

ORCHIDS IN NEW ZEALAND



November-December, 1975





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ORCHIDS IN NEW ZEALAND

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EDITORIAL

The Fourth Australian Biennial Conference is over and no doubt many New Zealanders are asking themselves "when will we have a similar venture?" There is no reason why we cannot—an Orchid Council has been formed and one of its functions will be to consider a show of this magnitude. An exhibition in the alternate years would give our orchidists a chance to meet and for those who are unable to travel overseas an opportunity to talk to people from other countries with the same interest. Perhaps a biennial show is a little ambitious, it may be better to aim for a world show and depending on the success of this, two yearly shows could be considered.

It is all very well to write or talk about having a national show or exhibition but as we all know, the amount of organisation and work required just for a society show is quite enough, let alone a combined societies show. For this is what a national show is all about, so we need to pool our ideas and resources and work together to make it a success. At present, societies in the North Island are going their own sweet ways (I must shamefully admit that there is no organisation in the South Island) and one of the Council's first jobs will be to obtain ideas from clubs and then formulate a policy that will apply to all.

The choice of venue is important as we need to consider availability of accommodation, tourist attractions for overseas visitors, plentiful transport, selected nurseries to visit, adequate floor space for the show and most important, interesting shopping for the women.

Australian shows have proven very successful over the years and there is no reason why New Zealand cannot equal or better them. A visitor to both Sydney and the recent New Zealand Orchid Society Show, has stated that although the former was larger, the quality of the blooms and variety of genera in this country were of equal standing.

NOBILE TYPE DENDROBIUM CULTURAL NOTES

The following notes were compiled by Jiro Yamamoto of Yamamoto Dendrobium Farm, as a guide for improved culture of soft wood dendrobiums.

This article was forwarded for publication by Mr. Russell Martin of McBeans Orchids, Australia. It should be of great interest to those who grow and those who would like to grow nobile type Dendrobiums.—Ed.

During recent overseas visits to many orchid nurseries, my attention was drawn to the poor blooming of Nobile Type dendrobiums. This resulted from inefficiency in cultural methods used. As a professional grower and having experimented in various methods of cultivation, I am preparing this article, listing the most effective treatment for Nobile Type dendrobium culture.

Potting: I prefer to use terra cotta pots, as they allow the proper ventilation and ensure adequate drainage for the plant. Crock the pot with broken brick or pot, to approximately one quarter. Use a potting medium of live sphagnum moss, topped off with osmunda fibre. This gives best results in root development and plant growth maturity. Pot sizes to correspond with size of plants, and height of cane, are as follows:—

Height of Cane		Pot Size	
Under 10 cm	4"	7 cm	2½"
10-20 cm	4-8"	9 cm	3½"
20-35 cm	8-14"	10 cm	4"
Over 35 cm	Over 15"	12 cm	4½"

Re-potting, potting on, or dividing, is carried out immediately after the flowering period. After potting, the plants should be placed in a shady spot for two weeks. Water sparingly to allow new root development, then gradually increase watering and increase the amount of light.

Cover Photo: by courtesy of Mr. G. Fuller. *Sobralia macrantha* belonging to a genus that is chiefly terrestrial and native to South America. Grows to 2.4 metres tall, flowers 15 cm to 25 cm across, are usually produced singly over a long period.

Shading: It was accepted that orchids should be raised in shaded conditions; however this treatment does not apply to dendrobiums.

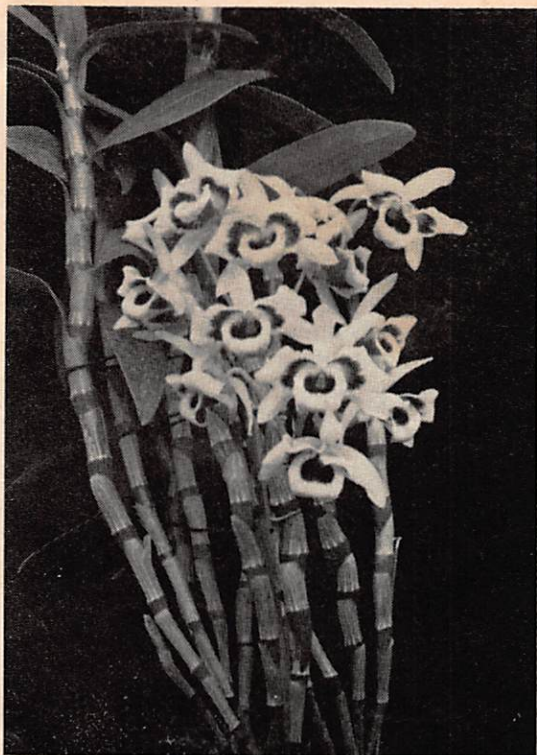


photo: G. FULLER

Dendrobium nobile "Cooksonii"

Culture for Adult Dendrobium Plants: When the evening temperatures are 15 deg. C. (about October), place the plants on shelves outdoors where they are well ventilated and can absorb direct sunlight. This helps to induce many fine flowers. However, strong sunlight directed to the plants where ventilation is poor, will result in injury to the plant. Prevent damage by using wooden laths (shade) in January-February to shed 30 per cent. of sun's rays.

