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JUNE 1992

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.In Momoriam

Brian Clark

It was sad to know we had lost Brian on 25th September 1991. Many of our newer members and readers of Orchids in New Zealand bluow not remember Brian as his health had not been the best for some time. He was a foundation member of the Hawkes Bay Orchid Society and dedicated to the promotion of growing orchids over a long period of time. Brian was President when I joined and had been on the executive since its formation. A friendly and helpful, although shy man, always ready to join a 'panel of experts' to answer questions on the culture of orchids from his great practical knowledge. He handled many a busy 'potting session' at our meetings and shows. His success with Cymbidiums was outstanding. As a raw beginner I went to visit Brian and pick up some potting mix he used to sell in those days and he proudly showed me his greenhouse. It was spring and full to overflowing with flowers — a truly dazzling display. He could laugh at himself though. He tried an experiment one year -

not staking the *Cymbidium* flower spikes and let nature take its course! the difficulty in transporting these unruly plants to a meeting or show was hilarious "never again" he said!

Brian was a supporter of the fledging Orchid Council of New Zealand and one of the early Hawkes Bay members who pushed for the Council to be formed. Many readers and former members of the Council will remember Brian Clark's efforts as he was on the executive for many years and a Hawkes Bay delegate to many CONZED AGM's.

When the big Cymbidiums became too heavy for him he turned to Paphiopedilums and excelled in these as well. At our last Spring Show the quality of his plants was clearly demonstrated with them picking up places in our Award competitions. Our Society would not be as friendly and as strong as it is today without that early dedication and example set by members such as Brian Clark.

Iris Burge, Secretary

A GINHEREN TO BALAND

ang to the state

A Tribute to Merv U'ren

Members will be sad to hear that Merv U'ren recently passed away and our kind thoughts go out to Kim at this time.

Merv and Kim joined the North Shore Society in March 1978 and both immediately became actively involved, Merv becoming a member of the Judges Panel in 1980, just prior to the International Conference. The charm and fascination of orchids verv soon became a challenge to Merv and he was not satisfied with just becoming a very good grower. Very soon he set up a small laboratory, and commenced breeding and flasking, firstly Cymbidiums, then Odontoglossums and other genera, his most recent interest being the Australian native orchids.

As well as North Shore he also became an active member of the Thames Valley and Orewa Societies. In recent years sadly failing health forced him to slow down. Always generous and helpful he will be sadly missed by his many friends in the orchid world.

66

DEFINING MINIATURE AND NOVELTY (INTERMEDIATE) CYMBIDIUMS

by Dennis G. Bonham

 $\overrightarrow{\mathbb{R}}^{0}$ efore we consider the definition of *Cymbidiums* other than standard it is useful to ask ourselves why do we judge?

Is it solely for the sake of improving the ego of the judges and the exhibitors are there more or fundamental reasons? I suggest that because judging aims at perfection there is an important relationship to commercial developments. Judgings should take note of commercial trends and help them to be developed with hybrids of maximum quality. With the trend towards smaller plants, and the massive Japanese and European move to pot plant styles our judging should lead the of development appropriate hybrids. Another aspect is that we have now thoroughly mixed our standard Cymbidium gene pools to such an extent that we must be within sight of More perfection. excitement rests therefore

in Novelty and Miniatures of the future than in standards.

The move to Novelty and Miniature hybrids involves the use of small species. It seems to be too difficult to define the small species and so we take refuge in defining large species. These are:erythrostylum, eburneum, hookerianum (Cym. grandiflorum), iridiodes (Cym. giganteum), insigne, lowianum, and sanderae (Cym. parishii). If we use what are clearly small species in the relatively recent parentage, such as floribundum. (Cym. pumilum), madidum, suave, canaliculatum, and goeringii we must expect that our hybrid products will have a less filled in form. With madidum the flowers are small but the foliage is large.

This month we present papers presented at a recent Cymbidium Society of America (N.Z. Branch) Seminar on Novelty Cymbidiums.

Feature of the Month

The papers present a series of views on this ever popular group of plants.



Cym. Little Moonbeam 'Apricot Dew' Grower: Norm Porter

MINIATURES

The move to Miniatures (and Novelties) with small species in recent parentage means that the allocation of 36 points to form and requiring 75% of this as a minimum for a medal is unfair to non-standards so that the point allocation had to be changed. Interestingly the CSA have the most points for form (and colour) of any of the well-known judging systems and the jump to 20 each for form and colour in the non-standards has been quite a step. The RHS and the NZOS systems do not have a points problem as they use appreciation,

while the AOS retain their 30 each for form and colour with 10 each for size, substance and texture, habit and arrangement of inflorescence and floriferousness, in both the *Cymbidium* and the general scales.

Considering the CSA miniature points scale first we note that the total for form and colour drops from 72 to 40% and the emphasis moves to increase the emphasis on spike habit and flower arrangement 10 each, floriferousness 15 (up from 10), adding overall charm and distinction at 10 and even a bit on foliage 5. Miniatures must have a non large (dwarf or

miniature) species in their primary or secondary parentage, but also plant and flowers must have "dwarf or miniature characteristics" i.e. not small flowers with madidum bulbs. pseudo For Miniatures the 75% requirement in the form and colour is retained by the CSA and we insist that the whole plant must be judged, emphasising the plant appearances as important compared with the flower in the standards. The CSA has no miniature size requirement for flowers although other systems do and the tendency is for the size requirement to be getting lower

NOVELTIES

"Novelty" The classification was introduced by the CSA to encourage the development of miniatures that would not by existing standards qualify as miniatures. There must be non-large species in the (recent but unspecified how far) background but the plant need not be "miniature". Cut flowers were not accepted until 1986 but now a cut spike with a photo of the plant will be accepted. Novelty Cymbidiums are not poorly grown standards but entities in themselves. Plants with flowers over 100mm are usually classed as standards

The table summarises the allocation of points in the **Cymbidium Society of America** judging system:-

Character	Standard	Novelty	Miniature
Form	36	20	20
Colour	36	20	20
Size	7		and Tem
S. & T	7	10	10
Spike habit & flower	7	15	10
Arrangement		-	10
Floriferousness flower & plant	7	15	15
Charm and distinction		10	10
Foliage	_	10	5

Where are we going with Miniature and Novelty Cymbidiums?

by

Tony Ballard

T he question really is — Where are the really top award flowers, the silver and gold awards?

Undoubtedly the trend is towards small plant habit with small foliage, and plenty of flowers. But there is no clear pattern in awards to support this.

