction began on one side, then a second appeared on the opposite side higher up, until they deepened and met, thereby dividing the single stem into two.

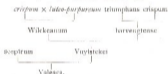


Messrs. Charlesworth and Co.'s new Catalogue is just published. It is got up in their usual high-class style, and consists of more than 70 pages of priced Orchids and their hybrids, making altogether a most useful book for reference.

NEW PLANTS.



ODONTOGLOSSUM VALESCA.

(scoptrium \times Vuylstekei.)*(From a photograph by Louis Cressway.)*

This may be aptly called a study of browns and yellows, for by the diagram it is seen to contain three of the most powerful of the brown and yellow species.

There is a certain amount of problematic ancestry in the Wilckeanum used by M. Vuylstekei, but as it was one of the very heavily three-barred-sepal varieties, known as atropurpureum in England and President Zeldana in Belgium, there is not much doubt that it was a direct cross of crispum and luteo, for that has been amply proved by the garden-raised varieties.

Presuming, therefore, that it was so, we have a hybrid containing two-fifths crispum (and possibly these were not entirely devoid of yellow in their ancestry) and three-fifths yellow and brown, of three different shades of each colour.

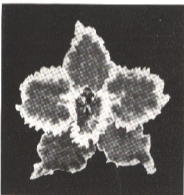
It will be at once seen that the influence

of luteo has gone down before that of triumphans and scoptrium, and these three are present in exact relation to their remote or later use in the creation of the hybrid. The yellow and brown of this plant are both good, rich and bright, and most synchronically arranged.

The influence of the two-fifths crispum is seen in the rounded form, the white lip and the throat. The "cyclohexes" of the petals are derived, possibly from the crispum or the scoptrium; the column has a purple-brown tuck derived from the σ parent.

Fine yellow and brown hybrids will always be admired, and anyone who raises them should make a study of the components, and they will not be disappointed. I bloomed the plant in the month of the December, 1910, General Election, but did not exhibit it.

de B. Crawshaw, February 27th, 1911.

ODONTOGLOSSUM CRISPUM
MARSYAS.*(From a photograph by Louis Cressway.)*

This magnificent variety may be called a "bicolor" variety, as it has only two colours in its description, and very little indeed of one of these two, viz. white, which is almost obliterated to the very narrow margin around

the sepals and petals and a small area at their extreme bases and around the edge of the lip. All the remainder of the bloom is vivid red brown, this colour on the lip being brighter and having a sheeny surface overlay. The form is fine, as shown by the photograph, the bloom measuring three inches in diameter.

Mr. Peeters, who raised it from *Mariex Luciani*, is to be congratulated upon such a fine seedling. I saw the plant in bloom at Uccle in April, 1908, a tiny seedling with one flower. It has bloomed annually since, and this year carried seven flowers. The logical deduction is that Mr. Peeters will have many a grand hybrid which will be a descendant of "Marsyas." It is a very interesting thing to see *totally unspotted* forms from this same seed-pod; reversion is always in evidence.

de B. Crawshay, February 25th, 1911.

ODONTOGLOSSUM SATURNIA.



I raised this hybrid with the idea of proving what influence *crispum* could exert when pitted against no less than four of the yellow and brown species. The result is that it has been annihilated.

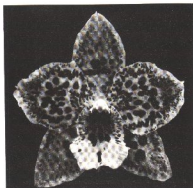
The plant bloomed in 1910, and is remarkable and handsome. In form it is a very finely developed *Andersonianum* of *Stewartiana* proportions; in colour a bright, clear yellow. Each sepal has two-thirds of its surface covered by a solid rich brown area extending from the base upwards, leaving a marginal band and apex of the yellow ground around it. The lip is large, oblong, apiculate yellow, with a central blotch of brown.

It is, of course, unreasonable to expect *crispum* to have had much influence, as having been only visited by an insect for its honey, it may have been a bad form. *Kegeljan*, the great grandparent, gives the rich yellow;

cristatum, through *Hallii* and *Lucasianum*, the heavy brown areas; and *gloriosum* the general form.

The next step of "Red" upon this will be intensely interesting.

de B. Crawshay, February 25th, 1911.



ODONTOGLOSSUM DORA.



The accompanying photograph will explain far better than any words what a beautiful thing this is as regards form and markings, but a few words descriptive of colouration are needed.

The whole ground colour is rose and all the spots are rosy-purple; the lip and column being white, making a fine contrast to the rose ground of the sepals and petals.

Mr. Charlesworth is again the raiser of another fine hybrid to add to his many successes, the earliest plant of it blooming last year.

It is especially interesting to me as being of exactly analogous parentage to my *Odonoglossum rosefieldiense*: the second hybrid being crossed with one of the original species.

By a comparison of the parentages it will be seen that this system of "reversion" to an earlier form as a parent does not create reversion in the sense that we hybridists regard it, viz., in a bad sense.

Comparing the form of *Dora* and *rosefieldense* the analogy is clearly seen, especially in the lip with its stray spot of colour which has been handed down to it by the fine noble which was copiously spotted.

A most interesting cross with this would be to put it back to *Harryanum* again and see if that would produce a *rosefieldense*.

de B. Crawshay, March 15th, 1911.



The extraordinary potency of *cristatum* in this hybrid is the more remarkable when it is considered how powerful *Harryanum* is in all its progeny.

Here the male southern species has won a triumphant victory over its great northern rival, and produced a small inconspicuous flower of dull brown and poor yellow. The markings are somewhat comparable to an ordinary variety of *O'hello* or *Iago*. I raised and first bloomed it in 1910.

de B. Crawshay, February 25th, 1911.

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BRASSO-CATTLEYA MRS. J. C. HIRST.—The result of crossing *B. nodosa* with *C. Trianae*. The strong influence of the *Brassavola* parent may be seen in the semi-cylindrical shape of the leaves. The sepals and petals are slightly flushed with rose, the labellum being somewhat darker, rather flat and open, with a yellow disc in the throat. Exhibited at the Royal Horticultural Society, February 28th, 1911, by Mr. Schlegel, Lewes.

③ ③ ③

CYMBIDIUM ALEXANDERI (*eburneo-Lowianum* × *insigne* Sanderi).—A very pretty hybrid with rose-coloured flowers, slightly veined. The lip is marked with large red

spots, the side lobes margined with rose and veined with a slightly deeper colour. Exhibited by Lieut.-Col. Sir George Holford, K.C.V.O., at the Royal Horticultural Society, March 14th, 1911.

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CYMBIDIUM GOTTIANUM (*eburneo* × *insigne* Sanderi).—In this hybrid the sepals and petals are cream coloured, slightly flushed with rose. The lip has a large reddish-rose blotch, the side lobes being prettily lined and spotted with the same colour. The spike, which bore five flowers, took eleven weeks to grow before flowering. Exhibited by Messrs. Sander and Sons at the Royal Horticultural Society, March 14th, 1911.

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LÆLIO-CATTLEYA EROS [*L. C. Mercia* (*flava* × *Schrödera*) × *C. Hardyana* (*aurea* × *Warszewiczii*)]—A very interesting hybrid in which the strong influence of *Laelia flava* has almost overcome the purple of *C. Warszewiczii*, thereby producing a soft orange-coloured flower with a flesh-coloured lip. The yellow cres in the throat of *C. Warszewiczii* are slightly visible in this hybrid. Exhibited by Messrs. Armstrong and Brown at the Royal Horticultural Society, March 14th, 1911.

③ ③ ③

LÆLIO-CATTLEYA CREUSA [*L. Coronet* × *C. Octave Doin*].—A medium-sized flower, but being wholly a primrose-yellow colour will prove useful for hybridising purposes. Raised and flowered by Messrs. Charlesworth and Co., March, 1911.

③ ③ ③

The collection of Orchids in the Royal Botanic Gardens, Kew, has been enriched during the year 1910 by contributions from Lieut.-Col. Sir George Holford, Tetbury, Sir Everard im Thurn, Governor of Fiji, Mr. H. Tilly, Moulmein, Mr. G. F. Moore, Chardwar, Messrs. Sander and Sons, St. Albans, and Messrs. Stuart Low and Co., Enfield. The total number of visitors to the Gardens during the last year was 3,546,302. This is a record number and shows an increase of 186,081 over that of the previous year.



The *Cattleya House* of Clement Moore, Esq., Hackensack, N.J., U.S.A.

This photograph, kindly supplied by Mr. A. Dimmock, gives an idea of the easy secure conditions under which Orchid cultivation is carried on during the winter months. The photograph on next page shows the same days shows the remarkable display of bloom in the interior.

CATTELEYA TRIANÆ.

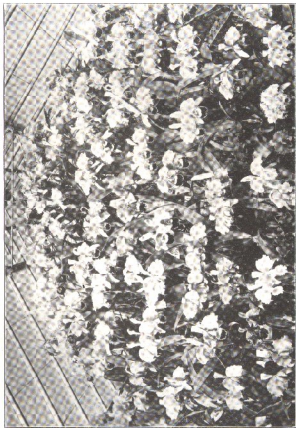
TO Mr. Rucker, of West Hill, Wandsworth, must be given the honour of first flowering this species of *Cattleya*. In January, 1849, he sent two flowers of it to Dr. Lindley, who named it *C. quadricolor*, in allusion to the four colours—white, yellow, lilac and purple—that are observable in its blossoms. But it was not until many years afterwards (*Gardener's Chronicle*, 1864, p. 206, and *Botanical Magazine*, 1865, t. 5502) that any description or figure of *C. quadricolor* was published.

A few years after the flowering of Mr. Rucker's plant Professor Reichenbach received flowers of this species, and named it in compliment to Dr. Triana, a botanist and citizen of Bogota. He published the name and

description in Mohl and Schlechtendal's *Botanische Zeitung* for 1860; and as this date is earlier than that of the publication of *C. quadricolor*, the name *C. Trianae*, from priority of publication, must be retained.

This *Cattleya* is spread over a large area in New Grenada. It was collected for the Horticultural Society of London by Weir in 1863, in the neighbourhood of Bogota, and received a First-class Certificate in February, 1866. M. Roehl describes in glowing terms, in *Godefroy's Orchidophile* (April, 1883, p. 572), the immense masses in flower he discovered near Bago in 1869.

Cousul F. C. Lehmann visited the natural home of this plant, and wrote the following note, which appeared in the *Gardeners'*



The interior of Mr. Clemens Moore's Cattleya House, showing a grand group of wonderful varieties of Cattleya Trianae.

From a photograph kindly supplied by Mr. A. Dammsch.

Chronicle, 1883, p. 24 :—"Many years' observations in indisputably one of the richest fields of epiphytal orchids on the globe have shown me that orchids, growing in different localities and under varying orographical and climatical conditions, are capable of great abnormal developments. I have, indeed, seen so much variation in orchids that I have given up all talk about new varieties. To give an example, I may mention that during my last travels in the Magdalena basin—devoted exclusively to the study of the country—a locality was visited in which *Cattleya Trianae* grew very abundantly. Of the many hundreds of plants which were seen in bloom, I was unable to select two that had flowers of equal size and colour, so great was the variation. I think every English amateur of orchids might have two special varieties from that spot without exhausting the number of them. Now, supposing all these varieties of *Cattleya* were described and named, what a catalogue! I think such plants might receive a local name—say, Mr. Gosling's dark-coloured variety, or Mr. Pfeifenbauer's extremely large-lipped plant—as this is of considerable importance to the horticulturist; but as far as the botanist is concerned these varieties can only be simply recorded, with the remark that such-and-such a species is capable of great varying developments."

Although *Cattleya Trianae* produces more white varieties than other species, it is very seldom that a pure albino form is observed,

the majority of these so-called white forms having a slight blush tint on the lip.

This species, in its native land, gets a good amount of rain, but owing to the small amount of material which generally surrounds the roots of the plant, it quickly passes away, and any superabundance of moisture is always counteracted by the plants receiving the full influence of drying winds.

These conditions cannot exactly be imitated in our Orchid houses, as the plants, by reason of their confinement, obtain comparatively little air, and are, therefore, somewhat prevented from having as full a supply of moisture as they would receive in their native land.

The best results may be obtained by giving each plant plenty of room, a light position in which to grow, but taking care that sufficient shading is used to prevent scorching, and a good supply of atmospheric moisture. In the autumn, when the new bulb has almost finished its growth, the supply of water must be diminished, the compost being only kept just moist enough to prevent the bulbs shrivelling. More air should be given, and if these conditions are maintained for a few weeks, or until the winter arrives, the plants will be well matured and produce a plentiful supply of strong, thick set flowers. In the early part of the new year when the flower buds begin to grow it is advisable to give the plants slightly more water to allow for the extra amount consumed in the formation of the blossoms.

SOME COOL HOUSE ORCHIDS FOR AMATEURS.

AT this time of the year Orchid fanciers look towards the cool-house for a good supply of bloom, and probably at no other season can Orchid flowers be obtained so plentifully. The easiest of all to grow are *Cypripediums*. These can be potted in almost any rough peat and loam mixture, and beyond being kept in a moist condition require little else but shading and a minimum temperature of 45 degrees. Although the well-known *Cypripedium insigne* is a winter flowering species, there are always a few

plants which remain in flower well into the new year. Healthy plants, likely to produce several flowers, can be purchased for half-a-crown, and even the very finest forms such as Harefield Hall variety can now be purchased at such a comparatively low price as to suit the pockets of every amateur.

For a spring flowering species *Cypripedium venustum* may well be selected, for even when not in flower its pretty mottled leaves are an adornment to any greenhouse. A somewhat larger, but perhaps not so pretty a flower, may

be had from *Cypripedium villosum*; this has the advantage of being free flowering and lasting a considerable time in perfection; the darker variety named *Boxallii* is equally useful. The very pretty *Cypripedium Spicarianum* with its pure-white dorsal sepal requires a few degrees more heat to grow it at its best, but if crossed with *Cypripedium insigne* we obtain one of the finest, most easily grown, and lasting *Cypripedium* hybrids suitable for every amateur. This hybrid, known as *Cypripedium Lecanum*, has produced innumerable varieties, and in many of the large collections several dozen named forms may be seen, so popular is this charming hybrid.

To speak of *Odontoglossum* is to mention a class of Orchid beloved by all, but it is well to remark that they will not put up with quite such a rough compost as *Cypripediums*. An open compost consisting of a mixture of good fibrous peat or *Osarunda*, some fresh sphagnum moss, and a few clean oak leaves will suit them very well. It is not considered an easy matter to grow large specimens from small pieces, or even to pull round sickly plants, therefore every amateur will be well advised to purchase only large strong plants in a healthy condition, for even if the treatment given is not altogether correct, these plants will continue to grow and flower for many years.

For a selection of the best, *Odontoglossum crispum* stands easily in the premier position. It is interesting to note that the first word of the name means tooth-shaped, and the second refers to the pretty crisped nature of the parts, or to use a more botanical term, the segments of the flower. In its native home this plant lives at an altitude of several thousand feet and enjoys the cool moist mountain atmosphere; in fact it is sometimes more difficult to grow this plant in our excessive summer heat than in the coldest time of winter. The new growth commences to break out of the last made hulk in early autumn, and after growing all through the winter makes a large hulk from which the beautiful and graceful bending spikes are produced in spring.

It is out of the very large importations of these plants that so many varieties have been

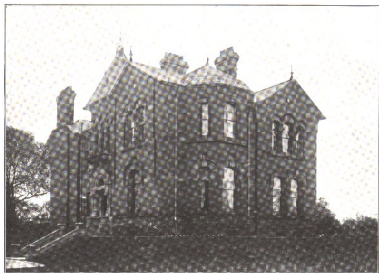
procured. While some Orchid fanciers selected the large round flowered type of flowers, the majority were attracted by the rare spotted forms to such an extent that one and all endeavoured to secure the variety having the largest amount of spotting. It was not unlike a scramble for a box of dominoes, each one attempted to secure the double six.

The majority of Orchid species are without any scent, but a few may be selected with an appreciable odour. Many amateurs will be delighted with the hawthorn-scented *Odontoglossum gloriosum*, and, although the yellow, brown spotted flowers are rather small, with the neat branching spike which it produces.

A more robust grower may be selected in *Odontoglossum luteopurpureum*, a species with yellow flowers almost covered with purplish-brown markings. Although somewhat curious to look at, it cannot be classed as one of the prettiest.

To speak of *Odontoglossum nobile* may suggest an error, but this is the correct name for the plant known in gardens as *Odontoglossum Pescatorei*. In many ways it is similar to *O. crispum*, but differs in having a branching spike of flowers with fiddle-shaped lips.

Amateurs, more than any other class of Orchid growers, have a tendency to crowd their plants together to such an extent as to prevent them from obtaining enough light and air to ripen the bulbs sufficiently for the production of flower spikes. A few may then be well selected for growing in small pans suspended from the roof. *Odontoglossum Cervantesii* and *O. Rossii*, both Mexican species and rarely exceeding six inches in height, and the brilliant-red *Sophranitis grandiflora*, often not more than four inches in height, may be specially recommended. A word of caution will not be out of place when speaking of these last three mentioned plants: although so dwarf, they should be suspended in such a way as to allow at least a space of nine inches between the glass and the highest portion of the plant. This distance will prove sufficient to prevent the extreme heat and cold from having any injurious effect on the leaves or blossoms of the plant.



"West Point," Whalley Range, Manchester.

The West Point Collection of Orchids.

IN giving a short account of this wonderful collection of Orchids which without doubt includes the grandest assortment of *Cypripediums*, one is somewhat at a loss how to intelligibly describe so many plants. Mr. Samuel Gratrix, who for nearly 40 years has resided at West Point, has always taken a very keen interest in horticulture, and at one time peaches and nectarines were largely grown in his garden, but being within three miles of the centre of Manchester, the impure atmosphere will not allow of much success being attained in this particular branch of horticulture. The unabated enthusiasm for choice and rare plants which Mr. Gratrix possesses is therefore now more centralised on the Orchid houses, and it is very gratifying to see the result of the additional interest taken in the collection by Mrs. Gratrix.

The present time, as all Orchidists will admit, is not the best season to obtain much of a floral display from *Cypripediums*; one is, therefore, more attracted by the healthy and very vigorous condition of the plants. In a spacious lean-to house, entirely filled with choice specimens of these valuable plants, may be seen an ingenious device for maintaining a copious supply of atmospheric moisture. The staging is composed of a shallow lead-lined trough filled with *coke*, and containing a plentiful supply of water, which, by means of a plug, can be easily drawn off when showing signs of stagnation. A few inches above this is a close lattice wood staging, painted with a preservative material, which creates a level surface on which to stand the pots. Sliding on this and all the other houses is produced by lath roller blinds, a

system which, by the condition of the leaves may be adjudged quite correct.

Space will not permit of mentioning all the *Cypripediums*, but the following must be specially noted: *Cypripedium* Waterloo, one of the very best hybrids, figured on page 127 of our last issue, and recently purchased from Mr. E. V. Low. The beautiful *C. Germain* Opoix, a very fine form of *C. Curtmanii* known as the West Point variety, more than a dozen plants of the massive flowered *C. Beekmanii*, the noble *Aeson giganteum*, Victor Hugo (*Latharium* × variable), *C. Lord Wolmer* which received an Award of Merit last year, the grand *C. Dreadnought* which was awarded a First-class Certificate, and the well-known *C. Earl of Tankerville*.

In another large house prettily decorated with rock-work may be seen some more equally fine varieties, the first to be noticed being *C. Moonbeam*, a hybrid between *C. Thompsonii* and *C. nitens Salicri*, and acknowledged by all to be one of the finest *Cypripediums*; the stock now consists of several plants, the strongest piece having five growths. Another choice hybrid is *C. Actaeus Bianca*, and among the remaining ones in this part of the house must be mentioned *C. Mrs. F. Sander*, *C. Alcibiades* Gratrix's variety, several magnificent specimens of *C. Fulshawense*, *C. Bridgei*, and a splendid selection of all the very finest forms of *C. Lecanum*. A noteworthy fact is the great variety of forms to be found of this last mentioned hybrid, those with an immense, broad dorsal sepal being strongly represented in this superb collection.

In one of the houses can be seen a large batch of *C. insigne*, all strong specimen plants, and containing most of the choice forms of this popular species. Paintings of almost all the best *Cypripediums* have been made, and from these one may easily see the good qualities of the plant when not in flower. In taking a selection from these one would certainly pick out *Cypripedium* Ellis Markendale, which is a truly lovely hybrid; it received a First-Class Certificate from the

Manchester Orchid Society in November, 1910. Another is *C. Mrs. Cary Batten*, which is one of the most distinct and lovely *Cypripediums* in cultivation. The flowers are exceedingly fine in shape, petals broad and of a beautiful carmine shade; dorsal sepal bright apple-green, having a broad dark centre of deeper carmine than the petals, and a narrow white margin all round; lower sepal pale green, pouch same colour as petals.

A choice selection of *Dendrobium*s is making a pretty show in one of the houses specially set apart for these useful and graceful plants. The collection embraces *D. Schneiderianum*, *D. Wigandiae*, two vigorous plants of *D. Wardianum album*, *D. noble virginale*, a pretty cream-coloured variety of *D. Melpomene*, several strong pieces of the new *D. Sanderae*, and the much admired *D. chesingtonense*.

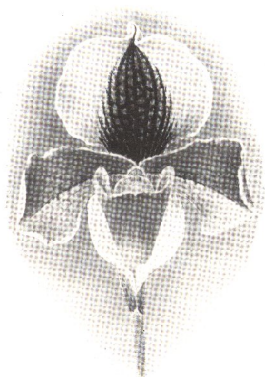
Another house is entirely filled with *Cattleyas* and allied genera, many being in bud. The much prized *Brassavola* hybrids include B.-C. *Dighyano-Mossiac*, the elegant B.-C. *Mrs. J. Lecmann*, and B.-C. *Mrs. M.*



Samuel Gratrix, Esq.

Gratrix. Several albino Cattleyas, including the rare *C. Percivaliana alba*, are given a prominent place. A very strong plant and also one of the finest varieties of *Sophr. Laelio-Cattleya Marathon* is just passing out

commencing their new growth. A nice batch of *Laelia purpurata*, several good plants of *Cattleya Mossie* in sheath, and many excellent forms of other well-known species occupy the back part of the staging. Suspended in



Cypripedium Mrs. Cary Batten.

of flower. A plant of *Cattleya Schroderae* is carrying a flower of intense rich purple, without doubt the best coloured form seen, but lacking slightly in size. The beautiful *C. Iris*, the autumn flowering *C. Fabia*, and *L.-C. Canhamiana alportense* are just

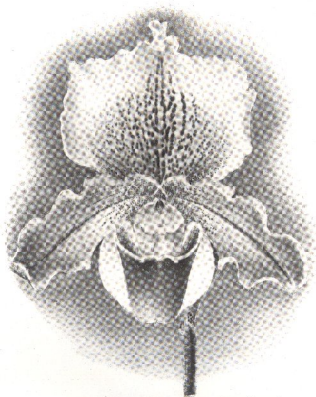
baskets from the roof are several masses of the recently imported *Laelia Gouldiana*.

The *Odontoglossum* houses, which, owing to the great increase in this section of the collection, are to be rebuilt this spring, contain a very interesting collection of these favourite

cool-house Orchids. Blotched crispums are represented by a grand variety named Samuel Gratrix, the wonderful and scarce Leonard Perfect, Britannia, Veitchiana, Maria, Grand

made of loochristiense, Wilkeanum, Adriane, and excellens.

Albino Odontoglossums are always scarce, but a plant of ardentissimum album carrying



Cypripedium Alportii Caesar. (*Aeson giganteum* x *Minos Youngii*.)

Monarch, His Majesty, and two good plants of the celebrated Luciani. The white forms of crispum include Madonna, and an exceedingly good shaped one named Mary Gratrix. Many fine forms of the natural hybrids are in full flower, and of these mention must be

made of a large branching spike, a healthy piece of Pescatorei album and the superb crispum xanthotes Warburtonæ must not remain unnoticed.

A house of recent construction is mainly devoted to seedling Cypripediums and

Cattleyas, and a very pleasing fact to be mentioned is the special interest Mrs. Gratrix takes in looking after the wants of these delicate and youthful Orchids. Some really good crosses have been made and in due course first-class hybrids will probably flower.

Mr. J. Brown, who has charge also of the

17 acres of grounds, shows fully his capabilities as an expert Orchid grower, and the many rare and beautiful plants with which he is entrusted should act as a great incentive to his ever willing desire to still further improve their good qualities.

G. W.

SOME IDEAS ON ORCHID HYBRIDISATION.

By J. M. BLACK.

(Continued from page 115.)

ONE of the laws of inheritance is very well-known, and has been for untold ages, and that is that "blood will tell." This colloquial phrase sums up very neatly the secret which the Orchid hybridist who intends to get to the top must ever have in his mind. All successful breeders of animals and plants, whether versed in Mendelism or not, are aware of this cardinal fact, and are constantly applying it. Nature concerns herself with the preservation and perpetuation of the species, and does not aim at anything more; her work is entirely socialistic, unconsciously levelling up and levelling down she steadfastly pursues the mean average. But this known law of inheritance consciously applied has given us better than the average of unassisted nature, and its continued application will give us many more super-orchids. A moment's cogitation will satisfy any one with but even a very short acquaintance with Orchids that it will be futile and a waste of time and effort to produce from seed a type of Orchid that for all practical purposes is no better than a type that can be imported at little cost. It will be an expensive and long-drawn-out way of achieving something which when achieved will not be worth the trouble. There has been in the past a too eager desire to get seedlings at any hazard, and the strictly rigid selection of parent plants that I would counsel has not been too closely followed if at all. The selection of parent plants should not be bounded by the frontier of the collection, and a fine variety should never be mated with an inferior one. Some growers of the old school were disposed to deride the hybrid, and were wont to

describe it as "two good things spoilt," and that description was, and is still, too often justly deserved; but it would oftener be nearer the mark to say "one good thing spoilt," the result of crossing a high-class variety of one species with a poor variety of another. But it is quite possible to have two good things spoilt in the hybrid through badly thought-out crossing, and most offences of this kind have occurred through crossing light and dark varieties with one another. As an illustration, let me take two familiar varieties of *Dendrobium nobile*, namely, *nobilis* and *virginale*, the former remarkable for its rich colour, and the latter for being pure white, both in their way high-class, although new inexpensive Orchids. If one had a desire to raise a fine strain of *D. nobile* the mating of *virginale* with *nobilis*, although both among the very best of noble varieties, could only result in an inferior variety, as the colours would neutralise each other—nature finding the mean average—and we would thus succeed in spoiling two good things. *Dendrobium nobile* can be imported in big clumps at a cost low enough to be sold at a very nominal figure, so that the raising of it from seed to attain only the mean average would be a waste of time. The result of the fertilising of *D. n. nobilis* with *D. n. virginale* would, strictly speaking, not be a hybrid, although there is much more dissimilitude between these two varieties of one species than between many species that are botanically recognised as distinct, and they will serve very well to further illustrate my meaning. Our object is, say, to raise a batch of *Dendrobium nobile* better than it would be

possible to import, and we have already the richest variety in nobilis, all the others being considerably behind in colour. Let us see if nobilis has any weak points? If anything the segments are too narrow and the flowers are disposed to hang somewhat limp, so this must be remedied if possible in the generation we contemplate raising; and the noble we must now select for the other parent should be a variety that eclipses nobilis in shape, size and solidity, and with as rich a colour as possible, such as, for instance, Harefield Hall variety. Seedlings between these two would unquestionably yield a higher percentage of good varieties than could possibly be imported, because the known law of inheritance "breed will tell" had been consciously applied in the selection of the parents.

From the foregoing we are beginning to see clearly that we must not only have the best varieties procurable to work with but also the knowledge which is usually after all but common-place deduction—to mate them judiciously, so as to cheat nature out of her mean average and frustrate her socialistic tendency.

The noble virginale being white has, as regards colour, got as far in one direction as it is possible to get, and could only be improved in shape and size; but as all other varieties of noble having better shape have also colour, there is nothing in the species to improve it with. Looking over the other *Dendrobium* species, one is soon arrested with *Wardianum*, perhaps the finest of the genus, and knowing that there are several fine albino varieties of this splendid *Dendrobium* a hybrid at once suggests itself between the white noble and one of these. This would result in a hybrid worth making, as no type like it could be imported at any price, because no type like it exists. The object of this cross would be to produce a white *Dendrobium* hybrid larger and of better shape than the noble virginale, and with a better constitution than the *Wardianum album*. The hybridist could look forward with satisfaction and assurance to the result of this cross, and with confidence that he was defeating the mean average of nature—his declared object. The coloured

hybrid between noble and *Wardianum* has already been raised and is called *D. Euterpe*; it resembles the latter parent most, having a larger and flatter flower than noble, and it has a much more tenacious constitution than *Wardianum*; but it could not be regarded in any way as a triumph of hybridisation, as *D. Wardianum*, which eclipses it in every way with the exception of constitution, can be purchased so cheaply. It would be quite otherwise with a white *Euterpe*, as *Wardianum album* is extremely rare, as are all albino varieties of coloured types.

