



# EPIFLORA

Volume 10 No. 4

December 2001







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## **From the President**

Dear fellow epiphyte growers

This Epiflora heralds the end of another year for our Society – a year in which we have welcomed new members, learned a great deal from each other about the growing of our plants and had successes and failures in our shade and glass houses. It is the height of the epicacti flowering season which means the delight of seeing new flowers out each time one goes up to the shadehouse. This year we have several of our own hybrids flowering for the first time – some are definitely worth keeping, but some have already been consigned to the rubbish tip.

The convention is over and we are left with memories of a great week-end, maybe some new plants and cuttings and a determination to put into action some of the ideas we gleaned over the week-end. I do hope that all who attended enjoyed the week-end. Our Society, although small, all pull together to achieve great results – thanks for your part in making the convention a success.

At our December meeting we hold our Annual General Meeting – usually a fairly brief affair after which we can boast about the blooms we have brought along, and also enjoy afternoon tea together. This AGM we need to elect a new President and a new Treasurer as well as two new committee members. If you would like to take on one of these roles please give me a phone call before the meeting so that I can tell you what the role entails.

I look forward to seeing you at the December meeting and for those who are unable to attend I do hope that the coming holiday season proves restful and enjoyable for you.

Happy growing and kind regards

*Jane Griffith*

26<sup>th</sup> November 2001



## The Programme for 2001-2002

*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.*

**December 8th**

**AGM and Christmas Function**

On Duty: Dianne O'Neill, Sunping Chin, Sunping Flora.

**January 12th**

**Ceropegias**

On Duty: Jane and Roy Griffith, Alison Beeston.

**February 9th**

**Visit to Collections**

On Duty: Virginia Stead, Keith Greer, Beryl McKellar.

*Sunday 17th*

**March 9th**

**Hoyas**

On Duty: Brian Read, Nola Roser, Joyce Walter

**April 13th**

**Tillandsias**

On Duty: Mary Hardgrave, Aynsley Taylor, Robyn Gibson

**May 11th**

**Workshop on Schlumbergeras**

On Duty: Kaye and Merv Keighley, Andrew Flower

**June 8th**

**Questions and Answers on Epicacti**

**July 13th**

**Midwinter Function**

**August 10th**

**Disorders, Diseases and Pests**

**September 14th**

**Photography**

**October 12th**

**Tissue Culture**

**November 9th**

**Visit to Collections**

**December 14th**

**AGM and Christmas Function**

## **Convention 2001.....**

*Thirty-two people registered to attend the convention which was hosted by our society. We were pleased to see a good contingent from Auckland. Alison Beeston gives her view of how it all went..*

First I need to make a confession. I almost didn't come to the convention at all and probably would have stayed away but for a call from Jane requesting that I take a workshop on "Sources of Information". I agreed to that somewhat reluctantly - as many of you are aware I'm no expert when it comes to epiphyllums and hoyas and joined the society only because Peter was keen. I stayed because the meetings were so informal and friendly and I enjoyed the company and the bright and breezy meetings. Since moving out to Waikanae, with Peter gone and with the clash with the meetings of the Tararua Cactus and Succulent Society which covers the plants I really prefer, I have been torn about what to do. I'm still torn - the convention did not resolve that problem.

Still I am glad I went and my congratulations to the committee who ran it so efficiently. Both speakers impressed with their knowledge of their subjects but I knew that would be the case as I had heard both of them before. Everyone I spoke to seemed happy with their workshops and it was good to see new leaders coming forward. Only one collection, the Hannam's, was new to me but there is always something to see even in those you already know well. The variety of plants and the different ways they are grown was, as always, interesting.

I had thought I would do my thing with the workshop on Saturday and then miss Sunday's events but Roy made sure that didn't happen by asking me to introduce and welcome Matthew Lark on Sunday and, in spite of my reservations, I was there at the beginning and was one of the hardy few who joined in the Fish and Chip meal at the Alasia at the end.

My thanks to everyone involved, including those who transported me back and forth. I feel I should find something to criticise but couldn't - it was a good weekend - even for a half-hearted Epi grower like me.



