

# *Orchids*

*IN NEW ZEALAND*



Volume 13 — No. 3  
May/June 1987

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# Orchids

## IN NEW ZEALAND

incorporating 'The New Zealand Orchid Review'

OFFICIAL PUBLICATION OF

ORCHID COUNCIL OF NEW ZEALAND  
NEW ZEALAND ORCHID SOCIETY

**VOL. 13, No. 3**

**MAY/JUNE 1987**

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### FRONT COVER

*Phalaenopsis* Orchid World 'Bonnie Vasquez' AM/AOS. An attractive hybrid displayed at the recent 12th W.O.C. Show, Tokyo. A good example of modern yellow phalaenopsis breeding.

Grower: Zuma Canyon Orchids      Photography: D. K. Bell

### BACK COVER

*Sophronitis coccinea* displayed at 12th W.O.C., Tokyo.

Photography: D. K. Bell

## EDITORIAL

*In place of our usual editorial, we felt the following from one of our contributors would be appropriate.*

*Editors*

**“To see the world in a grain of sand  
Or heaven in a wild flower  
Hold infinity in the palm of your hand  
And eternity in an hour”**

So wrote William Blake in “Auguries of Innocence” . . .

Do you ever consider that we orchid lovers are so lucky to have such beauty surround us that at times we take it for granted?

If you are ever feeling depressed, frustrated, or pressured by life in general, what better panacea than to wander around your orchid house, appreciating the beauty of your blooms (perhaps not wild flowers, but heavenly all the same) and what joy to see a spike forming on an unflowered seedling, or new growths appearing on an old favourite.

In our busy lives, it is indeed, a pleasure to be able to “warm down” (for those of you not familiar to aerobics, “warming down” is the gradual return to normal after strenuous activity), by appreciating the beauty that nature (and the toothpick) has created!

*Caryl Sellers  
R.D.2  
Waiuku*

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## The 12th World Orchid Conference

*(see illustrations, P. 76, front and back covers)*

### HIGHLIGHTS of TOKYO as we saw them

The 12th World Orchid Conference, Tokyo, 19th-25th March 1987, was attended by 2,500 registrants from all over the world. Three tours left New Zealand and I would like to share some of the highlights as we saw them.

We left Auckland by Air New Zealand on Sunday 15th March and after a 10½ hour flight we arrived at Narita Airport, Tokyo, and 2½ hours later we were settled into our hotel. We had just one half day tour of Tokyo and some of us enjoyed a traditional tea ceremony at the Happo-en, and visited the gates of the Imperial Palace which were very impressive. In the afternoon, we as a group, decided to tackle the Japanese Railway system and sort out our route to and from the Conference and Exhibition which was held at the Mukogaoka Recreational Park. This proved to be a marathon for most of us as we had to change trains twice and finally a three minute ride on a monorail—took five hours to go both ways!

Tuesday was judging day and we assembled in the hotel foyer at 6.10 a.m. to travel to Shinjuku Railway Station. The judges had breakfast on the ‘Romance Train’ (really flash) and this journey from the hotel took two hours. Judging got underway just after 9.00 a.m. and finished approximately 4.00 p.m.

The following day was the opening ceremony. This was extremely well worth attending and the guests of honour were two lovely Japanese princesses. We were entertained by a 30 piece brass band throughout the day and heard many speeches from the top officials of the Organising Committee. The registrants enjoyed a lovely lunch and a preview of the show during the afternoon.

The New Zealand display was organised by Darrell Bell and members of his party and they received a third place for their efforts—WELL DONE—considering the distance of taking flowers to Japan.

Professor Dennis Bonham and his wife Nancie were everywhere, observing and making notes for 1990. Nancie with Ray Dix and Heather Crowskey assembled the promotion booth in the sales area where they had posters and handouts for the registrants. Later in the week the New Zealand Planning Committee provided the registrants to a New Zealand night with the showing of two videos and speeches to a packed audience which was very well received and was attended by all the New Zealand members who were able to attend and answer any questions.

The Conference lectures were on Thursday, Friday and Saturday with up to four lectures going at one time. Professor Dennis Bonham had the pleasure of chairing one session, Caryl Sellers gave a lecture on hobby growing in New Zealand and Andy Easton gave a lecture on cymbidiums.

We were entertained most nights somewhere and the most enjoyable must have been Japan night. This was a 'standing' occasion with more food than the 500 people who attended could eat. Centre stage was a high platform where there was a large drum, and beat this they did! Two dragons performed among the audience and on the stage, there was Japanese dancing, and they auctioned bananas (must be a tradition). Around the side of this large banquet hall were side shows—pop guns, paintings, paper cutting (silhouettes), sweets on sticks, and many more. I enjoyed most of all the shooting off of little figurines with over-sized pop-guns. All this was free so everybody joined in the fun.

The Banquet was also enjoyable and we were seated, ten to a table,

and were served with traditional Japanese food. Each table had a Japanese host. We were privileged to have a lovely lady dressed immaculately in a kimono, and we exchanged gifts.

On Saturday morning we were up early again to attend the judges breakfast and forum which began at 7.30 a.m. This was chaired by Mr Andy Easton of New Zealand and we enjoyed the company of fifty other judges who discussed the world orchid judging. I was most impressed with this meeting, a lot of good came out of it and Andy presented this meeting with ideas for 1990.

The Grand Champion of the show was a species *Paphiopedilum micranthum* 'Kamiyama' owned by Mr Nobuo Kamiyama of Japan.

All told, every 'kiwi' at this Conference was a good ambassador for New Zealand, and I think Mr Mike Moore should be informed of the good work that Andy Easton is doing for orchids and orchid growers and that he travels so much for orchids, and is an extremely good ambassador for New Zealand.

Finally, we would like to thank Mr Ray Dix for organising this tour. We enjoyed the experience and the company of the others in the group on this very successful tour.

Syd Wray

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## Personal Reflections

There were sixty three official registrants from New Zealand and I am sure that there would be sixty three variations of the same theme!

For me the World Orchid Conference had four distinct parts: the exhibition site, the lectures at the Hyatt, the official functions, and personally the most important, the chance to meet people and 'sell' New Zealand in time for 1990.

Approaching the exhibition site from the monorail station presented

physical difficulties, particularly if the escalators were not working, but once there we had nothing but praise for the magnificence of the blown-up structures, one a true dome, the other resembling a lively caterpillar. Each entrance and exit was controlled by four polite boys wielding power over the air-locks; once inside I had eyes only for the exhibits.

The Japanese ability to use space to enhance the fascination of flowers is unique; there were some magnificent designs defying description in meagre words, but it was the floral art, both traditional and westernised, that had me spellbound. The theme was 'celebrations', from birth to old age, and orchid blooms were seen in their true beauty, as focal points in a superb setting. I tried to sketch some, to try when I feel inspired.

Commercial firms had field days in the sales areas, you could buy orchids on everything, towels, china, scarves, writing and wrapping paper; not forgetting millions of plants of all shapes and sizes, and our New Zealand Promotion Point proved to be well situated as a meeting place for everyone. The interest shown in coming to Auckland in September 1990 was absolutely overwhelming. We could have sold so much of what we hadn't taken—we only had descriptive leaflets about New Zealand written in Japanese on the Judging and Opening Ceremony Days, when all the English-speaking registrants were there; the others arrived from the Embassy when the show was open to the public. We made lots of mistakes, but we made lots of friends.

