

ORCHIDS IN NEW ZEALAND



MARCH/APRIL 1983

Beck's . . .



ORCHID MIXES

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A. Beck, R.D.2, Ngatea, Hauraki Plains

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ORCHIDS IN NEW ZEALAND

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Cover Photo: From the private collection of Mr Cyril Pritchard of Wakatane comes this very bright orchid BLc Challenge. Thank you for sharing this beauty with us.



PUKEKURA CORNER



By George Fuller, N.D.H. [N.Z.],
Curator Pukekura Park, New Plymouth.

The role of city parks in the community is no longer a passive one if they are to justify their existence as a vital centre for the welfare of citizens. This is not to say that there need not be areas for the truly passive recreation close to nature — not everyone is captive to television — but it is currently the edict of parks administration that 'parks are for people' and very positive steps are taken to encourage people to use them. It seems a strange irony that here is a case of people not knowing what is good for them until it isn't there any more and so to avoid that irreversible alternative, we must continually remind the populace of the fact without conveying it in such blunt terms.

Pukekura Park, close to the centre of New Plymouth has a fine record of patronage and is held in great esteem by its citizens but has to keep earning that loyalty never the less. Illumination of different areas each summer has aroused intense interest over many years but daylight saving created an awkward 'twilight period' which has been ably filled by inviting dozens of organizations to come to the park over the holiday period to show themselves off to the visiting public.

The ever changing pattern of activities taking place in such a pleasant setting has kept the park alive and greatly respected by citizens and visitors, but what has all this nonsense got to do with orchids you may well be asking?

Well for several years we have been favoured by a mid-summer display of orchids by the Taranaki Orchid Society and it has become such an interesting and attractive two day event that it is well worthy of detailed mention because the representation of orchid types is quite outstanding.

Local growers have earned a reputation for cultivation of a wide range of orchid types and on no occasion is this more evident than at these January displays when the surfeit of cymbidiums is absent. Numbers are low by comparison with autumn and spring shows but in terms of actually seeing and appreciating the great diversity and interest in the orchid family this is an advantage and the public respond with great enthusiasm not to mention the enjoyment of participation experienced by members.

The range of plants bought together on this occasion was, I consider, so interesting that I include it in the hope that it will encourage other centres to do something similar. There is absolutely no element of competition and no elaborate staging or presentation — just good fun for everyone and no hassles except for the running of a raffle.

Of the 130 odd plants displayed there was something of interest for everyone but a few which caught my special attention were as follows:

Naturally, 28 open blooms of *Disa uniflora* would be hard to pass

without some exclamation but with them was a far greater rarity in the form of *Disa cardinalis*, smaller and paler in colour, but very attractive. This plant is probably the first of its species displayed in New Zealand. In a similar scarlet colour grouping was a most impressive specimen plant of *Masdevallia falcata* bearing 18 blooms. In yellow the 1—5 branched spikes of *Brassidium Hawaihi* and *Onc. sphacelatum* x Sydney created a background shower of blooms but equally as spectacular on a smaller scale was the *Howeara* 'Mini Primi' in a 75mm pot. This compact plant bore seven branched spikes smothered with pale yellow blooms and had a span of 60cm!

Another example of massed flowering relative to plant size was the *Maxillaria nigrescens* bearing 11 striking mahogany coloured blooms from a plant in a 12cm pot. In terms of unusual and attractive colouring the *Ascocenda Yip Sum Wah* 'Tangenie' (surely that would be tangerine) x *Vanda lolani* 'Red Lacquer' would have attracted many envious gazes. Strong colour was of course the emblem of the *Miltonia Jean Sabourin* 'Vulcain' in deepest red, three being exhibited and proving that even a mericlone can be variable under different growing conditions.

Few will have realised that by a remarkable coincidence we had on display probably the greatest extreme possible in size in cultivated orchids. On the top end of the scale was the fascinating wispy *Phragmipedium caudatum*, one of the 'slipper' group of orchids with its dangling twisted petals reaching up to 50cm and looking rather like the proverbial mandarin's drooping moustache. (This specimen, incidentally, had the most slender and tightly twisted petals that I have ever seen). At the extreme was a plant living up to its name and probably missed by most for that

reason — *Drymoanthus minutis* is a close relative of our native *D. adversus*, but comes from Queensland and the flowers are even smaller, if one can imagine such a thing. They are lime green, occur in clusters and are just over 1mm across which means that about 20 side by side would span an inch. One to 500 is a big ratio.

The various phalaenopsis and cattleya types were as eye-catching as ever with a good range of colours in whites, pinks, mauves and lilacs but the bluer shades, rare in orchids were found in the rather uncommon *Dendrobium victoria-riginae* from the Philippines. And finally another attractive orchid not often seen but strongly sought after was the Mexican species once considered a cattleya, *Encyclia citrina*. This particular specimen with its yellow, pendant bloom was growing in its natural form clasping to a branch.

All in all a great treat for both enthusiast and casual visitor and we hope that this display can become a permanent feature of the summer time-table.

CYMBIDIUM CULTURE MARCH—APRIL

by Gordon Maney

By now the spikes on your plants have been initiated, but so much now depends on you, whether you have good quality blooms and strong stems.

Feeding is still very important and of course you can start giving more nitrogen again.

During March I put a dry feed of four parts Super, four parts Blood and one part Potash. This is the last dry feed I give them until September. One exception of course is the earlies and they get theirs in July.

Each week in March I use a higher nitrogen liquid feed, by April its getting colder and so I cut back to once a fortnight.

Because most of us are using pine bark mixes these days, it is essential to remember the plants need more nitrogen.

Again I must emphasize the importance of thoroughly watering before feeding. Never feed a dry plant. (Water today, feed tomorrow).

I have heard of people recommending drying-out plants to make them flower. Don't do this under any circumstances. You should never let a plant dry-out. The reasons are quite obvious. If you're feeding, you must water thoroughly before, and preferably two to three days after, to stop a build up of salts in the pots. If you don't, the result will be disappointing flowering, leaf tip necrosis or burning and of course the plants will become sick.

Cymbidiums take a lot of killing, but once they go back, it's a long job to get them healthy again, if ever.

It's important at this time of the year to make sure your plants are clean, that is no scale insects or red spider.

For the former, all seasons oil with the addition of wettable powder Malathion. Kelthane for a Miticide is good for this time of the year, but you'll need to repeat spray in 10 days to get a complete kill.

Don't forget to use slug bait regularly, the slugs and snails will find the young spikes before you do.

Because most of you will be getting your plants in by April in many areas, I hope your flowering house has been thoroughly cleaned of rubbish, preferably scrubbed as well. So many beautiful blooms are ruined every year, because of neglect in this area of our culture.

REPOTTING CYMBIDIUM AND CATTLEYA ORCHIDS

by Tarris McDonald, Orchid Society of Southland

Required — Clean pots, clean crocking, mixture to be used, (we used Smiths Orchid Mix for the Cymbidiums and Bark for the Cattleyas), and plants that need repotting. The work bench should be at waist height for comfort as you can spend a lot of time there, also a rubbish bucket should be close at hand so that the old mix can be put in it.

Procedure — Take the name tag out and put aside. Carefully use a screw-driver to lever the plant out of the old pot. Free up the root ball and remove the old mix and dead roots. Have a good look at the plant for live eyes, remove the dry husks from the top of the plant, also check for mealy bug, green fly, red spider and scale, take the necessary steps to remedy the problem. Select a pot large enough to take the growth of the next year. Place some crocking in the bottom of the pot and cover with a little mix. Carefully position the plant watching the roots as the plant goes in. The potting mix is first added at the back of the plant, then round the sides working it in around the roots carefully to leave no holes in the root ball. The potting mix should only come to within a fingers width of the top of the pot. The job is not finished until the name tag has been replaced with the repotting date on its back. The old pots should be soaked in a mixture of Janola and water to loosen the roots and help to clean them prior to scrubbing so that they are ready for re-use.

