

ORCHIDS IN NEW ZEALAND



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Cover Photo: *Euanthe sanderana*; syn. *Vanda sanderiana*, this species is native to the Philippines, flowers 7.5—12.5cm across, used extensively for breeding.

Photo by courtesy of George Fuller.

Cymbidium Hybridisation

by Jane Frear

A lively debate at a North Shore Orchid Society meeting on Cymbidiums: mericlones versus seedlings, produced a deadheat vote for the two talented teams involved. It also started a train of thought on seedlings and hybridising in New Zealand, a subject which has held my interest for several years now.

Considering the wealth of new mericlones and seedlings that have arrived in this country over at least the last 15 years, it is surprising how few people seem to have bothered much about creating new crosses from them. Two crosses produced by keen amateurs in the Auckland area were Masrudal (Celedon x Fascination) and Granville (Lancelot x Terama). The clone Granville 'Tainui' AM/NZOS would be one of the best miniatures yet seen and shows what can be done in hybridising if the will is there to do it. The Masrudal clones too, are good growers with plenty of flowers in a fair colour range, and still treasured in many orchid collections. Other good crosses have been made in New Zealand but I cannot quote them from personal experience.

With new Orchid Societies being formed and rising memberships recorded everywhere over recent years; now is the time to encourage more people to try hybridising. New Zealanders are noted for having a go in many other fields of endeavour and with fresh ideas injected into hybridising, the end results could be crosses that produced over 75 awards like, for example, the Balkis clones. Many of the hybridisers here are also judges within the Orchid Council of New Zealand (Conzed Inc.), experienced growers who would willingly give helpful advice to newcomers trying their hand in

this field. Seedlings are the lifestream, pushing Cymbidiums to ever new heights and if a cross proved a reasonable success, even those not quite of award or show champion standard would not be wasted. They would be helpful to the burgeoning export flower market which also needs new varieties to keep up with overseas competition. Since only the largest collections would have adequate clones to draw upon, it is suggested that groups of people work together, pooling their ideas on hybridising, share a common pollen bank, also the cost of flasking and raising the seedlings. This would allow more plants to be held until flowered and even engender some friendly competition to reach that point first. Not all seedlings will be worth raising. There are well proved exceptions shown by my own experience which I will mention further on.

Two basic tools these groups need are: some knowledge of ploidy in clones under consideration and the booklet "Cymbidium Orchids, Names and Parentage." The service to orchid growers provided by this booklet cannot be measured; a debt of gratitude is owed to two fine Australians, Mr Frank Slattery, and Mr Jim Rentoul who have consistently produced an up to date Addendum at each triennial Conference held in Australia. Without this booklet to search

parentage back to species the clones originated from, I doubt any hybridiser would reasonably know what could be expected from crosses undertaken.

Personally, I have found hybridising a fascinating exercise, the hours of study a worthwhile increase in knowledge and reaching for definite goals a challenge.

Looking back over many years of Cymbidium growing, the most frustrating aspect has been the number of mericlones and seedlings consigned to the incinerator. They had either poor growth, weak stems, shy flowering, persistent spotting, refusal to grow normal roots or dropped the leaves off green bulbs when new growths were only half way to maturity. I started growing Cymbidiums about the time when floods of new varieties became available. Consequently, there was a rush to be up with the latest releases and the good 'old timers' were being discarded. Not knowing anything about Orchid Societies or that they held shows where the flowers could be seen before buying, I charged off to get the plants with the most glowing descriptions written about them so I could have a collection as soon as possible. Among them were a hundred odd seedlings. Much later, a good friend urged the purchase of some of the older varieties such as Jung Frau, Swallow, Balkis, Great Day etc. I have them still, respected for their reliability in growth and flowering whereas many of the others have long since fallen by the wayside. One reason for unsatisfactory performance in some modern clones, must lie in their elongated parentage taking them too far away from the species they originated from.

Vigour is reduced, they make one growth instead of two, many flower down in the foliage or with short stalked flowers crowding against the stem if not actually turning into it.

However, colours and generally flower shape, have been much improved in modern clones, so if the best of these can be allied to those "old timers" with relatively short parentages back to the species, then vigour should be restored in the seedlings. So much is now expected of present day clones especially in flowering performance that vigour cannot be ignored. Next to this in importance is good substance in the flowers, so essential to exhibitors trying to hold a perfect spike until the next show date which might be a month away likewise to the exporter whose consignments may take a week to reach far away markets. Only flowers of really good substance are wanted, whatever end use they are put to, and this should be the aim of any hybridist of standard Cymbidiums. From my initial collection it was the seedlings which eventually turned my thoughts to hybridising. They were small (now called A size) when purchased and notes were kept on their appearance and growth right through to flowering. Since there were over 20 different crosses among them of 2N, 3N, 4N clones, the notes provided the most useful lesson on future action when hybridising was undertaken that I could possibly have. Irrespective of ploidy, I learnt that those plants which stood upright looked lively and had firm green leaves did, in due course, produce the best flowers. Those that had a drooping leaf habit, particularly in the central ones, and weaker growths, turned out to be inferior (with two

exceptions) in flowering too. From this, I later made the decision to weed out all seedling crosses I made in the early stages, using the criteria set out above. From this experience, there is no use wasting time, materials and space for three years on plants that will not measure up in the end result.

