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OF

HORTICULTURE IN ALL ITS BRANCHES.

FOUNDED BY

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"You see, sweet maid, we marry
A gentler scion to the wildest stock;
And make conceive a bark of baser kind
By bud of nobler race: This is an art
Which does mend Nature,—change it rather: but
The art itself is nature."

Shakespeare.

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consequently weaker; then, after the spikes are well advanced with the bells showing colour, it does not always occur to those in charge to give more air if they are in a pit, to stand out of bottom-heat if still plunged in it, or to remove to another house if needful, so that the flowers through opening rather slowly may be possessed of greater substance, thus lasting longer in perfection. In order to bring the single crowns on rapidly and regularly, bottom-heat is decidedly an advantage. My plan has been to plunge in a fairly brisk heat, 80° or thereabouts, covering the pots and crowns with about an inch or so of cocoa fibre, which is kept continually moist. They should on no account be allowed to suffer from drought at any time from potting to cutting the spikes. When received and before potting, the crowns should, if at all dry, be allowed to lie in tepid water for a little time. This will assist in plumping them up. It is almost immaterial what soil is used; well decomposed leaf-mould and some light loam will answer very nicely. From a dozen to twenty crowns will make a good potful when in flower. Failing the cocoa fibre, some fresh green Moss will answer. I prefer the former, however, as it lies closer to the crowns. If the requisite number to keep up a supply be introduced into heat once a week there will not be much fear of a break in the yield, some generally opening earlier than the others. The same plan of covering is also to be recommended for clumps when they are introduced a little later on, the reason being not only to conserve moisture, but to accelerate the growth of the flower-spike before the leaves get the ascendancy. Simplex.

Orchids.

AGANISIA CŒRULEA.

"J. E." sends me a newly imported specimen from the river Amazon asking its name and what treatment it requires. The plant I have little doubt is the beautiful species named above. It was found by Dr. Spruce on the Rio Negro, and appears to grow upon the bare stems of trees and to throw out roots very freely. These plants have arrived home in capital condition, and I should say in excellent time to become established, if not to flower this season. To grow this Orchid successfully it requires to be kept in the moist part of the East India house, or, better still, to be grown with the Phalænopsis. It also enjoys an abundance of light, but during the hottest part of the day a thin shading must be used to prevent the sun's rays scorching it. It has naturally a creeping stem, climbing and running about over the stems and branches of the forest trees. Under cultivation it does best in a hanging basket. It should have very little soil about its roots. In a natural state the trees that it grows upon are living, and the roots cling to and creep beneath the bark, so that there must be a great difference between these and the bare blocks of dead wood upon which the majority of our Orchids are fastened. This plant must have a liberal quantity of water to its roots when growing, and there also should be a good amount of moisture in the atmosphere. This must be maintained, but in a less degree, all through the season. This plant has a creeping rhizome, from which proceed many roots, and at intervals numerous somewhat Pear-shaped pseudo-bulbs, bearing usually a pair of leaves on the apex. The scape bears several flowers, each of which measures nearly 3 inches across; the sepals and petals pale lilac or blue, the lip bright brown. The flowers appear about the end of May. I have seen it in one or two collections, but not always looking so robust as it should do on account of the growers not being attentive enough to avoid the rapid evaporation of moisture which I before drew attention to. I have observed this plant thriving well in Sir Trevor Lawrence's collection, from which a plant was exhibited some two years ago at the Temple show. Wm. Hugh Gower.

DENDROBIUM AINSWORTHI AND ITS ALLIES.

Hybrid Dendrobiums do not as yet form a very important group from a horticultural standpoint, but the first place amongst them must without question be given to D. Ainsworthi and the two or three other hybrids which have subsequently been raised from the same species. It was first raised in Dr. Ainsworth's garden near Manchester, the seed having been sown in 1867, the first flowers appearing in 1874. Its parents are the two well-known species D. nobile and D. aureum (or heterocarpum, as the latter is frequently called), and so intermediate is it between the two, that it would be difficult to say which of them it most resembled. The flowers, which are occasionally nearly 4 inches across, have whitish sepals and petals, in some varieties tinged at the points with rosy purple; the lip is also white or yellowish white at the margin, the centre marked with a blotch of reddish purple, from which spread numerous lines of the same colour.