I have done 200 of these this year, who's willing to help me next year?

In the mean time, many blooms to you in the season to come.



Photographing Native Orchids

(continued)

by R.J. Markwick

Lighting the subject, the natural way

One of the biggest problems facing a close-up photographer is getting enough light onto the subject to keep exposure times short (sufficient to "freeze" any movement of the subject), and allow a small enough aperture to be used to obtain sufficient depth of field. As lens extensions get longer and exposure corrections become greater, more light is needed. Since our orchids are generally quite small, the problem is to concentrate sufficient light onto them.

Lighting for orchid photographs should be soft if the true colours and textures are to be shown. Direct sunlight is not good because it tends to produce excessive contrast which can "burn out" textural details. Further more, problems with reflected ultra-violet light can cause blues to be rendered as shades of violet. (The use of a skylight filter is helpful in these circumstances). The natural light of an overcast day is, however, ideal for outdoor shots, and a subject in shade can be better lit by reflecting light from a white card or some other reflective surface. Different kinds of reflectors produce effects. Side lighting or back lighting can be used to enhance textural details. Orchids can look very effective photographed against the light as many are translucent.

It may not be generally realised by natural light photographers, but it is a fact that the colour of sunlight varies during the day. As a result, blue, green and purple flowers are best photographed in the mornings,

while reds, yellows, and oranges are best reserved for late afternoons. If you abide by these guidelines the colour saturation of your orchid photographs will be greatly enhanced. Remember to avoid strong direct sunlight. If possible, use the softly diffused and natural lighting of a cloudy day, where colour saturation is at a peak.

To maintain realism, I prefer to photograph orchids in their natural environment. However, movement caused by wind, and increased exposure times, can combine to prevent the more extreme close-ups unless flash lighting is used, and this opens up a whole new ball game. Some purist photographers even advise against using flash for flower portraiture, because, depending on the surface reflectivity of the plant, the instantaneous burst of white light will sometimes cause glare which results in undesirable, unnatural white spots.

Lighting the subject with Flash

As we pointed out, one of the significant problems facing the Native Orchid photographer is that of concentrating sufficient light onto his generally tiny subject. Furthermore, when using daylight, exposure times for very close-up (macro) work can run into seconds, and here a problem known as reciprocity failure occurs. This failure is the inability of the film to react predictably to an indicated exposure at very long shutter speeds, causing a very noticeable shift in colour balance. When exposure times are greater than one

second, Colour Correction Filters or exposure correction factors must be used. More details on this subject will be found in specialist literature, I do not propose to elaborate on it here. One way of overcoming both of these problems is to use electronic flash.

Unless a computer controlled flashgun is used, exposure is controlled by varying the aperture size or the distance of the flashgun from the subject. Neutral density filters can be used to reduce the light output and obviate the need to remove the flash to an inconvenient distance from the subject. Simple masking filters can be made by cutting the white plastic of the familiar yellow and white Kodak slide boxes, shaping it to cover the flashgun reflector and fastening with rubberbands. More than one layer may be used. Of course, this will upset the flash-makers guide number, and you will need to perfect your flash technique by trial and error.

To make things even more difficult, a problem hinted at in previous articles now complicates the issue. When extension devices or close-focusing macro-lenses are used, exposure calculations cannot be directly related to the f number engraved on the lens. An "effective aperture" must be calculated. Furthermore, because working distances are close, the tolerances permissible for "long distance" flash no longer apply, and the definition of "distance" used in the guide number formula ($G.N. = \text{Aperture} \times \text{Distance}$) needs reappraisal. It can be demonstrated that the flash location can be equated to a point source about 5cm behind the front of the flash. This "point source" error can be quite significant when the 5cm discrepancy is $\frac{1}{2}$ to $\frac{1}{4}$ of the working distance.

The effective aperture problem and the light acceptance angle of

most photo-transistor sensors, make it very difficult to develop a perfect technique for close-up flash photography using a standard computer controlled flashgun.

to be continued

O.C.N.Z. Awards

Nos. 2/82 — 13/82

Award Nos. 2/82 — 3/82; CCC/HCC/OCNZ

Plant name Dendrobium Bee Lian beauty 'Campbell'. Owner, Mr J. Campbell. Dimensions: Natural spread 85mm; dorsal sepal length 42mm, width 20mm; lateral sepals length 44mm, width 17mm; petals length 40mm, width 44mm; lip length 19mm, width 21mm; colour cerise pink, back of sepals white with pink flush. Three spikes carrying 14 flowers and 13 buds.

Award 4/82 CCC.

Plant name Paphiopedilum insigne 'Alice'. Owner, Mr and Mrs P. Lines. Dimensions: Natural spread 81.1mm; colour white with median and basal area apple green with brownish purple markings; sepals pale to yellowish green with brownish veins. Helmet shaped yellow/green lip with brown shading. Plant carried 32 flowers.

Award 5/82 HCC/OCNZ

Plant name Min. Cymbidium Little Bighorn 'Yellow Hair'. Owner, A.R. Napper. Dimensions: Natural spread 65mm; dorsal sepal length 45mm, width 25mm; lateral sepals length 40mm, width 22mm; petals length 38mm, width 25mm; lip length 30mm, width 22mm; colour pale green sepals with ochre markings on distal end of a white lip. Two spikes and 30 flowers.

Award 6/82 HCC/OCNZ

Plant name Cymbidium Rae James 'Cameo'. Owner, Mr I.D.

James. Dimensions: Natural spread 108mm; dorsal sepal length 55mm, width 48mm; lateral sepal length 58mm, width 42mm; petals length 55mm, width 40mm; lip length 30mm, width 30mm; colour white sepals and petals with white labellum blotched red on distal end. 18 flowers on two spikes.

Award 7/82 HCC/OCNZ

Plant name *Odontoglossum Stroperry* 'Pukekura'. Owners, New Plymouth City Council Parks and Recreation Department. Dimensions: Natural spread 92mm; dorsal sepal length 50mm, width 41mm; lateral sepal length 51mm, width 39mm; petals length 48mm, width 49mm; lip length 38mm, width 30mm; colour attractive balanced cerise markings on white background. Lip in proportion with pleasing light brown mask. Substance good and texture crystalline and sparkling. Strong stemmed with even arrangement of flowers giving good view from any angle. One spike with nine flowers.

Award 8/82 HCC/OCNZ

Plant name *Oncidium Tigerson* 'Albany'. Owner, W. Corbett. Dimensions: Natural spread 100mm; dorsal sepal length 55mm, width 28mm; lateral sepal length 48mm, width 30mm; petals length 58mm, width 35mm; lip length 40mm, width 35mm; colour glistening yellow barred and spotted brown. Well balanced with sepals and petals of good heavy substance.

Award 9/82 CCC/OCNZ

Name of plant, *Min. Cymbidium Sarah Jean* 'Sprite'. Owner, A. Sutherland. Dimensions: Natural spread 50mm; colour pale green with labellum white with pale mauve markings. Eight spikes of pendulous habit well balanced with 134 flowers and three buds.

Award 10/82 AD/OCNZ

Name of plant, Unregistered grex (*Cymbidium Musita* 'Pinkie' x

Cabernet 'Noel Wilson') 'Manu'. Owner, A.C. Gibbs. Dimensions: Natural spread 102mm; colour luminous cyclamen pink with self flushed lip with heavy dashes of claret red. One spike, nine open flowers and four buds well spaced and carried gracefully on arching to pendulous spike. Flowers held attention because of unusual luminous colour.