If strong sunlight is given to young plants, the rate of growth of the new shoots will decrease. Therefore from October to February, wooden laths (shade) are necessary to shed 40 per cent. of sunlight to avoid this damage. Towards the end of April, wooden laths (shade) should be removed completely. If the plants

are placed in direct sunlight, the bulbs will grow thicker and produce healthier plants. It is desirable of course to place the plants under direct sunlight in winter, but about one month before flowering time, if 50 per cent. shade is added, it will produce larger and better colourings of flowers.

Water: The most difficult operation in dendrobium culture is watering. It will vary, depending on the locality, temperature, and the amount of light available in the glasshouse.

In winter when the plants are resting, the proper treatment is given by decreasing the frequency of water and endeavouring to keep the roots in a dry condition. There are times when the temperature in the glasshouse drops to 10 deg. C. in the evenings. At this time it is only necessary to water once a week but when the evening temperature rises to 15 deg. C. water once in five days. If the temperature rises to 20 deg. C. watering should be done every three days. The most important thing to remember during the winter season, is that the plants are resting and require less watering. Therefore apply water sparingly to avoid canes from shrivelling. If too wet, when temperatures are low, the root system will rot and this will decrease the rate of growth and result in poor bearing of blooms. From September-October, when the temperature begins to rise, watering should be increased. November treatment requires much the same as in October, except the increasing of water to every day, providing fine weather continues.

During the months of December and January, the climax of the growing is reached, when maximum watering is necessary. From the middle of April, gradually reduce the amount of watering and from the beginning of May, water only once every three days. In the month of June, water only once a week. As the month progresses, usual winter treatment is desirable.

Feeding or Fertilizing: There are many types of fertilizers being used but the common and effective are chemical fertilizers, powdered bones, and fish meal. The best base combination of chemical fertilizer is composed of seven per cent Nitrogen, six per cent. Phosphoric Acid, and 19 per cent. Potassium. The base equivalent to this is HYPONEX from the U.S.

which is very remarkable and results in effective growth. The solution of one teaspoon of HYPONEX in two gallons of water is sufficient to apply to **young plants** of about 20 cm and under in height. In August-September-October, apply it twice a month. During the summer months December-January-February, three times a month is necessary and in April-May, twice a month is required.

For the **adult plants**, the first fertilizer is given when the new shoot is grown to about 10 cm. General requirement for fertilizing is twice a month in November-December. For January, give three times a month. But February, stop applying nitrogenous fertilizers to the plant. If nitrogenous fertilizer is applied any time from March onwards, poor bearings of bloom will result. During the period beginning from March to the middle of May, a fertilizer of one teaspoon of Potassium Hydrogen Orthophosphate diluted in two gallons of water, is given twice a month. This has proved to have good results with flower bearings. In areas where light is weak during the summer, start applying the Potassium Hydrogen Orthophosphate from December and of course the same treatment can be given to the younger plants and this has proved very effective. Fish meal and powdered bones will spoil composts and therefore these types of fertilizers are not popular. If applied, they should be given only once from September to May. One teaspoon is sufficient for a 7 cm pot.

The key to Fine Culture and Flower Production: It is often heard among the orchid growers, that the plants are vigorous and produce long canes but do not bear blooms. This is due to poor techniques in cultivation. It is important that the temperature, amount of sunshine and the watering are operated collectively. During the autumn and winter when the temperature is low in the glasshouse, and there is less light, remember to reduce watering and endeavour to keep the roots in a fairly dry condition. Towards the end of spring and the beginning of summer when the temperatures begin to climb, and the sun is increasing its power, it is necessary to water more frequently.

IMPORTING ORCHIDS

by C. N. LUND,
Ministry of Agriculture and Fisheries,
Levin.

[Our journal at present is in early stages and as the number of subscribers increase so will the size of the journal. Therefore lengthy articles are being published in parts to give as much space as possible for the printing of a variety of subjects. This contribution has been considered by the magazine committee and because of its importance it was decided to print the article in one issue. There are a large number of people importing orchids nowadays, M. A. F. states that 25 per cent. of all plant import permits are for orchids and this is rather staggering. One should take careful note of the following quarantine conditions and abide by them.

A careless slip could give us all the stringent regulations that are now in force in Australia. i.e. quarantining by Dept. of Ag. or other registered quarantine stations—**not** your own glass-house—if the plants die while in some other hands, there is no compensation—take heed.—Ed.]

As most enthusiasts are probably aware, until the Introduction and Quarantine of Plants Regulations came into effect in May 1973 it was not necessary to obtain a permit to import orchids or to grow them in quarantine. What happened then was that orchids were examined on arrival at the port of entry by a Port Agriculture Officer, if he was satisfied they were free from pests and diseases, he would release them to the importer without further restrictions. Nowadays however, not only must all orchids be granted a permit before importation will be permitted but they must also be grown in quarantine for at least three months after arrival. The only exception to this is small plants growing under sterile conditions in flasks or similar containers which may still be imported without a permit.

The object of this article is to explain the present importation procedure for the benefit of orchid growers and to outline the reason for its introduction.

At first glance these new measures might appear unnecessarily restrictive—after all the old system had been operating for many years so why change it? However, when one realises that something like 100 diseases of orchids are known throughout the world compared with about eight in New Zealand, that at least three new species of insect pests have been found on orchids in New Zealand within the past few years, and that it is physically impossible to rely on inspection to detect all the pests and diseases that might be present on the thousands of orchid plants that are imported every year, it becomes clear that the orchid industry in New Zealand had been at considerable risk from new pests and diseases under the old system. Indeed the fact that orchids in New Zealand are still comparatively free from pests and diseases is probably attributable to the diligence of the Ministry's Port Agriculture Service and the internationally agreed procedure whereby plants must be examined in the country of origin and be issued with a health certificate before export.

