



WELLINGTON

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# EPIFLORA

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# EPIFLORA

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## The President's Page

Dear Fellow Epiphyte Lovers

It is that time of year when we ask "where has 1996 gone?". It certainly has flown by. It was encouraging recently to hear that same comment from a person in their early 20's proving it is not just an observation of those of us who will not see 40 again!

November is a great month for epiphytic flowers. *Rhipsalidopsis* looking beautiful, *aprophyllums* giving a magnificent display, hoyas producing a wonderful perfume throughout the house and epiphyllums delighting growers. I think for most of us it is the time we invite friends round to see our collections and we acknowledge that the hard work of previous months has been worthwhile.

It was great to visit three of our members collections during our November meeting. Collection visits are always popular as we all share a common interest in horticulture so therefore learn a great deal about gardening, care of plants, watering etc. when we see other people's gardens and epiphytes.

Since the last edition of *Epiflora* the Convention Committee have completed their research on a venue for next year's convention. The Convention will be held at Johnsonville Community Centre from 14th to 16th November. When you obtain your 1997 diary do mark in that weekend. Further details will follow early in the new year.

Roy joins me in wishing you a peaceful and relaxing holiday.

Kind regards



Jane Griffith

## The Programme for 1997

Meetings are at Johnsonville Union Church (Dr. Taylor Terrace) and start at 2.00 pm. Library books etc. are available at 1.30 pm.

- January 11th. Penny Luckens will tell us about her time in China.
- February 8th "Caring with Chemicals"
- March 8th Workshop on Hoyas
- April 12th Tillandsias
- May 10th Panel discussion on Schlumbergeras
- June 14th Workshop on Epiphytes
- July 12th Midwinter Function
- August 9th Visiting speaker
- September 13th Propagation by means other than seed
- October 11th. Ailing Plants - and how to help them - panel
- November 8th. Rhipsalidopsis
- November 14 - 16 Convention
- December 13th. AGM and Christmas function

## News About People:

Phyllis gets plastered: - good wishes to Phyllis Purdie - who has plaster on a leg and an arm; we hope you recover swiftly (from Bruce's cooking too!!??).

Congratulations to Andrew: - and Lisa - who were married in October.

## **A Visit to Masterton**

*Isobel Barbery reports on the Masterton Orchid Society's 21st Birthday Celebration Weekend.*

The Society were invited to mount a display at the Masterton Orchid Society's 21st Birthday celebrations the weekend of 19/20 October.

Three of us left the Valley at 6am with two car boots full of "props" including display and for-sale plants. I couldn't help thinking at that time of the morning I must have been crazy to volunteer and thought even more so on Monday when I was on a high from tiredness, BUT what a great weekend. Lots of laughs and met lots of interesting people all of whom had the desire to grow the finest Orchid.

What a sight met us when we entered the Town Hall to set up our display. One viewed the hall through a trellis archway draped with various species of orchid. The eye was led down the length of the hall over the very attractive Orchid Society Members' display, to a magnificent display of colour on stage. The centrepiece of "21" depicted in a lovely flowing arrangement of white orchids. We thought this centrepiece was made from artificial flowers until someone came along with a watering can! The colour in the hall was magnificent and the perfume was so strong - the impact was instant.

This set the scene and made us even more enthusiastic to compliment what we were now part of. Our Society's display was most attractive with green coloured board as a background to enlarged photographs. There in the foreground was a display of Schlumbergera, Hoya, and Epiphyllum flowers. There was little time to stand round and chat as there was great interest in the display. Members who came through to help with this display were welcomed with open arms. (Well almost - one didn't want to appear too eager to escape!).

Many interested people visited the display seeking advice about the Christmas cactus they had, "the thing at home they'd had for years which had a flower something like that" - Epiphyllum, asking about the organisation, and we could have sold the green-flowered Hoya many times over.

We came home quite jubilant with a few dollars in pocket for the Society from the sale of plants, two new members and a verbal invite to return next year.

## **The Monthly Competition.**

Andrew assures us that this month there will be a special prize - you have to be in to win - so bring along any plant of any of the species covered by the society (It does not have to be in flower).

# *Come to the 1997 Convention*

The 1997 Epiphyllum and Hoya Convention  
will be held in Wellington; on the weekend  
14-16<sup>th</sup> November.

Come ...