Award 11/82 CCC/OCNZ

Name of plant, *Phalenopsis schilleriana*. Owner, Mr G. Bruce. This plant carried one stem with three branches, one stem with five branches, one stem with one branch. The longest stem measured one metre. The floral display width was 530mm. Coloured mauve pink paling towards outer edges with a well shaped lip and beautifully displayed. Foliage was unblemished, leaf markings were evenly placed and the entire plant glowed with health. The plant carried 70 flowers.

Award 12/82 CCC/OCNZ

Name of plant, *Dendrobium thyrsoflorum*. Owner, Mr W.L. Goodwin. Dimensions: Natural spread of flowers 39mm; colour, sepals and petals white, lip orange yellow. Bearing 12 spikes carrying 620 flowers. This is a well grown specimen of this genera under prevailing climatic conditions. The number of spikes is considered exceptional.

Award 13/82 HCC/OCNZ

Plant name, *Howeara Mini Primi* 'Edna'. Owner, Mrs E.M. Murdock. Dimensions: Natural spread 26mm; dorsal sepal length 13mm, width 9mm; lateral sepal length 16mm, width 6mm; petals length 13mm, width 9mm; lip length 16mm, width 14mm; colour petals and sepals heavily splotched and barred terracotta over yellow. Lip chestnut over mimosa. Crest column chartreuse yellow. Lateral sepals are fused for 5mm. Two spikes bearing a total of 78 flowers.

LETS THINK CYMBIDIUMS

P.C. Tomlinson

We are now entering a very important period of our *cymbidium* culture, a time that can significantly affect both the number of spikes and flowers that will be produced next year, and their final quality. To fully appreciate why we do what at this time, it is worth considering the *cymbidium* plant in its natural environment.

Most of the hybrid *cymbidium* plants commonly grown incorporate species that in the main naturally grow as terrestrials; i.e. they grow at the base of trees and on the ground in the quite considerable depth of forest litter. Carbery¹ notes that "collectors who have brought *cymbidiums* back from their native environment found them growing under a great many different conditions. Some were clinging to trees as epiphytes, others were found in the soil where decaying leaves kept their roots cool and protected from drying out during periods of little rainfall. But usually the finest specimens were found on or near fallen trees where their roots could penetrate rotting wood."

POTTING MIXES: REPOTTING

Experience with the plants under cultivation, and observation of their natural habitats, has led to the development of suitable growing mixes. Many different products are available, and the plants seem to be able to adapt to most of them; however better results will be obtained from some than others. As noted by Carbery¹ a good mix should be porous enough to permit the ready passage of water and at the same time have the ability to retain moisture. The mix must not break down or pack at the bottom of the pot too readily; have a satisfactory pH, and be of a reasonable cost. In this locality, the use of pine bark, with or without the addition of pumice, has been found to be generally the most suitable and economical.

As removed from the tree, most barks are not immediately suitable for use in growing orchids. The bark generally will have too low a pH (i.e. it will be too acid). It will therefore have to be treated to neutralise this somewhat, and possibly at the same time remove some of the

resins and other undesirable material. The pH correction is usually achieved by the addition of lime (calcium carbonate) or dolomite (magnesium carbonate) with the other fertilisers required by the plant. The addition of superphosphate, potash, blood and bone and similar products will give the plants the fertilisers they require for their early growth; supplementary fertilisers will be required after the plants have been growing in the mix for six to nine months. The fertilisers added to the mix should be applied at about the rate of one tablespoon full per 10 litres of mix.

Withner² has completed a series of analyses which has revealed the comparatively low nutrient content of most bark mixes. This work has confirmed that plants growing in bark mixers do require quite high fertiliser applications, as naturally they provide little material of use to the plant.

The potting mix will break down through bacterial and fungal activity once it is wet, as part of the normal organic decomposition. For this reason, most mixes have a limited

effective life, in most cases only some two to three years. In the breakdown of the bark, the organisms involved require nitrogen, and can utilise all the available nitrogen, leaving little for the plant. It is for this reason that for most bark mixes, greater quantities of supplementary nitrogen fertilisers must be added. It has been said that the washing of the mix and removal of as much of the dust and fine material will retard the natural breakdown of the bark, as this removed a ready home for organisms of decay. In any case the bark must be well moistened before use as it is usually received in a very dry condition. Soaking for several days will generally bring it to a condition suitable for use, and at the same time this will help remove some of the tannins and resins present in the bark, which are not helpful for orchid growing.

There are two situations where repotting will be required:

- When the potting mix has broken down.
- When the plant has grown too large for the pot.

Whenever there are signs of the mix breaking down (often indicated by a darker colour and increased water retention) replacement of all material is desirable. The plant should be placed in a pot which allows two to three years growth; always remember that it is the size of the roots which dictates the pot size, and not the top vegetative growth. The plant should comfortably fill the pot; the mix shaken around the roots until the plant is firm. The base of the plant should be about level with the top of the pot; this allows sunlight and free air movement around the base of the pseudobulbs, an important feature in ensuring successful flower bud initiation.

In the second situation, the plant can sometimes be transferred to a

larger pot with the existing media undisturbed (known as "potting on"), new material added as required for the larger container. Often, however, it is better to replace the mix entirely, as generally the plant will show its appreciation of fresh media by increased growth.

After any repotting activity, the plants should be kept in a warm and shaded location, and only the foliage misted for a period of three to four weeks. The cut and damaged roots must be allowed to heal, and dry conditions will encourage them to grow, which is essential for successful subsequent flowering. It is also worth noting that wherever the rhizome is cut, the cut surfaces should be treated with sulphur or horticultural tar or other suitable fungicide to prevent rot and disease infecting the plant. Remember to flame the cutting tool to prevent the transmission of any virus present.

The actual process of dividing a plant is quite simple, but is more easily seen at a potting demonstration than described; if you are uncertain regarding this aspect see an experienced grower or attend one of the Society's potting demonstrations.

For success in flowering the plant the following season, the flower spikes should not be left on a plant for more than two to three weeks after the last flower is open. If a spike is allowed to remain until it finally dies, it will have drawn an appreciable amount of energy from the plant; energy which the plant could better utilise in producing strong new growths which helps ensure flowering the following season. A plant which is growing strongly will generally show pseudobulbs increasing in size. If this is not shown then have a close look at the culture the plant has been subjected to over the past year or so.

The time of repotting will generally be following flowering. Those plants which have not flowered should be repotted in the early spring as soon as increased root activity is observed after the period for winter dormancy. The increased root activity is seen by the longer green tips to the roots; a greater distance until the white velamen develops which almost covers the root tip during inactivity. The maximum time must be given for the recovery of the plant to enable re-establishment of a strong root system. Repotting in the early autumn can also be undertaken, but there must be time for a reasonable period of root growth before winter dormancy, otherwise growth problems can arise.

GROWTH PATTERNS AND REQUIREMENTS

There are two main growth patterns of *cymbidiums*. In the one type flower spikes are produced from the immature pseudobulbs. Here the new growth commences in the late winter or in early spring; this growth not being completely mature when in late summer to early autumn, the flower spike is produced, the pseudobulb continuing to grow as the spike develops. The second type commences growth during the summer, at around the same time as the flower spikes are produced from the parent pseudobulb. These have minimal growth during the late autumn and winter, bursting into rapid growth in the spring, producing mature pseudobulbs by mid-summer which are capable of making new growths and producing flower spikes.³ Whatever sequence of growth is followed, it is important that maximum growth be achieved, as it will only be the strong growths that will be capable of producing the best flowers. It is important that the pseudobulbs reach the level of maturity necessary for them to

produce flower spikes as relevant to their growth pattern; if that stage of growth is not reached, there is no way the plant can flower.