I stumbled across *Dendrobium noble* and *D. Wardianum* more by accident than design in beginning this month's notes, for any other species of the bigger genera would have served the purpose equally well, and I cannot do better than continue with them. I know a *D. Euterpe* one of the parents of which was *D. n. Sandera*, and it was no great success, as might have been expected. *D. n. Sandera* is an anomaly—it is not a good noble; it is neither a good typical flower of this species nor yet pure white, but still it is remarkably distinct; and for this reason was given a varietal name. In it the richly coloured disc characteristic of noble is absent, and altogether the flower has less colour, and while being pretty enough as a distinct variety of noble it is insufficiently characterised to use as a parent. Wisly-washy anomalies like this must be avoided in Orchid breeding, even though they may have received some reputation and are catalogued at a higher price than more ordinary yet more typical and really better varieties. The cost of a plant need not be a criterion of its suitability for using as a parent.

The gist of the preceding is shortly that we keep the white varieties together and the dark varieties together, and that we never cross a good shaped variety with a bad shaped one except for some very exceptional and valid reasons; also that we eschew abnormal varieties such as monstrosities with two lips, or whose only claim to notice is their want of colour—and which may be named *delicata* or *albescens*. Such like should never be used for hybridisation. Light varieties should not

only never be crossed with dark varieties but not between themselves—unless they are pure white. Nature has an inerring instinct of working back to type, and a pure white with a nearly white variety, or two nearly white varieties crossed together, will result in chagrin for the raiser after years of care and happy anticipation. If there is the slightest colour in either parent it will be multiplied a hundred-fold in its transmission to the next generation. There are a good many instances on record of what is called the reversion of "albinos" to coloured forms, and although I have had first hand knowledge of several cases of this reversion I am not satisfied that two *true* albinos ever yet reverted. *Cattleya Gaskelliana alba* × *C. Harrisoniana alba* was one instance, and although as far as one could see both parents were perfectly white, all the seedlings came coloured; still I suspect the latter of not being a true albino. Another instance was *C. Mossæ Wageneri* × *C. Schröderæ alba*, and with the same result; but in this instance the *Schröderæ* betrayed colour in after years. And another was *C. Gaskelliana alba* × *C. Mendelii alba*, both apparently pure albinos again, and yet the resulting hybrids are coloured; and in this case I suspect the *Mendelii* of not being a pure albino. I could quote other cases of which I have had first hand knowledge, but these will be sufficient for our immediate purpose.

Now although in these particular instances the effort to raise albinos from seed failed, I can see no reason why—with a *Harrisoniana alba* that is really true, with a *Mendelii alba* that is really true, and with a *Schröderæ alba* that is really true: the same crosses should not again be made, and with every hope of white progeny. Because two white varieties of two species crossed together do not breed true it is premature to dogmatize and say that white varieties of these two species won't breed true.

Speaking again within the limits of my own experience, I have never known white and coloured varieties to flower out of the same seed capsule, although I know that such instances are on record. We have invariably

had either all coloured or all white, and the number tested has been several thousands. This has always seemed somewhat remarkable to me—in the light of continental experience.

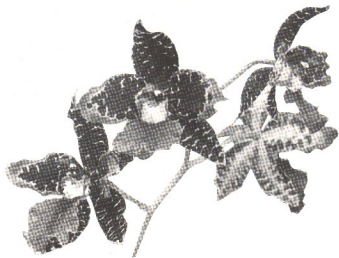
There is in the reproduction from seed of that chaste accident, the albino, a wide and fruitful field, and those instances of failure that I have quoted will be sufficient to put the wary hybridiser on his guard. He must make sure that he is not working with pseudo-albinos but with the real things. If there is any tinting on the flower stem or leaves, such as seen in most white *Cattleya Trianae*, it is no true albino, no matter how white the flower; and it will not breed true. In fact, the real test of an albino is to cross it with an albino that has already been tested: if the seedlings come white, it was a true albino; if not, then it wasn't!

In importations of Orchids the bulk will follow a mean average—high or low according to the strain—and above and below this average will be some; and here and there, say, out of every five of ten thousand, two or three will make their appearance that stand clean and clear away from the others. In shape they will be perfect, and in colouration far above their fellows. These are the super-orchids of nature, and their inter-crossing will produce the super-orchids of the hybridist. It should be the ambition of the Orchid breeder to become possessed of these, and then he will build up on an unassailable basis. Colour is not nearly such an elusive attribute as albinism, and shape, with little deviation, may be said to be constant.

To settle down within the narrow confines of a promiscuous collection of Orchids—gathered together in a haphazard way, and without other consideration than the fancy of the moment—to cross breed those things that chance to flower together will not lead, but by the remotest accident, to happy results. No matter what skill, care and patience are bestowed on the crossing, the raising and growing, no ascendancy can be hoped for, if the material is not there to work with.

All Paderewski's skill would avail him nothing on a barrel organ!

To be continued.



ODONTOGLOSSUM JEANNETTE.

Rosii rubescens x *amabile heatonense*.

In this marvellous hybrid, which created quite a sensation when exhibited by Messrs. Charlesworth and Co., on March 14th, 1911, the dominating influence of *O. Rosii* is again in evidence; the use of the beautiful *rubescens* variety probably accounting for much of the intense colouring seen in every part of the flower. The sepals and petals are violet-purple densely marked with rich dark-brown

spots. The lip, which is similarly coloured, has a large purple-coloured blotch, and at the base a singular bright-yellow blotch which entirely includes the crest, and proves one of the most attractive features in the whole flower. This wonderful plant has since passed into the superb collection of J. Gurney Fowler, Esq.

MAXILLARIA LINDENIÆ.

A flower of this elegant species was sent by the Curator of the Royal Botanic Gardens, Glasnevin, to the Royal Horticultural Society on February 28th, 1911. This cool-house Orchid produces flowers about five inches across the sepals, which are pure white; the petals are white, lined with rose-pink; lip yellow, with the fleshy callous thickly covered with an ochraceous powder, margined with red, blotched and spotted beneath with purple-maroon; column white, marked with purple at the apex; anther cap white.

MAXILLARIA SANDERIANA.

One of the finest species of the *Maxillaria* genus. The height of the plant is eight to fifteen inches, scapes decumbent or semi-erect; flowers very large, often six inches across; sepals and smaller petals white, thickly marked with blood-red on their basal halves; lip fleshy, ivory white; side lobes stained with blood-red. It is a native of Ecuador, and grows well in the cool-house, usually flowering in the month of May. It first flowered in the collection of Baron Sie Henry Schröder.

CULTURE RECORDS.

Under this title it is proposed to record details, either past or present, of specimen plants, number of flowers on a spike, size of individual blooms, etc., etc. We therefore invite our readers to send all such particulars for publication in this column.

Dendrobium nobile.—At the Royal Horticultural Society, on April 21st, 1885, Mr. Prunsey exhibited a splendid example of this plant. It had 48 growths, all more or less leafy, and bore 630 expanded flowers.

Rensathem coccinea.—In the gardens belonging to A. Palmer, Esq., at Chcam, about the year 1845, a plant of this species carried seven spikes, each bearing from 100 to 140 flowers, and in the possession of R. S. Holford, Esq., of Westonbirt, was an equally strong plant, on one spike of which were 117 of its showy scarlet flowers.

Odontoglossum nevadense.—A plant of this species with four spikes and 52 flowers, was exhibited by J. S. Moss, Esq., Wintershall Hall, Bishop's Walden (gr. Mr. Knich), at the Royal Horticultural Society, on January 31st, 1911.

Odontoglossum macdunnii.—A cut spike of this hybrid (*Wilckeanum* × *Pescatorei*) having ten branches, with a total of 60 flowers, was exhibited by J. S. Moss, Esq., at the Royal Horticultural Society, on March 14th, 1911.

Cattleya Trianae Hydra. A large specimen plant, with numerous bulbs, bearing 22 spikes with an aggregate of 95 flowers, received a Cultural Commendation when shown by Mr. H. G. Alexander, Orchid grower to Lieut.-Col. Sir George Holford, K.C.V.O., Westonsbirt, at the Royal Horticultural Society, on February 14, 1911.

Arselfia africana.—A grand specimen plant of this showy Orchid, with many spikes and 307 flowers, was exhibited by the Hon. Mrs. Foley, Packham, Fordingbridge, at the Royal Horticultural Society, March 14th, 1911.

Gongora bufonia.—A strong plant with two flower spikes, one having 34, the other 30 blossoms. Flowered in Messrs. Charlesworth's establishment, March, 1911.

Odontoglossum Rolfeae. A wonderful

spike with 13 branches carrying in all 90 flowers. Grown by Messrs. Charlesworth and Co., Haywards Heath, March, 1911.

32 33 34

The Propagation of Orchids in India. By Capt. Charles Gibberne, in a letter to the Vice-Secretary of the Horticultural Society, dated Belgaum (70 miles E. of Goa), October 20th, 1845.

As I believe the propagation of Terrestrial Orchids to be still a great desideratum with English gardeners, I am induced, on the suggestion of a friend, to detail two or three experiments I have made with that view, and in which I have met with some success.

In July I took up a *Platanthera Susannee* when about three inches high, removed the old tuber, leaving the rest of the root attached to the plant, and then set them separately. In about six weeks the plant had sent down a new tuber, the old one having also, in the meantime, formed a new one which had sent up a single leaf for nourishment. I then broke off from the latter the old tuber a second time, and reset it separately, but on examining it a few days ago I found it had rotted. Two perfect tubers have, however, been thus formed from one plant; and I do not despair of obtaining three, or even four, another year by removing the old tuber at an earlier period; but the new one will not then, in all probability, have obtained sufficient size or strength to perfect its flowers till the second or third year.

In the course of the same month, finding that the tuber had rotted off a *Platanthera Susannee*, I pulled up the stem, cut off the lower end, and reset it. In about a month, the cutting beginning to fade, I took it up and found that a small and perfect tuber had been protruded through the sheath of the stem from the lower joint of the cutting.

I have since made cuttings of two or three stems, leaving two joints on each; but as it is very late in the season, and the plants have only their seeds to perfect, I much doubt if sufficient vitality remains to enable them to put forth fresh tubers.

ROYAL HORTICULTURAL SOCIETY.

February 28th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Gurney Wilson, F. Mcenteith Ogilvie, A. A. McElean, T. Armstrong, J. E. Shill, J. Charlesworth, J. Cypher, W. H. Hatcher, W. P. Bound, A. Dye, W. H. White, C. H. Curtis, J. Wilson Potter, W. Bolton, John S. Moss, and Walter Cobb.

Sir Trevor Lawrence, Bart., K.C.V.O., Bedford, Dorking (gr. Mr. White), exhibited a group of interesting plants. The collection embraced well-flowered plants of *Catasetum scarrum*, with greenish-veined flowers, *Maxillaria variabilis*, the minutely-flowered *Scaphygotia Behri*, *Pleurothallis scapha*, and *Misocallis Chamberlainiana*.

H. S. Goodson, Esq., Fairlaw, Patney (gr. Mr. Day), showed *Odontioda Florii* (*C. Noezliana* × *O. Andersoniana*), having a reddish flower that shows the characters of the latter parent.

Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. Davis), exhibited *Odontioda keighleyensis* Fowler's var., which has previously received a First class Certificate.

H. S. Leon, Esq., Bletchley Park (gr. Mr. Cooper), exhibited a choice selection of *Cypripedium* flowers of varieties raised at Bletchley Park.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. Chapman), displayed a fine variety of *Odontioda Bradshawae superba*; also *Odontoglossum percalum purpureum*, having a richly-colored flower, with a white lip; *Dendrobium oakwoodensis*, a hybrid derived from *Dendrobium* "T. B. Haywood"; the broad petals are rosy-purple, and the lip has a dark blotch.

R. G. Thwaites, Esq., Chessington, Christchurch Road, Stratham (gr. Mr. Black), exhibited a small group of choice *Dendrobiums*, including *D. mirandum* (Wignonia × Thwaitesii), *D. Austini*, *D. nobile* Thwaites' var., *Odontioda Bradshawae*, and a good variety of *Sophrano-Cattleya warhamiensis*.

Edward Roberts, Esq., Park Lodge, Eltham (gr. Mr. Carr), obtained a Silver Banksian

Medal for a group of *Cypripediums*, which included the beautiful *C. Emile Cappel*, which received a First-class Certificate at Paris; a dark variety of *C. St. Albans*, *C. Nitem Prince Olaf*, and *C. heechense* Sander's variety.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver Flora Medal for a large group, consisting mainly of large plants of their well-known hybrids. At the back of the group were many graceful spikes of *Odontoglossum*, and good varieties of *Laelio-Cattleyas*. Other choice subjects were *Zygocotax Charlesworthii*, *Coccygyne sparsa*, *Cypripedium Rossetti*, a splendid form of *Brasso-Cattleya Cliftonii* (*Digbyano-Mossiae* × *C. Trianae*), *Sophrano-Laelio-Cattleya Marathon*, *Laelio-Cattleya Bella alba*, and a number of *Oncotidias*.

Messrs. Sander and Sons, St. Albans, obtained a Silver Flora Medal for an interesting group. Amongst the finest plants were *Miltonia St. Andre* (Roedli × Bleuana), *Cymbidium Hoffmannianum*, *C. eburneo* *Lewianum*, and *Renanthera isochrysantha*. Several excellent varieties of *Cattleya Trianae*, the curious *Catasetum tridentatum*, and many beautiful and richly-colored *Odontoglossum*s were also noticed in this exhibit.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, received a Silver Banksian Medal for a good group, in the centre of which were some finely-flowered plants of *Dendrobium Wardianum*, and on either side of these many interesting species, such as *Bulbophyllum cupreum*, *Odontoglossum cordatum* Low's variety, the rare albino form of *O. scepterum*, *Cypripedium Harrisianum* album, several good varieties of *Lycaste Skinneri*, a large variety of *Cattleya Enid* and *Cattleya Schröderae* "White Queen," having white sepals and petals, with a distinct flush of colour on the lip.

Messrs. Mansell and Hatcher, Ltd., Rawdon, were awarded a Silver Banksian Medal for a well staged group of rare and pretty Orchids. The yellow *Phaius flavus*, *Eria lanata*, the new *Odontioda Zephyr* (*O. Noezliana* × *O. Wilckmannii*), the rare *Oncidium*

ampliatum obovato, a good plant of *Miltonia fleurana*, and a selection of well-flowered *Dendrobium*, constituted the more important subjects.

Messrs. Armstrong and Brown, Tunbridge Wells, obtained a Silver Flora Medal for a neat group of well-grown plants, including the pretty *Cymbidium Woodhousianum*, the scarce *Odontoglossum cristatum*, a strong plant of *O. Rolfeae*, with a spike of more than 50 flowers, *Brassia-Cattleya Helen*, and two distinct varieties of *Odontoglossum Harryano crispum*.

Messrs. J. Cypher and Sons, Cheltenham, received a Silver Banksian Medal for a group of excellent *Cypripediums*, some brightly-coloured varieties of *Laelia-Cattleya Capperi*, several good spotted *Odontoglossums*, including *O. excelsum*, and well-flowered plants of the popular *Lycaste Skinneri*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed several distinct forms of *Cattleya Trianae*, the finer being *C. T. The Marquis*, *C. T. Titania*, and *C. T. alba*; also a large form of *Cypripedium Maundii*, and *C. Irazoconia* (*Laelio-Rothschildiana* × *calceolaria Sonderae*), having a large, bold flower that favoured *C. Rothschildiana*.

Messrs. J. and A. A. McBean, Cooksbridge, received a Silver Banksian Medal for a group containing several good varieties of *Odontoglossum crispum*, a fine plant of *Cymbidium insignis*, with a grand spike of bloom, several choice *Cypripediums*, and the elegant, red-flowered *Eppihronitis Veitchii*.

Messrs. Hassall and Co., Southgate, exhibited a pretty variety of *Cattleya Trianae*, with a bluish tinge on the sepals and petals and a deeper blue on the lip; also *Cypripedium aereum Hyenatum*.

Mr. Jensen, Lindfield, Haywards Heath, exhibited a selection of distinct forms from his well-known type of *Cattleya Schödderae*.

Mr. A. Schlegel, Lewes, showed *Brassia-Cattleya* Mrs. J. C. Hirst (*B. nodosa* × *C. Trianae*), which has many of the characters of the *Brassavola* parent.

Mr. J. Stevenson, Alton Manor Gardens, near Derby, sent cut flowers of a seedling *Cypripedium*.

The Curator of the Royal Botanic Gardens, Glasnevin, showed flowers of *Pleurothallis platyrrachis*, *P. rhombipetala*, *Ione scariosa*, *Coleogyne sulphurea*, *C. Whitneriana*, and *C. perakensis*, *Eria globeterra*, and *Maxillaria Lindenii*.

Messrs. T. Rochford and Sons, Broxbourne, Hertfordshire, exhibited a rich form of *Odontoglossum Thauripsonianum*, also a distinct form of *O. louchistense*, and some good varieties of *Sophranitis grandiflora*.

AWARDS.

AWARD OF MERIT.

Cymbidium langleyense (C. Lowianum × C. Devonianum), from Messrs. J. Veitch and Sons, Chelsea.—An apparently strong growing plant, with a long spike of 15 flowers; the sepals and petals are a greenish-brown colour, the lip having a large blotch of reddish-brown.

BOTANICAL CERTIFICATES.

Phylacium glaucaea valida.—A strong-growing variety of *P. glaucaea*, with many racemes of yellowish-white flowers.

Dendrobium delicatum (Bailey).—A species having erect spikes of white flowers slightly spotted on the lips.

Maxillaria callichroea.—An elegant species, with yellow sepals and petals, the latter being purplish-brown at the base; the lip has a yellow disc. All three shown by Sir Trevor Lawrence, Bart.

Eria lanata, from Messrs. Mansell and Hatcher.—A pretty species, with spikes of yellowish-green flowers; with numerous hairs on the outside of the blooms.

Grosbya fuscifera.—A curious species, shown by Messrs. Mansell and Hatcher, Rawdon.

March 14th, 1911.

MEMBERS of the Orchid Committee present:—J. Garney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), W. Cobb, R. G. Thwaites, Gurney Wilson, F. W. Moore, A. A. McBean, T. Armstrong, J. E. Stull, J. Cypher, W. H. Hatcher, A. Dye, H. G. Alexander, W. H. White, H. Ballantine, W. Bolton, F. M. Ogilvie, W. P. Bound, J.

Charlesworth, J. S. Moss, R. Brooman-White, and Sir Jeremiah Colman, Bart.

Sir Jeremiah Colman, Bart., V.M.H., Gutton Park (gr. Mr. Colfer), was awarded a Silver Flora Medal for an interesting group of *Dendrobiums* and botanical Orchids. The latter included *Maxillaria sanguinea*, *Pholidota gracilis*, and *Lycaste Mary Gratrix*. The *Dendrobiums* included the beautiful *D. Lady Colman*, *D. Mrs. Alfred Rogers*, with white sepals and petals and orange disc on the lip, and *D. Margery Tyrrol Giles*, a large white flower with a dark coloured blotch in the throat. A pretty *Odontoglossum Lady Roxburgh* (*circosum* \times *percultum*) was also shown.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-gilt Flora Medal for a superb group containing the new *Odontoglossum Jeanette* (see p. 161), a very fine lot of *Phaius Norman*, a good selection of *Odontiodas* including *Bradshawia* and *Lutetia*, *Odontoglossum Sylvia* (*Rolfsee* \times *circosum*), *Laelio-Cattleya Fred. Boyle*, *L.-C. Myra*, and the very beautiful *Brasso-Cattleya Queen Alexandra*.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for an excellent group. Amongst the botanical Orchids were *Cirrhopetalum picturatum*, *Clipsis Cheloni*, the rare *Hosileta Sanderi*, and *Stanhopea eburnea*. The new *Cattleya Juanda* (*Jabita* \times *Schröderae*) and the curious *Schombarkia undulata* were shown in good form.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Banksian Medal for a group containing some fine specimen plants of their well-known type of *Dendrobium Wardianum*, several interesting *Masdevallias*, a good variety of *Cattleya Fend*, a hybrid between *Laelio-Cattleya callistoglossa* and *Brasso-Cattleya Mrs. J. Lecmann*, and the very beautiful *Cattleya Suzanne Hye de Crom*.

Messrs. Armstrong and Brown, Tunbridge Wells, obtained a Silver Flora Medal for a group of well-grown and pretty Orchids. It contained the new *Laelio-Cattleya Eros* (see New Plants), a fine specimen of *Odontoglossum mexicanum*, *Cymbidium grandiflorum*, *Brasso-Cattleya Mrs. J. Lecmann*, a fine assortment of *Odontoglossum* hybrids, and

Dendrobium Armstrongiae. A very large flowered variety of *Cypripedium Maudiae* and several good *Masdevallias* were included.

Messrs. J. Cypher and Sons, Cheltenham, received a Silver Flora Medal for a good group of Orchids containing the yellow *Dendrobium chesingtonense*, the noble *Cattleya Trianae* *Bachmanniana*, several good varieties of *Odontoglossum crispum*, a well-flowered plant of *Sophr-Cattleya Susa*, and many other interesting and rare plants.

Messrs. J. and A. A. Mellean, Cooksbridge, received a Silver Banksian Medal for a nice group. Included in it were several excellent varieties of *Cattleya Schröderae*, *Cymbidium eburneo-Loveianum*, some pleasing *Odontoglossum* hybrids and the bright-red *Epiphrontis Veitchii*.

Mr. A. W. Jensen, Lindfield, obtained a Silver Banksian Medal for a group of very well-grown Orchids. Examples of his fine type of *Cattleya Schröderae*, and a few plants of *Cattleya Mendelii* were shown in good form. Several very richly-coloured *Oncidium Kramerii* were also noticed.

De Barri Crawshaw, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), exhibited the new *Odontoglossum Titania*, a hybrid raised from *O. Queen Alexandra* \times *O. crispum Leonard Perfect*.

The Hon. Mrs. Foley, Paekham, Fordingbridge, exhibited a magnificent plant of *Amselia africana*, with many spikes, a curious species of *Megacolinum*, *Fulochia gracilis*, and the elegant *Lissochilus purpuratus*.

Hazilton Smith, Esq., Kiloran, Church End, Finchley (gr. Mr. Conningsley), exhibited some very pretty and well-grown Orchids, including two plants of probably the largest form of *Lycaste Skinneri*; yet seen, some excellent *Cymbidiums*, *Odontoglossum Edwardii*, *O. harvingense*, and the very pretty *O. Mariettae* (*Rolfsee* \times *Lambertianum*).

J. B. Seale, Esq., Fairfield, Putney (gr. Mr. Paice), exhibited a small plant of a seedling *Odontoglossum*.

Henry A. Innes, Esq., Croft Spa, Yorks, sent *Cypripedium villosum Stewartii*, a very finely-blotched *Odontoglossum eximium* named *Monkend* variety, and the grand

Cattleya Dominicana Monkend variety which secured an Award of Merit.

R. Brooman-White, Esq., Arddarroch, Garelochhead, exhibited cut flower spikes of some excellent varieties of *Odontoglossum crispum*, the best being *O. crispum Mercedes*.

John S. Moss, Esq., Wintershill House, Bishop's Waltham, exhibited 2 cut spike of *Odontoglossum Jasper* (*amabile* × *crispum*), and a large branching spike of *O. unicum* with numerous flowers.

The Rev. J. Crombleholme, Clayton-le-Moors, Aorington, sent *Cypripedium Johnsonii* var. *spens-nuplexum*.

William Bolton, Esq., Warrington, sent a cut-spike of a *Decidionium* resembling *D. atroviolaceum*, and said to have been imported with D. Ashworthii.

Major E. C. Rogerson, Harpenden (gr. Mr. Price), exhibited *Odontoglossum eximium* Ethel Rogerson, a very fine variety.

THE NORTH OF ENGLAND HORTICULTURAL SOCIETY

Members of the Orchid Committee present: C. J. Buckhouse, Esq. (in the chair), and Messrs. Gurney Wilson (hon. sec.), J. Cypher, J. Cowan, F. W. Corney, A. Keeling, H. A. Limes, J. I. Barker, A. J. Hall, W. Shackleton, W. Mansell, G. Taylor, F. C. Puddle, W. H. Hatcher, and G. Elwood.

Messrs. Mansell and Hatcher, Ltd., Rawdon, Yorks., obtained the Gold Medal for a fine group extending the whole length of one bench. It contained a good variety of *Laelio-Cattleya Dominicana*, some splendid forms of *Odontoglossum crispum*, including the scarce rosy type, the pretty *Miltonia Bleuana*, *Oncidium concolor*, many very good *Cypripediums*, *Odontioda Charlesworthii*, *Brassia-Cattleya Maroni*, B.-C. *Digyanus-Mendelii*, *Trichopilia saxavis*, and three superb plants which obtained awards.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a large Silver-gilt Medal for a good group of excellently flowered Orchids. Several Phaius Norman, the very pretty *Sopano-Laelio Cattleya Marathon*, *Cattleya Empress Frederick*, some good

AWARDS.

FIRST CLASS CERTIFICATE.

Odontoglossum Jeanette (Rossii rubescens × *amabile heatonense*), from Messrs. Charlesworth and Co. See p. 161.

AWARDS OF MERIT.

Cymbidium Alexanderi (*eburneo-Louisiana* × *insigne Sanderi*), from Lieut. Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander). See page 149.

Cymbidium Gottianum (*eburneo* × *insigne Sanderi*) from Messrs. Sander and Sons. See page 149.

Odontoglossum mirum Bruggense (*crispum* × *Wilckeanum*), from Messrs. Sander and Sons. A very grand hybrid. The flowers are well-formed and heavily blotched with purple.

Laelio-Cattleya Dominicana Monkend variety (*L. purpurata* × *C. aurea*) from Henry Innes, Esq., Croft Spa, Yorks. One of the finest varieties of this hybrid seen, the flowers being large and richly coloured.

Odontoglossum hybrids, a nice assortment of *Odontioda*, a grand variety of *Odontoglossum eximium*, and a large plant of the beautiful *Brassia-Cattleya Queen Alexandra*, which obtained an award.

Messrs. Cypher and Sons, Cheltenham, obtained a large Silver-gilt Medal for a group of excellent orchids. Those specially noticed were *Lycaste Skinneri alba*, *Cypripedium Helen II*, the yellow *Laelio-Cattleya Ophir*, *Sopano-Cattleya Saxa*, which received an award, several good varieties of *Cattleya Schröderae*, and a large plant of *Cymbidium Louisiana*.

J. H. Craves, Esq., The Beeches, Keighley (gr. Mr. Corney), was awarded a Silver-gilt Medal for a group of excellent orchids. It contained the new *Odontoglossum Ceres*, *Cattleya Triana alba*, a nice *Laelio-Cattleya lunacea*, the beautiful *Cypripedium*, Mrs. Wm. Mostyn, *Lycaste Skinneri alba*, some good varieties of *Odontoglossum crispum* and several fine *Cypripediums*. In the centre of the group were some splendid plants of *Odontioda keighleyensis*.

Mr. H. A. Innes, Monkend Gardens, Durlington, obtained a large Silver Medal for a group containing many excellent *Cypripediums*, those of special merit being *C. villosum* Stewartii, *C. nitens*, *C. Deedmanianum*, *C. Euryades*, and *C. aureum* Surprise. The Monkend variety of *Odontoglossum eximium* and several other *Odontoglossums* were shown in good style.

Messrs. Keeling and Sons, Bradford, Yorks., were awarded a Silver Medal for a group containing a well-flowered plant of *Dendrobium superbum*, *Cypripedium calosum* Sanderae, the bright yellow *Oncidium concolor*, several interesting *Masdevallias*, and other Orchids.

Mr. W. Shackleton, Great Horton, Bradford, exhibited *Odontoglossum crispum* roseum, *O. crispum* "Milky Way," a pretty variety of the punctatissimum section, and *O. crispum* with good-shaped segments.

Major Rogerson, Heatherdale, Spencer Road, Harpenden (gr. Mr. Price), staged the very fine *Odontoglossum crispum* Leonard Perfect with a good spike of eleven flowers, an *Odontoglossum* hybrid between *crispum* and *Wilckeanum*, and *O. eximium* Ethel Rogerson, a fine variety with rose-coloured background almost covered with brownish-purple blotches.

W. H. St. Quintin, Esq., Seapiston Hall (gr. Mr. Puddle), exhibited *Cypripedium Psyche* Seapiston var., a very pretty hybrid between *bellatulum* and *niveum*, having white flowers delicately and minutely spotted.