Orchids are one of the more popular plants introduced into New Zealand and have made up about 25 per cent. of all permits issued since May 1973. With the ever increasing volume of plants moving internationally it is only a matter of time before new pests or diseases slip through any import procedure based on a single inspection. Although this Ministry does not claim that the new system removes this risk completely it does provide a better safeguard consistent with permitting reasonable freedom of importation.

Who may import orchids?

Anyone who can meet the basic requirements outlined below may import orchids; indeed the range of importers varies from hobbyists wishing to add to their collection to commercial nurserymen who are constantly adding to their stocks or acquiring newly developed cultivars.

Because the risk of introducing new pests and diseases increases with the number of plants imported, the Ministry of Agriculture and Fisheries (MAF) does not encourage importation although it recognises that the introduction of new species and cultivars is a continuing and

desirable process. However, because a wide range of orchids is already present in New Zealand, we urge prospective importers to obtain their requirements from within New Zealand if at all possible.

Import Procedure

You must be prepared to grow imported orchids in quarantine for at least three months after arrival during which time the plants will be inspected monthly. If you live reasonably close to an office of the MAF where a Horticultural Inspector is stationed this can usually be done on your own property. If you live in a district not regularly serviced by an Inspector it may be necessary to arrange for a commercial nurserymen, relative or friend to quarantine the plants on your behalf.

In either event it will be necessary for the imported plants to be physically separated from other orchids and, for regular importers, the construction of a small separate quarantine house is advisable. Alternatively, if only small quantities are involved occasionally, the separation of local and imported stock can usually be accomplished by dividing off a section of a glasshouse with a polythene screen. While they are in quarantine plants must be accessible to an inspector at all reasonable times.

If you have not imported plants before you should contact your nearest Horticultural Inspector who will be pleased to advise on all these matters and in any case he must approve the quarantine arrangements before the plants arrive.

How Many Plants May Be Imported?

Although relatively few of these expensive plants are introduced at any one time, current policy permits up to 2,000 orchids per importer per year. The importing year runs from 1 July to 30 June.

How To Obtain a Permit to Import

Once satisfied that you can meet the necessary requirements, obtain an "Application to Import Plant Material" form from your local office of the MAF. When completing it:

- give the scientific name of the plants if possible; if not the one word "orchids" will be acceptable.
- if you do not know the exact number of plants you want, put "up to 25" or "up to 100" as appropriate.

—state the country of origin.

When completed send the application form to your nearest Horticultural Inspector whose address is on the back. When he is satisfied that you have both a suitable site and the necessary facilities to grow imported plants in quarantine he will forward the application to Levin for processing.

The Import Permit

The Plant Health and Diagnostic Station Levin is the principal centre where scientists work on pest, disease and botanical problems associated with the introduction of plant material into New Zealand. It is here that the necessary safeguards to protect our economic crops are formulated and where the "Permits to Import Plant Material" are issued.

Two copies of the permit are sent to the importer who must send one copy away with the order to his overseas supplier. This copy of the permit, together with the international health certificate, must accompany the plants when they are sent to New Zealand. A third copy goes to the local Horticultural Inspector so that he is aware of the intended importation.

On arrival in New Zealand the package is opened by a Port Agriculture Officer and the plants examined for signs of pests and disease. If the plants are healthy and the health certificate and import permit are in order, the orchids will be cleared with the minimum of delay.

Post Entry Quarantine

A fee for inspection whilst in quarantine is payable when the plants arrive. Currently this charge is \$1.50 for every 50 plants or part thereof, up to a maximum of \$45 for any one consignment.

When the plants reach you they will be accompanied by a "Permit to Land" issued by the Port Agricultural Officer, endorsed that "the package is to be opened only in the presence of an officer of the Ministry of Agriculture and Fisheries." You should therefore contact the Horticultural Inspector at once before opening the package. Once the plants are unpacked all packing material must be burnt.

During post entry quarantine the plants will be inspected. As mentioned earlier the plants must be readily accessible to the inspector when he calls so that, if the quarantine area

is locked during your absence, arrangements must be made for the key to be available to him.

Whilst in quarantine the plants may not be moved, propagated, broken up, or flowers picked without the inspector's approval. At the end of the quarantine period, and providing the plants are free from pests and disease and there are no other complications, the inspector will notify you in writing that the plants have been released from quarantine. It should be noted that although the **minimum** quarantine period for orchids is three months, the actual release of plants after this date is a matter left to the discretion of the Horticultural Inspector. This is because some species take longer than others to become established.

What happens if . . .

—**plants arrive without a permit?** They are detained by the Port Agriculture Officer until a permit is obtained. If the plants are for a new importer they will have to wait until the local inspector can approve the quarantine site and this may take several days.

—**plants arrive without a health certificate?**

The Port Agriculture Officer gives the plants an intensive inspection. Provided no pest or disease is found the plants will be released with only minimum delay.

—**plants arrive with pests or disease?**

Specimens are sent to the Plant Health and Diagnostic Station, Levin, for diagnosis and decision which may take several days. If possible the plants will be treated to render them safe but, if an effective treatment cannot be given, they may have to be re-shipped or destroyed.