Here are a few facts. An article by Keith Andrew (a report of his Orchid Review article of 1972) was repeated in the Orchid Advocate in 1988. This expressed some frustration with the scarcity of top awards in the general judging systems. We appear to have reached some sort of peak regarding a full circle flower, clear colours. rounded petals, a good balance between lip and flower. Culture has and is improving, there is plenty of 4n substance around and loads of pendulous miniature spikes.



Cym. Scallywag 'Featherhill'—a relic of the past. Grower: Norm Porter

But awards, certainly higher awards, are not coming, and the situation for miniatures is even more dismal. Are we in New Zealand not seeing enough flowers, or in California too many?

Facts:

The **Orchid Advocate** over the last three and a half years has reported the following awards:

> Novelties 72 Miniatures 19 All bronze.

In the middle points range, say above or below 77:

For novelties over 77 points, total 26.

For novelties under 77 points, total 46.

For miniatures above, total 6.

For miniatures below, total 13.

Two silvers awarded:

Chiisana 'Hideko' (Mimi x *canaliculatum*) 79.78 points.

Marycano 'Amber Glow' (Mary Pinchess x Volcanoe) 80.36 points.

Plus one species cross in Japan.

Generally the awarded plants have been a mixed bag of crosses, mostly old and many quite old. Kalimpong (Wild Silk x devonianum), Devon Parish (parishii x devonianum), Vogelsang (devonianum x insigne) very old but given a new lease with the tetraploid version, Frosty Jack (mastersii x erythrostylum), Dr Baker (Remus x pumilum), Fifi (madidum x Argonaut), Scally wag (pumilum x suave), Phar Lap (Flame Hawk x madidum).

Novelties with successes have been Peter Pan crosses, probaly more than made with some awards now appearing, Jack Hudlow (High Sierra x devonianum), Allison Shaw (Lady Bug x Pink Champagne), Bulbarrow (Western Rose devonianum), Charley's Angel (Ann Miller x Showgirl),

Doris Dawson (Dag x Greenstone), Gladys Whitesell (Fifi x *parishii*) now on its second remake.

So where to now? I am sure there are some top drawer flowers yet to be shown. I am picking results from:

Peter Pans for various features.

parishii 'Emma Menninger' for lip colour.

Vogelsang for floriferousness.

Via Del Playa, a wild card.

Please tell me where to look for silver awards.



Cym. Tracy Reddaway 'Waikanae Gold' Grower: Norm Porter

WHERE ARE WE GOING WITH NOVELTY CYMBIDIUMS?

by Murray Anderson

will start by going back in time, covering a few good crosses and prominent hybridisers, and highlight milestones of novelty type *Cymbidiums* to date.



Cym. floribundum (pumilum) var. alba. Grower: Ron Maunder

The early 1960's saw the popularity of novelty *Cymbidiums* accelerate as 2nd and 3rd generation *floribundum (syn. pumilum)* breeding come into its own. Confusion over size of flowers became settled when Mrs Emma Menninger categorised *Cymbidiums* into miniature, polymins, and standard. The polymin is today's novelty.

The 1970's saw some waning of interest but in the 1980's new breeding lines from new hybridisers renewed enthusiasm. We are still on the crest of the wave going into the 1990's, witness the novelty *Cymbidium* Gladys Whitsell 'The Charmer', Grand Champion at the recent 13th World Orchid Conference.

Back to the beginning. Around the early 1960's Arno Bower of California



Cym. Gladys Whitesall 'The Charmer' Grower: Geyserland Photo: Autec

has some success breeding with second generation *pumilum* crosses, a real problem with miniature type breeding. Infertility was often encountered in breeding with many of the smaller flowered *Cymbidium* species onto standard large types. Cym. pumilum, madidum, virescens, and canaliculatum are all in this small flowered group. Infertility was not always complete as there was sometimes just enough seed to keep a few crosses and the hybridiser going. Arno Bowers produced Excalibur, the Showgirls, and King Arthurs.

The Dos Pueblos Orchid Company in California was a famous name in novelty Cymbidium breeding. Some of the best novelties produced came from this nursery and the initial wave of interest and enthusiasm was generated by the company. Using a selected Mary Pinchess, a cross also made at Dos Pueblos, Henry Tanaka made many crosses that we still see and have in collections today, thirty years on. Such names as Agnes Norton, Ann Miller, Sylvia Miller, and Ivy Fung.

Also prominent around this time was Emma Menninger with crosses such as Minette 'Green Queen' receiving an FCC/AOS, and many first generation minis, later used to get novelties.

Paul Miller, another breeder and grower of Arno Bowers crosses, produced amongst others Pendragon 'Broadmoor', a plant setting new standards for form in novelties. A plant also with a flowering time that is somewhat spasmodic; I don't know whether this is beneficial or not. Paul Miller put Ora Lee 'Braemar' pollen onto Geraint to give us Amesbury. Although the flowers were superb greens and many were awarded, a

particular problem with novelties was most evident in this grex where the foliage of the plant was as big or sometimes bigger than standard size Cymbidiums. The balance of the plant was thus put off for awards.

After a lull in the 1970s, brought on by sterility in hybrids, large foliage, and difficult to flower clones, we go into the 1980s where a renewed interest in novelties has emerged with breeding programmes by Andy Easton here in New Zealand, and Keith Andrew in England.

Keith Andrew predominantly used devonianum crossed onto standard Cymbidiums. Here was a miniature that bred extremely easily and extended the Cymbidium season by being late. It also produced flowers in the first generation that were pushing 6 cm. Keith has Barbara Show.

made many crosses, also using tigrinum, and produced the first novelty Cymbidium to be Grand Champion of the Santa



Cym. (sinense x Terama) Grower: Bob McCulloch



Cym. Alan Graves 'The King Grower: Norm Porter



Cym. ensifolium (rubrigemmum)

Andy Easton, a breeder of everything, but perhaps excelling in this group, the novelty Cymbidium. He is using several miniature lines such as *pumilum*, devonianum, madidum. aloifolium, and of course ensifolium. In pumilum lines we have seen milestones reached in colour, form and uniformity of the grex. Alison Shaw and Little Bighorn got the Award of Breeders Merit in 1982 and Jack Hudlow also an ABM in 1985. I rate the Alison Shaws as Andy's finest cross yet.

In the *ensifolium* lines, after a difficult start with sterility in the diploid version of Peter Pan 'Greensleeves' we now have novelties that are extending the season so today we have twelve months of flowers. It could be a long time before we see this in standards. Peter Pan hybrids have been much discussed in recent years and have proved to be an exciting new breeding line.