In the year 1879 another hybrid, finer than D. Ainsworthi, flowered in Messrs. Veitch's nursery at Chelsea. Reichenbach named it Dendrobium splendidissimum. Its flowers, as a rule, are close upon 4 inches across, the sepals and petals being of a somewhat enamel-like white, but shaded with rosy purple at the tips. The lip is broader and larger altogether than that of D. Ainsworthi, but the scheme of colour is the same, the purple on the disc, however, being much deeper and the marginal area of a yellower shade. The variety named grandiflorum has the largest flowers of any in this group of hybrids. Mr. Seden's hybrid was followed by a third, which flowered at Fallowfield in 1882, having been raised from the same species as the two previous ones by Mr. Swan. Although bearing a strong family resemblance to D. splendidissimum, it was considered distinct enough to deserve a name of its own, viz., D. Leechianum. The colour of the sepals and petals is the same as in D. splendidissimum, but they are not so broad and are more pointed; the lip, too, is more lobed. Although the typical forms of these three hybrids are easily distinguished, each one of them has varieties merging towards the others. During the early part of last year, for instance, some plants were exhibited at the Drill Hall, Westminster, which might as properly have belonged to D. Leechianum as D. splendidissimum. But to whatever place in the group they may belong, they are invariably beautiful, and there is no doubt that they represent some of the finest work of our Orchid hybridisers. The mere fact of the widespread culture of D. Ainsworthi is a conclusive proof of its garden value. In its amenability to cultivation it evidently inherits a good deal from D. nobile, for D. aureum, after a few years' cultivation, requires much more careful treatment to keep it up to the mark.

D. Ainsworthi has itself been used for hybridising both as a pollen and seed-bearing plant. In 1887 Sir Trevor Lawrence flowered two of its progeny, which had been raised by him from crosses with D. Findleyanum. The one in which D. Ainsworthi was the seed-bearer Reichenbach named D. chrysodiscus, and described it as a "lovely thing." It was rather remarkable that in the reverse cross, for which D. Ainsworthi supplied the pollen, the flowers did not differ materially from its own. In most hybrids where the characters of one parent predominate, it is as a rule those of the female. Other instances besides the present have, however, occurred to the contrary. The normal flowering season of the aureum-nobile group of hybrids extends from the beginning of January to the end of February, during which time it would be difficult to point out a prettier Orchid than a well-grown and well flowered specimen of any of the group. B.

SHORT NOTES.—ORCHIDS.

Odontoglossum Edwardi Klaboehorum (*O. Unwin*).—This is a very good and highly coloured form of this variety; the flowers, although somewhat small, are numerous and deliciously scented, whilst the colour is all that could be desired, being deep violet-purple with a blotch of yellow on the lip.—W.

Cypripedium Morganiæ.—This fine hybrid is now flowering for the first time with Mr. Osborne. It is from some seed sown many years ago when he was with Mr. Buchan, of Southampton. The flower was not open enough at the time of my visit, but it bids fair to be a very fine representative form.—W. H. G.

Cypripedium Lathamianum.—From Mr. Seeger, of Dulwich, comes a very fine variety of this hybrid, a cross between C. Spicerianum and C. villosum, the dorsal sepal being white, tinged with light green at the base, and having a dark chocolate line up the centre. The upper part of the petals is pale yellow at the base, becoming quite brown at the tips, the lower half paler yellow.—W. H. G.

Lælia anceps Williamsi.—J. Brown, of Ardarroch, sends me a superb form of this. The plant has thirteen such flowers, which are of the purest white, saving the lip, which has a yellow throat, the side lobes barred with crimson. I am pleased to see this form is beginning to flower pretty freely.—W. H. G.

—— F. Bedford sends a very nice flower of this variety, and says he has observed that the white varieties appear to be shy bloomers naturally. I have noticed this also. We, nevertheless, are overcoming that difficulty in this country, for in several places where I have seen them this season they appear to have grown with surprising strength, every bulb giving a spike. Especially is this to be noted in Mr. Sander's collection at St. Albans, and I have no doubt as Mr. Bedford's plants get stronger they will also flower more freely.—W. H. G.

Odontoglossum Rossi majus.—J. L. Stackhouse sends a flower of this species, asking my opinion about it. It undoubtedly is good, but there is nothing about it which calls for special notice. This Orchid is worthy of more extended cultivation, the flowers being large and lasting in condition for a long time. The same species in two varieties comes to hand from Mr. Appleton; the smaller flower is an especially good one, having the petals broadly banded for their entire length with rich chocolate. The larger spike is very good, but it has nothing special to commend it.—W. H. G.

Cypripedium Boxalli.—Mr. Appleton sends a beautiful variety of this plant. The flower is large, the dorsal sepal being marked throughout the whole lower surface with spots and blotches of black upon a light apple-green ground which runs out at the top, leaving a broad marginal border of pure white; the petals are broad, the base and lower half tessellated, the upper portion yellowish-brown tinged with rose. The lip is somewhat small for the flower, pale yellow streaked with brown. This is a handsome bold marked flower, which is well worth taking care of, but it is not the variety called atratum.—W. H. G.

