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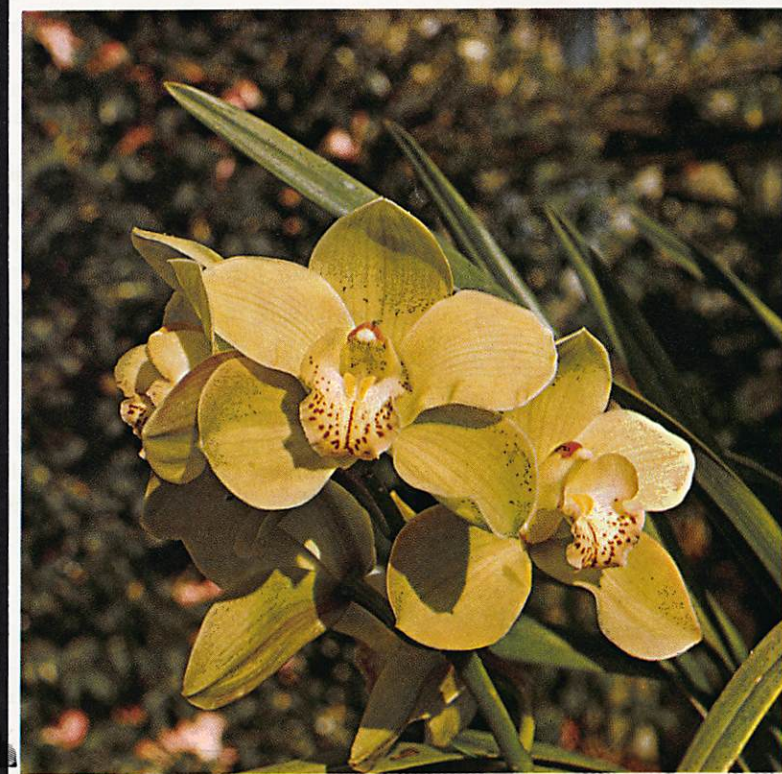
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Phone 84-287 Papakura

Registered at P.O.H.Q. Wellington as a magazine.

Printed by Taranaki Newspapers Limited, New Plymouth, N.Z.—17407

ORCHIDS IN NEW ZEALAND



September - October 1976

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HAWKES BAY NEWS—

At our A.G.M. held in May, one of our members was made an Honorary Member for life of the H.B.O.S. — Andrew Easton — who has now left our shores to live in U.S.A., where he is managing a large orchid and rose firm very successfully. Orchids are still his main hobby. Just a few months ago he sent a spike to the R.H.S. for judging and was granted the first F.C.C. given to a Cymbidium for many years. It was the early flowering Peetie 'Steadfast'. In a letter to a Hastings friend, Andrew states that he has named some of his best Cymbidium seedlings after close friends from our district; C. Chief Joseph (his father), C. Donald Wilson (our Patron), C. Lofty ("Lofty" Dawson our past President), C. Cabernet 'Noel Wilson' (his mentor), and also C. Kauri Forest and C. Mellow Yellow. He is also a member of the Judging Panel of his newly adopted country; however he still finds time to return home every few months and intends to be back for the H.B.O.S. show (Oct. 1-3), where he will be presented with his Honorary Member's Certificate.

Acting on a suggestion from a member as to which plants would be compatible with Cymbidiums, our Committee arranged an exhibition of plants so that members could see the various species which can, and are, being grown locally in association with Cymbidiums. It was amazing to see the interest this display aroused. There were nearly 200 plants from almost 50 species on the tables. It was surprising how many pencils and paper appeared to write down names of plants. Members are now trying to find out where they can obtain these plants. If your Society has not tried out this idea, it is well worth a try.

Ros Bickerstaff

WAIRARAPA—

A.G.M. to be held in November.

Secretary: Mrs I. Booth, 112 Essex St, Masterton.

HINTS FOR THE TWO MONTHS SEPT.-OCT.

by Gordon Maney, Palmerston North

Flowering is now in full swing and each week you are seeing perhaps some new seedling or mericlone long waited for; I hope you have not forgotten to keep up the slug bait each week and of course you have been training the flower spikes up the stakes with twistems.

With the warmer days you will need to increase your watering, and feeding can be started in the first week in September. My own feeding programme you will find in the first two magazines to come out. Keep the fresh air flowing through your houses, this is a must for good clean flowers.

September is the beginning of the potting season for those plants that have finished flowering, particularly the early varieties.

Repotting to a larger pot is also important if the plants require it, it is well to remember that to force a plant to flower, restrict its roots, then the only way it can reproduce itself is by flowering. (That's why many a sore neglected plant flowers well-once).

For those plants you intend cutting up, knock out of the pot and look for new root growth; the roots should be green at the tips and vigorous, otherwise you risk bulb shrivel. In other words divide when the plants are ready and not before.

NORTH SHORE ORCHID SOCIETY

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

Secretary: Mr. A Andrew, 70 Verran Road, Birkdale, Auckland 10. Phone 438-304.
Meeting Place: Senior Citizen's Rooms, The Strand, Takapuna.

Time: 1 p.m.

Date: 1st Sunday in the month.

Coverphoto: Courtesy of Mr. R. Clearwater. A fine Cymbidium clone of San Francisco in Mr. F. Parker's collection. (New Plymouth).

ORCHIDS IN NEW ZEALAND

Official publication of the Orchid Council of New Zealand.

Volume 2. No. 2

Published bi-monthly.

September-October

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Annual Subscriptions, including postage: New Zealand \$3.80.

Second class air—Australia \$NZ4.80, Great Britain \$NZ6.00, U.S.A. \$NZ5.70.
Surface rate: All overseas countries—\$NZ4.10.