Messrs. Hassall and Co., Southgate, showed the new *Odontoglossum* Jasper, a hybrid between *O. crispum* and *O. amabile*, *O. Dura*, with good-shaped flowers, and *Cattleya Lueddemanniana* southgatense, a large-flowered variety with a good-coloured lip.

Mr. Alva J. Hall, 12, Parliament Street, Harrogate, sent a group in which were *Cypripedium Euryades*, *C. T. B. Haywood*, *C. Pitchehamum*, *C. Clio*, *C. Goweri*, and *C. Lathamianum*. The plants were nicely grown, and a vote of thanks was given.

Wm. Mathieson, Esq., Glenburn, Horsforth, near Leeds (gr. Mr. Gilchrist), sent *Odonto-*

glossum Phoebe Glenburn variety, a flower of good shape and nicely marked with purple.

AWARDS.

FIRST DIPLOMAS.

Brassé *Cattleya* Queen Alexandra, from Messrs. Charlesworth and Co., Haywards Heath. A very fine variety of this grand hybrid. Flower pure white and with broad sepals and petals.

Odontoglossum Manselliae (Vuytsloca x Harryanum), from Messrs. Mansell and Hatcher, Ltd, Rawdon, Yorks. One of the most distinct *Odontoglossums*. Flowers of good shape, sepals and petals almost entirely covered with claret-purple blotches and margined with bright gold.

Sophro-Cattleya Wellesleyae, from Messrs. Cypher and Sons, Cheltenham. A richly-coloured variety of this pretty hybrid.

SECOND DIPLOMAS.

Odontoglossum Phoebe Glenburn variety, from William Mathieson, Esq., Horsforth, Leeds. A pretty, good-shaped and nicely-marked variety.

Odontoglossum eximium Lily Wilkinson, from Major Rogerson, Spencer Road, Harpenden. Flowers of good size and almost covered with purple blotches.

Cypripedium Bridgei, from Messrs. Cypher and Sons, Cheltenham. A large, bold flower, beautifully marked and coloured.

Odontioda keighleyensis gloriosa, from J. H. Craven, Esq., Keighley. Flowers of good size and of a richer colour than in the type.

Lynceae Mary Gratrix, from Messrs. Mansell and Hatcher. A good example of this hybrid between *macrophylla* and *Skinneri*. It also received a Cultural Commendation.

Dendrobium plumptonense, from Messrs. Mansell and Hatcher. A very richly-coloured hybrid, suggesting noble nobiliss as one of the parents.

FIFTY GUINEA SILVER-GILT

Coronation Challenge Cup

TO BE COMPETED FOR ANNUALLY AT THE

ROYAL HORTICULTURAL SOCIETY'S SUMMER SHOW.

This Challenge Cup is established in commemoration of the Coronation of their Majesties

**KING GEORGE V.
and QUEEN MARY.**

It is offered in
OPEN

Competition, and it will be awarded by the Council to what in their opinion is the most meritorious exhibit in the Summer Show (excluding in future the winners of either of the two previous years).

The winner will hold the Cup for one year subject to a guarantee to return it in good condition, or failing this to refund to the R.H.S. the sum of £55. The same Exhibitor may only win the Cup once in three years, but in 1912 should the winner



The Fifty Guinea Coronation Challenge Cup; Silver-Gilt.

To be awarded for the first time at

**OLYMPIA,
ADDISON ROAD, WEST KENSINGTON,**

: : : On July 4th, 5th and 6th, 1911. : : :

in 1911 be again adjudged first, the Council will bestow a special Commemorative Cup.

The decision of the Council is final, and the Cup may be altogether withheld at their discretion.

The Council will not award this high distinction unless satisfied and assured that the exhibit is, in the main, due to the work and capability of the Exhibitor or his employes; on this point the Council may consult any expert not eligible to win the cup.

The Council may reserve decision till the third day of the Show.

The attention of intending Exhibitors is particularly directed to the Society's 1909 Code of "Rules for Judging."



THE ORCHID WORLD.

Vol. I.

MAY, 1911.

No. 8.

NOTES.

The Botanical Magazine.—The issue for April contains an illustration and description of *Dendrobium maculatum* var. *munificum*. This variety differs from the type principally in the shape of the lip. The flowers, which are borne on a spike of about twenty, are greenish-yellow, marked with reddish-purple. The illustration was made from a plant growing in a pan suspended from the roof of the Orchid-house at Glasnevin.



The Sander Cup.—At the Spring Show of the Royal Caledonian Horticultural Society the First Prize, consisting of this cup and three guineas, was awarded to R. Brooman-White, Esq., Arddarroch (gr. Mr. J. Smith), for the best group of Orchids arranged in a space not exceeding twelve feet by six feet. The cup must be won three times before becoming the property of the exhibitor.



Medals for Orchids.—At the Spring Show of the Bournemouth Horticultural Society, held in the Winter Gardens on April 4th and 5th, and opened by the Mayor of Bournemouth, supported by Sir Daniel Morris, a Gold Medal was awarded to Messrs. Charlesworth & Co., and Silver Medals to G. H. Rolls, Esq., and Messrs. Mansell and Hatcher.

Clysis bracteescens.—This useful plant succeeds best on a rugged block, or in a basket surrounded with fibry peat, and suspended near the roof, where it should have a plentiful supply of moisture and heat during the growing season; but afterwards it may be kept cool and dry, for it is very impatient of much water. Its flowers remain long in perfection, and have a slight odour. Of all the plants this is the best for decorating ladies' hair. Its flowers may be used once, twice, thrice, or even four times, if skill be applied to their preservation, and yet they are fresh and sweet.—*Horticultural Society's Journal*, 1849.



Odontoglossum aspersum.—A spike of three flowers of this pretty cool-house Orchid has been sent by Capt. Robert Twiss, of Bird Hill, Limerick. It is a scarce natural hybrid between *O. maculatum* and *O. Rossii*, both these species growing together in the same district of Mexico. The whole flower suggests a yellow variety of *Rossii*, but the evidence of both species clearly proves that it is a hybrid. The sepals are sulphur-yellow and almost covered with brown spots, more or less confluent; the petals are also of the same ground colour, but the spotting is confined to the inner half as in *Rossii*. The lip

is heart-shaped, creamy white, and without spots, the crest being bright yellow with a few brownish lines in the channel.

§ § §

Two elegant forms of *O. Rossi* are also sent from the same collection, one of which always produces two spikes of from four to six flowers on every new bulb. The flowers are large, especially the lip, with rich reddish-brown markings and the characteristic bright yellow callus or crest which, when transmitted to seedlings, as, for instance, in *O. Jeanette*, has proved itself to be a very attractive feature. The second variety is of the rare roseum variety, now so much sought after for hybridising purposes. All the segments of the flower are a beautiful rose colour, the lip having the additional charm of being veined with an even deeper tinge. It is of interest to mention that a rare natural hybrid between *O. maculata* and *O. Rossi* roseum has been recorded by Reichenbach under the name *O. aspersum violaceum*, the lip of which was deep mauve-purple, and the petals sulphur-coloured, with a broad margin of light mauve-purple.

NEW PLANTS.

Laelio-Cattleya Phyllis (*C. Trianae* × *L.-C. Hippolyta*). A pretty flower of a soft flesh colour, the petals being slightly flushed with rose, the lip rosy-purple on the front lobe. Raised by Messrs. Armstrong and Brown and exhibited by them at the meeting of the Royal Horticultural Society, March 28th, 1911.

Sophr.-Laelio-Cattleya insignis (*S.-L. Psyche* × *C. Trianae*) and *S.-L.-C. Chanteclair* (*S.-L. Psyche* × *C. Endi*).—Certificates of Merit were granted to these two new hybrids when shown by M. Firmin Lambou at the Meeting horticole de Gand, held on April 20th, 1911.

Odontiodia Cayoid (*C. Noelliana* × *O. nanosissimum*).—The parents of this hybrid are both in strong evidence, although as yet in an immature state; the cross was made in June, 1908, which allows less than three years from pollination to flowering. The sepals and petals are reddish rose, the lip rose with a creamy-white crest. Exhibited by Messrs.

Armstrong and Brown at the Royal Horticultural Society, April 11th, 1911.

ORCHID SALES.

Established Orchids from the "Walton Grange" collection were sold on Wednesday, March 29th, 1911, when good prices were realised. The following are the most interesting:—*Miltonia Ileana* Stevensii, three old bulbs and one strong new growth, 5½ guineas; another plant of the same, three old bulbs and two new growths, 6½ guineas; *Odontoglossum Sceptrum arcum*, three bulbs and one lead, 20 guineas; *O. crispum Thompsonianum*, four bulbs and one strong growth, 10 guineas; *O. crispum Queen Empress*, three good bulbs, 34 guineas; *Cypripedium Dreadnought*, one strong growth, 40 guineas; *C. Our Queen*, 22 guineas; *C. Thunderer*, 85 guineas; *C. Actaeus Bianca*, 85 guineas.

On April 6th and 7th duplicates from the "West Bank House" collection were disposed of by Messrs. Protheroe and Morris. The following are some of the best prices realised: *Cattleya Mossie Wageneri nobilior*, six bulbs, 15 guineas; *Cattleya Hardyana alba*, six bulbs, 16 guineas; *Cattleya gigas* Fran Melanie Beyrodt, ten bulbs, three leads, 20 guineas; *Cattleya labiata Kate Brozier*, four bulbs, 24 guineas; *Cattleya labiata Gilmore*, three bulbs, 35 guineas; *Cattleya Mrs. Whiteley*, ten bulbs, two leads, 35 guineas; *Odontoglossum crispum rubellum*, 40 guineas; *Cattleya Trianae*, West Bank House variety, three bulbs, 8½ guineas; *Cattleya Hardyana alba*, seven bulbs, two leads, 20 guineas; *Cattleya labiata Amesie* three bulbs, 14 guineas; *Cattleya Mossie Reinbeckiana*, six bulbs, two leads, 15 guineas; *Cattleya Gaskelliana alba*, three bulbs, 10 guineas; *Odontoglossum crispum virginale*, two bulbs, 12 guineas; *Cattleya labiata Cyme*, four bulbs, 19 guineas; *Odontoglossum Pescatorei album*, three bulbs, 14 guineas; *Odontoglossum crispum Luciani*, three bulbs, 28 guineas; *Odontoglossum crispum Perfection*, two bulbs, 20 guineas; *Cattleya Hardyana*, five bulbs, 10 guineas; *Odontoglossum crispum Mabel Whiteley*, two bulbs, 20 guineas.

NEW PLANTS.



ODONTOGLOSSUM EVA.

cirrhosum × *Kegeljani*.

To sum this hybrid up shortly is to call it like a very fine form of *elegans*, but when placed by this natural hybrid there are several differences easily recognisable, in crest and column especially.

Eva has a creamy yellow ground in all its segments, the markings being of a rich deep blackish-brown, the base of the lip being a deep chrome-yellow.

Eva, of course, is a very close relation of *elegans*, but the latter, no doubt, was a wild cross of *cirrhosum* and *cristatum*.

As both the species and *Kegeljani* grow together there is no reason why they should not have intercrossed many times, and in a minor degree created confusion, as *crispum* and its allies have done further to the north.

Mr. Charles J. Lucas, of Warnham Court, Hershham, raised Eva, and has thereby thrown light upon another "nat. hyb." which will be much appreciated by all who are

vainly attempting to keep *Odontoglossum* parentage clear.

de B. Crawshaw, April 10th, 1911.

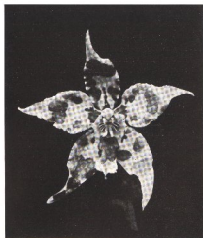
♂ ♀ ♂

ODONTOGLOSSUM GEMMATUM.

cirrhosum *cristatum*
 ————
elegans *triumphans*
 ————
 GEMMATUM.

Another of Mr. Sander's decorative plants. The bloom is three inches across, of perfect starry form, bright yellow, heavily barred and spotted deep brown, with the characteristic basilar brown marks all round the base of the column, one of the best identifications of *triumphans* parentage. The lip is of *elegans* form, having one large blotch of lustrous red-brown, with yellow base and apex.

de B. Crawshaw, March 25th, 1911.



Odontoglossum Eva. From the same seed-pod.

Photographs by Lionel Crawshaw.

ODONTOGLOSSUM BELLONA.



No doubt some, perhaps almost all, would exclaim, "What waste of time!" but by having one plant of this hybrid we are able to compare the result with those produced from one of the component parts of mulus, viz., Souvenir de V. H. de Crom and the only other hybrid of Harryanum containing gloriosum, viz., Bradshawia (derived from Andersonianum).

It is far nearer to Souvenir de V. H. de Crom than Bradshawia, proving that in this instance luteopurpureum was far more potent

than gloriosum, crispum having more or less overpowered it by the aid of the heavy Harryanum form and colour.

Bellona, as indicated by the name, is very dark, a deep, shining brown that has a sheen of lilac here and there, the colour developed on the backs of the segments as it is in luteopurpureum, barred and marked by the ground yellow. The lip is bright yellow with deep-brown basal blotching.

It would, of course, be too much to expect form to be very fine, as all three species are lacking in it, but it is by no means an unpleasing hybrid.

In raising it from a very "black" mulus I acquired a shade of colour I have only seen in one other Harryanum hybrid, namely, in "Aida," another of my own curiosity raisings.

de B. Crawshaw, March 22nd, 1911.

ODONTOGLOSSUM HIGHFIELDIENSE.



The history of this hybrid is very interesting, owing to the fact that it has triumphans as a primary ancestor on both sides, and the result is most conclusively proved by the rapid way in which the flower "flagged" when cut and kept out of water. (There are many ways of determining the force of parentage.)

In form it is somewhat "open shouldered," but will improve with age, and is more than balanced by the beautiful lustrous velvety brown of the whole flower, which is only lightly barred and ground-marked by the underlying yellow. The lip is of modified Harryanum form, and is a brilliant deep yellow, ornamented with lilac-purple spotting at the base and all around the margin, as in Queen Alexandra and crosses therefrom.

It is remarkable that these labial marginal spots should almost always be present in a triumphans-Harryanum descent; they are in

greater or less evidence according to the remoteness or nearness of the triumphans in the hybrid, but I have seen very few that do not bear some trace of it; it seems as if the outer edge of the triumphans heavy labial mass of colour was the most difficult part to break up. Other evidence of its great power can be found in the great labial area of colour in crispums Rosendale and Theodore Pauwels, both of which have triumphans latiseptum in their ancestry through a harveugtense.

This hybrid was raised in the Chillingham collection, purchased as a small seedling, having no record, growing upon another plant, bloomed and named by the purchaser, and sold to Mr. Richard Ashworth, of Ashlands, Newchurch, Lancashire, in whose collection the plant has found a home among many other beautiful Odonoglossums.

de B. Crawshaw, March 27th, 1911.



From a photograph by Edward Cooverhan

ODONTOGLOSSUM TITANIA.

triumphans Harrynum
 └───┬───┘
 Queen Alexandra
 Carmen erispum
 └───┬───┘
 Leonard Perfect

TITANIA.

The reproduced photograph of this should be of natural size to adequately portray this large bloom, which was five inches high.

In colour the sepals are groundled yellow of triumphans hue, covered with brown blotching; the petals are similarly groundled and tipped, but the overlaying shade is bright reddish-brown, evidently derived from the reddish brick-brown of the great erispum parent; the lip is white, its blotch being a reddish-brown-lilac, the latter shade descending from "Carmen," whose blotch on the lip contains much lilac.

This is the first plant of this cross that I have bloomed, but Mr. Cookson has flowered two. The first one reverted to an almost spotless creamy-white form, the sepals and petals containing just a few evidences of spots where they are usually placed in erispum Donnyanna, but here in this reversion the lip bore the reduced blotch of "Carmen," and

the form of the whole bloom was that of the seed-bearer.

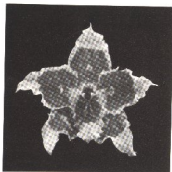
Since writing this Mr. Cookson has bloomed five more plants; they show every gradation between the two parents, one having reverted so much as to appear like a very round lace harvengtense, though, of course, Harrynum is at once seen to be connected with it.

Mr. Cookson's second plant I did not see, but it was "quite full of colour, and looked almost like a different cross."

When these plants are full-grown there is no doubt they will bear enormous flowers and become founders of a very large race of hybrids, owing to the immense size of erispum Leonard Perfect.

We can picture a five-inch bloom of *Odontioda Charlesworthii* colour. *It will come.*

de B. Crasshaw, March 22nd, 1911.



ODONTOGLOSSUM VULCRIS.

crispum latepurpureum triumphans erispum
 └───┬───┘
 Wilkesianum harvengtense
 └───┬───┘
 erispum Vuytstekei
 └───┬───┘
 erispum Vulcan
 └───┬───┘
 Vulcan

One more application of erispum and there will be most likely no evidence of the yellow

and brown g-g-grandparents left. This plant shows us how Dame Nature has made some of the plants *some of us* have called "crispum."

The texture of this flower tells the tale far sooner than aught else. It is as stiff and thick as a triumphans of the heavy latice-palm type, and the lip also bears the distinct billed keel of the same ancestor; otherwise there is but very little to tell the expert, and *nothing* for the tyro, that it is not a crispum, for the solid brown areas of Vulcan have been "assumed" by the similar areas of the blotched crispum, and only large tips and narrow margins remain of the soft pale rose colour; even the lip is not white, but has a trace of the same shade. The column is small and short as in a crispum, but has more of the form of triumphans, as have also the wings.

The photograph will give confirmation to these remarks.

Mr. Sander has almost succeeded in eliminating the other species and making a crispum out of "not a crispum" of a most peculiar shade of colour, the blotched areas being of a sort of lilacish-red-brown, a shade I have not seen before.

In a generation or two more there is no doubt that it will be impossible to say what

some *Odontoglossums* are unless you know all about them before you speak.

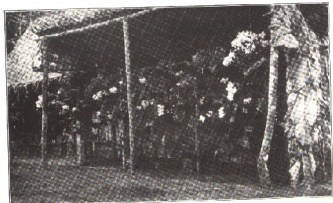
de B. Crosskey, March 29th, 1911.

§ § §

Destruction of Insects.—Spirit of wine, in the form of vapour, has been tried to destroy scale and other insects on plants. The plant experimented upon was put into an empty water-tub, and covered up close to retain the steam; a small vessel full of hot water was placed beside the plant, over which a cup was placed containing the spirit. In this operation six hours seem to be about the time required. The quantity of spirit should be in proportion to the space intended to be filled. For a common water tub, if the spirits are good, a wine-glass full is quite sufficient. Several Orchidaceous plants have been cleared by this process without being in the least injured.—James Donald, *Journal of the Horticultural Society*, 1826.

§ § §

Messrs. Wm. Wood and Son's Country Estate Catalogue is to hand. It consists of 160 pages, ably profusely illustrated, and containing a vast amount of useful information and new ideas.



The Orchid House of Mr. J. C. Harvey, Sanborn, Mexico.

ORCHIDS IN THE GARDEN OF MR. J. C. HARVEY, SANBORN, MEXICO.

THE accompanying photograph will show the fine display of bloom produced by the Orchids in Mr. Harvey's garden. Owing to the naturally high temperature it is impossible to cultivate the cool-growing species, and the warmer kinds require little protection, certainly no glass structures, merely a protecting roof.

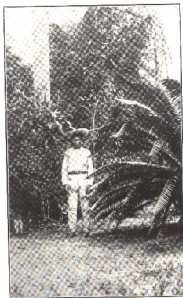
In the tropics not many Orchids do well in pots or pans, for these, on account of the heavy rains, quickly become waterlogged, and the plants are killed. The best results are obtained by fastening the plants on slabs of calabash and other native woods, many of the Orchids so treated producing larger pseudo-bulbs than when first received.

Cattleya seperba is at home in this climate, and produces an abundance of richly-coloured scented flowers. To be seen at its best this species requires a hot situation, and plenty of sunlight and air when it is ripening up its bulbs. Mr. Harvey grows it with *Cattleya Dowiana* in the full blaze of the sun, only shading it a little during the months of April and May, which is the hottest and driest season of the year, the temperature averaging 90 to 100 degrees at midday, and with a reduction to 80 at night time.

The garden also contains a remarkable collection of palms, more than 125 different species having been collected during the last fifteen years from all parts of the world. *Crotons* and *Dracenas*, in more than thirty varieties, grow in great bushes seven feet in height, furnished to the ground with leaves, and not a scale or mealy bug on them; they are a grand sight. *Caladiums* may be seen in all their beauty, and during the growing season make a fine show.

The photographs were taken in the middle of last February, and the following list will show the great number and variety of Orchids which were in bloom at the time:—*Cattleya Skinneri*, with more than 100 flowers, *C. Trance*, *C. Schroderae*, *C. Lockidgei*, *C. intermedia*, *C. Schilleriana*, *Epidendrum atrepur-*

purem, *E. Stanfordianum*, *E. amaranticum*, *Phalenopsis Aphrodite*, *P. Schilleriana*, *P. Steuartiana*, *Paluma nobilis*, *Trichopilia suavis*, *Oncidium splendidum*, *Chysis bracteosa*, *Saccolabium giganteum*, *S. violaceum*, *Gongora maculata*, *Dendrobium aggregatum*, *D. aureum*, *D. Ainsworthii*, *D. Luna*, *D. bigibbum*, *D. Findlayianum*, *D. Cybele*, *D. Dalhousieanum*, *Calogyne farcida*, *C. speciosa*, *Brassavola cucullata*, *B. nodosa*, *Oncidium luridum*, *O. Papilio*, *O. aspiatum*, *Vanda Boxalli*, *V. suavis*, *Renanthera lutescens*, *Phaius grandifolius*, *Angraecum citratum*, and *Mormodes* species.



Mr. Harvey's Native Orchid Grocer.



Rosefield, Sevenoaks, Kent.
(Photo by H. Kinnaird Girdle, F.R.P.S.)

The Rosefield Collection, Sevenoaks, Kent.

SITUATED in one of the southern English counties, and thus being in an excellent growing atmosphere, this collection of Orchids has for more than thirty years attracted the attention of all of those who have been interested in this fascinating art.

The earliest date to record is December 23rd, 1880, for on this day the first imported *Odontoglossum* were purchased and, on account of the Orchid-house being still unfinished, they were kept in a cellar for more than six weeks, the temperature during this time being maintained by means of gas burners. One of these, a lateopurpureum "No. 1," has produced a spike of 53 flowers, and was in bloom when we visited Rosefield. Two *Odontoglossum crispum*, purchased in February, 1881, and the first spotted one to flower, which appeared in February, 1882, are

still alive and in the collection. Although many other plants flowered it was not until the year 1887 that the first really good variety made its appearance, this large white variety being named Mrs. de B. Crawshaw.

From an early date Mr. Crawshaw studied these plants with intense interest, even the minutest details attracting his keen observation; the significance of the shape of any particular organ, the importance of colour, or the inheritance of special characters in the now numerous class of hybrids have all been recorded for the special purpose of advancing the knowledge of these marvellous plants. Sir Humphrey Davy once stated: "To me there never has been a higher source of earthly honour or distinction than that connected with advances in science," and no sequence of words is more applicable to the owner of this collection, for it has ever been

the wish of Mr. Crawshay to carry out his numerous experiments and investigations with the express purpose of scientific research.

Elected a member of the Orchid Committee of the Royal Horticultural Society as long ago as January, 1890, he has undoubtedly proved to have been one of its most valuable members, and an interesting document is a list of the dates of every attendance he has made during the many years which he has devoted to the welfare of the Society.

All the finest and rarest flowers are dried and pinned on thin boards, which are kept in large cabinets. This collection, numbering about 2,000 specimens, alone forms an object worthy of a visit to Rosfield. The oldest specimen, which is still in perfect order, is dated 1884, and as each additional one is added it is placed in its correct section. Thus all the finest white varieties may be compared one with another, the merits of the blotched forms may be examined in several rows of these noble flowers, hybrids take up a considerable space, and, in the case of the best varieties, specimens are kept of almost each year's flowering, in many instances forming a unique and educative series. This collection,

reminding one sometimes of a beautiful butterfly cabinet, also embraces specimens from almost every noted collection. More than 250 paintings prove of great value in further showing the good qualities and rich colouring of the individual specimens.

The first house entered, known as No. 3, contains a number of imported crismas,

mostly unflowered, several Cymbidiums, including the hybrid between *C. giganteum* and *C. Tracyanum* known as *C. Crawshayana*, and a strong flowering plant of *Odontoglossum Hallii*, interesting on account of the fact that it is one of the original plants of the first importation of this species sent to 1864 to Messrs. Veitch and purchased at the disposal of the Barrote (Faringdon, Berks) collection in December, 1897.

The *Lælia anceps* house contains probably the finest collection in the country of these graceful flowering plants, which create such a welcome display of bloom from Christmas to the end of February. Not only are large specimens to be seen on the central staging, but hanging from all parts of the roof are numerous strong and healthy plants. *Lælia anceps* Chamberlainiana is still the best of the coloured forms,



de Barri Crawshay, Esq.

(Photo by H. Knowlidge Cooke, F.R.P.S.)

although some varieties run it rather close, other fine varieties being *Crawshayana*, Mrs. de B. *Crawshay*, *Scottiana*, and *rosefieldensis*. In the white section the varieties are equally numerous, probably the largest ever seen being *L. a. Schröderiana Crawshayana*. Some other noted varieties are *Dawsonia*, which obtained a First-class Certificate as long ago as 1865, *Sanderiana*, and *Stella*.

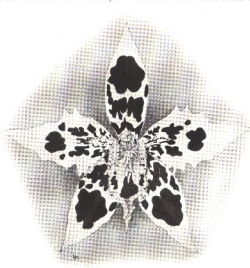
In the *Hollidayana* section of white anceps are to be found the superb *L. a. Theodora*, which Mr. Crawshay regards as being the finest of all, and *L. a. Crawshayana*, a magnificent form which received a First-class Certificate in January, 1902, two other varieties in this section being *waddamsis* and *rosefieldensis*. A piece of *L. a. Hillyana* is part of the original plant for which Sir Trevor Lawrence paid 200 guineas. It is worthy of note that *Laelia Schröderi* is regarded by Mr. Crawshay as a distinct species, and not as a variety of *Laelia anceps*. A small plant of *Laelia anceps Queen of the Earth* is said to be the finest of all the coloured varieties; the whole flower is a deep purple colour, heavily feathered at the tips of the segments.

In this house may also be seen *Odontoglossum citrosinum rosefieldense*, a buff-

coloured variety with a rosy lip, several plants of *Dendrobium Brymerianum*, all good varieties, and which, in this comparatively low temperature, make much stouter and shorter bulbs, and a good plant of *Maxillaria Sanderiana* purchased by Sir Fred. Wigan at the disposal of the Downside collection in July, 1888.

The seedling house contains an immense number of remarkable and most interesting

crosses. It is, of course, impossible to mention more than a few of them, but the following, selected at random, will give a good idea of what is likely to be produced during the next few years. A small pan contains a number of seedlings resulting from *Odontoglossum Rossii rebaccens* × *O. illustre*; another one a nice batch of *O. Hummellianum* × *O. crispo-Harryanum*; there



Odontoglossum Haillo-crispum, the first hybrid raised at Rosefield.
From a painting by Miss Louise Atkinson.

are several sturdy little plants of *O. crispum* Raymond Crawshay crossed with a solid blotched *O. ardentissimum*. This last-mentioned cross should produce some fine things, as the mother plant has proved itself to be an excellent breeder, *O. Cervantesii* × *Cochlioda Nozliana*, and *O. crispum roseum* × *Luteopurpureum Vuylstekeanum*. Another promising seedling is *O. Lambrianum*, raised by crossing *O. Rolfeae* with *O. crispum*

Raymond Crawshay; and *O. Uro-Skinners* × *Zygotetulum Mackayi* is interesting on account of the similarity of the two species, and there seems the probability that a genuine hybrid will result in this case.

The *Odontoglossum* include Charlesworthii Theodora (F. C. C., May 3, 1919), Devosianna, gattouensis, Seurenacu (*C. Noziana* × *Humboldtiana*), rosefieldensis, bella, and Bradshawii, the latter cross having been made with six different crispums in order to prove what effect, if any, a variety of crispum has in the making of this hybrid. Suspended from the roof are several pans containing nice plants of *Promenac citrina*, *P. stapelioides*, and *P. Crawshayana*, the latter being the only seedling raised from *P. stapelioides* crossed with *P. xanthina*.

In another house may be seen a splendid selection of *Odontoglossum triumphans*, the finest variety yet seen being *O. L. Lionel Crawshay*, others of great merit being *Crawshayanum*, *Raymond Crawshay*, *Czar*, *Princes*, *Regina*, and *Imperator*, but none compare to the former unique variety. The varieties of the pretty *Odontoglossum Andersonianum* comprise *O. A. Crawshayanum*, which, when exhibited by Mr. Cookson in 1904, obtained a First-class Certificate, *Bogardianum*, and *Mrs. de B. Crawshay*, the latter being a bright yellow variety.

