E. H. S.

WELLINGTON

EPIFLORA

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November 2000

EPIFLORA

Volume 9 No.4 **November 2000**

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From the President

Dear Fellow Epiphyte Growers

This month the society celebrates its 10th birthday – I am sure that you will agree with me that this is quite an achievement for a specialist plant growing society in the year 2000. It was ten years ago this year that a small group of us gathered together to discuss forming a society to foster our interest in epiphytes and in December of 1990 we had our first Annual General Meeting and elected our first committee. The society has welcomed all those with an interest in epiphytes and over the ten years we have learned so much from each other and continue to learn about the fascinating plants that we classify under the umbrella of the Wellington Epiphyllum and Hoya Society.

To our December meeting we have invited people who have been members sometime during the ten years. Over the years the society has attempted to keep records of activities in a photograph album and if you have photos of society events yourself do please bring them along to the December meeting so that we can enjoy tracing back through those years. At the beginning of the meeting we will hold our AGM to elect a committee for 2001 and to discuss any items that you might wish. Come to the meeting with your ideas, maybe a willingness to serve on the committee, your mementos of the past ten years of the society and a plate (with finger food on it!).

I do wish you all a restful and happy holiday once the craziness of the festive season is over. I look forward to seeing you in the new year.

Kind regards

Jane Griffith

27th Nov 2000

The Programme for 2000/2001

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

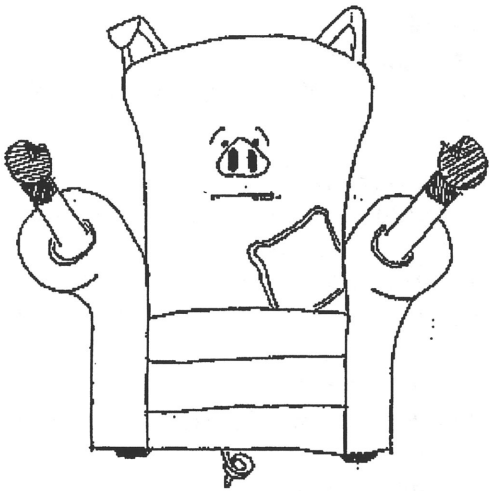
Those on duty are responsible for preparing the room, assisting with tea and tidying the room at the end of the meeting. If for any reason you are unable to do your allocated duty please arrange for someone else to do it.

2000	**December 9th**	**AGM** **"Memories"** On Duty: Joyce Walter, Robyn Gibson, Virginia Stead.
2001	**January 13th**	**Hoya Habitats** On Duty: Jane and Roy Griffith, Alison Beeston.
	February ~~10th~~ 17th	**Garden Visit** - Govt. House On Duty: Phyllis and Bruce Purdie, Di Comber.
	March 10th	**"Other Genera"**
	April 14th	**Epiphyllum and Epicactus Care and Culture**
	May 12th	**Schlumbergeras**
	June 9th	**Some uses of Epiphytes and their Relatives**
	July 14th	**Mid-winter programme - guest speaker.**
	August 11th	**Guest Speaker**
	September 8th	**"The Forest canopy"**
	October 13th	**"Hoya Multiplication"**
	November 16th-18th	**National Convention - in Wellington**
	December 8th	**AGM and Christmas function**

Season's Greetings...:

In each December issue of "The EpiGram" Dick Kohlschreiber announces the Christmas Party Potluck Meal - and adds "The Club Will Furnish a Honey-baked ham....."[1]

This year Anthony Harmer provides a somewhat "off-beat" cartoon... of a ham - furnished....



Season's Greetings to all our readers...

[1] *Don't let me down this year Dick!* ***Ed.***

- Bring along a friend to the next meeting.
- Introduce a Neighbour to Hoyas or Epis, then bring them along to meet the group.
- Plant a seed in conversation, "pop in and join us on the second Saturday of each month."
- Distant members are always welcome

Help our Society to GROW...