Withner², reporting studies on orchid growth, states that for good growth and flower production, an abundance of light is necessary. The exposure of plants in their natural environment varies with the particular situation, but almost invariably the plants with the most light produce far more flowers and better growths. Giving abundant light under glasshouse conditions is, however, complicated by the accompanying increase in tissue temperatures as well as higher air temperatures. It is therefore important that a balance be achieved between the level of light and glasshouse temperatures. Most plants can continue growth up to 27°C, but above this plant metabolism will be upset, and total growth reduced, with the plant destroyed if very high temperatures are maintained for any appreciable period of time. It is noted that light is more often than not THE limiting factor of growth, therefore growing the plants where full light can be given without the undesirable temperature problems should be sought. This will generally be achieved by placing the plants outside, and not in a closed glasshouse, during the summer months. This is also confirmed by the ecological studies of Sanford⁴, who concluded "lack of enough light at low enough temperatures and high enough humidity and air flow is usually the limiting factor" . . . for successful culture.

Those flowers you so enjoy are initiated during the summer period, from December through to March. For the results we so desire, the plant's particular requirements must be met.

Most of the present day hybrids incorporate a relatively few species in their breeding, and most of these

species originate from the same area, the foothills of the Himalayas, although some extend through Burma to Asia. Withner² describes the typical *cymbidium* habitat as being subjected to heavy rains, from 1320 to 3540mm (52 to 100 inches) per annum, mostly during the June to October (December to April Southern Hemisphere) wet season, which corresponds to the vegetative growth period of these plants. Since the humidity is also high, rarely below 50 percent, the plants grow under very damp conditions, especially at night when temperatures fall and precipitation occurs. The day temperatures vary from 21 to 38°C; the night temperatures range from 5 to 10°C, but often reach 10 to 15°C.

Some specific meteorological data has been published⁵ from a station which is stated to be typical of the Himalayan *cymbidium* habitat, and this information is set out in Fig. 1. Maximum monthly temperatures range from 15.5°C in the winter to 24°C during the summer; minimum monthly temperatures run from 7.7 to 19.5°C. The temperature differentials are also set out, those during the bud initiation period being 4.5 to 5°C, less than the 8 to 11°C diurnal variation often recommended for successful bud initiation. It is, however, significant to note that this day/night temperature variation is important, and it may not be possible to ensure this if the plants are kept in a closed porch or glasshouse during the summer.

It will also be noted that the summer rainfall is very high, with about 70 percent of the annual rain falling during this period. In contrast, the winters (November, December, January — May, June and July Southern Hemisphere equivalent) are very dry, with only 25mm (1.0%) of the total annual

rainfall of 2376mm falling during these months. The information confirms that the autumn and winters are fairly bright, although dry, with the summers wet with many overcast rainy days.

This habitat information must be food for thought; are you providing conditions that are anything like this? I think that it will be obvious that during the summer, an enclosed growing area will not be suitable, and that most plants would be more at home outside during this period, where temperatures will be lower, and where they can receive plenty of fresh moving air.

The plants obviously enjoy plenty of water during the summer, and the potting mix must be able to accommodate this. It must also, however, be able to dry out during the winter to prevent root damage, especially if the plants are grown in an area that is subjected to cold weather. The watering habits of the owner will also influence the mix composition, as will local environmental conditions. What will be suitable for one grower in one area may not be suitable elsewhere for someone else; hence it is recommended that you see what other growers are doing in your area, and who are growing under similar conditions to ascertain how they manage. Remember in pot culture, air must reach the roots, or they will die. The potting mix must be allowed to dry to a depth of 30 to 40mm before further watering is needed. While plenty of water is required, more plants are lost through overwatering than by any other factor. When water is given, surplus water must flow freely from the drainage holes in the container; by overwatering we are referring to the too *frequent* watering of the plant, and the associated exclusion of air reaching the roots.

FIG. 1

METEOROLOGICAL, DATE OF TYPICAL CYMBIDIUM HABITAT
Kalimpong, Sikkim, North India
Hallet^s after Titley

MONTHS		TEMPERATURES			Rainfall mm	No.of Rainy Days	No.Days with 2 hours min. sun*
Northern Hemisphere	Southern Hemisphere Equivalent	Maxi- mum °C	Mini- mum °C	Differ- ential °C			
JANUARY	JULY	15.5	7.7	7.8	11.4	1.3	25
FEBRUARY	AUGUST	16.0	8.8	7.2	38.1	3.0	20
MARCH	SEPTEMBER	20.0	11.5	8.5	28.7	3.1	30
APRIL	OCTOBER	22.8	14.6	8.2	65.8	6.5	28
MAY	NOVEMBER	23.5	16.8	6.7	113.0	8.8	25
JUNE	DECEMBER	23.8	18.8	5.0	395.0	15.9	15
JULY	JANUARY	24.0	19.5	4.5	582.0	23.3	9
AUGUST	FEBRUARY	23.7	19.5	4.2	487.0	21.2	10
SEPTEMBER	MARCH	23.5	18.5	5.0	277.0	12.0	13
OCTOBER	APRIL	22.0	15.8	6.2	65.0	3.4	25
NOVEMBER	MAY	19.3	11.5	7.8	7.4	0.5	30
DECEMBER	JUNE	16.3	8.0	8.3	6.0	0.5	25

*Full day sun is reported to be rare at any time of the year.
 Site is approximately 1200 metres (4,000ft) above sea level.

FERTILISERS

During the spring, during the period of maximum vegetative growth, the use of high nitrogen fertiliser is recommended, in order to grow the new pseudobulbs as strong as possible. During the summer and early autumn, when the flower bud initiation is taking place, and to encourage the complete maturity of the pseudobulbs, reduce the nitrogen and increase the application of phosphatic and potassic fertilisers. Maintain this fertiliser application through the autumn; give no fertiliser during the winter unless plant growth is still taking place. Remember that naturally the plants receive a low level of nutrients; therefore keep

fertiliser applications dilute, at least until you are experienced in growing the plants.

PESTS AND DISEASES

During this period, the greatest problems experienced are likely to be red spider and spider mite. These especially thrive under hot dry conditions; if you can provide increased humidity, then their ravages will be reduced. If you can see shiny white markings on the back of leaves, then these pests are active. Applications of malathion will be the most effective spray for the amateur; more potent materials are available but as they can affect the person spraying as well, cannot be recommended for general use.

CONCLUSION

It will be obvious that the period we are about to enter is an important one in our annual *cymbidium* growing programme. All aspects must be considered together to achieve a final aim, plenty of spikes and flowers the following year. Our favourite plants are quite adaptable, but will produce that much more if really given the right conditions and it is hoped that these notes will therefore be of some assistance in this regard. Try and think about your plants and read as much as you can on how they grow; it may give some insight of how your culture can be improved.

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Here is a very small and very anonymous poem!

*My Peetie Steadfast + C,
Refuses to bloom yet, for me.
It is four years from flask
So, please may I ask
Of the experts, "How long will it
be?"*

FLOWER POWER

by Tony Ballard, South Auckland
Orchid Society

The question has been asked regarding the production of show flowers (Cymbidiums) and their availability at show times — and the answer, in the main, is not just 'pot luck.'

There are several ideas that come to mind. Pick up any commercial catalogue and you will find that cymbidiums are listed as early, as mid-season and late, and the mid-season bloomers are in the majority. So it is no coincidence that we start the show season in Auckland while blooming for us is at its peak, and at Hamilton, for often the same flowers, about a month later.

Over the years, since World War II in particular, there has been a great interest in breeding plants for the early and late seasons — and the mericlones and seedlings now available here, cover a flowering period of almost nine months. The N.Z.O.S. Annual Winter Show has changed in a dramatic manner. The top trophies are awarded to paphiopedilums, at their peak in July, yet the display is now dominated by cymbidiums.

Like any other competitive activity, there are several ways to reach the top.