Andy Easton has also had success with *madidum* the most recent of which is Gladys Whitesell (Fifi x *sanderae*), with 'The Charmer' being Grand Champion of the 13th W.O.C. Mary Bea Ireland made the original Fifi (*madidum* x Argonaut).

There has been a tremendous number of

awards for novelty Cymbidiums in the 1980's and I feel we are now on the crest of the wave. In the last five years novelties gained Grand Champion at the Santa Barbara Show, the 13th W.O.C., and was the Orchid Advocate's Orchid of the Year. So they have proven themselves already.

So what about the future? There are going to areas be problem particularly with size of flowers and plant as we go on towards ten generations plus. We basically have overcome the original sterility problems in bumilum breeding by doubling their ploidy.

Great interest will be shown in the mixing of the gene pools from tigrinum, ensifolium, devonianum, pumilum, and madidum lines. After the run of interest from devonianum influenced dark bold lips, the opposite could well appeal, coming perhaps from the tigrinum lines. Also fragrance could be worked on through the species sinense and next generation such as Sweet Spring 'Heavenly'.

But the big one is colour. White novelties is still an area that is lacking. Pinks of a better shell pink shade

as seen in roses, and even blues may be first seen and awarded in novelties. Some excellent suffused lips occur in standards but few in novelties, with perhaps the best so far in Evening Star 'Pastel Princess'.

Shape, production, and floriferousness are not a problem with novelties. Shape has a good start because of the nature of the gene pool. Production has always been very good and is recognised in the many Cultural Awards granted to novelties by the **Cymbidium Society** and other judging panels. Floriferousness has generally also been good except perhaps with the Showgirls with their characteristically low flower count per stem.

Finally, with so much alread going for novelty *Cymbidiums* I find it odd there are so few on the lists of 'Ten Favourites' published in the Orchid Advocate.

A correction for the article in Vol. 17 No. 6 page 168: Calanthe arisanensis, should read Calanthe gracilifolia.

Presentation of Miniature and Novelty Cymbidiums

by Frank Brljevich

The aim for all growers should be to present their plant and flowers for exhibition and award judging in the best possible condition. It is only then that the maximum potential of the plant can be realised. Good presentation is more often than not the difference between getting an award, a higher award, or class win, or not. Every little help you can give to a plant in it's presentation and appearance will pay dividends.

Going through the Cymbidium Society of America (CSA) points system, there is not much that can be done to score higher in form by attention to presentation. The flower either has it or not. By good culture the grower can improve an average plant to be perhaps a little better than average, but given good culture it is usually the genetics that decides the quality of form.

Genetics also dictates the physical colour of the flower, but attention to growing conditions, particularly shade content, can enhance the natural colour. For example too much light can stain some whites and greens. This is not an infallible rule since some genetics bring nonstaining characteristics to a flower. For example, greens with a high proportion of lowianum in the breeding will stain with too much light while those with *grandiflorum* can be improved with higher light.

Training flower spikes from an early stage is one of the keys to good arrangement of flowers on the spike. Knowing your plant is important in deciding to train upright, or to allow it to arch naturally or fall pendulous. The whole effect should

suit the character of the plant. Staking early to train spike is preferable but no later than when flowers just start to clear the sheath. Placement of the plant in it's flowering position without further movement is another key to avoid twisting of the flower spike. Setting each flower for best arrangement on the spike can be done by twisting any out of place bud in the warmth of the day, little by little, to point in the right direction. Some attention to flower arrangement and spike habit is important with up to 15 points at stake for novelties and 20 points for miniatures.

Foliage is another aspect of presentation often overlooked by exhibitors. Well grown tidy foliage, cleaned up for the exhibition table, enhances the appearance of a plant and gains up to 5 points in miniature judging and 10 points in novelty. Well presented foliage also sets the plant up for good scoring in overall charm and distinction. It is important to remember that although spike and flower arrangement can come from sensible training over the early spiking and flower opening stages, good foliage comes from year round quality of culture.



Cym. chloranthum Grower: L. & R. Orchids

STAKING OF PLANTS

THE 'STAKING' of plants the Jack Blackman way, made it clear that showing plants is not just a matter of bringing them in, and plonking them on some table and hope for the best. We should remove dead leaves and debris, clean pots or plastic bags, trim off any fungus, or die-back damaged leaf tips using an angular 'florist cut'. If leaves do not have a clean green glistening look because of spray or dust deposits, this should be removed with a damp sponge, cloth, or cotton wool. Be careful not to pull out young leaves while doing so. A bit of shine can be put on the leaves using a solution of one teaspoon of white oil to one cupful of water and by wiping the leaves with this solution. Don't over do.

Flow spikes should be staked early. Some tend to grow out horizontally and can be forced to grow upward by the early insertion of polystyrene wedges or plastic plant labels. When later tying up, do so in the afternoon when stems are more pliable. Don't attempt to achieve too much adjustment in one go. Rather do it bit by bit over a period of time.

All flowers on all spikes should as much as possible face the same general direction. Stubbon spikes can be twisted in small amounts and by tying them to a stake. Once the spikes face in the right direction, individual flowers can be turned or lifted by placing pieces of polystyrene between the main and flower stem. Soon after first opening, flower petals and sepals can be made to set in the right shape by inserting plucks of cotton wool. The latter applies to cattleyas in particular.

Don't over do the staking. Rather let the top of the spike arch in a natural way if it wants to do so. In paphiopedilums the spike as well as the flower should be erect and facing the judge. First impressions are very important.

Leaves that are in awkward positions may be tied together (only a few) using a green paper twisty (not plastic) to keep them away from flowers.

When discussing the transportation of plants, Jack gave a few more do's and don'ts. Sunshine causes tremendous heat build-ups in cars, especially when stationary. Leaves can scorch, flowers can wilt and burn, and whole plants can be dehydrated in ultra short time.

Wax paper wraps or plastic bread bags can be used to hold flower spikes together and stop them from swaying and being

knocked about, or snapped off accidentally.

Altogether a useful half hour during which some of us no doubt learned that we have some way to go before being in contention at Shows. But, have a go!!



Cym. Lois Graves 'Waikanae' Grower: Norm Porter

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LETTER TO THE EDITOR

Sir,

Donation — N.Z. Orchid Co-Op \$200 to Colour Fund

The members of the N.Z. Orchid Co-Op have much pleasure in presenting the attached donation for the Colour Fund of **Orchids in New Zealand**. We would like the donation to be applied in paying for the front cover of one of the forthcoming issues.

Probably at this time you are unaware of the existence of our "organisation".