I enjoyed the lectures—the whole programme was well organised, ran to time, and, although some speakers spoke only in their own commercial terms I learnt a great deal, ranging from Japanese native orchids to the fact that if you see or feel a fashion or colour change in the pot—plant market then you must have at least

100,000 plants flowering at the right time. Needless to say the object is to make fashions and colours change to suit your supply of plants.

As for the official functions—the opening and closing ceremonies were disappointing. Once you were used to the noise at Japan Night, of the drummer and the traditional theatre, then it was fun-saki, tastes different out of a wooden box, and I have a cut-paper silhouette of my head as a memento but unfortunately no-one recognises it! The formal banquet was outstanding, with its precisely-timed waiters and magnificently presented food, but, as the charming lady from Mexico City asked—"why five speeches before we can start eating? ". Incidentally we had speeches with everything, in both Japanese and English, usually from the same small group of international officials.

So why did we go for that expensive week away from home? The answer—the 13th World Orchid Conference, Auckland, September 1990.

What did I learn? That orchids, either singly or in masses, are magnificent, but it is people who make a conference successful.

What can all the New Zealand Orchid Enthusiasts offer apart from the most outstanding flowers and surroundings? Personal contact and help, personal friendships and communication, above all a friendly smile and welcoming word, which, after all, is what people remember.

The 12th World Orchid Conference is over, as the Hyatt so pointedly told us on the Sunday morning, now we must all look forward and co-operate for 1990.

*Nancie Bonham  
24 Coronation Road  
Epsom, Auckland*

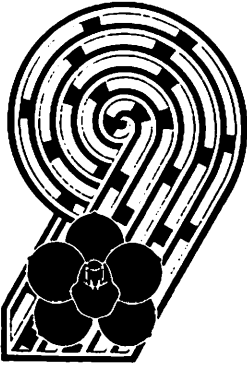
In reading, we learn all the answers; in growing, we discover all the questions.

*R. Rankin*

# 13th World Orchid Conference 1990

Auckland, New Zealand

April 1987



## 3rd Newsletter

### 12th World Orchid Conference—Tokyo

Registrants from New Zealand made their way to Japan to attend this splendid Conference and Exhibition including 11 members of your 1990 Planning Committee. We were all most impressed. As is now usual with International Conferences, standard of displays was high and with added Japanese feeling for tasteful design and their hard working approach to thorough organisation the whole event was a treat to be part of. The

Japanese/English language barrier was largely overcome by skillful translators at the Conference sessions and other official speaking sessions although it was always a problem in general conversations, and in free contact with many Japanese registrants.

Two highlights for me, of many, were listening to the simultaneous Japanese translation of Andy Easton by a lovely Japanese translator, and the look on the face of Jim Dench as he tasted Japanese tea at a Tea Ceremony.

#### Promotion of 1990

Promotion of our 1990 Conference went very well and a real healthy interest was shown in the prospect of coming to New Zealand.

Means of promotion were:

- Display of flowers, designed by Darrell Bell using flowers sent from many parts of New Zealand. A very creditable effort that showed New Zealand up well.
- A Promotion Booth in the sales area decorated with flags and posters and through which direct contact was made with many people.
- Attendance at a Japanese travel agents promotion dinner which was also supported by Tourist and Publicity—Tokyo and Air New Zealand.
- New Zealand Night, a presentation of videos on New Zealand and short speeches on

our aims for 1990 by Dennis Bonham, Andy Easton and Darrell Bell. Went very well with 250-300 attending.

- Small scale cocktail party to specially invited guests and primed by duty free brought in by tour party members.
- Many personal contacts made by members of your Planning Committee present and the other ambassadors from New Zealand that were fortunate to attend the Tokyo Conference.

As a result we may well have to set our sights above the 3,000 registrants we are currently aiming for.

#### 1990 Hybrids

Beginning to sell well but still many available (see list in the last Newsletter). At \$50.00 each flask this represents a good donation to the 1990 fund with a bargain flask of seedlings for you or your Society as an immediate return. Get together a syndicate and buy a few flasks if you do not wish to have too many of one hybrid, or Societies could use them to demonstrate deflasking for eventual sale to their members. All enquiries to New Zealand Orchid Society, 24

Coronation Road, Epsom, Auckland 3.  
Phone 656-300. Cheques to New Zealand Orchid Society 1990 Fund please.

### Finance

Pledges and donations are coming in quite well but we do need a substantial amount of early funds to finance the many aspects in promoting and arranging for such an important event in our New Zealand Orchid growing lives. Your pledge or donation can be a single payment or a payment each year through to the Conference of an amount to your choice. Return the form to your Society so that they can receive your loan money back with interest after the Conference. Support for 1990 now will bring a return to your own Society.

### Sub-Committees

Committees with special tasks are now being set up and over the next few months will take shape. It is most important that all New Zealand is involved. Some Committees must

rely on members living in or close to Auckland while others can very readily have a more widely spread membership. So we hope that more and more, as activity increases, we can bring many of you into an organisational capacity whether or not you live in Auckland.

### Publicity and Public Relations

Our aim is to have at least 3,000 registrants. Of these we expect that 1,200 will be from New Zealand. To achieve this we are very aware that we must not only make our Conference an appealing event to attend but also to keep everyone well informed. Will each Society or area think about appointing a liaison officer to receive our proposed regular Newsletters and pass information on to their local groups. This is also to promote feedback because we need to know what you need and wish for this New Zealand Conference. Be in touch.

*R. W. Dix  
Chairman—Publicity and  
Public Relations Committee*



## COLOUR FUND DONATIONS

We gratefully acknowledge further donations, from the Bay of Islands Orchid Society, and an Anonymous Donor, who writes:

“Your journal in colour is like the difference between colour and black and white T.V.”

We are encouraged by your support.

Thank you.



# News Release

## David Stead to visit New Zealand

Well known English orchid grower and breeder, David Stead of David Stead Orchids Limited, is to visit New Zealand, sponsored by the North Shore Orchid Society in August 1987 and will speak at venues throughout the country.

David, who last visited New Zealand for the First International Orchid Conference in 1980 where he was a keynote speaker, specialises in the *Odontoglossum* Alliance and is recognised world-wide as an authority on this genus. *Odontoglossums* are a particularly appropriate family for attention at the moment because they readily adapt to New Zealand conditions and many *Cymbidium* growers are adding them to their collections to provide variety and flowers all year round.

Of particular interest in the itinerary is an all day *Odontoglossum* Alliance Seminar to be held in Auckland at Romaleigh Reception Lounge, 31 Ocean View Road, Northcote from 10.00 a.m. Sunday 9th August. Topics will include Trends in *Odontoglossum* Culture, New Intergeneric Hybrids, The *Odontoglossum* Alliance in New Zealand and Modern Technical Developments in Orchid Growing. The key speaker is of course David Stead along with invited panellists.

Important features of the occasion include an *Odontoglossum* Trading Table for both hobbyist and commercial growers and an *Odontoglossum* Display Table. Plants displayed by Seminar attendees are eligible for three prizes, \$100, \$50 and \$25 to be judged by David Stead.

The Seminar cost (GST inclusive) is \$20 including lunch, morning and afternoon teas, and Display Table entry. Registration forms will be

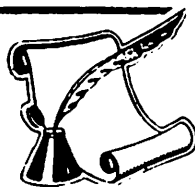
posted to Societies in the northern region shortly.

The schedule for the other meetings with David Stead to be arranged by local Societies acting as hosts is:

10th August	Rotorua
12th August	Gisborne
13th August	Palmerston North
15th/16th August	Wellington or Gold Coast
17th August	Blenheim
18th August	Christchurch

Societies in these centres will invite neighbouring Societies to participate.

