



**NZ ODONTOGLOSSUM ALLIANCE**

# **NEWSLETTER**

**Volume 6 Number 2**  
**June 1995**

## From The Editor.

Only three months until the National Conference in Palmerston North. I sincerely hope some of you will be able to assist with setting up the display when the time comes. Next issue will have a questionnaire for you to fill out and return so we know what plants to expect.

As we go to print there appears to be nothing organised for the Friday night of the Conference and I have been approached to see if we are organising a get together and dinner. No doubt this would be an ideal opportunity for interest groups to combine for a dinner and perhaps meet separately. I believe there are no facilities for such occasions at the Conference venue and the closest are several kilometres away. The airport was suggested as a suitable restaurant. If any member would like to organise a get together, please contact me as soon as possible.

**FLASKS:** Some disappointments here. The only ones which are going to be available now are *Odm.harryanum* and *Odm.Megaglossum* x *Moselle*. The first flasks of the latter are nearly ready.

**POLLEN:** I have just received a small quantity of pollen from South American species. Anyone interested in hybridizing with it should contact me or Jane Frear in Auckland (ph. 09-2784698) with details of what crosses they wish to make. Priority given to selfings! Those available are *hallii*, *polyxanthum* (*kegeljanii*), *triumphans*, *edwardii* (the real thing!), *cristatum*, *cirrhosum* and *harryanum*, also *Onc.phalaenopsis* and *nubigenum*.

This issue comes to you rather late, for which I apologise. Rae has been itching to type it up on the computer (says who!) but what with an overload of work, the 'flu' and other things I haven't got my act together for her! Next issue will have to be out early September with final details about the Palmerston North Conference 4<sup>th</sup> - 8<sup>th</sup> October. Please send any articles, adverts or queries in right away. Also if you will be available to help set up our display please contact me immediately.

I have arranged for Bob Goodger to photograph the winning Odont alliance plants and awarded plants at the conference but would like volunteers to write a short article about each of the various intergeneric groups for the December and March issues.

Ron Maunder, Editor. Ph/FAX 07 5525570  
Box 2107, Tauranga

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## WORLD ORCHID CONFERENCE BRAZIL SEPTEMBER 1996

**T**his exciting tour led by John Scott, NZ's most experienced tour leader still has a few places left. Fly the Polar Route to Buenos Aires 'the Paris of the South'. Two days at the famous Iquazu Falls. John will walk you across the border to Paraguay to their markets. Fly to Rio de Janeiro for six days sightseeing and the W.O.C. Then bus across the Andes to Santiago in Chile. 18 days total with all sightseeing costs and most breakfasts for about \$4900.

Two extensions available — 1 week in Peru visiting the 'Lost Cities of the Incas' and where *Masdevallias* grow or spend a week with John travelling down the Amazon River.

Further details from John at House of Orchids  
145 Manuka Rd. Glenfield, Auckland 10. Ph.(09)444 9771

## INCOMPATIBILITY BETWEEN POLLEN & POD PARENTS

As any hybridizer knows, there is more to making an orchid hybrid or even selfing a species than merely placing the pollen from one plant on the stigmatic surface of another. Over a range of genera one is lucky to get one seed pod from 5 or more pollinations, and viable seed from an even smaller percentage. In cultivation, some species seem impossible to propagate by self fertilizing. Attempts typically fail at the following stages.

1. The pollinated flower completely ignores the pollination (even though its own pollinia has been removed) and the flower lives out its normal life span. In these cases an examination of the pollen will usually show that it has not germinated.
2. The pollinated flower collapses and drops off within a few days of pollination.
3. The pollinated flower sepals and petals collapse but the ovary persists and may even show some development but aborts after a few weeks.
4. A seed pod forms and fully develops but suddenly aborts a few weeks before it has gone full term — typically at about 5 months in the *Oncidiinae*. There is no viable seed.