## **Biosecurity and Biosanity**

*Or "How to keep us sane and New Zealand secure". One of the speakers at the 2001 Convention was **Matthew Lark** - with audience participation. The reporter is **Penny Luckens**.*

Matthew Lark opened his talk by saying that his main acquaintance with epiphytes had been hiding in kiekie and collospermums when observing bird interactions, and using epiphytic orchids as sites for light-trapping insects.

In most parts of New Zealand introduced plants, birds and mammals form a larger part of the biotic mass than the native species, and are more able to operate in modified systems. We should probably not feel guilty about this, but should value both native and introduced organisms.

Biosecurity is a concept not well defined or accepted, and is not yet in any dictionary. It can mean many things to different people ..

- interception of snakes and spiders in imported goods
- destruction of possums to prevent the spread of bovine tuberculosis
- destruction of deer and goats in areas of native plants
- destruction of pest plants
- protection of our reputation to enhance our export trade

Could or should we import things? We should value kiwi - but also roses. We have to accept some risks, but we have to educate gardeners and garden groups. We need to examine and mitigate risks -

- ensure water quality and reticulation
- examine soil profiles and nutrification
- restore biodiversity

But we must do these things by using values rather than prescriptions; by using best practice instructions, and by presenting problems and solutions on a sound foundation.

Biosecurity at present has no defined policy or conscience. It is up to all groups in society to assist the government to define the terms and parameters. If you feel that epiphyllums are important then it is up to you to say so and to present your arguments in a logical way. Biosecurity should not be forced on gardeners, but risks must be weighed against values.



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Gardeners have been told what to do for a long time - for example Forest and Bird have been saying "Plant Natives"..... Obviously invasive organisms must be managed. Gardeners must be aware of the effects of their actions. Use the experts within your groups to assist you in developing ways of dealing with the risks. Be informed and tell authorities how you want the system to operate - backed up by information that shows you know what you are talking about. Remember that your ability to import is as legitimate as anyone else's.

There are two conflicting Acts of Parliament that, at present, relate to biosecurity and importing. One is the Biosecurity Act (1993) and the other is the Hazardous Substances and New Organisms Act (1996). By 2003 the two acts should be reviewed. Be sure that your views and values are represented when the time is open for submissions (this may be May to July 2002). Don't wait to be invited, but make your views known - if possible backed up by as many other garden groups as you can muster.

A wider issue is the responsible management of problems. Your magazine recommends Quash for killing slugs and snails, rather than other baits poisonous to a wider range of organisms than the target ones. This is a step in the right direction.

Be aware of other insects or pests on your plants. Identify them and, if they are pests, then notify the local council or regional council before getting a pest controller in. Your local garden centre or regional council should be able to give you the names of qualified pest exterminators.

The Argentine ant was first identified in New Zealand in 1990. Since then it has spread from Kaitiāia to the north of the South Island. This species has disrupted plants and plant communities in many parts of the world. In South Africa it has disrupted seed dispersal of Proteas by other ants as it preys on the ants that would otherwise spread the seeds, and also eats the seeds themselves. In California it has devastated orchard crops. Aphids produce secretions that Argentine ants feed on. The Argentine ants prey on the aphid predators so the aphids thrive unchecked. They also prey on bees. Around the Indian Ocean they prey on crabs and worms.

What do Argentine ants look like? They have red to chestnut, opaque bodies up to ½ inch (12 to 13mm) long. They live under roots of trees and under rotting house piles. They congregate under and inside the bases of nectar plants such as Kowhai and flax. Fire Ants - whose bite has been described as being "like mosquitoes on steroids" appear to have been eradicated in New Zealand at present. They prey on beetles, shellfish and anthropods.

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### **Pictures from the Convention.....**



Insect pests (as well as problem plants) can be spread widely by dumping garden rubbish illegally along roads. Some rubbish tips are now infested with Argentine ants. Think before you export your problems more widely; whether they be weeds or pest organisms.

We must understand that genetic engineering and genetic modification are part of our evolution and the progress or evolution of our environment. Humans always strive to improve their environment. The techniques have benefits for conservation which must be balanced against the costs. At the moment it is difficult to argue sensibly as the anti-Genetic Engineering lobby presents a frightening scenario. We must get past the "Demon" idea before we can discuss the advantages and disadvantages coolly and logically.