Catch up with friends,  
Hear interesting speakers  
- and much more ..

more details early next year -

*.... put the date in your  
diaries now!*

## Orange Flowered Epiphyllums

*the second in a series of articles - by Jane Griffith*

In the first of this series of articles mention was made of the fact that the majority of epiphyllum species plants found in Central America and the northern part of South America have white flowers. The only exception to this until recently was *Ackermani*. These species plants are predominantly night flowering. But as with yellow hybrid epiphyllums hybridisers who have produced orange flowered plants have not used species plants but instead, with one or two known exceptions, have hybridised from existing hybrids.

Before examining some of the orange flowered epiphyllums let me pose a question for you to ponder on. What colour is orange? Maybe you think this is a strange question but it is acknowledged that each person sees the world through their own eyes and it is highly unlikely that any two pair of eyes are the same!

My reason for asking this question comes from an observation of two highly respected American journals. The Epiphyllum Society of America recording details of their Annual Show classify Acapulco Sunset as orange for competition purposes whereas at the South Bay Annual Show Acapulco Sunset is placed in the yellow section. Reading through earlier copies of the South Bay Epiphyllum Society newsletter, "Epigram" it was noted that their members had visited this topic in July 1993 and come to the conclusion that Acapulco Sunset is yellow.

So who does one believe? The answer came to me in a flash - the eminent body The Royal Horticultural Society of Britain would provide me with the definitive answer if I scrutinised the new edition of their Colour Chart. How wrong can you be! Observation of the aforementioned Colour Chart indicates that there are 20 shades of orange, 24 of orange-red, 40 yellow-orange and 64 of greyed-orange. So what colour is orange?

Cactus Pete was one of the earliest hybridisers to produce orange flowered epiphyllums. King Midas being one of his earliest plants which he registered in 1939. Like many other yellow and orange flowering epiphyllums the colour of King Midas does vary according to the location in which it is grown. Cactus Pete produced Naranja, a small orange with open form and long narrow petals in 1949.

In the 1950's Sherman E. Beahm of Beahm Gardens became interested in orange flowered epiphyllums producing Sunland from a cross of Sherman E. Beahm and Pride of Bell and registering Copper Horn and later Whirlbird. At the same time Paul Fort and Garland O'Barr were successfully hybridising, the plant named after Garland O'Barr being an example of their work. This cross of Pegasus and Annie P. Williams is a most reliable grower producing many flowers each year. Another good grower and prolific flowerer is Carnival Dancer hybridised by the English botanist Clive Innes.





*Epiphyllum "Picnic" - photo by R. Griffith*

Mention has already been made of Acapulco Sunset. The flowers of this plant are truly magnificent although my own experience is that it can be a reluctant flowerer if it doesn't like the position it is in. When I moved one of our plants to a different spot in the shadehouse it rewarded us with a beautiful display.

Wressey Cocks produced a number of orange flowered epiphyllums. Orange Bowl being an attractive slightly ruffled large flower, a cross of Reward and *Heliocereus auranteacus* var. *blomianus*. To produce Halloween Moon Wressey Cocks crossed King Midas and Spanish Gold. The same cross was used to produce Picnic - the flower shown in this issue's photograph. Cocks was always keen to produce smaller flowered epiphyllums and two of these which are in our collection and favourites are Lollipop and Kami.

The list of orange flowered epiphyllums is exhaustive. I would certainly recommend having a few in your collection to produce a splash of brightness. Those I have already mentioned are all worth obtaining as are Three Oranges, Kitty Hawk, Golden Gleam, Glowing Embers and Bold Venture. All these plants are available through the Society.

In future years it is to be hoped that the confusion which exists over colour definition will be reduced if those registering new hybrids with the Epiphyllum Society of America use the standardised Colour Chart of the Royal Horticultural Society.

## Visits to Collections - November 1996.

### Isobel Barbery

Members met at the Johnsonville Union Church, where we met Yvonne and Andrew Brunton from Taranaki. Here we were given an itinerary of the afternoon's planned visits.

Our first garden to visit was that of Donal and Margaret Duthie. Quite a challenge with this garden as it progressed down a hillside to a flowing creek. Features of the garden were a conservatory where there were several epiphyllums in flower. The garden had plenty of colour and a super idea - a flat round terracotta dish in which succulents had been planted. Many of us saw candelabra primulas for the first time.