A paper on compatibility within the *Oncidiinae* by Clifford & Owens of Jodrell Laboratory, Kew was read at the 13 WOC. They were mainly concerned with problems in selfing some species and this paper (published in the *Conference Proceedings*) should be compulsory reading for those of us involved in trying to propagate species in the *Odontoglossum* alliance. The writers showed (among other things) that whereas the distribution of protein between the stigma, style and ovary following a compatible pollination remained the same as in an unpollinated flower, in an incompatible pollination there was a protein build up at the end of the growing pollen tubes and that this inhibited any further growth of the tubes. Some proteins not present in compatible pollinations or in unpollinated flower parts were shown to appear in incompatible pollinations.

The writer has gained the impression that 3 different rejection mechanisms are involved in each of the stages 2, 3 and 4 in the first paragraph above. Stage 4 rejections seems to occur about the time the pollen is supposed to enter and fertilize the female ovule. What can be done about it? Some of the things which have been tried are briefly described below.

**Temperature:** Clifford and Owens succeeded in getting a seed pod on *Oncidium tigrinum* after it was cultivated in sub optimal temperatures.

**Protein Stripping:** Here an enzyme is used to denature the protein on the surface of the pollinia. The idea is that a chemical rejection process then is not initiated because the pod parent cannot recognise the pollen protein as being from an unwelcome species. Anecdotal evidence from the USA is that this sometimes works.

**Stigmatic Fluid:** Before pollination, the stigmatic surface is covered with stigmatic fluid from a species known to be compatible.

**Mixed Pollination:** Here, the pod parent is pollinated with pollen from a known compatible species. At the same time, or after a few days, pollen from the desired parent is also placed on the stigmatic surface. Clifford and Owens found this technique to work with some species of *Oncidium*. The idea is that the pod parent is so engrossed with reacting to the compatible pollen (which may have suppressed any incompatibility response) that it does not notice the 'foreign' pollen which also then germinates and fertilizes the embryos. A

problem is that one may not be able to find out whether it has worked until any seedlings are well developed — perhaps until they have flowered. If the two pollen donors come from plants with quite different appearance it should be possible to pick out any of the desired hybrids in the early seedling stage.

**More on Mixed Pollination:** A variation of the last mentioned procedure is to find a way of destroying the viability of the compatible (but unwanted) pollen without destroying the protein which overcomes the rejection process. One would not then get a mixed population of seedlings as the treated pollen would not germinate. This has been achieved in other plant families by subjecting the pollen to X Rays. This deserves thinking about as there may be other ways of doing this more within the resources of most of us.

**Auxins:** Orchid pollen contains IAA (indole acetic acid) and other hormones or growth substances which seem to be involved. The writer has tried IAA, NAA and BA on pollen, stigma and ovary. There is often some stimulation of growth of the column and ovary but it is not clear that these treatments alone resulted in pods going to full term. It might be worthwhile using hormones in conjunction with other procedures, particularly with pollen which has been stored for any length of time.

Obviously there are very many barriers to seed production other than those of a biochemical nature. Disparity in the size of the parent flowers, flowers or pollen not being at the correct stage of development and less than optimal growing environment come to mind. Chromosome numbers may be incompatible. There are too many aneuploids about, especially in *Odontoglossum* and *Odontioda* which are either sterile or produce seedlings which do not grow well. The paper by D.E. Wimber on chromosome numbers in species and hybrids of the alliance (reprinted in the N.Z. *Odontoglossum Alliance Newsletter* of November 1990) is well worth reading.

The late W.W.G. Moir of Hawaii created, in his lifetime, more intergeneric hybrids in this alliance than any other person. He was a prolific author on this subject but with the exception of his book *Creating Oncidiinae Intergenerics*, most of his writings are scattered over time in a multitude of orchid journals and newsletters. One idea which he continually promoted (and which we originally thought was rubbish but now firmly believe in) is that a species brought from its native habitat underwent subtle changes over time in cultivation in response to its new environment. One was an apparent loss in fertility. Moir recommended using pollen from a plant grown in a different environment, preferably in a different country with the most potent pollen being that removed from a plant in its native habitat.