If we want to add existing species (ie species that are already in New Zealand) to the official importation list or add new ones not yet present here we must negotiate with the Environmental Risk Management Agency (ERMA). Approach a plant importation officer on a formal application. At present the rules are so strict and the costs so high that many are ceasing legal importation. Ways must be found to reduce compliance costs of assessment and to make the whole process accessible. When applying ask them how we can reduce the costs and how to go about doing this. Identify all the issues before you approach them. Back up all issues with justification for the importation. Be forward looking. Identify the plants and hybrids you may want to import. Do your homework. Tell ERMA what you want but also identify the risks of diseases and pests.

Few garden groups have expressed a need to be represented at government forums (how many groups even knew about the forums?). Groups need to be ready to stand up and be counted. If you don't present your point of view no one will do it for you (and you can't really complain if you don't like the outcomes). Any presentation you make should reflect future interests - think ahead - talk to other groups and get them behind you - in writing or in person. Remember that you are an integral part of the community in which you live and that your recreational interests have a value.

When did we lose our third bat species? In 1963 the greater short tailed bat was described from colonies 1000 strong on Big South Cape Island off the south west tip of Stewart island. In 1964 after a shipwreck, ship rats invaded the island. The last sighting of the greater short-tailed bat was in 1968. The rats ate them.



## Some uses of Epiphytes and their Relatives.

*This is the talk given by Penny Luckens at the 2001 Epiphyllum and Hoya Convention.*

Most of us grow flowers and plants as objects of interest and beauty. We may have some knowledge of how they grow in nature and what part of the world they come from, but we tend to think of them as ornamental, rather than useful plants. However in other parts of the world people may view them differently. This was brought home to me during the year I lived in China. There on the campus I saw pots of a plant I had mainly known from photos of Japanese Ikebana arrangements - *Rohdea*. I knew it had red berries so I kept a close eye on the potted plants and soon they produced a thick spike of densely packed small buds in the centre of each group of leaves. I took a photo before the flowers came out properly and then when I looked a few days later the flower spikes had all gone. When I asked my students they told me it was Chinese medicine so had been collected - perhaps by the gardeners. Later after the gardenias flowered large fruits developed - and also disappeared.

Later in books on Chinese medicine I discovered both *Epiphyllum oxypetalum* and *Hoya carnosa* flowers and *Dendrobium nobile* stems. All are what we would call ornamentals. Two groups of plants which include epiphytes are ferns and aroids. What are some of these plants we call epiphytes?

*Peperomia* - not all are New Zealand species although we have two natives both found commonly as low epiphytes. They belong in the same family (Piperaceae) as the NZ Kawakawa (*Macropiper*) the plant whose roots are used for kava in the Islands and the climber (*Piper*) whose seeds are black and white pepper.

There are also mosses, small ferns and what is probably a streptocarpus. There are also orchids not to mention *Dendrobium nobile* which I have referred to already. A well grown basket of this plant is a wonderful sight and this and allied species are used medicinally. It is good for the stomach when cooked in soup and for feverish and recuperating patients.

*Philodendron* is an aroid - a member of the family Araceae which includes over three thousand sub-species. Arums and Callas - not true lilies are familiar to most New Zealanders but other plants in the family include philodendrons, caladiums, anthuriums, monstera and taros. What we call a flower is really an inflorescence ( a flowering shoot with more than one flower) consisting of tiny reduced flowers, male, female or bisexual on a thick spike or spadix with a hoodlike or leaflike spathe either below it or surrounding it. The white part of an arum - or the pink, red, white or coloured bit of an anthurium or philodendron is the spathe. The real flowers are on the spadix. Some species have male flowers or female

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flowers; some have female flowers below male flowers in the same inflorescence. Male flowers are often just a group of stamens, female flowers an ovary topped with a pistil, bisexual flowers have an ovary with stamens around it. No petals, no sepals but sometimes there are sterile flowers as well. The largest genus of aroids is *Anthurium* with 800-1000 subspecies from Northern Mexico, the Caribbean islands, south to southern Brazil and Northern Argentina. Many are epiphytic. The flowers are bisexual.