Before arriving at the actual pollinating stage, 2 years were spent closely examining plants and those related to them in other collections, full parentages were drawn up of clones that interested me; trying to assess what in their backgrounds made them as they were. Awards lists were checked of related clones and where I knew or actually owned a parent, looked for inherited resemblances in leaves bulbs and flowers. Much "midnight oil" was burnt during this enthusiastic exercise. Personal study showed that many were good clones save in one or another respect. Overlong foliage for instance that interfered with spikes of plants alongside especially when a brisk southerly was blowing through the shadehouse. These various faults I wished to avoid, led to the list of priorities below which became my guidelines once embarked on the hybridising programme.

1. Plant growth to be vigorous and healthy with no weakness in leaf structure.
2. Good substance in flowers and adequate stalk length to prevent crowding.
3. Regularity of flowering with strong spikes lifting blooms out of foliage.
4. Colour of flowers must be definite whether pastel or highly coloured (not muddy).
5. Shape to have something for it, preferably rounded with width to petals and sepals. Other inter-

esting shapes not dismissed as they also have a place but not back furled or pinched labellums.

6. Attempt to reduce overlarge bulbs and lengthy foliage since space is now expensive.

No attempt was made to use awarded clones exclusively; all that met or nearly so, the criteria above were included somewhere in the list of crosses. All the usual problems were met with crosses refusing to 'take' though ploidy was correct, pods yellowing off after 3 months, but the oddest event must surely be those harvested late '77 through early '78, still in the mother flasks 2 years later, apparently healthy yet dormant, to the great puzzlement of the laboratory and myself. Here it must be stressed that hygiene be always kept in mind when pollinating. Between each cross I scrubbed my hands and sterilised surfaces used to transfer the pollen. The first crosses now making bulbs and growths look sturdy and healthy. They were sorted at deflasking, only true plants kept, the weaklings and protocorms being thrown away. Further discards in the next six months were surprisingly few even among diploids. Following are some of the crosses with reasons for making them plus a few side-lights on the parents, many being seedlings I originally bought.

Boronia 'Clonbern' x Babylon 'Carpentiers'. The seedling Boronia is a converted 4N; 14CM flat open lime green flowers with substance like leather, 12 per spike which like the foliage is stiffly upright with a short but broad cream lip marked red.

The Babylon was bought many years ago as a sprouted backbulb and attempted to spike off the half

grown shoot. This was cut off and dusted with sulphur but the plant went ahead with another growth and spike, again cut off at base to encourage good plant growth. Experience had taught me that the way to ruin a good clone was in letting it flower before being properly made up. However, the following autumn, there were 2 spikes 20 CM high before I discovered them. In late June the 10 flowers on each tall spike were open. They showed the same characteristic habit seen in Babylon 'Castle Hill' in being a biscuit shade on opening then changing, in this case, to a warm creamy pink but the sepals did not twist and the petals had a more upward stance. In this clone the lip, leaves and bulbs are not quite as large as B. 'Castle Hill' but it has more spikes if left as a good size plant and not divided too often. B 'Carpentiers' has since tried to return to midseason by throwing later spikes, always removed, as it is valuable in the early period and so willing to carry pods. For this reason, it is rated as a 2N clone until proved otherwise also the seedlings are growing too fast to be 4N and they totally favour the Boronia parent in vegetative growth. This cross was made to ally a modern clone with an old variety also to see whether the 3 infusions each of Ceres and tracyanum present in Boronia but absent in Babylon would assist in producing polychromes.

In all crosses the inability to pin down which insigne varietal clones were used is a handicap since this species accounts for a large number of infusions in modern Cymbidiums. If there is any early literature obtainable on this aspect

in particular, I would be pleased to hear of it.