A New Aporophyllum

The photograph opposite, taken by Herman Kortink, shows a flower on one of his new hybrids. Herman writes - this plant, no 12/6, flowered first in December 1999. This is a cross of Epicactus "Thalia" with *Heliocereus speciosus*.

Hybridising Epiphyllums.

***Penny Luckens** reports on our September meeting. **Merv Keighley** and **Jane Griffith** shared their experiences and techniques with us.*

Merv started crossing epiphyllums in the hope of producing something new - something that nobody else had ever seen before. ("For pure excitement that beats buying shares so that you can look at the paper every morning to see how they are doing - as I was advised to do on a retirement course!!")

Merv did his first crossings in the 1960's and got more serious about it in 1981-2. The only promising one so far has been 'Reverend Jane'.

It pays to think about what you want to produce - that is what features your ideal flower or plant should have. Do you want more petals? Ruffled petals? A particular colour? Better keeping qualities? Repeat flowering? Scent? ....

You should try to find parents that between them have as many of your desired characteristics as possible. Do not just cross plants randomly. Historic accidents sometimes produce a world beater - but not often! Do not try crossing unrelated plants (or animals). You cannot cross epiphyllums with apples (or humans with elephants - thank goodness).

Basically what we have to do is to put the male cells of the "male" parent where they can meet up with the egg cells of the "female" parent. The male cells are the pollen grains inside the anthers - which are held on long stems called filaments. An anther plus a filament is usually called a stamen. When the pollen cells are ripe the anther usually opens and folds back so that the pollen is exposed.

The female cells (ovules or eggs) are in the ovary - in epiphyllums the part of the flower between the base of the petals and the "leaf[2]". Rising from the centre of the ovary, inside the ring of stamens, is a long white or red stem called a style which branches at its end

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[2] *Stem actually - as avid readers of Epiflora will know - but it is amazing how many people still refer to "Leaves of Epiphyllums". **Ed.**.*

into five branches which form the stigma. The stigma surface is specially prepared to receive pollen grains and has chemicals that stimulate compatible pollen grains to sprout and produce a tube that grows down the style to an ovule in the ovary and fertilises it - leading to the development of a seed.

Epiphyllum flowers have both male and female parts but do not usually produce seed from their own pollen. (They are said to be "self-sterile"). You decide which variety will be the pollen donor (male parent) and which will provide the eggs (female parent).

Using a natural bristle paint brush - or a cotton bud - take pollen from the male plant and transfer it to the female plant. Often in epiphyllums the pollen is mature before the stigma is receptive. Dip the brush in alcohol to sterilise it, write a label (stating *female parent* **x** *male parent*) attach the label to the fertilised flower - and the job is done - no its not - record the cross in a book! Jane recommends writing the label before you do each cross. Give each cross an identification number (for example the year - and the number of the cross in that year; e.g. 99/1, 99/2 and 99/3 for the first three crosses that you made in 1999).

The label may have only the identification number or you may also put the names of the parents. Your "little black book" will have full details for each cross of:

- the parents
- the date you did the cross
- other pertinent remarks (i.e. how long each flower had been open)

Labels can be written by machine on plastic strips, in pencil or using marker pens[3].

If the cross has been successful the flower will droop and fade. A line will develop between the wilted flower and the developing fruit where the flower will fall off. The fruit will grow as the seeds develop and in three to eighteen months it will ripen and soften slightly. Some fruits turn red as they ripen, others stay green.

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[3] *Permanent markers only though!*

Both Merv and Jane take the ripe seeds out of the fruit flesh and lay them out on paper to dry off for six months or so before planting. Fruits may contain from 12 to 1864 seeds[4]. Fruits are edible - if the plants have not been sprayed.

Merv sows his own dry seeds on seed raising mix in plastic trays which are then soaked in water. Jane puts "Glad wrap" over the tops of the trays. If Merv is sowing imported seed he sows it on top of the seed raising mix (soaked and drained in the tray), sprays the surface of the mix and the seeds with "Thiram" fungicide, puts the tray of mix inside a quick-seal plastic bag, seals the bag and puts it on a hot pad while the seeds germinate.