The next garden was that of Marion and Robin Austin. Marion is a keen participant in Floral Art so her garden is planted to support this hobby. Very pleasant indeed to wander down a path past flowering shrubs and plants. Mention was made here of the purple Honewort, then through a Ponga Pergola and round to the green houses which contain Marion's Epiphyllums and Schlumbergeras.

From here to "Twiglands". A first time visit for many of us. Here one

couple was heard to mumble something along the lines - they don't have snails this big in Taranaki - as they purchased a VERY LARGE terracotta snail shell!

Then to Betty and Dyson Firth's home where we enjoyed afternoon tea in the garden. The glass house contained a variety of Schlumbergeras and ornamental species of another kind - small pieces of wood and small rocks arranged in dishes of sand giving most appealing points of artistic interest. Also of interest was a large collection of Bonsai trees etc. including a small flowering Kowhai. A "garden treasure hunt" was great fun. We were given a list of objects to find (eg. snake, turtle, wolf on a rock). With each "treasure" found a prize was won. Betty is a keen pottery hobbyist and pieces of her artwork are to be found tucked away in unexpected places around her garden.

We say thank you to these members for inviting us to view their collections. We enjoy our hobbies but there is extra effort involved when we know we are about to host a visit. It was indeed a good afternoon.

## **Problem Plants...**

*Notes from a panel discussion at the 12th of October meeting - chaired by Alison Beeston. Our team of experts were Jane Griffith, Donal Duthie and Morris Tarr. These notes were compiled by Jenny Askwith.*

First up, Andrew Flower produced two of his "little" seedlings (*Hylocereus napoloensis*), one beautiful and elongated although in desperate need of a stake, the other which had rotted off just two inches from the root although both sides of the rot still appeared perfectly healthy.

**Suggested Remedy:** Morris suggested cutting the plant about 6" above the rot, allow 3-4 days for the cut to callous over and replant the top. The plant was then cut and the rot did not appear to have spread. It was believed that the rot may have been caused by water falling on that particular part of the plant and it was also where the plant rested on the pot

Andrew then produced a *Rhipsalis paradoxa* with similar symptoms - blackening of some joints

**Suggested Remedy:** Take off a healthy piece of the plant and start a new plant

Merv Keighley then showed us two "dead" epiphyllums. The first looked as though it had lacked t.l.c. and MUCH water, the second appeared to have a viral infection and mealy bug.

**Suggested Remedy:** not much hope for the first plant but for the second - cut off close to the base and repot.

Merv also had a sick "Aporophyllum oakleigh conquest" with some discoloured branches.

**Suggested Remedy:** Morris suggested cutting off the bad branches. He also made comment that after these plants are about five years old, the tips should be cut off and new plants started.

Next up was Jane who produced a species "Epiphyllum chrysocardium" which over the last few weeks had become very floppy. Donal diagnosed the plant as having something wrong with the roots as water was not getting up to the plant. The plant was then taken out of the pot and the roots appeared quite alive but the potting mix was very dry.

**Suggested Remedy:** Repot and give more water, Penny suggested adding crystal rain to the mix.

Peter then showed us a "Selenicereus pringlii" which he had bought at the society as a small cutting. He had grown it in a piece of plastic spouting. It now looked rather red and dried up. His questions were:

1. could it become more green in colour
2. do these plants like to hang down, climb up a trellis or just crawl along the ground.

**Suggested Answers:**

1. They tend to be more green in colour if they are in shade or dappled light, more red in direct light.
2. The plants tend to want to grow up rather than down in their natural state, therefore a trellis was recommended.

The dryness of the plant may be due to not enough water and Andrew suggested using a more peat based mix rather than a bark mix.

**Suggested Remedy:** clean up the plant, and clean up the roots, repot and also take cuttings from where there are adventitious roots.

Peter also brought in a "Ceropegia" which was grown on a vertical ring. It was a bit dry, did not have much growth and he just didn't know what to do with it.

**Suggested Remedy:** place the ring horizontally on the pot rather than vertically as the plants tend to wind up the frame and hanger and onwards towards the roof of the glasshouse with a vertical frame. Wind the new growth around the ring as flowers tend to come on new growth, start watering these plants earlier than other plants.

Alison then showed us a lovely specimen of "Hatiora" which looked very healthy but was full of mealy bug.