1. Each year, try to upgrade the quality of your flowers.
2. You can make your choice from the various listings and colour catalogues — most will be small mericlones so lots of patience needed here to grow on to maturity in four or five years.
3. Subscribe to one or two overseas periodicals (USA, Australia or UK) all readily available here, and see what is winning shows and being awarded in these areas.

4. Attend all the shows in your area, and make a list of the winners in the quality and colour sections — and start searching!

5. A word of restraint. Don't just rush in and try to buy everything that appears to be 'new' — many shows are won by 'old' names, and they appear year after year.

6. When you have flowered the same plant a few times you must observe very closely. If the buds are opening too soon, try to keep the plant in a cooler position. If too slow, some warmth is a help (many brighter colours have opened in the sunshine in our lounge, for the July show.)

7. At all times, try to grow the same plants, just that little bit better than you did last season! It follows that with better culture you can increase the length of the spike, flower count and size.

8. A second plant of a 'hot number' is always useful as a reserve, to the plant you think will be ready on time!

9. Remember, flowering time can change with our weather patterns over the whole year, but by and large, the average for each plant will be the same. But you can never tell! Here are a few examples:

Levis Duke 'Bella Vista' Green. A top flower in 1979—80 September shows, observed in three places still coming out in late October.

Wallara 'Gold Nugget' — Two years ago at Waikato, nine plants on display — this year one only.

Clarisse Carlton 'Shot Silk' — for many years a top polychrome at Mt Albert — this year, not a single plant on display!

Etta Barlow 'Opalescent' — a soft pink. Three years ago at least four on display — this year, only one.

And lastly, Allegria 'St Lita' — a lovely large soft pink. Winner at Papakura 1981—82 and at Mt Albert this year as well, with three different growers and plants.

The cross is Balkis x Rincon. registered 1962! Silver Award, CSA 1969 and the same year an HCC/AOS. I wonder what will turn up next year?

P.S. Remember that if you divide all your best plants this year, you will probably spend the next two years growing them back into top gear.



CYMBIDIUM SPECIES

C. sinense var. hoosai

The plant displays highly scented purple-brown flowers.

Although once recognised as a separate species. *C. hoosai*, it is now considered as a variety of *C. sinense* for registration purposes, and Hawkes gives only faint mention under *C. ensifolium*.

C. hoosai is a native of China and its off-shore islands, including Taiwan.

As described in the "Formosan Orchids" by Chow Cheng, *C. sinense* is found throughout the island, at altitudes of 1,000—400 feet, and grows in semi-shade in open forest.

The leaves are broad-linear, about 2.5—3cm wide, of good texture, dark green. Spike is about 30cm long and upright, bearing many 5—8cm flowers. Colour is variable, usually brownish—purple, lip marked with red—purple spots.

In Taiwan it flowers around New Year's Day (Chinese, usually early February) and the Chinese name PAO-SUEY LAN (NOTIFY THE NEW YEAR COMING ORCHID) indicates this.

Favourite Mexican Species

W. James Harper

PRESENTED TO THE WELLINGTON ORCHID SOCIETY, FEBRUARY 1, 1982

A number of Mexican orchid species are suitable to cool growing conditions and should make good cymbidium companions. The following is a list of orchids that we have collected, that grew in our coolhouse at a night temperature of 10C — and are favourites of ours (were is better tense, since we had to give them away on coming to New Zealand last April). They were collected at elevations ranging from 1,000 to 3,000m, many experiencing occasional frosts. They do like a little heat in winter but can grow in unheated houses — in which case, those that bloom in fall and winter will give better flowering than those that bloom in spring. They are cloud forest species, getting wet every evening and getting warm during the day. They generally grow near the tops of mountain ridges and get good air movement. Thus they tend to dry out each day as well. Many are suitable for pot culture — liking an open, well drained media. Many of these are miniatures, although a few grow very large. A number of these are already in New Zealand collections, others are worth the challenge.

BARKERIA

Plants with slender cylindrical stems with alternate leaves; deciduous; best cultivated on mounts; flowers from top of stem, with six to 20 flowers per inflorescence — long lasting.

chinensis — miniature plant with 6—8cm stem; flowers about 2cm, cream to yellow sepals and petals, lip yellow with red spotting; flowers not fully open, some self pollinating; prefers 15°C night temperature. (midwinter)

elegans — stems to 20cm; flower striking to 6cm across; sepals and petals a rosy lilac on front and pale on back, lip white with magenta splotch on front. (fall, winter)

halbineri — 15cm stem with five to 15 pink to mauve flowers, about 2—3cm; grows on rocks in a single area in Mexico. (spring)

palmeri — small spindly stem from 4 to 15cm high; small 1—2cm lavender flowers with narrow petals and sepals and heart shaped lip; keep dry when leafless, but mist weekly. (winter)

BRASAVOLA

A small genus of about 15 species; slender or thickened

stems, one or rarely two leaved; flowers generally showy; grow best in baskets; prefer 12—13°C night temperature, but grow at 8 to 10 C.

cucullata — leaves are long pencil like, up to 60cm long; single white to greenish-white flower, fragrant, long tapering sepals and petals — from 10 to 18cm long, lip fringed with long tapering “tail”; long lasting — up to two months. (winter)

glauca — resembles a laelia in growth, with 10 to 15cm leaves; solitary white to greenish white flower, 7—8cm, with narrow sepals and petals and large, unfrilled lip, long lasting. (spring)

Nodosa — highly variable in size of plant and flower; leaf fleshy with groove on one side, generally 18 to 24cm long; one to six flowered, 5—8cm, cream through yellow-green to pure white; flowers long lasting and fragrant at night; short forms usually more cold temperature tolerant. (variable, can bloom all year)

BRASSIA

Thirty or more species, closely allied to *Oncidium*. Commonly

called "spider" orchid because of its long, tapering petals and sepals; commonly have large flattened pseudobulbs; flowers from base of pseudobulb in long arching inflorescences; like light, intolerant of broken down compost.

caudata — variable in size and shape; three to 12 flowered, raceme loose to dense, flowers 10 to 20cm long, fragrant, waxy, sepals and petals yellow greenish with brown splotches; sepals and petals long and tapering (autumn to winter).

verrucosa — leaves to 35cm, raceme to 60cm with five to eight 20cm long flowers, pale green, spotted with dark green or reddish colour, lip white to cream with prominent green-black warts. (spring to early summer)

CATTLEYA

aurantiaca — bifoliate with long slender pseudobulbs to 35cm. Flowers yellow to orange-red, few to many, flowers generally small — 3 to 6cm; often not opening fully and frequently self pollinating, best clones not self pollinating and open fully — appears to be geographically related. (fall to late winter, depending on geographical origin)

ENCYCLIA

The *Encyclia* were previously included in *Epidendrum*, but have been separated on the basis that the column is only partly united with the lip; the stem is almost always a pseudobulb; rostellum is thick; generally no viscidium; hood over column (*clinadrum*) is three lobed. Plants vary from miniature to quite robust, and from single to multiple flowered.

adenocaula — inflorescence branched and many flowered; distinguished by its rose-pink flowers with narrow sepals and petals; 3—5cm. Previously called *nemorale*. (spring)

belizensis — conic-ovoid pseudobulb, two leaves 9—50cm

long; few to many flowered, flowers greenish to olive green streaked with brown, 1.5—4cm. Similar to *adenocarpon*. (late spring to summer)

citrina = *karwiuskii* — the name of this distinctive orchid has been moved around over the past decade; from *Cattleya citrina* to *Encyclia citrina* to the earlier name of *Enc. karwiuskii*; because of registered hybrids, the horticultural name remains as *citrina*. Grows with pseudobulbs hanging down with pendant large, fleshy golden flowers; flowers 5 to 9cm long, never opening fully. (spring to late summer)

diota — ovoid pseudobulbs, one to two leaved; five to 20 flowers, 2—4cm, flower is round, sepals and petals rounded at ends, yellow with reddish brown veinations; variety *atrorubens* is reddish lavender. (spring)

fragrans complex — the cockle shell orchids with the lips distinctly striped with red-purple; there are 10 species in this group, many that are difficult to tell apart — they include *Enc. abbreviata*, *baculus*, *chacoensis*, *chondybulbon*, *cochleata*, *fragrans*, *lancifolia*, *neurosa* and *vagans*. All but *chochleata* and *neurosa* look similar at first glance; flowers generally about 2—3cm. (Flowering time differs, the complex would give flowers the year around, with *choleata* flowering at any time of the year).