Epiphyllum seedlings are typical prickly "cactus" seedlings. The first stems are covered in spines - but later the typical, flattened, mature epiphyllum stems appear.

If you produce a seedling that you feel is better than any existing registered hybrids, you may wish to register it with the Epiphyllum Society of America and give it a new name. To do this you have to observe the flowers on the plant for three consecutive seasons, filling in the registration form[5] each year to be sure that the flower is stable in form and colour. The colour must be checked against a standard colour chart, such as that produced by the Royal Horticultural Society.

Andrew pointed out that when we are crossing epiphyllum hybrids they have a very mixed parentage (which may not always be completely known) so even if you cross two yellow hybrids you may get pink flowered seedlings - not just yellow ones, as you might expect.

Jane showed us a seedling (Ruby Gem **x** Petite Pink) which seemed an improvement on its parents flowers and looked to be a plentiful flowerer;but she did not, at the moment, think that it was worth keeping.

There was some discussion of the practice of grafting seedlings onto Opuntia pads or older epiphyllum plants. This is intended to reduce the time to get the first flowers. One drawback is that the epiphyllum seedlings could inherit virus' from the stock plants;

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[4] *According to Merv's counting!*

[5] *Forms are available from WEHS - **Ed.***

another was that Opuntia pads could collapse suddenly - leaving the epiphyllum plant with no roots.

"Bullnosed" flowers - whose petals stay together at the tips, and do not open without help, should be given a further chance next year; but if the condition persists in spite of a plentiful water supply, then they should be destroyed.

Merv said that he pricked his seedlings out into blue mushroom trays - growing on quite a number of seedlings from each cross. Jane, on the other hand, keeps only the six most vigorous seedlings from each cross.

Features that members would like to see in new hybrids included:

- more flowers with perfume
- bright colours
- flowers that last longer

Hybridisers - go to it!!!

The International Asclepiad Society.

Jane Griffith, *the New Zealand contact person for the society, writes...*

This society is based in England and has been in existence for over 20 years. Originally the society covered those plants in the family Asclepiadaceae but just recently they have extended their coverage to include the Apocynaceae. Some taxonomists argue that Asclepiadaceae is a sub-section of Apocynaceae.

What does all this mean in lay persons' terms? Well the IAS deal with many of the plants that are included under the umbrella of the Epiphyllum and Hoya Society. Namely

hoyas, ceropegias, brachystelma and cynanchums, as well as including stapeliads and related plants, adenium and pachypodium.

The International Asclepiad Society produce an excellent journal, *Asklepios* ,three times a year. Also members have the opportunity to purchase seed, much of which is collected from habitat sites.

For those interested in joining the society I am the New Zealand representative and will provide you with a membership form if you contact me at 249 Te Moana Road, Waikanae or e-mail: griffith@globe.co.nz .

Aporophyllums and Aporocacti.

***Herman Kortink** came to tell us about his recent work - and to show us a selection of his superb slides. **Jane Griffith** reports.*

At our October meeting Herman Kortink talked to us about one of his passions – growing and hybridising aporophyllums and aporocacti. Herman probably has the largest collection of these plants in New Zealand and is certainly an extremely knowledgeable grower.

Over the years Herman has observed the growing habits of aporophyllums and aporocacti noting how some flower on the tips of the stems, some just on the top and some all over the plant. He aims himself to obtain plants that flower profusely and preferably all over the plant. Showing us a photograph of one of his own hybrids, which he has named Red Ballerina, he felt that this fitted his criteria – a prolific flowerer, with upright flowers which last from 7-10 days. It certainly looked a beauty.

Herman talked of growing his aporophyllums and aporocacti in the glasshouse in which he grows his extensive cacti collection. Growing in hanging baskets close to the roof he noted that these plants generally cope with the extreme heat. He cuts off those stems which dry off and recommends regular pruning of aporophyllums.