Many of us are involved in trying to propagate species in the here in New Zealand and readers are urged to let the Editor have their personal observations on this subject.

I.D. James, Hamilton

## BREEDERS CORNER

This is just an idea to see if there is any interest from members in recording their findings about new crosses that they have flowered. Just simple things like did the flowers show the characteristics they expected when they made the cross or bought the seedlings. Perhaps the seedlings did not grow readily, or grew rampantly without flowering. Was the colour as expected or one parent very dominant. In fact any thing of interest to other breeders/growers. You do not have to write screeds just a note or phone Ron about what you have noticed about any cross.

## THE NUMBERS GAME:

I imagine that at some time we have all purchased plants that have a label which proclaims them to be something and when the flowers arrive they are obviously something else. In most cases it is possible to remedy the mistake, there are others however that remain a mystery. Over the years I have had at least seven such occurrences and I'm pleased to relate that in almost every case the orchid that I have bought was superior to that which I had intended to buy, one however remains in the 'don't know' category.

In 1989, while attending a 'Growers' weekend at South Pacific Orchids, I bought a plant whose label declared it to be; *Helcia zarum* x *Aspasia epidendroides*. The prospects of a new intergeneric excited me and I looked forward to its first flowering, in the meantime I searched all the reference books available and nowhere could I find mention of *Helcia zarum*. Sometime later I asked Syd Wray, who had sold me the plant, about the labelling. He in turn consulted with Milton Carpenter who had originated the cross, and informed me that the *Helcia* was in fact *sanguineolenta* and that *Zarum* was an area where it had been grown..

The plant grew well and eventually put up a three feet long, branched inflorescence with a total of sixty-four brown and yellow flowers. I was well pleased with my purchase and even more so when on the next; flowering it produced two spikes of fifty-six and sixty from the one bulb. It was at this point that I realised that something was not quite right and did a bit more research on the proclaimed parents.

*Helcia* is a species which produces several basal inflorescence each with a single flower, as in *Lycaste* and *Maxillaria*, the *Aspasia* has spikes of flowers, the most that I could find recorded was eighteen on one raceme, mine has produced twelve on the two occasions that it has bloomed.

There are several formulae for assessing flower count, the most common one that I know is to multiply the number of blooms and the square root of this figure is approximately what you can expect from the cross, e.g.  $1 \times 18 = 18$ , the square of which is about 4 or 5, some distance from the sixty + on my plant!

The question then arises, what is it? to me it looks like an *Oncidium* species. if so it is one with which I am unfamiliar, could it be a *Carpenterara*? having never seen one and going by a poor photo in A.Q. it is doubtful.

During the 14th. W.O.C. in Glasgow I had the opportunity to solve this riddle being on the same judging team as Milton Carpenter, however, it was not until I was on the 'plane heading homeward that I remembered the question.

This article was to have been accompanied by two slides of the subject of discussion but the combination of a late night cup of coffee and what used to be my favourite cat has made that impossible.

Several members of the Odontoglossum Alliance will have one of these plants. I know that Bernie Killington has through the article in 'Orchids in N.Z.' and a brief chat that I had with him at the regional judging seminar. If anyone has any ideas about this I would be very interested to hear them, maybe through the medium of this newsletter, and I'm sure that my plant would do even better with a correct label.

Paul Cable, Johnsonville

### 3rd NZ International Orchid Expo Classes for Oncidiinae Judging

The following list of classes have been copied from the show schedule as a guide for those attending the conference.