Odontoglossum crispum Arthurianum.—This comes to me from Mr. Dorman's garden at Sydenham, but it has suffered to some extent through fog and dull days. Some growers used to say a few years ago that this species, although a mountain plant, grew just as well in the London atmosphere as it did at home, but it really will not. The ground colour of this variety is white; the sepals are faintly tinged with rose, which shows through from the exterior, where they are marked with that colour. On the front they

are marked with two or three good sized spots of chestnut-brown; the petals are clear white, having in the centre a very large spot of rich chestnut, the lip white, with a few brown spots. It is certainly a very grand variety.—W.

Cypripedium Appletonianum.—J. Appleton sends a flower of a plant that was introduced with some plants of C. Hookeræ, but the leaves, I am told, are plain green and not at all tessellated, whilst the flower is large and quite different. It measures 4½ inches across the petals, which are broad at the apex, where they are lilac-mauve, this colour being continued three parts of the distance down. At the base they are green with a few black warty dots, the margins being slightly undulated without any hairs; the dorsal sepal is green in the centre with a white margin, lip lilac-mauve in front with a green base. It is a twin-flowered plant, and I should much like to see blooms of it again.—W. H. G.

Kitchen Garden.

METHODS OF PRODUCING EARLY CUCUMBERS.

The past severe weather has necessitated continuous firing to maintain a temperature that will keep the young fruits of Cucumbers well on the move, conditions that will wear out the plants quite as much as heavy cropping. If the plants should get into a debilitated state, it is seldom that they grow out of it. In fact, in many instances they are quite an eyesore. Unless there is a second crop coming on, preparations should certainly be made to push on as much as possible a fresh relay of plants. This is much better than depending upon the old plants. Pot culture is a good method to grow an early set of Cucumbers, as a place may be found in a stove for a few plants, so that by the time these come into bearing the old ones (if planted out) may be cleared away to make room for the main set. In plant stoves where a comparatively high temperature is maintained, Cucumbers may be grown without the aid of bottom-heat. The raising of the young plants may now be proceeded with. The seeds are best raised singly in 3-inch pots in preference to sowing several in a pot and then potting off, as by this latter method a check is received and valuable time lost, whilst by sowing the seeds singly the plants start away from the first. The pots should be well drained and filled with equal parts of leaf-soil and loam, and the seeds dibbled in about three parts of an inch. The soil being fairly moist, no water will be needed until the seedlings are through the soil. If plunged in a bottom-heat of 80° or thereabouts, the germination will be greatly hastened. After this takes place do not keep the plants unduly confined, but place them well up to the light, that is if the position is warm, as the young plants must not be subjected to a chill, this very quickly causing them to collapse. To be successful with early Cucumbers they must be kept growing steadily in an even temperature.

In Cucumber houses proper a narrow bed of fermenting litter about 18 inches in depth and to the width of 3 feet should be placed throughout the length intended for planting Cucumbers. If in pots, these could be surrounded with the litter, but care must be taken that it is well worked beforehand, or there would be danger of it becoming too hot. This can be obviated by leaving a cavity around the pots until the heat has declined to a safe degree, when it can be replaced. Bottom-heat for pots could also be obtained entirely from fermenting materials, or even leaves alone, and if these are good they form the best medium for plunging, the warmth being steady and lasting.

The soil for early Cucumbers must be lighter than that needed later on, the proportions being three parts turfy loam and a third each of leaf-soil and pulverised horse manure, with some pieces of charcoal. If the soil should be of an adhesive character, a little old mortar rubbish pounded up would be a good addition. The young plants when ready should be planted out as soon as the roots reach the sides of the pots, for if allowed to remain until they become pot-bound the growth is spindly, and, moreover, time is lost. In planting, keep the young plants well up, whether on mounds or in pots. Some people, when growing Cucumbers in pots, plant too low down, the idea being to leave room for top-dressing. A space of 2 inches or 3 inches will be ample. After planting, give a gentle watering with tepid soft water, so as to settle the soil. Cucumbers are different to many other plants in this respect, as if a watering is not given, they are apt to droop if the weather should be bright, the bright sunshine taking effect upon them very quickly. In fact, it is advisable to afford a little shade for a few days, or until it is seen that the plants have taken to the soil. In staking the plants do not affix the stake to the trellis until it is seen that the bed has settled down, or very likely the plants will be strained at the collar. What ventilation is needed will depend upon the weather. The time to give a little ventilation is on mild days, when the temperature feels "stuffy" to a person entering. By closing early and damping down the house, also dewing the plants over, a healthy and fruitful growth will be obtained.