A range of parents are used for hybridising including *Heliocereus speciosus* and *Aporocactus*. Herman has also used epiphyllum hybrids but noted that seedlings which

develop epiphyllum-type leaves do not qualify as aporophyllums. From sowing the seed to flowering the new hybrid can take up to seven years so therefore a fair degree of patience is required. For Herman he is aiming for smaller flowers as they tend to open for a longer period. He noted that at this stage he keeps about 80% of the hybrids that he grows.

We were treated to a wonderful slide show of aporophyllums and aporocacti from growers in England, Australia and the United States of America as well as slides of some of Herman's hybrids.

For those who had not previously grown aporophyllums or aporocacti Herman's talk will have inspired people to try growing these unique plants.

Ten Years.....

This year our society celebrates its 10th birthday. The very first gatherings of interested people took place in August and September - and in December we held our first AGM and adopted our constitution. To mark this auspicious occasion - we have contributions from John Horobin, Merv Keighley and Dick Kohlschreiber. Each was asked to write on the theme "Ten Years... ". Many thanks to them all for their contribution - and as you read the articles - look forward .....

Ten Years of "Epiphytes".....

First ***John Horobin****, editor of the journal* ***Epiphytes*** *and co-author of "****Christmas Cacti - The Genus Schlumbergera and its Hybrids****" - looks to the future - ... .*

While I have been growing epiphytic cacti for over thirty years, and editing the journal *Epiphytes* for the last twenty fascinating years, the next ten years promise to be of more interest still. Our knowledge of these plants is now increasing dramatically, and while interest in any group of plants inevitably fluctuates with time, I think there is so much unexplored potential in the epiphytic cacti. This potential will only be fully exploited with further breeding and selection and by encouraging more people to become interested in these

most attractive plants.

I mention breeding as this is important for the future. While new species have been recorded from time to time in recent years, it is the generation of new hybrids by both professional breeders and enthusiastic amateurs which helps to increase interest in any groups of plants. Better and more attractive hybrids increase the likelihood that they will be grown and appreciated in the years to come. Some epiphytic cacti have attracted a lot of breeding attention, especially the genus *Schlumbergera* (Christmas Cacti), *Rhipsalidopsis* (Easter cacti) and the hybrid epiphyllums or epicacti because of their success as houseplants, but some of the other epiphytic cacti deserve much more attention. There are many other epiphytic genera which could indeed make very successful and interesting houseplants.

As an example of what could be achieved, many epiphytic cacti have the reputation of having very beautiful flowers, but are somewhat unattractive and untidy in appearance at other times of the year. There is no reason why the appearance could not be improved given sufficient breeding effort over the next ten years. The problem of course is the time, effort and expense of such work. It is only commercial nurserymen who have sufficient resources to make such dramatic improvements and of course they are interested in a financial return to make such effort worthwhile. Christmas cacti, which are produced by the millions for the florist trade, do justify some breeding work. While it is difficult to compete with commercial breeders, amateurs can make a significant impact if they have sufficient interest and determination. The problem is one of finance of course as it is inevitably quite expensive to maintain large collections and any successful breeding work inevitably means growing out many hundreds if not thousands of seedlings and how many people have the space, money and time? This has always been my problem – plenty of ideas on what could be achieved but never the space, time or money!

There have been some new discoveries of epiphytic cacti over recent years and there may be more to come. Such new discoveries offer much potential to plant breeders as well as to amateur growers. An example is the discovery of *Schlumbergera orssichiana* in the 1980's, which gave rise to a new flood of varieties with interesting and different characteristics from what had been grown before. New discoveries also give a spurt of interest in a group of plants and give rise to a greater numbers of enthusiasts. Eventually though the discovery of new species will come to an end and we are probably close to that with the epiphytic cacti but who knows? In the absence of new species new varieties from our existing material will have to fill the gap.