#### **ODONTOGLOSSUM ALLIANCE (ONCIDIINAE)**

- 140 ODONTOGLOSSUM. Species.
- 141 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). Species not otherwise listed.
- 142 ODONTOGLOSSUM HYBRID. "crispum" type, any colour excluding Odontioda.
- 143 ODONTOGLOSSUM HYBRID. Other than "crispum" types, INTRAGENERIC.
- 144 ODONTIODA. Any colour or combination of colours.
- 145 ODONTONIA. Bred from miltoniopsis (Colombian Miltonia).
- 146 ODONTONIA. Bred from Brazilian Miltonia.
- 147 VUYLSTEKEARA. Bred from miltoniopsis (Colombian Miltonia).
- 148 VUYLSTEKEARA. Bred from Brazilian Miltonia.
- 149 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). INTERGENERIC hybrids incorporating Brassia (Beallara, Degarmoara etc).
- 150 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). INTERGENERIC hybrids, not including Brassia, and not otherwise listed eg: Odontorettia, Stewartara, etc.
- 151 ODONTOCIDIUM. Any colour or combination of colours.
- 152 WILSONARA. Any colour or combination of color.
- 153 MILTONIOPSIS (COLOMBIAN MILTONIA). Species or INTRAGENERIC hybrid.
- 154 MILTONIA (BRAZILIAN). Species or INTRAGENERIC hybrid.
- 155 BRASSIA. Species or INTRAGENERIC hybrid.
- 156 ONCIDIUM. Species, other than equitant.
- 157 ONCIDIUM. Species, equitant.
- 158 ONCIDIUM. Hybrid, equitant.
- 159 ONCIDIUM. Hybrid, "varicosum".
- 160 ONCIDIUM. Hybrid, INTRAGENERIC other than equitant or "varicosum" types.
- 161 ONCIDIUM. Hybrid, INTERGENERIC, not included above.
- 162 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). Specimen plant, species.
- 163 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). Specimen plant, hybrid.
- 164 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). First flowering seedling, classes 142-144.
- 165 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). First flowering seedling, classes 145-152.
- 166 ODONTOGLOSSUM ALLIANCE (ONCIDIINAE). First flowering seedling, classes 158-161.

#### **VALE**

Members will be saddened to hear of the recent passing of fellow member Ros Bickerstaff of Napier.

Ros was a keen orchid grower, a contributor of orchid articles, an orchid judge and a long serving newsletter editor for his club. He was a foundation member of NZOA.

We offer our sincere sympathy to his wife and family in their sad loss.

## 14<sup>th</sup> WOC and More

I crept out of my cousin's terrace house near Brixton in London about 5am with loaded backpack and two cartons of flasks. The tube to Victoria St. and then to Heathrow was uneventful with growing numbers of commuters boarding along the way. At Heathrow Airport my 7.30am flight to New York left 3 hours late due to thunderstorms over New York delaying the outward flight. This set the scene for a completely new flight plan to Vancouver with a long stopover en route at Chicago's huge airport complex.

Late that evening I was met by a weary Dr. Wally Thomas who had not been alerted by the airline as promised. To make matters worse my flasks were confiscated at the Vancouver airport and try as he could by phoning his friends in customs we had to go home emptyhanded. Canada, it transpired, insisted on Phytosanitary or Health Permits and because I knew I'd be adding along the way from Glasgow to NZ I'd decided not to get a form which would soon be obsolete. The US customs in New York had approved them but Canada wouldn't without a permit (since abolished). I could send them back to NZ or have them destroyed! I couldn't take them by train to Los Angeles as planned but if I flew out of Vancouver they would let me have them as I boarded the plane! Back home in West Vancouver we had a late supper prepared by Shirley, Wally's charming doctor wife. Next day he would take me up the coast to his own orchid island and in the evening I would go out to dinner with the president and secretary of his orchid society while Shirley and he went to a previously arranged opera and ballet night.