### LETTER TO THE EDITOR



27 Skipton Street  
Mangere East  
Auckland

Dear Editor,

Would it be possible to have the remits for this and subsequent years printed in our national magazine March/April issue?

This will give time to discuss remits with members and come to an informed decision. Last year I was a delegate for the first time and my efforts to find out what the remits were, were by and large unsuccessful. Other delegates were similarly disadvantaged.

If our national magazine is to gain support from all Societies then it seems reasonable that they should be kept informed and what better and easier way than thru' the mag.!

In anticipation.

Orchidaceously yours

Heather Crofskey

*Remits would need to be prepared much earlier than at present.*

*Editors*



## OF ORCHIDS AND FRIENDS

George Fuller N.D.H.(N.Z.)

On this occasion I am being a little sneaky. In writing a report of the species that I found of greatest interest at the International Orchid Conference held in Wellington in October 1985, I made the observation that I felt that one of the most interesting of the smaller plants was in a display deliberately featuring smaller plants staged by our Ohio commuters, Eloise and Jim Harper. The plant concerned was named *Mexicoa ghiesbrectiana* and I recalled that Jim had related to me a very interesting story concerning its rediscovery after being 'lost' for about 100 years and their part in its re-introduction. I dropped a tactful hint that the story was worthy of publication and true to form this enthusiastic and knowledgeable couple have left with me the following.

### **Mexicoa ghiesbrectiana**

So many of our orchids are precious to us because they are so interwoven into our lives in the orchid world. I have never decided whether it is the orchids or the "orchid people" that have held the greatest fascination. Many times the two are so interwoven, that an orchid and its associations with specific people make it particularly special to us. Such is the case of *Mexicoa ghiesbrectiana*.

The plant that caught George Fuller's attention in the 1985 International Show in Wellington had its beginning with us in December 1971, during our first orchid collecting trip in Mexico. Before CITES, we travelled to Oaxaca, Mexico to collect orchids with Raymond McCullough of Michigan (who is a former President of the American Orchid Society). Oaxaca was home to a retired American—Glenn Pollard (who wrote the book on Mexican Encylias with Bob Dressler) and he was extremely knowledgeable about Mexican orchid species. Ray, Glenn and ourselves were together in the mountains to the southwest of Oaxaca on the Escondia

Road, about 114km outside of Oaxaca—when we came by an area where trees had been cleared to widen the road. Large oak trees had been cut just the week before. The car came to a sudden halt and Glenn, Ray and I walked down the steep hill to see what orchids might be found. Eloise settled on a downed tree dumped down the hill from the road and proceeded to "mine" orchids in the branches piled up beneath the main trunk. "That's an orchid . . . there's another . . . that one is the same as that . . ." In a short time piles of orchids were beside her and there were a number of plants of one type. When Glenn came by she asked "is this orchid anything particular?" His only reply was "Well, take all of it you can find, they won't survive here". So she did. As it turned out Eloise found more plants in her "mine" than the rest of us found ranging up and down among the other cut down trees. All in all there were about 26 different species in that location, but only the one still stands out in memory.

On the way back to Oaxaca Glenn told us that the plant was "*Oncidium ghiesbrectiana*" named after a geologist who found a number of orchids in the middle 1800's. (Two

other plants named after him are *Encylia ghiesbrectiana* and *Pleurothallis ghiesbrectiana*—both worth having and also were among the Mexican plants we brought to New Zealand). It had become "lost" for over 100 years and Glenn had rediscovered it in the early 1960's. It grows in a relatively narrow environment on the western slope of the mountain range between Oaxaca and the Pacific Ocean. As I recall the plants were found at an elevation of about 7200 feet and grew only on one type of oak tree.

Later the plant was reclassified as *Mexicoa ghiesbrectiana*, a monotypic genus. To the best of my knowledge no one has ever been successful in hybridizing the species with anything. A clone will not self-pollinate, so that it can be difficult to even get a seed pod if you have only a single clone.

We didn't know what the flower was like when we collected the plants. A total of 65 plants went back to Glenn's and we only took about a dozen plants back. The plants went back with Ray (since we were flying back through a non-quarantine border). Several weeks later when we collected our plants from Ray's place in Michigan—some of the "ghiesbrects" were in bloom. A most distinct and interesting flower it was and Eloise voiced my own view "Why didn't we bring back more?"

So the plant in bloom in Wellington came from Mexico to Michigan to Ohio to Palmerston North. We brought the plant back from the U.S.A. in 1982 and it sulked for some time—with its first blooming in New Zealand coinciding with the Wellington Show.

The plant is now divided with a piece to go back to the U.S.A. when we take orchids back with us this year, a piece with the Sherlocks who took care of a number of our plants while were back in the U.S.A. for nine months—and finally another piece is



*Mexicoa ghiesbrectiana*

Grower: E. and J. Harper      Photography: G. Fuller

being left with George Fuller. This Mexican orchid, like all of the higher altitude Mexican orchids, does well in New Zealand under cool conditions. It is growing on a slab, but also grows well in a pot and an open mix.

Such was the saga of *Mexicoa ghiesbrectiana*, through which we remember Mexico and the most interesting Glenn Pollard.

Then there was *Bulbophyllum plumosum* from the Papua New Guinea central highlands . . . or . . . *Cymbidium canalcaniculatum* from Australia . . . or *Notylia bicolor* from Guatemala—other stores for other times.

And so the excitement of orchid hunting goes on and the less

experienced can still make important discoveries. It will be noted, however, that the collection of so many plants of this rare species could only be justified on the grounds that they were on a fallen tree and had no chance of survival.

It is not mentioned in the text but I seem to recall that Ghiesbrecht was a German railway engineer working in Mexico.

Jim and Eloise emphasise the importance of the happy associations with people and places that mention of *Mexicoa ghiesbrechtiana* brings and so it is perpetuated yet again in their donating a plant to the Pukekura Park collection. When I look upon our 150mm tall oncidium-like plant with its 35mm wide very attractive miltonia-like flowers, I think first of an observant engineer working in a foreign land and finding an orchid which was to bear his name but became untraced for a hundred years. His name was to be highlighted again through chance re-discovery of his orchid by a couple who have to battle with snow in order to grow it but who have also shared much of their orchid knowledge with us in the sunnier climes of New Zealand.

Who now believes that a plant has to be costly to be precious? Thank you again, Jim and Eloise.

*Curator  
Pukekura Park  
New Plymouth City Council  
Private Bag  
New Plymouth*

Australia's Bi-centenary  
Orchid Festival  
and  
11th Australian  
Orchid Seminar  
at  
Sydney

17th-25th September 1988  
See Society Secretary for details.

---

## Mrs Ethel Allen

Just before Christmas, the orchid world suffered a sad blow by the demise of the Hawke's Bay Orchid Society's popular Secretary/Treasurer Mrs Ethel Allen. After a short, sudden illness she passed away in the Hastings Memorial Hospital. Mrs Allen was well-known throughout the country having been a delegate to the A.G.M. of the Orchid Council of New Zealand since its inception. Also, while on vacation, she had visited numerous Orchid Society's Meetings, as well as hosting many visitors to the H.B.O.S. area from all parts of the world. It was a terrific thrill for her when a Cymbidium plant was named Cym. Ethel Allen in her honour and presented to her two years ago during the Hastings Centenary Orchid Show. Mrs Allen was a most energetic Secretary/Treasurer for the H.B.O.S. keeping a close, but helpful watch on all the Society's activities. In addition to the enormous amount of time she devoted to Orchid Society work, she still found time to be closely associated with her Church, being the Chairperson or Leader of many of its activities. An overflowing church bore witness to the esteem and popularity in which she was held.