—**pest or disease breaks out in quarantine?**

If the pest/disease is already present in New Zealand the importer will have to control it with advice provided by MAF. If the pest/disease is new or thought to be new to New Zealand and a survey shows it is confined to the importers property it will be eradicated. It is very likely that the imported plants would then be destroyed, together with other plants on the property not in quarantine. Compensation would not be payable as this is a risk that has to be borne by the importer. However very few if any orchids have had to be destroyed since the present system came into operation in May 1973.



Aerides vandarum. Rchb.

Whereas most *Aerides* under cultivation are characterised by heavy strap-like foliage and densely packed racemes of bloom, usually in shades of pink, *Aerides vandarum* is a pleasant departure.

Allied to the *Vandas*, this species has a loose climbing habit with fine cylindrical foliage which elongates in its first year and thickens in the next. It seems to branch quite freely and clings tenaciously to any support. Our plant delights in smothering a gnarled piece of treefern.

Flowers are produced quite freely in clusters of two or three usually in September. They are fragrant, paper white, and as can be

seen, are of dainty form, possessing a transparent quality, yet are long lasting.

Natural distribution is from India to China and we have it growing in a moderately warm house where it blooms freely with the minimum of attention.

Hybridised with *Vanda teres* it has produced the more common *Aerides-vanda Mundii* which appears to be one of the hardiest of the *Vanda* group, pale pink in colour and coarser in every way. This hybrid will survive outdoors in warmer parts of the country.

For those who appreciate a bloom for daintiness and apparent fragility *Aerides vandarum* is a good starter and could no doubt be imported from India at very little cost.

AN AUSTRALIAN TRIP

by FRED BURKE

After having successfully, I thought, fobbed Tom French off when he asked for an article on this trip, the persistence of our local news hound, Ron Maunder has finally won through. No doubt there will be considerable editing and correcting before this gets to press but at least I'll have offered a little bit towards what we all hope will be a successful orchid magazine for New Zealand.

Gwynne's and my Sydney visit got off to a great start on the Wednesday before Easter when we found ourselves based by our Sydney located son in a motel situated at Rose Bay overlooking the old seaplane base and the beautiful harbour. A telephone call to Alvin Bryant arranged a meeting place with his son Richard at the top of King's Cross next morning for a visit to his nursery at Kurnell. This proved most interesting for I found Alvin a very sincere man, dedicated to the improvement and widening of the "albino" strain in cymbidiums. His frankness when speaking of that field and in the development of the early tetraploid has left this person much the wiser. Slides were freely shown along with discussions of flowers of his more cherished clones used in both breeding programmes; Pharaohs "Sutherland" and "Cleopatra," Sleeping Beauties "Prophecy" and "Classic" in the "albinos," and in the tetraploids; Palomar, Winter Fair and White Christmas used in conjunction with Early Bird "Pacific." I only hope the orchid world does not forget too quickly the work that he has done already.

Culture on Alvin's mature plants was quite good with considerable spiking on lush new growths. Shavings, sawdust and perlite compost was used with heavy watering and conditions were damper than expected. Part-time women staff were busy deflasking healthy plants of seedlings and mericlones into pots with a medium, the constituency of which would fall apart when squeezed in the hand. Pots were then placed in sealed polythene bags and left untouched for two months.

Alvin is also interested in growing phalaenopsis for the production of cut flowers and

he had quite a small area lined with polythene for this purpose. Production can be quite high and plants are grown in pure sphagnum moss with no organic manures. Temperatures, 15.5 deg. C. with a drop to 12.5 deg. C. for three weeks to induce flowering.

Later in the afternoon I had the good fortune to be introduced to Mr. and Mrs. Craig of Sutherlands and was treated to a quick look around a very concentrated, tidy, high producing orchid range. Large plants grown in redwood shavings in tubs on raised stands were showing an abundance of spikes under 30 per cent. saron. Fibreglass sheeting is fixed for flowering. Heavy dressing of superphosphate was evident in pots but nitrogen feeding is kept low from autumn on. One of the things that took my eye was a group of New Zealand trees on their frontage. Pohutukawa and Pittosporum. Australians are very keen on trees and shrubs and their cities with their beautiful parks with trees and gardens are a joy to behold. We in New Zealand could well take a leaf out of their book.

The day closed with a view of Alvin's flasking laboratory at his home on Kangaroo Point overlooking the Hunter River. All flasks looked to be doing well, while there was a pile of pods from clients awaiting attention.

A few days later after seeing a few of the Sydney sights and losing a few dollars at Randwick backing the wrong New Zealand horses, we again turned our attention to orchids when Richard Bryant had a few flasks to deliver and offered to take us. We duly set forth in the Mini, Richard barefooted while driving, over the harbour bridge to Sydney's northern beach suburbs. First call was at Mr. Bob Waabel's nursery, home of the "Mona Vales." Mr. Waabel is a commercial grower interested in exporting cut flowers and hybridising. Unfortunately age and health has necessitated a reduction in the size of his nursery but his growing expertise was very evident in the multi-spiked plants growing on benches under 30 per cent. saron. These are moved into glasshouses for flowering where shading is increased. We spent a

pleasant half hour or more going through slides of his flowers. What a pity time was against us as I could have spent a lot more time with this very interesting man.