Advertising Rates: Full page \$25, Half-page \$14, Half-column \$8, Quarter column \$5 per issue.

All manuscripts, photographs, news items etc. to reach Editor six weeks prior to publication.

Views and opinions expressed by contributors are not necessarily those of the Orchid Council of New Zealand.

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EDITORIAL

At last, a suggestion as to what someone would like in the magazine. The Manawatu Orchid Society writes ". . . interested in cultural notes," thank you Manawatu. Cultural notes will commence in this issue, be of a general nature and brief. It is considered that local societies should give in depth information to member growers and the magazine notes will be aimed at subscribers who because of distance or other reasons are unable to join a society. However it is hoped that the information will be of interest to all readers.

It is obvious that space will not allow coverage of all the orchid family so the more popular genera will be reported on every two months. If there is an article in the magazine relating to culture of a specific genera there will be no reference under cultural notes—this will avoid repetition.

If anyone has a particular cultural problem relating to a genera that is not listed under the notes please write C/- "The Editor" and enclose a stamped addressed envelope for reply—this service is for those who do not belong to a society.

It is hoped that this section will prove popular but it is the societies job to instruct members on the finer points of growing.



Photo: G. Fuller

Pleione formosanum

25 YEARS OF ORCHID MIXES

by A. Beck, RD 2, Ngatea

In the very early years of orchid growing in England and the continent when orchids were rare and expensive the search for something to grow them in with the cold unnatural climate of Europe led to the use of a coarse fibre called Osmunda which came from the swamps of Europe and later Japan. (We have an equivalent in this country called Todea Barbara). This fibre has a long strong root system which is teased out, washed, then chopped up into lengths suitable for the size pots to be used. A time consuming and tedious job both in preparing, and in the potting of orchids. In use it lasted approximately two years and gave moderately steady growth so long as watering was carefully done. As most of the orchid growers in the early days were well to do people who employed gardeners this time and watering aspect was no worry, but as more of the general public became growers the demand on Osmunda became great and a shortage soon became evident. Osmunda was used with a small amount of Spagnum moss and a smaller amount of Oak leaves from which all fine matter was screened out. The only fertiliser used was bone flour and this was added to the bottom of the pot where the roots of the orchids would penetrate. It is debatable whether constant watering would have left any there for the orchids. The adding of any other fertiliser would soon bring about rotting roots and a declining orchid plant.

Turf: The material known as Turf was the top three inches of a very fibrous grass such as Brown top or Paspalum etc. This turf was cut in slabs then turned upside down and stacked for three to six months to dry after which all soil was shaken out. The resulting fibrous matt was then chopped up into cubes and used either alone or with Osmunda. It was very successful especially with Paphs, Odonts and Cymbids. The best grown Paphs that I have ever seen were grown this way by an Auckland grower. Again as supplies became hard to get

There are two other books that I find most useful. Both are by the same author, the well-known scientist and entomologist, Dr J. T. Salmon, "New Zealand Flowers and Plants in Colour", and "Field Guide to the Alpine Plants of New Zealand" (Reed). They include some excellent photos of native orchids as well as much useful information on our native plants.

In the ensuing articles, I hope to help you in your search for some of our native orchids by giving you an idea of what to look for, and the kind of place to look for them. Above all, remember that the most important thing in orchid hunting is CONSERVATION. Don't remove plants from Reserves without permission from the Commissioner of Crown Lands, under written authority. Good luck in your hunting.

A Double Thrill:

A few years ago, I was asked if I could identify a small vanda-like plant that had been found in our Hawke's Bay area. I was surprised to find that it was one of our native orchids — the epiphyte, Drymoanthus adversus (Nichols). It was the first specimen of this species that I had seen from this, my local, area. It had been found growing on a tall tree in a milling area on the inland side of the Napier-Wairoa highway.

Now that I knew that this species was growing in our area, I was keen to find further specimens so that I could compare them with those I had growing, in the hope that I might find a new species or even a new variety. All my own specimens had come from various parts of the North and South Islands.

One of my many hobbies, when I am not occupied with orchids, is to try to do fly-fishing for trout. Many times as I travelled through the back country, on my trout fishing excursions, I would stop to examine likely areas, but never a trace. Talk about trout being elusive?. At least I could catch a few of them.

In the meantime, one of my sons caught the "orchid bug." Native orchids seemed to attract his eyes like magnets. He could spot plants with "orchid characteristics" — whatever these are — and would ask me to iden-

tify them. It was rare for him to make a mistake, no matter whether it was an epiphyte or a terrestrial.

Then, in a reserve not far from home, we were looking at a clump of Earina mucronata (Lindl), on a fallen tawa tree, when my son called out excitedly, "Come here! I think it's one of those plants we've been looking for!" One glimpse was enough; here was our elusive Drymoanthus adversus. No wonder I hadn't seen it before. It was in the midst of branches thickly covered with lichens, polypodium serpens, and climbing rata; its long, whitish, velamen-covered roots showed up its presence by their whiteness amongst the tangle of other roots. They seemed to travel the length of the branch, both up and down.

Now that I knew where to look, it was surprising how many more specimens were located in areas I had walked through many times previously, without noticing any.

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Modern day chemical programmes are most effective in providing adequate control of pests on orchids. Most problems encountered involving poor control in any programme can be traced to human failings.

ORCHID NOTES

These notes are to be taken as a guide only as differences occur in locality, condition of plants, outside temperatures and growing areas.

SEPTEMBER—OCTOBER—

This is the peak flowering time for Cymbidiums, slowly increase watering. After blooms have finished, re pot those that require it and keep shaded and lightly watered for about three weeks. Gradually return to full sun with other Cymbidium plants.