She will be sadly missed by all who knew her. To her husband, Noel, we offer our sincere sympathy.

*The Editors deeply regret the error made in an earlier note (Vol. 13, No. 1) in which Mrs Allen's christian name was wrongly given.*

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## NOTES FROM APOROSTYLIS

Fundraising for the 13th World Orchid Conference is well underway. New Chairman of the Steering Committee, Denis Bonham, is sending Newsletters out to Societies. Recently pledge forms have been sent to all groups requesting them. Some Societies are getting right behind this and giving \$10.00 per head in a lump sum from their reserves, as well as asking members to give \$2.50 annually for four years. Pledges will come back to Societies after the Conference is over.

The orchid flask project is going well with a number of flasks leaving the country in the hands of internationally renowned surgeon friends of Denis's. If you missed out then give him a call on (09) 656-300. He or Nancie may be able to get some more replated if they've run out. Prices are \$50.00 for 25 plants and there are standard and miniature cymbidiums, cattleyas, paphs. and miltoniopsis crosses to choose from.

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A new orchid discovered near Taupo! Well not quite. It was the Australian native, *Chiloglottis gunnii*, and it was the first sighting in the North Island. *Chiloglottis gunnii* was first discovered in Canterbury in December 1981 and in Marlborough a few weeks later.

This species is larger than the common *C. cornuta* and has dark chocolate brown, open flowers about 20mm across. Lorna Grey of the Tauranga Orchid Society stumbled upon it in pine needle litter in condemned pine forest near the Iwitahi Forestry Camp—some 30km from Taupo on the Napier/Taupo road.

A bus party from her Society stayed at the camp one weekend early in December, after visiting Taupo Orchid Society collections enroute. A slap up dinner was put on by the Taupo Society and after a good night's sleep the members were joined by Taupo, Taihape and Tokoroa Orchid Society members on the Sunday. (So many T.O.S. members it must have been confusing!). Large areas of native orchids were seen in flower amongst the pine needles and good displays of *Calochilus robertsonii* were seen along the roadside clay banks. *Paracalochilus maunderii* was evidently there too! Lorna evidently found the only clump of plants just inside some condemned forest, where members had finished collecting or rescuing plants. Ironical isn't it? If they hadn't been collecting plants this new discovery would have been burnt or bulldozed away. Perhaps plant collectors are not the "scourge of the orchid world" that some conservationists think! Even some of those who are dotty over our native orchids are inclined to this view!

Those people—the New Zealand Native Orchid Group, have been going for five years now. Dorothy Cooper, who got them established, has recently retired from being Secretary/Editor. Ian St. George has taken over and in the changed format, Newsletter 21, and in reduced type he speaks of a new orchid mapping scheme coming up and also of his recent visits to see caged English orchid sites with 24 hour human guards and trip wires! There is also information on new sightings here, how to identify two similar *Pterostylis* by Lucy Moore and some historical information and notes.

The \$5.00 subscription is now due so anyone interested should send it off to Ian at 45 Cargill Street, Dunedin.

Best wishes to Dorothy and thanks from all her friends for the work she put into the group and its Newsletter.

# PESTS OF ORCHIDS

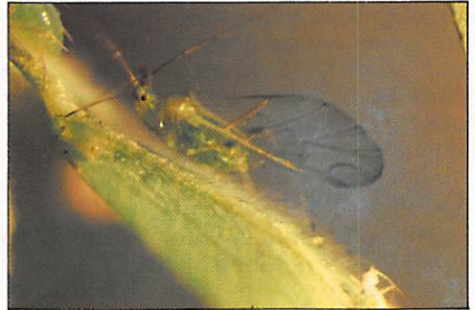
## 3. Aphids

G. M. Barker

Aphids belong to the insect Order Hemiptera, and hence are related to scales, mealybugs, whitefly, plant bugs and mirids. Aphids are relatively small insects, usually green in colour (dark to light green according to species). They are characterised by their sedentary, gregarious nature, long legs and antennae and the presence of cornicles (tubular projections) on the dorsal surface of their abdomens. They have mouth parts designed for piercing plant tissue and sucking sap. Winged (alate) and wingless (apterous) forms occur.

Almost all plants, cultivated or wild, are hosts to one or more species of aphid. There are over 80 species of aphids recorded in New Zealand. Certain species feed on foliage, others on twigs and branches, flowers or fruit, and some even on roots. There are species that live on several distinct hosts, spending a part of their seasonal development on one plant and the remainder on another.

Aphid species recorded on orchids in New Zealand include Lily aphids (*Aulacorthum circumflexum*), Potato aphids (*A. solani*), Ornate aphids (*Myzus ornatus*) and Orchid aphids (*Cerataphis orchidearum*). With the exception of the last named species, these aphids have a number of alternative host plants. Greenhouse infestations usually result from winged females carried in on the wind. Aphids are poor flyers, they lose control once they're airborne, but gain a little more flying control once in the still air around the plants. After landing, the aphid 'tastes' the plant with its antennae and proboscis before feeding. They prefer new growth. The new growth of most plants has a more yellowish tint, and aphids are attracted to the colour yellow. With orchids the flower spikes and buds are preferred. The winged, virgin females give birth to live young (parthenogenesis). Initial infestations often go unnoticed but expand rapidly. A female may start to reproduce in 5-10 days at a rate of up to 100 living young (nymphs) over a period of 20-30 days. Nymphs



Most greenhouse infestations result from winged females carried in on the wind.

A mature female aphid with her young progeny.



usually remain close to the site where they were deposited by the females. They quickly attain maturity and too start producing live young. Aphids are usually wingless, but as the numbers grow and the colony becomes crowded, winged forms are produced. They migrate to other plants. Under autumn conditions some species produce a generation of both males and females. Mating

occurs and this group of females lay eggs which over-winter. With other species, there is no egg stage, the young are born alive in an all female population and breeding continues throughout the winter.

Aphids feed by tapping phloem cells with their proboscis and extracting the nutrients passing through this tissue. This loss of plant food material is a cause of unhealthy plants. The distortion and puckering of leaves and flowers characteristic of aphid damage is caused by a chemical that aphids secrete into the plants while feeding. Aphids are also important vectors of many plant viruses. The most important orchid viruses, *Odontoglossum* ringspot, *Cymbidium* mosaic and Tobacco mosaic are not transmitted by aphids, or any other insect.

Aphids must consume copious amounts of plant sap to obtain sufficient nitrogen to build their bodies and grow. Most of the sugar in the sap is surplus to their requirements and is excreted as honeydew. This honeydew readily sticks to plant surfaces and provides an ideal substrate for the growth of sooty mould fungi (*Caprodium* species). These fungi are not pathogenic to plants but the thick layer of honeydew and the black fungal growth can reduce the amount of light reaching the photosynthetic chloroplast pigments within the leaves, and hence further reducing plant vigour.

Orchid growers need always to be on the lookout for these unwanted greenhouse immigrants. The risk of aphid infestation is greatest in spring. In small orchid collections infestations are usually detected at an early stage and readily dealt with by an application of the appropriate insecticide. In larger collections, particularly in cut flower facilities, it is not always possible to keep a day-to-day watch on all flower spikes. In

these situations there are three alternative approaches to aphid control:

- i) use a regular preventative insecticide spray programme.
- ii) applications of insecticides at the first sign of aphids on the orchids, or
- iii) monitoring aphid movement into the greenhouse.