Odontoglossum Lindleyanum was crossed with *O. Harryanum*, but although only one seedling was raised it was sufficient evidence to prove the parentage of *O. Wattianum*, a natural hybrid of which the origin was doubtful. At the north end of the staging in this house is an interesting lot of *Odontoglossum Zenobia* produced by crossing *O. Hallii* with *O. Edwardii*. Much variation in the habit of the plants is visible, those taking after the latter parent growing in a robust manner,

while others resembling the *Halli* are looking rather sickly and with hardly any purple in the leaves. It is of interest to note that *O. Hallii-crispum* was the first hybrid *Odontoglossum* to be raised at Rosefield.

Another house, 70 feet in length, is entirely devoted to *Odontoglossums*, and contains many of the finest varieties of *O. crispum* yet seen.

A plant of *O. crispum* Princess May is in full bloom, and the spike of twelve beautiful and perfect flowers has been graciously accepted by Her Majesty Queen Mary. Another lovely variety is known as *White Empress*, while two of the best-shaped crispums in the collection are called *Cherubim* and *Seraphim*, the latter being almost a snow-white form of perfect shape and large size. The names of *Venus* and *Angel* denote two other superb varieties, and *crispum Nixie*, as



Odontoglossum Hallii-crispum Theodora (R.H.S. Journal).



Odontoglossum triumphans Lionel Crawshaw.

From a painting by Miss Louise Allington.

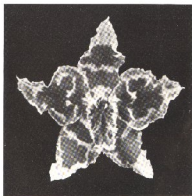
its name indicates, resembles snow. It is impossible to include the names of all the fine white varieties of *crispum* in this house, so one must conclude the list with the following:—*Isolde*, *Lady Bolton*, *Helinuhilde*, *Mrs. de B. Crawshaw*, and *xanthotes* White's variety. It is worthy of note that *Venus* took the R.H.S. First Diploma both times for an "unspotted *crispum*," as did *triumphans* Lionel Crawshaw in the class for its species.

The noble blotched forms are well represented, the finest of all being *crispum* *Queen of the Earth*, a wonderfully coloured variety; *ce Barri*, a very distinct and perfect-shaped flower; *Lionel Crawshaw*, *Raymond Crawshaw*, *Crawshawianum*, *Imperator*, *rosefieldense*, *Maria*, *Pomponii*, *Blue Spot*, *Beatrice*, *Theodora*, and *Stevensii*, many of which have received awards at the principal meetings of the Royal Horticultural Society. *Odontoglossum*

Harryannum *Theodora* is Mr. Crawshaw's finest variety of this species, now so much used for hybridising purposes.

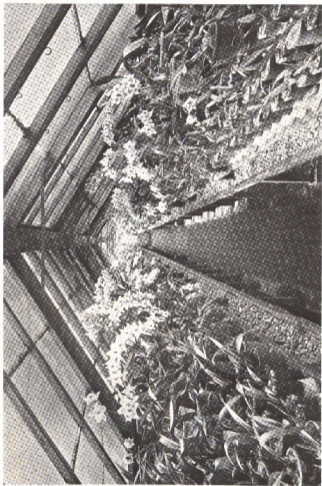
Since 1885 the fascinating work of hybridisation has been carried on with considerable success, hundreds of plants being now of flowering size. Mr. Crawshaw was among the pioneers in raising *Odontoglossums*, and he looks back now in wonder at the repeated failures of those early days of experiment and loss of baby seedlings. But, nothing daunted, and determined to succeed, he went on, though it was fourteen years before he bloomed his first seedling in *Helinuhilde* *Crawshawianum*, which plant he would not part with "for worlds."

Among the many fine hybrids to be recorded are a splendid *Odontoglossum*



Odontoglossum extatum *Crawshawianum*.

From a photograph (coloured) by Lionel Crawshaw.



One of the *Odontoglossum* houses at Rosfield, Setonook.
The plants in the foreground are unfaded seedlings. The material at the end-stage is twelve months older.

Wilkinsonianus Argus, O. W. grande, an extremely dark variety of O. Lambsonianum, a grand form of O. Vulcan (crispum x Vuylstekei), O. Vulturia (triumphans x Vuylstekei), being almost solid deep lustrous brown. An interesting hybrid is O. waltonense, produced by means of a rosy crispum, which gives the flower a sunset glow. A pure white variety of O. eschium is rare, and a splendid plant of O. Valkyrie is in full flower: this latter

hybrid and O. Ura are the only two seedlings yet recorded from the use of O. nevadense, both of which were raised here as single plants. One cannot help admiring a magnificent hybrid in full flower known as O. eschium Crawshayanum. It is one of the finest results yet obtained by Mr. Charlesworth, and will prove of great utility for hybridisation purposes. Two other good things are O. regale rosefieldense (Lawrenceanum x odontostictum) and O. Urania (crispum x cristatellum), carrying a grand spike of thirteen flowers.

Many will remember the magnificent *Odontoglossum rosefieldense* which received an Award of Merit last January and was figured on page 122. A plant of Sir Jeremiah Colman's well-known strain of O. Thompsonianum has come here to make some interesting hybrids of possibly new colours, as

Mr. Crawshay considers "new blood" absolutely essential. There are large plants of the pretty O. Fascinator, O. Zena (Scottian x Harryanum) with a brilliant yellow lip, O. Vulpes (Pesatorei x Vuylstekei), O. Crawshayanum, O. Queen Alexandra with enormous labellum, O. mirificum with a spike of ten very fine flowers, O. McNabianum, O. Nerissa, and O. Astarte, obtained by crossing O. Harryanum with O. tripalianum to fix the

violet labial blotch.

For many years *O. ontoglossum Rossi majus* was grown in large quantities, but only the very best varieties have been kept for the purpose of breeding, one of the finest results so far obtained from the use of this species being the notable *Odontoglossum Theodorum*, the only seedling raised from a pod resulting from O. Rossi x triumphans.



Odontoglossum crispum Queen of the Earth.
From a painting by Miss Roberts.

The list of hybrids raised at Rosefield is immense, but enough has probably been said to prove the great scientific enthusiasm which Mr. Crawshay devotes to Orchidology, and especially "Odontology."

It remains to be said that Mr. Stables, whose time and interest are taken up in the practical work, carries out all the details in a thorough and praiseworthy manner, and is to be congratulated upon being in charge of such an interesting collection. G. W.



Odontoglossum crispum Scraphim.

From a painting

CULTURE RECORDS.

Odontioda ignea (C. Nacchiama & O. Lindenii).—A plant of this hybrid with a branching spike carrying 36 scarlet-red flowers was exhibited at the Royal Horticultural Society, March 28th, 1911, by Mons. Henri Graire, St. Puscien, Amiens.

Coelogyne asperata.—In May, 1893, Mr. T. Twisden Hodges flowered in his garden at Hensted Park a plant of this Bornean species with eight spikes of bloom, each being nearly a foot long and carrying 12 to 14 flowers fully three inches in diameter.

Odontoglossum elegans Pollett's variety.—A branching spike with 26 flowers has just finished blooming in the collection of George

W. Bird, Esq., Manor House, West Wickham, Kent.

Odontoglossum Hallii.—This species has recently produced a spike of 25 flowers in the last-mentioned collection.

Odontoglossum crispum.—A medium-size plant with a branching spike of 52 flowers was exhibited by Messrs. J. and A. A. McBean, Coombebridge, at the meeting of the Royal Horticultural Society, April 11th, 1911.

Cymbidium insignis.—A tall spike carrying altogether 27 flowers of this pretty *Cymbidium* has been flowered in the establishment of Mr. T. V. Low, Haywards Heath, and was exhibited at the Royal Horticultural Society, April 11th, 1911.

SOME IDEAS ON ORCHID HYBRIDISATION.

By J. M. BLACK.

(Continued from page 160.)

THE same process of reasoning which convinced us last month that only the best varieties of the various species should be selected for the purposes of hybridisation may be carried a step further. Just as there are good, bad and indifferent varieties in each species, so there are good, bad and indifferent species in each genus. Any scientific interest or instruction that might have been claimed as an excuse for using the bad or indifferent species in Orchid breeding when Orchid crossing was in its infancy can hardly be said to survive to-day, and as we want to go onwards and upwards, the introduction of the weedy species into our hybrid strain can only have a retarding effect. A good variety of an inferior species may be infinitely worse than a bad variety of a superior species, so that we must in fairness to ourselves eliminate all inferior species from the stud. To introduce one of the weedy species into the primary hybrid and then strive in the succeeding generations of secondary, etc., hybrids to get rid of its influence would not be reasonable. Species of poor shape may be used for crossing if they are of exceptional and rare colour, and we must be prepared to sacrifice size and shape in the first generation in our quest of this. A good many cases arise where, for reasons of colour, not only may large and small species be intercrossed, but also large and small genera, as, for instance, the illustrious examples of *Cochlidium* with *Odontoglossum*, *Oncidium* and *Milvonia*, and *Sophranitis* with *Cattleya* and *Laelia*. In these cases if we lose in the size of the larger-flowered genera we gain enormously in colour, and frequently in shape—and we are just beginning with them. Yellow is a rare and desirable colour in *Cattleyas*, and we must be prepared to sacrifice both shape and size by going to the comparatively small and poor-shaped *Laelias flavas*, *Cowani* and *cinnabarinus*

for it. This latter is an instance where we find exceptional and valid reasons for intercrossing good and bad shaped Orchids. These are, however, exceptions. A good maxim to follow would be never to go to a small flower for a desired colour if it can at all be obtained from a larger and better-shaped one. I hope to return later to the discussion of "the yellow" in *Cattleyas*, for it offers considerable latitude for speculation.

Where exceptional reasons do not exist an inferior species should never be used with an inferior one. No one would now think of using *Laelia Perrinii* or the ordinary coloured *Cattleya intermedia* for parents. Could one hope with these to produce anything better than a type that can be imported at little cost—if as good? This is the question that the hybridiser should keep continually putting to himself. Who would now think of using *Odontoglossum gloriosum*, *O. Lindleyana*, or *O. cristatum*? Yellows and chocolates are not scarce in this genus, and as long as there are better species to tap for these colours—such as *luteopurpureum* and *trianthianus*—our ordinary intelligence should dictate to us to avoid the poorer ones.

Of course it is permitted one to become discursive afterwards, and assume a deep concern in the spot or blotch metamorphosis, but all the interest that can be added from an analysis of a bad hybrid derived from worthless parents could be found in a good one, and with a much less barren reward.

A peculiarity of those species that are deficient in the quality of their flowers is that they are as a rule excellent parents physically, germinating freely and growing afterwards with such freedom as to exalt your opinion of yourself as a grower, and notably so is this the case with *Odontoglossums*. There is a danger lurking in this readiness to germinate of the hybrids from these worthless species.

In an establishment where many pods are made and sown the free germination of the coarser kinds (not necessarily in all cases inferior) may lead to wrong conclusions, viz., that there is something the matter with the seed of the choicer and more valuable crosses because of the hesitancy with which it may germinate; and there follows the possible result of the houses becoming filled with third rate, coarse growing hybrids, although seed from the more delicate crosses may have been sown in equal quantities. The application and care sufficient to show good returns with the former may fall short with the latter. But there is much matter for conjecture regarding the fertility of Orchid seed, and no doubt we frequently blame ourselves for a poor harvest when it is really the seed that is at fault. It is somewhat difficult to collect data, as our non-success with any given capsule of seed might be put down to two causes, our inability to raise it or to sterility.

It is a safe generalisation to say that in Orchids the seed between two varieties of the same species is always good and fertile; between two species of the same genus generally good and fertile; between two genera seed may be produced that will germinate vigorously, such as in the genus-hybrids derived from *Cochlidia* and *Odontoglossum*, or which produce little and poor seed, such as in the genus-hybrids derived from *Sophranitis* and *Cattleya*. Secondary hybrids are much less consistent in their fertility than the primaries, and the tendency is no doubt towards sterility, and particularly where there is a wide divergence between the various species that are mingled in the hybrid. Out of a great number of capsules carried on *Sophranitis-Cattleyas*—chiefly *Thwaitesii*, *Doris*, *Saxa* and *Wellesleyae*—which we have ripened very little fertile seed has resulted, although pods form pretty freely, frequently to ripen off before their time. The pollen from these *Sophranitis-Cattleyas* has also lost in potency; there is a want of consistency and surety in the results, pods forming in a half-hearted way or not at all, or becoming yellow before their due ripening period, or ripening off to contain little or no fertile seed. In the case

of *Epiphranitis Veitchii*, a genus-hybrid of widely-separated parents, no one to my knowledge has ever been able to "set" a pod on it. We must thus conclude that this is a case of a primary genus-hybrid being completely sterile. There are, however, among *Cattleyas*, *Odontoglossums* and *Cypripediums* many cases of multiple hybrids containing more than three species, and we must take this as a proof that the field of operations is no narrow one; and if we come across avenues that lead out of it in which we would like to wander, but which we find closed, with STERILITY written in big letters on the gate, we must turn back with the best grace possible.

The chief instrument in the Orchid-breeder's hands, after all, is selection, and this should be used to the utmost. Wonderful results are assured even within the limits of two or three species if the principles of selection are sensibly adhered to.

For some unexplained reason the seed produced by crossing two species that are not too widely separated is usually of a more robust vitality than that obtained from the intercrossing of two varieties of the same species, and this has given rise to the general acceptance of the hybrid being a stronger grower, and hence of easier cultivation than the species; but this is only half true, and at the most can only be applied to primary hybrids, and then perhaps should be confined to the period of their wholescence or pre-flowering state. In genus-hybrids obtained from crossing the closely-allied genera *Brassavola*, *Luzia* and *Cattleya*, the same vigour is in evidence, and even, as already observed, there is a marked impulse to germinate and grow of the seed derived from the apparently widely divergent *Odontoglossum* and *Cochlidia*. It is impossible to draw any satisfactory inferences from these facts, and difficult to explain, even hypothetically, the tendency to infertility in hybrids, themselves so vigorous and so easily obtained.

I have not yet had sufficient experience of the handling of the seed of secondary *Odontodia* to venture a very strong opinion, but I have already felt that the impulse to

germinate in the seed of these lacks the force of that of the first generation. We have had most experience with *Odontioda Thwaitesii*, and the seed has been generally scarce or entirely wanting in the capsules, even when they remained on the plant for a normal period, and that which contained an embryo was invariably of low vitality, being in this striking contrast to that of its mother, *Cochlidia vulcanica*. On the other hand, we have quite vigorous seedlings between *Odontioda Bradshawii* and *Odontoglossum crispum-Harrymanii*, and other secondary *Odontioda* hybrids where the *Odontioda* has been derived from *Cochlidia Noebliana*, and I am inclined to think that there is more vitality in those hybrids which have behind them that species than in those with *C. vulcanica*. But there is manifested in the scarcity of, and imperfection of much of the seed, the difficulty of "setting" pods on *Odontioda Thwaitesii*, and the marked difference in the time of germination after sowing—the secondary *Odontioda* seed taking much longer than *Cochlidia* seed—the same tendency towards infertility already remarked on.

I hope to take each of the larger genera separately for comments one day, and may then have some more to say about the fertility of hybrids, but may be excused for the present if I make a digression.

Old traditions die slowly, and a surviving tradition that has been long moribund is that Orchids are expensive and can only be indulged in by the very rich. It is time this tradition was dead, for it is *only* a tradition. Orchids are not expensive; they are ridiculously cheap. During the last ten or fifteen years—I will not go as far back as twenty—a peculiarly high, if artificial, standard has been set, and Orchids that do not reach this standard have a very low value. Judging from the purely florist's point of view, the difference between the Orchid of little value and the one valued at many pounds does not exist; he can get the same effect and command the same admiration in an arrangement of blooms cut from plants of low-priced Orchids as he could from the most *schercherché* and prohibitively high-priced kinds; and the

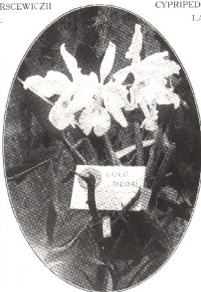
bulk of the Orchid flowers that find their way to market are still cut from imported species. These facts cannot be too well known, and our admiration and advocacy of the better products of the hybridist do not blind us to the genuine merits of the imported species; and, after all, we owe everything to the enterprise of the importer and the courage, and frequently self-sacrifice, of the Orchid collector in the tropics.

The Orchid collector does not get rich quickly in these days. He is willing to sell his goods at a mere margin of profit, and his expenses are great and continuous. The Orchid importer wants encouraging. He has played a famous and important *rôle* in the past, introducing and fostering the cult of the Orchid before the hybridist appeared on the horizon. Occasionally the Orchid importer has a stroke of luck. One of those super-Orchids of which I spoke last month may flower in an importation, and he will want a price for it—and he will deserve to get it. This may mean his profit on the importation, or make the difference between profit and loss. It is the price obtained for these super-Orchids that has given rise to the tradition that Orchids are expensive, and their intermittent appearance that keeps it alive. The big price is advertised, but the small prices are not. Ninety per cent. of Orchids are cheap—too cheap; but because they are cheap they need be none the less beautiful and useful. It is a question of supply and demand, and the supply has been all too generous. The Orchid buyer has been *gâté*; he turns up his nose at the mean average because the high if artificial standard of the moment decries them "ordinary stuff," and probably his houses are full. And yet there are hundreds of glass-houses throughout the country choke full of rubbish which is costing as much money to grow as if they were filled with Orchids; and perhaps the tradition that Orchids are expensive is keeping the Orchids out. But perhaps another set of traditions, much more difficult to kill, is keeping the rubbish in.

(To be continued.)

CATTLEYA WARSCEWICZII
ALBA.

The adjoining reproduction of a photograph of this wonderful plant gives an excellent idea of its beauty. The sepals, petals and lip are pure white, the only trace of colour being a little greenish-yellow in the throat. It is the rarest of all the albino Cattleyas, and is, we believe, the first pure white variety of this species to be recorded. At the great Orchid show held at Boston, Mass., May 26th, 1910, it was deservedly awarded a Gold Medal by the Massachusetts Horticultural Society when exhibited by Messrs. Lager and Hurrell, Summit, N.J., U.S.A.



Cattleya Warscewiczii (gigas) alba.

CYPRIPEDIUM INSIGNE
HURRELLIANUM.

A fine and distinct form, resembling *C. i. Lindense*, but much finer in every way. The dorsal sepal stands out bold and flat, and not rolled back as in *C. i. Lindense*; in colour it is greenish-yellow, the basal half being suffused with reddish-brown, which diminishes towards the top and sides, where the colour is greenish-yellow; the apex is white. Awarded a Diploma by the American Institute, November 9th, 1910, when shown by Messrs. Lager and Hurrell.

CYPRIPEDIUM INSIGNE
LAGERÆ.

A very fine and unique variety. The entire centre of the dorsal is reddish-brown chocolate colour, slightly suffused towards the edges with greenish-yellow, and with four or five pink marks at the extreme upper part of the blotch, the whole being encircled with a pure white band; the petals are somewhat flat, heavily mottled and veined with reddish-brown. This plant is in the collection of Messrs. Lager and Hurrell, who also send a photograph of a new variety of *Laelia anceps* having the sepals and petals delicately suffused with rose, the anterior and side lobes of the lip being pale-rose, the tube dull yellow with greenish lines.

SELENIPEDIUM MRS. WASHINGTON
A. ROEBLING.

A photograph of this very striking and beautiful *Selenipedium* has recently been received. It is a hybrid raised from *S. caudatum* × *S. leucorrhodum*, and Messrs. Lager and Hurrell, who have the plant in their possession, are of opinion that more of these plants should be grown. *S. leucorrhodum* is a hybrid obtained by crossing *S. longifolium* with *S. Schlimii* and better known as *S. Sedenii*.

ROYAL HORTICULTURAL SOCIETY.

March 28th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. James O'Brien (hon. sec.), Harry J. Veitch, Gurney Wilson, R. G. Thwaites, F. M. Ogilvie, F. Sauder, T. Armstrong, Walter Cobb, J. Cypher, W. H. Hatcher, A. Dye, W. H. White, H. Ballantine, J. S. Moss, W. Bolton, C. Cookson, Stuart Low, H. G. Alexander, and de B. Crawshaw.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-gilt Flora Medal for a very good group containing many of their fine hybrids. The centre was composed of *Dendrobium Jamesianum* with an abundance of white flowers, around which were good plants of *Phaius Normanii*. A dark *Laelio-Cattleya Doulliana*, *Lycaste Skinneri*, *L. gigantea*, *Odontoglossum Dora*, *O. Harryanum*, and *Cymbidium insigne* were shown in good form. Other special plants were the new *Odontoglossum Lanthe*, *O. Jasper*, two fine varieties of *Miltonia vexillaria*, and the pretty *Cynorchis Kewensis*.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. Collier) received a Silver Flora Medal for a very pretty group of Orchids. At the back were several strong plants of *Odontoglossum Thompsonianum* with graceful sprays of flowers. The curious *Hallophyllum tremulans*, *Coleogyne Sanderi*, *Dendrobium Beckleri*, and a number of hybrids derived from *Dacrydium bicoloratum* proved of great interest.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman) was awarded a Silver Flora Medal for an excellent group of Orchids, all of which were raised at Oakwood. Several good forms of *Odontoglossum crispum*, *O. percalum*, *O. Titania*, *O. esonium*, and a large selection of the best *Odontiodas* were much admired. *Odontoglossum Pescatorei Cooksonianum*, with all its segments well marked with purple, was also shown.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for an excellent group containing many rare Orchids—the pretty *Zygopetalum discolor*, *Hookettia*

Sanderi, the curious *Scuticaria Hadwoni*, several good varieties of *Cattleyas*, a large form of *Odontioda chelsoeensis*, and a very distinct form of *Cypripedium caudatum*. The *Odontoglossums* included a fine *esonium* and *crispum* Prince George, a splendid variety with a spike of twelve flowers, all richly marked.

Messrs. Armstrong and Brown, Tonbridge Wells, were awarded a Silver Flora Medal for a very good group containing a fine selection of *Dendrobiums*, those specially noted being the pure white *virginale*, *chessingtonense*, *Aslworthaire*, and *Ballianum*. Several good hybrid *Odontoglossums*, *Brasso-Cattleya* Mrs. J. Leeman, a grand variety of *Laelio-Cattleya* Mrs. Temple, and some interesting *Cypripediums* were also included.

Messrs. Stuart Low and Co., Bush Hill Park, secured a Silver Banksian Medal for a good group. A pure white variety of *Cattleya Schröderae*, *C. Trianae* with a slate-coloured lip, *Lycaste lanipes*, the bright yellow *Oncidium concolor*, *Odontioda Zephyr*, *O. Bradshawii*, and *O. Thwaitesii* were much admired. Some excellent varieties of *Dendrobium Wardianum* were exhibited with a profusion of bloom.

Samuel Larkin, Esq., The Ridgeway, Haslemere (gr. Mr. Hale), was awarded a Silver Banksian Medal for a group of good Orchids. Included in it were *Odontoglossum Hallicrispum*, *Oncidium Kramerianum*, the pure white *Scolecobium Harrisonianum*, two large plants of *Vanda tricolor*, *Cattleya Trianae*, and a very dark variety of *Cymbidium Lowianum*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was awarded a Silver Banksian Medal for a good group of Orchids. *Cattleya Schröderae* The Kaiser, a variety of good shape and with an orange lip, *C. Schröderae* Ayesha, very fine and distinct, and *Cattleya Parthenia* Prince of Wales, *Odontoglossum crispum* Luciani (still one of the best *crispums*), and several *Cypripediums* and *Dendrobiums* were also included.

Messrs. Hassall and Co., Southgate, received a Banksian Medal for a group of well-grown

Orchids. Included in it were several good *Cypripediums*, a large plant of *Cymbidium Lowianum concolor*, *C. eburneo-Lowianum*, *Masdevallia Shuttleworthii*, *Odontoglossum Rolfeae*, a good-coloured *Laelio-Cattleya high-burienensis*, and a large selection of L. C. G. S. Ball (*cinnabarina* × *Schröderae*).

William Bolton, Esq., Warrington, sent the new *Odontioda Boltonii*, a large plant of *Decalobium Bauricolum* with seven flower-spikes, and a specimen of *Dendrobium* imported with *D. Ashworthiae* and *D. atrococcineum*.

Leopold de Rothschild, Esq., Gannorsbury House, Acton (gr. Mr. J. Hudson), sent a specimen of *Dendrobium Wardianum candidum* with 52 large white flowers.

de B. Crawshaw, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), exhibited *Odontoglossum Leonidas* (*tricolorians* × *Hallio-crispum*), a pleasing, light yellow hybrid with dark brown markings.

Baron Bruno Schröder, Egham (gr. Mr. Shill), exhibited a large spike of the beautiful *Odontoglossum Wickennum Schröderianum* with 14 flowers.

H. S. Leon, Esq., Bletchley Pars (gr. Mr. G. Cooper), showed *Cypripedium Deodunianum* Bletchley Park variety, a pretty form with three flowers on a spike.

R. G. Thwaites, Esq., Chesington, Christchurch Road, Streatham (gr. Mr. Black), sent two distinct varieties of *Odontoglossum Clytie*.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), exhibited *Odontoglossum Wickennum* J. Gurney Fowler, and *Odontioda Lambeaniana* Fowler's variety.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), sent *Sophro-Laelio-Cattleya Olive Fairlawn* variety, a pretty variety of rich colour and with a bright yellow throat.

AWARDS

FIRST-CLASS CERTIFICATE.

Odontioda Vuyhstekeae Lady Colman (O. Pescatorei × C. Noezliana), from Sir Jeremiah Colman, Bart., Gattop Park (gr. Mr. Collier). One of the finest and most brilliantly coloured

varieties seen. The flowers are large, of good shape, and in colour a rich scarlet.

AWARDS OF MERIT

Odontioda ignea (C. Noezliana × *Odontoglossum Lindenii*), from Mons. Henri Gréve, St. Fuscien, Amiens. A pretty hybrid with a branched spike of 35 scarlet-red flowers.

Odontoglossum Swietenicolor (Wickennum × *Vuyhstekeae*), from Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorling (gr. Mr. W. H. White). A noble hybrid with a spike of 12 large flowers, the ground colour being creamy-white with large mahogany coloured blotches. The front of the lip is yellow.

April 11th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), Sir Jeremiah Colman, Bart., and Messrs. James O'Brien (hon. sec.), Harry J. Veitch, E. J. Haubury, F. Sander, F. M. Ogilvie, R. G. Thwaites, T. Armstrong, A. A. McBean, Stuart Low, W. Cobb, J. Cypher, J. E. Shill, W. P. Bound, W. H. Hatcher, A. Dye, H. G. Alexander, W. H. White, J. S. Moss, Gurney Wilson, W. Bolton, de B. Crawshaw, C. Cookson, F. Peeters, and J. Charlesworth.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver-gilt Flora Medal for an excellent group composed of many choice species and hybrids. The most attractive plants were the curious *Uropedium Lindenii*, a large piece of *Bulbophyllum virescens* and *Brassia brachiata*. Included in the group were several good *Miltonias*, *Dendrobium Jamesianum*, *Brasso-Cattleya Queen Alexandra*, *Cypripedium caudatum*, *Cymbidium eburneo-Lowianum concolor*, some free-flowering plants of *Oncidium sarcodeis*, and *Cattleya Harrisoniana alba*.

Messrs. Sander and Sons, St. Albans, received a Silver-gilt Flora Medal for a large group of interesting Orchids, those specially noted being *Cattleya Schröderae* Daybreak, *C. Dowiana* with three flowers on a spike, *Odontoglossum Fire King* (*Hallio-crispum* × *crispum* Grairenum, O. Trullis (*elegans* × *amabile*), several good *Odontiodae*, *Chysis bracteescens*, *Laelio-Cattleya Baroness Schröder*,

and a selection of *Cymbidiums*. Two varieties of *Odontoglossum Pescatorei* were interesting on account of their pretty-spotted lips.

Sir Jeremiah Colson, Bart., V.M.H., Gatton Park (gr. Mr. Collier), received a Silver Flora Medal for an excellent group of well-grown Orchids. The most noted plant was *Odontoglossum Queen* of Gatton, a very grand hybrid between triumphans and pereulium. Several large plants of *Phaius Norman*, the delicately-coloured *Cattleya Mendeli* Quorn House variety, *Chysis langleyensis*, and a very fine plant of *Dendrobium Brynerianum* with many flowers were much admired.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Flora Medal for a good group consisting of many botanical and other rare Orchids. Included in it were the red-flowering *Renaithera Imshookiana*, *Certhopetalum picturatum*, *Mastocallis Chinora*, *Megadinium velutinum*, and the rare *Dendrobium crasnanoc album*. Several of the bright yellow *Oreocidium* color and a good variety of *Lycaste Skinneri* ciba were also noted.