During the two years before the 13th World Orchid Conference some Auckland commercial growers, in conjunction with some of the Auckland orchid societies, raised funds towards the cost of the Auckland societies combined display by staging orchid displays and sales in various shopping malls in the Auckland area.

Last year, with the shopping malls asking for 'repeat performances', the N.Z. Orchid Co-Op was formed by the seven commercial growers who had been most active in the earlier mall sales.

We would also like you to publish our rather belated response to some of the statements made by Mr Tony Ballard as published in the June 1991 issue of **Orchids in New Zealand**.

We contend that his statements concerning commercial growers and 'Mall Sales' were inaccurate and illinformed.

The members of the N.Z. Orchid Co-Op have recently donated several thousand dollars to the orchid societies in their area.

Contrary to Tony's letter we have quite strict quality controls and we are confident that the quality of orchid plants sold by us at shopping malls is superior to many plants offered to the public by societies at their show trading tables.

Although the display of orchids and the selling of plants is the main activity at the malls other very important functions are carried out as follows:-

- 1. We introduce many new growers to the world of orchids by going out to the people rather than waiting for them to come to a society.
- We actively promote all forthcoming orchid shows in the appropriate area by

posters and talking to interested persons.

- We actively promote the local orchid society depending on the area we are operating in. Each purchaser, or interested person is given a leaflet explaining how to join the society of their choice and the benefits to be enjoyed.
- Each purchaser will in future receive a detailed leaflet giving cultural advice to care for their purchase, in addition to the verbal cultural advice now freely given.

We therefore reject Tony's argument and suggest that in fact we are doing more than most to promote orchid growing in New Zealand.

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EDITOR'S NOTE-

This month's cover sponsored through the generousity of the N.Z. Orchid Co-op.

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Please add \$6 Packaging & Pos Send a SAE for our new listin	stage. Ig.

From now until spring many of the orchids we grow will require a resting period.

Why is this so? Why some, and not others? There are several reasons, and to fully understand which orchids require resting it is necessary to know their ecological circumstances and the climate conditions in which they grow.

As a general rule, those orchids that experience in nature the extremes in weather conditions—that is a prolonged season of rain and then a definite dry period, are those that require a rest. The word "rest" is perhaps not the ideal term to use—rather a hardening off and ripening period is more correct.

Orchids that experience long periods of heavy rain, as the nobile such dendrobiums to name but one genus, gorge themselves on all the moisture available in the wet season. Their growths swell and grow rapidly in this warm, wet environment, but the canes are soft and not the type of growth to produce flowers. This is why it is necessary for us to encourage the plants to rest.

Notice that word "encourage"? We must approach this dry period sensibly, coaxing our plants to slow down their growth to enable them to

Why Fear the 'Resting' Period?

convert all their stored energy into a magnificent show of flowers in the spring. Any attempt to keep them growing over this period will cause much of this energy to be lost with a subsequent reduction in flowers.

Remember though that even at this time, our orchids do not live in a completely dry environment. They are part of a large community where some plants are active and others are not, where mists are common and a heavy dew is deposited in the early mornings, charging the air around our plants with moisture.

We can duplicate this by lightly misting the foliage and bulbs of our orchids and combine with other actively growing plants in the greenhouse.

Remember too that most of these plants are epiphytes, that is, they are growing on trees—trees which will also rest over the dry period. Their leaves will mature and fall, thus exposing their orchid companions to the maximum light available. Then, when the soft new orchid buds are forming, the leaves will return and give protection from the harsh sun.

Again, when it is time for us to waken our plants, look at the trees around for the first signs of new life and gently encourage our orchids into activity. Think of a person in a deep sleep. One wouldn't-I hope -shove an earphone in his ear and turn the stereo on full volume! No, we would wake him gently, remind him it is time to get up and go and give plenty of time for him to prepare for the work ahead.

With our orchids we would slowly introduce water by increasing the frequency of misting and then the volume of water we give so that the roots will gradually become active and eager for the full watering they will soon receive.

We cannot hope to duplicate the wonders of nature, but the signs are there for those of us who will take note of her example.

Study the background of your orchids, our library is full of this valuable information, and you will find there is no need to fear the "resting" period.

Eden Campbell Reprinted from the Auckand Orchid Club Bulletin 8 : 4 May 1991

THE WET DRY CYCLE

The use of fungicides is virtually unnecessary if we give a plant the chance to keep itself healthy. If a plant is affected by rot then we should be checking for a correction in culture, with the wet dry cycle at the top of the list.

In the early part of 1988 there were widespread losses of *Cymbidium* plants with rot. The reason was obvious to all for we had many continuous weeks of wet weather. Here, first hand, was a graphic experience in the breakdown of the wet dry cycle.

With *Phalaenopsis* I think it would be safe to say that the grower who never spotted some blooms, never grew them. Many a grower has wrongly placed these in the "too hard" basket because of problems with blooms spotting and plants rotting, yet the simple observance of the wet dry cycle and correct temperature, results in no spots and no rot.

If we look at articles written over the years, many include the observance of the wet dry cycle but its critical importance does not appear to keep it at the top of the check list when problems occur.

An excellent example of the breakdown in the wet dry cycle occurred at our nursery some seasons ago when the glasshouses were being built. These glasshouses were joined together with fibreglass roofing but the guttering was not placed in position. As a result the water would come down and splash on the rows of plants either side. After a time the plants in these rows were affected with rots while the rest of the plants were healthy. The difference between these plants and those grown under bush house conditions was that there were many nights when the



Phal. Nancy Gordon 'Joy' HCC/OCNZ Grower: O. Van Beck Award Photo

condensation on the roof would be running down the roof and splashing on the plants. Obviously this, when combined with the restricted air movement in the glasshouse, simply meant that the plants were too often wet for too long a time. light levels coming through the shade cloth and good air movement. Plants in another area under shade cloth were, however, affected. This area had fibreglass walls right around and an almost opaque northern wall. It was obvious here that once

eventually affected with rot. Conversations with other growers also reavealed a pattern. Those with plants on the ground suffered greater losses than those with plants on benches with good air movement when under shade cloth.



Phalaenopsis (Lady Jersey x violacea) 'Mont Millias Grower: Eric Young Orchid Foundation

In the big wet of 1988 further observations could be made. *Cymbidium* plants in our glasshouses were not affected. Plants in the sarlon covered tunnel house were not affected; these were on benches above ground with good they were wet they stayed wet for a long time. In one of the glasshouses there was also an affected spot. It was right where one of the gutterings came down and splashed the immediate plants in a circular area. All these plants were Many growers learned from the big wet of 1988 and have changed their cultural methods to accommodate an effective wet dry cycle but this lesson may eventually be lost unless we take it a step further.