ghiesbrectiana — a real gem — medium size plant with 5cm pseudobulbs; one to four flowers, 2.5cm, waxy surface, sepals and petals greenish brown to redish brown with distinctive large flat lip. Difficult to maintain in cultivation for long periods. (spring)

hamburyi — pseudobulbs conic-ovoid, 2.5—8cm long; one to two leaves per pseudobulb; inflorescence simple or branched, 10—35 flowers 2—4cm, sepals and

petals brown or yellow brown more or less stained with purple, lip pink to white heavily veined with phlox-purple. (spring to summer)

mariae — a striking species growing up to 1000m, unmistakable by its white lip that enfolds the column and its grey-green foliage. Pseudobulbs conic-oid, 2—4cm long; flowers one to four about 6cm across, sepals and petals greenish yellow to green, large white lip 4—7cm long; lip is ruffled and has green lines in the throat. (late spring and early summer)

pygmaea — miniature plant with 2—3cm long, ovoid pseudobulb; two to four rather insignificant flowers, 0.5 to 1cm natural spread, greenish yellow sepals and petals with white lip. (fall)

selligera — pseudobulbs clustered, 4.5—8cm long; two leaves per pseudobulb; inflorescence is branched with 10 to 30 flowers; flowers 7.5—3.5cm across, sepals and petals pale green more or less suffused with red-brown, lip pink or cream (rarely lavender) with lavender streaks in centre of mid-lobe. (winter to mid-spring)

subulatifolia — miniature — the exception to the rule, it has no pseudobulb; stem to 8cm with two to three sub-cylindrical leaves; two to eight flowers on a simple or branched inflorescence, opening in succession; sepals and petals pale greenish yellow with redish veins, lip with three yellow green keels. Delightful under a 10 power glass. (winter to summer)

vitellina — the only orange-red *Encyilia* in Mexico, a large plant in bloom is most striking; pseudobulbs ovoid-ellipsoid to fusiform, 3—8cm long; two to — colour with petals and sepals broader than the lip; grows to 2700m in tops of tall trees — a challenge to grow. (spring to fall, variable through the year)

EPIDENDRUM

The distinctive characteristics of *Epidendrum* are a slender, leafy stem (rarely have pseudobulbs); a column entirely united with the lip; the rostellum as a thin plate, deeply slit, forming a viscidum to which the plinia are attached; hood over anther never lobed, may be fringed. Vary from miniatures to plants with two meter stems. A large genus with up to 1,000 species.

arbusculum — elongated pseudobulbs, branching, sometimes scandant to two meters; several cleaves clustered at top of each branch to 15cm long; inflorescence pendulous to 20cm long; flowers about 2—3cm, greenish yellow to rust-red; regularly exposed to frosts. (spring)

ciliare — highly variable in plant habit, often scragly — growing in the open epiphytically or lithophytically; plant to 50cm tall; two to six white flowers, 7—18cm across — fragrant, waxy, long lasting; sepals and petals greenish white to greenish yellow, long and tapering to thread-like at the end; lip is white with a bright yellow disc, fringed lateral lobes and a sharp, needle like midlobe. (autumn—spring, often more than once a year.)

diforme — highly variable in size with stem between 10 and 50cm, alternating, elliptic leaves; flowers variable in size but mostly about 3cm, growing in a cluster terminally, fleshy yellow green to dark green in colour (occasionally white), translucent. (mostly autumn—winter, but can bloom throughout the year.)

miserum — miniature with 1.5-2cm pseudobulbs that lose their leaves with formation of buds; leafless bulbs are shrivelled, giving the name; two to six flowers to 1.2cm long, greenish yellow finely spotted with red. (summer)

oaxaca — reed stem to 40cm with alternating leaves; cluster of from

five to 20 flowers sub-terminal, about 1—2cm across, sepals and petals greenish yellow to brown; lip fleshy and maroon in colour, heart shaped; flowers long lasting. (spring)

PORPAX = *Neolebmannia*
porpax — a specimen plant is a show stopper; miniature plant which forms a mat of closely clustered 6—8cm stems that are strongly branching; leaves about 1.5cm long and dark, shiny green; single flowers come from the tip of each stem; the flowers have been likened to shiny beetles, are about 2cm long, with green dorsal sepal and petals standing above the lip, the lateral sepals are united at bases and hidden; the rounded lip is smooth and shiny with a deep red-

brown colour that is bordered with green. (summer to fall)

POLYBULBON = *Dinema*
polybulbon — the single species in the genus; creeping plant habit with little pseudobulbs, 1.3cm tall with a pair of 4—5cm long leaves; flowers small, to 3cm across, generally single; sepals and petals yellow to yellow brown; lip white and spade shaped. (winter)

SCHLECTERIANUM — miniature with scrambling habit, stem covered in leaf-bases, branching at base, up to 10cm long; leaves thick and fleshy, up to 2cm long; inflorescence inconspicuous with one to three flowers; flowers pale greenish brown about 1.5cm in length, lip has maroon marks on either side, fleshy. (summer)

Culture of Phalaenopsis

Alan Beau, Wellington

The genus *Phalaenopsis* (moth orchids) contains about 30 species of deservedly popular, highly attractive, easily grown species, and a huge variety of elaborate hybrids have been made in recent years. The 'phalies' have an undeserved reputation for being difficult to grow, but I find them one of the easiest genera of orchids to grow and to flower. The best guide to culture, hybrids and the features of species of *Phalaenopsis* is Mary Noble McQuerry's excellent little book "You can grow *Phalaenopsis* orchids" (1971, Publ. by author, Jacksonville, Florida, 148pp., many bl. & wh. illus.), price U.S. \$4.95 from: Mary Noble McQuerry, 3003 Riverside Avenue, Jacksonville, Fla. 32205, U.S.A.

POTTING: The most crucial thing about the culture of *Phalaenopsis* is that they simply must have a lot of air around the roots. So they must be potted in coarse bark, or charcoal, or any other coarse, open, non-rotting medium, in open containers. Suitable containers are clay pots with enlarged bottom holes, or plastic pots with large (say, 2.5cm) holes cut in the bottom and all sides (I put two holes in each side of a 4" pot) or, best of all, wooden lath baskets. They dry out particularly rapidly in wooden

baskets, so many growers put sphagnum moss around the top of the plant to increase humidity around the roots a little.

TEMPERATURE: *Phalaenopsis* grow rapidly and easily if their temperature never falls below 60°F, and are really weeds at a minimum of 70°F. So, despite the fact they will survive and grow, and even slowly flower, at a winter morning minimum as low as 45°F, they are more successful the warmer you can afford to keep them.

HUMIDITY: Another important factor in keeping Phalaenopsis happy is high atmospheric humidity. Again, the higher the better. If you can't give them a really high humidity, but can supply good heat, they will grow well if they have moss on the top of the pots, a very free-draining mix, and you water them every day (that's what I do). During really warm times you can water more than once a day!