Messrs. Mansell and Hatcher, Rawdon, Yorkshire, received a Silver Flora Medal for an excellent group of Orchids, which included the elegant *Laelio-Cattleya Wel'siana* alba, several *Brasso-Cattleyas*, *Vanda Bensoni*, *Odontoglossum Dora*, a dark variety of *O. Solon*, the scarce *O. Pescatorei*: *virginale*, *O. pereulium*, a curious *Megadinium* from Uganda, and many other interesting Orchids.

Mr. E. V. Low, Vale Bridge, Haywards Heath, was awarded a Silver Flora Medal for a group containing many choice *Dendrobiums*. Among those specially noted were *D. nobile virginale*, *D. chusingtonense* with its pretty yellow flowers, and *D. The Pearl*. A large plant of *Cymbidium insigne* with a spike of 21 flowers, several *Cypripediums*, and a good selection of the white-flowering *Brasso-Cattleya langleyensis* were shown in excellent condition.

de Barri Crawshaw, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), received a Silver Banksian Medal for a very interesting group of Orchids, all raised at Rosefield. *Odontioda*

Vuytelose rosefeldensis, *Odontoglossum Leonidas*, *O. illustre* (*Vuytelkei* × *ardentissimum*), a hybrid of very rich colour, *O. Vulcan*, *O. Quintus* (*Humeawellianum* × *crispoharryanum*), and several others made a very instructive group.

Messrs. Armstrong and Brown, Tunbridge Wells, were awarded a Silver Banksian Medal for a large group of excellent Orchids. Among those of special interest were *Cypripedium Strathreianum*, *C. Victoria Maria*, *Brasso-Cattleya Digbyano-Mendeli*, and a good variety of *Cypripedium Rothschildianum*. Included in the group were many choice *Odontoglossums*, a large selection of *Laelio-Cattleyas*, and several good *Dendrobiums*.

Samuel Larkin, Esq., The Ridgeway, Haslemere (gr. Mr. Hale), was awarded a Silver Banksian Medal for a pretty group containing several good varieties of *Phallopis*, a large plant of *Vanda tricolor* with two flower-spikes, an excellent *Cattleya Triana*, *Lycaste tricolor*, and *Phaius grandiflora*.

Messrs. W. B. Hartland and Sons, Cork, were awarded a Silver Flora Medal for a large group of Orchids, including several good *Odontoglossums*, a large selection of *Cattleya Schrödera*, *Odontioda keighleyensis*, *Cypripedium Curtisii*, and many other choice varieties.

Messrs. J. and A. A. McBean, Cooksbridge, received a Silver Banksian Medal for an excellent group of well-grown Orchids. Notable plants were a handsome blotched *Odontoglossum crispum*, a large piece of *Oncidium superbiens*, a very distinct *O. triumphans*, *Cattleya Empress Frederick*, and several beautiful varieties of *C. Schrödera*.

Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), exhibited the superb *Cattleya Schrödera* "The Baron." The plant carried four large flowers, and was exceedingly well grown.

H. S. Goodson, Esq., Fairlaw, Putney (gr. Mr. Day), showed *Odontoglossum Prince Albert*, a large flower with purple markings and having *O. Harryanum* in its parentage.

William Thompson, Esq., Walton Grange,

Stone (gr. Mr. Stevens), sent *Odontioda Charlesworthii* *superba*, a splendidly-grown plant, and one of the finest and richest-coloured varieties yet seen.

R. G. Tawates, Esq., Chessington, Streatham (gr. Mr. Black), exhibited *Odontoglossum Clytie*, *O. Pescatorei* *virginale*, and several *Odontiodas*.

Mons. A. A. Peeters, Brussels, sent *Mitonia Bleuana* *Laeken* variety, a large white flower, petals slightly flushed with rose, the lip marked with reddish-purple lines.

Mons. Merrens, Ghent, exhibited several good varieties of *Mitonia vexillaria*.

AWARDS

FIRST-CLASS CERTIFICATES.

Mitonia Bleuana *Peetersii* (*Bleuana* × *Bleuana* *Peetersii*), from Mons. Firmin Lamban, Brussels (gr. Mr. Demunter). A very distinct and beautiful variety. The plant carried four spikes of large flowers heavily marked with rose-purple.

Odontoglossum Osulstonii *The Shrubbery* variety (*criapo* *Larryanum* × *Pescatorei* *Charlesworthii*), from Messrs. Charlesworth and Co., Haywards Heath. The largest and finest variety of this well-known hybrid. The plant carried a spike of 15 richly-marked flowers, the apex of the lip being white.

□ □ □

Mr. H. Cheal, until lately in the employ of Messrs. J. and A. A. McBean, Cooksbridge, will in the future act as traveller and sole representative for Mr. Edward V. Low, Vale Bridge, Haywards Heath.

□ □ □

Orchid Catalogues.—We have received an excellent Orchid Catalogue from Mr. H. A. Tracy's Orchid Nursery, Twickenham, consisting of 30 pages and containing much useful information on the parentage of hybrids. A Special Price List is also published by Mr. James H. Hill, Burgess Hill, and may be had post free.



From a photo by H. J. Chapman.

The Group of Orchids which was deservedly awarded a Silver Flora Medal when exhibited by Mrs. Norman Cookson at the Royal Horticultural Society, March 28th, 1911.

THE NORTH OF ENGLAND HORTICULTURAL SOCIETY.

April 19th, 1911.

MEMBERS of the Orchid Committee present: G. W. Jessop, Esq. (in the chair), and Messrs. Gurney Wilson (hon. sec.), W. Mansell, H. A. Inness, F. W. Corney, A. R. Crossley, G. W. Mask, W. H. Hatcher, A. G. Edwood, W. Shackleton, G. Taylor, and A. V. Hall.

Messrs. Charlesworth and Co., Haywards Heath, received a Silver-gilt Medal for an excellent group containing the following choice Orchids: *Cattleya Empress-Frederick*, good varieties of *C. Schröblerae*, a fine *Brassia-Cattleya Veitchii*, *Cypripedium Manbis*, a pretty variety of *Odontoglossum Jasper*, *O. Lambearianum*, a richly-coloured form of *O. Answorthi*, and several attractive *Oncidiums*.

Messrs. Mansell and Hatcher, Rawdon, Yorks, were awarded a Silver-Gilt Medal for a large group of well-grown Orchids. Those principally noticed were *Odontioda Ernest Henry* var. *Jessopae*, a very fine *Cypripedium Lilian Greenwood*, *Chysis bracteosa*, *Maxillaria luteo-purpurea*, *Galathea veratrifolia*, a large pan of *Cypripedium bellatulum*, some pretty varieties of *Anoctochilus*, and the scarce *Dendrobium secundum*.

J. H. Craven, Esq., The Beeches, Keighley (gr. Mr. Corney), received a Silver Medal for a very effective group, in the centre of which were several good varieties of *Odontioda keighleyensis* and *O. Bradshawie*. Several fine varieties of *Miltonia Bicuana*, a *Laelia-Cattleya Wellsiana* with a very dark lip, *Cattleya Enal*, *C. Empress-Frederick*, having a richly-coloured flower, and the elegant *Renanthera lousboothiana* were much admired.

Mr. E. V. Low, Haywards Heath, was awarded a Bronze Medal for a neat group of rare Orchids. In the centre was the noted *Cattleya Liddlemanniana Stuebeli*, and surrounding it a choice selection of *Dendrobiums*, including the yellow *D. cheringtonense* and *D. nobile virginale*. Some *Brassia-Cattleya* and good *Cypripediums* were also shown.

Messrs. Keeling and Sons, Westgate Hill, Bradford, received a Bronze Medal for a group of interesting Orchids. Included in it were good plants of *Brassia-Cattleya*

Queen Alexandra, *Odontioda Bradshawie*, *Odontoglossum Persephone*, a large plant of *Cymbidium insigne*, *Cypripedium Gratixianum*, *C. Shillanum*, *C. Sirius*, and the pretty *Masdevallia Estradae*.

Mr. W. Sandleton, Great Horton, Bradford, received a Vote of Thanks for a small group containing nice plants of *Dendrobium Wardianum*, a good variety of *Jacoste Skinneri*, *Cypripedium Pomona*, *C. Colin*, and several *Odontoglossums*.

Major Rogerson, Harpenden (gr. Mr. W. C. Price), exhibited *Cypripedium Chapmanii*, *C. Earl of Tankerville*, and two good blotched varieties of *Odontoglossum crispum*.

AWARDS.

FIRST DIPLOMAS.

Odontoglossum Jasper, from Messrs. Mansell and Hatcher. A very pretty variety of this hybrid *Odontoglossum*. The ground colour is rose, prettily marked with purple.

Cypripedium Lawrenceanum Hyeatum G. S. Ball's variety, from Messrs. Mansell and Hatcher. A very large and good-shaped variety of this albino *Cypripedium*.

Cattleya Mendelii var. *Dainty*, from J. H. Craven, Esq., The Beeches, Keighley (gr. Mr. Corney). One of the prettiest varieties of *Cattleya Mendelii*, reminding one of the noted *C. M. Quorndon House* variety. The whole flower is a delicate mauve tint, and without the usual dark blotch of purple on the front of the lip.

SECOND DIPLOMAS.

Zygo-Colax Charlesworthii, from Messrs. Charlesworth and Co., Haywards Heath. A striking variety of this hybrid; the lip is exceedingly well coloured with violet-purple.

Odontioda Laurensae (*O. crispum* x *M. Warszewiczii*), from Messrs. Charlesworth and Co. One of the pretty bigeneric hybrids, and an attractive and useful Orchid.

Cypripedium niveum Oakdene variety, from Major Rogerson, Harpenden (gr. Mr. Price). A pure white flower with a few minute dots of purple on the lower sepals. All the segments in this variety are very broad.



LÆLIO-CATTLEYA FIRMINII.



THE ORCHID WORLD.

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No. 9.

NOTES.

Laelia Cattleya Firmiani.—This beautiful hybrid, the subject of our coloured plate, received a First-class Certificate from the Orchid Committee of the Royal Horticultural Society, December 21st, 1909, and at the great exhibition held at Charleroi, May 6th, 1911, it was awarded the First Prize, consisting of a Silver-gilt Medal, for the most beautiful *Laelia-Cattleya* in the show. In both instances it was shown by M. Firmin Lambeau. The rare colour of this flower is derived from *Laelia cinnabarina*, and a special article dealing with this species and its hybrids is included in the present number.



"*La Tribune Horticole*."—This excellent journal contains in the issue for May 13th, 1911, a splendid photographic reproduction of the wonderful *Miltonia vexillaria* Memoria G. D. Owen, which was exhibited by Messrs. Duchesne and Lanthoine at the meeting of the Royal Horticultural Society held on April 25th, 1911. It received a First-class Certificate from this Society on June 9th, 1906. The same issue contains life-like portraits of Messrs. Firmin Lambeau, Emile Duchesne, and Georges Lanthoine.



Jubilee of Mr. Barnard.—An interesting ceremony took place at the Royal Nurseries,

Bush Hill Park, on April 29th, when Mr. Barnard was presented with a timepiece and ornaments inscribed as follows:—"Presented to Mr. Harry A. Barnard on the celebration of the Jubilee with the Lows, of Clapton, as a mark of esteem and affection from all employed at the Royal Nurseries, Bush Hill Park, April, 1911."



Royal Favour to Mr. Bolshof.—At the recent Florence Exhibition Messrs. Charlesworth and Co. exhibited *Brassia-Cattleya* Queen Iskeno, named in honour of the Queen of Italy, and their Majesties the King and Queen most graciously acknowledged the favour by shaking hands with Mr. Bolshof, who acts as Messrs. Charlesworth's Continental representative. This plant has since passed into the noted collection of Baron Alphonse von Rothschild, of Vienna.



Odiosteglossum percutum.—A flower of a very fine variety of this hybrid obtained by crossing *O. Rolfsii* with *O. ardentissimum* is sent by H. F. Goodson, Esq., Fairlawn, Putney. The sepals and petals are almost covered with violet-purple, the apex of the lip being white, as is usual with many of the hybrids containing *Pescatorei* in their ancestry. The plant is not yet fully grown, so

still finer flowers may be expected during the next year.



Leptotes bicolor.—A six-flowered scape of this pretty Brazilian Orchid comes from the collection of Capt. Robert Twiss, Bird Hill, Limerick. The *Leptotes* genus, which was united to *Tetramia* by Bentham, is a small one, consisting of two or three dwarf species, with terete foliage channelled on the upper side, and flowering from the top of the pseudo-bulb. *L. bicolor* has flowers which are borne on a very long ovary; the sepals and petals are white; the lip has two very short lateral lobes, and an oblong front lobe nearly as long as the petals, the disc of which is streaked with purple. This species is not difficult to cultivate, and may be grown in varying temperatures with success, but a six-flowered scape of bloom is very unusual, the normal number being three or four.

A spike of the small flowering *Aerides Wagianum* is also sent. The flowers are pale yellow, the lip being white with purple crests on the fleshy disc. It usually blossoms during the summer months, and is also grown under the name *Vanda parviflora*.

THE BOTANICAL CERTIFICATE.

The fact that the Botanical Certificate has, erroneously, come to be looked upon as an award to be made to a plant of no decorative or commercial value, was commented upon at the meeting of the Royal Horticultural Society's Scientific Committee held on March 14th. The actual intention of the Botanical Certificate was to encourage the introduction and cultivation of plants of intrinsic interest and of potential value, and it is intended to be awarded to plants of the following designation:—

Peculiarity of morphological or anatomical construction.

Noteworthy physiological endowments, adaptation to varying conditions, etc.

Novelty, whether of introduction or cultural origin (cross-breeding, hybridisation, variation, selection, etc.).

Geographical distribution.

Potential value for garden purposes, or economic uses, etc.

The Scientific Committee are, therefore, of opinion that the intention of the award of the Botanical Certificate would be best served if the recommendation of its award were restricted to them, and asked the Council to make an ordinance to this effect.

On the proposition of Sir Daniel Morris, seconded by Mr. Bowles, at the meeting of the Council on April 11th, it was carried that with regard to Botanical Certificates the Orchid Committee should recommend to the Scientific Committee any plants they considered worthy of such certificate, and that the Secretary of the Scientific Committee should subsequently report to the Council what awards had been recommended, the Council taking care to inform the Orchid Committee.

ODONTOGLOSSUM HARVINGTENSE.



Odontoglossum harvingtense Craushaynam.

From a photograph by Lionel Crocker.

This hybrid between *O. crispum* and *O. triumphans* grows wild in Colombia, and in

the many importations of *O. crispum* several varieties of it have appeared varying more or less in form and markings, no less than nineteen varieties having been certificated by the Royal Horticultural Society alone. The chance of these two species intercrossing in their native land are rather remote, still less so is the chance of specially fine varieties taking part, and it is not, therefore, to be wondered at that if in this country we use two selected varieties of the same species we obtain a variety of *O. harvengensis* of superior merit.

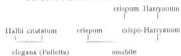
The illustration opposite gives a good idea of the excellent variety raised by crossing *O. crispum* Raymond Crawshaw with *O. triumphans* Lionel Crawshaw, the latter parent being figured on page 180. Both these plants are grand varieties, and the result is one of the finest shaped hybrids yet produced. When exhibited by de Berni Crawshaw, Esq., at the Royal Horticultural Society, May 17th, 1911, it was granted an Award of Merit. The ground colour is primrose-yellow, effectively marked with light brown blotches.

In the Orchard collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill, some excellent forms of this hybrid have recently flowered, and Mr. F. W. Thurgood, who sends several flowers from them, states that they were raised by crossing *O. triumphans* Rosslyn var. with *O. crispum* Abner Hassall, the latter parent being a large, blotched variety. The flowers are heavily marked with reddish-chocolate spots and blotches on a bright yellowish-gold ground colour, the lip being white and bearing the characteristic horse-shoe shaped blotch of *O. triumphans*.

Two blotched varieties of *Odontoglossum crispum* are also sent from the same collection, and are the result of crossing *O. crispum* Magnum Bonum with *O. crispum* Ashworthianum, the former being one of the best shaped crispums yet seen, and the latter parent a beautiful variety of *O. crispum* almost covered with rosy-purple blotches. Variation in the seedlings from this cross will be great, some will appear without any spots or blotches, while others will take after the *crispum* Ashworthianum.

Of the flowers sent the best variety inherits the good form of *crispum* Magnum Bonum, and is almost covered with soft rosy-purple blotches, the colouring in many parts being solid. As may be expected from young seedlings the flowers are only of medium size, but when the plants are fully matured some excellent flowers will be produced.

ODONTOGLOSSUM TROILUS.



TROILUS.

Yet another of Mr. Sander's decorative plants, and a very beautiful one, for shortly described one could call it a "crimson elegans." When shown at the Royal Horticultural Society, April 13th, 1911, with only five blooms on a small plant it could not fail to attract the eye even among its larger brothers and sisters.

Mr. Sander's praiseworthy efforts to produce these decorative and cut-flower plants are greatly to be commended, for some of these will in the future, if raised in quantity, be very valuable as florists' Orchids.

The whole flower is almost solid crimson, being only faintly marbled here and there with yellowish-white, the blotching of the elegans having been converted into almost a ground colour though the form of the spots are seen of a darker blue. The lip's margin and apex are nearly white, the column is crimson.

Circosom and *elegans* seem to have far greater power over *Harryanum* than any other species or hybrid, for its massive form is reduced in all the hybrids of this section to almost that of *circosom*, its cousins Gladys and Elaine having proved the same thing, though some results almost make one doubt one's own eyes even be the evidence so circumstantial as to be quite clear.

de B. Crawshaw, April 15th, 1911.

NEW PLANTS.

Brasso-Laelio-Cattleya Triune [L.-C. Hyeana (L. purpurata × C. Lawrenceana) × B.-C. Digbyano-Schrödere].—A large flower of rosy-mauve colour with a fringed lip marked with purple. Exhibited by Sir Trevor Lawrence, Bart., K.C.V.O., at the Royal Horticultural Society, April 25th, 1911.

Odontoglossum ramos-Edwardii (ramosissimum × Edwardii).—A graceful free-flowering hybrid with a spike of ninety-five pinkish-mauve flowers, the segments being blotched on the inner and spotted on the outer half with purple, the crest is creamy-white. Exhibited by Sir Trevor Lawrence, Bart., K.C.V.O., at the Royal Horticultural Society, April 25th, 1911, when it obtained an Award of Merit.

Odontoglossum bella (crispum × bellatulum). A series of nine plants, showing great variation, was exhibited by J. S. Moss, Esq., at the Royal Horticultural Society, May 9th, 1911. These were of interest, for the cross was made with the idea of producing blotched crispums with the aid of *O. tripudians*, one of the parents of *O. bellatulum*. Many of the flowers closely resembled crispums, but had a somewhat larger, fringed lip, otherwise they showed little evidence of the *O. tripudians*.

Brasso-Laelio-Cattleya King Emperor (B.-L. Digbyano-purpurata × L.-C. Dominiana).—A large flower exhibiting many of the characteristics of *Laelia purpurata*. The sepals and petals are rosy-lilac, the lip broad and fringed, being well coloured with purple, and having gold lines derived from the *Cattleya aurea*, one of the parents of L.-C. Dominiana. Exhibited by Francis Wellesley, Esq., at the Royal Horticultural Society, May 9th, 1911.

Laelio-Cattleya Nereus (L. Jongheana × L.-C. Pallas).—A fairly large flower with mauve sepals and petals, the lip marked with purple on the front, and with yellow on the side lobes. The throat is conspicuously marked with yellow keels as in *Jongheana*. Raised and flowered by Messrs. Armstrong and Brown, Tunbridge Wells.



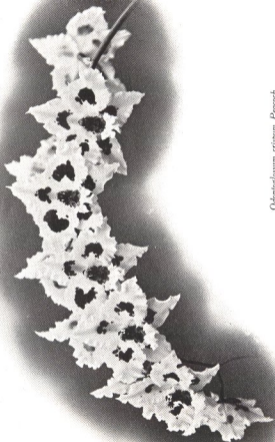
ODONTIODA BOLTONII.

O. Vuylstekeae × C. Noezliana.

This elegant *Odontioda*, which was exhibited at the Royal Horticultural Society, March 28th, 1911, has the back of the petals marked with a broad yellowish-white stripe similar to that seen on *Odontoglossum Vuylstekeae*. This makes the back of the flower nearly as pretty as the front part. The colour is rather distinct, owing to the breaking up of the rosy-scarlet on a bright yellow ground, and, being perfectly flat, every part of the flower is visible. The petals are very thick and fleshy. The shoulders of the lip are very broad, of a scarlet colour, much larger than those usually seen in the *Cochlioda* hybrids, and resemble a pair of scarlet wings, which makes it a very distinct hybrid.

It seems to be the forerunner of a very handsome race of these hybrids, and as a chance cross it shows the possibilities of the future in *Odontiodas*. From this result we may expect to have some exceedingly beautiful flowers in the near future.

W. BOLTON.



Odonotoglossum crispum Penock.

A beautiful pure white flower with large reddish-bronze blotches. Received a First-class Certificate from the Royal Horticultural Society when exhibited by Lord Col. Sir George Holford, K.C.V.D., January 31st, 1911.



Warnham Court, Horsham, Sussex.

The Warnham Court Collection.

SUSSEX is still, as of old, one of the most thickly wooded of English counties, and contains, among other notable features, many noble mansions with their extensive natural parks and exquisite, cultivated gardens. On approaching the architectural pile of Warnham Court, the residential seat of C. J. Lucas, Esq., and famous for its splendid herd of Red deer in the park, one is at once attracted by the harmony of the situation so picturesquely described in the lines by Mrs. Hemans:—

The stately homes of England,
How beautiful they stand!
Amidst their tall ancestral trees,
O'er all the pleasant land,
The deer across their greenward bound
Through shade and sunny gleam,
And the swan glides past them with the sound
Of some rejoicing stream.

In a sheltered part of the grounds may be found a large and important collection of rare and beautiful Orchids obtained from near and distant lands. The year 1885 saw

the commencement of its formation, and ever onwards it has increased in size and merit. Although a very special interest is taken by Mr. Lucas in Orchidology he is also a lover of horticulture in many ways, and besides being a member of the Orchid and Floral Committees of the Royal Horticultural Society he was, in the year 1892, elected a member of the Council of this Society.

One spacious greenhouse is almost occupied by a large pond around which many *Cypripediums* are planted, and grow with all their natural luxuriance. On a mass of rockwork at the back is a large plant of *Cymbidium Lowianum*, the water prettily reflecting its graceful, drooping spikes of flower.

In a span-roofed house is a vast number of *Cypripedium* hybrids, both well-known plants and unflowered hybrids of, as yet, unproved merit. The pretty *Fairrieanum*, until recently so rare, is represented by several plants, and its hybrids are fast growing into the flowering stage. An interesting plant is

a cross between *Lawrenceanum* and *niveum*, and *bellatulum* and *glaucophyllum* should produce a good result. Many albinos are to be found in this collection, the principal ones being *insigne* *Sanderæ*, *Maudslæ*, and *callosum* *Sanderæ*. Suspended from the roof is a large piece of the branch of a tree from the native forest and upon which a number of *Cattleya*

seedlings and a large *Tillandsia* grow with vigour. Other plants in this house are *Oncidium Kramerianum* and *Papilio* with their curious butterfly-like blooms, a nice mass of *Dendrobium Jenkinsii* growing on a piece of tree, and several good varieties of *Miltonia Roezlii* which have been in the collection since 1889 and are interesting because this variety with the purple marked petals is now rarer than the albino or pure-white form of the species. Several baskets contain large

plants of *Odontoglossum citroszum*, and there are a very large number of unflowered seedlings in various stages of growth.

A number of strong plants of *Brassavola Digbyana* are being used for the purpose of hybridisation, and will amply reward anyone who makes use of this large, fringe lipped species. This collection includes many

specimens of these bigeneric hybrids, and those of special merit are *Digbyano-Mossiae*, which is perhaps the largest of all, the beautiful yellow flowering *Mrs. J. Levensum*, the superb variety of *Digbyano-Mendeli* known as *Imperatrice de Russie*, and *Digbyano-Warneri* "*Eric Lucas*" which secured an Award of Merit at the Royal Horticultural Society, November 1st, 1904.

Another spacious house has one side almost occupied by 400 plants of the best *Calanthes*. The collection includes *Regneri*, *Bryan*, *William Murray* with its pure-white sepals and petals and coloured lip, and a very fine form of it known as *Sir Redvers Buller's* variety. There are also plants of *Phaius maculatus*, *Phaius-Calanthes*, *Vanda Sanderiana*, and *Cyrtopodium Andersonii* with its panicles of yellow and green flowers. The charming

Platyclinis filiformis with its numerous strings of small golden flowers, and *P. glumaceum validum* seem happy in the atmosphere of this house. On the end staging is a collection of *Thunias* which embraces the large white flowered *Marshalliana*, *Winniana* with magenta-rose flowers, the hybrid *Vicitchiana*, *Bensoniae*, and *Majoriana*. Suspended from



C. J. Lucas, Esq.

Allen & Co.

the roof are good plants of *Dendrobium Farmeri*, *Lælia anceps*, *Scuticaria Stueeli*, and *Coclogyne Dayana*. A most interesting plant which grows luxuriantly in this house is *Fria vestita*.

The *Odontoglossum* seedling house contains more than a thousand healthy plants of all sizes, from the smallest speck of life up to those of flowering size. Some seedlings are content to make their first bulbs little more than a quarter of an inch in height and when this is finished another is at once commenced. Others continue to grow for two years before they mature their first bulb and this is often over three inches in height. In another year or two a large number of these hybrids will flower, and considerable pleasure will be obtained from them. The *Cochlidia* hybrids are well represented and are of flowering size. Large plants of *Odontoglossum McNabianum* (*Harryanum* × *Wilckeanum*), and the elegant *O. Othello* (*Harryanum* × *Adrianae*) which obtained an Award of Merit when exhibited by Mr. Lucas at the Royal Horticultural Society, April 16th, 1907, are much admired for the rich coloration of the flowers.

Of curious Orchids mention must be made of *Masdevallia simula*, *Restrepia Falkenbergii*, and a hybrid between *Cattleya citrina* and *Lælia purpurata*, which for many years could not decide whether to grow up or down, and for a long time only small bulbs were made. But now rapid headway is being made, the growths being mostly in a horizontal position, and a flower should soon be produced. Another odd hybrid is *Epidendrum ciliolare* × *Lælia anceps* which has not flowered. *Oncidium cheiraphorum* is one of the neatest and best growing of all the yellow *Oncidiums*, and makes a most useful plant. Two plants which produce flowers of striking appearance are *Brassia verrucosa* and *B. Keiliana*.

The large *Cattleya* house contains a grand assortment of species and hybrids, mostly specimen plants. On the centre staging are selected varieties of the various *Cattleyas*, and many of the beautiful *Lachio-Cattleyas*, those of special interest being *Lachio-*

Cattleya Fascinator, *L.-C. bleckleyensis*, a splendid variety with eight new growths, the spring flowering *L.-C. Canhamiana*, *C. Mantini*, which is always admired, *L.-C. G. S. Hall*, and *L.-C. Nysa* which grows exceedingly well in this house. The albino *Cattleyas* include the pretty *Schröderæ alba*, *Gaskelliana alba*, and a very fine form of the same known as *Statter's variety*. There was also in flower *Lachio-Cattleya Apollo*, a hybrid derived by crossing *Cattleya Schröderæ* with *L.-C. Warnhamensis*; it has large flowers of a soft salmon colour which is very striking, being an uncommon colour among *Lachio-Cattleyas*. At one end of this house is a collection of *Epidendrums*, mostly of the *radicans* section. A fine variety of *Cattleya Schilleriana* brightens up another part of the house with its rich purple flowers, and the elegant *Lælia Lucasiana* must also be noted as the pollen parent of *Lachio-Cattleya Geoffrey* which was exhibited at the Royal Horticultural Society, July 11th, 1905.

On entering another spacious house one's attention is attracted by the vigorous growth of the *Cypripediums* which extend the entire length of the side staging. Most of the best known varieties of insigne are included, the yellow ones being especially good. The hybrids include *Thalia*, *Leocannu*, *Ville de Paris*, many of the aureum section, and a pretty variety of *Alchiades* having the petals and lip almost covered with small spots. The centre staging in this house is full of specimen plants, chiefly *Cattleyas* and *Lachio-Cattleyas*, many of which are showing well for flower. At one end there are large plants of *Sobralia macrantha alba*, a very fine variety obtained from Sir F. Wigan's collection. Many other *Sobralias* are grown in another house chiefly devoted to the culture of ferns. Several perfect specimens of the spring flowering variety of *Angraecum sesquipedale*, the handsome *Houlletia Brocklehurstiana*, and the elegant *Bifrenaria Harrisoniæ*. A large plant of *Amellia africana* makes a grand display with its yellow and red spotted flowers.