The third approach is most cost effective in terms of labour and insecticide use. Monitoring of aphid movement is readily accomplished by hanging sticky yellow cards just above the orchids at several points in the greenhouse. A proportion of the aphid population entering the greenhouse will be attracted to and become caught on the sticky surface of the cards. The grower inspects the cards daily throughout the flowering season and sprays when aphids are detected on the cards. The same cards can be also used to detect the presence of thrips and whitefly in the greenhouse.

The cards can be made from sheets of cardboard, hardboard or plywood cut to about 0.1 square metre (1 sq. ft.) size, and painted a bright yellow. The sticky surface is prepared by applying a cover of 'Stickem' or a similar product. After a month or so in use, the cards can be discarded or cleaned down with mineral turpentine and recoated with 'Stickem'.

There are a number of insecticides available for aphid control on ornamental plants and flower crops, as listed in the table. Contact insecticides are effective provided the insects are contacted directly by the spray droplets, or the plant surfaces are coated with sufficient insecticide to be toxic to insects walking over or consuming them. Thorough wetting of all infested plant surfaces are therefore needed to effect control with sprays of contact insecticides. Control is most effectively achieved with systemic insecticides as these

are taken up by the plants and transported in sap on which aphids feed. They thus kill principally by a stomach poison action. Systemic insecticides are also effective as contact insecticides.

The choice of insecticides for aphid control is reduced due to the

phytotoxicity of some to orchid flowers. Products containing acephate, omethoate, pyrethrum, naled and fluvalinate have generally been found to be safe for use on Cymbidium flowers.

*G. M. Barker*  
*Ruakura Soil and Plant Research Station*

### INSECTICIDES FOR APHID CONTROL

Chemical Name	Trade Names	Chemical Name	Trade Names
<b>1. Systemic Insecticides</b>		Endosulfan	Malix Thiodan Thiofar
Acephate	Orthene Saprene	Fluvalinate	Mavrik
Aldicarb	Temik	Malathion	Emulsol Malathion
Demeton-S-methyl	Metasystox		Ispray Malathion
Dimethoate	Rogor		Rural Malathion
Methomyl	Lannate		Yates Maldison
Omethoate	Folimat		Mesuroil
Oxamyl	Vydate		Ortho dibrom 8
Thiometon	Ekatin		Pirimor
<b>2. Contact Insecticides</b>		Methiocarb	Attack
Chlorpyrifos	Lorsban	Naled	Pyrox
Diazinon	Basudin Dyzol Yates Diazinon	Pirimicarb	Raid
Dichlorvos	De De Vap Ispray Dichlorvos	Pirimiphos methyl + permethrin	
	Nuvan	Pyrethrum	
	Vapona		

# Australian Orchid Review

*Issued quarterly each March, June, September and December.*

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**14 MCGILL STREET, LEWISHAM, SYDNEY, N.S.W., AUSTRALIA 2049**



## 9. WILLIAM BUELOW GOULD

(c. 1805-1853)

Ian St. George

There is, in *Curtis's Botanical Magazine* of 1832, a very good drawing (No. 3187) of *Calochilus campestris*, one of the orchids that we share with Australia. In fact this one was found in Tasmania, for W. D. Hooker wrote,

"Mr Brown, its original discoverer, found it not only about Port Jackson, but in the tropical parts of New Holland and Mr Allan Cunningham gathered it on stony hills near Bathurst. Our drawing was made from the living plant in Van Dieman's Land, by Dr. John Scott, who detected it in low, shaded grounds; but who observes, that it is rarely met with in that island".

The original drawing is at Kew and is labelled "Dr. J. Scott del". The doctor is in fact James Scott, who became colonial surgeon at Hobart in 1820. His journal is in the possession of the Royal Society of Tasmania, and gives a vivid account of early medical practice there. He was a keen natural historian, and collected specimens and wrote articles on his work. The *Hobart Town Courier* proudly told its readers,

We are pleased to see that one of the numerous nondescript but beautiful plants of this Island, recently collected by our Colonial Surgeon, Dr. Scott, enriches the last number of Curtis' splendidly embellished Botanical Magazine.

Sir William Hooker's difficulty with the name is hardly clarified by a letter to him from R. C. Gunn (dated 1835),

In your letter to me and elsewhere you address Mr Thomas Scott—as Dr. Thos. Scott—He is not a Doctor but a merchant in Launceston.—I would not make this remark to you but there is a Dr. James Scott who will get the credit of any he may have sent to you—and I see Backhouse in his "Index Plantarum" (which I sent you in one of the boxes,) also blunders and gives a Mr J. W. Scott credit for having sent you those sent by our mutual and worthy friend Mr Thomas Scott, Merchant.—Mr J.

W. Scott is an ignorant man from Hobart Town but an indefatigable collector of seeds.

Confused? So was Hooker, for in fact the drawing is almost certainly done, not by Dr. Scott, but by William Buelow Gould, who worked for the doctor and whose known botanical drawings are in an identical style. As far as I can gather, Scott did not paint.

Gould was born at Holland, in Liverpool, and was trained, probably by William Mulready RA. He may have worked at Spodes, flower painting for fine china, and may have worked for Rudolph Ackerman in the Strand.

But he came to Tasmania as a convict: the diary of the First Officer of the ship that brought him there wrote, "This poor wretch is another example of the baneful effects produced by gambling . . ." His charge reads that he had, "with the force of arms stolen one coat", and the sentence was "seven years beyond the seas". He arrived with 200 other convicts on the *Asia* in 1827. He painted portraits of the officers on the voyage out, and was set to "public works" on his arrival.

Within two months he was charged with drunkenness, and this was to be the pattern of his existence over the next few years—petty thefts and drinking charges. In 1829 he was



J. Scott del.

Pub. by S. Curtis, Glasshouse, Essex, Oct. 1832.

Swan. Sc.

## The Re-Discovery of *Calochilus campestris* in New Zealand—October 1986

Doug McCrae

assigned to Dr. Scott, but was later returned to barracks for drunkenness; in fact over the two years with Dr. Scott he spent time in the cells on bread and water, was lashed, worked the treadmill, did hard labour and suffered in the hulk chain gang.

In 1832 he sailed for Macquarie Harbour where, as a servant of a Dr. de Little, he was employed at drawing. His record of the area is a valuable one, some of his best work, scenes, shellfish, fish, native birds and flowers. He was freed in 1835 and took up coach painting in Launceston; when he painted the set for a local play, he was billed as "Mr Gould, an eminent Colonial Artist". In 1836 he married, and seems to have settled down, but by 1845 he was again in trouble, and jailed for petty theft. He served two years and lived only a little longer, dying of "natural causes" in 1853.

During his time with Dr. James Scott he executed some of his finest drawings, and some of the flower studies are quite exquisite. These have been purchased by the Queen Victoria Museum and Art Gallery at Launceston, and are strikingly similar in style to the study of *Calochilus campestris* attributed to Scott by Hooker in Curtis's magazine in 1832.

The apologists for alcoholism, drug addiction, madness and disease among artists would claim that only from such suffering springs the urge to creativity. Perhaps it is sometimes so. More often, one suspects, the affliction obstructs the creativity: one wonders what Gould could have done had he not suffered from his addiction.

45 Cargill Street  
Dunedin

Sixty two years had elapsed since H. B. Matthews first discovered *C. campestris* at Kaimaumu, north of Kaitia. This species which also grows in Australia, was accidentally stumbled upon by Native Orchid Group members, Margaret and John Perry, on a neighbour's property at Kaimaumu.