**Suggested Remedies:** Jane suggested throwing it out and starting

afresh as it is very hard to get rid of mealy bug. Morris suggested soaking the whole plant in Maldison for about 30 minutes.

General Problem - Aphids on Epiphyllums:

spray with "Shield" or a can of "House and Garden" spray.

Results to come ... we are all waiting for the wonderful results, to be displayed at our December meeting, after taking advice from our expert panel, with the possible exception of Merv's poor Epiphyllum which was a bit past revival.

## Obituary - Mary Andreassen.

Mary Andreassen passed away at the Home of Compassion, Silverstream, on Friday 20 September. Merv and I will remember Mary with fondness and so will others in our Wellington Epiphyllum and Hoya group. Mary loved her epi's which she grew in the stairwell of the apartment block which overlooked the Wellington suburb of Thorndon. Each time we picked her up to take her to a Saturday meeting she would tell us how her plants were taking over another step or two of someone else's space but they didn't seem to mind because of their beauty when in flower. Mary was in her 90th year and is survived by her son and daughter, son-in-law and daughter-in-law and three grandchildren.

*Kay Keighley*

## Growing Plants from Seeds.

*At the September meeting three of our members talked about how they raise plants from seed. All of them get good results - but all use slightly different methods. Reported by: Penny Luckens*

Merv Keighley started by saying that he grows a lot of seeds, doesn't go to a lot of trouble about it and gets good results. For containers he uses margarine pottles with sphagnum moss in the bottom under the seedraising mix. He uses "Black Magic" seed raising mix which is a fine, peat-based mix from Taranaki. If the mix is dry then add boiling water (not cold) and leave to soak for 30 minutes to an hour, then drain. To sterilise the mixture put in the microwave - giving two pottles two minutes on high power.

Tamp the surface of the mix down slightly, then add the seeds by hand

from the paper on which they were dried. Add labels. Do not cover the seeds with more mix as epi's need light for germination. Cover the pottles with clear snap-on lids or put inside clear take-away containers that act like a mini-greenhouse. The seeds and seedlings need a lot of light but not direct sunlight (or you will cook them, not germinate them). Merv uses "Benlate" to prevent damping off of seedlings and dabs any liverworts that grow with methylated spirits to kill them. After the seeds are sown the pottles are put on a heated pad with the thermostat set at 24 degrees. This means that seeds can be sown at any time of the year.

The plastic covers can be taken off soon after the seeds have germinated. Water from below by sitting the pottles in a tray of water. The sphagnum moss in the bottom helps to soak up and retain water.

Seedlings can be potted on when they are large enough to handle. Even when very small they can be grafted onto Opuntia pads when they will flower in 12-18 months.

In reply to a question as to whether he took epi seeds straight out of the fruit and on to the potting mix, he said that he takes the seeds out of the fruits individually, puts them on (graph) paper to dry and plants them later. Drying the seeds first is supposed to result in a better strike than planting them directly from the fruits.

The second speaker was to have been Phyllis Purdie but as she was unable to be at the meeting - she prepared notes which Bruce read to us...

"The method I will describe works for most of the cacti seeds I grow, usually over a thousand varieties a year. I tend not to repeat trying to grow the more difficult ones, I haven't the time to fiddle with them.

I use the square 400cc black pots for most, they will take about 100 seeds. The smaller green pots are good for smaller numbers. Round containers (eg margarine) are good with holes made in the base - but take up more space.

Pots must be clean. I use a square of paper towel or tissue in the base of black pots to keep soil in. Sterilising the soil is good but I don't do it, again because of time. I use "Bloom" indoor potting mix. I don't sieve it, just take out large sticks, stones etc. "Home and Garden" magazine tested mixes for seeds; they found Daltons and Smith seed raising mixes both good, also Kiwi seed raising mix from the Warehouse - which was much cheaper.

I tip in my mix, shake it down and level it off about 1/2" from the top of the pot without compacting it. When the surface is not pushed flat the seeds stand up better after germination. I then water over the mix (using tap water), from the top, until it just comes out of the base. This consolidates the mix a bit. I then drain the pot for a few hours.

The label is then inserted with the name and date, to come no higher than the rim of the pot. Next the seeds are sprinkled over the surface.

I don't cover any seeds with mix unless they are very large (eg larger than radish) and then I usually give a gentle push on the seed into the mix.