All this is aimed at building a case for the changing of our thinking habits. If you look at the way we think, you will notice that we organise our knowledge into an efficiency factor so that a block of complex thoughts are condensed into a simple stereotype. Once triggered, this stereotype sets us into a pattern of activity which we don't have to think about and this saves time. This is all very well if we have a correct stereotype, but this is not always the case, for with orchid culture our base knowledge is often gained from following what someone has found to be successful. While this is a good beginning, it is important that we should try to find out why we do what we do and as a result, then adjust or confirm our existing stereotypes.

When rot occurs I am opting for a change in thinking from one of reaching for a fungicide to correct the problems to one where we ask where the wet dry cycle has been faulty. Only when that has been checked should the question of a fungicide to plant save the be considered. In other words, growers just endeavour to change their stereotypes in relation to their action pattern when rot is observed.

It is appropriate at this point for the question to be

asked as to why the wet dry cycle ensures plant health. Plants contain a range of phenolic compounds. Different plants or groups of plants contain phenolic compounds which are specific to them and give them protection against certain diseases. In addition to this specific protection there appears to be a broad spectrum protection which probaly renders it unnecessary to know which specific pathogen is involved. Generally, phenolic compounds oxidise when exposed to air and this product is toxic to pathogens (disease organisms).

The next step is not clear in literature and has been inferred. Imagine a situation where a disease organism attacks a plant. This will bring the phenolic compounds into contact with air whereby they oxidise and so become toxic to the pathogen. Possibly by simple dilution, a wet surface is wet too long then the disease organism will penetrate to a depth whereby there will be no oxidising and therefore no ability on the part of the plant to control it unless a specific phenolic compound is present.

The question which arises at this point is to ask just how long the surface of a plant can be wet before it is at risk. The answer to this would have to rest with a controlled research study. The wet tolerance could be expected to vary according to how a plant evolved. For instance, a maiden hair fern could be expected to have a different tolerance to that of a Cymbidium. With Phalaenopsis I have found that if the plants are watered in the morning and air movement is then used so that the green parts are visibly dry before dark, a trouble free result occurs. No spotting of the blooms or rotting of the plants occurs if the air turbulators are turned off in the evening and left off until they are watered again two or three days later.

It has been observed that the relative humidity rises sharply in the night time but drops during the day, then the turbulators are turned on and if the relative humidity stays high then the temperature is raised to ensure a relative humidity drop. As an aside, it is also noted that both Cymbidium and Phalaenopsis blooms are not damaged in excessively high temperatures if the relative humidity is also raised.

The danger with the continual promotion of fungicides is that it can destroy priorities. What we have forgotten is that the plant actually has the chemical control mechanism to combat rot if we can determine the cultural condition which allows it to work. The plant's first line of defence is at its surface and if it evolved without fungicides then when we use them we are at best using a second choice for, instead of correcting the cause, we are treating the effect.

Alvin Bryant Auckland Orchid Club Newsletter

THE RUPICOLOUS

The rupicolous, or primarily rock-dwelling Laelias, have a long history in the annals of orchid hybridising beginning in 1889.

Most registered hybridising attempts appear to have been



Laelia teretacaulis

directed toward the red. orange, and yellow range. Many can be found in the backgrounds of our modern hybrids and remain classics to this day. Crosses involving the larger flowered unifoliate cattlevas were few, and based on the evidence left to us in Sander's, these were auicky lines abandoned if the Laelia influence reduced flower size in an existing range. Modern tastes are not so restrictive - in fact the current demand for "mini cats'' has fueled a resurgence in hybrids using the rupicolous Laelias.

These species are dominant for size, as well as most other characteristics, and allow the grower to maintain many more plants than with standard Cattlevas. Crosses made with the smaller rupicolous species such as Laelia bradei. I. itambana and L. lilliputiana, which may be only 3 to 5 centimetres tall at maturity, have seldom been used as parents. The plants and flowers of these species are so small that only enthusiasts of the subminiature might find them worthwhile. Other species in this group have much to contribute to the hybridist and general hobbyist.

The rupicolous species available to current hybridisers offer a wide colour range encompassing white, pink, yellow, magenta, and red.

CULTIVATION

The plant habit amont the rupicolous Laelias is often characterised by a stout growth habit and somewhat glaucous foliage which reveals their ability to thrive under strong sunlight and definite wet and dry seasons. Generally, crosses involving a rupicolous Laelia are notable for their vigour, particularly when it is used as the pod parent.

Growing these hybrids successfully is not difficult. While the rupicolous species are particularly intolerant of prolonged wetness at their roots. their hybrids seem to be more easily maintained. A potting and growing regime designed for general Cattleya culture appears to be satisfactory. although extra drainage holes in the pots will certainly provide a safety factor.

Hybridisers have now been working with the Cattleya alliance for over one hundred years, seeking to improve on nature's own designs. The wide range of colour, size, shape and textures offered by the rupicolous Laelias have added much to our enjoyment of these orchids and hint at greater pleasures to come.

> from Auckland Orchid Club Newsletter

Disa uniflora

e often see plants of *Disa uniflora* at the February meeting and this year was no exception. Ray Harding's pot of these bright orange-red flowers stood out on the display table and won the popular vote in the species class.

Disa uniflora, known as 'The Pride of Table Mountain', comes from Table Mountain near Cape Town in South Africa where it grows alongside stream beds, often in water and in full sun. Despite its name the plants may have up to five flowers on the spike. They are not easy to grow well but are worth the effort if you can provide the right conditions.

Ray grows her flowering size plants in a mix of fine bark, pumice and sand with a little blood and bone mixed through. The plants are grown in the shadehouse and stand in water at all times. It is very important that they should not dry out. Repotting is carried out in the autumn.

Disa uniflora grows readily from seed and Ray sows seed each year. She lines a dish drainer with sacking which is continued up to an overhead bucket of water. The sacking acts as a wick supplying water to her seed tray. The sacking in the drainer is covered by a mix of sand and fine bark. Ray mixes the seed with a little fine sand for sowing and sprinkles it over the mix. The next year, in the autumn, she plants out clumps of the seedlings into community pots in a mix similar to that used for the larger plants and places the pots in water. Ray has found there is a high mortality rate if she separates the seedlings at this stage. The following autumn they are planted out in individual pots.

Ron Whitten Insigne, February 1992



Disa Helmut Meyer 'Alex' Grower/Photo: G. Fuller

On a recent trip to Venezuela I noted some growing conditions that could be of use to growers of orchids here.