After consulting publications available to them, they could not identify it specifically, but considered it did not fit descriptions of *C. robertsonii* or *C. paludosus*. From a brief description over the phone, I was sure they'd found *C. campestris* so I made the trip north the next morning. Eureka! —but only the one plant! A quick browse by Margaret, John and myself over the small swamp remnant yielded two more. More searching was needed—but this would have to be done another day. I had one plant photographed. A couple of weeks later, Bruce Irwin came North and another two plants were found. These were followed by two more some distance from the original locality later again, bringing the total to seven. Although Matthews, in his original description, notes plants with three to eight or more flowers, none of those we saw had more than four or five, so larger plants must be very robust indeed. The flowers of *C. campestris* are strikingly beautiful. Its habit of growing among rushes makes it easily overlooked when not in flower, and it can be confused easily with *Thelmytras* unless in spike.

The original locality is on private land, isolated from public access and relatively safe—except from fire. The owners of the site, on which a large number of orchid species are to be found, are keen to see it preserved. They are a retired couple and are not capable of managing the site either

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Plate. *Calochilus campestris*. William Buelow Gould. From Curtis's *Botanical Magazine*, 1832. No. 3187.

physically or financially. The predominant cover, manuka, is becoming so dense in places that it is overwhelming the orchids. It would make an ideal orchid arboretum and perhaps a worthwhile project for the new Department of Conservation. There may well be more plants of *C. campestris* in the nearby large peat-mining property. These and the thousands of other orchids that could

be salvaged from the same area could be re-located there.

Paranui  
R.D.3  
Kaitaia

---

*Calochilus campestris* had only been recorded twice previously in Northland—the first record by Matthews, and a second at Kaihu in 1949. It was thought to have become extinct in New Zealand until the recent re-discovery.

Editors

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## Raising young *Odontoglossums*

John Lloyd

In January 1987 I took delivery of a flask of *Odm. Bic Ross* x *Oda. Annette* "Lilac Time" from Ross Tucker Orchids, in an endeavour to raise something different suited to my cool southern conditions and also enjoy the challenge of looking after a group of tiny plants.

The deflasking went well and the plants were placed in a tray of fine bark and peat mix over a base of 1cm stones for good drainage. Regular misting twice a day followed with Captan spray applied every three weeks to combat fungoid problems. Most of the plants established well over the next eight months, those lost being the very tiny and weaker ones and in October I began selecting the largest plants and transplanting them into 5cm black tubes of fine bark mix. By December 32 plants in total were residing in heavy shade in my shade house, enjoying plenty of fresh air in temperatures ranging from 10°-12°C at night to 20°-25°C during the day.

January saw the beginning of regular foliar feeding with very weak Alaska solution, and complete soaking of the pots when I estimated they were almost dry through. Now it is early March and good progress has been made in growth, relative to each plant's original size and vigour individually from 1cm through to 5cm in height.

Some have completed tiny 5mm bulbs, others have even developed

new side growths, but still others remain little green tufts. Three individuals want to be different and continue in monopodial growth, these becoming the most robust specimens with the widest leaves. Now at this stage I need to know from other more experienced orchid growers who have passed this way before—

1. Are my plants as I describe them, up to scratch in growth at this point?
2. Should I be altering my technique to cover the next 12 month period?
3. Would higher low temperatures be preferable?
4. Any helpful advice whatsoever from anyone would be appreciated.

Perhaps the editorial staff would allow correspondents letters to be published on this topic and we could all learn something. Since the *Odont.* I've tried *Dendrobis*. and next on the list are *Masdevallias*—I'm really hooked on this deflasking and growing-on carry-on!

48 Wray Street  
Dunedin

# Suggestions for the Organisation and Planning of Orchid Shows

## Part II

*Des Leahy*

### PERSONNEL—SHOW STAFF

**Show Marshal**, usually the Chairman of the Show Committee. His authority and responsibilities must be clearly stated (e.g. authority to reject plants because of suspected disease, etc).

**Show Secretary (and/or Show Treasurer)** to attend to records and general business activities.

**Show Committee**—the workers responsible for Show set-up, props, stands, benching, display material, meals, refreshments, Show-breakdown and Storage of materials.

**Show Stewards** including door keepers, raffle ticket sellers, trading table staff, supervisory staff while the Show is open to the Public (a roster is essential).

**Prize Card Writers** to record the results of Judging (see suggested Judging Stewards' duties). It is desirable to have more than one so that nomenclature and spelling can be checked before the cards are written.

**NOTE** It is appropriate at this point to mention that the time may have arrived for the appointment of an **Assistant to the Show Marshal** to receive entry plants as they are brought into the Show venue to check the spelling and nomenclature details as supplied by exhibitors.

This suggestion, however, will require some careful consideration as to practicability and feasibility.

### SHOW PLAN

It is essential that a floor plan of the Show layout be drawn up with the location of classes (if applicable) and

displays with names clearly marked. This should be available in a prominent position so that it can be read by the competitors and stewards and should, of course, be read in conjunction with the Schedule.

### PERSONNEL—JUDGING

It is customary to invite a Panel of Judges which is usually an autonomous group who will undertake to adjudicate in strict compliance with the terms of the Show Schedule applicable to a particular Show.

They will also carry out their duties in compliance with the rules relating to their own particular organisation.

So that the Judging Panel can operate in a smooth and efficient manner, keeping within the time limits allotted to them, a group of **Judging Stewards** is usually provided by the host society (see later notes).

It is the prerogative of the Judging Panel to decide on how they will carry out their own procedures and the usual practice is to split up the Panel into numbered Sub-Panels and allot a certain number of classes (or minor trophies) to each Sub-Panel, bringing the whole Panel together in the final stages when the major trophies are to be decided.

Although not part of the Judging Panel the role of the Judging Stewards is most important in the efficient management of this, the very essence on which competitive Show Judging is based.

*5 Coronation Road  
Mangere Bridge  
Auckland*

# Orchid of the Year for 1986



*Odontioda Mont Felard 'Paradise Perfection' AM/OCNZ (Oda. Aloette x Oda. Flocalo)*

**Grower:** Ron Maunder, Paradise Orchids, Tauranga

A beautiful cultivar of a recently bred hybrid which has already received awards overseas. Superior in flower size and floriferousness to other plants awarded at the same high level. Overall flower size 100mm on an upright spike carrying 16 flowers and 8 buds. Flowers very flat, margins attractively crisped, white with lavender blush and distinctive red-brown marking on sepals, petals and lip.

# AIR, LIGHT AND WATER

*G. Fuller*

The essential factors governing the growth of green plants are air, light, water, temperature and nutrition. All are inter-reactive and must be present in balance. They cannot be taken in isolation. Imbalance or absence of any one factor will result in degeneration and ultimate death.

Of the five, air, light and water are the easiest and in most cases the cheapest to provide or regulate, hence their individual significance is often overlooked or taken for granted. Growing skills will be enhanced if we go back to basics or study the influence of each on plant growth.

## AIR

Air is a gas formed of numerous elements and in our conditions is never still since when warmed it expands and rises, sinking and contracting when it cools. It is a transporter of water vapour and this characteristic is enhanced by increasing either its speed of movement or temperature or both. Taken to the extreme this ability to increase loss of water (transpiration) can be damaging if it exceeds the ability of the roots to absorb moisture. We tend to overlook the fact that a surprising amount of water has to pass through a plant for the vital processes to function. If water was not shed by the aerial parts of transpiration and carried away by the air there would be correspondingly less moisture taken in by the roots and consequently less nutrients. Obviously a balance must be struck and the more moisture that can be drawn from a plant by the air, consistent with the avoidance of dehydration, the more vigorously a plant will grow provided balanced nutrition is available.