(George Lycurgas x Khyber Pass) 'Apricot' x Caledonian Rose 'Elegant'. 'Apricot' a small 11.5CM well filled in flower with a large white lip vertically lined red and has unusual colour. Creamy yellow suffions under a surface warm pink and feathered with mauve around outer edges of sepals and petals. Because this seedling is a real worker, has spikes mid to late season and much smaller bulbs and leaves than others of that cross, I intend using it with suitable miniatures in due course. Caledonian Rose 'Elegant' a large flat white and a sister seedling 'Clonbern' a deep rose red, are pleasing clones. Anyone would be delighted to get these near award types from a batch of seedlings especially when some crosses were lamentable failures from the first to last flowering and all tipped into the incinerator. 'Elegant' is my favourite. It has that immaculate look good whites should have, a wide white lip cleanly marked red and closely resembles photographs seen of the pod parent Western Rose 'Spring Bride'. Soft pinks are hoped for although the 2 Ceres infusions from 'Apricot' will no doubt produce some darker colours. However, these seedlings look out of the ordinary and if I had to guess which of the first crosses would be successful, this could be it.

I have long had visions of a red that glows like a neon light and to this end crossed an inbred Sleeping Beauty with a Sleeping Castle pure colour green to gain 3 Ceres infusions. The best of these seedlings will be used with a Panama Red carrying 5 infusions. It is a polychrome of gold tan and red

and has the essential long stalked flowers and stems that stand up unaided. Short stalked flowers seem to plague some red crosses. Whether going through a pure colour and lifting the Ceres infusions to 8 (plus 1 of Ruby a natural hybrid) will produce that glowing red only time will tell. It is mentioned here in case there is someone with the necessary clones already mature and prepared to have a go at such a cross.

Caledonian Rose 'Clonbern' was used with 2 strong greens, Miretta 'Mem. A.A. McBean' and Loch Lomond 'Mem. J.B. Russon' as it has a wide red banded lip and should produce award shape large sized flowers. With so many infusions here, insign and lowianum may polarise the colours but some browns or polychromes should turn up. Still in the flasks so seedlings cannot be commented upon yet.

A puzzle arrived with Swallow 'Conquest' x Wallara 'Gold Nugget,' made on the assumption that the Swallow was a diploid therefore Wallara would dominate. When the seedlings were deflasked half followed Wallara, the rest resembled Swallow, growth to a marked degree and have continued to do so as growth has progressed. S. 'Conquest' one of the good old varieties regularly produces 4 to 6 spikes even off old bulbs, of large flat golden flowers. It has been in the same big square pot for many years now, full of roots and not much else but seems perfectly happy with the odd handful of peat and fertiliser thrown around it. Less cupped flowers and longer spikes than Wallara were hoped for. In view of the sharp division in growth styles this may not be realised.

The most interesting part of hybridising, once committed to the exercise, is the buoyant hope as the small plants are hovered over and future disappointments remain a dim prospect.

Low Budget Heating

Lyn Young. Otago Orchid Club

Several years ago, I decided to try growing Orchids as a retirement hobby, so I bought three flowering plants from a very reputable N.I. Orchid Nursery. Over the first Winter I managed, very successfully, to rot off all the roots on these plants, so decided my methods were very much at fault. After extensive reading I learned, as probably every other tyro Orchid grower has also, that the problem was too much water and too little heat. Realising that in Otago we have frequently periods where the temperature remains below 10°C for several days, and the night temperatures drop below 0°C, it follows that cold wet pots will remain cold and wet for extended periods. To overcome this situation and not break the bank with excessive fuel bills, over the years I have evolved the following system: I have a lean-to glasshouse against a brick garage wall. 5m x 2.5m x 2.5m in height. (16' x 8' x 8'). Against the back wall is a solid bench 4m x 0.8m (13' x 2'6") built 0.8m (2'6") above floor. Above this 0.2m (8") is a slat and netting wire bench to hold the orchids. Both ends boxed in and insulated to a height of 1m (3'). The sloping top and front hinged screens are 25mm (1") frames covered both sides with clear agricultural plastic. In the daytime the front screens are hinged up for

ventilation, and at night they are closed, giving the effect of a mini glasshouse within the main glasshouse. At one end of the solid bench a Tangray fan heater is installed, controlled by a thermostat halfway along the 4m bench and 0.6m (2') above. A row of pots is arranged against the back wall then 2m x 75mm (6'6" x 3") spacers (strips of hardboard). Between each pair of pots in the row is a 75mm (3") spacer also. Another row of pots and spacers, and then a further row. I find if these spacers are omitted the heat is unevenly distributed, but when in place the temperature along the bench does not vary by more than 1°C. The thermostat is set to maintain a minimum of 5°C. This is considerably less than recommended in current literature, but I can keep plants in good condition all Winter and flower them successfully under these conditions. Much has been written recently about growing Orchids cooler than has been advised in the past, they may take a few weeks longer to flower but I have not done any comparative tests in this direction. I have just flowered Mini Cyms. Lancelot 'Evening Star,' Leodogran 'Cradlemont', and Alice Williams 'Emerald' in early August.