The best known anthurium *A. andraeanum* grows as an epiphyte in the wet mountain forests of northern Ecuador and southern Colombia. It was sent from Colombia in 1876 by collector Edouard Andre to a nursery in Belgium. By 1882 it had reached Kew where Sir Joseph Hooker commented that it was "one of the gaudiest plants that have of late been introduced into cultivation". In 1889 the Hawaiian Minister of Finance bought a plant on his visit to London. He entrusted it to his Scottish gardener on Oahu who produced eighty hybrids from its offspring and laid the foundations of the Hawaiian anthurium industry. It is valued as a cut flower.

*A. scherzerianum* growing at 1300-2100 m, sometimes epiphytically and sometimes on the ground, in Costa Rica, makes a good houseplant. Nineteen varieties of *Anthurium* are listed as medicinal in NW Amazonia for a variety of purposes - toothache, headache, contraception, poulticing stingray wounds (which are often infected with bacteria), snake bite and painting the teeth black for dances and ceremonies - a practice believed to prevent caries. Several of these may be previously undescribed species and little is known of their chemistry.

A number of anthuriums have attractive fruits. *A. gracile* has bright red berries and is self-pollinating or apomictic while *A. scandens* has large white, lilac or purple berries. Birds nest anthuriums have broad, upright, sometimes overlapping leaves forming a funnel that increases the catchment area for rain. This collects debris so the plant has its own compost heap. Some roots grow down to anchor the plant, while others grow up into the debris. They are also known as litterbasket epiphytes. Because they are efficient at water and nutrient retention they can colonise forests with a pronounced dry season.

*Philodendron* is another tropical American and West Indian genus. Its name means "tree loving" referring to the usually epiphytic habit or to climbers with roots that reach down to the ground. One species is used as a fish poison, several are used on skin diseases, infections and boils, as contraceptives and in the preparation of arrow poisons. Some philodendrons produce resin in the spathe and spadix to glue the pollen to the bodies of beetles that pollinate the flowers. Having been attracted to the flowers by a spicy scent and raised temperature when the female flowers are receptive, the beetles are then trapped until the pollen is ripe when they crawl out and feed on the spadix getting covered in pollen and resin. They then fly to another plant with receptive female flowers.

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Climbing philodendrons, in a great variety of leaf shapes, sometimes changing with age, are often grown as foliage plants. There are 'litter-basket' philodendrons too; one of which has been important in hybridisation - producing compact, upright-leaved plants.

*Syngonium*, a scandent epiphyte has anchor roots that lack root hairs and are glued to the substrate with dried mucilage. The sap of two species is applied to ant stings. *Syngoniums*, philodendrons, anthuriums and caladiums are all grown as house plants or outdoors in warmer climates.

Tough, flexible aerial roots and stems provide string or rope. One species of anthurium has cordage fine and strong enough for guitar strings. Another has tough roots used not only for basket work but also as wire and nails in house construction. Philodendron roots are also used in the construction of buildings, boats and tools.

Wellington members who were at the October meeting will remember the strange flowers on the *Arisaema sikokianum* plants. *Arisaema* is a tuberous woodland genus, although there is one epiphytic species on the Ruwenzori mountains at about 3000m. where it grows in moss on the tree heaths. The centre of distribution is SW China, but it stretches from Africa and Arabia, tropical and temperate Asia to Sakhalin (latitude 57 degrees North) and across to Mexico and eastern North America. Some have attractive foliage and most have striped spathes. A strange feature of the genus is that plants can change sex from year to year. When a seedling gets large enough it will produce a male spadix if average sized, or a female spadix if its reserves are larger (sufficient for seed production). The sex is determined by the previous season's growth as leaf and inflorescence buds are laid down at the end of summer. After a very poor year it may produce only foliage or may even remain dormant through a year. The plants also produce offsets from the tubers and this may occur when female flowers are few or little seed is set.

Many aroids are corrosive and toxic. Crushed raw tubers of *Arum*, *Dracunculus* and some *Arisaema* species have been applied directly to cancerous growths. *Arisaema flavum* is an insect poison, but is also an anticonvulsant and in China is used as an ingredient in remedies for tetanus. *Pothos scandens* and *Typhonium giganteum* have also been used to treat convulsive illnesses.

*Typhonium flagelliforme*, *Arisaema consanguineum* and *Pinellia ternata* are all used as expectorants to loosen phlegm and ease coughs. The corrosive and toxic effects of these tubers are reduced either by drying the sliced tubers or by adding other ingredients such as beef bile, tea or vinegar. *Pinellia* has been used in Chinese medicine for over two thousand years for breast and stomach cancer and leukaemia, as well as to relieve nausea.