FEEDING: There seems to be no limit to how much feed Phalaenopsis will take. Many growers use pieces of dried, odourless cow manure on the top of the pots, so they get a high-nitrogen feed at every watering. However, the plants don't seem to flower at their best unless you also give them a high-phosphate, high-potash, low-nitrogen fertiliser once they reach adult flowering size. (I use and recommend "Phostrogen"). I feed my plants almost every day. Some of our members feed them with unusual "extras" such as sugar solution.

AIR MOVEMENT: As with most orchids, culture of Phalaenopsis is greatly aided by a lot of moving, humid air. So running fans continuously is a big help. It helps to dry the leaves, and especially the central crown, after watering.

Keeping the crown dry is a special problem with Phalaenopsis. Apparently the plants hang downwards in their natural state, and so the crown drains after rain. So in pots they tend to rot in the crown unless they are watered with care, or dried afterwards. However, they seem to dry adequately by themselves if watered with water that is at atmospheric temperature, and kept in a very warm atmosphere.

LIGHT: Phalaenopsis don't like too much bright light, certainly no direct sunshine. Moderately bright light, so that the hand held over the plant only just fails to leave a

shadow, seems to be about right; if it's too dull, the leaves will be lax and they don't flower so readily. So you may need some shading over the part of the house your "phalies" are in, especially during summer.

SPECIAL CARE FOR BABIES: Tiny plants out of flasks grow very quickly in a special air-tight cabinet with thermostatically controlled heater set at a minimum of 70°F, high humidity maintained by frequent spraying, or a water bath, and extended "daylight" hours produced by "grolux" or similar fluorescent tubes running for about 16 hours a day, on a time switch. Obviously a fan is essential to move air about inside such a cabinet. They are best with the lights above a glass or perspex top, as the cabinet can get too hot otherwise.

So, in summary, Phalaenopsis grow best in warm, very humid, moving air, in a very open medium in airy pots and when watered and fed profusely. Then it really is very easy to make them produce their beautiful long sprays of large, long-lasting flowers.

THE GORE ORCHID GROUP

*from the Orchid Society of Southland
newsletter*

Some members may not be aware of the forming of an orchid group in Gore. They have been meeting now for the last two or three months, at the Gore High School on the second Tuesday of each month. The President is Mrs Anne Curry and Mrs Chrissie Donald is the Secretary, both are members of our society, who have travelled through from Gore to attend meetings here, an hours journey each way. John, Leone and Tarras, Ray and yours truly were at the October meeting, John being the guest speaker. John presented the group with a book from our society, hopeful it will be the start of their library.

*Best wishes to the new Gore Orchid Group,
may your interest grow and your orchids
prosper.*
Ed.

Cattleya Culture

Ian M. Milne, Wellington Orchid Society

MIX:

Half inch pieces of fir bark and charcoal, say, three of bark to one of charcoal. This is a very good mix for those plants which are being grown without heat. It is very free draining and roots do not suffer to the same extent in the winter time. However, in the summer time it will be obvious that fairly frequent watering will be required. If the coarse mix does not suit your requirements add fine bark till it does. Keep in mind that adequate drainage must still be provided.

POTS:

I prefer plastic. It is cleaner, plant roots do not stick to the sides etc. as much as they do with clay pots, which makes for easier removal of plant when repotting or dividing. Also additional drainage holes can easily be made with a piece of heated pipe of the desired size.

TEMPERATURES:

Laelias can go down to near freezing, say, 35 degrees F. without harm. In fact, they prefer to grow cool with a maximum of 70 degrees F.

Laelia-Cattleyas slightly warmer with a minimum of 50 degrees and maximum of 75 degrees F.

Cattleyas about the same.

Brassolaeliacattleyas do better with some warmth but will still grow and survive with temperatures down to 50 degrees F. provided they are kept fairly dry during this cold period.

LIGHT:

As much sunlight as you can give without burning. In fact some of my cattleyas have been sunburned but it has done no harm except to the appearance of the leaves. This amount of light should only be given during the growing period. See general culture.

GENERAL CULTURE:

All the Cattleya family seem to require a rest period. After flowering, tidy up the plant, remove dead sheaths and any loose fibres.

Place the plant in the shade and leave dry. Spray occasionally with water, only enough to prevent shrivelling. After a few weeks new growth will be noticed. Now is the time to feed with a high nitrogen fertiliser. Lush or liquid fish manure are two quite good ones. Keep the plant damp. When the new growth is about four inches high gradually increase the light to maximum. Change your fertiliser to Phostrogen, alternating with the nitrogen.

When the new growth opens at the top give Phostrogen only. The flower sheath should shortly appear. When this happens stop feeding and reduce water to misting only. Keep in strong light. If you continue feeding and watering your plant it will continue to grow but will produce blind sheaths and no flowers. The time to give in to that great urge to feed and feed to produce the best ever flower is when you can actually see the flower inside the sheath. When this happens, back to the Phostrogen and feed at manufacturer's rating two or three times a week. Also flush with water two or three times a week and always before feeding. Be careful not to get water in the sheath or even in the leaf beside it as this can cause the sheath to rot and you will lose that hard earned flower.

PESTS AND DISEASES:

Most of the *Cattleya* family have to be watched fairly closely for black rot. This takes the form of quite black patches in the leaves and bulbs. These patches very quickly turn soft and travel down the bulb and, if not treated quickly, can cause the plant to die. To treat cut out all infected parts and soak the plant leaves and all in a solution of Benlate for a couple of hours. Keep the plant dry and cool, withholding all food and water until you see new growth. Even then be very sparing with the water and spray at least once a week with Benlate. The disease is caused, I think, by lack of drainage and too much water. It can

be prevented by spraying with Benlate once or twice a month. This spray will also take care of any sooty mould that may appear. Preventative spraying is, as usual, the answer as it is very hard to eradicate.

Scale is sometimes a problem but only if neglected. It is a small flat insect that sticks to leaves and bulbs and will quickly suck the life blood from your plant. Being grey in colour it is easily overlooked, so do just give that few extra minutes to a good inspection. Treatment is easy. I use a stiff small paint brush with Methylated Spirits. This seems to turn them up.

IMPORTED QUALITY MERICLONES

From McBeans Orchids Ltd of England

Four brand new miniature clones from this world famous nursery will be available in early April.

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CYMBIDIUMS

MERICLONES AND SEEDLINGS

of consistent high quality in a wide range of sizes and prices

ROWLAND & McCARLIE
Annandale Road, R.D. 1, Kumeu



A TASTE OF THE UNUSUAL

BRASOEPEDENDRUM PEGGY ANN X CATTLEYA AURANTIACA

An exciting Vaughnara, combining the growth of *E. pseudopedendrum*, the substance of *B. glauca*, and the colour of *C. aurantiaca* **\$6.00**

SOPHRONITIS ACUNAE

This delightful miniature is from downtown Bolivia. Bright orange/red flowers. Near blooming size. **\$8.00**

BLC MEM. JOSEFA MARTINEX

Striking deep orange flowers produced in clusters. *B. nodosa* habit. **\$6.00**

HOWEARA MINI-PRIMI

A further release of this extremely popular miniature. Fast growing near-flowering size plants which can bloom more than once a year. Sprays of red and yellow flowers. **\$7.50**

(C. EUCHARIS X L. ANCEPS) (X C. MT. BAKER 'RUBEN' HCC/AOS

Award quality white flowers of heavy substance on long spikes. **\$6.00**

SCHOMBODIACRIUM ORCHIDGLADE X BRASSAVOLA NODOSA

Creating a new genus. Expect large clusters of dark reddish/purple flowers on compact plants. **\$6.00**

Strong healthy plants in 65mm pots. Collection of all six including postage for \$37. Otherwise please add \$2 to cover packing and letter rate postage.