On Saturday morning I was woken by the sounds of boats, birds and water and found Wally's right on the edge of the sound, where huge vehicular ferries were speeding up and down and across to other suburbs. After breakfast and armed with cut lunches we said goodbye to his wife and two huge bouncing guard dogs and set off for the day. A few miles away in a bay we boarded a fast ferry with dozens of other cars and hundreds of people and in quick time crossed to another rocky shore up the coast and then drove further up the rocky forested coast. Perhaps we did another ferry crossing — I can't remember now for sure, but eventually 50 miles up the coast at Pender Harbour we encountered several small islands which Wally said were owned by wealthy tycoons. We pulled up by the roadside near a very small island a couple of hundred metres off shore. This was The Thomas's Charles Island. Down on the jetty Wally unpadlocked an upturned dinghy and rowed us across to the rocky tree covered island with its cabin and two greenhouses. The greenhouses were solar designed with steep sides facing the south and automatically heated by three propane burners. The houses blended into the trees and rocks. The pathways and benches inside them were contoured around or over rocks and outcrops. Drums of water absorbed the solar heat during the day and gave it back at night. The south facing roof (sunnyside) was double skin acrylic and the north insulated. In summer large parts of the north wall are removed and vents in the south wall allow maximum air movement. Water is collected from the roof of the 70ft house and pumped up to a reservoir on the hillside amongst the trees. Two Dosamatic Plus proportioners in parallel in the return waterline are used to feed the plants.

It was not "high season" for flowers but there were enough to keep us talking. Most

were Wally's own creations. I enquired about his mericlone *Odm.crispum* I had read or heard about. Unfortunately when they finally flowered he said they were unstable or variable like seedlings. I saw a number of long branched sprays of *Wils.Widecombe Fair*-like flowers. Some plum on white and some very dark. These were *Odm.ioplocon* hybrids he told me. *Odm.ioplocon* is a very rare high altitude Colombian species similar in many ways to the much coveted *Odm.edwardii*.

In the newer house I was shown Wally's experiments with perlite and hydroponics for growing odontoglossums. The plants looked excellent in the hydroponic tank filled with perlite. He pulled one out and revealed vigorous but unusual root growth, then dug a hole and replanted it. By using Kord plastic pots with inserts in the base which give a one inch reservoir of water or nutrient in the bottom, he was able to grow beautiful odonts in perlite. Some were hung up as hanging pots. Gravel was placed over the surface of the perlite once the plant was repotted and watered in. This was to stop algae and moss growing on the white perlite — much as with growing *disas* hydroponically.

Back at the cabin we lunched while Wally told me how he had owned the 7 acre island for over 25 years and how in times of drought various deer and bears had come over looking for fodder. While Wally checked that everything was operating properly and locked up, I made my way down to the shore. Back on the mainland again with his dinghy locked up, he checked his nursery mailbox and we set off back down the coast to beat the evening rush on the ferry.

That evening I was dropped off at the bachelor flat of Dewayne Klobas where the lady president met us and together we dined at a nearby popular restaurant. After a great evening where my host insisted on paying we returned to Dewayne's flat until Wally and Shirley arrived. Dewayne had a beautifully grown collection of warmer genera growing halfway up the stairs on a balcony.