On again, the Mini screaming, up into the hills and the gum trees to the Australian Orchid Company run by Mr. George Habel. This would be the largest range we saw, concerned with the export of cut flowers. Here again we were able to engage in frank and open discussion on all aspects of growing and marketing. Must say Mr. Habel appeared a little despondent regarding the export market. Culture was again excellent here with large potted plants in good condition. Very interesting to me was the fibreglass roof construction of saw-tooth design, as it was similar to a plan I propose using. Mr. Habel was enthusiastic about it and intended converting a hip roof portion to the same design. Back of the sawtooth was open as were the house sides. When I enquired of "bumble" bees, I was asked "What are they?" It appears Australia doesn't have them, but a Wagtail, similar to our Fantail in antics, was doing his thing in the orchid house. Hope to see Mr. Habel over here before long.

(to be continued)

LETTERS TO THE EDITOR

Pleased to hear of your successes or failures or suggestions about our journal.

Dear Sir,

I wish to congratulate the N.Z. Orchid Council on their production of an excellent magazine to start off the series of bi-monthly editions. It contained many aspects of orchid culture which I have been trying to find out, especially the article on "flasking" by Allan Burrows and "Care of Orchids during winter months" by Bruce Douglas. I will be delighted if this standard of article and presentation is maintained in forthcoming editions.

MERVYN D. BRYAN,
Thames.

READERS' ENQUIRIES

It is envisaged that this section will prove very popular and to enable as many enquiries as possible to be published, please keep your letters as brief as you can. All letters must contain the writer's name and address (nom de plume if desired) and forwarded to the Editor. No private correspondence will be entered into.

—||—
Question: For five years a neighbour has grown two Cymbidiums in an old fruitcase of soil. One has flourished and flowered during that time while the other which is very small and located in one corner of the box, has not grown. The obvious answer would be to re-pot it in the appropriate medium but that is precisely the manner of its previous treatment according to its owner. Monthly applications of a sea-weed liquid fertiliser have been given during this period. Any suggestions?

BEGINNER.

Answer: The growing habits of Cymbidiums vary from clone to clone and possibly No. 2 plant is a miniature and therefore would be of much smaller habit. Perhaps the drainage at that end of the box is not the best and root rot could easily occur if this is so. Also, in the best plant families there are "mules," those plants that do not flower no matter what culture they receive. For an amateur grower I would recommend that this plant be transferred to the compost heap and a new well proven flowerer be introduced. This will give a great deal more pleasure and be more rewarding.

CLASSIFIED ADVERTISEMENTS

This section is for the use of amateur growers only. Trade your surplus back bulbs and divisions for profit and pleasure. Please reply direct to the addresses given as no correspondence will be entered into by the Editor or magazine staff. Fifty cents for each advertisement, limited to 18 words.

WANTED TO BUY

Cymbidium back bulb of Clarisse Carlton "Tia Maria" and Volcano (dark red). Mrs. J. Lander, R.D. 12, Hawera.

SOME NEW ZEALAND ORCHIDS

by JIM FORREST

If large brightly coloured flowers are your attraction in orchids, then our natives are not for you. The plants are mostly small and easily missed among the trees and grasses. Neither are the flowers large or brightly coloured for the most part.

On the other hand they make up for this by growing in groups or having many flowers to the stem—sometimes both. The majority are green or white but that other colour so often found in New Zealand plants—yellow, is missing from the orchid tribe. The exceptions, however, make up for the rather dull colours among the majority. Blue is a rare colour in the orchid world but we share with Australia blue flowered *Thelymitras*. A patch of *Thelymitra venosa* in bloom is something you won't forget in a hurry.

Should you enjoy a challenge, namely growing difficult plants, then you will find your forte among some of our terrestrials. A few are easy, the majority require care and some have so far defied all our efforts to keep them alive in cultivation for more than a year or two.

Trying to raise terrestrials from seed has so far produced poor results but this does not mean that you cannot try. Some seed scattered on the top of your pots will usually produce a few seedlings. Raising plants in a sterile flask like epiphytes has not been very successful, although some experimenters in Australia seem to have discovered a method that shows real promise.

Where are you to get your plants then? A kind friend who has a surplus or go out and search. Often you can obtain plants that are threatened by "progress," road works, housing development and the like. In general we do not wish to take plants from their natural habitat. If you must take some, lift carefully and leave plenty to carry on the colony.

What is a terrestrial orchid like? Nearly all of ours (and the Australian) grow from underground tubers. These range in size from large pin heads in the case of some *Corybas* and *Acianthus*, to "monsters" several centimetres



photo: G. FULLER

Pterostylis patens

long in *Orthoerases* and *Pterostylis*. In shape they vary as much as they do in size, some are almost round, others egg shaped, while others resemble a small parsnip.

The root system usually grows anew every season, dying down at the end of the growing period. These roots are similar to those of their large epiphytic cousins and grow to considerable lengths in some species.

All except two or three species (saprophytic) have true leaves. These come in all shapes and sizes from almost round to onion-like. Some species only have one leaf (*Corybas*) others have two, while yet others again have several. The leaves of *Corybas*, *Acianthus* and some *Pterostylis* are beautiful in themselves without flowers. In most cases the leaves appear before the flowers but in a few after flowering.

The tuber (a food storage organ) has a "bud" or "eye" at the top from which the new season's growth comes. New tubers are produced each season, in some cases only one and these often appear some distance from the parent tuber much like young potatoes—a point to watch if you are lifting them.

Above ground they vary as much as they do below. Some make a single leaf (*Microtis*), others form a rosette (*Pterostylis*), while others

throw up several leaves. There is just as much variation in leaf shape and form. In *Corybas* the leaves are heart-shaped (cordate) and often silvery underneath. In some *Pterostylis* (*Pt. trullifolia*) the leaves are finely veined much like the "Jewel" orchids overseas. (*Anoectochilus*, *Goodyera*) *Microtis* has leaves like an onion, *Thelymitra pauciflora* quite wide strap leaves and so it goes on.