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ORCHID SPECIES

ROTORUA

TINOPAI ORCHIDS

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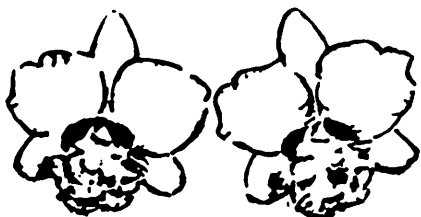
- * **Crispum type Odontoglossums**
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We all know there are some fine new orchids appearing on the New Zealand Orchid scene every season. Just how good are they? To be truthful, some are overrated — "the best early pink we have ever produced" may look good in a local advertisement but may not mean much in objective world quality. But what about the potential champions down-under that have hitherto been "blushing unseen?"

GEYSERLAND OFFERS A SOLUTION!

Starting in 1983, we will offer to personally transport your prize blooms to the United States for American Orchid Society judging. It is anticipated we can offer this service in June, August and October with the possibility of at least one additional date as the year progresses.

We guarantee:

- 1) To carefully pack your flowers and transport them with expert handling.
- 2) To process all agricultural and customs formalities at both ends.
- 3) To enter all sprays for the American Orchid Society judges consideration at a regular monthly judging.

COSTS:

Minimum charge per flower box \$150.00. Each additional inflorescence in the same box \$15.00 up to a maximum of two standard or four miniature cymbidium sprays per box. Contact us for details on Paphiopedilums, Cattleyas and other genera.

NOTE:

For any flowers from Featherhill/Geyserland hybridized plants you pay only \$150.00 per box, all additional sprays in the box ride free!

We must reserve the right to refuse any spray which fails to gain a Phytosanitary Certificate and may withdraw this offer without further notice.

If you've got some *outstanding seedlings* it's time the world at large got to hear about them. Should the reverse be true, maybe this offer will help reduce the number of exaggerated claims made for inferior stock. So start training your spikes and drop us a line. We'll keep you posted on final dates and here's hoping you'll get some high A.O.S. awards in 1983, thereby helping to put your stock and New Zealand, on the world orchid map.

GEYSERLAND ORCHIDS LTD

P.O. BOX 162, ROTORUA

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Rotorua

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List available on request

A.G.M.

ORCHID COUNCIL OF NEW ZEALAND

TO BE HELD IN

**Palmerston North,
Saturday, May 28, 1983**

VENUE: Chalet Restaurant, near
the Teachers Training College
on the Massey University side of
the city.

TIME: 1.00pm

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Over 300 varieties to choose
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Early to late flowering.
15cm to flowering size.

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New range of Mansell & Hatcher Flasks, small plants, and flowering plants.

Wide range of Cymbidiums from flasks to flowering plants.

Competitive prices.

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NZ E.G.O.

All intending and exporting orchid growers, orchid plant retailers, orchid tissue culture laboratories, orchid export companies and interested persons, are invited to write for further information regarding the above Association to:

**The Secretary,
NZ E.G.O.
P.O. Box 1119, Tauranga**

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We have one of the largest collections of
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*We offer an extensive range of
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in 5cm pots — some available in
7 cm and 10cm sizes*

**NEW SPECIES ARE BEING
ADDED CONTINUOUSLY**

Also a large number of
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plants available

WRITE NOW FOR OUR LATEST LISTS

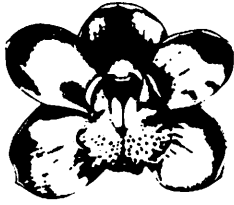
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VISITORS WELCOME

Please make prior arrangement
if possible



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Well Grown Miniature Cymbidium Orchids Available from the Nursery Now

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|---|----------------------------------|
| 1. Amesbury 'St Patrick' HCC | —Ex green |
| 2. (Amesbury x Peter Pan) 'Mikado' | —Early green Orange/
red lip. |
| 3. Dag 'Dandy' | —Yellow/green pure
colour |
| 4. Dagonet 'Pink Beauty' | —Pink |
| 5. Ensikhan 'Alpha Orient' | —Early pink |
| 7. King Arthur 'Merlin' | —Bronze/yellow |
| 9. Mary Pinchess 'Limelight' | —Yellow green |
| 10. Oriental Legend 'Cinnamon' | —Light tan |
| 11. Oriental Legend 'Enchantress' | —Soft pink |
| 12. Oriental Legend 'Golden Harvest' | —Light yellow |
| 13. Oriental Legend 'Wild Rose' | —Deep pink |
| 14. Pelleas 'Zuma' | —Light brown |
| 16. Sharon 'Kermit' (Showgirl x Amesbury) | —Green |
| 17. Swan Lake 'Snowcap' | —White |
| 18. (Sweetheart x Ann Green) 'Pink Gin' | —Pink (soft) |
| 19. Sylvia Miller 'Serendipity' | —Bright yellow |



\$10.00 each plus \$3.00 freight and packing per shipment in New Zealand. New customers \$5.00 deposit with each order please.

Contract seed sowing and replating service. Write to the Manager, Tony Minett for details.



**These could be so good for you.
Surplus to our Export Flower replacement stock.**

Established plants (30) @ flask rate	Min.leaf	\$
Tapestry 'Zita' A.D. top commercial red	15cm	80
Rothesay 'Black Label' world renowned brown	15cm	100
Sleeping Cathie 'Mokorua' prize winner orange/yellow P.C.	15cm	100
Candyland 'Juliana' top European type pink com.	15cm	100
Candyland 'Mokorua' could be better than C 'J'	15cm	100
Loch Burnie 'Kirstie' longlasting midseason white	15cm	100
Baysun 'Harvest Moon' free flowering large cream	15cm	100

Even better — Many of the plants below are over 30cm

Pappa Sam 'Penshurst' top commercial green		100
Guadalajara 'Siesta' B/CSA outstanding Sept. orange/yellow		150
Baltic West 'Jubilee King' HCC/NZOS, OCNZ, huge Sept. green		125
Kai iwi 'No. 1 Red' Midseason red.		100
Loch Burnie 'Glen Mist' shapely appealing soft green		125
Loch Burnie 'Gwynne' midseason cream heavy sub.		100
Loch Burnie 'Annette' chalk white Sept.		100

Miniatures

Mini Mint 'Mokorua' yellow green P.C. July	15cm	100
Amesbury 'Levin' tall multiflowered green July	15cm	80

Seedlings standards reds, browns, polychromes

Sensation 'Kimberley' x Khyber Pass 'Rotunda Red'	15cm	50
Volcano 'Menehuene' x Vieux Rose 'Dell Park'	15cm	50
Regency 'Ruby' x Kyber Pass 'Rotunda Red'	15cm	50
Loch Lomond 'J.B. Russon' x Vieux Rose 'Dell Park'	15cm	50

1982 seedling flasks now sold out but 30 established plants available @ flask rates, see our 1982 catalogue for descriptions.

NO, we're not hitting the panic button. Just arriving at the type of service we wish to offer.

Single plants and com pots available as usual.

BURKE'S ORCHIDS

White Horse Drive, Mokorua, Whakatane — Phone: 88-648

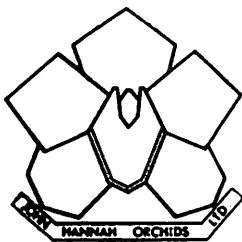
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● **MERICLONE FLASKS — CYMBIDIUMS**

5s \$15.00, 25s \$45.00

Imported 40+ from \$85.00

● **SEEDLING FLASKS — CYMBIDIUMS**

Standards \$59.50 (approx. 45)

Miniatures \$69.50 (approx. 45)

DISCOUNTS AVAILABLE FOR QUANTITY

We also have a large range of mericlone and seedling plants in 7cm pots at very competitive prices. Visit us and see our range, write or phone for lists. Many old faithfuls and lots of new exciting clones and crosses.

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Open Monday to Saturday, 9 a.m. to 5 p.m.

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