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*Homalomena* species are often aromatic, smelling of licorice, parsley or lemon when bruised. Some emit a spicy fragrance at night when flowering. Some are hallucinogenic and narcotic. They occur in Southern Asia, the southwest Pacific and South America. In some south-east Asian rainforests homalomenas are the commonest aroids and many species can be found in a small area. Very few are in cultivation. One Malaysian species is used to loosen phlegm while an Indian species produces a yellow essential oil on distillation that is used medicinally in India and added to tobacco. *H. rubescens* is used as an arrow poison in Malaysia and medicinally in India. Homalomenas are used for various conditions from bites, colic and diarrhoea to rheumatism, venereal disease and childbirth, as well as perfumes.

One highly aromatic species is used in the Solomon Islands to ward off the taro beetle from the taro crops. Here an aroid is being used to repel an aroid pest.

Another scented aroid (this time the flowers not the leaves are scented) is *Alocasia odora*. The scent is pleasant. I have memories of a plant like this beside our house in Auckland when I was a child. I have recently purchased what may be this plant, but it has yet to flower. The rhizomes are used medicinally in China.

I have omitted the most important aroids economically - the taros, tannias, dasheens etc. *Colocasia*, *Xanthesoma*, *Alocasia* and *Cyrtosperma*. Also Elephant yam and Konnyaku (*Amorphophallus*) - the titans in the Aroid family.

The second group I want to talk about are ferns. Some are epiphytes, some don't seem to mind where they grow - on the ground, on trees or on rocks, and some are climbers.

Both male fern and bracken are powerfully astringent medicines used as a cure for intestinal worms. Male fern is *Dryopteris felix-mas* a species found throughout Britain. A Chinese species is also used both for intestinal worms and as a preventative against contagious colds.

Some of you may have grown holly ferns in pots. The rhizomes are cleaned and dried in the sun then used to stop external bleeding and haemorrhage, as they too are astringent.

A genus of ferns used in China, Japan, New Zealand and South America is *Lygodium*. It is known in New Zealand as mangemange or bushmans mattress. This fern is sometimes said to have the longest fronds or leaves of any plant. When it begins to climb the midrib of the frond starts to twine around a suitable support and continues to elongate. These "stems" are very durable and become more pliable when soaked in water. The Maori used it as rope, for thatching, as fish hooks and as eel traps.

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In Papua New Guinea leaves are chewed with ash salt for diarrhoea and stomach ache, in Malaysia they are used for dysentery or made into poultices for skin diseases and swellings. In China and Indonesia the spores are used for colds, coughs and high fevers - and externally for eczema. The plant is also used in the treatment of disorders of the urinary tract.

The Maori also used stretched stems of mangemange with water and sand to cut through greenstone. It does not photograph well but there is a good illustration of it in "NZ Ferns in your Garden".

The Polypodiaceae comprise about fifty genera, and about six thousand species. The taxonomy seems in a state of flux with some plants moving between *Polypodium*, *Microsorium*, *Drynaria* and *Phymatodes* et al. Most of them are low epiphytes with creeping rhizomes. Numerous potentially bio-dynamic compounds have been found in the family.

*Drynaria fortunei* is used in China to strengthen the kidneys and help gum problems. *Polypodium aureum* is used in Amazonia to treat coughs. *Phymatosorus scolopendria* looks similar to the NZ fern *Phymatodes (Microsorium) diversifolium* and may be pounded up and used on septic wounds and abrasions also on sprains. An infusion of rhizomes or fronds is used for inflammation, gastrointestinal ailments and swellings in various parts of the Pacific, where it is one of the commonest ferns.

Murdoch Riley gives two pages of medicinal uses of ferns including *Polypodium* in his "Maori Healing or Herbal". The *Pyrossia* species are hardy epiphytes from Africa, South America, South East Asia and Australia. At least two species are used medicinally in China. The maidenhair fern (*Adiantum capillus-veneris*) was the main ingredient of a chest remedy called "Capillaire". Take 30gm of maidenhair fronds, 7.5gm licorice root and 500ml boiling water. Steep for seven hours then strain and add 140ml orange flower water and 1 kg loaf sugar. Hare's foot fern is a common epiphyte for hanging baskets.