Paphiopedilum flowers are finishing, re-pot when new roots are showing and restrict watering for a time. Shade is necessary for this family now as bright spring days can harm.

Re-potting of Cattleyas that need it, can be done now. Do not tuck aerial roots into compost, they will rot, keep shaded and lightly watered for about three weeks. As new growths start to swell increase water and give all sunlight possible without over heating or burning the leaves.

Dendrobiums should have started flowering, increase water slowly as new growths appear and move into full sun. Miltonias should also be re-potted now. Watch out for slugs and other pests — take precaution accordingly.

Odontoglossum flowers will still be opening, as they finish re pot where necessary when new roots appear. Shade is needed for this group now, increase water and ventilation.

If a glasshouse is used keep clear of all fallen leaves and other debris. Good hygiene is essential — Rev. Fr. Edward's article in Vol. 2 No. 1 gives the message on how plant loving predators will do a great deal of damage in a very short time.

ORCHID HUNTING IN NEW ZEALAND

Ros Bickerstaff, 12 Enfield Road, Napier

Preamble: How to get started.

How many of you have looked in vain for our native orchids? It is amazing how many people look for them and do not know what they are trying to find. I, too, was in this position for many years. I had heard that some were epiphytes and some were terrestrial; I soon found out that this meant that some perched on trees and grew there, not living like parasites on the host plant's sap, but just using the host tree as a support to get off the ground into the moving air, the dews and the light; while others grew on the ground, on the forest floor, on rocks, or in the open fields. I found many plants but few orchids.

Where does one go to get the information about what to look for, and where does one go to find them, I could find plenty of books about native orchids in other countries, but nothing about those in New Zealand. Any books I did find were very vague, and grouped our orchids under such names as sun orchids, spider orchids, or greenhoods, etc. My first reliable book was Laing and Blackwell's "Plants of New Zealand". This started me off. Soon I realized that it was not sufficient for my requirements. I was finding specimens that I couldn't identify; I needed something that would help me to differentiate between similar, but definitely differing, species. And then after many years, my hope was realized; for, about five years ago, Moore and Edgar "Flora of New Zealand" Vol. II, published by the Government Printer, came on the market (\$4.50). It contained 65 pages of detailed information about our New Zealand orchids; descriptions, habitat, early sightings, keys to genera and species, and a wide variety of sketches, enabling easy identification of genera, species and varieties. I know that the language used is quite technical, but it is the most up-to-date reference book on our New Zealand orchids that is available at the present time.

this material became unavailable and other growing fibres were sought.

When Australia became one of the major orchid growing areas of the world one of the things tried was Tan Bark which became very popular for awhile. The Tan Bark comes from Wattle trees and is used as a source of Tannin for the curing and tanning of leather. The bark was boiled to obtain the tannic acid from it and the residue was a crumbly material used with success for many types of orchids and gave a good root system that could be fed with quite large amounts of fertiliser. Some of the mixes made up of Tan Bark used pieces of very dry cattle manure and some times leaf mould or turf. The death knell of Tan Bark came as chemical treatment replaced wattle bark as a source of tannic acid. Apparently wattle bark could not be used without boiling out the acid and it was too much trouble to do so especially for orchid use. The Elkhorn Fern which grew in great abundance in Australia, the Hapu Tree Fern from the Hawaiian Islands and Dicksonia and other tree ferns of this country have had very popular followings for many years, either on their own or mixed with other materials. With increasing demands from the larger numbers of growers and the continuing breaking in of forest lands for farming purposes, the availability of natural fibres is becoming very scarce. Another disadvantage with tree fern fibre is its acidity which unless counteracted by liming can cause some distress to orchids.

It can be seen that the continuing search was mainly for a fibrous medium similar to Osmunda and anything else was looked at with suspicion especially if it needed or could be fed with manures or fertiliser. The demand from orchid growers became greater as larger numbers became interested in cultivation. Bush leaf mould mixed with tree fern fibre gave reasonably good results, especially with Cymbids. This leaf mould was scraped up off the bush floor and comprised of half broken down leaves, sticks, etc. from under trees like tawa, beech and rewa-rewa. It lasted quite well provided it was not fed fertiliser or manure which would soon break down the material into mud. Root loss was soon evident.

Another organic substance was from the native plant known as Kawharawhara or perching lily which grows up in the branches of forest trees. When this plant becomes too big for its perch it usually breaks off the branch and falls to the forest floor. After a while the half rotted leaves and roots were in a suitable state for orchid use. Used much the same as Bush leaf mould with the same disadvantages. Much care was needed as to frequency of watering and fertilising. Another discovery at about the same time which came from the swamps was Carex Secta, generally known as the Nigger Head or Cutty Grass. The deeper the swamp the higher grew the Carex and the longer was the fibre which was the long strong trunk on which the plant elevated itself above the water level. The fibres were tough though very pliable and were used stood on end in the pots after teasing out to single strands. A difficult medium to use, very like Osmunda in lots of ways because the trouble lay in potting and repotting without damaging roots. However the fibre gave very good root systems which were the pride and joy of orchid growers who would tap out the plant to show the basket of roots. Often the root system was so strong that the pot would break and a larger pot would then be needed. It would seem that this was a very desirable material but the rate of growth was slow and if the plant was fed nutrients of any kind then like other fibres before they would soon break down and the orchid would have black and rotting roots. Again combinations were tried but with no great success.

The hunt was now on in earnest. The requirements being to find materials that were economical, easy to use, readily available, long lasting and safe for a wide variety of orchids and for most orchid growers. The materials or mixes would need to, or could be fertilised for optimum growth.