From now on, for success, I have found that they should not dry out while germinating. One grower in Tauranga put all her pots in a plastic tray and sealed it in a plastic bag. This year I have been covering each pot with Gladwrap and sellotaping it tight around the side of the pot. All the pots are stood in front of a very sunny window.

It is from now on that care is needed. Some seeds will germinate in a few days, some weeks and I have had some germinate after a year. The biggest problem is mould or damping off. If any mould or fuzzy growth appears remove the plastic at once and water over the top with a solution of Condy's crystals (Potassium permanganate) usually available from chemists. Make the water a good purple colour.

If seedlings are starting to rot, remove all showing any signs of looking watery and dry out the pot uncovered until rotting stops. You have to learn which seeds you would have to treat more carefully. *Astrophytum*, for example, can all rot in a night so you wouldn't leave them covered once they have germinated.

If there has been no germination after about two months try a cooler place and if still none - more warmth in the hot water cupboard or on a heat pad.

If there is no rotting and the plants are growing well I will leave them covered until they are too tall or crowded. Crowded plants are more likely to have rot start and spread. Don't be too quick to throw out ungerminated seeds. I have thrown out mix after a year and then found seeds germinating down in the pile! Now I give the surface of the pot a gentle stirring and often more will germinate.

Slugs, slaters and snails love new seedlings. They also sunburn easily and red plants don't grow very well. If repotting be careful as the roots are very fine and break easily. Repotting can be done at any stage. I have tried new seedlings and larger ones and the only advantage is with younger plants you can then try and germinate more seeds in the mix. After repotting I reuse the mix for other seeds. Watch out for weeds in the trays once you have potted out the seedlings. It doesn't take long for them to smother the little plants.

It is best to sow in early spring to get maximum growth before winter unless you can provide heat over the winter. Seedlings in an unheated glasshouse should be kept on the dry side."

In reply to questions Bruce said that a diffused plastic sheet was put over the pots which were in sun beside a window in the conservatory. The thermostat was set at 10-25 degrees and seed was sown at all times of year.

He reiterated that covers are taken off the pots when the seedlings grow up to touch them, or if there are problems of mould or damping off. Crowded seedlings are more likely to rot. Too much sun results in

red or brown seedlings that do not grow well.

Andrew Flower spoke last. He showed a copy of Consumer "Home and Garden" (Issue 35 Sept-Oct 1996) with their test of ten seed-raising mixes; both those commercially available and one they had mixed themselves. (Their mix comprised: 7 parts peat to 3 parts 5mm washed river sand; to each 10 litres of mix add 30g of lime and 70 g of superphosphate - both of which are available from garden centres, and add 40 g of potassium nitrate which is available from hydroponic suppliers).

In view of comments by earlier speakers - he was interested to note that Merv's choice had come bottom of the list, while Bruce and Phyllis used a potting mix not a seed raising one. The best three in the test were Daltons and Smiths seed raising mixes and the home mixed one. The next best (and the cheapest one) was Kiwi seed raising mix from "The Warehouse".

Andrew raises not only epiphyllum and rhipsalis seeds but also bromeliads. Most of his seeds are imported and may have had several stops during their trips around the world. This exposes them to more chances of fungal and bacterial contamination than seed you have raised at home. Bromeliad seed from South America may get to New Zealand via North America or Germany. Before sowing Andrew sterilises his imported seeds. First he soaks the seeds for 24 hours in a warm place in a solution of 1 tsp sugar to one cup of warm water, which encourages any fungal spores to germinate and start growing. He drains off the sugar solution and adds Janola (bleach) undiluted with a drop of detergent added for seeds with parachutes. He drains off the Janola after a few minutes and puts the seeds on potting mix in pots, watering with Benlate solution. Each pot is covered with a small sheet of glass and they are placed in his Tillandsia incubator where they are kept at 22 degrees under grow lights. Later they are moved into the glasshouse into a "fish-tank" heating system with bottom heat but where the air temperature fluctuates, going down to 7-10 degrees at night, and finally as they grow up to a bench in a cool greenhouse. Fresh seed from his own plants Andrew plants without sterilisation.