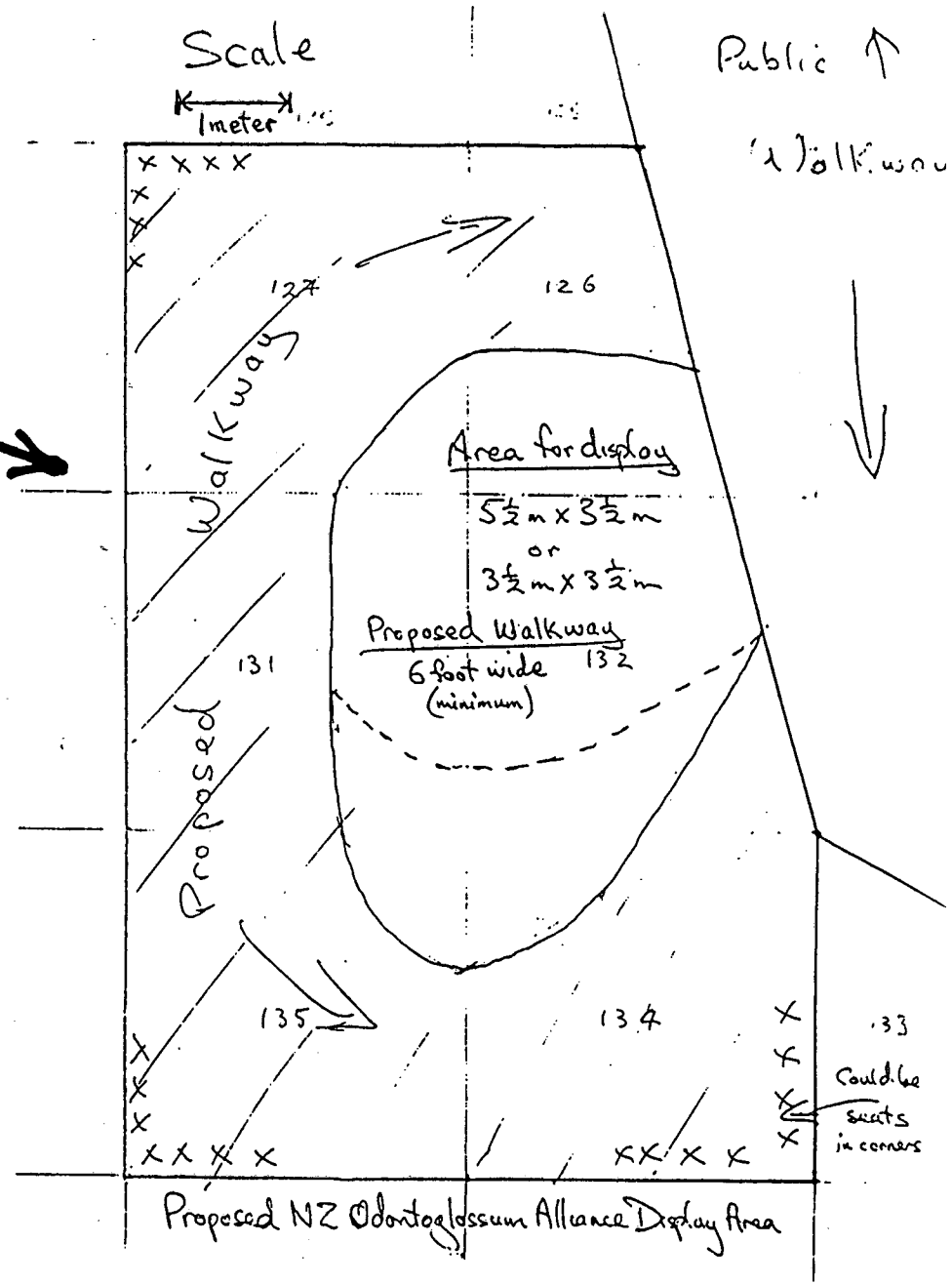
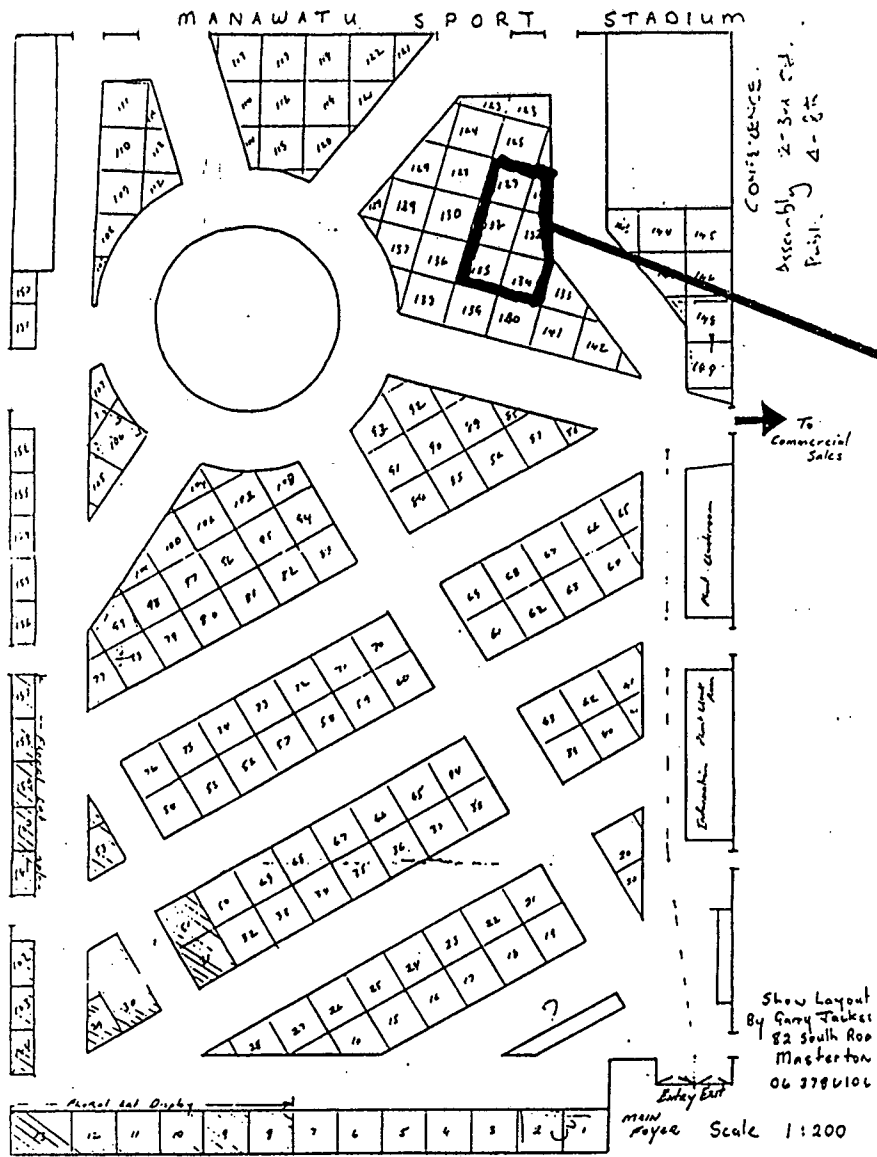
There were many things to discuss that night and it was late before Wally and I turned in. The next day was going to be a full one: judging in the USA, back into Canada and over to Vancouver Island to stay the night with the Victoria Orchid Society president. It had been a great day and I very much appreciated the hospitality and time this very busy couple gave me. I'm sure that with Wally chairing the steering committee for the 1999 16<sup>th</sup> WOC no stone will be left unturned to make it well worth attending. Vancouver is a beautiful city to hold a world conference.