The *Odontoglossum* house is very gay with bloom at this season of the year, and the

many plants of *Odontoglossum crispum* in flower prove that only the best varieties have been obtained. The beautiful *crispum* Starlight, *crispum* xanthotes White's variety, *crispum* Nebulae, and several excellent forms of *crispum* Bonnyanum with thick fleshy flowers are the principal varieties noticed. The hybrids include the noble *Wilckeianum* White's variety, *Rolfeae*, several very pretty varieties of *Adrianae*, one, which first bloomed on a Christmas day, is named Noel, the graceful *Ossulstonii*, *Wilckeianum* albens, and many others too numerous to mention. In a corner of this house is a remarkable specimen of *Odontoglossum coronarium* *brevifolium* which flowers freely every year, and other interesting plants which deserve to be noticed are the fragrant *Trichosma suavis*, an excellent variety of *Odontoglossum* *Uro-Skinneri*, *O. Polyanthum*, the pure-white *O. pulchellum*, and suspended from the roof are some nice plants of *Oncidium* *Lucasianum*.

These somewhat brief notes of a large collection only apply to the Orchids, as space will not permit the mentioning of the contents of more than 20 other houses devoted to the cultivation of plants which in their respective spheres are of equal interest, and the Rock garden and collection of rare trees and shrubs in the outside garden.

Mr. Duncan, who has so ably carried out the duties of head gardener at Warnham Court during the last 32 years, leaves the direct management of the Orchid houses to Mr. George Branch, and the excellent

condition of the plants is ample testimony of his knowledge and careful attention. His name will be best remembered by *Laelio-Cattleya* George Branch which was named after him and exhibited by Mr. Lucas at the Royal Horticultural Society, August 14th, 1906.

G. W.

THE FLORENCE EXHIBITION.

This exhibition, which opened on May 6th, was honoured on the following day by a visit of their Majesties the King and Queen of Italy, who greatly admired the fine display of Orchids.

Of the exhibits of Orchids special mention must be made of the superb group shown by the Marquis Carlo Ridolfi, President of the Royal Horticultural Society of Tuscany, and President of the Exhibition Committee; the excellent group put up by Signor Valvassori, Director of the Royal Horticultural Society of Florence; and the interesting collection shown by Signor Raffaello Mercatelli, of Florence. Monsieur Scarlati, Florence, exhibited two very good groups of *Cypripediums*.

The other exhibitors included Messrs. Charlesworth and Co., Haywards Heath; Messrs. Stuart Low and Co., Enfield; and Messrs. Th. Panwels and Co., Belgium, all of whom put up some excellent specimens.

The Great Summer Show of the Royal Horticultural Society will be held at Olympia, Kensington, on July 4th, 5th, and 6th, 1911, and not at Holland House as previously.



Odontoglossum Othello. (*Harryanum* × *Adrianae*.)

LÆLIA CINNABARINA AND ITS HYBRIDS.

LÆLIA cinnabarina with its small, poor shaped flower would be worthless but for its intense cinnabar or blood-red pigment, a colour rarely found in any other species of Orchid. Ever since the commencement of raising Orchids from seed hybridists have attempted to produce a red or scarlet flower of large size by means of this species. Great difficulty has so far been encountered, for whenever the cinnabar colour has been transmitted to the seedlings the poor starry shape has almost always been inherited at the same time. Only careful breeding will be likely to produce the desired result. It must be remembered that a red or scarlet flower may also be procured by the assistance of *Sophranitis grandiflora*, but the present article will only deal with the influence of *Lælia cinnabarina*.

It is a well known fact that all the long bulbed Orchids, such as *Lælia flava*, *L. cinnabarina*, *L. harpophylla*, and *Cattleya intermedia*, have a very dominating influence over the shorter bulbed section. It has been suggested, and there seems a large amount of truth in it, that the long bulbed Orchids are the oldest species and have, therefore, a much stronger character or persuasive power over the species produced in a later period. This may throw some light on the character of *Lælia cinnabarina*, and explain how it is that so much trouble is experienced in transmitting its rich cinnabar pigment without at the same time reproducing its poor, starry shape.

This remarkable specific strength is also visible in the comparatively easy way in which *L. cinnabarina* hybrids can be raised, and may account for the large numbers of them seen in amateurs' and recently started seedling-raising establishments.

LÆLIA CINNABARINA CROSSED WITH A
LÆLIA SPECIES.

Almost all possible crosses have already been made between *Lælia cinnabarina* and the remaining species of the genus, and, with

one or two exceptions, poor results have followed. This may be accounted for by either the poor shape or the small size of all the *Lælia* species. In the case of *Lælia cinnabrosa* (*cinnabarina* × *tenebrosa*) a more favourable combination occurs, for the large reddish-brown flower of *tenebrosa* is improved by the cinnabar influence, and a flower of a pleasing colour is obtained. *L. Coronet* (*cinnabarina* × *harpophylla*) will prove to be a valuable breeding plant, for in this we have the additional bright-orange red of the *harpophylla*; an early proof of which is to be seen in *Lælio-Cattleya Elinor* (*L. Coronet* × *Schrödera*) a flower which, while still retaining the bright orange colour, is of fair shape and substance. It received an Award of Merit at the Royal Horticultural Society, March 17th, 1908.

A very probable success in obtaining a good shaped *Lælia cinnabarina* hybrid would be by the use of some of the best forms of *Lælia anceps*. But, strange to say, one is unable to find any record of this cross having been made, although *Lælia autumnalis*, a species somewhat similar to *anceps*, produced a hybrid, known as *Lælia Stanislaus*, which flowered in 1905.

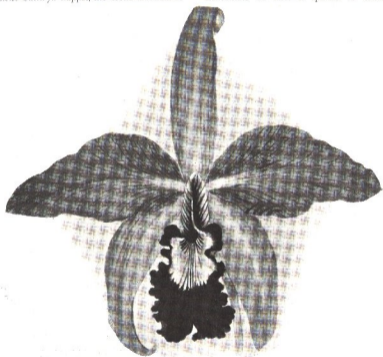
LÆLIA CINNABARINA CROSSED WITH A
CATTLEYA SPECIES.

In these hybrids, known as *Lælio-Cattleyas*, better results have been obtained in shape and size, especially in this the case with such large flowering species as *Cattleya Warszewiczii* and the *labiata* group. But even when these hybrids flowered the dominating influence of *cinnabarina* caused considerable disappointment by very much reducing the size and form of the flower, although there was a considerable amount of the cinnabar colour.

The group of *Lælio-Cattleyas* in which *cinnabarina* takes a part is of such large dimensions that only a selection of the most distinct can be attempted. One of the

greatest faults in cinnabarina hybrids is the constricted or pinched nature of the side lobes of the lip, and a very strong specific force is required to counteract this disfigurement. By the use of *Cattleya Warscewiczii* considerable success has been obtained, for, as may be seen in the adjoining figure of *Lælio-Cattleya Cappelii*, the broad labellum of

obtained rather similar results, what difference there is may be found chiefly in size and the period of the year in which they flower. A distinction can, however, be made in the case of *Lælio-Cattleya* G. S. Ball (*cinnabarina* × *Schröderæ*), a hybrid in which considerable variation exists, for in *Cattleya Schröderæ* we have a species of delicate



N.B.

Lælio-Cattleya Cappelii Charlesworth's variety, received F.C.C., November 1st, 1904.

this species has to a large extent remedied the trouble. The two bright-yellow discs in the throat of *C. Warscewiczii* are almost always visible in the numerous hybrids derived from this species.

In many of the hybrids derived from *cinnabarina* and purple coloured *Cattleyas* we have

colouring, and producing hybrids of very varying degrees of coloration. This may also be witnessed in *Lælio-Cattleya Fascinator* (*Schröderæ* × *purpurata*) another hybrid of *C. Schröderæ* in which hardly two are to be seen alike.

In *Brasso-Lælia* Mrs. M. Gratrix we have

the combination of *Brassavola Digbyana* with *Laelia cinnabarina*, both being strong dominating species of almost equal specific strength. The result has been a flower with a large, fairly open lip, but with narrow petals.

Laelio-Cattleya Charlesworthii (*cinnabarina* × *anrea*) attracted considerable attention when first produced, for, with the exception of the purple in the lip derived from *Cattleya*

this will undoubtedly prove of value for future work.

In *Laelio-Cattleya Hippolyta* (*Mossie* × *cinnabarina*) we have still another good hybrid to record, and also of considerable interest, for the combination of *cinnabarina* with the large flowering *Cattleya Mossie* has on several occasions contributed to the making of a really good hybrid.



Laelio-Cattleya Charlesworthii magnifica, received A.M., January 24th, 1905.

aurea, we have a hybrid devoid of the purple pigment which, in the case of the previously mentioned hybrids, has often produced flowers of such a muddy colour.

Another distinct hybrid is *Laelio-Cattleya Lady Miller* (*cinnabarina* × *granulosa*), the combination of *cinnabarina* with the olive-green sepals and petals of *granulosa* has produced a pretty, coppery-yellow flower, and

THE DOUBLE INFLUENCE OF ONE SPECIES.

We now come to what has proved to be of most valuable assistance to the hybridist's work, that of crossing the hybrid with one of its parents, and thus obtaining in the next generation a double influence of one species. We have previously observed that *cinnabarina* has, by its dominating influence,

overcome to a remarkable degree the specific characters of all the species used with it. This has, for instance, in the case of *Laelio-Cattleya Charlesworthii* very much reduced the size and form of the desired hybrid—which it will be remembered was to be a red or scarlet *Cattleya*—the result obtained was not even intermediate between the two parents, but only showed a moderate improvement on *cinnabarina*, the colour was there, but not the shape or size. We must therefore resort to the addition of more of the *Cattleya aurea* characters by making another generation with the second use of this species. This has been done by crossing *Laelio-Cattleya Charlesworthii* with *Cattleya aurea* and thereby producing *Laelio-Cattleya Golden Oriole*, a hybrid showing great improvement in size and form, and a further step towards our wished for scarlet *Cattleya*.

In *Laelio-Cattleya Ceres* [*Hippolyta* (*cinnabarina* × *Mossiae*) × *Mossiae*] we have another fine hybrid showing an improvement on the original *Hippolyta*, and a still finer result was obtained by crossing *Laelio-Cattleya Lady Miller* (*cinnabarina* × *granulosa*) with *Cattleya granulosa*, the resulting hybrid being exhibited by Messrs. Charlesworth and Co. at the Temple Show, 1909, when it received a First-class Certificate under the name *Laelio-Cattleya Eurylochus*.

LALIA CINNABARINA IN COMBINATION

WITH TWO SPECIES.

Laelio-Cattleya Lowii [*cinnabarina* × *L.-C. callistoglossa* (*Warszewiczii* × *purpurata*)] is an example of this class of *cinnabarina* hybrid, and it will be seen that we are dealing with plants in which this species still comprises one half of the parentage. It has been suggested that the allied powers of two strong species would tend to hold the dominating influence of *cinnabarina* in check, but as the two species together only account for half the parentage the result cannot be better than in the case of *cinnabarina* being crossed with a single species.

A SPECIES CROSSED WITH A HYBRID

CONTAINING CINNABARINA.

Laelio-Cattleya illustris [*C. aurea* × *L. Latona* (*cinnabarina* × *purpurata*)] In this case we have *Cattleya aurea* crossed with a hybrid of *Laelia cinnabarina*, and thus allowing this species to account for only a quarter of the parentage. This is in many hybrids quite sufficient to impart a reddish tinge without spoiling the general form or size of the flower. A second example may be given in *Laelio-Cattleya Goldfinch* [*C. aurea* × *L.-C. warnhamensis* (*cinnabarina* × *Triane*)], two varieties of this pretty hybrid having received Awards of Merit when shown by Lieut.-Col. Sir George Holford. And still another may be cited in *Laelio-Cattleya Apollo* [*C. Schröderae* × *L.-C. warnhamensis*]. In this hybrid, which was raised by Mr. C. J. Lucas, and exhibited by him at the meeting of the Royal Horticultural Society, March 31st, 1908, the delicate colour of *C. Schröderae* has combined with *cinnabarina* and produced a pleasing soft flesh-coloured flower of large size.

Probably the best result so far achieved in this class of hybrid is *Brasso-Laelio-Cattleya Fowleri* [*B.-L. Mrs. M. Gratrix* (*Digbyana* × *cinnabarina*) × *C. Schröderae*]. Here it will be seen that the happy combination of *Cattleya Schröderae* with *cinnabarina* is still further improved by the strong influence of the large *Digbyana* lip, and a large, good shaped, reddish orange flower has been produced.

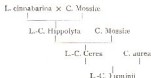
LALIA CINNABARINA IN COMBINATION

WITH THREE SPECIES.

Laelio-Cattleya The Duchess [*C. Hardyana* (*Warszewiczii* × *aurea*) × *L.-C. Hippolyta* (*cinnabarina* × *Mossiae*)] is an ideal combination of species which have all proved themselves to be productive of good results when used with *cinnabarina*. Size and shape are contributed by *Warszewiczii* and *Mossiae*, and the inclusion of *aurea* prevents a too

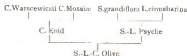
great preponderance of the purple pigment. This hybrid, which has reddish-orange flowers, was exhibited by Messrs. Sander and Sons at the meeting of the Royal Horticultural Society, November 21st, 1905, and again on October 1st, 1907, when it received an Award of Merit.

The subject of our coloured plate is *Laelio-Cattleya Firmini*, one of the best and probably the finest result so far achieved by the use of *Laelia cinnabarina*. The ancestry is



This is again a further example of the combination of *cinnabarina* and *Mossie* with the assistance of *aurea*. When this was exhibited by Mous. Firmin Lambeau at the Royal Horticultural Society, December 21st, 1909, it was unanimously awarded a First-class Certificate.

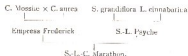
At the commencement of this article it was noted that a red *Cattleya* could also possibly be produced by means of the scarlet *Sophranitis grandiflora*. This has to a large extent been achieved in *Sophran-Cattleya Doris*, a fine variety of which was figured on page 132. The two following hybrids are of great interest for they contain both *Laelia cinnabarina* and *Sophranitis grandiflora* in their parentage.



It is almost impossible to correctly describe the colours in this hybrid, partly on account of the many combinations possible and also because of the segregation of the specific characters which takes place in all trigenic

hybrids. It is at once evident that out of this seed pool hybrids may be obtained of both shades of red derived from either the *Sophranitis* or the *cinnabarina* source, and the influence of the large flowered *C. Warscewiczii* may also be visible in many of them. In hybrids of complex parentage the amount of variation possible is very great, we may obtain plants having an ideal share of the species used in their formation, and thus producing an improvement of great merit, or we may take a backward step and even produce hybrids inferior to those upon which we are working.

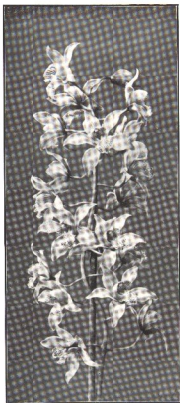
The second hybrid in which we have the combined influence of *L. cinnabarina* and *S. grandiflora* is *Sophran-Laelio-Cattleya Marathon*, one of the most beautiful and happiest combinations possible.



Here again the two reddish-coloured parents of *S.-L. Psyche* are in evidence, the great difference in this hybrid from *S.-L.-C. Olive* being that *C. aurea* takes the place of *C. Warscewiczii*. It has previously been mentioned that an excess of purple frequently produced a muddy-coloured flower; there is, however, a sufficiency of it in the share which *C. Mossie* takes in the parentage, and again we have proof of this species and *cinnabarina* successfully assisting in the production of a good hybrid.

Cattleya aurea plays an important part in this combination, for by its inclusion with *C. Mossie* the size of the *Marathon's* flower is maintained by half the parentage being taken up with two large flowering species, but only one has any purple in the sepals and petals. These remarks must be taken to apply in a general sense, for even in this hybrid the variation is very great, and the different shades of colour beyond description.

G. W.



CYMBIDIUM INSIGNE.

The above photograph is one of the spikes of bloom from the wonderful specimen of *Cymbidium insigne* seen on this page. It is probably the largest plant in cultivation, and is in the collection of Count Joseph de Hempstine, who kindly sends the photographs from which the illustrations have been made. Count Joseph is president of the Cercle Horticole Van Houtte, Belgium.

*Cymbidium insigne.*

SOME INTERMEDIATE HOUSE ORCHIDS FOR AMATEURS.

MANY Amateurs possess a greenhouse having a warmer atmosphere than is needed for the cultivation of *Odontoglossums*, etc., and this may, therefore, be turned to a useful account in growing a few *Cattleyas* and other warmth-loving Orchids.

Cattleya Percivaliana and *C. Trianae* are the earliest species of the *Cattleya* genus to flower, and in small collections frequently prove to be the only plants to produce any bloom in the dull months of February and March. *Cattleyas Schröderæ*, *Mossii*, and *Mendelii*, give a much better display of flower in the months of April and May, and these, opening as they do in bright weather, are of more substance, and will, therefore, last in beauty for a longer period.

All these *Cattleyas* produce their flower spikes upon the bulbs made during the previous summer, and, so long as these have been properly ripened, a good supply of bloom rarely fails.

For a summer flowering species *Cattleya Warscewiczii*, perhaps better known as *C. gigas*, is superb. This species is somewhat shy-flowering, but when once the plants are grown to flowering size every hope may be entertained of an annual spike of bloom being produced on the top of the recently made pseudo-bulb. The flowers are very large, of a rich, dark-rose tint, the lip being broad, and with two conspicuous, bright-yellow blotches in the throat.

Another very useful Orchid for the summer season is *Cattleya Harrisoniæ*. It produces about five or six medium-sized flowers of a delicate rose colour, and has the advantage of being reasonable in price. *Cattleya Gaskelliana* is a late summer blooming species, but if a little extra heat is given in the early part of the year, it may be made to flower in July. The blooms are of a delicate shade, and freely produced upon the recently made pseudo-bulbs.

As an autumn flowering species *Cattleya labiata* is well known, and large quantities are grown for the production of cut flowers

for market purposes. This species proves of great utility in most of the groups at our autumn shows, when the rich colouring of the flowers adds a touch of grandeur to the general effect.

Laelia alhida is a nice compact-growing species with narrow sharp pointed leaves. It blossoms in December and January, the white scented flowers being usually produced six to eight on a stem.

The many beautiful varieties of *Laelia anceps* now in existence should entice amateurs to attempt their cultivation. A large amount of sunshine is needed to successfully grow these graceful flowers, and if a house cannot be set apart for them, at least one corner or portion may be specially reserved.

Laelia autumnalis, as its name denotes, is an autumn flowering species which also requires a light growing position in an airy house. As many as nine rosy-purple blossoms are often produced on a spike. In size they are about four inches across and very fragrant.

A very pretty Orchid with orange-vermilion flowers may be selected in *Laelia harpophylla*. It flowers in February and March, and is a native of Brazil.

In *Cymbidium Hookerianum*, also known as *C. grandiflorum*, we have a really fine species worthy of a place in every collection. The individual flowers are four to five inches in diameter, of a yellowish-green colour, the lip being spotted with crimson-purple.

A very interesting and curious Orchid is *Cypripedium caudatum*, for the petals of this species grow to a length of thirty inches, and a specimen plant with several spikes of these wonderful blooms is a most attractive feature in any collection.

The bright yellow *Oncidium Cavendishianum* with its very stout fleshy leaves is always of value for producing a few graceful spikes of yellow bloom in the spring months. Another somewhat similar species may be selected in *Oncidium oblongatum*, which is a winter flowering species and a native of Mexico.

ROYAL HORTICULTURAL SOCIETY.

April 25th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), de B. Crawshaw, Gurney Wilson, W. Bolton, J. S. Moss, A. Dye, J. E. Shill, J. Cypher, W. H. Hatcher, A. A. McLean, H. G. Alexander, T. Armstrong, F. Menteith Ogilvie, F. Sander, F. J. Haabury, R. G. Thwaites, Stuart Low, Harry J. Veitch and Clive Cookson.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Silver Flora Medal for an excellent group of Orchids containing several fine plants of *Trichopilia Backhouseana*, the rare *Uropedium Lindenii*, a specially fine *Cattleya Mendelii*, *Cypripedium Maudslayi*, a good assortment of the pretty *Odontiodas*, *Laëlio-Cattleya Dora*, L.-C. *Dominiana*, and several *Brasso-Cattleyas*.

Messrs. Sander and Sons, St. Albans, received a Silver Flora Medal for a very good group of rare species and hybrids. Included in it were some excellent varieties of *Cattleya Schröderae*, the green *Coelogyne pandurata*, a good selection of *Odontiodas*, a large plant of *Masallaria Sanderiana*, *M. pubigera*, and the scarlet-flowered *Renaultia Insechootiana*.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, were awarded a Silver Banksian Medal for a good group containing many interesting Orchids. Those specially noticed were *Odontoglossum Rolfeae*, *Odontioda Charlesworthii*, *Oncidium lamelligerum*, many very pretty *Dendrobies*, including the yellow *cheesingtonense*, and a good selection of *Laëlio-Cattleyas*.

Messrs. J. Cypher and Sons, Cheltenham, received a Silver Flora Medal for an extensive group in which were many special varieties of *Cattleya Mendelii* and *Schröderae*, the pretty *Miltonia Phalaenopsis*, *Cypripedium macrochilum*, *Masdevallia radiosa*, *M. Chimera*, a number of good *Odontoglossums*, some fine plants of *Miltonia vesilaria*, and the elegant *Chysis bracteescens*.

George W. Bird, Esq., The Manor House, West Wickham (gr. Mr. H. Redden), was awarded a Silver Banksian Medal for a very

neat group of excellent Orchids, most of which were raised by the exhibitor. The most notable plants were some specially good varieties of *Odontoglossum crispum*, one being nicely blotched, several very pretty *Odontoglossum* hybrids, and an interesting selection of *Odontiodas* including the new *Odontioda rosefieldensis* (C. *Noezhiana* × *O. triumphans*).

Samuel Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), received a Silver Banksian Medal for an attractive group containing many good plants of *Phalaenopsis*, the elegant *Vanda suavis Veitchii* *Laëlio-Cattleya Gotoisiana*, a fine form of *Cattleya Trianae*, the erect flowering *Phaius Sanderianus*, and other interesting species and hybrids.

Baron Bruno Schröder, The Dell, Egham (gr. Mr. Shill), exhibited in very fine condition a three-flowered inflorescence of *Brasso-Cattleya Queen of Spain*.

Sir Trevor Lawrence, Bart., K.C.V.O., Bedford (gr. Mr. W. H. White), exhibited two plants of the new *Brasso-Laëlio-Cattleya Trianae* (L.-C. *Hyeana* × B.-C. *Digbyano-Schröderae*), the flowers are large, rose-tinted and with purple markings on the lip.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), exhibited two plants of *Brasso-Laëlio-Cattleya Fowleri* with pleasing orange-coloured flowers.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), showed *Odontoglossum percutum* Goodson's variety, a very fine form, the segments being almost covered with violet-purple.

de Barri Crawslay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), exhibited a number of interesting *Odontoglossum* hybrids including *O. Leonidas* (*Hallio-crispum* × *triumphans*), *O. Dirce* (*harvengtense* × *ardentissimum*), *Odontioda gattoniensis*, and *O. rosefieldensis* (C. *Noezhiana* × *O. triumphans*). Another one of special note was *Odontoglossum Quintus* (*Hunnecellianum* × *crispum* *Harryanum*).

Mr. E. V. Low, Vale Bridge, Haywards

Heath, showed *Cymbidium insigne*, *Odontoglossum crispum* Purity, a large flower, *O. crispum* Jeanette, some excellent varieties of *Cattleya Schröderae*, *Cypripedium Rothschildianum*, and a good selection of *Dendrobium*s including *D. pallens*, Burford variety, and *D. Wardianum hololeucum*.

Messrs. J. and A. A. McBean, Cooksbridge, staged a group of very well grown Orchids including a fine variety of *Odontoglossum* named "John Bull," a good shaped *O. ardentissimum*, *Miltonia vexillaria*, and several good *Cattleya Mendelii* and *Schröderae*.

Messrs. Hassall and Co., Southgate, exhibited a neat group of excellent varieties of *Odontioda Charlesworthii*, *Oncidium pulchellum*, *Dendrobium Brymerianum*, and the dwarf form of *Epidendrum Stamfordianum*.

R. G. Thwaites, Esq., Streatham (gr. Mr. J. M. Black), showed *Odontoglossum Thompsonianum* with a large spike of bloom, *O. Clytie*, and some excellent *Odontoglossum*s.

Mr. Tracy, Twickenham, exhibited a curious species of *Gongora* imported from Peru. The plant bore three spikes of yellow flowers with brown spotting.

Messrs. Duchesne and Lanthoine, Watermael, Brussels, exhibited a strong plant of the elegant *Miltonia vexillaria Memoria G. D. Owen*.

Mons. H. Graire, Amiens, showed *Odontoglossum Rossianae flavescens*; the flowers were cream-yellow spotted with red, the lip being white.

AWARDS.

AWARDS OF MERIT.

Odontoglossum ramos-Edwardii, from Sir Trevor Lawrence, Bart. See "New Plants."

Dis-Cattleya Sanderæ (*Cattleya Mendelii* × *Diacrium bicornatum*), from Messrs. Sander and Sons. A very pretty hybrid, the flowers are of good shape, white, with slight rose markings on the lip.

CULTURAL COMMENDATIONS.

Messrs. Sander and Sons, St. Albans, were awarded a Cultural Commendation for a large plant of *Maxillaria Sanderiana* with about fifty large flowers.

Lieut.-Col. H. Powys Greenwood, Whitsbury

House, Salisbury, received a Cultural Commendation for a large specimen of *Cymbidium charrucum*.

May 9th, 1911.

MEMBERS of the Orchid Committee present: J. Gurney Fowler, Esq. (in the chair), and Messrs. Jas. O'Brien (hon. sec.), Harry J. Veitch, R. Brooman-White, F. Sander, Clive Cookson, Gurney Wilson, W. H. Hatcher, A. A. McBean, F. M. Ogilvie, Walter Cobb, W. P. Bound, J. Cypher, H. G. Alexander, J. Charlesworth, A. Dye, T. Armstrong, W. H. White, F. J. Hanbury, J. W. Potter, W. Bolton, and de B. Crawshaw.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Flora Medal for an excellent group containing many very fine varieties of *Cattleya Schröderae*, several of them exhibiting a large amount of orange colouring in the throat. The group also contained a selection of *Odontiodas*, *Calogyne nervosa*, *Trichosma suavis alba*, and several *Brasso-Cattleyas*.

Messrs. Hugh Low and Co., Bush Hill Park, received a Silver Banksian Medal for a very good group of species and hybrids. Those principally noted were the pretty *Dendrobium crepidatum*, the yellow *Oncidium amphiatum majus*, *Cattleya Berthouzeana*, a curious *Gongora*, *Lycaste macrophylla*, and many hybrid *Odontoglossum*s.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver Banksian Medal for a well arranged group consisting of several excellent varieties of *Miltonia vexillaria*, the scarce *Cattleya Skinneri alba*, *Laelio-Cattleya Dominiana*, hybrid *Odontoglossum*s, and a selection of the scarlet *Odontiodas*.

J. S. Moss, Esq., Bishop's Waltham (gr. Mr. Kench), was awarded a Silver Banksian Medal for a very interesting group of Orchids. In it was a series of seedlings raised from *Odontoglossum crispum* crossed with *O. bellatulum*, and showing much variation. A large specimen plant of *Odontoglossum Maritana* (*Sceptrum* × *Rolfex*) with richly coloured flowers was also included.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited *Brasso-Laelio-Cattleya King Emperor*. See "New Plants."

F. Monteith Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth), exhibited *Cattleya Mendelii* alba The Shrubbery variety, a very fine pure-white variety of excellent shape and with an orange throat. A specimen plant of *Miltonia vexillaria* with twelve flower spikes was also shown.

de Barri Crawshaw, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent *Odontoglossum Orion* (Lucasianum \times crispum) with brown markings on a yellow ground, *O. Ganymede* (elegans \times Edwardii), and two hybrids which obtained awards.

Pantia Ralli, Esq., Ashted Park, exhibited a well-grown plant of *Cattleya intermedia* alba with four large flowers.

Messrs. J. and A. A. McBean, Cooksbridge, staged a group of excellent Orchids, comprising a distinct strain of *Odontoglossum Clytie*, *Cattleya Mendelii* striata with purple lines on the petals, the elegant *C. Schröderiana*, W. H. Cheal, some good varieties of *Miltonia vexillaria* and other interesting plants.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), exhibited some cut flowers of very fine varieties of *Odontoglossum crispum*, including some grand blotched forms.