I was there in the rainy season to get up the rivers, during June and July. There are three well contrasting growing conditions.

The jungle which is usually only a narrow strip along the rivers with the plants growing overhanging the river, taking advantage of light and humidity from the river. Here were mainly gongoria's and bulbophyllum's mixed in with bromeliads and birds nest ferns. Frequent heavy rains lowered the temperature drastically, but one warmed up by bailing the canoe frantically, (18°C) temperature when dry 25-27ºC.

When the river had to be portaged at falls and rapids, **more open** conditions were found with plants growing in faults in rocks and among roots of trees. Leaves and food was washed down from the jungle above. They only seldom saw the direct sun, but airy conditions prevailed.

Once upon the **Sabana**, an undulating rocky plain with hardly any soil, even the grass on its own previous year's dead material, hollows in rocks collect material which is VENEZUELA

Aucklander Eric Hobbs describes some Venezuelan orchid habitats he visited during a recent visit to that country.

alternately dust or sludge, with islands of mosses and sundews give a base for *Spiranthes* and *Thelymitris*, mixed with these were great piles of shattered rocks with *Epidendrums* and *Catascetums* growing in the cracks. Very bright light reflected off rocks, and one had to watch out for rattlesnakes.

At the basecamp below Mt Roraima, one of the tepuy scattered like islands across the Sabana, looking up, the different growing conditions are almost drawn with a ruler on the face of the cliff.

The climb starts in the jungle at the base after fording a river, the trees and climbers covered in orchids, ferns, and a multitude of ephiphytes.

Shady conditions were experienced. In clearings Zygopetalum were growing in great clumps. At 7000 ft going became steeper and vegetation changed to palms, tree ferns and shrubs, then to mosses. Just below the lip of the tepuy, sheltered between great rocks grew pitchers, sundews, and Epidendrums the spray from waterfalls misting them. Alpine conditions occurred at this altitude

The top of the tepuy 8,500 ft is covered in watercourses with pools and swamps, the orchids and pitchers growing on islands of moss above water and sludge. We camped under a rock overhang, and with heavy rains at night it was a wonder the top wasn't washed clean. Temperatures during the day were 20°C dropping to 11°C at night. Masdevallias grew over rock below the overhang in a green carpet, just a sheet of water at night but dry during the day.

There was not much insect life on the top. I saw only a few flies and some centipedes, plus small black flogs in the swamps. It was very clear during the days and one could look down onto the jungle below, I would like to visit again in the dry season. Indians say it rains even then and I was lucky it wasn't raining all the time I was there.



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'ALCOHOLICS ORCHIDACEOUS'

We have a new game at my office. It's called 'Beating the Budget'. We oldies are heavily into devious schemes for bucking the system to keep our bucks to ourselves. Once launched into this line of thinking, it's surprising what ideas formulate themselves.



Cym. Tejurana 'Purity' Grower: Norm Porter

Most families have a black sheep or two, a few skeletons in the cupboard, an eccentric aunt maybe. Well my aunty was not really eccentric, but she was quite a character. The wife of a publican, she had great faith in booze. Not that she drank a great deal herself, but surrounded by the stuff she came to regard it as a general cure-all and it was the first thing she offered to arriving guests. Anyway I had just turned up on holiday from boarding school and at 14 was somewhat surprised to be handed a large and mostly neat gin! As soon as she felt that my mother and I were properly settled she returned to the bar to help out, whereupon I tipped the lot into the nearest pot plant. It happened to be a large maidenhair fern. Well, to cut a long story short, I visited again about six months later, and I can honestly say I have never seen a more magnificent specimen. Coincidence? Or had I stumbled upon a horticultural revelation?

Pondering on this just the other day, and thinking about my forthcoming beginners' class, I wondered again if there was anything in it, and if in fact it was worth a try. There could be properties in these particular bottles that would do wonders for one's culture.

The thoughts developed; one cup of Chianti for Cymbidiums, a drop of Drambuie for Dendrobiums, a whiff of Whiskey for Wilsonaras, Ouzo for Odonts, Vodka for Vuylstekearas, a bit of Brandy for Brassias . . . perhaps a slosh of Sherry for Sarcochilus in the growing season?

There could be other benefits apart from those the plants would receive. A day's work in the orchid house could be most enjoyable and garden visits would conceivably assume a quite different meaning.

But getting back to the point of all this . . . if it could be proved that these potions were essential to the culture of our orchids, and the practice became widespread, our purchases from our nearest liquor store could become tax deductible. Worth pursuing?

> Bev O'Dowda Insigne Feb. 1992

HUMIDITY

HUMIDITY is the word used to describe the amount of water vapour in the air. Water vapour is water in its gaseous form and any sample of natural air will contain some water vapour.

Water vapour is colourless and therefore invisible. Cloud is not water vapour, it is very fine liquid water droplets small enough to defy gravity. When the water droplets join together the size of the drops increases, gravity intervenes, and it rains.

At any temperature there is a maximum amount of water vapour that can be held in the air. and this amount increases as the temperature increase. The ratio of the actual amount of water vapour in the air. compared with the maximum amount that could be held is called the relative humidity (R.H.), and is usually expressed as percentage. As an a example, at 10 degrees C. approximately 9.5 grams of water vapour will saturate a cubic metre of air, that is achieve 100% R.H. If the same air only contains 4.75 grams of water vapour then it is said to have a R.H. of 50%.

We have already said that as the temperature of a sample of air increases so does its ability to hold more water vapour at 10°C. and 17.5 grams at 20° C. Therefore if the R.H. of the air sample at 10° C. is 100%, and it is warmed to 20° C. without access to additional water, its R.H. drops to 54%.

Measuring R.H. accurately is difficult, partly because the base to measure against varies as the temperature varies, and partly because 10-20 grams of water vapour in a cubic metre of air is a fairly intangible thing to do anything with anyway. Fortunately orchid growers are satisfied with R.H.s expressed in broad terms. such as between 50 and 70% and so any of the available commonly instruments designed to measure R.H. will achieve an accuracy sufficient for orchid culture.

The level of R.H. in the air at any particular time is the balance of interreacting relationships including energy availability, atmospheric pressure and water availability. In general terms we experience high R.H. when warm moist air cools (tropical depressions moving south on to New Zealand) or where there is good access to liquid water (in mist or adjacent to wet ground on a warm day). Low R.H. occurs when cold dry air is warmed (a southerly on a warm sunny day) or where there is a lack of water to evaporate into water vapour.