Andrew commented that in the first two years that he was sowing seed few of the seeds grew, but that he now has a success rate of about 70%. He uses pH adjusted water to water all his plants. (NB Areas of Wellington where water mains are being cement-lined will find that their water will be very "hard" or alkaline following the relining, but should return to its previous pH after some days or weeks). Although he uses a heating cable in sand - the pots of plants are not stood directly on the sand but on seedling trays. Since his potting mixes are sterilized he does not have growth of moss or liverwort.

What does he do with all these plants? Only the most vigorous seedlings are planted out, this applies particularly to the progeny of his own crosses.



## Hoya Habitats.

another article on this subject by Von Cross

Malaysia, Sumatra, Borneo, Java and Celebes Moluccas are home to a large number of hoya species, some of which are common to most of these areas. Unfortunately, only a very limited number of these species is obtainable in New Zealand. These include:

### Malaysia

*H. acuta* (synonym *H. parasitica*) both now reclassified as *H. verticillata*

*H. diversifolia* (not to be confused with *H. diversifolia* "B") this is widespread on coastal and lowland forest areas. This species is variable and the subject of further research.

*H. erythrina* - found at 400-700 metres in the forests of Pahang and Selangor. Very beautiful foliage, bronze-green, often splashed silver and pink with maroon underside. Fuzzy gold flowers.

*H. lacunosa*. Lowland and hill forests, especially along rivers. A most rewarding trailing hoyo, the sweetly perfumed flowers continue almost all year round.

*H. micrantha* - found at heights of 900 to 1000 metres.

*H. multiflora* (Shooting Star) Widely distributed throughout East Indies, found on ridges at heights of 500 - 900 metres.

*H. sp.* Sabah Malaysia IML 557 - a modest vine with smallish waxy red flowers.

### Borneo

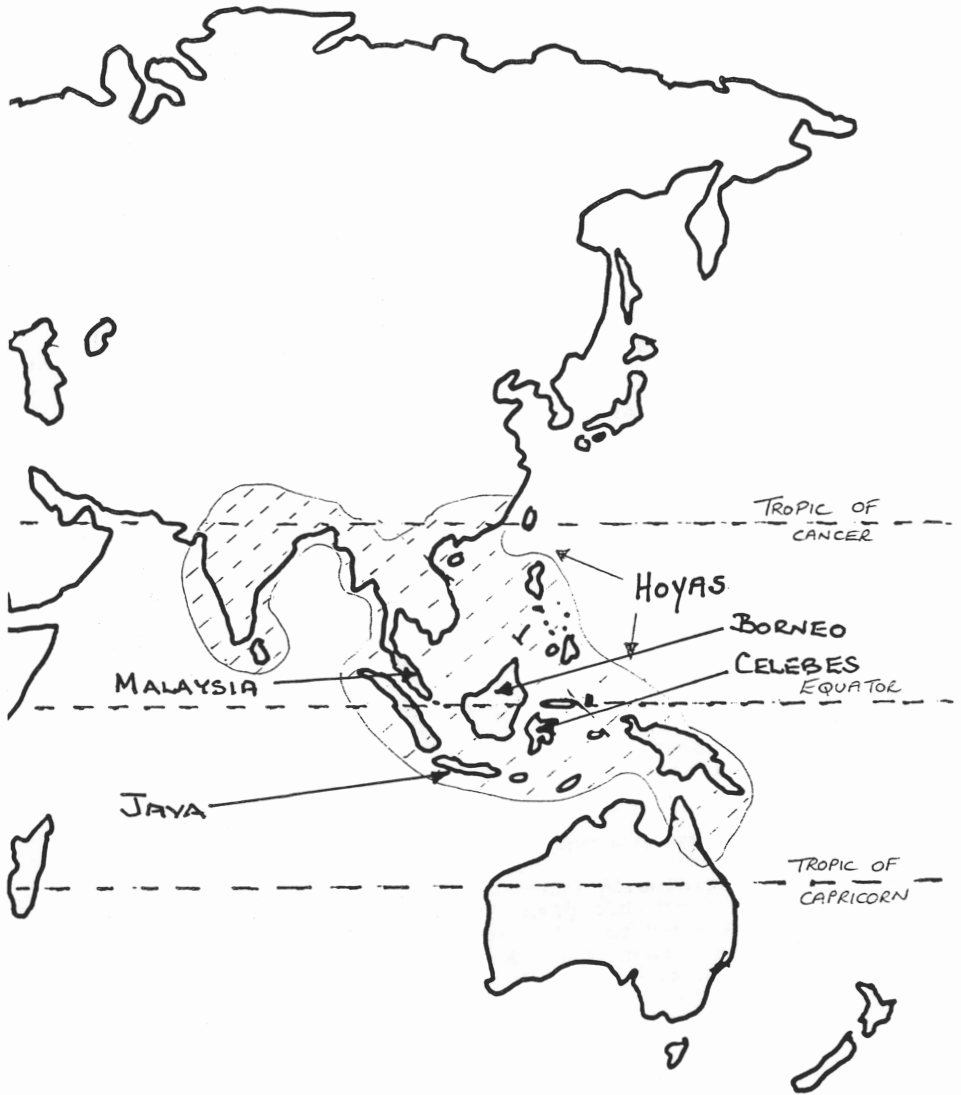
*H. imperialis* grows in mangrove and lowland forests.