Running costs.

An electric clock also operates off the thermostat, so recording heater running times, which may be checked daily, weekly, or monthly. A check was made over the six months May to October inclusive. Heater consumption is 2kw per hour and an average price of electricity over NZ is about 3.25c per unit. During 1978 heater use was 120 hours. May 6, June 9, July 20, August 45, September 35, October 5 hours. For 1979 the results were almost identical with a 120 hour total, but during 1980 the main

glasshouse was lined with Triglaze and the overall consumption dropped to 80 hours, although the Winter was generally colder with more rain and snow than in the previous Winters. Also the air temperature in the main glasshouse never dropped below 0°C. The Tangray runs on full heat plus fan (I found this most effective). So our sums for the Winter season 1980 are: 80 hours x 2kw x 3.25c. = \$5.20. Comments.

If you forget to open screens no damage is done, but not recommended. Plants need frequent watering as heat dries bark mixes quickly. If you water and it turns cold, no panic, the heater warms the roots. Even Back bulbs keep growing all Winter as the roots are warm. Also growing and flowering in these conditions: *Oncidium*, *Coelogyne*, *Odontocidium* and the three original badly treated Cyms.

WINTER SHOW DATES

NORTH SHORE

9th and 10th May, at the North Shore Horticultural Rooms, Hurstmere Road, Takapuna 9.

TARANAKI

30th May, at New Plymouth Old Folks Hall, Liardet Street, New Plymouth.

SEMINARS

Hamilton, August 1 and 2, Guest speaker, Mr Joe Arditt, of U.S.A. Hobbyists and commercial growers welcome. Details in next issue.

Golden Coast — July 25 and 26 at Southward Museum Complex, Paraparaumu. Plant workshops and winter show combined.

MINIATURE CYMBIDIUMS

When giving an address recently at an Orchid Society meeting I was unexpectedly (I had been talking about Cattleyas) asked what, from a Judging view point, I thought was the concept of a good miniature. In particular was the current trend towards breeding larger plants with larger flowers desirable and when did a "miniature" flower get to be so large it should be equated with a poorly grown standard *Cymbidium*?

I was concerned, on reflection later, to realise that I had been unable, on the spur of the moment, to provide the authoritative answer which ought to be available to a question that has been posed so many times. I am endeavouring here to present a more convincing and reasoned reply. However this is a difficult and controversial subject and I give my personal view of it only.

When the small flowered species *Cymbidium pumilum* was crossed with a standard large flowered *Cymbidium* the hybrids showed the characteristics of both parents but with the *Cymbidium pumilum* dominating. These hybrids with their distinctive charm and small flowers were so different that it was convenient to place them in a separate category for judging purposes rather than let them compete with standard large flowered *Cymbidiums* for prizes and awards. Many different crosses were made with *Cymbidium pumilum*. All were different (depending on the other parent) but all were easily recognisable. Judging systems throughout the world had no difficulty in coping with them, usually making a sub category for "Polymins," which had slightly bigger plants and flowers and arose when a tetraploid parent was mated with *Cymbidium pumilum*. All these early hybrids were sterile and no further breeding using them as parents was

possible. Had this remained so none of the problems now under discussion would have arisen.

Eventually a few *Cymbidium pumilum* hybrids were found which did give viable seed when crossed back on to a standard *Cymbidium*. Similarly some of these so called "second generation" hybrids were fertile when crossed back again to a standard *Cymbidium*. If simple Mendellian segregation was occurring then it would be expected that large populations of standard *Cymbidiums* (i.e. with the *Cymbidium pumilum* entirely bred out) would be arising in these later generation crosses. This has not in fact happened. Succeeding generations tend to retain a substantial measure of *Cymbidium pumilum* influence. However this breeding is producing larger and fewer flowers on larger plants.

Judging standards in various parts of the world are often in effect, based upon a concept of an imaginary perfect flower. The extent to which the actual flower being judged measures up to the imaginary model is then assessed, usually on a points system. There is agreement, in general terms, as to what a perfect standard *Cymbidium* should look like. Thus, if we convened a meeting of representatives of all the Judging systems in the world and we placed before them a number of standard flowering *Cymbidiums* then it is

quite possible that, without any prior discussion, there would be a consensus as to what would be the best plant. It is much less likely that all would pick the same plant from a selection of miniatures. In short there is no internationally accepted model of a perfect miniature. There is often a conflict of opinion within individual orchid societies. However the position now seems to have been reached, worldwide, where most awards for miniatures are going to plants with relatively large flowers — large relative to the original primary hybrids between *Cymbidium pumilum* and a diploid standard parent.