Coarse untreated sawdust or wood shavings from either native or imported hardwoods was successful for some growers especially the larger ones who could treat, water and manure the medium under controlled conditions. The sawdust was either used straight

and fertilised regularly with high nitrogen formulas, or composted for three to six months with fowl manure. This was then used in a very crumbly condition and is still used by some growers today. Unfortunately smaller growers who did not understand its special requirements came to grief and lost many plants with burned roots and shrivelled leaves.

In the late 1950s the University of California was experimenting with peat and sand to get a universally available and standard mix that could be used for a wide range of plants especially those grown in flats or pots. They were so successful that today's nurseries and container plant growers from all over the world have changed from the old John Innes mixes to the U.C. mixes. Later experiments with these for orchid culture gave good results, but mainly for Cymbidiums. It was found that sand even though of a coarse nature, was too heavy and dense and sat too solid in the pots for orchids. Other materials were soon tried and Pumice (the Americans call it sponge rock) bark, perlite, vermiculite, rice-hulls, polystyrene pellets, charcoal and untreated hardwood shavings were all used with excellent results. With the materials listed, plus a balanced fertiliser formula a very good free flowing mix that suits a wide range of plants with little or no alterations has resulted.

If the PH or acidity of the mix is known, the correct amount of fertiliser is added which gives a good start to plants when used straight from the mixer.

At the present time in this country, bark, peat, pumice and charcoal form the bulk of orchid growing mediums. There are many variations in the amounts of the above materials used, and quite a lot of growers use bark or pumice alone but the manuring of these requires extra attention and additional watering is required. I expect that for many years yet growers will be trying new or different materials in their never ending search for an easier or better way to grow plants. I wish them luck.

PUKEKURA CORNER

by George Fuller, N.D.H. (N.Z.), Curator



LEPTOTES BICOLOR. LDL.

This is one of those little treasures that tend to get lost in a massed spring display. Yet viewed on its own has a charm comparable to that of any orchid. Allied to Cattleyas, it is Brazilian in origin but quite a miniature with pseudobulbs almost absent, leaves 10cm long, cylindrical and blooms only about 4-5cm across. However, take note of the wonderful display of bloom relative to the plant size.

The flowers are white with the labellum purple, just two colours, as the specific name signifies, but the striking contrast makes this floriferous species very attractive. The flowers are well elevated as a consequence of having an elongated ovary. Our plant blooms in September-October and is growing very robustly on a piece of tree fern fibre hanging in the Cattleya house. It can also be grown in a shallow container as illustrated and doesn't seem to be very fastidious. Apparently the seed capsules contain vanilla and are used for flavouring in Brazil.

Also in the Park collection and growing under similar conditions is the poorer relation L. unicolour B-R. which is about half size in plant dimensions and of course, lacking the purple contrast.

Control with chemicals can be quite difficult. Hence we need to choose the most effective and provide the best possible spray coverage. Recent research has shown that chlorpyrifos is outstanding for Mealy Bug control. Diazinon also performs well. Up to two teaspoons of these materials per 5 litres of water is suggested. Alternatively 12 gm in 10 litres of water is adequate.

Brown Scale:

This is a small brown tortoise shaped "insect" with quite a hard shell. They are usually found on the undersides of leaves close to the base and midrib. Dense infestations pose a serious problem and are difficult to effectively control. Effective control relies heavily on knowing something of its life cycle. The scale lays its eggs during the summer and produces nymphs or "crawlers". They are extremely minute and are quite mobile. In some cases they are spread by air currents at this stage.

It is in this crawler stage that they are susceptible to a range of organo phosphate insecticides. Frequent (every 7-10 days) and well timed applications are essential for a successful job. The treatment of adults is less effective. Being so difficult to control a rate of 15 gms per 10 litres of water is required.

Slaters or Woodlice:

Another pest which is greyish in colour to $\frac{1}{4}$ " long. Slaters are usually found under damp conditions in heavy shade; under pieces of timber, decaying trash or heavy foliar growth. Good glasshouse or slathouse hygiene can greatly reduce the incidence of slaters. Their damage can be quite devastating in that they seriously affect root development and growth. However spray or dust treatments of maldison or diazinon are effective in its control. Repeat applications are essential for a pest free environment.

Slugs and Snails:

Although not an insect, we should consider their control in this section. They, too, affect quite seriously, in some cases root growth and development. Even at spike development these pests can ruin a seasons hard labour.

The use of metaldehyde 3% w/w bait regularly, provides adequate control. Repeat ap-

plications are necessary every 14-21 days.

In any spraying programme one must consider safety aspects. It is realised that horticultural chemicals can pose problems in use and handling and these are most important when discussing the use of chemical insecticides.

The first criteria is to read the label properly prior to use. Labels are provided for your guidance in that they not only provide directions for use but give recommendations for an antidote in case of accidental mis-use.

It is natural to take the necessary precautions and to wear the approved protective clothing at the time of handling concentrated materials and when making spraying applications. Gloves and masks are essential especially if one is handling large volumes of spray materials on a regular basis.

As a comparison a guide to chemical toxicity is listed below. The figures quoted are known as LD 50 and are presented as either oral or dermal ratings. It is known that the smaller the comparative figures the greater the hazard that exists.

Chemical	LD 50	
	ORAL mg/kg	DERMAL mg/kg
Parathion	3 - 6	4 - 35
Chlorpyrifos	82 - 163	202
(Lorshan 50w)		
Lindane	200	500 - 1,000
D.D.T.	300 - 600	2,500
Diazinon	300 - 600	500 - 1,200
(Dyzol 50)		
Maldison	1,400 - 1,900	4,000

Further comparative toxicity figures will be provided for various chemicals in following articles relating to the use of miticides and fungicides. This data has been extracted from a publication "Acute Toxicity Data for Pesticides (1970)" by Messrs. Ben-Dyke, D. M. Sanderson and Diana N. Noakes from the Toxicology Dept., Chesterford Park Research Station, Essex.