Applying these generalisations very simply to a daily cycle we experience rising R.H. in the evening as the temperature drops; this is manifested by dampness in the air and dew on the ground. In the morning the temperature rises and the R.H. falls to a level depending on the balance between available water to evaporate (dew, wet foliage, puddles etc), and the speed at which the temperature rises.

I will now try and relate this information to glasshouses through my own experiences.

I started growing orchids because I had a glasshouse. My first orchids, a mixture of genera mostly bought from the Society's sales table, were grown in that glasshouse, lightly shaded

and watered only when the compost is fairly dry. Having read so many times that more plants are killed from overwatering etc. I was not going to fall into that trap. Before leaving home each day, especially in the summer, I would open up the glasshouse with the door, the windows, and the vents open to allow the wind to ventilate the plants, and to keep the interior of the house reasonably cool. However the temperature still managed to rise into the 30's, which in itself, and according to the books, was acceptable. But - all my orchids, particularly the odontoglossum hybrids, dried up, and in some cases died.

What I did not appreciate until I started measuring humidity was that the R.H. in the glasshouse was falling rapidly as the temperature rose. Normal Karori (better than Ngaio) air was entering the glasshouse at probably 18°C. with a R.H. of say 40%. Through the glass the sun was heating it to maybe 33°C, with little or no additional water vapour. The R.H. plummeted to around 10% and the plants were well and truly baked.

Naturally things had to change but they did so more by evolution than by instant action. I stopped buying odonts which considerbly reduced the risk. At about the same

90

time my wife came home with a large fan purchased in a sale. That stirred up the air fairly well and cut out the need to rely on natural sources.

At the same time I was loath to increase the shading because the local micro-climate is on the cool side due to being 600 feet above sea level, and we experience more cloud than average from the Wellington region. To achieve a full season's growth during the summer I need maximum growth, ie. maximum light, warmth and food consistent with growing sturdy plants.

Time solved the shade problem as the cherry tree overhanging the glasshouse continued to grow and extend its dappled shading effect over the house. With a little judicious pruning to let the light in early in the morning it is quite effective. During the winter it sheds it leaves and allows stronger light into the house.

Initially I dealt with the humidity problem by spraying whenever possible, but finally, and unintentionally, by a more permanent method. Sometime ago Russ Wilkins gave a talk on using sand beds, with soil warming cables in them, to grow orchids on. Much later I got round to building them. The house is a 8×12 Eden and there is now about 65 square feet of wet sand supporting a mixture of genera and, more importantly for the purposes of this article, assisting with humidity maintenance. In a day or two sufficent water can evaporate from the bed to dry out the top inch or so or the sand.

Now the routine is different. Before leaving home in the morning I check that the sand is wet. and usually close the door behind me. Vents and windows have long been lost behind bubble plastic. The temperatures still go up into the low/mid thirties but the humidity is maintained. In the evening, while I am having a wander round, the house is ventilated to maintain reasonable humidity levels during the night.

The odonts have returned.

M. F. Davison Reprinted from Capital City Orchid Society Newsletter March 1991

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LAELIA AMOENA HISTORY IN THE MAKING

100 YEARS ON:

by Tarris McDonald

Laelia Amoena was registered in 1894 by C. L. Ingram, Surrey, England. The parents are both species, L. anceps and L. pumila.

When I purchased my plant in 1984 I thought the flowers would be something between the dark red-purple shades of L. *pumila* and the lighter shades of L. *anceps* as it was a seedling. My plant is a very dark medium purple-red, it has also some white tones at the tips of sepals and petals.



As I read through the October 1986 AOS Bulletin there is an article written by James Rose on *Laelia pumila*, which states that, 'the very first *Laelia* cross was that of *Laelia* Amoena.'

L. Amoena 'Tarris'

He says, 'this might be expected, as some of the very first primary hybrids using *Laelia pumila* were exceptional.'

In the Laelia anceps article in the May 1987 AOS, it was stated that this hybrid, L. Amoena, clearly brings out some of the wonderful benefits of Laelia anceps. The first Laelia Amoena was made in the lavender forms. Since then it has been remade in "blue" forms, revealing the tremendous colour range of the parent species. Also, because the parents are quite cold-hardy these plants can grow in a wide range of conditions. The blue hybrids are always popular, and many old crosses are remade as well as new ones developed to produce that unusual blue cattleya colour. Some of these blue forms can be seen in Laelia Cattleva Wrigleyi, Amethystella and Laelia Amoena.

My next move was to see if it had ever been awarded. Our record of awards only go back twenty one years and in that time, *Laelia* Amoena has gained no awards. As I went through the Awards Quarterly I found that *Laelia pumila* has received 12 HCC, 8 AM and 1 CCM and *L. anceps*, 6 HCC, 5 AM, 2 CHM, and 1 FCC by the AOS.

I was very taken with the loveliness of my plant when it first flowered for me in 1986, and I wondered if it had ever been used as a parent. It was only by refering to **Sander's List** of Orchid Hybrids in 1986-1990 that I have found that Carson E.



Top: Laelia pumila Bottom: Lc Memoria Viola Horman Grower/Photo: T. McDonald



Whitlow of Iowa of the USA has registered it as a parent in 1990. Did others not think it worthy enough to be used as a parent, or would it not give seedlings?

Mr Whitlow has kindly given me some information of Laelia Amoena. His Cattleya alliance breeding is involved with the colour blue as expressed in this group. The L. Amoena used was a clone 'Blue Magic' which is a superior clone of the grex which he remade in 1966 using L. anceps var. veitchina as the pod bearer and L. pumila var. coerulea 'werkhauseri' providing the pollen.

The seedlings were offered to the public through Stewarts Orchids. He states this was a very popular hybrid and many of the original clones are still around, especially in Southern California.

The 'Blue Magic' clone was mericloned by Stewarts Orchids in the late 1970's or early 80's and offered at that time. This is the most common clone in existence. It has been self pollenated and there are numerous seedlings especially in South Florida and Central Iowa.

The Cattleya Ariel coerulea 'Bodnant's' was crossed with L. Amoena 'Blue Magic' to make Laeliacattleya Memoria Viola Horman. This hybrid has been producing some very nice medium sized flowers of pastel blue-pink sepals and extremely nice dark bluepurple solid lips. They produce up to five flowers (noted so far), often blooming twice a year. I wonder will this *Laelia*, be remade again 100 years from now? In the States, *L*. Amoena has made a comeback in breeding.

THE FIRST GENERATION

This generation was late at coming. But for this *Laelia* the future looks bright as we go into the twenty first century.

Mr Carson E. Whitlow crossed C. Ariel with L. Amoena, What to use as the other parent in my own cross?