Before considering the question of flower size in miniatures one must recognise the very distinctive charm that *Cymbidium pumilum* usually imparts to its progeny. In my view it does not matter how large the flower is provided the *Cymbidium pumilum* charm is still very evident. If the flowers become as large as those of a good standard *Cymbidium* then the plant can be classified as a standard for judging purposes and there is no problem. On the other hand if the flowers are not large enough to enable the plant to foot it with the standards and the *Cymbidium pumilum* charm has been completely bred out then we will probably have a plant which looks like a poor standard and which no one will want to grow.

The remarks above would still apply where a plant derives its miniature characteristics from a species other than *Cymbidium pumilum*. For example hybrids based on *Cymbidium ensifolium* are becoming popular, such as progeny of the 4N form of *Cymbidium Peter Pan*. Although some of these flowers are relatively large they do not reach the size of standards yet have their own distinctive charm.

There are those who do not regard all current trends in miniature breeding as progress and who prefer the diminutive first generation miniatures with their many flowered spikes with a pendant tendency. These people may not be inclined to discard their plants until hybridists produce better ones of the same type. Can we hope that it will be possible some day to breed plants of the same diminutive size of the original hybrids but bearing longer spikes with a multitude of clearer and more brilliant small flowers?

In the meantime we should grow what we prefer. If that preference is for the first generation plants do not let anyone, expert or otherwise, tell you that they are 'old fashioned.'

Cymbidium devonianum

by Ron Whitten — Auckland

Cymbidium devonianum was introduced to cultivation in 1837 from Kollong Rock in the Khasia Hills of northern India, where it grew on old decayed trees and in the forks of old trees where vegetable matter had accumulated. It remained rare for another 30—40 years until it was found in Assam.

The Kollong Rock is at an elevation of about 1500 metres. During summer the temperature is about 20 degrees C. occasionally rising to 26 degrees, and the rainfall is very heavy. In winter there is very little rain and temperatures may drop to freezing at night.

These natural conditions give us a guide to culture for *devonianum*, Keith Andrew of Great Britain, who

has utilised devonianum extensively in his breeding programme, suggests that during active growth over the summer the pots should be placed permanently in a saucer filled with water and the plants fed with a high nitrogen fertiliser. When the growth is complete the plants are hung up to dry over the winter. If some heat can be given over the winter the flower spikes will be longer than normal. The spike develops during autumn but stays dormant over winter until early spring when growth resumes.

Devonianum was first used in the primary hybrid-Langleyense (x lowianum) which was registered in 1911. This was followed by Vogelsang (x insigne) in 1928, Dingledden (x Alexanderi) in 1933 and Jean Brummitt (x eburneum) in 1944. A number of second generation hybrids have been bred using Jean Brummitt. 1963 saw the registration of Touchstone (x Mission Bay) of which the dark brown clone 'Mahogany' was awarded an AM/RHS in 1967. In recent years Keith Andrew has used devonianum extensively, his most successful cross being with Western Rose to make Bulbarrow, two clones of which, 'Friar Tuck' and 'Will Stutely,' have been awarded AM/RHS in 1978. In addition the cross has been awarded the Award of Quality from the American Orchid Society, the Award of Breeders Merit from the Cymbidium Society of America, and the Lindley Medal from the RHS, all of which are very rarely given.

Devonianum differs from most Cymbidium species in having broad strap-like leaves up to 50cm long and 6cm wide and in being almost

pseudobulbless. The spike is pendulous and unless the plant is potted high in the pot it may penetrate the mix. This may be got around by growing it in a basket. The flowers, over twenty on a spike, are 25—35 mm across, the sepals and petals green overlaid with brown. The broad lip is dark purple or rose coloured with a dark purple spot on each side. The pendulous spike habit, lip form and pointed petals and sepals are generally transmitted to its offspring.

CYMBIDIUM COMPANIONS

by Ros Bickerstaff

LAELIA, Lindley

There seems some doubt as to how this genus gets its name — The Roman, Gaius Laelius — the females of Laelius' family — or to Laelia, one of the Vestal Virgins. However, these epiphytes come from Central America and have no connection with Roman history, as far as I can find out. For best results, grow in baskets in bright light — almost full sun. Use a moisture retentive compost, but don't over water. I use a partially broken down cymbidium mix with a little new compost added. Repot only when the basket is overflowing.

I am very fond of this genus and grow *L.anceps*, *L.anceps* 'alba', *L.anceps* 'sanderana', *L.anceps* 'hillii', *L.cinnabarina*, *L.flava*, *L.harporhylla*, *L.perrinii*, *L.purpurata*, *L.grandis*, *L.tenebrosa*, *L.lundii*, *L.gouldiana* and a few other varieties.