The way we grow the plants is not likely to change very much in the next ten years, but the way we communicate with others about them is certainly going to change dramatically. We are already beginning to see this change with computers and the Internet. Large bulky desktop computers are a short-term phenomenon though, as the future will almost certainly be with small personal handheld devices with a built in Internet connection and will probably integrate with a mobile phone. Such a device will allow virtually instantaneous access to information and fellow enthusiasts all over the world and translation software will make it so much easier to communicate in other languages.

The question is how all this will affect journals such as *Epiflora* and the equivalent journal *Epiphytes*? While I don't see these journals disappearing in the short term, they may be replaced eventually by web based publications. It certainly is so much easier and cheaper to publish photographs and other material on the web, and databases allow for fast location and retrieval of information. But in the short term at least, I see this technology helping to increase interest on a worldwide basis. Certainly the increased communication that the Internet brings helps in asking for articles, the perpetual problem of editors of small journals!

Ten Years is a Mighty Lot of Plants.....

Merv Keighley *was one of the foundation members and had been growing and hybridising epis for many years before that. This brings certain challenges!.*

A lot of water goes under the bridge in ten years!
A lot of water goes into pots of plants also in that time.
How many seeds of epis are produced by hybridisers?

A fruit of an epiphyllum hybrid contains many seed. I have had between 60 and 1800. (I know because I set them out on graph paper to dry.)
Lets say an average number,for this article, is 400. If I make a small number of 10 crosses in one year (and I often make 20 or more), I will have 4000 seed to sow. After sowing, say I get a 75% strike, that means 3000 seedlings. A number will die off, lets say 33% (not that many normally). That leaves 2000 seedlings
Where do I keep these? It's ok really because the tiny seedlings take up little room.

Year 2

I do the same this year as last. I have 2000 seedlings that take up little room and 2000 seedlings that need pricking out.

Year 3

The same thing happens again. I have 2000 seedlings that take up little room, 2000 seedlings that need pricking out and 2000 seedlings that I will think about pricking out.

Year 4

I'm a devil for punishment! I'm up to 8000 seedlings, but I have started pricking out into polystyrene fruit trays.

Year 5

I'm still keen. The first lot of seedlings are flattening, one or two buds are appearing and the 10,000 seedlings are taking up some room!

Year 6

The 12,000 seedlings are taking over. The flowers that have appeared are nice but not different – they go into the compost. That leaves 11,997.

Year 7

Many buds are appearing, some plants have died (I didn't look after them). One flower looks different so will be retained to flower again next year.

Year 8,9,10

After 20,000 seedlings I have five plants that are worth keeping, no room, a full compost bin and I'm going to breed worms instead!!!

Looking Forward.....

And finally ***Dick Kohlschreiber*** *editor of "****The Epi-Gram****" - the newsletter produced by the South Bay Epiphyllum Society and International Registrar of the Epiphyllum Society of America writes about an event that will have implications for our hobby for the next ten years - and more... .....*

Congratulations to the Wellington Society on the occasion of your 10th anniversary. Your Editor asked that I write about some event that has happened in the world of the hybrid epiphytic cacti in the last 10 years. This was not an easy assignment. With plants, things change, yet remain the same. With the hybrid epis, hybridisers come and go. The yellow epi is no longer a rarity and we now have yellow flowers that are consistently a deep yellow colour. There have been more crosses using *Disocactus macranthus* as a parent, which resulted in some very fragrant epis. We are getting more hybrids that have multiple rows of petals We have a much wider range of sizes in epi flowers.