Finally one of my favourite epiphytes. Aspleniums were known as spleenworts because of their use in the treatment of liverish complaints and so called "swelling of the spleen". *Asplenium bulbiferum* the hen and chickens fern is, or was, used as a vegetable, being wrapped around foods such as eels, pigeons, kumera and hinau berry bread in hangi. It tastes like slightly bitter asparagus. Many of the other species of *Asplenium* are used for a wide variety of complaints from India through southeast and east Asia and the southwest Pacific to Hawaii and Mexico.

The birds nest fern *Asplenium nidus* I had always thought of as terrestrial until I saw a photo of Javan rain forest with large plants perching upon tree branches. In fact until I saw the plant in the Botanic Garden glasshouse well over a metre high I had thought of it as a small house



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plant. A book of Yunnan medicinal plants includes bird's nest fern describing it as epiphytic or epilithic and of use for cuts and injuries, broken bones and promoting blood circulation. In the Loyalty Islands a poultice of the leaves is applied to rheumatic areas. In Hawaii it is used on ulcers. In Malaysia it is given to ease labour pains and fevers, and regarded as a blood purifier and sedative.

While I was travelling in southern Sichuan in 1996 I came upon things that looked like toy brown sheep. When I asked what these were and why they were being sold - there was no sign of a seller at the time - I was told that they were fern rhizomes and that they were used to stop bleeding of wounds. Back in New Zealand I found a reference to Scythian lamb - a charm in the shape of a lamb made from the rhizome of *Dicksonia barometz* and hung in the house to ward off evil in the 1700's. The Yunnan book lists it as *Cibotium borometz* and shows a rhizome covered in fine scales or hairs. The control of bleeding is one listed use.

Another American book in English on Chinese herbs describes *Cibotium borometz* rhizome as black with protuberances resembling the backbone of a dog and says it is used as a tonic and analgesic in rheumatism, lumbago and muscle spasm. To confuse the picture the American book gives the Chinese medicinal name of *C. borometz* to another fern *Drynaria fortunei* (*Polypodium fortunei*). What I saw was definitely a piece of rhizome covered in brown scales with fronds rising at intervals along it just as in the drawing. I'd hate to have to put a scientific name to it without seeing it growing with the fronds.

Are you all still wondering what *Hoya carnosa* flowers are used for? In combination with other ingredients they can be used for asthma, arthritis, throat and thyroid problems. For arthritis the flowers are cooked with pigs trotters.

*Epiphyllum oxypetalum* flowers (dried or fresh) are used to stop coughing and clear the lungs, coughing blood and tuberculosis (TB) or for sore stomach and indigestion.



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**Anthurium - photograph by Penney Luckens.**



## **The Forest Canopy.**

*Andrew Flower did not run for cover when asked to talk on this subject - . Kaye Keighley reports:*

Our speaker at the August meeting was our very own blossom – Andrew Flower. Andrew was to tell us all about the forest canopy so thought he should first do some investigating into the subject. He started with the Internet – “you all will have looked for yourselves”, he said. “Speak for yourself”, was the comment from the front row. The Internet gave 470325 options when he entered “forest canopy” and not one option was of any use.

So, the next option was to go to his Selpiana magazine, which advertised an article on “The Forest Canopy”. “Look for yourself”, he said, holding up the magazine. Pictures of homosapiens, homostupidious, climbing trees, tying knots and all. What to do on your trip to the jungle. No monkeys included.

“So, you are going to make it up”, – from the front row interjector.

“Yes”, he said. “Why are canopies and doughnuts alike ?– they both have holes in them”.

Now, to the real talk which started with a drawing on the flip board giving a diagram of a GAP and showing the three main heights of the emergents - 2 metres, 10 metres and 30 metres. When a GAP opens up high in the trees triggered by the tallest trees losing pieces of branches which topple to the undergrowth, this lets in light, moisture, CO<sub>2</sub>, beetles, etc and then there is a race for the survival of the fittest.

From here-on in we got a bit technical but the message is don't destroy our canopy because there in lives - in the branches of the trees - our beloved epiphyllums, tillandsia, (no mention of hoyas but I am sure they are up there somewhere). These plants have adopted strategies for surviving on the minimum amounts of NPK . Again very technical explanations with some talk of oligotrophs, ATP & NATPP, photosynthesis, pores, George, CAM, respiration.