DISA, Berg

Although there are many species in this genus, there is only one that is found in collections — *D.uniflora* (syn. *D.grandiflora*). This is the famous orchid of South Africa, where it is known as the Red Disa, Pride-of-Table Mountain, or Bakkiesblem. In South Africa, it became so depleted, that a law was passed making it a protected flower, and preventing its export. However, some seed was made available to a few growers abroad, and today it is possible to locate a few plants even in New Zealand. Seedlings grow very slowly, taking as long as two years to become big enough to be pricked out. Once they get started they grow rapidly until by summertime they are about 30 to 45cms tall. Mine usually have three 10cm glorious flowers — if I can stop the caterpillars spoiling them. These pests enjoy hiding in the throat of the flower and chewing out the centre. It is difficult to spray flowers without spoiling them.

Grow these plants in moist conditions. They like a very humid atmosphere, a moist compost which has perfect bottom drainage. I use a shallow plastic ice-cream container (21in) with large holes in the bottom. My compost is peat-moss, and fine pumice sand, and I use drip irrigation to keep it constantly moist. Use slug and snail bait constantly if you want your plants to remain uneaten.

ENCYCLIA, Hooker (Wm.J.)

This genera has had a varied existence. Most were once included in the genera *Epidendrum* as a subgenera comprising the bulbous varieties. One main exception was the pendulous *Cattleya citrina* (now, *Encyclia citrina*). Most of this genus

need to be grown in sheltered positions in light shade or getting early morning sun, to encourage the growth of spikes. Most can be grown in pots with a very open, quick draining compost. I use coarse bark, pumice and a little fibre in the posts but many seem to prefer growing on a pumice slab where they form excellent root systems. I grow *E.citrina*, *E.vittellinum*, *E.cochleare*, *E.vespa*, *E.atropurpureum*, *E.atropurpureum* var.*roseum*, *E.fragrans*, *E.mariae*.

MAXILLARIA, Ruiz and Pavon.

This large genus is found in America, spreading from South Florida to Argentina, with most species being located in Brazil and the Andes. The temperature range is considerable. They are found growing at sea-level in the Tropics to the cool mountain slopes (3000m). I grow mine in sheltered warmish corners of my shade-house.

The name is derived from the similarity of the flower of the type species to a jawbone; "maxillaris" is the latin word for "pertaining to the jawbone."

Some of these species have a very strong, but pleasant, scent when in flower. I find that these plants like a humid warmth, with shade. Although I grow my *Maxillarias* near to my *Masdevallias*, I give them a little more light and less moisture, but give them the same compost of moss, fibre, bark, pumice and peat. *M. valenzuelana* I hang on a ponga block.

At the moment I am growing *M. variabilis*, *M. tenuifolia*, *M. nigrescens*, *M. sanderiana*, *M. luteoalba*, *M. valenzuelana*, and some species (as yet unidentified).

ODONTOGLOSSUM ALLIANCE

Albert H. Blackmore, Northcote

(concluded)

GROWING AND FLOWERING SEASON

Odontoglossums send out new growths and flower spikes at any season of the year. Having been native to an area, which has no summer or winter difference, the plant naturally has no dormant period. This is one feature that pleases me as I am never without a few spikes in full bloom. Unless the plant is weak I usually allow the spikes to stay on the plant for the best part of two months.

From the time a spike appears to full flowering is several months, so one is able to judge to some extent when to expect the flower. As long as the plant is healthy one can be sure of flowers.

WATERING

I have come to the conclusion that their natural growing conditions must be one which is always damp to the extent that any root close to the surface must never get dry. Very seldom do the roots go to the bottom of a large pot and because of this some growers advocate small pots, but I have found that under these conditions the plants flower, but stay small. When the roots are allowed to spread out in larger, but stay small. When the roots are allowed to spread out in larger, but shallow containers the plants can expand in size and give larger spikes.

FERTILISING

A little but often per medium of watering has proved satisfactory for

myself and others with whom I have discussed the question. I always water over the whole plant and have never lost new growths in so doing. This applies whether it be tap water or one laced with fertiliser.

CLIMATE

On the North Shore, where winter rarely brings frost and summer's heat is temperate, I considered that temperature wise at least I should not have too much trouble.