Speeding up evaporation has another effect in that it results in a drop in temperature. This factor can be used to advantage with cooler growing plants by potting them in coarse mixes with maximum evaporative surfaces and the possible use of the old faithful clay pots. On a larger scale air is entered through massive saturated screens which both drop temperature and raise humidity.

An important constituent of air is the gas oxygen. For growth to take place (i.e. cell division) there must be a source of chemical energy. This exists in reserves of carbohydrates that the plant builds up by a process yet to be described, but to be released it has to be "burnt off" which can only happen with the aid of oxygen. This vital energy release is occurring in all parts of the plant where growth is taking place, even in the roots, hence it is essential that air should be freely available, even to the roots of plants and most particularly to those of orchids.

Perhaps least understood of all plant functions by many is a process which seems to be unique to green plants and that is the synthesis of carbohydrates from carbon dioxide in the air but this also requires light as a major factor so we must pass on to that subject.

## LIGHT

Each day at dawn we commence a period of exposure to radiation from the greatest nuclear reactor of all time—the sun. Rays of energy bombard the earth but most of the dangerous ones are filtered out or reflected off by the protective screen of the atmosphere. We are aware of those which reach us through the light and warmth they provide but they are fleeting and their influence rapidly diminishes at dusk, unless perhaps we are sporting a little darker tan. Not so for green plants because they are able to absorb light energy and store it as chemical energy through a process

with the frightening name of photosynthesis.

This is possible because in addition to oxygen and other gases, air contains carbon dioxide, a component we expire. The green leaf is able to fuse the light energy, carbon dioxide and water to form carbohydrates. These are translocatable in the sap stream as soluble sugars and those not immediately required to provide energy for growth are stored in various parts of the plant as starches. We tend to assume that the bulk of our plants are made up of water and the minerals in solution taken in by the roots—our previous feeding. Not so, bulk is the consequence of photosynthesis, but this does not in any way diminish the importance of balanced feeding without which the vital minerals essential for the green chlorophyll which helps to trap the sun's energy would not be available.

As a side issue, it is thought that green plants are the only organisms able to trap the sun's energy in this way and therefore, all the volume of fossil fuels stored on earth such as coal, gas, oil, etc., have been synthesised by green plants over millions of years. As a useless piece of information, it is worth recording here that someone has calculated that in the course of a year, the world's green plants, including marine forms, fix no less than 400 billion tonnes of carbon dioxide and in so-doing release 800 billion tonnes of oxygen.

Understanding the great importance of photosynthesis helps us to realise that all plants are in competition for maximum intake of light consistent with not actually burning. As a general rule, plants able to withstand high light intensities are characterised as having reduced leaf area (to the extreme where cacti have no leaf blade but just midribs forming spines) hard outer surfaces with pale colourings or dense hairy covering. At the other extreme shade lovers usually have soft dark foliage which is

broad in order to present the maximum possible surface to absorb the lower light intensities.

The lesson to be learned from this is that all plants are seeking the maximum amount of light absorption short of suffering burning. Our skills should enable us to anticipate the needs of each plant by studying the natural habitat, should it be a species, or characteristic of foliage colour shape and texture if it is a hybrid. We need to know that the first indication of a plant experiencing light too intense is paling of foliage which will result in it not becoming so heated since it is thus more reflective. Subsequent change will be seen as narrowing and hardening while extreme exposure results in scorch or scald depending on type of leaf.

The outcome of too little light is the opposite of the above with plants becoming dark in colour and soft partly because of leaf surface expansion in an endeavour to trap the maximum amount of light but also because the inefficient photosynthesising potential results in a lowered dry-matter content of the whole plant. Such plants in some genera can become handsome specimens but fail to produce flowers.

Plants experiencing optimum light values will be firm, healthier and most likely to bloom but we should be cautious over judgements about the reasons for pale colouration because this can also be due to mineral deficiencies. Checking parts of the plant that are shaded such as where leaves cross may give a lead or alternatively, shading half of the plant for a week.

## WATER

Water is a fluid and like air, is never completely still, for similar reasons. It can be transformed into vapour which is an important factor in orchid growing and of course in its solid form as ice it is best forgotten about.



Within the plant one of its major functions is to maintain turgidity but equally important is the fact that water is the great transporter. Nutrients in the soil become dissolved in water and in a process which results in dissolved minerals passing in solution through cell walls from a weaker solution to a stronger, plants are fed. Evaporation of water from the leaves should maintain the higher concentration within the plant cells but one can readily see the consequences if strong concentration of nutrients are given or the mix dries out. The build up of concentration results in reversal of the normal procedure because water is drawn from the plant which initially loses its turgidity then suffers root damage or loss. Some orchids are more susceptible to this than others while in some the level of susceptibility may depend on season of growth. For example, orchids with defined growth patterns will not tolerate water and certainly not feed during dormancy.

Where water stress occurs either through drying out or application of strong feed the leaf tips are often the first indicators since they are the most dispensable part of the plant. This is particularly so in the case of cymbidiums and masdevallias. Spotting occurs and ultimately the entire tip withers and dies. Recovering can be a long process, especially if roots have been damaged for even if excess salts are flushed out immediately and concentrations are never again allowed to reach danger point, damaged roots and leaves will

take months and sometimes even years to replace. Avoidance seems to lie in a policy of little and often with feeding, and ensuring that plants in active growth do not lack water.

One function that water performs which is often overlooked is that of being a coolant. Mention has been made of cooling through evaporation but to spray over the foliage is to get immediate responses. Leaf temperatures can be held down by frequent short bursts of fine spray.

Finally on the subject of water, we must consider the fact that because of impurities, not all water is suitable for use on plants. Major problems are either discolouration which results in residues being left on foliage or direct toxicity which can lead to irregular colouring and ultimate death of tissue. In some cases of marginal toxicity or discolouration, using copious quantities is an answer since then the undesirable concentrations are not so likely to build up. Filtration or additions of acids or alkalis are other measures but may be quite expensive. If the addition of chlorine as in domestic water supplies is suspect, such water can be rendered safer by merely leaving it to stand in an open container with the surface exposed for several hours. If all else fails the installation within the house of containers for rain water is quite sensible, especially for warmer growing subjects, since they then get water at the right temperature.

*Courtesy of the Seminar Proceedings, Poverty Bay East Coast Orchid Society, April 1986.*

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Photography: D.K. Bell

# SHOW DATES 1987

## Winter Shows

### NEW ZEALAND ORCHID SOCIETY

10th July, 10.00 a.m.-9.00 p.m.  
11th July, 10.00 a.m.-6.00 p.m.  
12th July, 10.00 a.m.-5.00 p.m.  
Mt. Albert War Memorial Hall, Auckland.

### GOLDEN COAST ORCHID SOCIETY

25th July, 9.00 a.m.-5.00 p.m.  
26th July, 9.00 a.m.-4.00 p.m.  
Southwards Museum Complex, Paraparaumu

## Spring Shows

### HOWICK ORCHID SOCIETY

29th August, opens 12 noon  
30th August, closes 4.00 p.m.  
Howick Community Centre.

### WELLINGTON ORCHID SOCIETY

29th & 30th August  
St. Oran's College, High Street, Lower Hutt.

\*\*\*\*\*

### MARLBOROUGH ORCHID SOCIETY

3rd, 4th & 5th September  
St. Christophers Hall, Redwoodtown  
Blenheim.