I have a plant of *Bc.* November Bride 'Murihiku' HCC/OCNZ. This is a very large white with a large Brasso type lip but there is pink in its background. The Awards Quarterly shows the *Bc.* November Bride has gained 3 HCC, 1 AM and a GM/WOC.

Would *Bc*. November Bride increase the size and shape without affecting the colour and plant vigour? I have read that purple is a dominant colour over white and that there could





Laelia anceps Grower/Photo: **T. McDonald**

DATES FOR YOUR DIARY

SOCIETY	VENUE, ADDRESS	TIME	CONTACT
WELLINGTON	St. Oram's College, Lower Hutt.		
HAWKES BAY	Taradale Town Hall		
POVERTY BAY	O'Waiapu Girl Guide Complex, Valley Road, Gisborne		
KAPITI	War Memorial Centre, Pehi Kupa St, Waikanae	10-5 10-4	
HOWICK	All Saints, Cook Street Hall, Howick		
POVERTY BAY	Boys High School, Stanley Road, Gisborne		
WHANGAREI	Forum North Exhibition Hall, Rust Ave, Whangarei		
GORE	2nd South Island Show, James Cumming Wing, Arkwick Street, Gore		
SOUTH AUCKLAND	Papakura Community Centre, Great South Rd Papakura	10-5 10-5	
OTAGO			
TOKOROA & DISTRICTS	St. John's Hall, Logan Street, Tokoroa.		
CANTERBURY	5th South Island Seminar, Horticulture Centre Christchurch		
MANAWATU	Convention Centre, Main Street, Palmerston North		
SOUTHLAND	Hansen Hall, Invercargill		
TAKANAKI	21st Birthday celebrations, Special Spring Show, West Point Complex, New Plymouth		
WAIRARAPA	McGregor Hall, Masterton		
	SOCIETY WELLINGTON HAWKES BAY POVERTY BAY KAPITI HOWICK POVERTY BAY WHANGAREI GORE SOUTH AUCKLAND OTAGO TOKOROA & DISTRICTS CANTERBURY MANAWATU SOUTHLAND TAKANAKI	SOCIETYVENUE, ADDRESSWELLINGTONSt. Oram's College, Lower Hutt.HAWKES BAYTaradale Town HallPOVERTY BAYO'Waiapu Girl Guide Complex, Valley Road, GisborneKAPITIWar Memorial Centre, Pehi Kupa St, WaikanaeHOWICKAll Saints, Cook Street Hall, HowickPOVERTY BAYBoys High School, Stanley Road, GisborneWHANGAREIForum North Exhibition Hall, Rust Ave, WhangareiGORE2nd South Island Show, James Cumming Wing, Arkwick Street, GoreSOUTH AUCKLANDPapakura Community Centre, Great South Rd PapakuraOTAGOSt. John's Hall, Logan Street, Tokoroa.K DISTRICTSSth South Island Seminar, Horticulture Centre ChristchurchMANAWATUConvention Centre, Main Street, Palmerston NorthSOUTHLANDHansen Hall, InvercargillTAKANAKI21st Birthday celebrations, Special Spring Show, West Point Complex, New PlymouthWAIRARAPAMcGregor Hall, Masterton	SOCIETYVENUE, ADDRESSTIMEWELLINGTONSt. Oram's College, Lower Hutt.HAWKES BAYTaradale Town HallPOVERTY BAYO'Waiapu Girl Guide Complex, Valley Road, GisborneKAPITIWar Memorial Centre, Pehi Kupa St, Waikanae10-5HOWICKAll Saints, Cook Street Hall, HowickPOVERTY BAYBoys High School, Stanley Road, GisborneWHANGAREIForum North Exhibition Hall, Rust Ave, WhangareiGORE2nd South Island Show, James Cumming Wing, Arkwick Street, GoreSOUTHPapakura Community Centre, Great South Rd Papakura10-5OTAGOSt. John's Hall, Logan Street, Tokoroa.TOKOROA & DISTRICTSSt. John's Hall, Logan Street, Palmerston NorthSOUTHLANDHansen Hall, InvercargillITAKANAKI21st Birthday celebrations, Special Spring Show, West Point Complex, New PlymouthWAIRARAPAMcGregor Hall, Masterton

This listing, in the format shown, is available free of charge to all Societies affiliated to the Orchid Council of New Zealand.

To ensure publication, please ensure full details are forwarded as soon as show dates are finalised.

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WANTED TO BUY – Lycaste plants – advise size, name and price to L. Rockell, RD 2, Kaikohe, Northland.

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SPHAGNUM MOSS for sale. Send to D. Crawford, Forsyth RD Lawrence or Ph: 437 0834 Oamaru. be some plants in the pink tones from such a cross. I though, I would give this cross a go. Nothing ventured, nothing gained.

The plants from this cross are now growing with the vigour that I hoped for and I wait in anticipation of the first flowers to see if the other aspects come through as well.

L. anceps	1894	1990
L. pumila	L. Amoena	<i>Blc</i> ???
	Bc. November Bride	

BIBLIOGRAPHY:

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Magazine Closing Dates

Issue July September December *Editorial* 1 May 1 July 1 September Advertising 21 May 21 July 21 September



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Our thanks to you all. Every donation assists in making this an even more colourful publication. base of the bulbs; each spike carries from three to about eight large welldisplayed flowers. The flowers range from intense scarlet to white and yellow with many graduations and combinations of colour.

Miltoniopsis, or pansy orchids as they are often called, are not difficult to grow once their requirements are understood. Most are cool growing and never at rest. The growth cycle commences during spring and continues throughout the year, with bulbs finally making up and maturing at about the time flower spikes appear late winter to early spring. They require a reasonably even temperature all the round (aim for vear 16°-20° C) with adequate atmospheric moisture and plenty of fresh air. They can be grown in high light conditions, provided leaf temperatures can be kept below 20° C by high humidity and ample air movement.

One of the keys to easy culture is that each plant should be repotted every year—regular repotting into fresh medium is thought to prevent the medium from going stale, and avoids the rapid deterioration, and even loss of plants that can occur if left in pots for more than 12 months. March is a good time for repotting, or when a new lead is coming away strongly.

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Ansellia africana



Always a striking orchid, this native of tropical Africa and eastern South Africa, is regarded one of the easiest of African orchids to cultivate. The correct nomenclature is under question, *Ansellia africana* is considered a very variable species, and may more correctly be referred to under the name *Africana gigantea*. The species was discovered by European collectors in 1841, the genus named by the botanist John Lindley after the first collector John Ansell.



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