To get cool summer conditions I built a lean-to shade house against the south side of a garage. This gave shade and stopped heat from direct sun and also allowed movement of air. It kept outside any vermin that could do damage. Let me say here that the flower spike at its early stage has a great attraction to snails and slugs. The potted plants rested on small stones, which were kept moist, but allowed free drainage from the pot. The day temperatures in summer seldom went higher than 21°C. This has proved satisfactory during summer, but when the plants were left there during winter the plant growth was much less and the new growths became limp. Because of this I now put all the plants during winter in a shade house on the western side of the garage. This has proved much better as, although the temperature can drop to 5°C at night, the sun can penetrate through the shade cloth during the afternoon, giving light and heat.

Cool House Topics

by Phil Mayhead, New Plymouth

I make plain the fact that the above conditions would not apply in an area where the climate is more harsh, but my experience can be a guide that would need to be adapted to the readers' own conditions. If a closed glasshouse has to be used the following could be helpful. One winter, having changed residence and being without a shade house I put the *Odontoglossums* in a closed glass house for the winter. They did not do well and I put this down to poor movement of air.

HYBRIDISING

Several thousand hybrids utilising *Odontoglossums* have been registered and the numbers continue to grow, due largely to breeders in England, who have in their possession of good stud stock. However latterly some of their progeny are being used in U.S.A. and Australia for breeding purposes. Most of the species comprising the genus are freely compatible genetically and the group has also been found to be crossable with other members of the sub-tribe *Oncidinae* to give rise to artificial creations as *Odontioda* (o. x *Cochlioda*), *Odontocidium* (O. x *Oncidium*), *Odontonia* (O. x *Miltonia*), *Odontobrasia* (O. x *Brassia*), *Aspeglossum* (O. x *Aspasia*), *Colmanaro* (O. x *Milt.* x *Onc.*), *Beallara* (O. x *Coch.* x *Brassia* x *Milt.*) and many others by crossing and recrossing. These and others using *Odontoglossums* as one of the cross produce very showy flowers and the future will see an extremely large number of Hybrids within the *Ondoglossum* Alliance.

WINTER CULTURE

This can be a difficult time as some plants are at complete rest and need to be kept quite dry at the roots. Examples are Mexican odonts such as *grande*, and *pendula*; *Laelia anceps*, thin-leaved *Oncidiums* (*tigrinum*; *flexuosum*, etc) and most soft-caned *Dendrobiums*.

To overwater these plants at this time just rots the roots, as they are dormant. Although the bulbs or canes remain plump, when the new growths start in Spring the bulbs shrivel badly because the energy is supplied from the reservoir in the bulbs and not via the roots.

Deciduous ones such as *Thunias*, *Pleiones*, some *Lycastes*, and *Anguolas* are dried off completely when the leaves turn yellow and fall. *Ondont* hybrids, *Paphs* and *Cymbids* and similar plants that grow year-round are kept moist, watering about once per week or less if the weather is very wet and cold. Lift the pots and test the weight, by practise you can tell if a plant is in need of water, also the colour of the mix changes when dry. Remember, if in doubt don't water. When you do water do it generously.

In general, get as much light as possible to the plants to ripen them, practically all the shading should be off the glass, very little damping-down is required, don't use fertiliser, keep the plants as warm and snug as possible if you have an un-heated house, around a minimum of 10°C if heated, watch for cold draughts, and above all be careful with the watering.

What Price Orchid Bargains?

by Syd. A. Monkhouse — O'Halloran Hill — South Australia

To anyone just beginning to grow orchids, the enormous difference in price of apparently the same plants from nursery to nursery must be completely baffling.

Just a quick glance at a cross-section of catalogues, or advertisements, will indicate a difference of sometimes a hundred percent in the price of what is, on face value, the same orchid.

How can this be? And why is it that the firms charging the higher prices seem to be mostly well established nurseries?

There are many more factors involved than just the price of plants when a grower is contemplating a purchase. The older, shrewder and generally larger purchasers know this. We find these people patronising the established firms — because they realise the value of reliability, quality and reputation. They also know from experience, that cut price orchid vendors often do not endure very long and should a complaint be forthcoming in four or five years after purchase of flasks or small plants, the vendor may have gone out of business.

These following points are made with particular reference to the genus *Cymbidium* because it is this genus that represents bulk sales of plants cultivated from tissue. The same could probably apply to cattleyas in some other countries. Most orchid growers now know what a mericlone is — i.e. a propagation of a special clone raised from tissue culture. These can be produced from mother tissue in their thousands or hundreds of thousands, depending upon the whim of the producer.

Quite often nurseries sell little mericlones in flasks of 10 or 30 or so. The advantage of sales in this manner is that the plants are sterile whilst in flasks and can be transported, with little or no damage, from country to country,

without problems with quarantine regulations. The disadvantage of selling plantlets in sterile flasks is that it is a simple matter for any other orchid nursery to proliferate this tissue and produce hundreds more flasks from the original one. Of course, the latter nursery, without the expense of producing the new variety, or even making the early time consuming tissue excisions, can sell their secondary flasks of plants at a much cheaper price than the original nursery.