### AUCKLAND ORCHID CLUB

4th, 5th & 6th September  
Henderson Civic Recreation Centre, Ratanui  
Street, Henderson.

\*\*\*\*\*

### WHANGAREI ORCHID SOCIETY

12th & 13th September  
Forum North, Whangarei

### NORTH SHORE ORCHID SOCIETY

11th, 12th & 13th September

### WANGANUI ORCHID SOCIETY

12th & 13th September

### CAPITAL CITY ORCHID SOCIETY

12th & 13th September

\*\*\*\*\*

### BAY OF ISLANDS ORCHID SOCIETY

19th & 20th September

### TAURANGA ORCHID SOCIETY

18th, 19th & 20th September  
Tauranga Town Hall or Greerton Hall.

### POVERTY BAY-EAST COAST ORCHID SOCIETY

19th September, 9.00 a.m.-6.00 p.m.  
20th September, 10.00 a.m.-4.00 p.m.  
Archery Club Hall, Disraeli Street, Gisborne.

\*\*\*\*\*

### NEW ZEALAND ORCHID SOCIETY

25th September, 10.00 a.m.-9.00 p.m.  
26th September, 10.00 a.m.-6.00 p.m.  
27th September, 10.00 a.m.-5.00 p.m.  
Mt. Albert War Memorial Hall, Auckland.

### ROTORUA ORCHID SOCIETY

25th, 26th & 27th September  
Soundshell, Rotorua.

### HAWKES BAY ORCHID SOCIETY

25th, 26th & 27th September

### TAUPO ORCHID SOCIETY

24th, 25th, 26th & 27th September

\*\*\*\*\*

### GOLDEN COAST ORCHID SOCIETY

1st October, 9.00 a.m.-8.30 p.m.  
2nd October, 9.00 a.m.-5.30 p.m.  
3rd October, 9.00 a.m.-4.30 p.m.  
Coastlands Shopping Mall, Paraparaumu.

### WAIKATO ORCHID SOCIETY

2nd, 3rd & 4th October  
Te Rapa Racecourse, Hamilton.

### TARANAKI ORCHID SOCIETY

2nd October, 12 noon-5.00 p.m.  
3rd October, 10.00 a.m.-5.00 p.m.  
4th October, 10.00 a.m.-4.00 p.m.  
Queen's Hall, High Street, New Plymouth.

### SOUTH ISLAND SEMINAR (INVERCARGILL)

2nd, 3rd & 4th September.

\*\*\*\*\*

### MANAWATU ORCHID SOCIETY

9th, 10th & 11th October  
(Note change of dates).

**ORCHIDS  
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Send for list of available issues, or  
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Back Issues Secretary  
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421 Pukehangi Road  
Rotorua

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Vol. 11:                   \$4.50/volume  
                                  (3 issues)

**NEW ZEALAND EXPORT  
GROWERS ORCHID ASSN. INC**

**NZ E.G.O.**

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orchid tissue culture laboratories,  
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Helcia Zarum x Asp. principissa—white/brown  
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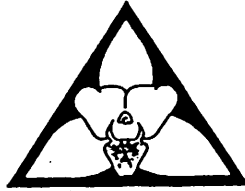
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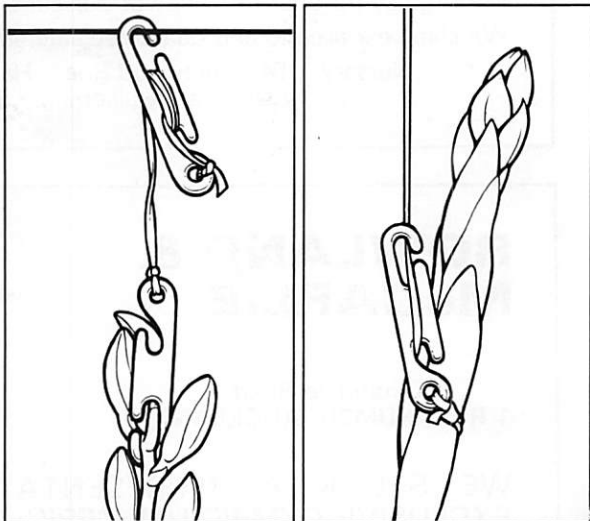
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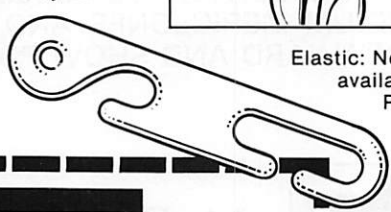
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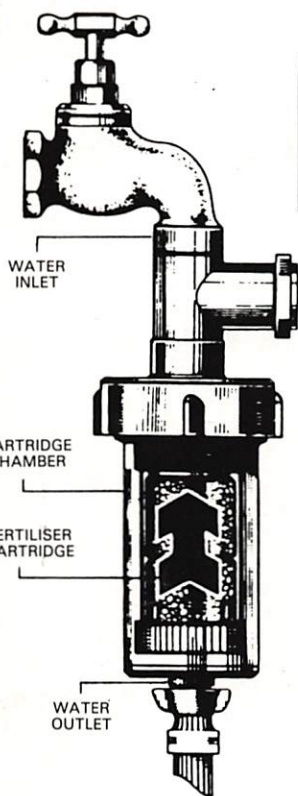
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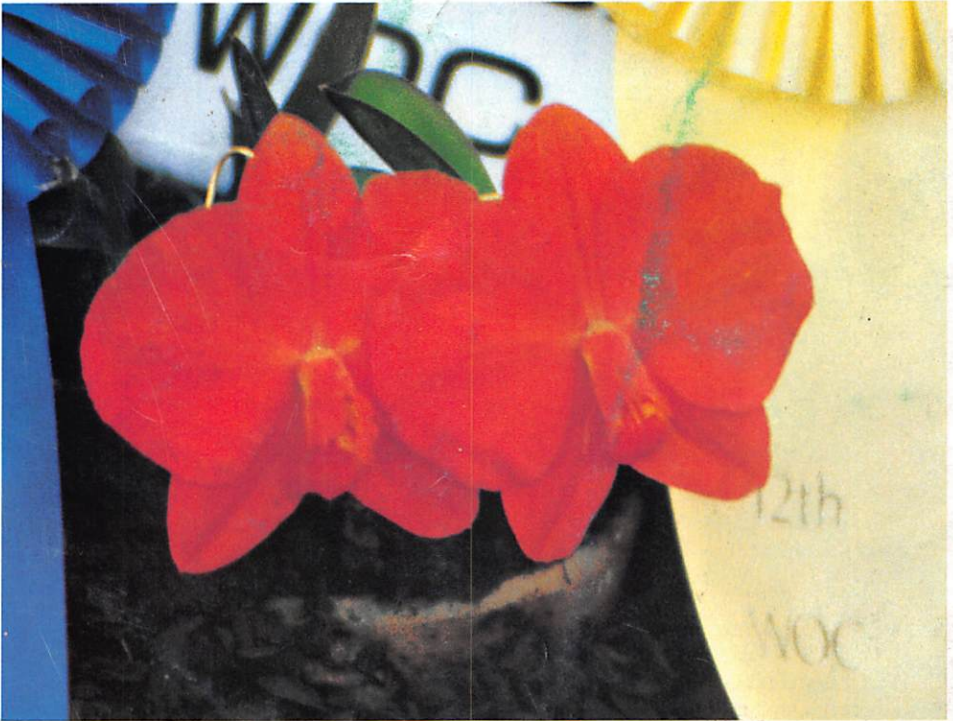
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