To be continued

Ron Maunder, Tauranga

Odontoglossums, *Disa*'s, *Masdevallias* (cocinea-type),  
Dendrobiums (high altitude PNG type)  
Seedlings Available. Send for listing  
**Paradise Orchid Nurseries.**  
**P.O. Box 2107, Tauranga**





**NZ Odontoglossum Alliance**  
**Display site at 3rd Nz Orchid Expo Palmerston North**

## NEWS

The Santa Barbara Show tour sounded like a success. No articles from those who went, as yet. Perhaps they are waiting until the dust settles? Seems our guys got in before the show was judged and purchased most of the top Eric Young Foundation display Odonts which Alan Moon had brought over from Jersey Is. More 'Black Magic' from the kiwis!

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The NZ Orchid of the Year for 1994 has gone to Ross Tucker's *Odm. Stropheon* 'Bayswater' AM/OCNZ. The flower was a beautiful full shaped plum with tepals and labellum heavily outlined in pristine white. Very similar to *Odm. Ostro*, one of its progeny. We hope to have a photo and story of where Ross found it and how he grew it in a future issue. Congratulations Ross.

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The Odontoglossum Alliance (USA) has offered its members videos of odontoglossum alliance papers given at the recent Western Orchid Congress in Portland, Oregon. We will purchase copies, have them converted to PAL and show them either at Palmerston North or on another suitable occasion. The USA group has also raised over \$US5,000 towards an endowment fund which will be administered by the American Orchid Society and be known as the Robert B. Dugger Odontoglossum Alliance Award. It is proposed that this will be awarded annually to the top odontoglossum or hybrid with odontoglossum in its parentage, exhibited to the AOS judging system. Final details to be decided between the Odont Alliance and the AOS Committee on Awards

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Back in May Pat Akehurst from near Taunton in Somerset wrote to say that she was off to a show in Newbury where the UK Odontoglossum Alliance was putting on a group display. Good to hear they are under way in England and have a newsletter too.

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## Illustrations

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Photo 1. View of Wally Thomas's greenhouses on Charles Island, 50 miles or so north of Vancouver, in Pender Harbour. Deer, bears and wild animals swim across to the island when food is short on the mainland.

Photo 2. The greenhouse has a long sloping roof facing to the south (left) to catch the sun while the more vertical north side is insulated with styrene and plastic. Benches and pathways are constructed around or over natural rock outcrops. Black plastic barrels also retain warmth for release as temperatures drop at night.

Photo 3. *Odm. ioplocon*, a striking puce-coloured multi-branched species from high altitudes in Colombia and often confused with *Odm. edwardii*, is one parent used by Wally over the years.

Photo 4. A Kord pot with reservoir and overflow holes comes with an optional insert and has proved ideal for growing in Perlite culture.

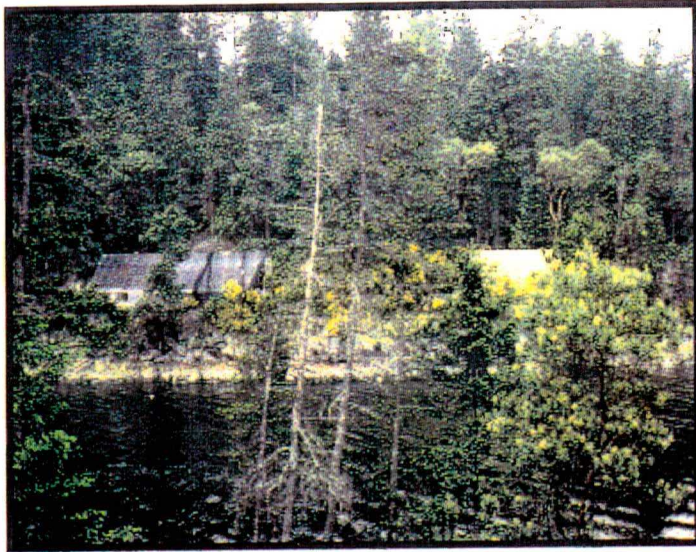
Photo 5. Odontoglossum roots take on a short growth with many short side branches. This plant was taken from a perlite bed and potted into a Kord pot.

Photo 6. After watering and consolidating the perlite, a topping of stones seals the surface off. The rough surface of the stones soon dries out so spores from moss and algae and ferns do not grow as readily as they would on the uncovered perlite. Full details of Wally's perlite culture were reprinted in our June and September 1992 issues.

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# Odonts at Charles Is Gardens



1. Charles Is British Columbia



2. Wally Thomas & his Orchids



3. Odm. ioplocon Hybrids



4. KORD pot with insert



5. Roots from Perlite Culture



6. Complete with Pea Gravel Topping