Finally once the spraying operation has been completed wash thoroughly all spraying equipment with clean water. Also seal containers well and store away in a safe place

PEST CONTROL IN CYMBIDIUMS

By Allen Smith — Hamilton

Each season we possibly hear the same old story — the "bugs" have damaged my plants. Why has this happened? The reasons can be numerous.

A. Have I kept a regular spraying programme?

B. Am I using the correct chemicals to achieve the best results?

C. Have I sprayed at the most desirable time to achieve the most effective results?

D. Are the pests developing some form of resistance to chemicals as can happen with red spider?

Remember a year is spent in growing plants to produce one crop of flowers. If we are prepared to be that patient in gaining an annual reward of producing quality flowers, surely we must spend time and money in controlling pests. Fortunately pest problems are not particularly numerous and they are also relatively easily controlled. However to be most successful one should have some understanding of the pest's life cycle. If this is done spraying programmes can be used to better advantage in gaining optimum results with the minimum of effort.

The chemicals which are commonly used today are grouped into a family known as organo — phosphates. These materials are known for their "quick knockdown" but have a relatively short residual life. Their mode of action is primarily due to contact or vapour activity. Some of these insecticides are systemic and have the ability to move within the plant's cell tissue. They are particularly effective in controlling sucking insects such as aphids and thrips.

Perhaps we could list a range of pest problems common to Cymbidiums indicating a little about their life cycle and provide a recommendation as to their control.

Aphid: These are usually small green or black soft bodied insects which during the summer

congregate in quite dense colonies. They are rather peculiar and multiply through virgin female birth.

During the height of the breeding season populations can "explode". They are a sucking pest and are probably responsible for transmitting virus problems between plants. It is well known they transmit virus infections in a number of grain crops. If not well controlled they can cause significant damage to plant growth.

Fortunately they are very easily controlled with a range of insecticides. Maldison (formerly known as malathion), diazinon and chlorpyrifos are considered most effective. These are manufactured usually as a 50 per cent w.w. wettable powder. One or two teaspoons per 5 litres of water is sufficient to provide control. Alternatively this represent 12 gms per 15 litres of water.

Thrips: These are usually a black or yellowish minute pest up to 1-16th" long as an adult. They are distinguished by very narrow wings with long rigid hairs which fold along the centre, back. Plant damage is probably noticed in the form of speckled leaves prior to the actual sighting of the pest. Its feeding habits are very much like aphid in that it sucks on leaf growth.

Control measures are the same as with aphid. They do not present any problems in their control. Regular spray programmes are required. Remember keep on top of your pests. Don't let them get on top of you.

Mealy Bug: This is a very small white-grey insect 1-10th" long. They are characterised by two long hair like tails. Light infestations are difficult to identify unless a hand lens is used. As populations build up they form colonies which are more easily seen. Infestations appear in the early spring and can continue through to the autumn. A regular spraying programme is essential to keep on top of Mealy Bug.

THOUGHTS ON CYMBIDIUM HYBRIDS

by Norm Porter

443 Te Moana Road, Waikanae

Every flowering season I am asked how I come to get so many good flowers in the new seedlings I bloom. Although there are no hard and fast rules as to what crosses will produce that elusive winner there are a few guidelines that I follow, that have been formed from experience gained over the last 18 years which for me have produced a good percentage of fine clones.

During this time I have flowered many thousands of seedlings over a very wide range of colour except blue. Some with arching spikes, with up to 40 flowers, some scented but most with upright or semi arching ones flowering from April to December. When I first started growing Cymbidiums I, like most newcomers acquired bits and pieces from everywhere but was fortunate that when I bought my first seedlings all I could buy were Community Pots of the same cross, having some 15-30 plants in each. This meant that I was not tempted into buying one of each 20 crosses, which so many people do. By having 10, or 20 or even 30 to 40 plants of one cross the chances are greatly increased of obtaining a superior variety. It would be most unlikely to buy one plant of a number of crosses and on flowering find each one outstanding.

As a seedling is a hybrid between two different Cymbidiums every one of the cross will be different even if 10,000 of them are flowered. For instance if the cross was a white Cymbidium onto a red Cymbidium the seedlings grown would have flowers that are white, pink, rose, cream and red with intermediate shades. Some would have open flowers, others filled in shapely flowers, some short and others with long spikes and if the cross proved to be a good one, even if one had only 10 plants, there would be at least several good ones. The chances of obtaining superior flowers are greatly increased if one of the parents is a tetraploid and the other a diploid. A tetraploid

has double the number of chromosomes in its cells and when crossed onto a normal Cymbidium (diploid) the resultant hybrid has a chromosome count of 60, generally this type of breeding produces a hybrid which is very vigorous, has flowers better than its parents, often producing 2-3 spikes per bulb on large plants and is usually the type of flower that wins on the showbench. Plants bred on these lines are the San Franciscos, Naples, Lillian Stewart, Lagoon, Fusilier, Peach Bloom, Dr Lloyd Hawkinson, Mary Margaret, Jungfrau, Via Real, Highland Mist, Daniell Hill, Seasprite, Tinsel, Burgundian, etc. Tetraploid parents to produce hybrids like the ones mentioned are, Vieux Rose 'Dell Park', Balkis varieties, Babylon 'Castle Hill', Mary Ann, Etta Barlow, Joan of Arc, Rosanna 'Pinkie', Snowsprite, Cleo Sherman, Pink Ice, Arcardian Melody, etc.