The flowers all have the usual orchid features but this is not always apparent at first glance (*Thelymitra*). Most remain open for long periods, some open only on hot still days (*Thelymitra*) and others elongate after pollination (*Corybas*). *Thelymitras* have the ability to fertilise themselves even without opening (cleistogamy).

Sometimes they hybridise naturally, but most orchids have their own particular pollinating agent. A line of investigation for the curious is to study these pollinating agents. Seed ripens in a few weeks and is freely produced in most species.

How many orchid species do we have in New Zealand? At present this is a matter for dispute, but about 70 species of which half a dozen are epiphytes is approximately correct. These belong to some 20 genera, most of which are also found in Australia. A few Australian genera are not found in New Zealand, e.g. *Diuris*, while our *Aporostylis* is not found there. Likewise with the exception of *Spiranthes*, our orchids seem to have little relationship with those in Northern temperate countries.

I've been growing New Zealand and Australian terrestrials for some years with a fair degree of success. My experience for what it is worth suggests that a little care and patience is the main requirement. Some genera are easier than others, just as some species are easier than others. Start with *Microtis*, *Pterostylis* and *Thelymitras*, and you will gain confidence to try your hand with *Corybas*, *Orthoceras* and the intractable *Ceiloichilus*.

The main ingredients seem to be good drainage, a sandy well-drained compost and a rest period.

ORCHIDACEOUS BIBLIOPHILE

Associated with the growing of the orchidaceous plant is the background of bibliographical endeavour, i.e. the world of books. Like collecting plants, it is possible to build up a comprehensive library covering many and varied aspects pertaining to orchid lore. Some of these books are worth having, some are better left in the bookshop and a few should never have been printed.

But, supposing you were asked to recommend one book to a beginner, what would your choice be? In this respect one can easily put one's neck on the proverbial block as there will be many who will disagree from personal quirks and even from sound knowledge. The first question which must be asked is, what type of orchids do you grow? In this, part of the answer is already given. You will probably get the answer, "Is there more than one sort?"

Probably one of the best all-round introductions to the field of orchid growing is the series by Mary Noble: *YOU CAN GROW ORCHIDS*, *YOU CAN GROW CATTLEYA ORCHIDS*, *YOU CAN GROW PHALAENOPSIS ORCHIDS*. The three books in this series are reasonably priced (about \$4 depending on exchange rates), well illustrated and clearly written. They are all paperbacks of about 150 pages.

If, however, your grower is interested in cultivating the New Zealand species, the best book available at the present time is *FLORA OF NEW ZEALAND*, Volume 2, by L. B. Moore and E. Edgar, available from the Government Printing Office priced at \$4.50. It is not the easiest book to read and you would need to know something about botany to comprehend it. Nevertheless, it is a thorough work well worth having in your library.

If your grower has catholic tastes and is inclined to be an eclectic then reference must be made to the two major works covering a variety of species in the different genera. The shorter (374 pages) model is Rebecca Tyson Northern's work "HOME ORCHID GROWING."

For many growers of species in particular, this is their bible. Although it does not cover every species in cultivation, she does give a good over-all coverage of the more common types grown. There is also a table (Appendix D) noting the use and toxicity of poisons A handy guide if you would prefer not to poison yourself while spraying the plants. A very useful book published by Van Nostrand Reinhold Company, New York. The last price seen was \$27 which, by the way, is a 488 per cent. increase on the first edition which was priced at 55/3 in 1949.

The other classic tome is the *ENCYCLOPEDIA OF CULTIVATED ORCHIDS* by Alex D. Hawkes and published by Faber (\$20.25 my copy). Though various experts have at times disagreed with Mr. Hawkes' findings it is still a monumental work of some 602 pages. Again, not every species of every genera is treated, but there is sufficient coverage to satisfy the most avid grower. The photographs usually feature the less commonly grown plants several of which are the work of a certain grower in New Plymouth by the name of George Fuller. It would not be a beginner's book, but one which anyone who is interested in species is more likely to have in his or her collection.

The last type of grower which is encountered is the breeder, or the incipient breeder. They will require something in the line of *SANDER'S LIST OF ORCHID HYBRIDS*. This is a specialist work and an essential tool for the whole breeding and hybridising field. Difficult to come by, but well worth having.

Obviously there are many more books on orchids available. As gift books with beautiful pictures and photographs there is one simply called *ORCHIDS* and published by Spring Books, a division of the Hamlyn Publishing Group (\$2.80), with its 56 coloured plates. From the same stable (Hamlyn) comes Peter Black's *BEAUTIFUL ORCHIDS* (\$6.20)—a most acceptable gift or raffle prize, and the photographs are stunning.

The list could continue indefinitely, but these seem to be among the best available, and if you take into account the magazines—you cannot go past the scintillating and brilliant new offering *ORCHIDS IN NEW ZEALAND* published by the Orchid Council of New Zealand.

Rev. Fr. B. J. EDWARDS.