"So what!" you may say, "this will only help the orchid public to get cheaper plants!"

In the very short term this is technically correct. I will now endeavour to illustrate where, in practice, the picture is quite different.

How is a new hybrid produced? New hybrids are produced by flowering seedlings, but, much work and expense has been necessary before this takes place. A hybridist initially collects stocks of parent plant material. This is a long term policy which often takes years of study and patience to select, and then obtain, the desired clones. Often the particular clones required are very expensive.

The next stage is to flower these parent plants and then to make the crossings and record them. Of all crossings made, only about 20% produce seed pods to maturity and often some of the combinations are sterile — producing no plants even though the seed pods look normal.

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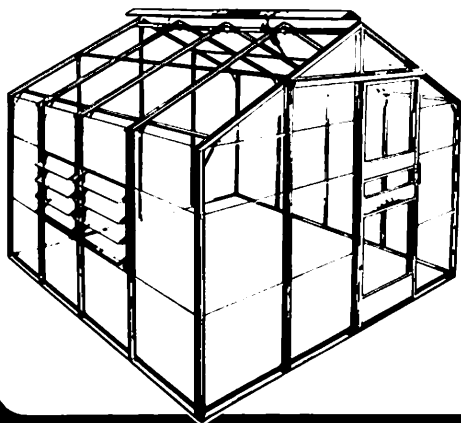
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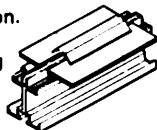
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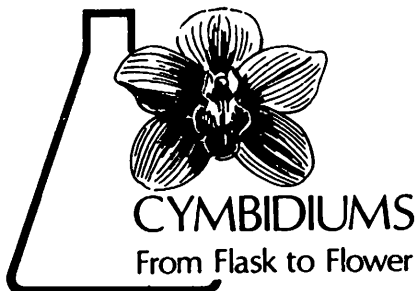


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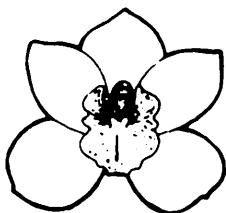


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**ENRICHED WITH BLOOD & BONE TO PROMOTE
HEALTHY PLANT GROWTH**

So many orchid growers have told us that nothing can compare with nitrosol as a fertilizer, that we'd like all the other orchid people to know about it.

Nitrosol is 100% natural plant food, derived from animal tissue and bone. It feeds the natural bacteria in the soil or growing medium and rich plant foods are readily available for absorption.

Nitrosol is highly concentrated — 1 litre makes 250 litres of complete plant food. It's a "natural" for everything that grows.

Members of Orchid Societies, please contact our Orchid Sales Co-ordinator direct re special buying concessions:

Caryl & John Sellers,

R.D. 2, Waiuku

PHONE: (085) 32-753

General enquiries to the Manufacturers:

RURAL RESEARCH LTD

P.O. Box 224, Waiuku

PHONE: Waiuku 58-098

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We offer good quality mericlones and selected seedlings at competitive prices. Some stocks are limited, including:

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- Blc Norman's Bay 'Lucille' FCC/RHS**
- Blc Ranger Six 'A-OK' AM/AOS**
- D. Hickam Deb 'Wallcrest' AM/AOS**

Interested?

Drop us a line and we'll put you on our mailing list.

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NITROSOL

Organic Liquid Fertilizer

Now manufactured under licence in New Zealand. Available in:

1 litre — 2 litre — 5 litre and 20 litre packs

Special buying concessions are available for members of Orchid Societies.

Available soon:

THE NITROSOL PROPORTIONER

takes the hassle out of watering and fertilizing.

For all enquiries and orders, contact:

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South Auckland, New Zealand — Telephone (085) 32-753

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— We Are Different —

Only tested and proven cymbidiums growing in our nursery are selected for cloning. Original plants are closely held so we alone can offer guarantees.

WE WILL NOT multiply other laboratories flask tissue for sale as is being done by some. Over multiplication can cause mutation and inaccuracies.

Following heavy orderings of all our listed varieties we are now able to offer plants and flask with short delays or for forward delivery dates.

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Loch Burnie 'Gwynne' & 'Annette' tops in creams and whites. L.B.'G' the later. October

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HCC/NZOS, OCNZ. September green, massive and productive. Only F/size plant has set 7 spikes off 3 leads this year.

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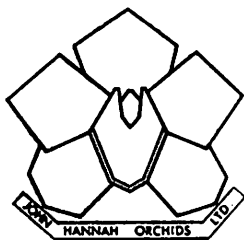
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