Where most plants survive by photosynthesis whereby plants turn CO<sub>2</sub> and H<sub>2</sub>O and light into long term storage, epiphytes reverse this process and turn into vampires!

It seems our epiphytes are able to keep alive by opening their pores at night and sucking in the CO<sub>2</sub> which is converted to temporary storage which is malic acid. Then comes the dawn. Out comes the light and the malic acid is turned back into CO<sub>2</sub> internally.

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A vital part of our epiphytes is the root system which is small and fibrous and therefore does not need much room and enables the epiphytes to grow in the crevices of trees.

Thank you, Andrew, for another entertaining and intellectual afternoon.

### **Now is the time.....**

**Epicacti** - *water regularly, enjoy the flowers. After flowering re-potting can be done.*

**Hoyas** - *water when dry. Keep a wary eye for mealy bugs. Fertilise. Start enjoying the flowers. It is not too late to take cuttings. Try rooting them in water.*

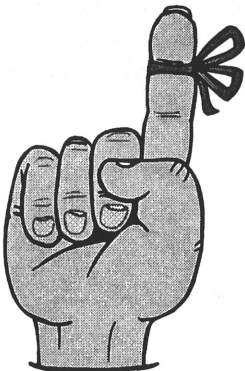
**Schlumbergeras** - *a good time to re-pot, using a slow release fertiliser in the potting mix. Water when dry.*

**Rhipsalis** - *Water regularly as rhipsalis come into flower. A little fertiliser will assist the plants.*

**Aporophyllums** - *Water regularly. Enjoy the flowers. After flowering the plants can be lightly pruned.*

**Ceropegias** - *Water when dry. A daily task is to untwine runaway growth. Keep in a very warm/hot environment for maximum flowering.*

### **A New Year is coming.....**



...and so it is time for subscriptions to be paid. A renewal form is included with this issue - please bring it (with money) to the next meeting - or send it to the address shown.

## Odd Cuttings and Seeds

### Web Sources of Information...

Here is another address of an interesting site - this time on Asclepiads...

<http://www.dpks-drustvo.si/jest/Asclepia/>

### Another of the good guys....

Most people know that the very beautiful ladybird beetle is a garden “goody”, as it devours aphids, scale and many other slow moving insects that damage plants. But did you know that the larva of the ladybird beetle (although it is quite ugly compared to its adult form) eats more garden pests than its parents, as it is mostly confined to the plant it was born on. If you have any problem identifying this little monster - look it up in one of our library books. Preferably before you spray some unintentionally)<sup>1</sup>.

### Sending seeds and plants to the US...

Here in New Zealand we are accustomed to a regime of strict control on what seeds and plants we can bring in. In the US things have been very different for many years. Effectively a US citizen could take in whatever they liked - provided they had an import permit. All that will change in January . New procedures will be put in place requiring (amongst other things) phytosanitary certificates from the country of origin. Those who may have hoped to send cuttings of new epi hybrids to US growers may have to give up the dream.

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<sup>1</sup>Reproduced from “EPI-GRAM” Epiphytic Cacti and Hoya Society of Australia Inc.

## **Earwigs.....**

*A correspondent to one of the internet discussion groups writes:*

“Here in south western Victoria, Australia, we have earwigs which lay sulphur-yellow coloured eggs in clumps in hollows in the soil under rocks or logs etc. I have also found their eggs in the bottom of pots. Usually the 'mother' or 'father' is with the eggs as well. Earwigs eat the growing point out of some young cactus and can be quite a nuisance.

They will also crawl into rolled up newspapers that are left around overnight where they are thought to be, once caught they can be fed to the ducks or dumped into a bucket of hot water.

A mixture of equal parts cooking oil, soy sauce and brown sugar left in suspect places in a shallow container will also catch them. (ok, if you don't have a dog with a sweet tooth!”

## **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 ..



## *Epiflora*

### **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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*Subscriptions are due on 1st of January and are:*

<i>Members -</i>	<i>\$12.00</i>
<i>(overseas members</i>	<i>\$NZ24.00 or \$US12.00)</i>
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