PHALAENOPSIS FALLACIES

by J. CAMPBELL

Whenever one talks of growing Phalaenopsis the most common reaction seems to be "Oh! but they're difficult to grow and need a lot of heat." This is a very negative approach and once a certain understanding is acquired, they are certainly no more difficult to grow than most other orchids and much easier than many. One of the first advantages we encounter is the fact that they don't require a lot of light, this enables us to locate a hothouse in a position which would not be favourable to the sun loving plants. Another advantage in the low light requirement is that we can double glaze our hothouse or line it with plastic sheeting and the resulting light loss is not detrimental while the double glazing assists immensely in cutting down heat requirements. In my particular case, I have used durolite and novarof for the outside of my hothouses, both materials being very successful. Price may be the governing factor in choice, the durolite being more expensive but more durable and able to withstand the impact of quite a hefty stone. If one of these materials are used and a plastic lining, then the house will be better situated in a sunny location. The beauty of these perspex or p.v.c. type materials is the ease with which they may be fixed to a framework simply by drilling and then nailing directly onto the timber. A small lean-to hothouse may be built in a couple of days.

A minimum temperature of 15.5 deg. C. is advisable and with double glazing this is not very difficult or costly to maintain and to my mind the most important requirement is a water tank inside the hothouse so that water of the same temperature as the plants is used to dip or hose. I have an old washing machine motor and pump mounted under my water tank which forces the water through a hose and oblong sprinkler. This set up lends itself admirably to liquid feeding which is virtually a must for successful Phalaenopsis culture.

I generally water the plants daily and usually include some liquid food like urea, Alaska or a chemical mix which I make up

myself. We must guard against a chemical build up in the potting material and once per fortnight I use plain water for a couple of days.

Insecticides and fungicides can also be applied through this system and, as a precaution I use one of the fungicides about every two months. I personally do not go along with the old idea of never wetting the flowers or foliage, it would be just too much of a fag to dip all my plants and I water them just as mother nature does except I use an oblong sprinkler and simply hose everything. I strongly believe that crown rot, which seems to be the main trouble which people run into with Phalaenopsis, is caused by cold water and I cannot stress enough that warm water should be used.

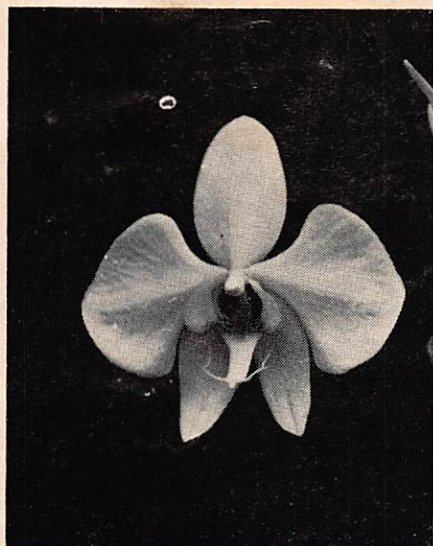


photo: G. FULLER

Phalaenopsis amabilis

Air circulation is another most important aspect of orchid growing and it is only in recent years that orchidists have begun to realise how much better plants will grow if fans are employed in the hothouse. In our part of the country (Canterbury) we have at least four months during winter when ventilators cannot be opened in a Phalaenopsis house but providing air circulation is maintained the plants seem to suffer in no way. I have three fans in a 5 metre x 6.5 metre house and many of the

leaves and flower stems are in constant motion, something which is advocated by many successful American growers. Humidity is maintained at a fairly high level by water troughs made of concrete at the time of pouring the hothouse foundations.

With a daily watering and feeding programme the potting mixture can be quite coarse and I use 2.5 cm cubes of fern fibre and pine bark with a little topping of epiphytic moss. I grow my plants in baskets or plastic pots which have had 6 mm slots cut in with a small grindstone as supplied for use with an electric drill held in a bench mounting. With a regular feeding programme it is not necessary to use very large pots and most of my plants are in 15 cm pots except a few of the very large white crosses.

Given adequate heat, plenty of feeding and water, most of the modern Phalaenopsis crosses will flower twice per year and with the long lasting quality of their flowers most plants can be expected to have blooms for six months of the year.

HUTT VALLEY ORCHID CIRCLE NEWS

Our meetings are held on the fourth Monday of the month February through November, except October (third Monday), at 8 p.m. in the Committee Room of the Hutt Valley Horticultural Society, Laings Road, Lower Hutt.

Plant displays are non-competitive and members who want competition have a few classes in the four shows of the Hutt Valley Horticultural Society, of which we are a subsidiary. All visitors welcome.

President: J. R. Askin.

Secretary: Mr. L. Wyatt, 43 Hardy Street, Waterloo, Lower Hutt.

NORTH SHORE ORCHID SOCIETY NEWS

Meetings held first Sunday in the month, 1 p.m., Senior Citizens Hall, Takapuna. Over the last two months our members have been fortunate in having made available to them a number of private glass-houses and gardens to visit. Enjoyed by all those who attended.

President: Lt. Cdr. F. E. J. Mason.

Secretary: Mrs. B. Godwin, 47 Alton Ave, Northcote, Auckland 9.

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The Fourth Australian Orchid Conference Sydney - 1975

by FRANCES WOOD

A party of 44 New Zealanders, led by Norm Wood, President of the Manawatu Orchid Society, attended this Conference. Orchid fanciers from as far as New Plymouth, Hawke's Bay, and Wellington spent 10 days in Sydney.

The venue for the Conference was the Sydney Hilton Hotel. What a majestic building. Pretty girls, with flower baskets were giving single orchid blooms to the public at the entrances.