When deciding on what cross to buy I first decide on what colour I am after and then look for a cross that has a tetraploid on one side. For instance a good green cross would be say Fanfare 'St Francis' 4N crossed onto a Fort William, Fort George, Miretta, Baltic, Sea Gem, etc. A red cross Vieux Rose 'Dell Park' crossed onto Remus, Khyber Pass, Tamatea, Musita, Sunrise, Flavian, Allara, Sensation. A yellow cross, Wallara, 'Gold Nugget' onto Coraki, Cariga, Alnwick Castle, Angelica, etc.

By producing seedlings using this type of breeding I have found that in say, a batch of 30 plants 1-3 would be outstanding, 5-10 of fine quality and the balance just the ordinary run of Cymbidium. When using a white or blush tetraploid such as Balkis, Snowsprite, Mary Anne, Pink Ice, etc I have found the best results come when crossed onto a green, as the resultant flowers are usually clear pastel shapely flowers in the white, lemon, yellow, cream and green shades. When using a white tetraploid onto a red Cymbidium a lot of muddy colours result but there are exceptions to this, one in particular being Balkis 'Luath' X Sensa-

tion 'Vieux Rose' which for me produced a very good batch of clear pink and rose shaded flowers.

I have found that Vieux Rose 'Dell Park' is the best tetraploid to produce outstanding roses and reds with lighter shades of fawn to orange when crossed with a good red diploid. Also when this variety is crossed onto good greens or yellows it produces outstanding results as it is a parent that lets the colour of the diploid come through and show in its progeny. One can get nice arching spikes like Vieux Rose 'Dell Park' with its outstanding lip but in tones of green and yellow.

Now that Vieux Rose 'Dell Park' has been crossed onto new and colourful tetraploids like Wallara 'Gold Nugget', Hamsey 'The Globe', Fanfare 'Sierra Spring' 4N etc, the future is going to be very exciting.

PATIENT GROWERS

by Randal Booth, Masterton

It was exciting to read in the May-June copy of Orchids in New Zealand, the article about the elusive *Sarcochilus hartmanii* 'Blue Knob' by Percy Shaeffe.

While on a visit to Melbourne after the Sixth W.O.C. in Sydney in 1969 we were given a small plant of this delightful little orchid by a well known orchid grower, who by the way shall remain anonymous; knowing nothing of the habits of this orchid we potted it in *Cymbidium* mix, for years it did not grow very much, so was eventually shifted to the far end of the orchid house and much neglected. Finally we decided to give it some warmth, much to our amazement it just grew and grew and this year sent out a flower spike which lasted for months and created much interest among members of our newly formed Orchid Circle. Patience has been rewarded.

Mana Orchid Nursery

7 Harrow Place,
Palmerston North

Phone 79-439

14 Varieties of vanda x *Asconceda* crosses
Write for list of these beautiful, easy to grow
Orchids. Brilliant colours and long lasting
blooms.

A Glossary of Orchidaceous Terms

Compiled by the Reverend B. J. Edwards
The continuing smile

FANATIC: An expert who condemns your plant to fire (because he hasn't got it) on the ground that it has virus

FERTILISER: 1. A bumble bee or blowfly;
2. A regular topic for the monthly meeting when the Programme Committee can't think of anything else;
3. Various chemicals which the experts will tell you to put on or near your weeds.

FLOWER: The reason for all this.

FUNGUS: Your watering programme is all up the spout.

GENIUS: The Newsletter Editor

Genus: A singular genii whom you need to look after your weeds while you are enjoying your vacations, but can never find. Try looking at the bottom of your garden.

A LOOK AT VANDAS

by Gordon Maney, 7 Harrow Place,
Palmerston North.

Firstly let's take a look at their needs:—

1. Warmth 13 deg. celsius or 55 deg F.
2. An abundance of sunlight and water.
3. Compost must be open allowing quick drying and aeration. Baskets, wire or wood slat are ideal.
For large plants, bark and shredded ponga, for babies, the addition of sphagnum moss is necessary.
4. Feeding of any liquid fertilizer is a must but reduce when the root tips cease to move.

5. Flower buds are susceptible to rot if water is allowed to lie in or around bud stem. A match edged in between stem and leaf allows water to drain away.
6. A fungicide such as Benlate or Captan if rot develops.

Although many people are beginning to realise the beauty and long lasting quality of their flowers, not enough emphasis has been placed on their very long flowering season; many varieties will reward the grower with several flowerings per year.

Ascocendas were introduced in 1949, by Dr Sideris of Hawaii, his first registered cross was *Ascocentrum curvifolium* from Thailand, with *Vanda lamellata*, which was named *Ascocenda Portia Doolittle*.

While the flowers are smaller than the semi-terete and strap leaved *Vandas* the plants are miniature by comparison and of course take up a great deal less space in the glasshouse.

Ascocenda Yip Sum Wah is one of the most successful hybrids to date, rivalled only by *Ascocenda Meda Arnold* as evidenced by the numerous awards given to superior clones of this cross all over the world. It has a free flowering habit with long sprays and brilliant red blooms that seem to glow.

Without doubt the *Ascocentrums* are the source of all desirable characteristics of the intergeneric *Ascocendas* with an extensive range of colour from blues to orange, cerise, cinnabar reds, yellows and scarlets.

With the cut flower trade in mind. Hybridizers have bred *Vandas* into *Ascocendas* in an attempt to increase the size of the blooms and fortunately the colour influence of the *Ascocentrum* parents is very dominant.