R. Brooman-White, Esq., Arddarroch, exhibited a superb blotched *Odontoglossum*, celebrated varieties of *Odontoglossum crispum*.

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a small group of choice Orchids in which we noticed *Cirrihopetalum Amesianum*, *C. Collettii*, a fine form of *Cattleya Mendelii* with intense purple on the lip, *Cyripedium Lawrenceanum* Hyeenanum, and several good varieties of *Odontoglossum crispum*.

Messrs. Hassall and Co., Southgate, exhibited a superb blotched *Odontoglossum*, the flower being almost covered with claret-purple, the lip large and equally well-coloured, and a good variety of *Odontioda Goodsoniae*.

Samuel Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hales), sent a large specimen of *Lycaste gigantea*.

AWARDS.

FIRST-CLASS CERTIFICATE.

Odontoglossum illustrissimum "Queen Mary" (Lambcanianum \times ardentissimum), from W. Thompson, Esq., Walton Grange, Stone (gr. Mr. W. Stevens). A magnificent hybrid, the sepals and petals being bronzy-crimson with a very thin white margin. The lip is white, broad, with few spots, the crest being yellow.

AWARDS OF MERIT.

Odontioda Rosefieldensis (C. Noeziana \times O. triumphans), from de Barri Crawshaw, Esq., Rosefield, Sevenoaks (gr. Mr. Stables). One of the largest of the *Cochlioda* hybrids. The flowers are clear orange-scarlet, the lip being reflexed, tinged with red. The plant carried a spike of thirteen flowers.

Odontoglossum harvengtense Crawshawianum (crispum \times triumphans), from de Barri Crawshaw, Esq., see page 104.

Miltonia Hyeana (Bleuana \times vexillaria), from Monteith Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth). One of the largest varieties, of a soft rose-pink, the lip having purplish-red markings in front of the yellow crest.

The Genus *Scaphosepalum*.—The plants constituting this genus were formerly classed under *Masdevallia*, but, on account of the structure of the flowers and the mode of inflorescence, are now considered quite distinct. The flowers are small, but a practically indefinite succession is maintained by prolongations of the slender scapes. The flowers resemble those of *Masdevallias* in many particulars, but the partially connate lower sepals and small lip are uppermost, and the free portions of those sepals bear a thickened plate. The species are natives of Costa Rica and Colombia, and may be successfully grown in a cool-house.

THE TEMPLE SHOW.

May 23rd to 25th, 1911.

THE wonderful exhibits of Orchids in this show seemed to be finer and arranged in better style than on any previous occasion. The large tent, the centre of which was specially set apart for these wonders of Nature, was crowded from early morning until closing time with Orchid enthusiasts from all parts of England and many of the principal European countries. During the morning of the first day their Majesties the King and Queen visited the show and were delighted with the gorgeous display produced by the Orchids. Mr. Bolton, of Warrington, who has on past occasions been honoured by Her Majesty Queen Alexandra graciously accepting boxes of Orchid bloom from him, had the honour of being presented to Her Majesty Queen Mary.

Members of the Orchid Committee present: Harry J. Veitch, Esq. (in the chair), Sir Jeremiah Colman, Bart., and Messrs. James O'Brien (hon. sec.), Fred. J. Hanbury, Gurney Wilson, H. J. Chapman, de Barri Crawshaw, J. E. Shill, W. H. White, H. Little, H. Ballantine, A. A. McBean, Richd. G. Thwaites, Walter Cobb, Clive Cookson, Stuart Low, R. Broeman White, W. Waters Butler, F. Men-teith Ogilvie, Elijah Ashworth, J. Wilson Potter, W. H. Hatcher, F. Sander, W. Thompson, G. F. Moore, H. G. Alexander, A. Dye, W. P. Bound, C. J. Lucas, and J. Gurney Fowler.

Messrs. Charlesworth and Co., Haywards Heath, were awarded a Gold Medal for a magnificent group of Orchids containing a large number of specimen plants of rare species and new hybrids for which they are specially noted. The three centre pieces in this group were filled with wonderful varieties of *Miltonia vexillaria* and its hybrids, the *M. Bleuana* being extra fine. Along the back row were arranged large plants of *Oncidium macranthum* and other decorative Orchids, the long spikes of bloom adding a graceful effect. The pretty, red *Odontioda Charlesworthii* was exhibited in good style, as were *O. Lutetia*, *O. Bradshawiae*, and *O. Vuystekeae*.

A large plant of *Oncidium hastilabium* carried a spike of 83 flowers and was much admired. In masses were noted splendid examples of *Cattleya Mendelii*, *C. Mossiae*, and other well-known *Cattleyas*. Many elegant plants of *Phalenopsis anabilis*, *Laelio-Cattleya Cambamiana* (*purpurata* × *Mossiae*), and large pans of *Epidendrum vitellinum* were admired for the beauty of their flowers. The specially fine plants were *Vanda snavis pulchra*, *Brasso-Cattleya Vilmoriniana* (*Mrs. J. Leemann* × *Mossiae*), *Odontoglossum eximium* Prince of Wales, *O. eximium* Pintadeau, *Laelio-Cattleya Fascinator* Kaiser Wilhelm, *L.-C. Fascinator* King George V., the richly coloured *Zygo-Colax Charlesworthii*, *Cattleya Mendelii leucochila*, *C. Empress Frederick*, *Odontoglossum crispum* Princess Victoria Louise, a grand spotted variety, the very distinct *Cattleya intermedia* Aquinii, *Brasso-Cattleya Queen Alexandra* with a large pure-white flower, and *B.-C. Abekenii* (*Digbyanogrigas* × *Lüddenmanniana*), a gorgeous hybrid exhibiting a large amount of gold colouring in the throat and lip.

Messrs. Sander and Sons, St. Albans, Herts, were awarded a Gold Medal for a superb group containing a vast number of rare species and beautiful hybrids. In prominent position were to be seen magnificent varieties of *Cattleya Schrödera*, two forms of which deserving of special mention being *Sunset* and *Fairy*, some excellent varieties of *Laelio-Cattleya Hyeana* (*purpurata* × *Lawrenceana*), and the elegant *Phalenopsis anabilis*. One of the most attractive plants in this grand group was *Bulbophyllum virescens*; others of almost equal interest were *Rhyncostylis præmorsa* with four spikes of bloom, *Bifrenaria pubigera*, the red-flowering *Renanthera Imshoottiana*, a number of specimen plants of *Phalenopsis Schilleriana* with specially fine spikes of bloom, *Odontoglossum anabile* *Empress of India*, a very fine variety, *Odontioda Lambeauiana* which secured a First-class Certificate, *Cattleya Schrödera* *Queen Mary*, very distinct and beautiful,

Cypripedium Frau Ida Brandt, a number of excellent varieties of Laelio-Cattleya Wittiana (Mendelii \times cinnabrosa) and the massive Dendrobium Dalhousianum. In recesses were noticed several plants of the graceful Oncidium pulchellum, the rare Bulbophyllum Lobbi colosum, Zygopetalum Sanderæ, many scarce botanical Orchids and the distinct and rare Oncidium Mulleri. A pleasing effect was added to this group by the number of red flowering Corchioda hybrids which it contained, one of the best being Odontioda ornata (Vuylstekæ \times Pescatorei Lindenii) which carried a spike of 50 white flowers prettily spotted with scarlet and margined with rosy-pink.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. Collier), received a Gold Medal for one of the best arranged groups in the show. The centre part was most tastefully made up with Miltonia vexillaria over which were arranged the long violet-purple spikes of Odontoglossum Thompsonianum, the Gatton Park variety of this hybrid being specially good and distinct. The green Cypripedium callosum Sanderæ, the beautiful pure-white Cattleya Dusseldorferi Undine, the elegant Spathoglottis Colmanii, many excellent and very distinct forms of Cattleya Mendelii and C. Mossii, and specimen plants of Cymbidium Lowii-obovatum, were much admired. The great attraction in this group was a fine plant of Oncidium Clasi, flowering for the first time in this country and possibly in Europe. It carried a long twining spike of 60 flowers of a chocolate-brown colour, the petals being rose magenta on the front side. The effective Odontiodas included the Gatton Park variety of Bradshawia, which secured a First-class Certificate, and O. Pacilio Gattonensis (C. Noziana \times O. Warnhamense). Other plants of special merit were Sarcophilus Fitzgeraldii, Masdevallia Chimera, the pretty Dendrobium Victoria Regina, Coelogyne Parisii, and many splendid examples of Miltonia vexillaria.

Samuel Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hale), was awarded a Silver Cup for an extremely pretty group composed

of many choice species and beautiful hybrids. The centre was occupied by a large plant of Maxillaria Sanderiana, around which were many excellent varieties of Cattleya Mendelii. Several good forms of the elegant Brassia-Cattleyas, a beautiful lot of Phalenopsis amabilis, the red-flowering Renanthera Inschotiana, the curious Anguloa Clowessii with its yellow, cradle like flowers, and a hybrid between Laelio-Cattleya Phœbe and L.-C. luminosa with very rich dark-red flowers attracted the attention of the many admirers of this group. Mention must be made of Cattleya Mossii var. G. M. Hale, a very distinct and beautiful flower, and of the Odontiodas which embraced Bradshawia, Charlesworthii and Vuylstekæ. A large number of maidenhair ferns were used in this group, which greatly added to the attractiveness of the exhibit.

Messrs. J. Veitch and Sons, Chelsea, received a Gold Medal for a large exhibit of decorative and other plants, and in conspicuous parts of which were several elevated stands containing excellent varieties of Odontoglossum crispum, distinct forms of Cattleya Mendelii and Mossii, the pure-white C. Dusseldorferi Undine, various Oncidiums, including Marshallianum and Sarcodes, Lælia hybrids and other Orchids. Some exceedingly well-grown plants of Disa Luna were also noticed.

Messrs. Mansell and Hatcher, Rawdon, Yorks, were awarded a Silver Cup for an extensive group of excellent Orchids very tastefully arranged. At the back were a number of specimen plants of Odontoglossum crispum, interspersed with yellow Oncidiums and other tall-growing Orchids. In the front were masses of the red-flowering Renanthera Inschotiana, in the centre of which were specimens of Dendrobium nobile alba, this arrangement producing a pretty effect. Some specially fine varieties of Vanda cœrulescens added colour to the group as did the blotched Odontoglossum crispum Leonara. A good selection of Odontiodas, many excellent forms of Cattleya Mendelii, one named Prince Albert being very fine, Laelio-Cattleya Aphrodite, the pretty Cypripedium Maudiae,

Odontoglossum Wilckeanum, *O. Othello*, *O. Rolferi*, and several *Dendrobium*s were much noticed. At the top of the centre-piece was a noble specimen plant of *Dendrobium thyrsoiflorum*, and arranged in front were excellent varieties of *Cattleya Mossiae*, *Brasso-Cattleya Digbyano-Mossiae*, *Cypripedium Queen of Italy*, *C. bellatulum*, *Brassia verrucosa*, and many other rare and interesting Orchids. The splendid condition and vigorous nature of the plants were also noticed by many of the numerous admirers.

Messrs. Armstrong and Brown, Tunbridge Wells, received a Silver Cup for a large and well-arranged group in which were many fine plants of *Phalenopsis amabilis* and *Odontoglossum crispum*. At prominent places were noticed *Cattleya Skinneri alba* with 27 flowers, and *C. Skinneri Mrs. Temple's* variety, the latter a very dark coloured form, a large plant of *Odontoglossum Maritima* with 17 flowers on a single spike, *Brasso-Cattleya Veitchii*, *B.-C. Maroni*, *B.-C. Veitchii*, and *Phaius Normanii*. A special plant was noted in *Lælio-Cattleya Aphrodite* Orchid-hurst variety with very dark sepals and petals. Other Orchids of merit in this elegant group were the green-flowering *Coelogyne pandurata*, *Cymbidium Lowianum concolor*, *Maxillaria luteo-alba*, masses of *Cypripedium glaucophyllum*, and a fine variety of *Lælio-Cattleya Mrs. Temple*. A special feature of this group was the excellent way in which the plants were arranged.

Messrs. Cypher and Sons, Cheltenham, were awarded a Silver-gilt Flora Medal for an excellent group, at the back of which were several specimen plants of *Lælia purpurata*, many of them very distinct varieties, and a number of the graceful yellow-flowering *Oncidium*s. At prominent places were exhibited several excellent blotched *Odontoglossum*s, many fine plants of *Phalenopsis amabilis*, the distinct *Phaius Normanii*, and a well-flowered plant of *Oncidium hastilabium*. Of special plants, mention must be made of *Brasso-Cattleya Digbyano-gigas*, a splendid variety of *Cattleya Mendelii*, and many strong plants of the distinct *Cypripedium callosum Sanderæ*. A feature in this group was the

fine strain of *Miltonia vexillaria*, of which a number of well-grown plants were shown, and the large number of *Masdevallia* species and hybrids.

Messrs. Stuart Low and Co., Bush Hall Park, Enfield, received a Silver-gilt Medal for a most interesting group of Orchids. The back was composed of specimen plants of *Oncidium Marshallianum* with large spikes of yellow flowers, and in front of these were grouped many fine varieties of *Miltonia vexillaria* and the red-flowering *Renanthera lutescens*. This group was much admired for the distinct and beautiful varieties of *Cattleyas* which it contained. The elegant *Oncidium macranthum*, *Dendrobium nobile alba*, *Odontoglossum Othello* (*Adrianae* × *Harryanum*), *Miltonia Roezli alba*, *Oncidium pulchellum*, and a good selection of the principal *Odontiodas*, including *Charlesworthii* and *Bradshawæ*, were much appreciated. This group also contained many botanical Orchids and those specially noted were: *Chysis Sedenii*, *Masdevallia muscosa*, and several *Bulbophyllum*s.

Mr. Edward V. Low, Vale Bridge, Haywards Heath, received a Bronze Flora Medal for a pretty group consisting of a magnificent specimen of *Cattleya Skinneri alba* with 23 flowers, several good plants of *Cypripedium callosum Sanderæ*, *Lycaste Skinneri alba*, *C. intermedia alba*, the massive *Cypripedium Beckmannii*, excellent varieties of *Odontoglossum crispum*, *Cattleya Mendelii King George*, a large and good coloured variety, the unique *Odontoglossum crispum Lady Jane*, the pretty, red-flowering *Odontioda Vuylstekeæ*, *O. Bradshawæ*, and *O. Charlesworthii*. A number of *Odontoglossum* hybrids were also shown.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), exhibited *Lælio-Cattleya Graham White* (*L.-C. Phoebe* × *L.-C. luminosa*), sepals and petals bronzy yellow, lip crisped, of reddish tint with gold lines in the throat, and *Lælio-Cattleya Morningtonæ* which secured a First class Certificate.

Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, was awarded a Bronze Flora Medal for a group in the centre of

which was a wonderful specimen of *Corycne Dayana* with 15 flower-spikes, carrying altogether 480 blossoms. In front of this was a plant of *Dendrobium Jamesianum* with 21 flowers on a single bulb. Other plants of interest in this group were: *Oncidium Gardnerianum*, the pure-white *Cattleya Dusseldorfci* Undine, a pretty form of *Odontoglossum Dora*, some excellent varieties of *Cattleya Mendeli*, *Cypripedium bellatulum* and the yellow *Oncidium flexuosum*.

Messrs. James and A. A. McBean, Coolesbridge, Sussex, staged a large and meritorious group, for which a Silver-gilt Flora Medal was awarded. In it were to be seen a number of the best forms of *Odontoglossum crispum* for which this firm has so long been famous. Some excellent varieties of *Cattleya Mendeli*, grand forms of *Miltonia vexillaria*, large plants of *Oncidium macranthum*, a number of distinct varieties of *Cattleya Mossia*, one named *aureola* being of a delicate mauve colour with a beautiful yellow lip, several large plants of *Odontoglossum cirrhosum*, a very fine variety of *O. amabile*, *Laelio-Cattleya G. S. Hall*, masses of the white flowering *Dendrobium Dearei*, *Epidendrum Wallisii*, and a grand selection of many of the well-known species.

Mr. J. Robson, Altrincham, received a Silver Flora Medal for a group containing many beautiful blotched *Odontoglossums*, the best being *O. amabile* Robsoniae, *O. amabile* Evansianum, and *O. amabile* White Queen. Some finely-flowered plants of *Renanthera linschootiana*, excellent varieties of *Miltonia vexillaria*, good blotched forms of *Odontoglossum crispum* and the elegant *O. Sceptrum aureum* were also shown.

J. J. Holden, Esq., Southport, exhibited *Cypripedium bellatulum* Holdenii, a large and handsomely spotted variety of great merit.

Mr. Birchenall, Alderley Edge, Cheshire, staged a selection of *Cattleya Mendeli*, including several distinct varieties.

H. S. Goodson, Esq., Fairlawn, Putney (gr. Mr. Day), exhibited *Odontoglossum amabile* Frederickii, a large white flower with pretty reddish-brown blotches on the segments.

Mrs. Norman Cookson, Oakwood, Wylam

(gr. Mr. Chapman), exhibited *Odontoglossum ardentissimum* Peetersii, a flower with claret-purple blotches on a white ground.

Mons. H. Graire, St. Fuscien, Amiens, France, showed *Odontoglossum Sappho* (Fletcherianum \times crispum) with rosy purple blotches almost covering the segments, the tips of which are light rose, the crest is conspicuous and yellow. The spike carried 15 flowers.

Mons. Ch. Vuylsteke, Loochristi, Belgium, exhibited *Odontoglossum crispum* His Majesty King George V., a magnificent variety, *O. Grand Monarque* (eximium \times laudatum), *O. Loveliness* (formosum \times gandavense) and *Odontodia Coronation*.

AWARDS.

FIRST-CLASS CERTIFICATES.

Odontodia Bradshawia, Gatton Park variety, from Sir Jeremiah Colmar, Bart., Gatton Park, Reigate (gr. Mr. Collier). One of the finest and brightest forms of this hybrid. All the segments are very broad and of a rich scarlet-red colour.

Oncidium Mulleri, from Messrs. Sander and Sons, St. Albans. A very distinct plant, the bulbs being produced on an ascending rhizome. The flowers are white with slight rose suffusion on the inner parts of the sepals and petals, the lip being broad and of a rosy-purple colour.

Odontodia Lambeaniana (C. Nuzolina \times O. Lambeanianum), from Messrs. Sander and Sons. A beautiful, richly coloured hybrid with good shaped flowers of scarlet-red colour.

Odontodia Coronation (Vuylsteke \times eximium), from Mons. Ch. Vuylsteke, Loochristi, Belgium. A great advance in size on previous *Odontodias*, the plant carried a spike of 14 flowers with large scarlet blotches on a pinkish white ground.

Odontoglossum Black Prince, the Dell var., from Baron Bruno Schroder, Englefield Green, Surrey (gr. Mr. Shall). A superb hybrid with large flowers heavily blotched with reddish-brown.

Laelio-Cattleya Morningtoniae (L.-C. Pallas \times L.-C. Fascinator), from Francis Wellesley,

Esq., Westfield, Woking (gr. Mr. Hopkins). A large flower with almost pure white drooping petals, the lip undulated and of a rich purple-red.

AWARDS OF MERIT.

Cœlogyne Burfordiense (asperata × paudrata), from Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Surrey (gr. Mr. W. H. White). A remarkable hybrid with a spike of 8 flowers, yellowish green in colour, the lip being marked with blackish spots and blotches.

Cattleya Mossie G. M. Hale, from S. Larkin, Esq., The Ridgways, Haslemere. A distinct and large flower with a peculiar dark purple blotch on the lip.

Odontoglossum amabile Empress of India, from Messrs. Sander and Sons. A grand

hybrid, all the segments being broad and almost covered with claret-purple blotches.

Oncidium Clesii, from Sir Jeremiah Colman, Bart. A wonderful plant with a long spike of 69 chocolate-brown flowers, the front of the petals being rose-magenta.

Laelio-Cattleya Germania (Cappi × Mendeli), from Messrs. Charlesworth and Co., Haywards Heath. A most pleasing hybrid, the whole flower being golden orange colour with brownish-red speckling on the front of the labellum.

CULTURAL COMMENDATION

to Messrs. Charlesworth and Co., for a magnificent specimen of *Odontoglossum hastulabium* with a spike of 83 large flowers.

To Preserve Wooden Labels.—Thoroughly soak the labels in a strong solution of copperas (sulphate of iron); then lay them, after they are dry, in lime water. This causes the formation of sulphate of lime, a very insoluble salt, in the wood.

Black Ink for Zinc Labels.—Verdigris, 1 ounce; sal ammoniac, 1 ounce; lamp black, $\frac{1}{2}$ ounce; rain water, $\frac{1}{2}$ pint. Mix in an earthenware pot or jar and put up in small bottles. To be shaken before use and used with a quill pen on bright zinc.

THE NORTH OF ENGLAND HORTICULTURAL SOCIETY

MEMBERS of the Orchid Committee present: G. W. Jessop, Esq. (in the chair), and Messrs. Gurney Wilson (hon. sec.), A. R. Crossley, Alva J. Hill, G. Taylor, W. Mansell, J. Cypher, G. W. Musk, F. C. Puddle, F. W. Corney, and W. H. Hatcher.

J. H. Craven, Esq., The Beeches, Keighley (gr. Mr. Corney), received a Silver Medal for a very effective group containing several fine specimens of *Renanthera frœschotiana*, one of which was awarded a Cultural Commendation. The group also contained *Miltonia Blenaria rosea*, *Lycaste Skinneri alba*, *Laelio-Cattleya Dora*, *L.-C. Fascinator*, *L.-C. G. S. Ball*, the pure white *Cattleya Dusseldorferi* Udine, and several fine *Brasso-Cattleyas*.

Messrs. J. Cypher and Sons, Cheltenham, received a Silver Medal for a very good group of Orchids containing many interesting

species and hybrids. Those specially noted were distinct varieties of *Cattleya Schröderæ*, the pretty *Oncidium cucullatum*, *Miltonia vexillaria*, and many distinct *Masdevallias*.

Mr. J. E. Sadler, Newbury, Berks, exhibited *Cypripedium bellatulum album*, C. b. Queen of Spain, a delicately spotted variety, and C. b. Exim's variety, which is probably the darkest variety seen. Cit flowers of *C. niveum* Grange variety and *Dendrobium Sanderae* were also shown.

W. Mathieson, Esq., Glenburne, Horsforth (gr. Mr. Gilchrist), exhibited a good variety of *Laelio-Cattleya Canhamiana*, which was awarded a Third-class Diploma.

Mr. D. McLeod, Chorton-cum Hardy, exhibited two very good forms of *Odontoglossum crispum* and a box of excellent specimen flowers of *Odontoglossum*.



THE ORCHID WORLD.

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NOTES.

Dendrobium crepidatum album.—This deciduous drooping species produces its flowers from the nodes of the leafless stems. The tips of the sepals, petals, and lip are usually tipped with pink, but a pure white variety has just flowered in the collection of Capt. Robert Twiss, Bird Hill, Limerick. We do not remember having seen or even heard of an albino form of this species, and, therefore, have pleasure in recording it.



Dr. Harry Bolus.—Orchidology has sustained a loss by the recent death of Dr. Bolus, of Sherwood, Kenilworth, Cape Town. Born in this country in 1834, he went out to South Africa when quite young, and his special study of South African Orchids enabled him to write several works on the Orchids of the Cape Peninsula. In the year 1873 he became a Fellow of the Linnean Society, and recently the University of South Africa conferred upon him the honorary degree of Doctor of Science.



Cattleya gigas alba.—This unique and extremely valuable Orchid has often been alluded to as one of the rarest and finest varieties of any species of *Cattleya*, and the remaining portions of the old flower spikes prove that it has been a particularly free bloomer, even in its native country. It was figured on page 187 of the May issue of this

journal, and our readers will be greatly interested in hearing that this superb plant has since passed into the well-known collection of Messrs. Stuart Low and Co., Bush Hill Park, Enfield.



Orchids at Bridge Hall.—During the last few months Mr. O. O. Wragley's Orchid Houses have been a veritably magnificent sight with the splendid show of bloom. An excellent series of photographs, some of which we hope to reproduce in the near future, has been sent by Mr. Rogers, who so successfully cultivates the Orchids at Bridge Hall. The collection of *Lycastes* is one of the finest in the country, and gives one a surprising idea of the great number of varieties of this cool-house species. The plants are in perfect health, the magnificent pure-white variety carrying, this year, no less than 17 large flowers.



Cypripedium Thunbergii.—No. 4 of the Kew Bulletin for this year contains an interesting note by Mr. R. A. Rolfe on this *Cypripedium*. As the species has been figured for the *Botanical Magazine*, and there was some doubt as to the correctness of this determination, application was made to the authorities of the Rijks Herbarium, Leiden, for the loan of the original specimen of *C. Thunbergii*. An examination and comparison of this specimen with other

Japanese specimens and drawings shows that two very distinct species have been confused. The object of the note is to clear up this confusion so far as the materials available permit. The article concludes with the revised synonymy.



Cattleya Mendelii Alfred Smee.—This fine variety, which received an Award of Merit exactly twenty-one years ago, is of excellent shape and colour, the broad petals being of a somewhat deeper shade of colour towards their points. The front of the lip is covered with violet-purple, the side lobes of the throat being almost white, which makes a pleasing contrast to the deep-rose tinted petals. A flower of this variety, now very scarce, has been kindly sent by H. T. Pitt, Esq., Rosslyn, Stamford Hill. In the same collection, from a small plant flowering for the first time, has appeared a distinct form of *Odontoglossum lambeauianum* obtained by crossing *O. Rolfeae* with *O. crispum* Mundyianum, the latter parent a well-known blotched variety. The result is a flower almost entirely covered with small reddish-brown spots, the tips of the segments being suffused with rose.



Anguloa Cliftonii.—This remarkable species was first exhibited in England on January 25th, 1910, when it received a First class Certificate. It was described as having lemon-yellow flowers, with some dark colour at the base of the petals, and the lip tinged with cinnamon. In the Orchid collection of H. T. Pitt, Esq., a distinct variety of this species has recently appeared. The plant has produced, on a single bulb, four flowers, one of which is sent by Mr. Thurgood. It reminds one at first sight of a light coloured form of *Anguloa Clowesii*, but the different formation of the lip clearly proves it to be *A. Cliftonii*. There is only the faintest suspicion of purple colour on the petals, and the lip has only a trace of cinnamon on the inner parts of the lateral lobes. The column, however, still retains some of the purple spotting, but even this is greatly reduced in intensity.

Dendrobium crumenatum.—The *Gardener's Chronicle* for June 17th contains, in an article on a Botanical Expedition to Lower Siam, the following very interesting paragraph:—

On some of the trees we found huge plants of *Vanda gigantea* in full bloom. The plant attains quite a large size in this northern Siamese region. On some trees, too, *Aërides odoratum* was abundant, and the snowy, fragrant Pigeon Orchid (*Dendrobium cramenatum*), common here as everywhere in the Malay region, dotted the trees with a white sheet of blossoms on its flowering day. As is well known, this beautiful plant has the peculiarity of flowering simultaneously over a whole area, so that, on its flowering day—for the flowers fall at night—the trees on which it grows often in great abundance, appear suddenly in the morning covered with myriads of its white flowers. Those who have only seen it flowering in a hothouse have no idea of the exquisite beauty of a tree covered with it on its flowering day, which occurs about once in nine weeks.



Odontoglossum at Anklarrock.—A large number of the best varieties of *Odontoglossum crispum* have recently been in flower in this well-known collection, and are, this year, flowering better than ever. An interesting lot of flowers from these plants shows the wide range of variety. A *crispum* named lilacinum has flowers of almost a lilac tinge, but with a rather small, white lip, which is not unusual in rosy *crispums*. Another fine form is *crispum xanthobates* White's variety, a pure white flower with yellow spots on the sepals, column, and lip. Flowers of *O. ardentissimum* Sybil and *O. a. Chillingham* variety each have the segments blotched and spotted with claret-purple, the latter variety having a very pretty lip. The wonderful variety of *O. crispum* known as Leonard Perfect has been self-fertilised, and the first seedling to bloom, consisting of two bulbs, has produced a flower with a remarkable resemblance to its parent. The size and shape, as may be expected from such a small plant, are slightly wanting, but the blotches

are identical in colour and shape. Several excellent photographs of specimen *Odontoglossum* in this collection, averaging 12 flowers on a spike, have been kindly sent by Mr. R. Brooman-White, who is, we may also add, an expert amateur photographer.



There could not be greater proof than is shown in this hybrid of the prepotency of a yellow descent over that of a white lineage.

The whole of the ground colour is of light Kegeljani yellow, all the markings are light-brown without a suspicion of purple, the only difference being in the labial blotch, which is reddish-brown.