One of the most exciting things in the cactus world is the fact that DNA testing can now be done in cacti and that they have even done some work with epiphytic cacti. I doubt that few people in the epi clubs around the world, realize the significance of the article "The Hybrid

Origin of xEpinicereus Cooperi (Cactaceae) Refuted Using Gel Blot Hybridization of Random Amplified Polymorphic DNAs" which appeared in HASELTONIA, No. 5, 1997. This article is not easy reading but what we need to know is that ***Cooperii*** (*xSeleniphyllum cooperi)* is not of hybrid origin and there is no evidence of *Selenicereus* in its ancestry. What makes this important is that ***Cooperii*** has been accepted as a cross of *Selenicereus grandiflorus x Epiphyllum crenatum* for 100 years and no one ever questioned it. In fact, Clive Innes, in England, claimed he had made the same cross and came up with a hybrid the same as ***Cooperii*** ;. It turns out that *Epiphyllum cooperii* differs from *Epiphyllum crenatum var. cooperi* only in having the outer sepals attached to the apex of the receptacle, rather than extending further down the tube. Applying taxonomic standards currently used for Cactaceae, it seems best classified as a horticultural selection, *Epiphyllum crenatum var. kimnachii* ***Cooperii*** ;.

To me, this makes any cross between a night blooming epiphytic cactus and a day blooming epiphytic cactus, questionable. To me, this shows that many of the crosses that we have accepted as being authentic crosses, may not be true crosses but more likely selfs. To me, this article opens up the fact that we have a group of hybrids that we can legitimately call Epiphyllum hybrids or cultivars.

I hope that some day, the DNA testing process will become less difficult and less expensive and we can test many of the questionable species and hybrids. Although I know many of your members do not agree with me, I hope that the epi hobbyist will stop calling the hybrids epiphyllums and use the name epicactus or just epi, unless they really are Epiphyllum cultivars.

Ceropegia Nilotica - photo by R Griffith

Ceropegia nilotica as the name implies originated from the valley of the river Nile in north Africa. Several variations have been included under the name with the result that the distribution is accepted as being almost throughout tropical Africa, southwards into South West Africa, Transvaal, Mozambique, Swaziland, Zululand, and Natal. The species grows easily in collections in New Zealand. The flowers are striking and about four to five cm tall.

Subscriptions for the year 2001 are now due.

The society's subscription year runs from January to December. Subscriptions for 2001 are now due. Please send your subscription to the treasurer - accompanied by the renewal form included with this issue - or bring it to the December meeting.

Odd Cuttings and Seeds

International Asclepiad Society on the web...

The International Asclepiad Society has a set of web pages - hosted by the Cactus-Mall (A site many of you will be familiar with - or should be!!). A sample article from their journal "Asklepios" has now been posted there - so you can see what you are missing by not being a member - and getting all the issues...

The address is: www.cactus-mall.com/ias

We are on the web...

We now have a presence on the web - as well as being mentioned on other people's sites (we have already had our first membership enquiry thanks to one of these mentions). The first version of our site is up and running - have look at it - it is your society's site so all suggestions for additions or changes will be welcomed.

The address is: www.anwyl.com/epihoya

There is gold at the end of the Rainbow....

The Rainbow Gardens site has now closed. As you will possibly know Rainbow Gardens is scaling down its nursery operation. They pulled out of mail-order some little time ago. At the moment they are still open for walk-in sales but only by appointment..

The bookshop is still in business - and provides one of the best ranges of titles anywhere. The address for the bookshop site is:

www.cactus-mall.com/rainbow_bookshop/index.html The 2000/2001 booklist will shortly be published here - but those who get the list in booklet form will know the 2001 version is already available..

Back Numbers of "Epiflora" .....

The first edition of *Epiflora* appeared in March 1992. We have limited stocks of back-numbers for most issues from Volume 2 - issue number 1 (March 1993) onwards. Prices are 50c per copy plus postage if applicable - contact the Editor ..

Future Publication Dates..

EPIFLORA is published quarterly by the Wellington Epiphyllum and Hoya Society.

Comments and contributions are most welcome.
The society aims to encourage discussion and debate; opinions expressed are those of the authors and do not necessarily represent those of the society. It is the policy of the society to publish corrections of fact but not to comment on matters of opinion expressed in other publications All material in Epiflora may be reprinted by non-profit organisations provided that proper credit is given to WEHS, Epiflora and the author.

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(overseas members $NZ16.00 or $US12.00)

Additional Associate Members - $4.00