The heating of the pipes so as to regulate the temperature has a very important bearing upon the plants. A night temperature of 65° to 70°, the latter on mild nights, may be easily managed. As regards feeding never apply water unless in a tepid state, and by the time the plants are well rooted, if in pots, a little clarified liquid made from cow manure and soot will assist them. The roots, especially those on the surface, must be kept moving, as when these show freely it is a sure sign that the growth is all right. An occasional top-dressing of light turfy loam with a little pulverised horse manure will keep them right in this respect, adding occasionally a little approved fertiliser. The stopping of the shoots must not be quite so hard as later on. I like the leading shoot to reach well up the trellis before being stopped, the side laterals being allowed to grow a few joints before pinching them, so as to get a foundation laid. Where fruit is showing, stop a joint beyond; longer than this is not necessary unless the shoot should be needed for extension. With early Cucumbers large leaves often form on the leading shoots. Instead of allowing these to remain remove one occasionally, which will allow room for the smaller lateral leaves, and, moreover, their removal encourages the more equal distribution of the growing force. There is one other point which must be borne in mind, and that is to avoid overcropping. Just leave sufficient fruits to keep up the supply that is needed. Allowing all fruit that shows to form will surely result in the early collapse of the plants. A. Y. A.

Size of vegetables.—I have read with very great pleasure the article in a recent issue on this subject. While agreeing in the main with the writer I would like to state what I believe to be my position, as well as that of many others who are deeply interested in exhibition specimens. Quality by all means should come first, but wherever it is possible to combine size with quality let us have it for exhibition. I often wonder that judges act so differently in judging Turnips, Leeks, and Parsnips; almost invariably in the two latter cases the prize goes to size. In the case of Turnips no judge would risk his reputation by awarding the first prize to the largest specimens. As a result, one never sees large Turnips staged. I hold the same result would follow with a great many other things if a similar course were adopted by judges. I have often thought it would be a good thing if someone would offer valuable prizes at some important show for a collection of vegetables, coupled with instructions to the judges that in judging, quality alone is to be the deciding element. It requires no skill to grow a huge coarse vegetable, and therefore there is no credit in the achievement, but it does require much experience and most careful attention to produce even moderately large specimens of high quality.—William Cuthbertson, *Rothesay*.

CULTURAL NOTES ON POTATOES.

Persons with strong land to deal with should not employ much fresh manure at planting time. More dependence should be placed in thoroughly digging the ground during a spell of dry weather in the autumn after say a crop of Peas has been taken off the land. The manure employed for mulching the Peas will be ample for the subsequent crop of Potatoes. Land for this crop cannot be too often stirred during dry weather. On heavy land, shallow ploughing, probably not more than twice over and both in the same direction, has been the means of securing inferior crops more often than anything else. Some cultivators never think of crossing the land with the plough, and for this defect they have to be content with inferior results. In garden culture I find decayed vegetable refuse, leaf soil and wood ashes excellent material to sprinkle at the bottom of the trench on which to lay the sets. I always have the Potatoes planted as digging proceeds, using long-tined steel forks. Another fault is that of allowing too many growths to each tuber. The "sprouts" are not nearly enough disbudded, one strong shoot, or two at the most, being ample. Some go over the rows and thin the haulm when say 6 inches high. I prefer to do it before planting the tubers. The manner in which the "sets" are prepared or stored is not always the best. Too often the Potatoes are thrown into large heaps in the bins, shed or cellar and allowed to remain there until the sprouts are 3 inches or more long. Such treatment cannot but weaken the tubers considerably. My plan is, after lifting the crop, to thoroughly dry the tubers in the Mushroom house, throwing the doors and ventilators wide open. Here they remain until all that are likely to rot from disease have had time to do so. They are then "pitted" in the reserve ground, taking care to have a thick bed of coal ashes under them to keep the base of the heap as dry as possible, yet cool. Each variety is separated by a layer of straw. They are again covered with straw. On this are laid soil, lime rubble, or anything handy to keep out frost. The whole heap is then thatched to ward off heavy rains. Early in January a suitable dry day is taken to uncover the tubers, turning them over to pick out any stray bad one, and prevent them growing by admitting air to the pit, removing a stray sprout should one have formed, again covering the heap as before. Early in February the early sorts are taken into a cool, yet light room and set on end to induce stout and healthy sprouts, which I like to see half an inch long by the time planting has to be done. I plant the first earlies out of doors, as a rule, about the middle of March, and am enabled to dig new Potatoes by the end of May. The main crop I do not plant until the 1st of April, and perhaps a few days later if the weather is not suitable. Here in heavy, unkind soil it is much better to wait a day or two, and "catch a season," as it is called, than to knead the soil into an inert mass by treading on it. I am not in favour of very early planting of the second early or main crop; the growth is so liable to be