*H. meredithii*, originally known as SP 80.05 and now reclassified as *H. vitellinoides*; this plant has large, leathery, lime-green leaves which are conspicuously veined in dark green with a network of secondary paler green veins. A most striking foliage plant. The flowers are rather ho-hum being cream and short-lived.

*H.sp* F484 - a trailing plant with small fuzzy flowers.

### Java

*H. cinnamomifolia* - a medium vine with large leaves and a striking bright green flower with dark maroon centre.



*H. fraterna* - this is another huge-leaved plant on a large vine. Although it is widely known as "fraterna", it appears that the true "fraterna" is a completely different species. The proper name of our "fraterna" appears to be doubtful at this time.

*H. laurifolia* - the flowers are similar in form to those of *H. multiflora*, though this plant is not nearly so easy to persuade to bloom.

*H. polystachya* has spectacular foliage which is large, shiny, dark-green and dimpled all over.

#### Celebes Moluccas

*H. obovata* - a large, heavy vine with beautiful pink flowers which are readily produced.

*H. rumphii* - a medium vine.

Although their native habitat is close to the Equator, all seem to have adapted to our New Zealand climate when given a little care and attention. Their main requirements are to be kept warm during our winter (temperatures must not fall below 10 degrees for more than short periods) and to receive only minimum water from, say, May to September. With the exception of *H. multiflora*, all have either very succulent or leathery leaves which withstand long periods without water. Yellow leaves almost always indicate that a plant is receiving insufficient warmth rather than insufficient water.

## The Road to Epi ....

(or how I got hooked!)

*The first instalment of a long not to say interminable saga, recounting no deeds of valour or heroism - but definitely ...*

by Merv Keighley

About forty years ago a young lad of about fifteen joined the Cactus and Succulent Society in Hamilton. As with all young members, many bits and pieces were bought. As time went on and this teenager got to know members, and members got to know him, visits were made to collections. As always generous gifts of pieces and pups were received. The collection grew, knowledge was gained and more plants were acquired.

This teenager was me!

I can still remember visiting Joyce Carlton's collection and marvelling at all her plants - but especially some huge spectacular flowers. I must have some - what are they? Epiphyllums! Epi what? I couldn't say it - let alone write it. Joyce gave me some cuttings. Wow - I've got them!

I searched for any writings I could find. Hey, a book - written by F.R. McQuown. I read it from cover to cover many times. No one I spoke to could tell me where to get epi's from or what to do. Write to Mr McQuown of course - what is his address - Ah! write to his publisher.

The letter was written and duly sent. It was a long shot; many weeks went by. Of course, the letter must have gone astray; no one would know his address. I gave up waiting and forgot all about the letter. Then a letter arrived for me from England. It was a personal letter from Mr McQuown. He wrote a very nice letter, wishing me well and giving me the name and address of an epiphyllum nursery in England .....

.. to be continued..



## Facts and Warnings..

compiled by Penny Luckens

### Cautions when using potting mixes ..

When potting mixes, particularly peat-based ones, get dry and dusty they are difficult to get moist again. Soaking with boiling water for 30-60 minutes will be more effective than pouring on cold water. Besides the difficulty of re-wetting the mix there are also other potential problems with dried-out mix.