The decor inside was an ideal setting for the exhibition of glorious orchids. Displays were set up in a South Pacific design, in semi-circular bays. Societies from all States, too many to name, each had their own bay. Focal points were pools, native canoes, fishing nets, driftwood, coral and carvings. Each bay had its own individuality to the design chosen, built up with beautiful flowering plants of all Orchid genera. Palms and ferns were used for that extra touch to complete the settings. The bays were outlined in rocks and half logs of native wood to form the semi-circular frontages. Beside the main entrance hall there were also large side rooms used for display. One room was entirely for native orchids. What an enchanting sight to behold, it was out of this world and the fragrance of these beautiful blooms truly delighted us. The whole setting gave one a feeling of heavenly serenity, and was a highlight of the exhibition.

Plant name tags in the bays were most unusual. They were in shapes depicting the theme of the display. Swordfish, coconuts, bananas, shells, even "man Friday's" footprints and other appropriate designs.

We were hosted at a cocktail party and a banquet held in the huge banquet room, both these functions were terrific. The organisers and exhibitors of this Conference must be congratulated on their magnificent effort and wonderful display.

Members visited or went on tours to the nurseries of Frank Slattery, Wondabah, Bob Deanes, Jayhurst, John Gulbi, Tom Henry, and Alvin Bryant. The hospitality of these nurseries in serving morning teas, barbeques and luncheons was appreciated. These were mostly huge nurseries and their flowering plants were a delight. Masses of blooms, as far as the eye could see. Dozens of films must have been shot off during these visits and many people will re-live memorable moments when they are developed.

This visit to the Conference enabled members of the party to renew friendships, and to make many new friends during a most enjoyable 10 days.

The Council wish the new group forming in Masterton every success. People interested in Orchid culture in this area are urged to contact Mr. & Mrs. Randal Booth.

The months of September and October are busy ones for societies that have a show or exhibition. From all accounts these were well attended. The New Zealand Orchid Society have a show and The Grand Champion award went to Mr. & Mrs. D. Connelley's Phaleopsis Pink Medallion No. 1. Hawke's Bay held their exhibition in the Hastings new Civic Centre and utilised to advantage the hall's architecture and natural lighting. The Grand Champion award at the Waikato show went to Mr. I. D. Jame's Odontoglossum White Heron. Manawatu exhibition was held on the same weekend as Waikato. The orchid bays of this display were tidily cordoned off with attractive stained wood paling. Taranaki exhibition held a week later, was as usual notable for its variety of genera.

Visiting the Bay in January? A warm welcome is extended to all readers to meet with members of the Hawke's Bay Orchid Society on Monday, 5 January, 1976 at the Pakowhai Hall at 8 p.m. Secretary: Mrs. E. Allen, phone 83-050 Napier.

Cymbidium Orchids: Pest and Disease Control 1975

PART 3

PESTS

Aphids: Green Fly. Suck sap. Common on late spikes in spring.

In-spike control: Acephate, pyrethrum, naled, or omethoate sprays. Naled fumigation four applications at three or four day intervals.

Out of spike control: Includes diazinon or maldison, on appearance and seven days until pest controlled.

Cerataphis orchidearum: Orchid aphid, similar to a White-fringed scale, found at base of plant, covered with rubbish.

Control: As for aphids. Good coverage with spray or dust essential. Control ants, which farm and distribute the orchid aphids.

Long-Tailed Mealybug: Suck sap. Secrete honeydew on which sooty mould grows. Difficult to control as the white "meal" covering their bodies sheds spray. Add a spreader-sticker to sprays.

Control: Spot application of methylated spirits. Maldison plus spreader-sticker, applied at 14-21 day intervals. Diazinon, dimethoate or acephate applied as a drench, or dip and repeated three to four weeks later if necessary.

Scale Insects: Several types of scale insects attack orchids, sucking sap. They are difficult to control. Usually introduced on plants. Isolate new plants and any on which scale are found.

Control: Spray or dip two or three times at 14-21-day intervals using the same controls as for Mealybug.

Thrips: A hot weather pest not usually a problem on orchids, but can be most injurious to seedlings. Also cause silvery stippling on underside of leaves, with shiny black spots of excrement. Damage flower buds of some types of orchids, but rarely on Cymbidiums.

Control: On appearance of thrips or of visible damage, and repeat every seven days until controlled: Spray or dust with

DDT or lindane or spray with diazinon or dimethoate or acephate.

Mites: Probably the worst pest of Cymbidiums in Auckland. Suck sap, causing silvering on underside of leaf and can injure developing buds, causing distortion. Fine webbing develops in severe infestations. Mites increase rapidly in hot dry conditions. One female can lay 100 eggs and life cycle is two or three weeks. Use of DDT to control other pests increases fecundity of mites. Strains which are resistant to some chemicals increase rapidly. Mites are relatively immune to pesticides during the four inactive stages of their life history.

Control: Cooler conditions. Good air circulation. Higher humidity. Water applied to leaves. When using agricultural chemicals, keep to one material until resistance develops, then change to another unrelated chemical. Good coverage essential. Repeated applications required, as a chemical may not kill all stages of mite.

In spike control: naled, kumitox, dicofol. Dicofol, two or three times at seven to 10 day intervals (not effective when temperatures are below 15 deg. C.). Naled, two or three times at seven to 10 day intervals, or use as a fumigant. Kumitox, applied as a root drench after watering. Other chemicals e.g. diazinon, maldison, oxydemeton methyl, give some control.

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