For those of you who have a small hot house they are a worthwhile addition to your collection. They flower in three years from a 3 inch seedling and are inexpensive too.



Photo: G. Fuller

Asconcentration ampullaceum

There is one species which should be mentioned specifically because it is rather touchy when carrying flower sheaths. I refer to *P. hirsutissimum* which usually makes its flower sheaths in autumn and they sit low down in the leaves till mid or late winter before the flower spike starts to develop. They are very easy to rot off in this early stage and care must be taken that water does not sit round the sheaths. I shift my pots and baskets of *P. hirsutissimum* up high in the winter and give them very little water and often the very act of hanging them up in the sun will induce early flowers. Now that I have employed fans in my hot house I do not have near so much trouble with rot in any species of orchids and I try to place the *P. hirsutissimums* in a place where they will receive maximum air movement, especially in winter.

P. parishi seems to really thrive in a basket and one plant I have made two large growths with 45cm leaves and two flower spikes bearing with seven flowers each. I have tried a few of the other Paphs in baskets and in March had a basket of *P. venustum* with 5 flowers on healthy looking plants. I intend to try other species just to see how they adapt and may be able to offer further information at a later date.

HUTT VALLEY—

President: Mr. F. R. Askin

Secretary: Mr. L. Wyatt, 43 Hardy St

Waterloo, Lower Hutt. Phone 696-101

Meeting Place: Committee Room, Hutt Valley

Horticultural Soc. Lower Hutt

Time: 8 p.m.

Date: Fourth Monday in the month Feb. to Nov. except Oct, third Monday.

SOCIETY MEETINGS

BAY OF PLENTY—

Information will be given in next issue as A.G.M. is on 1 August 1976.

GOLDEN COAST—

President: Mr W. Ross-Taylor.

Secretary: Mr J. Matthews, P.O. Box 11, Waikanae. Phone 6161.

Meeting Place: St Luke's Hall, Waikanae.

Time: 7.30 p.m.

Date: 2nd Monday of month.

HAWKE'S BAY—

President: Mr L. E. Brown

Secretary: Mrs. N. F. Allen, Pakowhai, R.D. 3, Napier. Phone 83050.

Meeting Place: Pakowhai War Memorial Hall, Pakowhai.

Time: 8 p.m.

Date: 1st Monday in every month.

MANAWATU—

President: Mr N. G. Wood

Secretary: Mr J. G. Jackson, 18 Hurley Place, Palmerston North. Phone 83348.

Meeting Place: All Saints' Memorial Hall, Church Street.

Time: 7.45 p.m.

Date: 2nd Thursday in the month.

TARANAKI—

President: Mr T. Reynolds.

Secretary: Mrs D. Whittaker, 2 Nelson St, Waitara. Phone WT 8896.

Meeting Place: St. Aidans Hall, New Plymouth.

Time: 8 p.m.

Date: 2nd Tuesday in the month except January.

WAIKATO—

President: Mr D. K. Bell.

Secretary: Mrs E. E. Young, R.D.3, Hamilton. Phone 65411.

Meeting Place: Senior Citizens Hall, Clarence St, Hamilton.

Time: 8 p.m.

Date: 4th Tuesday in the month — excluding December and January.

SOME METHODS OF PROPAGATION

by Syd Wray

Phalaenopsis

Being a Monopodial growth, propagations are almost nil. The following may be of some help. *Phalaenopsis* stems can be placed into tubes with agar and grown as one would grow orchid seed, sterile conditions are essential. You can also place your flower stem in water at a temperature of 23.8°C-26.6°C. This certainly starts the plantlet growing from the nodes, but the difficulty comes when you transfer your plant into mix and you should leave part of the stem attached to the plant. If you want to experiment with an old *Phalaenopsis* seedling which you don't want you can try the following—

Put two or three drops of water in the eye or growing section of the plant, just sufficient to kill that growing section. The plant in order to survive will grow from dormant eyes at the base. It is essential to stop watering and completely dry the plant out to stop rotting, after a rest period water only to stop plant from shrivelling up. I have obtained up to eight plants per original plant this way and haven't lost any at all. Make sure you don't use your best plants in case you lose them. Sometimes accidents happen and you lose the growing section of your better plants.

Dendrobiums

They are very easy to propagate. After removing the old spent cane from your plant you can leave the cane just lying on top of the hot bed or place it in a plastic bag with damp sphagnum moss or you can cut up into sections of two or three nodes per cutting for pot culture with or without plastic bag.

Phaius (*tancarvilleae*)

Also cut up into sections as you would dendrobiums. You can use a fungicide at all cut sections.

Thunia

You don't have to use heat, just cut up as *Dendrobiums* and keep damp in a mix of ½ cymbidium mix and fine pumice and leave in your glasshouse. Remember to keep damp. You could also use plastic to retain moisture.

Cymbidium back bulbs

Clean all old dead leaves away and you will find up to eight dormant eyes. The sooner you place your bulb into hot bed or plastic bag and sphagnum moss, the sooner you will obtain a healthier plant. The bottom eyes on your bulb will give the strongest plants, the top eyes generally being weaker. If you use the plastic bag method you can place them just about anywhere from hot water cupboard to just sitting in the glasshouse.

Miscellaneous

Other plants can be increased by just back cutting between the forward and the back section of your plant. *Cattleyas* should have three pseudo bulbs in front and three behind. *Paphiopedilums* can also be increased by cutting old growth from front section, in fact this sometimes is the only way to increase Paphs. Don't be in too much of a hurry in cutting Paphs. as they can sulk and never recover and don't disturb the roots when cutting as this is the feeding point for the new plant. Others that can be back cut are the *Brassia* family, *Odontoglossum* family and one can get a really good specimen plant by back cutting *Dend. linguaforme* (tongue orchid).