By now many people will know that inhaling mix into the lungs may result in infection with fungal diseases or Legionnaires disease. Farmers lung was a fungal disease caused by inhaling spores from mouldy hay and there is little difference between mouldy hay and some immature stages of compost. Some commercial composts may contain domestic refuse or animal wastes. Try to keep mixes damp rather than letting them dry out in the bags, while remembering that too much water will leach away the fertilizer. To be on the safe side use a mask and gloves when using

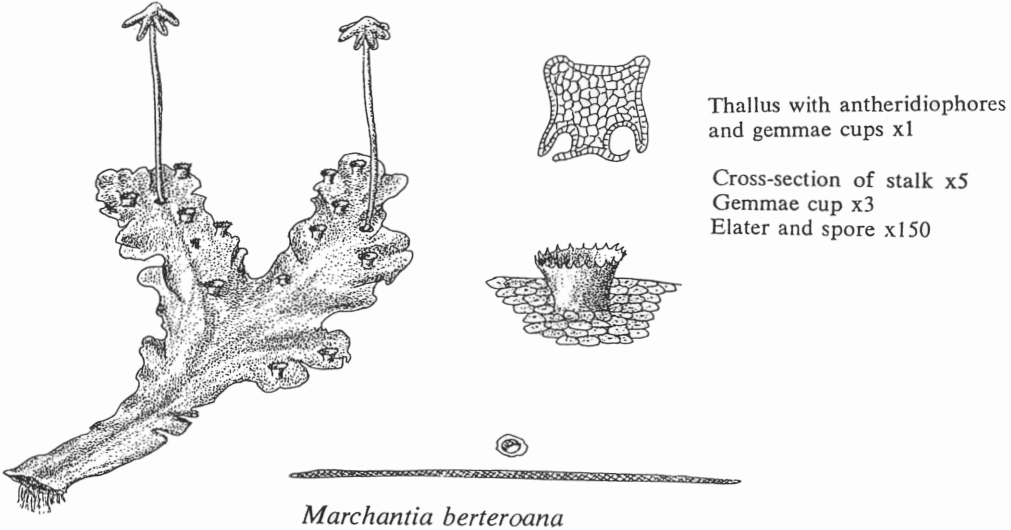
mixes. This is not a cause for panic - just common sense.

Propagation ..

Did you know that the word came from the Latin *propagare* - to multiply plants from layers.

Liverworts and Mosses ...

These plants are both included in the Phylum Bryophata, a group between the algae (seaweeds and similar plants) and the ferns. All these groups need water to effect fertilisation; and many of them - all the mosses, liverworts and ferns - have what is known as alternation of generations. This means that any one species has two different types of body or two types of generations. One, the sporophyte (diploid) generation, is dependent on the gametophyte (haploid) generation to some extent.



One of the common liverworts growing on the surface of potting mix in pots is *Marchantia* which has separate male and female plants. If you look at a liverwort plant you will see that it consists of flat, ribbonlike stems which branch regularly by forking at the tips into two even branches. (This is known as dichotomous branching). Rising above these flat stems are structures like small parasols or mushrooms on long stalks. The male plants have antheridia containing sperm on the upper surface of the parasol - a bit like a flat table with scalloped edges. The female plants have parasols with eight deeply-divided lobes which often hang down. The egg cells are found on the underside of the "umbrella". When the plants are wet the sperms are able to swim to the

eggs and fertilise them. The embryo develops under the female "umbrella" and is dependent on the female plant for its nutrition - almost like a parasite or human fetus in the womb. As the embryo matures it develops into a large bag of spores in a sporangium. When ripe, the spores are shed and immediately develop into a new plant. Besides this form of reproduction, the liverworts can also produce asexual bodies called gemmae. In *Marchantia* these are found in round gemmae cups rather like raised birds nests across the surface of the plant stem. These small green bodies within the "nest" detach when mature and when knocked out by rain splashes or wind can grow to form new plants. The shape of the structure holding the gemmae is important in identifying the various genera and species. One other common species has crescent-shaped structures.

New Zealand has some of the world's largest mosses and liverworts. You may curse them when they try to grow over your potted seedlings, but watch out for them in the bush on damp banks. They have a beauty of their own which you may find hard to appreciate in the wrong place. If you think that their sex-life and alternation of generations is strange you should study the more complex situation in some seaweeds!

## Recent Additions to the Library List.

### Directory of Species and Hybrids

The Epiphyllum Society of America have recently published the fourth edition of this standard reference work very much revised by Dick Kohlschreiber. It is good to have a copy in the society library.

### Future Publication dates ..

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