There is absolutely no doubt that the reason why so few fine purple tinted blotched crispums came from a state of wild Nature is because all crosses containing yellow and brown elements reverted to the heavier and eliminated the more fugitive shades containing any rose or similar shades.

de B. Crawshaw, May 28th, 1911.



THE NORTH OF ENGLAND HORTICULTURAL SOCIETY.

The Secretary regrets that it has been impossible to carry through the proposed Meeting of this Society at Newcastle, on July 10th. The next meeting will be at Harrogate, August 15th. Lord Faber has kindly offered to give a Challenge Cup for the best exhibit put up by an amateur employing a regular gardener, and the show will be honoured by an official visit of delegates from the Royal Horticultural Society, who will award Medals at their discretion. The names of the delegates are: Sir Albert Rollit, and Messrs. E. A. Bowles, G. Bunyard, J. Hudson, and H. B. May.



CELOOGYNE DAYANA.

This very pretty plant, frequently known as the Necklace Orchid, is a native of Borneo, and produces its blossoms during the spring and summer months. The long pendulous spikes bear numerous flowers of a light ochre-yellow colour, with dark brown markings on the lip.

In order that the flower spikes may show to advantage it is best grown in a pan or basket, using fibrous peat or *Osunda* with some sphagnum moss for the compost, and suspended in the hot house.

Our illustration is of a remarkable specimen exhibited at the Temple Show by Mr. Harry Dixon, Spencer Park Nursery, Wandsworth Common, S.W. It had fifteen flower spikes carrying a total of four hundred and eighty flowers, and presented a most beautiful appearance.

CÆLOGYNE ASPERATA.

THE illustration depicts a marvellous specimen of this species with more than thirty flower spikes, averaging twelve to fourteen flowers on each. It has been grown by Mr. E. H. Andriess of Java, who kindly sends four photographs of it, one of which is reproduced below. In an accompanying letter he says:—"This species grows in Borneo and Sumatra. At an elevation of 1,500 to 2,000 feet it is found growing as an epiphyte, but a remarkable thing to be noticed is that in Sumatra, near the town of Fort-de-Kock, in a valley named Karbo uwengat, which is a volcanic sinking in, more than one hundred miles in length, it grows, as a terrestrial, in the volcanic sand."

The flowers are a pale creamy-yellow, the lip marked with brownish-yellow veins springing from a rugged, bright-orange ridge. In some districts the inhabitants regard this plant as sacred and believe their very existence is dependant on it. It is also used to bless the crops, and the following account by an old collector is taken from the *Journal des Orchidées*:—

"At the time of the flowering of *Cœlogyne asperata* I was on the banks of the River Anboan, where this Orchid grows in

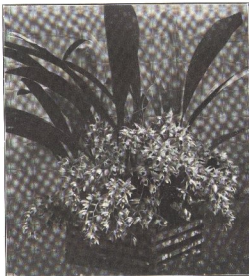
abundance. I had put up the evening before in a native house where I proposed to pass the night, and I ordered my men to watch over the arms and make preparations for supper.

"The Dayaks were occupied in picking over the rice for sowing, the men, women, and children were gathered together and worked with -ardour, for the grains were to be sown the next day. They received me, nevertheless, and I installed myself to take the rest that I needed.

Towards ten o'clock in the evening a frightful noise awoke me; it seemed that a crowd had assembled before the house, and tried to make the greatest noise possible. After a few moments I saw ten old women who struck enormous gongs in the shape of saucers.

They were followed by fifteen or twenty young girls carrying in their hands large sprays of *Cœlogyne asperata* and having in their hair garlands of this flower.

"This singular procession entered the house without stopping for a moment their brassy, clanging sound. The chests of rice were placed before the women, and the young girls laid down their bouquets to the left, and the flowers from their hair to the right. Two



Cœlogyne asperata, a wonderful specimen.

little girls of five or six years of age then picked up the flowers and threw them into the chests containing the rice.

"Some days after returning from my expedition I passed this place again and stopped at the same spot for dinner. I had collected a large number of these plants, and my long boat was full of *Coelogyne asperata*.

"Directly the inhabitants saw these plants their attitude towards me completely changed. The women and the young girls showed signs of great agitation. Many of them began to cry and howl, others manifested a violent

fury, and I do not know what would have happened if I had not hastened to leave, distributing around me pieces of money and supplies of tobacco.

"I regained my boat without delay, fortunate to save at little expense my plants and perhaps even my life, for the Dayaks seem to have a special admiration for this *Coelogyne*, and consider their existence dependant on it. They would not have let me carry away my freight at their first seeing it, and perhaps, would have made me pay dearly for this sacrilege."

DENDROBIUM ACUMINATUM.

This elegant species is a native of the Philippines, and so closely resembles *D. Treacherianum*, a Bornean species, that it is considered by many to be only a geographical form of it. *D. Lyonii* is another very similar species with slightly larger flowers, and is also thought to be a variety of *D. Treacherianum*.

The original description of *D. acuminatum* gives the flowers as being white streaked with lavender, and the disc of the lip yellow. We have never seen any specimens with yellow discs, but if this is correct, then possibly the many plants now grown under the name of *D. acuminatum* are either *D. Treacherianum* or *D. Lyonii*.



Dendrobium acuminatum, from a photograph kindly sent by Dr. Heinrich von Miller-Aichholz, Vienna.

ORCHID SALES.

On Tuesday, May 23rd, 1911, Messrs. Protheroe and Morris sold, by order of Messrs. Sander and Sons, a number of valuable Orchids. The following are some of the best prices realised:—*Cattleya Percivaliana* alba, six bulbs, 8½ guineas; *Cypripedium Curtisii*, Sander's variety, 4½ guineas; *Aerides virens* Sander's, eleven leaves, 12 guineas; *Cattleya gigas Our Princess*, a variety with pure white sepals and petals, with a dark lip, 12 guineas; *Cypripedium Leeanna Gratrixia*, two strong growths, 25 guineas; *Mitonia St. Andre*, 15 guineas; *Cattleya intermedia Aquinii*, six bulbs, 15 guineas; *Cypripedium Britannia*, one old, two new growths, 15 guineas; *Cattleya Schröderæ* var. *Empress*, ten bulbs, two leads, 12 guineas; *Cypripedium Dreadnought*, two vigorous growths, 40 guineas; *Cypripedium Beuggense*, two young strong growths, 22 guineas; *Laelio-Cattleya Black Prince*, five bulbs, 10 guineas; *Cypripedium Alcibiades Illustris*, strong plant, 26 guineas; *Odontoglossum Magali Sander*, three bulbs and a strong growth, 40 guineas; *Odontoglossum crispum solum*, a healthy small plant, 80 guineas; and *Cattleya Mossie Wagneri*, Sander's variety, 22 guineas.

§ § §

On Wednesday, May 24th, 1911, Messrs. Protheroe and Morris sold, by order of the executors of the late Norman C. Cookson, Esq., a number of special Orchids. The following are some of the figures:—*Odontoglossum crispum Leonard Perfect*, two bulbs with leaves, one break, 40 guineas; *O. ardentissimum Peetersii*, three bulbs, one strong growth, 6½ guineas; *O. crispum Pittianum*, four bulbs, one young growth, 80 guineas; *O. crispum Abner Hassall*, four bulbs, one strong growth, 16 guineas; *O. crispum Britannia*, three bulbs, one strong growth, 18 guineas; *O. crispum Harold*, three bulbs, one strong break, 45 guineas; *O. crispum Angela*, three bulbs, one strong growth, 25 guineas; *Cattleya Trianae Mrs. F. Soudheim*, three bulbs, all leaved, 5½ guineas; *Cattleya Mossie Wagneri* Cook-

son's, five bulbs with leaves, 6½ guineas; *Odontoglossum Uro-Skinacri album*, two bulbs, one strong growth, 5½ guineas; *Odontodia Bradshawia*, Cookson's variety, three bulbs, two strong growths, 30 guineas; *Cattleya Mossie alba*, Tracy's variety, three bulbs with leaves, one strong growth, 7½ guineas; and *Odontoglossum crispum Battle of Waterloo*, three strong bulbs with leaves, 25 guineas.

§ § §

On Thursday, May 25th, 1911, the same firm sold a number of choice Orchids from various sources, and the following prices are interesting:—*Laelio-Cattleya Decia alba*, five bulbs, three with leaves, 8 guineas; *Odontoglossum crispum xanthotes Warburtonæ*, two bulbs and one lead, 30 guineas; *Cattleya Gaskelliana alba*, var. *Richard Ashworth*, three bulbs, one strong growth, 5½ guineas; *O. Pescatorei album*, Warburton's variety, five bulbs, 11 guineas; *Cypripedium Mrs. Cary Batten*, one unflowered growth with six leaves, 17 guineas; *Odontoglossum crispum Luciani*, three bulbs, one good lead, 17 guineas; *O. crispum King Emperor*, four bulbs, one lead, 28 guineas; *O. crispum Graecanum*, four bulbs, one lead, 16 guineas; *Cypripedium Hindeanum*, one flowered and two new growths, 9 guineas; *Mitonia Memoria G. D. Owen*, three bulbs, nine leaves, one strong growth, 150 guineas; *Sophro-Cattleya Blackii*, four bulbs, all leaved, and two leads, 10 guineas; *Cypripedium Dreadnought*, very strong unflowered growth, twenty-three inches across, 26 guineas; *Cattleya Dowiana Rosita*, four bulbs, 17 guineas, and *Cypripedium Alcibiades Illustris*, one nice growth, 16 guineas; *Cypripedium Hindeanum*, one good growth, 6 guineas; *Cattleya Mossie Wagneri*, five bulbs, all leaved, 6 guineas; *Cypripedium Lord Ossulston*, three new growths, 9½ guineas; *Cymbidium erythrostylum*, four bulbs, 3 guineas; *Cattleya Dusseldorferi Undine*, four strong leaved bulbs, 4½ guineas; and *Cattleya labiata alba*, one old and three leaved bulbs, 14 guineas.

NEW PLANTS.

Brasero Laelio-Cattleya Nereus (H.-L. Mrs. Gratrix × L.-C. *Hycaea*)—A long bulbous hybrid with fairly large flowers of a reddish salmon colour, the lip being rosy-purple with an orange throat veined with purple. Exhibited by Messrs. Cypher and Sons, Cheltenham, at the Temple Show, May 23rd, 1911.

Odontoglossum Sappho [Fletcherianum (Edwardi × *circiosum*) × *crispum*]—This hybrid, which was exhibited at the Temple Show by Mons. H. Graire, St. Fuscien, Amiens, France, carried a spike of 15 rather starchy flowers almost covered with rosy-purple blotches, the tips of the segments being light-rose, the crest conspicuous and yellow.

Brasero-Cattleya Abekeni (Digbyano-gigas × *Luddeமானiana*)—An elegant and large flowered hybrid, resembling in form the latter parent. The sepals and petals are a soft rosy-purple colour, the lip large, fringed, and with the broad throat golden-yellow veined with purple. Exhibited by Messrs. Charlesworth and Co., at the Temple Show, and named in honour of Gustave H. Müller Abeken, Esq., The Hague, Holland.

Oncodiola Papilio Gattonensis [C. *Noezliana* × O. *Warreniensis* (Hallii × *Pescatorei*)]—A prettily marked hybrid with the rich, red colour broken up into blotches and spots, possibly through the Hallii influence. The lip is streaked with colour at the apex, and the crest is particularly conspicuous. Exhibited at the Temple Show by Sir Jeremiah Colman, Bart., V.M.II.

Coleogyne Burfordense (*asperata* × *pandurata*)—A very remarkable hybrid with a general resemblance to *C. pandurata*. The plant carried a spike of eight greenish-yellow flowers, the lip being marked with blackish spots and blotches. Exhibited by Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Surrey, at the Temple Show, May 23rd, 1911.

Laelio-Cattleya Cowanii (L. *cinnabrosa* × C. *Mossiae*)—A large golden-yellow flower

tinged with a bronzy hue, the lip being broad and rosy-purple in colour. Exhibited by the Liverpool Orchid Nursery Co., Liverpool, at the meeting of the Royal Horticultural Society, June 6th, 1911.

Oncodiola Cybele (*Oncidium sarcoodes* × *Cochlidia Noezliana*)—A very interesting bi-generic hybrid with a branching spike of 21 scarlet flowers, the red colour on the lip being broken up and showing the yellow ground colour. Raised, and exhibited by Messrs. Charlesworth and Co., at the Royal Horticultural Society, June 6th, 1911, when it received an Award of Merit.

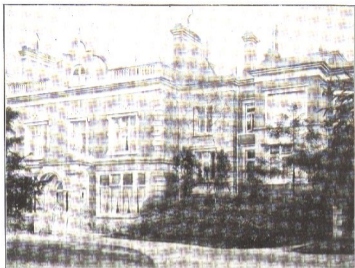
Laelio-Cattleya Farrantia (L. *purpurata* × L.-C. *Pallas*)—A fairly large flower of a deep-rose colour, with a claret-purple coloured lip, the throat being veined with purple. Exhibited by Francis Wellesley, Esq., Westfield, Woking, at the Royal Horticultural Society, June 6th, 1911.

Laelio-Cattleya Fascinator-Mossiae.—An elegant hybrid with white sepals and petals, the latter splashed with purple at the tips, the lip being saturated with violet-purple, and the throat yellow, slightly veined. Exhibited by Sir Trevor Lawrence, Bart., at the meeting of the Royal Horticultural Society held on June 6th, 1911.

Laelio-Cattleya purpurata Rex (L. *purpurata* × L.-C. *Canhamiana Rex*).—A fine hybrid of striking appearance. The sepals and petals are pure white, the lip being violet-purple and lined with dark purple. Exhibited by Messrs. Sander and Sons, St. Albans, at the Royal Horticultural Society, June 6th, 1911.

Laelio-Cattleya Hector (L.-C. *Martinetii* × C. *Dowiana*).—The flower of this hybrid measures $7\frac{1}{2}$ inches from tip to tip of the petals, is of a reddish magenta purple colour, the lip prettily crisped and of a rich purple colour veined with dark crimson. It has been raised and flowered in the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill, N.





Fairlawn, West Hill, Putney.

The Fairlawn Collection.

ALTHOUGH Fairlawn, West Hill, Putney, is only about five miles from the City of London, its collection of Orchids is one of the finest ever formed in this country. The large number of species and hybrids which Mr. H. S. Goodson has acquired during the last few years is remarkable. Whether it be choice *Cattleyas* or rare *Cypripediums*, beautiful *Lælio-Cattleyas* or magnificent *Odontoglossums*, each class is fully represented. A pleasing feature is the keen interest taken by Mr. Harry Goodson and Mr. Herbert Goodson, both of whom have added many choice specimens to the superb collection originally started by their father.

The first house entered, a three-quarter span, chiefly contains *Cattleyas* and *Lælio-Cattleyas* in great variety. The elegant *Cattleya Iris* is represented by a number of strong plants; the albino hybrid *Cattleya*

Suavior (*intermedia alba* × *Mendeli alba*) and the richly coloured *Cattleya Whitei* (*Schilleriana* × *Mendeli*) grow with great vigour, and the same may be said of the rare variety of *Cattleya Warscewiczii* known as *Frau Melanie Beyrodt*. *Cattleya Mossiae* var. *H. A. Tracy*, which received an Award of Merit from the Orchid Committee of the Royal Horticultural Society, *C. Trianae Thetis*, a fine variety from Mr. Bradshaw's collection, *C. Trianae Measuresiae*, *C. Mendeli* var. *H. S. Goodson*, and *C. Mossiae Queen Isabella*, a variety having a delicate pink tinge, must also be noted. This house contains a large number of *Cypripediums*, several pieces of *Lycaste Skinneri alba*, and a fine specimen of *Maxillaria Sanderiana*.

An adjoining small seedling house is almost filled with *Cypripediums*, the choice varieties including *Mrs. Leemann*, *Rothschildianum*,

Harry Smith, and H. S. Goodson, the latter a very strong grower. The remaining portion of this house is occupied with several good plants of the new hybrid *Coelogyne Burfordiense*, the scarce *Cymbidium Huttonii*, *Cattleya Mendelii* Queen Maud, which received an Award of Merit, May 24th, 1910, and *C. Mendelii* Mrs. Annie Humphreys, which is a particularly fine variety.

In a *Cattleya* house may be seen one of the finest collections of *Cattleyas* in the country, the albino varieties being strongly represented. Near the door is an immense plant of *Cattleya Mossiae* Wagneri, with over seventy bulbs, probably the largest in cultivation. Suspended from the roof are five specimens of *C. Gaskelliana* alba, seven large pieces of *C. Mossiae* Wagneri, four large plants of *C. Mossiae* var. Mrs. A. Goodson, which has received an Award of Merit, and no less than twenty-three healthy pieces of *C. Mossiae* var.

Mrs. H. Rider Haggard, which has pure white sepals and petals and a coloured lip. There are numerous plants of *Cattleya Dusseldorfei* Urdine, *C. Schreideri* alba, *C. Mossiae* alba, *C. Mossiae* Reineckiana, *C. Mossiae* Princess Juliana, the rare *Laelia Jongheana* alba var. Nellie Blanche, *C. labiata* var. Queen Maud, a very fine variety with white sepals and petals, *C. labiata* Daphne, *C. labiata* crerulea, and a number of other choice Orchids too numerous to mention.

Along one of the side stages may be seen a batch of *Cattleya intermedia* alba and *C. intermedia* nivea, comprising in all some seventy-five plants. In other parts of this interesting house are many *Laelio-Cattleya* seedlings in all stages of growth, *Brasso-Cattleyas* of the finest parentage, the pure-white B-C. Queen Alexandra growing exceedingly well, *Cattleya Alicia* (*labiata* × *Iris*), a

number of healthy plants of *Cattleya aurea*, mostly unflowered, the elegant *C. chocoensis* alba Wigan's variety, more than half a dozen plants of the beautiful *C. Suzanne* Hye de Crom, the richly coloured *C. Adula* (*bicolor* × *Hardyana*), the red flowering *Recaunthera Im-schootiana*, a couple of plants of *Cattleya labiata* alba, another variety of the same in the way of the renowned *Gilmouriae*, and last but not least a magnificent specimen of the unique *Cattleya L. ü d d e* manniana Stanleyi with more than forty bulbs



H. S. Goodson, Esq.

and numerous leads.

The *Dendrobiums* are well represented, and there are large plants of *Coelogyne cristata* alba, *C. cristata* Chatsworth variety, numerous *Selenipediums*, and a large number of various *Catasetums*.

The large *Cattleya* house is full of rare and choice specimens, all in the very best state of health. At one end is a remarkable batch of *Laelio-Cattleya Bletchleyensis*, some fifty strong plants, all of which were specially

selected when in flower. Other Lælio-Cattleya include Ceres, from Sir Fred Wigan's collection, a good variety of Decia, Gottona, the elegant Dominiana which, although raised many years ago, is still one of the best, and Felicia Goodson's variety.

The Cattleya hybrids include Cattleya Fabia Goodson's variety, the beauty of which may be best judged by stating that it received a First-class Certificate, November 20th, 1906; C. Iris var. King Edward VII. which received a First-class Certificate, and is without doubt the largest and finest form ever seen of this hybrid; C. Venus (Iris \times aurea), another grand hybrid which has been awarded a First-class Certificate; C. Rhoda, Fairlawn variety (Iris \times Hardyana), which obtained a First-class Certificate, August 30th, 1910; and C. Octave Coia, to which a First-class Certificate was granted in 1906.

The Lælio-Cattleyas include Memoria H. A. Tracy, an exceedingly beautiful hybrid between L.-C. Canhamiana and C. Hardyana, but not yet exhibited; St. Gotthard (L.-C. Gottona \times C. Hardyana), a magnificent variety which was awarded a First-class Certificate, October 13th, 1908; L.-C. Black Prince (L.-C. Bletchleyensis \times C. Hardyana), to which a First-class Certificate was given on August 17th, 1909; and two fine plants of Cattleya F. W. Wigan (A.M. July 10th, 1905). There are also some good plants of Cattleya Rex suspended from the roof, and a large selection of Sophronitis hybrids,

including such beautiful crosses as Sophro-Lælio-Cattleya Marathon, Bletchleyfoca, Olive Fairlawn variety, and Nestor; in fact, it is impossible to think of one which is not represented in this collection.

The Miltonias are also very fine and include M. Bleiana "Our Queen," M. Bleiana splendens, M. Bleiana rosea, this latter variety having four spikes with nineteen well developed flowers. There are also healthy plants of Miltonia vexillaria, M. Roedlii, M. Phalanopsis, and the handsome M. Leopoldii.



Odontoglossum Lambeauianum Goodson's var.

This house contains a grand batch of Cypripedium Masdie, C. Lawrenceanum Hycanum, C. callosum Sanderac, C. insigne Sanderac, and many very fine plants of C. insigne Harefield Hall variety.

The Odontoglossum house contains an extremely fine collection of these graceful flowering plants. The first one noticed was *O. crispum* Lady Jane, a curious variety with streaks of colour on the petals and lip, the sepals being white. It originated in the Elmwood collection. There are numerous other fine varieties of *O. crispum*, viz., Cooksonii, Princess, the Mikado, Lactanii, Lindenii, Arthurianum, Battle of Waterloo, a very fine plant of *crispum* President Fallières, and the beautiful *crispum* xanthotès Charlesworthii.

The hybrid *Odontoglossum* are particularly fine, the collection including *O. ardensissimum* Herbert Goodson, which obtained a First-class Certificate, April 16th, 1907,



Odontoglossum Goodsonii (Uro-Skinneri x Pescatorei).
Recolled a F. C. C. Aug. 17th, 1909.

O. ardentissimum Ges. E. Day, another fine variety, *O. caeruleum* King of England, which obtained a First-class Certificate, July 7th, 1908, *O. Vuylstekei*, *O. Goodsonii* (*Uro-Skinneri x Pescatorei*), a very remarkable hybrid which was awarded a First-class Certificate, August 17th, 1902, *O. amabile* roseum, *O. Ossulstonii*, *O. laudatum*, *O. Wiganianum* of a distinct colour, a grand lot of *O. Wilcke-anum*, which grow with great vigour, the superb *O. Ceres* Goodson's variety which received an Award of Merit, April 5th, 1910, and is now a strong plant with three leads.

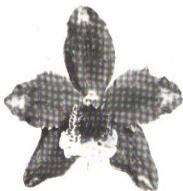
On the side stage is a healthy batch of *Cypripedium insigne* sylhetense, an interesting plant of *Oncidium serratum* with the flower spike producing young plants from the nodes, and numerous strong plants of the various species and hybrids of *Masdevallia*. Suspended in pans from the roof may be seen a grand lot of *Odontoglossum* seedlings, all the finest crosses, as the following will show: *Odontoglossum Rossii majus x Harryano-crispum*, *O. crispum* Britannia *x* *Lambearianina*, *Cochlidia Noezliana x crispum* Luciani, and *C. Noezliana x Pescatorei* album. Three large plants of *Oncidium Leopoldianum* grow

exceedingly well in this house, and there are also large plants of *Cymbidium eburneo-Lowianum*, *C. insigne*, *C. eburneum* Goodsonianum which secured an Award of Merit, April 14th, 1903, *C. Gattoense*, and *C. Lowio-giganteum*.

The *Odentocidas* are remarkable, and the collection includes almost every variety so far raised, many of the plants having grown into large specimens.

Another house contains a large number of good varieties of *Cattleya labiata*, which prove of great value for decorative purposes in the autumn. There are also strong plants of *Brasso-Laelia* Mrs. Gratrix, *Laelia Latona*, and *Cattleya Trianae*. A large portion of the staging is occupied with a batch of *Lycastes*, and suspended from the roof are large plants of *Coclogyne Massangeana* and *Stanhopea Wardii*, etc.

A lean-to house contains a very fine lot of the best *Cypripediums*, including most of the yellow varieties, *Phaius Clive*, *P. Martha*, *P. Norman*, and *P. Sanderiana*. The pretty *Calanthe veratrifolia* makes a nice show with its upright spikes of numerous flowers, and two plants which must not be forgotten are *Zygopetalum Mackayi* and the scarce *Zygopetalum Clarksonii*, a hybrid raised from *Z. crinitum x Z. Clayi*.



Odontoglossum percultum, Goodson's var.

Mr. Geo. E. Day, who during the last seven years has had the whole of this collection under his charge, gained his first experience of Orchids when at Messrs. Sander's, St. Albans. After five years in the employ of this firm he took charge of Adairal Cator's collection, King's Langley, at which place he spent seven years. Subsequently he stayed six years with Mr. Simonds, of Beckenham, where there was also a noted collection of Orchids. The many fine plants which have been exhibited at the Royal Horticultural Society from the Fairlaw collection give one a slight idea of the excellent condition which all the plants are in. It must also be remembered that with such close proximity to London a number of dense fogs have to be contended with, and Mr. Day is, therefore, the more to be congratulated.

G. W.



Odontioda Goodenica.
Received A. M. April 5th, 1910.

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RESTREPIAS.

The habit of *Restrepia*s strongly resembles that of many *Pleurothallis*s, and under cultivation they may be given the same treatment. On the average the flowers are larger than those of *Pleurothallis*s, more brightly coloured and produced singly on slender peduncles. The upper sepal and smaller petals are thread-like, slightly expanded basally, while the lower sepals are much larger and connate, except just at the tips. They frequently may be seen growing very well in the *Odontoglossum* house.

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ANSELLIAS. The cultural requirements of *Ansellias* are similar to those of *Cymbidium*s, excepting that they require a higher temperature, and prefer a compost containing more peat of good quality, or *Osmunda* fibre,



Odontoglossum Lambeauianum Harry Gooden.

SOME IDEAS ON HYBRIDISATION.

By J. M. BLACK.

(Continued from page 186.)

I promised some time ago to advise the man with empty glass-houses of the right kind—and with no previous or scanty knowledge of Orchids—how to fill them. If I have had his ear up to now he will be satisfied that I do not want him to make any pods that will be useless, and he will also appreciate the hopelessness of being able to fill his houses at once with the choicer productions of the hybridist or the best varieties of the importer. Now, while I want him to make no pods that he may not hopefully expect to beat the mean average of Nature with, yet it is with the mean average that I venture to recommend those empty houses to be filled. Let us begin by knowing the species and be able to differentiate between the good, the bad, and the indifferent. Good, sound, strong plants of all the more important genera can be purchased at a few shillings each, plants that will flower within the twelve months, yielding flowers the first year equivalent in many cases to the price paid for the plants. Surely this is cheapness with a vengeance! I would recommend the purchase of Cattleyas in batches, so as to have a continuation of flowers during all the summer, and, if possible, I would buy them unflowered. If they are semi-established or in the dry imported condition care should be taken to see that they are supplied with their normal leads, and that the leaf-buds at the base of these leads are uninjured. The plants will then start freely, and flower in due season. Shapely pieces should be chosen, so that they may have a neat and orderly appearance when potted up and arranged in the houses. Being unflowered there will always be the cheerful prospect of a "three-star" variety disclosing itself, when thoughts of hybridisation will assert themselves. The most important among Cattleya species are Schröderæ, Mossiæ, Mendeli, Gaskelliana, Warneri, labiata, Triane, gigas, and Dowiana. These, with a few more, belong to what is called the labiata section, as all are built after the same mould, having

the same structural features and flowers of great similarity; but each has a well-defined flower season, and they are regarded generally as being geographical varieties of the same type. Cattleya Dowiana, with its variety aurea, is the most strongly characterised, and is unique in the section—in fact, it has more individuality than any other Cattleya in the genus, and is invaluable for hybridisation. The other species that approaches it most nearly may be Cattleya Rex, but there is a close affinity between Dowiana aurea and gigas, and growing together, natural hybrids appear between the two. Both Dowiana and gigas are rather difficult to flower unless grown in a sunny locality, and it will be advisable not to stock too many of these for fear of disappointment; but both are indispensable to the hybridist, and we shall want them when they can be purchased in flower in the early autumn.

Distinct from the labiata section in having longer and more slender bulbs, which are two-leaved, is a type of Cattleya, the best species of which are well worth cultivating. In this section the flowers are smaller and lack the rich and clear tones of the best species of the labiata group, particularly in the labellum, but by way of compensation they carry, when strong, many more blooms on a spike. They make excellent seedbearers, and have been much used in hybridisation, and a noteworthy peculiarity of this section is that the seed generally takes a much shorter period to ripen than is required by the labiata species, the latter taking about twelve months from pollination until the shedding of the seed. I would recommend the growing of guttata, Loddigesii, granulosa, bicolor, velutina and Bowringiana; but the most important from the hybridists' point of view, judging from results achieved, are undoubtedly bicolor and Bowringiana. Aclandæ is a pretty, dwarf-growing, two-leaved species, and a few plants of this with Schilleriana and superba should be added. The last-named is the parent of