CLASSIFIED ADVERTISEMENTS

Wanted to buy or exchange

Cattleya species, any sized pieces considered. I have some *Cattleya*, *Laelia* and LC hybrid seedlings and many *Phalaenopsis* seedlings. A. J. Campbell, 21 Blakes Road, Prebbleton, Canterbury.

VIRUS

by Alan Burrows, Australia

The word virus is only a short word but it is one which produces shivers up and down the spine of any dedicated orchid grower. For when it strikes it means death by burning for the affected plant.

Some orchid growers, however, do not take this subject seriously and just shrug it off leaving their orchid collection to become a breeding ground for this disease, which they will pass on to any unsuspecting friend receiving a plant or back cut from his collection.

Other growers are a bit too quick in destroying a suspected plant. Some of these so called virused plants are only infected by a fungus disease, some being the result of red spider attack.

So what should we do when we have a suspected plant?

(1) Isolate the plant then spray it and all other plants in your collection with an insecticide which will kill red spider and any other insect which could cause cross infection.

(2) Take the plant to some authority who has had some experience in detecting this disease. Your local nurseryman is always a good starter. If he is not sure he will advise you to contact an Official of the local Ag. and Fisheries Department. In most areas these are the only people who have the trained personnel and equipment necessary to give an exact answer as to what is wrong with your plants.

Now, before you swamp the Department with requests for plant testing it should also be remembered that it costs this department money and time to carry out the necessary tests. While they will do their best to oblige you, you must also remember that they are basically employed to keep the Agriculture of the country on a sound footing and orchid growers are right at the bottom of the ladder when it comes to priorities.

(3) We can grow a few selected plants, commonly called indicator plants and test our own plants for virus. These indicator plants

give almost 100 per cent results.

Two of the indicator plants are CASSIA OCCIDENTALIS for Cymbidium mosaic virus and CHENOPODIUM AMARANTICOLOR for Tobacco mosaic virus strain "O".

The Cassia seed is usually planted 5mm deep in a seed bed and usually germinate in 4-5 days. When the seedlings are about 30mm high they can be planted into individual pots and are ready to be used for testing when they reach a height of 10-15cm.

The Chenopodium seed is quite small and should only have a light soil covering over it. Cover the seed box with a sheet of glass to prevent the surface of the medium from drying out. They will take longer to germinate than the Cassia and can be used when they are 10-15 cm high.

Now to begin testing for virus.

(1) Gently sprinkle the surface of a leaf on each indicator plant with 320 mesh Carborundum dust, if you have a powder blower then you can use it. This dust can then be gently rubbed in to cut the surface of the leaf.

(2) Cut a leaf from the suspected plant with a sterile knife or razor blade, then using the same blade gently scrape the surface of the leaf until you have a moist surface, then rub this on the surface of the indicator plant on which you previously dusted with the Carborundum dust.

(3) Allow to stand for a few minutes and then wash the leaves with tap water to remove the dust and surplus sap.

With the Cassia; Inspect after the third day for numerous pin point spots on the treated leaf. By the sixth day they may be the size of a pin head. If this spotting occurs then the plant is infected with mosaic virus. If not, then it is free of the disease.

With the Chenopodium; After the fifth day inspect for numerous tiny tan coloured and slightly sunken spots. If this spotting occurs the plant is infected with Tobacco virus. If not, then it is free of the virus which causes colour break of your flowers.

EPIPHYTIC PAPHIOPEDILUMS

By J. Campbell, Prebbleton

In the group of paphiopedilums which are often referred to as epiphytic, Paphs. lowii, parishii, stonei, hirsutissimum and villosum are most regularly reported to be found in trees. A few others, P. violascens to name one, creep up moss covered tree trunks and have been found at heights of three metres and probably could be treated as epiphytic. In actual fact the difference in growing medium in the natural state would not be too different from the ground dwellers as these epiphytic Paphs. are found growing in the crotches of large trees where leaves and twigs collect and moss and ferns become established.

The most obvious factor to be considered in artificial culture would be the excellent drainage available to any orchid growing up a tree. Another important condition we would need to duplicate is an abundant supply of moving air which would naturally occur in the mountain forests. I have always given a great deal of consideration to the natural growing habits of my orchids and tried to copy them as much as possible in the limited confines of a hothouse.

Articles with first hand information by modern collectors are printed in current orchid magazines and these are invaluable in helping us towards better culture of our plants.

I use baskets made from sawn strips of treated pinus fence palings and dispense with the usual 4 wire hook for hanging and put a U shaped piece of No. 8 wire up through the back slats of the basket and bend the ends over to form hooks. I have a sheet of steel re-inforcing mesh hanging from roof to bench along the middle of my hothouse and these baskets hang very nicely at right angles to it. My hothouse runs from East to West so one side of the mesh is bright and sunny and the other is shaded and an ideal place for shade loving orchids. I place about 5 to 7 cm of forest floor litter in the baskets, sit the plant in and spread the roots out evenly then add 3 to 4 cm of moss. The moss I prefer to use is

quite common in the Canterbury area along both native and pine forest borders and grows in loose carpets slightly free of the ground. When viewed closely each strand is inclined to resemble a small fern frond. It grows in very well drained areas and can sustain quite severe drought conditions and seems to adapt to hothouse conditions very well.



Photo: G. Fuller

Paphiopedilum parishii

The plant should be placed at one side of the basket with the lead growth facing in so it will grow across the basket and should last for a few years before it needs replanting.

With basket culture one is far less likely to run into overwatering problems and daily watering can be administered.